

Worldwide Sumitomo Network

U.S.A.

Sumitomo Machinery Corporation of America (SMA)
4200 Holland Blvd., Chesapeake, VA 23323, U.S.A.
Tel: (1)757-485-8218
Fax: (1)757-485-7490

Argentina

SM-Cydo de Argentina S.A. (SMAR)
Montes de Oca #6719, (B1606BMG) Munro,
Buenos Aires, Argentina
Tel: (54)11-4765-5332
Fax: (54)11-4765-5517

Brazil

SM-Cydo Redutores do Brasil, Ltda. (SMBR)
Av. Fagundes Filho, 191 Metro Sao Judas
Edificio Houston-Sala H123 Sao Paulo-SP
Brasil 04304-010
Tel: (55)11-5585-3600
Fax: (55)11-5585-9990

Chile

SM-Cydo de Chile, Ltda. (SMCH)
San Pablo Ave, 3507 Quinta Nomal, Santiago, Chile
Tel: (56)2-892-7000
Fax: (56)2-892-7001

Mexico

SM-Cydo de Mexico, S.A. de C.V. (SMME)
Calle "C" No. 506A Parque Industrial
Almacentro Apodaca, N. L., Mexico 66600
Tel: (52)81-8144-5130
Fax: (52)81-8369-3699

Canada

SM-Cydo of Canada, Ltd. (SMC)
1045 South Service Road West, Oakville, Ontario,
Canada L6L 6K3
Tel: (1)905-469-1050
Fax: (1)905-469-1055

Germany

Sumitomo(SHI) Cydo Drive Germany GmbH (SCG)
Cydostraße 92, 85229 Markt Indersdorf, Germany
Tel: (49)8136-66-0
Fax: (49)8136-5771

Austria

SCG Branch Austria Office
Gruentalerstraße 30A, 4020 Linz, Austria
Tel: (43)732-330958
Fax: (43)732-331978

Benelux

SCG Branch Benelux Office
Office Heikneuterlaan 23, 3010 Kesse-Lo/Leuven,
Belgium
Tel: (32)16 60 83 11
Fax: (32)16 57 16 39

France

SM-Cydo France E.U.R.L. (SMFR)
65-75 Avenue Jean Mermoz, Espace Primagaz, 93126
La Courmeuve, France
Tel: (33)149-929494
Fax: (33)149-929490

Italy

SM-Cydo Italy Srl (SMIT)
Via dell' Artigianato 23, 20010 Cornaredo(MI), Italy
Tel: (39)02-9356-2121
Fax: (39)02-9356-9893

Spain

SM-Cydo Iberia, S.L. (SMIB)
Edificio Gobelas, C/Landabarrí, nº 4 Escalera 1, 2ª Izqda,
Leioa 48940 Vizcaya, Spain
Tel: (34)944-805389
Fax: (34)944-801550

Sweden

SM-Cydo Scandinavia AB (SMSC)
Ridbanegatan 4, S-21377 Malmö, Sweden
Tel: (46)40220030
Fax: (46)40220035

UK

SM-Cydo UK Ltd. (SMUK)
Unit 29, Bergen Way, Sutton Fields Industrial Estate,
Kingston upon Hull, HU7 0YQ, East Yorkshire,
United Kingdom
Tel: (44)1482-790340
Fax: (44)1482-790321

China

Sumitomo(SHI) Cydo Drive China, Ltd. (SCT)
13 Floor, No. 1698 Yishan Rd, Shanghai, China 201103
Tel: (86)21-3462-7877
Fax: (86)21-3462-7922

Hong Kong

SM-Cydo of Hong Kong Co., Ltd. (SMHK)
Unit 1802, 18/F, Park Building, 476 Castle Peak Road,
Kowloon, Hong Kong
Tel: (852)2460-1881
Fax: (852)2460-1882

Korea

Sumitomo(SHI) Cydo Drive Korea, Ltd. (SCK)
Royal Bldg. 9F Rm. 913, 5 Danju-Dong, Chongro-ku,
Seoul, Korea 110-721
Tel: (82)2-730-0151
Fax: (82)2-730-0156

Taiwan

Tatung SM-Cydo Co., Ltd. (TSC)
22 Chungshan N. Road 3rd., Sec. Taipei, Taiwan 104,
R. O. C.
Tel: (886)2-2595-7275
Fax: (886)2-2595-5594

Singapore

Sumitomo(SHI)Cydo Drive Asia Pacific Pte. Ltd.(SCA)
15 Kwong Min Road, Singapore 628718
Tel: (65)6591-7800
Fax: (65)6863-4238

Philippines

SCA Branch Office in Philippines
B2b Granville Industrial Complex, Governor's Drive, Bo,
Bancal, Carmona 4116 Cavite, Philippines
Tel: (63)2-6800-6500
Fax: (63)2-6800-6555

Vietnam

SCA Representative Office in Ho Chi Minh
Floor 4, 99 Nguyen Thi Minh Khai Street World Ben Thanh,
District 1, HCM, Vietnam
Tel: (84)8-3925-6504
Fax: (84)8-3925-6505

Malaysia

SM-Cydo(Malaysia) Sdn. Bhd. (SMMA)
No. 2, Jalan BP 4/1, Bandar Bukit Puchong, 47100
Puchong, Selangor Darul Ehsan, Malaysia
Tel: (60)3-8061-2909
Fax: (60)3-8061-3909

Thailand

SM-Cydo(Thailand) Co., Ltd. (SMTH)
195, Empire Tower 21st Fl., Unit 2103-4, South
Sathorn Road, Yannawa Sathorn Bangkok 10120,
Thailand
Tel: (66)2-670-0998
Fax: (66)2-670-0999

Australia

SM-Cydo(Australia) Pty., Ltd. (SMAU)
9 Holbeche Rd, Arndell Park, NSW, 2148, Australia
Tel: (61)2-8811-6555
Fax: (61)2-8811-6500

India

Sumi-Cydo Drive India Private Limited
Survey No. 130, Hissa No. 02, Jeevan Nagar Next to
TVS Logistics, Off Mumbai-Bangalore bypass,
Tathawade, Pune-411 033, India
Tel: (91)20-6674-2900
Fax: (91)20-6674-2901

Japan

Sumitomo Heavy Industries, Ltd.
Address: ThinkPark Tower, 1-1, Osaki 2-Chome,
Shinagawa-ku, Tokyo 141-6025, Japan
Tel: (81) 3-6737-2511
Fax: (81) 3-6866-5160

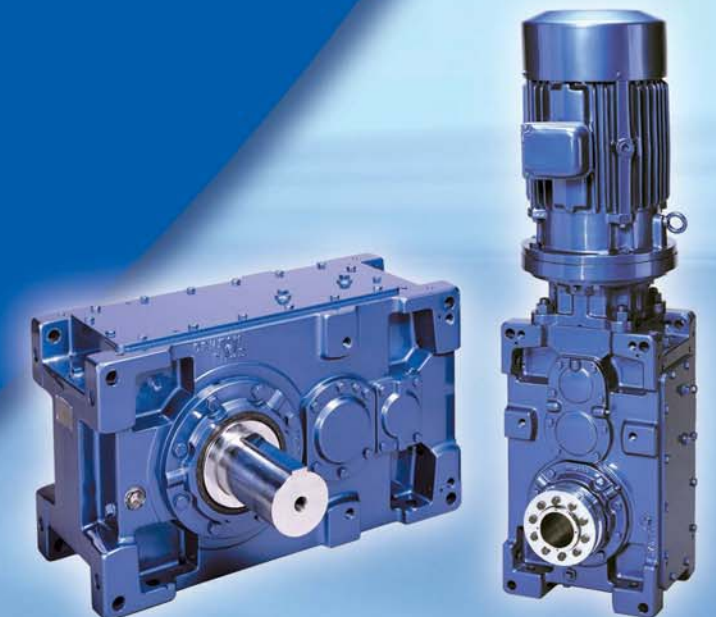
Sumitomo Drive Technologies

PARAMAX[®] 9000 Series

Reducer & Drive Units

Sumitomo Drive Technologies
Always on the Move

PARAMAX[®]
9000 Series
Reducer & Drive Units



A	Features		
	Available Combination		
	Drive Units and Reducers		
	Basic Motor		
	Introduction of Application		
B	Drive Unit		
	Standard Specifications	... B- 2	
	Construction Drawing	... B- 3	
	Nomenclature	... B- 4	
	Selection	... B- 6	
	Service Factor SF	... B- 8	
	Selection Tables and Dimension Tables		
	Right Angle Shaft	... B- 11	
	Parallel Shaft	... B- 73	
C	Reducer		
	Standard Specifications	... C- 2	
	Construction Drawing	... C- 3	
	Nomenclature	... C- 4	
	Selection	... C- 6	
	Service Factor SF	... C- 8	
	Selection Tables and Dimension Tables		
	Right Angle Shaft	... C- 11	
	Parallel Shaft	... C-101	
D	Technical Data		
	Lubricant and Installation	... D- 2	
	Painting Specifications and Rust Proof Standard	... D- 3	
	Moment of Inertia	... D- 4	
	Supplementary Dimension Drawing	... D- 12	
	Supplementary Matters to Hollow Shaft	... D- 17	
	Hollow Shaft Related Dimensions	... D- 18	
	Cooling Fan Dimension	... D- 20	
	Option Dimension	... D- 24	
	Motor Terminal Box	... D- 32	
	Motor Flange Dimension	... D- 34	

Features

JUST FIT SIZE

26 sizes variation for most accurate economical selection.

Prepared full range 26 sizes variation.
 Fitness size selection available for every requested torque.
 Customer's wide design availability with most accurate economical selection.

Size	Output Torque	Size	Output Torque	Size	Output Torque
9015	2.6	9065	31.4	9110	174
9025	4.2	9070	38.2	9115	207
9030	6.4	9075	47.8	9118	260
9035	8.5	9080	58.5	9121	301
9040	10.1	9085	73.1	9126	351
9045	13.2	9090	85.9	9128	420
9050	15.3	9095	101	9131	473
9055	19.9	9100	122	9136	552
9060	24.4	9105	144		

【kNm】

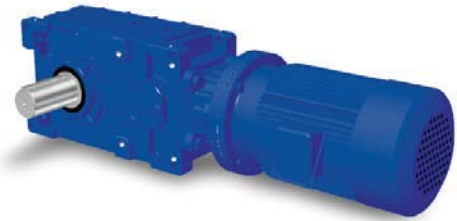
NEW DESIGN CONCEPT

Direct motor mount for right angle type also standardized.

Direct motor mount design of right angle type is standardized.

It has a number of outstanding features.

1. No input coupling
2. No coupling alignment required
3. Compact drive assembly

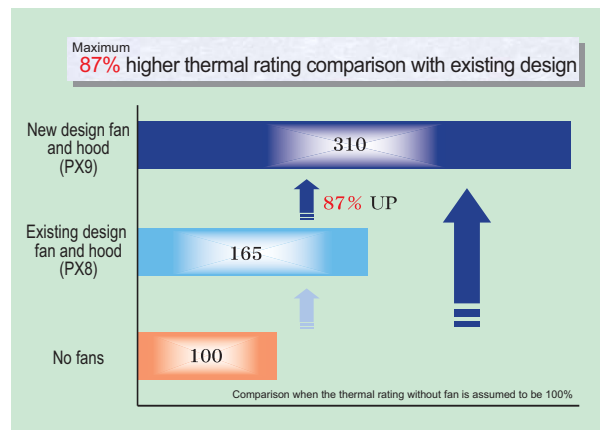


LARGER THERMAL CAPACITY

Advanced thermal capacity by new designed fan cooling system. (Option)

New designed fan and conducted air cooling gain larger thermal capacity.

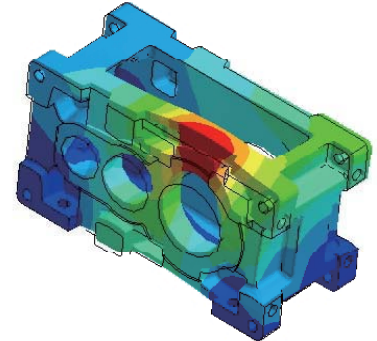
This system benefits for severe situation like continuous operation, even if compact size.



LOW NOISE

Low noise resulting from optimized gear tooth profile modification and rigid housing design.

FEM analysis used to maximize housing strength and rigidity, so maintaining correct gear alignment and bearing loading.



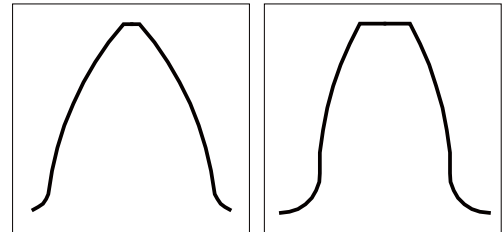
FEM Analysis

HIGH TOOTH STRENGTH

25 deg Pressure angle

In comparison with ordinary pressure angle (20 deg), 25 deg pressure angle permits a tooth form with thicker dedendum.

This translates into higher tooth strength rating, an essential feature for shock load applications.

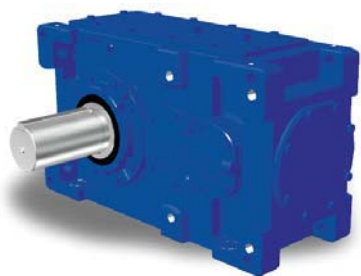


25 deg Pressure Angle

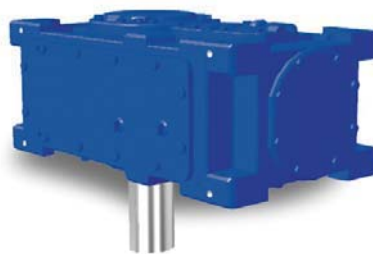
20 deg Pressure Angle

UNIVERSAL HOUSING

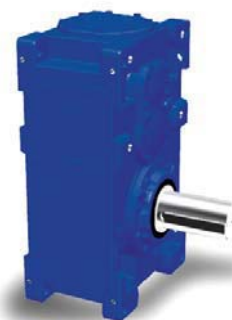
Horizontal, vertical or upright mounting - All use the same housing.



Horizontal mounting



Vertical mounting



Upright mounting

AVAILABLE COMBINATION

Drive Unit: Right Angle

		Ratio																						
		6.3	7.1	8	9	10	11.2	12.5	14	16	18	20	22.4	25	28	31.5	35.5	40	45	50	56	63	71	
O/P speed r/min	60Hz	286	254	225	200	180	161	144	129	113	100	90	80	72	64	57	51	45	40	36	32	29	25	
	50Hz	238	211	188	167	150	134	120	107	94	83	75	67	60	54	48	42	38	33	30	27	24	21	
Motor (kW×P)	5.5x4															●	●	●	●	●	●	●	●	
	7.5x4															●	●	●	●	●	●	●	●	
	11x4									●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	15x4							●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	18.5x4					●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	22x4	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	30x4	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	37x4	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	45x4	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	55x4	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

Drive Unit: Parallel

		Ratio																						
		6.3	7.1	8	9	10	11.2	12.5	14	16	18	20	22.4	25	28	31.5	35.5	40	45	50	56	63	71	
O/P speed r/min	60Hz	286	254	225	200	180	161	144	129	113	100	90	80	72	64	57	51	45	40	36	32	29	25	
	50Hz	238	211	188	167	150	134	120	107	94	83	75	67	60	54	48	42	38	33	30	27	24	21	
Motor (kW×P)	5.5x4								●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	7.5x4						●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	11x4		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	15x4	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	18.5x4	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	22x4	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	30x4	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	37x4	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	45x4	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	55x4	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	75 x4	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	90 x4			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	110 x4						●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

Reducer

		Ratio																					
		6.3	7.1	8	9	10	11.2	12.5	14	16	18	20	22.4	25	28	31.5	35.5	40	45	50	56	63	71
Size	9015	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	9025	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	9030	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	9035			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	9040	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	9045			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	9050	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	9055			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	9060	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	9065			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	9070	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	9075			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	9080	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	9085			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	9090	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	9095			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	9100	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	9105			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	9110	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	9115			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	9118															●	●	●	●	●	●	●	●
	9121															●	●	●	●	●	●	●	●
	9126															●	●	●	●	●	●	●	●
	9128															●	●	●	●	●	●	●	●
	9131													●	●	●	●	●	●	●	●	●	●
	9136													●	●	●	●	●	●	●	●	●	●

AVAILABLE COMBINATION

Ratio																	
80	90	100	112	125	140	160	180	200	224	250	280	315	355	400	450	60Hz	O/P speed
23	20	18	16	14	13	11	10	9.0	8.0	7.2	6.4	5.7	5.1	4.5	4.0	50Hz	r/min
●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	5.5x4	Motor (kWxP)
●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	7.5x4	
●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	11x4	
●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	15x4	
●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	18.5x4	
●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	22x4	
●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	30x4	
●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	37x4	
●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	45x4	
●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	55x4	

Ratio	
80	90
23	20
19	17
●	●
●	●
●	●
●	●
●	●
●	●
●	●
●	●
●	●
●	●
●	●
●	●
●	●
●	●
●	●



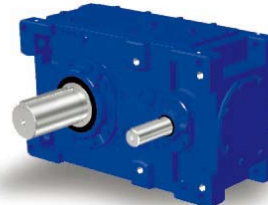
Drive Unit: Right Angle



Drive Unit: Parallel



Reducer: Right Angle



Reducer: Parallel

Ratio																		
80	90	100	112	125	140	160	180	200	224	250	280	315	355	400	450	500		
																	9015	Size
																	9025	
●	●	●	●	●	●	●	●	●	●								9030	
●	●	●	●	●	●	●	●	●	●	●	●						9035	
●	●	●	●	●	●	●	●	●	●								9040	
●	●	●	●	●	●	●	●	●	●	●	●						9045	
●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			9050	
●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	9055	
●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		9060	
●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	9065	
●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	9070	
●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	9075	
●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		9080	
●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	9085	
●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		9090	
●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	9095	
●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		9100	
●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	9105	
●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		9110	
●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	9115	
●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	9118	
●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		9121	
●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		9126	
●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		9128	
●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		9131	
●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		9136	

AVAILABLE COMBINATION

Basic Motor

Table 1. 3-Phase Induction Motors (4 Pole).

◎ : Standard Insulation
● : Manufactured Models

Capacity kW	Specifications							
	Indoor Type	Outdoor Type	Corrosion- proof Class 2	Insulation Class			Inverter Motors (Constant Torque)	
				B	F	H	Indoor Type	Outdoor Type
5.5	●	●	●	◎	●	●	●	●
7.5	●	●	●	◎	●	●	●	●
11	●	●	●	◎	●	●	●	●
15	●	●	●	◎	●	●	●	●
18.5	●	●	●	◎	●	●	●	●
22	●	●	●	◎	●	●	●	●
30	●	●	●		◎	●	●	●
37	●	●	●		◎	●	●	●
45	●	●	●		◎	●	●	●
55	●	●	●		◎	●	●	●
Remarks	Continuous Rating, 55kW and under, Applicable Voltage : 200V 50/60Hz(400V 50/60Hz,440V 60Hz,440V 60Hz) Provided that the base frequency for driving an inverter is 60 Hz.							

Table 2. 3-Phase Induction Motors with Built-in Brakes (4 Pole).

◎ : Standard Insulation
● : Manufactured Models

Capacity kW	Specifications							
	Indoor Type	Outdoor Type	Corrosion- proof Class 2	Insulation Class			Inverter Motors (Constant Torque)	
				B	F	H	Indoor Type	Outdoor Type
5.5	●	●	●	◎	●	●	●	●
7.5	●	●	●	◎	●	●	●	●
11	●	●	●	◎	●	●	●	●
15	●	●	●	◎	●	●	●	●
18.5	●	●	●	◎	●	●	●	●
22	●	●	●	◎	●	●	●	●
30	●	●	●		◎	●	●	●
37	●	●	●		◎	●		
Remarks	Continuous Rating, Applicable Voltage : 200V 50/60Hz , 220V 50/60Hz (400V 50/60Hz , 440V 60Hz) Provided that the base frequency for driving an inverter is 60 Hz. Brake Insulation : B type							

- Notes: 1. Motors with output kW specifications other than as listed in Tables 1-4 are also manufactured. Consult factory.
Examples: Special voltage, dust-proof, humidity-proof, tropical treatment, high temperature, ship use, dual shaft (round & square shaft), CSA standard, NEMA standard, etc.
2. When using an inverter drive, advice us of ambient temperature, input r/min, mounting method, load characteristics and other conditions of use.

AVAILABLE COMBINATION

Table 3. Safety Increased Explosion-proof (eG3) 3-Phase Induction Motor (4 Pole).

◎ : Standard Insulation
● : Manufactured Models

Capacity kW	Specifications				
	Indoor Type	Outdoor Type	Corrosion- proof Class 2	Insulation Class	
				B	F
5.5	●	●	●	◎	●
7.5	●	●	●	◎	●
11	●	●	●	◎	●
15	●	●	●	◎	
18.5	●	●	●	◎	
22	●	●	●	◎	
30	●	●	●	◎	●
37	●	●	●		◎
45	●	●	●		◎
55	●	●	●		◎
Remarks	Continuous Rating Applicable Voltage: 200V, 220V, 350V, 380V, 400V, 440V, 50/60Hz				

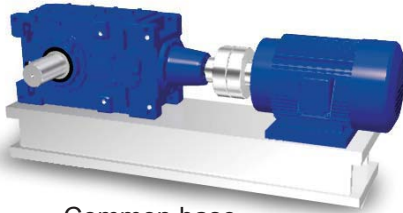
Table 4. Pressure-tight Explosion-proof (d2G4) 3-Phase Motor (4 Pole).

◎ : Standard Insulation
● : Manufactured Models

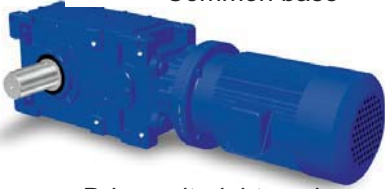
Capacity kW	Specifications				
	Indoor Type	Outdoor Type	Corrosion- proof Class 2	Insulation Class	Inverter Motors (Constant Torque)
				B	Indoor Type
5.5	●	●	●	◎	●
7.5	●	●	●	◎	●
11	●	●	●	◎	●
15	●	●	●	◎	●
18.5	●	●	●	◎	●
22	●	●	●	◎	●
30	●	●	●	◎	●
37	●	●	●		●
Remarks	Continuous Rating Applicable Voltage : 200V , 220V , 350V , 380V , 400V , 440V 50/60Hz (Inverter Motors) : 200V 60Hz , 220V 60Hz , 400V 60Hz , 440V 60Hz Applicable Inverter :Applicable only to Sumitomo Inverters.(Refer to Inverter catalogue.)				

INTRODUCTION OF APPLICATION

With Motor



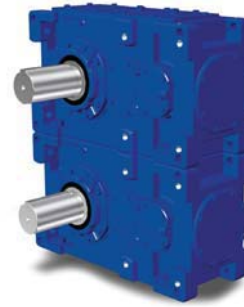
Common base



Drive unit right angle

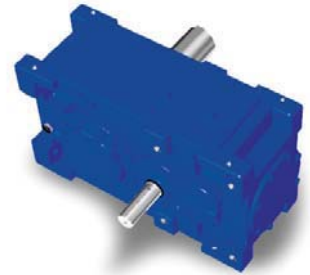


Drive unit parallel



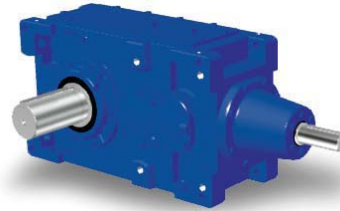
Double Stack

Single stage



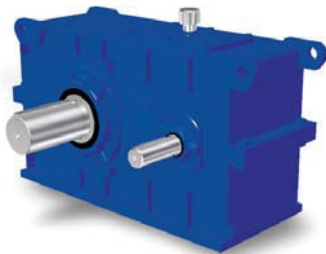
Top mount

Reducer

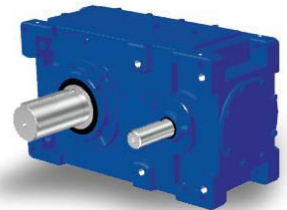


Right angle

Steel housing



Mounting



Parallel

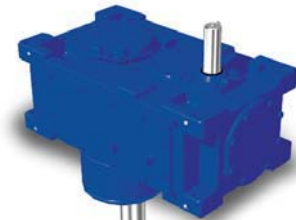


Upright mount



Upright wall mount

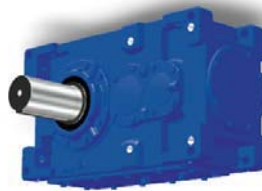
Special slow speed shaft



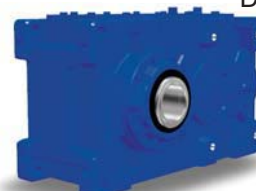
Drop bearing housing



Vertical mount

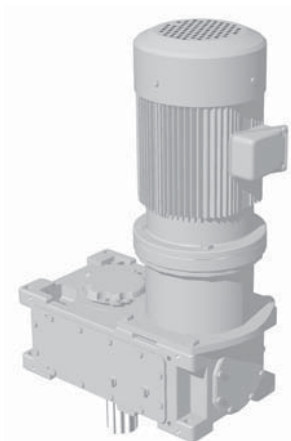


Ceiling mount

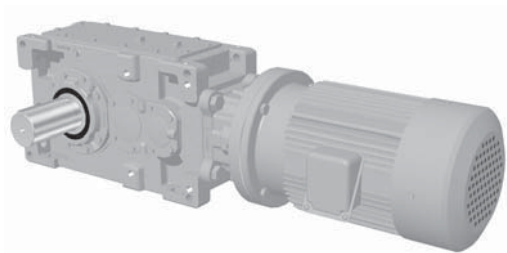


Hollow shaft

B



<Drive Unit Parallel Shaft>



<Drive Unit Right Angle Shaft>

Drive Unit

Standard Specifications	...	B- 2
Construction Drawing	...	B- 3
Nomenclature	...	B- 4
Selection	...	B- 6
Service Factor SF	...	B- 8
Right Angle Shaft	...	B- 11
Parallel Shaft	...	B- 73
Exact Reduction Ratio	...	B- 110

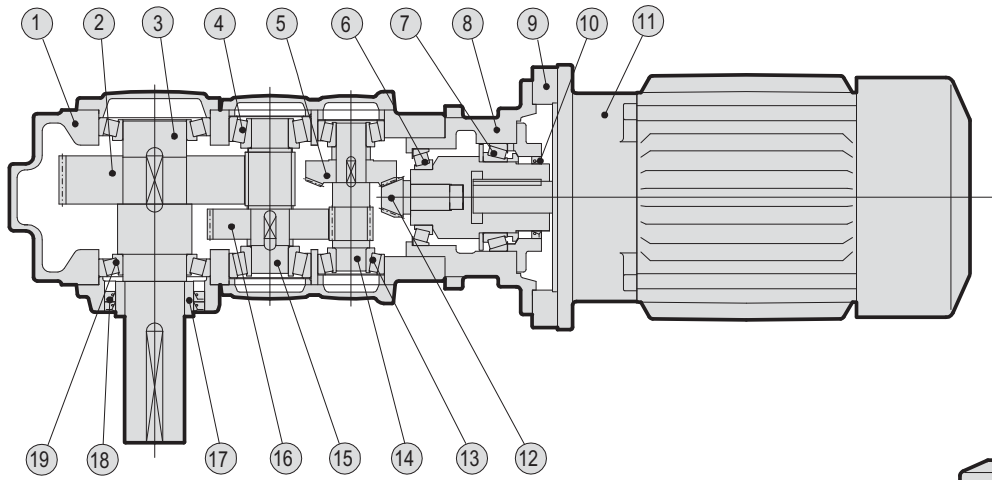
Drive Unit Standard Specifications

Item		Standard Specification	Standard Specification with Built-in Brake				
Motor	Capacity Range	5.5kW x 4P ~ 55kW x 4P	5.5kW x 4P ~ 37kW x 4P				
	Enclosure	Totally enclosed fan cooled type	Totally enclosed fan cooled type				
	Power Source	200V 50/60Hz, 220V 60Hz 380~415V 50Hz, 440~460V 60Hz For other voltages contact Sumitomo.					
	Insulation	Class F		Class F			
	Time Rating	Continuous rating		Continuous rating			
	Lead Wiring (Lug Type)	Lead wiring	P	4P	Lead wiring		
		3	5.5 ~ 7.5kW (Direct starting)	11 ~ 55kW (λ-Δstarting available)	P	5	5.5 ~ 7.5kW (Direct starting)
					8	11kW (λ-Δstarting available)	
10					15 ~ 37kW (λ-Δstarting available)		
6							
Standards	Conforms to JIS, CE or UL. Consult Sumitomo for details.						

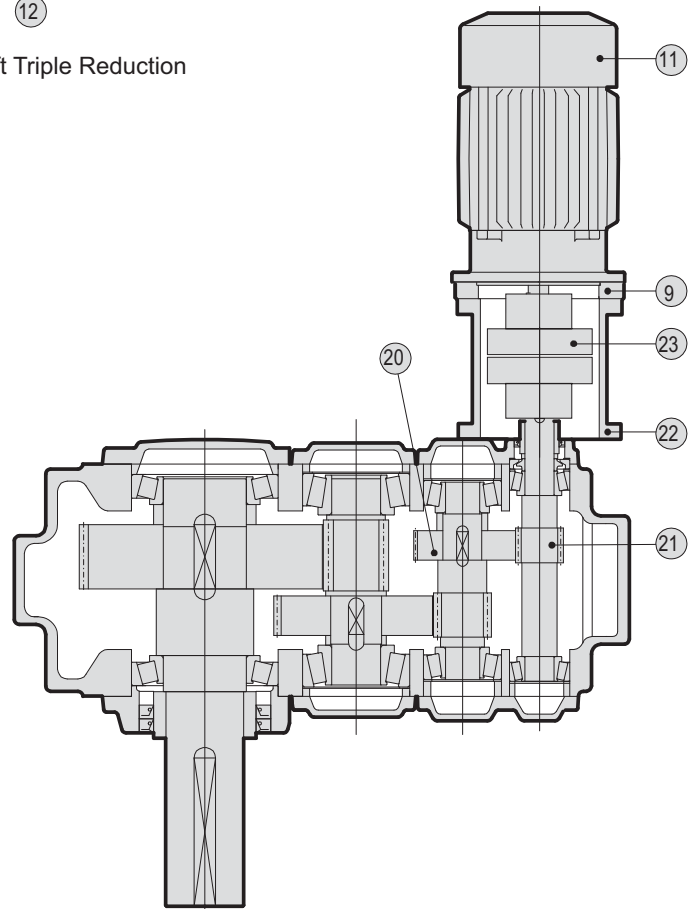
Item		Standard Specification		
		Mounting	High Speed Shaft Speed	
Reducer	Lubrication Method	Horizontal Shaft	750 ~ 1800r/min	Oil bath lubrication In case of high speed shaft speed is less than 750r/min, electric pump lubrication may be used. Consult Sumitomo for details.
		Vertical Shaft	400 ~ 1800r/min	Pump lubrication (Two different pump lubrication systems are available; shaft connected pump lubrication and electric pump lubrication. For details, refer to the outline dimension drawing.)
		Upright Shaft	750 ~ 1800r/min	Oil bath lubrication Grease lubrication for right angle input shaft.
	Lubricant	Refer to the page D-2		
	Gear Type	Involute external gear		
Ambient Conditions	Installation Location	Indoor (Minimal dust and humidity)		
	Ambient Temperature	-10°C~40°C A cooling fan may be required depending on the usage (Note)		
	Ambient Humidity	Under 85%		
	Elevation	Less than 1,000 meters above sea level		
	Atmosphere	Well ventilated location, free of corrosive and explosive gases, vapor, and dust.		
Installation	Horizontal installation Refer to the page D-2			
Method of Coupling with Driven Machine	Coupling, gears, chain sprocket or belt.			
Painting	Surface preparation: Shot blast after wash before machining Inside paint: UNI GROUND PTC primer is sprayed once Outside paint: For primer coating, UNI GROUND PTC primer is sprayed once. For final coating, NEORON #2000 is sprayed once. Paint color: Donau Blue (equivalent Munsell color: 6.5PB 3.6/8.2), Refer to page D-3.			

Note : In general, a heating or cooling system is necessary when ambient temperature is lower than -10°C or higher than 50°C.
e.g. High temperature gas or liquid passes through the hollow shaft.
Consult us when substances lower than -10°C or higher than 50°C will be in contact with PARAMAX DRIVES.

Drive Unit Construction Drawing

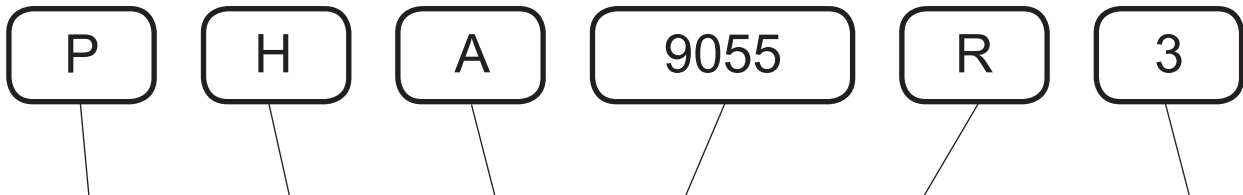


Drive Unit Right Angle Shaft Triple Reduction

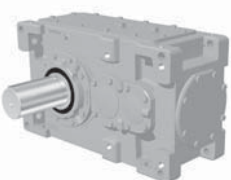
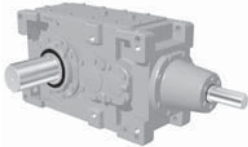
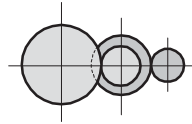
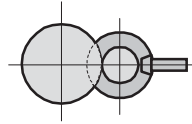
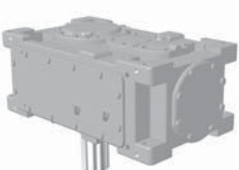
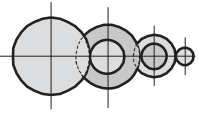

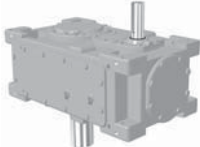
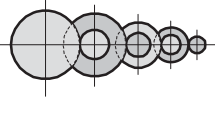


Drive Unit Parallel Shaft Triple Reduction

Ref.No.	Part Name	Ref.No.	Part Name	Ref.No.	Part Name	Ref.No.	Part Name
1	Housing	7	Taper roller bearing	13	Taper roller bearing	19	Taper roller bearing
2	Helical gear	8	Bearing housing	14	Helical pinion shaft	20	Helical gear
3	Slow speed shaft	9	Flange for motor	15	Helical pinion shaft	21	Helical pinion shaft
4	Taper roller bearing	10	Oil seal	16	Helical gear	22	Motor adapter
5	Bevel gear	11	Motor	17	Collar	23	Coupling
6	Taper roller bearing	12	Bevel pinion shaft	18	Oil seal		



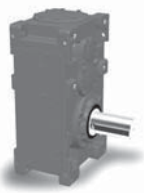
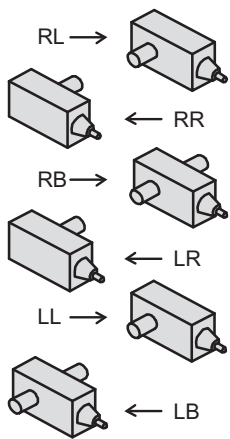

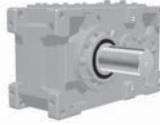
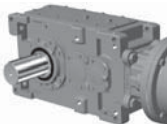

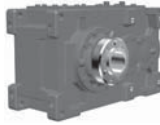

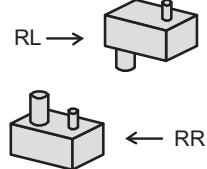
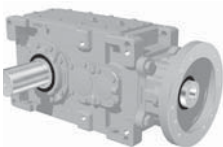
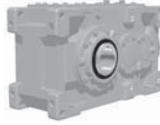
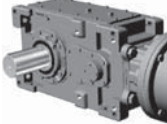
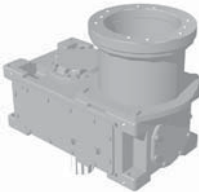
Drive Unit
 Selection Tables
 Dimension Tables

Series	Mounting	Housing	Size		Shaft Position	Number of Gear Stage
			Size	Torque kNm		
P Paramax	H  Horizontal	A Monoblock	9015	2.6	R  Right Angle	2 
			9025	4.2		
			9030	6.4		Double Reduction 
			9035	8.5		
			9040	10.1		
			9045	13.2		
	V  Vertical	A Monoblock	9050	15.3	P Parallel	3 
			9055	19.9		
			9060	24.4		
			9065	31.4		
	W  Upright	D Split	9070	38.2	 Parallel	4 
			9075	47.8		
			9080	58.5		
			9085	73.1		

1. For shaft arrangement, refer to the dimension sheets.
 2. Consult us for reduction ratios smaller than 6.3.

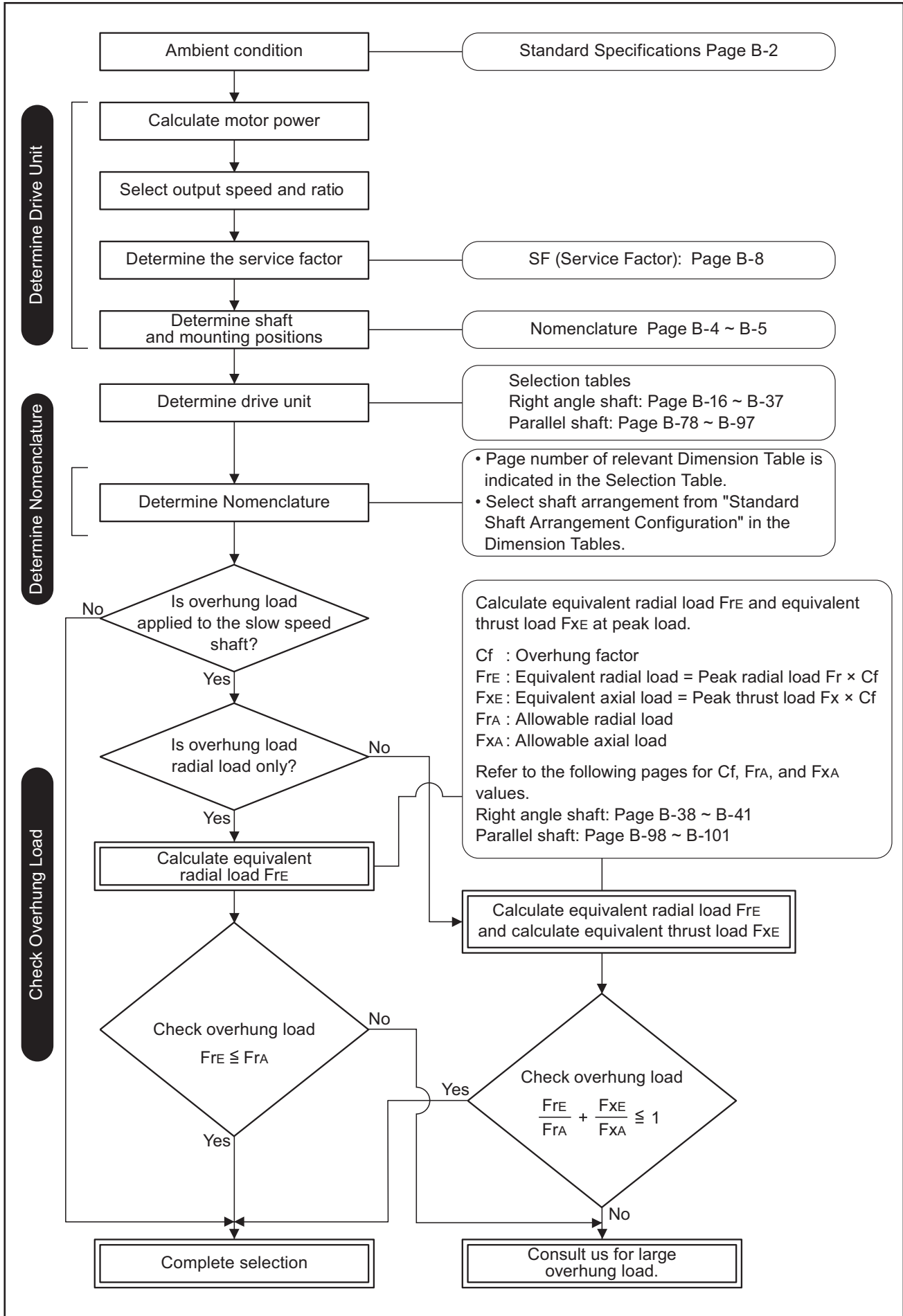
Drive Unit Nomenclature



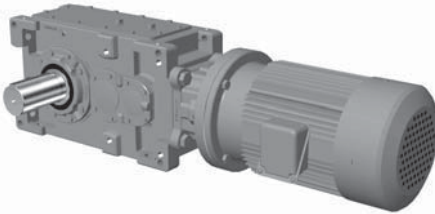
Mounting for Upright	Shaft Arrangement	High Speed Shaft	Slow Speed Shaft	Option	Nominal Ratio	
(Blank) 		M  Right Angle Shaft	(Blank)  Solid Shaft	(Blank)  Without Option	Right Angle Shaft	
		 Parallel Shaft	T  Hollow Shaft (Shrink Disk Type)		6.3 56 7.1 63 8 71 9 80 10 90 11.2 100 12.5 112 14 125 16 140 18 160 20 180 22.4 200 25 224 28 250 31.5 280 35.5 315 40 355 45 400 50 450	
W  Wall Mount (Upright Mounting)		Y  Flange for Motor (Right Angle Shaft)	K  Hollow Shaft (Key Type)	B  With Backstop	Parallel Shaft	
		J  Motor Adapter (Parallel Shaft)	6.3 56 7.1 63 8 71 9 80 10 90 11.2 100 12.5 112 14 125 16 140 18 160 20 180 22.4 200 25 224 28 250 31.5 280 35.5 315 40 355 45 400 50 450 500			

Drive Unit Selection

Drive Unit
 Selection Tables
 Dimension Tables



Drive Unit Selection Example

○ : Conditions ■ : Selected item		Reference page No.
○ Ambient condition ■ Check ambient condition	: Indoor, Ambient temperature 20°C → OK	B-2 Standard Specifications
○ Load Power P ■ Motor power	: P = 17kW → 18.5 kW	
○ Electric source ○ Output speed	: 200V 50Hz : 33 r/min	
Load condition ○ Type of load, Operating hours ■ Determine service factor	: Uniform load · 14 hours/day → SF=1.25	B-8 Service Factor
○ Shaft and mounting positions ■ Determine size, shaft position, number of stages	: Right Angle Shaft · Horizontal Mounting → 9030 R3 45 Size 9030 Right Angle Shaft Triple Reduction Nominal Reduction Ratio 45	B-4 ~B-5 Nomenclature Selection Tables
■ Check dimension ■ Check shaft arrangement ■ Check nomenclature	→ RML → PHA9030R3-RML-45	B-44 *1 Dimension Tables
Check overhung load ○ Overhung member ■ Overhung factor Cf ○ Radial load position and direction ○ Peak radial load Fr ○ Peak thrust load Fx ■ Equivalent radial load FrE ■ Allowable radial load	: Sprocket (Single row) → Cf = 1.0 : Center of solid shaft, Downward : 10.6 kN : 0 kN → FrE = 10.6 × 1.0 = 10.6 → 26.5 kN	B-38 Allowable external load
	10.6 ≤ 26.5 → OK	B-38 Allowable Radial Load
○ Motor specification ■ Check motor specification	: 200V 50Hz without brake · indoor → OK	A-6 Available Combination of Basic Motor
■ Complete Selection Selected model	→ PHA9035R3-RML-45 200V 50Hz without brake · indoor	
		
		*1 Page number of the relevant Dimension Table is indicated in the Selection Table.

Drive Unit Service Factor SF

Service Factor SF

Driven Machine		Operating Hours (hours/day)				
		3 hrs	10 hrs	24 hrs		
CRANES						
Classification of Crane	Hoisting	Traverse Motion	Travel Motion	Slewing Motion	Boom Hoisting	The crane classification is based on JIS B8821-1976 "Calculation standard for the structure of crane."
Group I	1.00	1.50	1.25	1.00		
Group II	1.25	1.50		1.00		
Group III	1.50	1.75		1.25		
Group IV	1.75	2.00		1.50		
CONVEYORS (General purpose)						
Uniformly load or fed			1.00	1.00	1.25	
Heavy load						
Not uniformly fed			1.00	1.25	1.50	
Reciprocating or shaker			1.50	1.75	2.00	
ELEVATORS						
Elevators			1.50	1.50	1.50	
Escalators			1.25	1.25	1.25	
METAL MILLS						
Draw bench carriage and main drive			1.50	1.50	1.50	
Runout table						
Non reversing						
Group drives			1.50	1.50	1.50	
Individual drivers			2.00	2.00	2.00	
Reversing			2.00	2.00	2.00	
Slab pushers			1.50	1.50	1.50	
Shears			2.00	2.00	2.00	
Wire drawing			1.25	1.25	1.25	
Wire winding machine			1.25	1.50	1.50	
METAL STRIP PROCESSING MACHINERY						
Bridles			1.50	1.50	1.50	
Coilers & uncoilers			1.00	1.25	1.50	
Edge trimmers			1.00	1.25	1.50	
Flatteners			1.25	1.25	1.50	
Loopers (Accumulators)			1.50	1.50	2.00	
Pinch rolls			1.25	1.25	1.50	
Scrap choppers			2.00	2.00	2.00	
Shears			2.00	2.00	2.00	
Slitters			1.00	1.25	1.50	
MILL, ROTARY TYPE						
Ball and rod			2.00	2.00	2.00	
Cement Kilns			2.00	2.00	2.00	
Kilns (Except cement kilns)			1.50	1.50	1.50	
Dryers and coolers			1.50	1.50	1.50	
SEWAGE DISPOSAL EQUIPMENT						
Aerators			2.00	2.00	2.00	
Bar screens			1.25	1.25	1.25	
Chemical feeders			1.25	1.25	1.25	
Dewatering screens			1.50	1.50	1.50	
Scum breakers			1.50	1.50	1.50	
Slow or rapid mixers			1.50	1.50	1.50	
Sludge collectors			1.25	1.25	1.25	
Thickeners			1.50	1.50	1.50	
Vacuum filters			1.50	1.50	1.50	
EXTRUDERS						
Plastics			1.25	1.25	1.25	
Rubber			1.50	1.50	1.50	
FEEDERS						
Apron			1.00	1.25	1.50	
Belt			1.00	1.25	1.50	
Disk			1.00	1.00	1.25	
Reciprocating			1.50	1.75	2.00	
Screw			1.00	1.25	1.50	

Driven Machine		Operating Hours (hours/day)			
		3 hrs	10 hrs	24 hrs	
RUBBER INDUSTRY					
Mixers			1.75	1.75	2.00
Mixing mill -2 smooth rolls			1.50	1.50	1.75
Batch drop mill -2 smooth rolls			1.50	1.50	1.50
Cracker warmer					
-2 roll: 1 corrugated roll			1.75	1.75	1.75
Cracker -2 corrugated rolls			2.00	2.00	2.00
Holding, feed and blend mill					
-2 rolls			1.25	1.25	1.25
Refiner -2 rolls			1.50	1.50	1.50
Calenders			1.50	1.50	1.50
PAPER MILL					
All types incl. Paper making machine			2.00	2.00	2.00
AGITATORS AND MIXERS					
Pure liquids			1.00	1.00	1.25
Liquids and solids			1.00	1.25	1.50
Liquids variable density			1.00	1.25	1.50
MIXERS					
Concrete			1.25	1.25	1.50
CRUSHER					
Stone or ore			2.50	2.50	2.50
BLOWERS					
Centrifugal			1.00	1.00	1.25
Lobe			1.00	1.25	1.50
Vane			1.00	1.25	1.50
COMPRESSORS					
Centrifugal			1.00	1.00	1.25
Lobe			1.00	1.25	1.50
Reciprocating: multi cylinder			1.50	1.50	1.75
Reciprocating: single cylinder			1.75	1.75	2.00
FANS					
Centrifugal			1.00	1.00	1.25
Cooling towers			※	※	※
Forced draft			1.25	1.25	1.25
Suction draft			1.50	1.50	1.50
Industrial and mine			1.50	1.50	1.50
PUMPS					
Centrifugal			1.00	1.00	1.25
Screw pump			1.25	1.25	1.50
Gear pump			1.25	1.25	1.50
DREDGES					
Cable reels			1.25	1.25	1.50
Conveyors			1.25	1.25	1.50
Cutter head drive			2.00	2.00	2.00
Pumps			2.00	2.00	2.00
Screen drives			1.75	1.75	2.00
Stackers			1.25	1.25	1.50
Winches			1.25	1.25	1.50
GENERATORS AND EXCITERS			1.00	1.00	1.25
HAMMER MILLS			1.75	1.75	2.00
SUGAR INDUSTRY					
Beet slicer			2.00	2.00	2.00
Cane knives			1.50	1.50	1.50
Crushers			1.50	1.50	1.50
Mills (Slow speed end)			1.75	1.75	1.75

Notes:

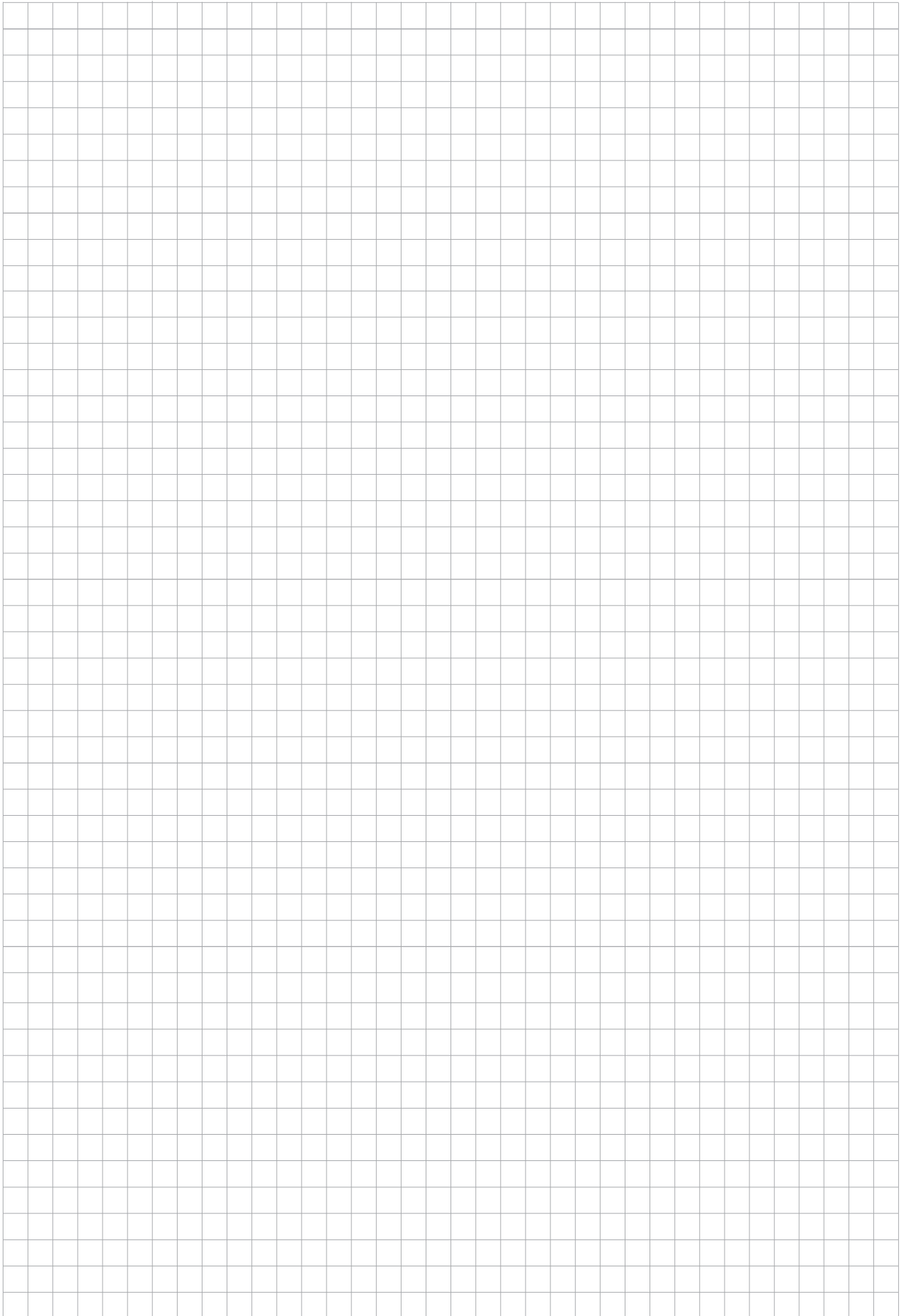
- (1) Values in the above table are based on AGMA standards and SUMITOMO's experience.
- (2) Values in the above table apply for electric motors as prime movers - if prime mover is a multi cylinder combustion engine, 0.25 has to be added to the SF.
- (3) Consult us for special duty or when special safety specifications are needed.
- (4) ※ : For SF, consult us.

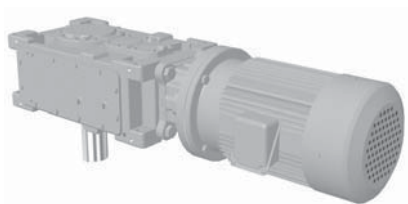
Drive Unit Service Factor SF

Refer to the following for driven machines not shown on the left page.

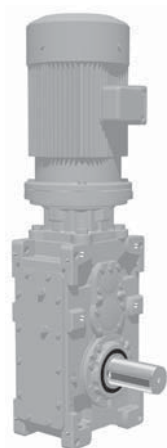
Prime Mover	Operating Hours	Type of Load		
		Uniform Load U	Moderate Shock Load M	Heavy Shock Load H
Electric Motor	3 hours/day	1.00	1.00	1.50
	10 hours/day	1.00	1.25	1.75
	24 hours/day	1.25	1.50	2.00
Internal Combustion Engine (multi cylinder)	3 hours/day	1.00	1.25	1.75
	10 hours/day	1.25	1.50	2.00
	24 hours/day	1.50	1.75	2.25

Note: Consult us when the operating hours are less than 3 hours/day or when an internal combustion engine (single cylinder) is used.

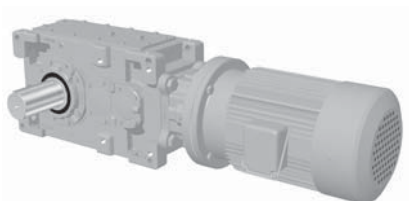




<Drive Unit Right Angle Shaft Horizontal Mounting>



<Drive Unit Right Angle Shaft Upright Mounting>



<Drive Unit Right Angle Shaft Vertical Mounting>

B

Drive Unit Right Angle Shaft

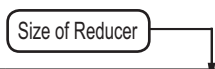
Selection	...	B- 12
Allowable Radial and Thrust Loads	...	B- 38
Dimension Sheets	...	B- 42
Exact Actual Ratio	...	B- 110

SELECTION Drive Unit Right Angle Shaft Combinations with 4P motor

Shaft Position	High Speed Shaft Speed	Ambient Temperature
Right Angle Shaft	1500r/min	40 Degree

kW	SF	Low Speed Shaft Speed (r/min)																								
		238	211	188	167	150	134	120	107	94	83	75	67	60	54	48	42	38	33	30						
		Nominal Reduction Ratio																								
		6.3	7.1	8	9	10	11.2	12.5	14	16	18	20	22.4	25	28	31.5	35.5	40	45	50						
5.5kW	1																			9030	9030	9030	9030	9030		
	1.25																				9030	9030	9030	9030	9030	
	4P 1.5																				9030	9030	9030	9030	9030	
	2																				9030	9030	9030	9030	9030	
7.5kW	1																				9030	9030	9030	9030	9030	9030
	1.25																				9030	9030	9030	9030	9030	9030
	4P 1.5																				9030	9030	9030	9030	9030	9030
	2																				9030	9030	9030	9030	9030	9030
11kW	1																				9030	9030	9030	9030	9030	9030
	1.25																				9030	9030	9030	9030	9030	9030
	4P 1.5																				9030	9030	9030	9030	9030	9035
	2																				9030	9030	9030	9030	9030	9035
15kW	1																				9030	9030	9030	9030	9030	9030
	1.25																				9030	9030	9030	9030	9030	9035
	4P 1.5																				9030	9030	9030	9030	9030	9035
	2																				9030	9030	9030	9030	9030	9045
18.5kW	1																				9035	9035	9035	9035	9035	9035
	1.25																				9035	9035	9035	9035	9035	9035
	4P 1.5																				9035	9035	9035	9035	9035	9045
	2																				9035	9035	9035	9035	9035	9045
22kW	1																				9035	9035	9035	9035	9035	9035
	1.25																				9035	9035	9035	9035	9035	9045
	4P 1.5																				9035	9035	9035	9035	9035	9045
	2																				9035	9035	9035	9035	9035	9050
30kW	1																				9040	9040	9040	9040	9040	9045
	1.25																				9040	9040	9040	9040	9040	9045
	4P 1.5																				9040	9040	9040	9040	9040	9050
	2																				9040	9040	9040	9040	9040	9055
37kW	1																				9040	9040	9040	9040	9040	9045
	1.25																				9040	9040	9040	9040	9035	9040
	4P 1.5																				9040	9040	9040	9040	9040	9045
	2																				9040	9040	9040	9040	9040	9060
45kW	1																				9040	9040	9040	9040	9040	9050
	1.25																				9040	9040	9040	9040	9040	9055
	4P 1.5																				9040	9040	9040	9040	9045	9060
	2																				9040	9040	9040	9040	9045	9065
55kW	1																				9040	9040	9040	9040	9040	9055
	1.25																				9040	9040	9040	9040	9040	9060
	4P 1.5																				9040	9040	9040	9040	9045	9065
	2																				9040	9040	9040	9040	9045	9075

Drive Unit Selection Tables Dimension Tables



SELECTION Drive Unit Right Angle Shaft Combinations with 4P motor

Low Speed Shaft Speed (r/min)																		SF	kW	
27	24	21	19	17	15	13	12	11	9.4	8.3	7.5	6.7	6.0	5.4	4.8	4.2	3.8			3.3
Nominal Reduction Ratio																				
56	63	71	80	90	100	112	125	140	160	180	200	224	250	280	315	355	400	450		
9030	9030	9030	9035	9035	9040	9040	9040	9040	9045	9045	9050	9050	9050	9050	9050	9055	9055	9055	1	
9030	9030	9030	9035	9035	9040	9040	9040	9040	9045	9045	9050	9050	9050	9050	9050	9055	9055	9055	1.25	5.5kW
9030	9030	9030	9035	9035	9040	9040	9040	9040	9045	9045	9050	9050	9050	9055	9055	9055	9065	9065	1.5	4P
9030	9030	9030	9035	9035	9040	9040	9040	9040	9045	9045	9050	9055	9055	9060	9060	9065	9065	9075	2	
9030	9030	9030	9035	9035	9040	9040	9040	9040	9045	9045	9050	9050	9050	9050	9050	9055	9055	9065	1	
9030	9030	9030	9035	9035	9040	9040	9040	9040	9045	9045	9050	9050	9050	9055	9055	9060	9065	9065	1.25	7.5kW
9030	9030	9030	9035	9035	9040	9040	9040	9045	9045	9045	9050	9055	9055	9060	9060	9065	9065	9075	1.5	4P
9030	9030	9035	9035	9035	9040	9045	9045	9050	9055	9055	9060	9060	9060	9065	9065	9070	9075	9075	2	
9030	9030	9030	9035	9035	9040	9040	9040	9040	9045	9045	9050	9055	9055	9060	9060	9065	9065	9075	1	
9030	9030	9030	9035	9035	9040	9040	9045	9045	9045	9055	9055	9055	9060	9065	9065	9065	9070	9075	1.25	11kW
9035	9040	9040	9040	9040	9040	9045	9045	9055	9055	9055	9060	9065	9065	9065	9065	9070	9075	9075	1.5	4P
9035	9040	9045	9045	9045	9050	9055	9055	9060	9065	9065	9070	9070	9070	9075	9075	9075	9085	9085	2	
9030	9030	9035	9035	9035	9040	9045	9045	9050	9055	9055	9060	9060	9060	9065	9065	9070	9075	9075	1	
9035	9040	9040	9045	9045	9045	9050	9050	9055	9055	9060	9060	9065	9065	9070	9075	9075	9075	9085	1.25	15kW
9035	9040	9045	9045	9045	9050	9055	9055	9060	9065	9065	9070	9070	9070	9075	9075	9075	9085	9085	1.5	4P
9045	9050	9050	9055	9055	9060	9060	9060	9065	9065	9070	9070	9075	9075	9080	9085	9085	9085		2	
9035	9040	9040	9040	9045	9045	9050	9050	9055	9055	9060	9060	9065	9065	9070	9070	9075	9075	9075	1	
9035	9040	9045	9045	9050	9050	9055	9055	9065	9065	9065	9070	9070	9070	9075	9075	9080	9085	9085	1.25	18.5kW
9045	9050	9050	9055	9055	9060	9060	9060	9065	9065	9070	9070	9070	9075	9075	9080	9085	9085		1.5	4P
9050	9050	9055	9055	9060	9060	9065	9065	9070	9075	9075	9080	9080	9080	9085	9085				2	
9035	9040	9045	9045	9045	9050	9055	9055	9060	9065	9065	9070	9070	9070	9075	9075	9075	9085	9085	1	
9045	9050	9050	9055	9055	9060	9060	9060	9065	9065	9070	9070	9070	9075	9075	9080	9085	9085		1.25	22kW
9045	9050	9055	9055	9055	9060	9065	9065	9065	9065	9070	9070	9075	9075	9085	9085	9085			1.5	4P
9055	9055	9060	9065	9065	9070	9070	9070	9075	9075	9075	9080	9085	9085	9085					2	
9045	9050	9050	9055	9055	9060	9060	9060	9065	9065	9070	9070	9075	9075	9080	9085	9085	9085		1	
9050	9050	9055	9055	9065	9070	9065	9065	9070	9075	9075	9080	9080	9080	9085	9085				1.25	30kW
9055	9055	9060	9065	9065	9070	9070	9070	9075	9075	9080	9080	9085	9085	9085					1.5	4P
9060	9060	9065	9065	9070	9070	9075	9075	9080	9085	9085									2	
9050	9050	9055	9055	9060	9060	9065	9065	9070	9075	9075	9080	9080	9080	9085	9085				1	
9055	9055	9060	9065	9065	9070	9070	9070	9075	9075	9080	9080	9085	9085						1.25	37kW
9060	9060	9065	9065	9070	9070	9075	9075	9075	9080	9085	9085								1.5	4P
9065	9065	9070	9075	9075	9080	9080	9080	9085	9085										2	
9055	9055	9060	9065	9065	9070	9070	9070	9075	9075	9080	9080	9085	9085	9085					1	
9060	9060	9065	9065	9070	9070	9075	9075	9075	9080	9085	9085								1.25	45kW
9065	9065	9070	9075	9075	9080	9080	9080	9085	9085	9085									1.5	4P
9070	9075	9075	9080	9080	9080	9085	9085												2	
9060	9060	9065	9065	9070	9070	9075	9075	9075	9080	9085	9085								1	
9065	9065	9070	9075	9075	9080	9080	9080	9085	9085										1.25	55kW
9065	9070	9070	9075	9075	9080	9080	9085	9085											1.5	4P
9075																			2	

SELECTION Drive Unit Right Angle Shaft Combinations with 4P motor

Shaft Position	High Speed Shaft Speed	Ambient Temperature
Right Angle Shaft	1800r/min	40 Degree

kW	SF	Low Speed Shaft Speed (r/min)																		
		286	254	225	200	180	161	144	129	113	100	90	80	72	64	57	51	45	40	36
		Nominal Reduction Ratio																		
		6.3	7.1	8	9	10	11.2	12.5	14	16	18	20	22.4	25	28	31.5	35.5	40	45	50
5.5kW 4P	1																			9030
	1.25																			9030
	1.5																			9030
	2																			9030
7.5kW 4P	1															9030	9030	9030	9030	9030
	1.25															9030	9030	9030	9030	9030
	1.5															9030	9030	9030	9030	9030
	2															9030	9030	9030	9030	9030
11kW 4P	1									9030	9030	9035	9030	9030	9030	9030	9030	9030	9030	9030
	1.25									9030	9030	9035	9030	9030	9030	9030	9030	9030	9030	9030
	1.5									9030	9030	9035	9030	9030	9030	9030	9030	9030	9030	9030
	2									9030	9030	9035	9035	9030	9030	9030	9030	9030	9030	9035
15kW 4P	1									9030	9030	9030	9030	9030	9030	9030	9030	9030	9030	9030
	1.25									9030	9030	9030	9030	9030	9030	9030	9030	9030	9030	9030
	1.5									9030	9030	9030	9030	9030	9030	9030	9030	9030	9030	9035
	2									9030	9030	9030	9030	9030	9030	9030	9030	9030	9035	9035
18.5kW 4P	1					9035	9035	9035	9035	9035	9035	9035	9035	9035	9035	9035	9035	9035	9035	9035
	1.25					9035	9035	9035	9035	9035	9035	9035	9035	9035	9035	9035	9035	9035	9035	9035
	1.5					9035	9035	9035	9035	9035	9035	9035	9035	9035	9035	9035	9035	9035	9035	9035
	2					9035	9035	9035	9035	9035	9035	9035	9035	9035	9035	9035	9035	9040	9040	9045
22kW 4P	1			9035	9035	9035	9035	9035	9035	9035	9035	9035	9035	9035	9035	9035	9035	9035	9035	9035
	1.25			9035	9035	9035	9035	9035	9035	9035	9035	9035	9035	9035	9035	9035	9035	9035	9035	9035
	1.5			9035	9035	9035	9035	9035	9035	9035	9035	9035	9035	9035	9035	9035	9035	9040	9040	9045
	2			9035	9035	9035	9035	9035	9035	9035	9035	9035	9035	9035	9035	9035	9035	9040	9045	9045
30kW 4P	1	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040
	1.25	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9045
	1.5	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9045	9045
	2	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9045	9045	9050	9050	9055
37kW 4P	1	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9045
	1.25	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9045	9045
	1.5	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9045	9045	9050	9050
	2	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9045	9045	9050	9055	9055
45kW 4P	1	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9045	9045	9045	9045	9045
	1.25	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9045	9045	9045	9050	9050
	1.5	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9040	9045	9045	9045	9050	9055
	2	9040	9040	9040	9040	9040	9040	9040	9040	9045	9045	9050	9050	9050	9050	9050	9055	9055	9060	9065
55kW 4P	1	9040	9040	9040	9040	9040	9040	9040	9040	9045	9045	9045	9055	9055	9055	9055	9055	9055	9055	9055
	1.25	9040	9040	9040	9040	9040	9040	9040	9040	6045	6045	6045	9055	9055	9055	9055	9055	9055	9055	9055
	1.5	9040	9040	9040	9040	9040	9040	9040	9040	9045	9045	9050	9050	9055	9055	9055	9055	9055	9060	9060
	2	9040	9040	9040	9040	9040	9040	9045	9045			9060	9060	9060	9060	9065	9065	9070	9070	9070

Drive Unit
 Selection Tables
 Dimension Tables

Size of Reducer



SELECTION Drive Unit Right Angle Shaft Combinations with 4P motor

Low Speed Shaft Speed (r/min)																		SF	kW	
32	29	25	23	20	18	16	14	13	11	10	9.0	8.0	7.2	6.4	5.7	5.1	4.5			4.0
Nominal Reduction Ratio																				
56	63	71	80	90	100	112	125	140	160	180	200	224	250	280	315	355	400	450		
9030	9030	9030	9035	9035	9040	9040	9040	9040	9045	9045	9050	9050	9050	9050	9050	9050	9055	9055	1	
9030	9030	9030	9035	9035	9040	9040	9040	9040	9045	9045	9050	9050	9050	9050	9050	9050	9055	9055	1.25	5.5kW
9030	9030	9030	9035	9035	9040	9040	9040	9040	9045	9045	9050	9050	9050	9050	9050	9055	9055	9055	1.5	4P
9030	9030	9030	9035	9035	9040	9040	9040	9040	9045	9045	9050	9055	9050	9055	9055	9060	9065	9065	2	
9030	9030	9030	9035	9035	9040	9040	9040	9040	9045	9045	9050	9050	9050	9050	9050	9055	9055	9055	1	
9030	9030	9030	9035	9035	9040	9040	9040	9040	9045	9045	9050	9050	9050	9050	9055	9055	9055	9065	1.25	7.5kW
9030	9030	9030	9035	9035	9040	9040	9040	9040	9045	9045	9050	9050	9050	9055	9055	9060	9065	9065	1.5	4P
9030	9030	9030	9035	9035	9040	9040	9040	9045	9045	9050	9050	9055	9055	9060	9065	9065	9075	9075	2	
9030	9030	9030	9035	9035	9040	9040	9040	9040	9045	9045	9050	9050	9050	9055	9055	9060	9065	9065	1	
9030	9030	9030	9035	9035	9040	9040	9040	9045	9045	9045	9050	9055	9055	9060	9060	9065	9065	9075	1.25	11kW
9030	9030	9030	9035	9035	9040	9040	9045	9045	9045	9055	9055	9055	9060	9065	9065	9070	9075	9075	1.5	4P
9035	9040	9040	9040	9045	9045	9045	9050	9055	9055	9060	9060	9065	9065	9070	9070	9075	9075	9075	2	
9030	9030	9030	9035	9035	9040	9040	9040	9045	9045	9050	9050	9055	9055	9060	9065	9065	9075	9075	1	
9030	9030	9035	9035	9035	9040	9045	9045	9050	9055	9055	9060	9060	9060	9065	9065	9070	9075	9075	1.25	15kW
9035	9040	9040	9040	9045	9045	9050	9050	9055	9055	9060	9060	9065	9065	9070	9070	9075	9075	9085	1.5	4P
9040	9040	9045	9045	9050	9055	9055	9055	9060	9065	9065	9070	9070	9070	9075	9075	9080	9085	9085	2	
9035	9035	9035	9035	9035	9040	9045	9045	9050	9055	9055	9060	9060	9060	9065	9065	9070	9075	9075	1	
9035	9040	9040	9040	9045	9045	9050	9050	9055	9055	9060	9060	9065	9065	9070	9075	9075	9075	9085	1.25	18.5kW
9035	9040	9045	9045	9050	9050	9055	9055	9060	9065	9065	9070	9070	9070	9075	9075	9080	9085	9085	1.5	4P
9045	9050	9050	9055	9055	9060	9060	9060	9065	9065	9070	9070	9075	9075	9080	9085	9085			2	
9035	9040	9040	9040	9045	9045	9045	9050	9055	9055	9060	9060	9065	9065	9070	9070	9075	9075	9075	1	
9035	9040	9045	9045	9045	9050	9055	9055	9060	9065	9065	9070	9070	9070	9075	9075	9080	9085	9085	1.25	22kW
9045	9050	9050	9055	9055	9060	9060	9060	9065	9065	9070	9070	9070	9075	9075	9080	9085	9085		1.5	4P
9050	9050	9055	9055	9060	9060	9065	9065	9070	9075	9075	9080	9080	9080	9085	9085				2	
9040	9040	9045	9045	9050	9055	9055	9055	9060	9065	9065	9070	9070	9070	9075	9075	9080	9085	9085	1	
9045	9050	9050	9055	9055	9060	9060	9060	9065	9065	9070	9070	9075	9075	9080	9085	9085			1.25	30kW
9050	9050	9055	9055	9060	9060	9065	9065	9070	9075	9075	9080	9080	9080	9085	9085				1.5	4P
9055	9055	9060	9065	9065	9070	9070	9070	9075	9075	9080	9085	9085	9085						2	
9045	9050	9050	9055	9055	9060	9060	9060	9065	9065	9070	9070	9075	9075	9080	9085	9085			1	
9050	9050	9055	9055	9065	9070	9070	9070	9070	9075	9075	9080	9080	9085	9085	9085				1.25	37kW
9055	9055	9060	9065	9065	9070	9070	9070	9075	9075	9080	9080	9085	9085						1.5	4P
9060	9065	9065	9070	9070	9070	9075	9075	9080	9085	9085									2	
9050	9055	9055	9055	9060	9060	9065	9065	9070	9075	9075	9080	9080	9080	9085	9085				1	
9055	9055	9060	9065	9065	9070	9070	9070	9075	9075	9080	9080	9085	9085						1.25	45kW
9060	9060	9065	9065	9070	9070	9075	9075	9075	9080	9085	9085								1.5	4P
9065	9070	9070	9075	9075	9080	9080	9080	9085	9085										2	
9055	9055	9060	9065	9065	9070	9070	9070	9075	9075	9080	9080	9085	9085						1	
9060	9065	9065	9070	9070	9070	9075	9075	9075	9085	9085									1.25	55kW
9065	9065	9070	9075	9075	9080	9080	9080	9085	9085										1.5	4P
9070	9075	9075	9080	9080	9080	9085	9085												2	

SELECTION Drive Unit Right Angle Shaft 5.5kW

5.5kW	Frequency Hz	50Hz	60Hz
	Pole P	4	4
	Speed n1 r/min	1500	1800

Output Speed r/min	Frequency							Model			Page of Dimension Sheet		
	50Hz				60Hz				Size	Assembly	Reduction Ratio	Horizontal	Vertical
	Output Torque (Tout) Nm	kgf m	SF	Output Speed r/min	Output Torque (Tout) Nm	kgf m	SF						
47.6	1100	113	4.89	57.1	919	94	5.81	9030	R3	31.5	B-44	B-54	B-64
42.3	1240	127	4.89	50.7	1040	106	5.81	9030	R3	35.5	B-44	B-54	B-64
37.5	1400	143	4.69	45.0	1170	119	5.45	9030	R3	40	B-44	B-54	B-64
			4.89				5.81	9035	R3	40	B-44	B-54	B-64
33.3	1580	161	4.21	40.0	1310	134	5.05	9030	R3	45	B-44	B-54	B-64
			4.89				5.81	9035	R3	45	B-44	B-54	B-64
30.0	1750	179	2.92	36.0	1460	149	3.50	9030	R3	50	B-44	B-54	B-64
			4.89				5.81	9035	R3	50	B-44	B-54	B-64
			4.74				5.69	9040	R3	50	B-44	B-54	B-64
26.8	1960	200	2.92	32.1	1630	167	3.50	9030	R3	56	B-44	B-54	B-64
			4.47				5.34	9035	R3	56	B-44	B-54	B-64
			4.74				5.69	9040	R3	56	B-44	B-54	B-64
23.8	2210	225	2.92	28.6	1840	188	3.50	9030	R3	63	B-44	B-54	B-64
			4.74				5.69	9040	R3	63	B-44	B-54	B-64
21.1	2490	254	2.69	25.4	2070	212	3.21	9030	R3	71	B-44	B-54	B-64
			2.92				3.50	9035	R3	71	B-44	B-54	B-64
			3.98				4.76	9040	R3	71	B-44	B-54	B-64
			4.74				5.69	9045	R3	71	B-44	B-54	B-64
18.8	2800	286	2.92	22.5	2330	238	3.50	9035	R3	80	B-44	B-54	B-64
			3.89				4.65	9040	R4	80	B-48	B-58	B-68
			4.74				5.69	9045	R3	80	B-48	B-58	B-68
16.7	3150	322	2.85	20.0	2630	268	3.41	9035	R3	90	B-44	B-54	B-64
			3.18				3.81	9040	R4	90	B-48	B-58	B-68
			4.18				5.00	9045	R3	90	B-48	B-58	B-68
			4.60				5.45	9050	R4	90	B-48	B-58	B-68
15.0	3500	358	3.05	18.0	2920	298	3.65	9040	R4	100	B-48	B-58	B-68
			3.94				4.72	9045	R4	100	B-48	B-58	B-68
			4.52				5.41	9050	R4	100	B-48	B-58	B-68
13.4	3920	400	2.50	16.1	3270	334	3.00	9040	R4	112	B-48	B-58	B-68
			3.34				4.00	9045	R4	112	B-48	B-58	B-68
			3.70				4.45	9050	R4	112	B-48	B-58	B-68
			4.60				5.45	9055	R4	112	B-48	B-58	B-68
12.0	4380	447	2.47	14.4	3650	372	2.96	9040	R4	125	B-48	B-58	B-68
			3.09				3.70	9045	R4	125	B-48	B-58	B-68
			3.61				4.34	9050	R4	125	B-48	B-58	B-68
			4.60				5.45	9055	R4	125	B-48	B-58	B-68
10.7	4900	501	2.03	12.9	4090	417	2.43	9040	R4	140	B-48	B-58	B-68
			2.63				3.14	9045	R4	140	B-48	B-58	B-68
			2.98				3.56	9050	R4	140	B-48	B-58	B-68
			3.89				4.65	9955	R4	140	B-48	B-58	B-68
			4.65				5.45	9060	R4	140	B-50	B-60	B-70
9.4	5600	572	2.50	11.3	4670	477	3.00	9045	R4	160	B-48	B-58	B-68
			2.60				3.10	9050	R4	160	B-48	B-58	B-68
			3.87				4.63	9055	R4	160	B-48	B-58	B-68
8.3	6300	644	2.12	10.0	5250	536	2.54	9045	R4	180	B-48	B-58	B-68
			2.43				2.92	9050	R4	180	B-48	B-58	B-68
			3.10				3.72	9055	R4	180	B-48	B-58	B-68
			3.80				4.56	9060	R4	180	B-50	B-60	B-70
			4.85				5.81	9065	R4	180	B-50	B-60	B-70
7.5	7000	715	2.27	9.0	5840	596	2.72	9050	R4	200	B-48	B-58	B-68
			2.60				3.10	9055	R4	200	B-48	B-58	B-68
			3.69				4.41	9060	R4	200	B-50	B-60	B-70
			3.89				4.67	9065	R4	200	B-50	B-60	B-70
6.7	7840	801	1.87	8.0	6540	667	2.23	9050	R4	224	B-48	B-58	B-68
			2.54				3.05	9055	R4	224	B-48	B-58	B-68
			2.90				3.49	9060	R4	224	B-50	B-60	B-70
			3.89				4.67	9065	R4	224	B-50	B-60	B-70
6.0	8750	894	1.81	7.2	7300	745	2.18	9050	R4	250	B-48	B-58	B-68
			2.43				2.90	9055	R4	250	B-48	B-58	B-68
			2.96				3.56	9060	R4	250	B-50	B-60	B-70
			3.85				4.63	9065	R4	250	B-50	B-60	B-70
			4.69				5.45	9070	R4	250	B-50	B-60	B-70
5.4	9800	1000	1.94	6.4	8170	834	2.34	9055	R4	280	B-48	B-58	B-68
			2.34				2.80	9060	R4	280	B-50	B-60	B-70
			3.03				3.63	9065	R4	280	B-50	B-60	B-70
			3.90				4.67	9070	R4	280	B-50	B-60	B-70
4.8	11030	1130	1.40	5.7	9190	938	1.67	9050	R4	315	B-48	B-58	B-68
			1.94				2.32	9055	R4	315	B-48	B-58	B-68
			2.09				2.50	9060	R4	315	B-50	B-60	B-70
			3.09				3.70	9065	R4	315	B-50	B-60	B-70
			3.40				4.09	9070	R4	315	B-50	B-60	B-70
	4.94	5.81	9075	R4	315	B-50	B-60	B-70					
4.2	12430	1270	1.20	5.1	10360	1060	1.45	9050	R4	355	B-48	B-58	B-68
			1.56				1.87	9055	R4	355	B-48	B-58	B-68
			1.89				2.27	9060	R4	355	B-50	B-60	B-70
			2.43				2.92	9065	R4	355	B-50	B-60	B-70
			3.20				3.83	9070	R4	355	B-50	B-60	B-70
			4.14				4.96	9075	R4	355	B-50	B-60	B-70
			4.70				5.63	9080	R4	355	B-50	B-60	B-70

Drive Unit
 Selection Tables
 Dimension Tables

SELECTION Drive Unit Right Angle Shaft 5.5kW, 7.5kW

Output Speed r/min	Frequency							Model			Page of Dimension Sheet		
	50Hz				60Hz				Size	Assembly	Reduction Ratio	Horizontal	Vertical
Output Torque (Tout) Nm	kgf m	SF	Output Speed r/min	Output Torque (Tout) Nm	kgf m	SF							
3.8	14010	1430	1.47	4.5	11670	1190	1.76	9055	R4	400	B-48	B-58	B-68
			2.18				2.61	9065	R4	400	B-50	B-60	B-70
			3.61				4.32	9075	R4	400	B-50	B-60	B-70
3.3	15760	1610	1.25	4.0	13130	1340	1.50	9055	R4	450	B-48	B-58	B-68
			1.96				2.36	9065	R4	450	B-50	B-60	B-70
			3.38				4.07	9075	R4	450	B-50	B-60	B-70
			4.92				5.81	9085	R4	450	B-50	B-60	B-70

7.5kW	Frequency Hz	50Hz	60Hz
	Pole P	4	4
	Speed n1 r/min	1500	1800

Output Speed r/min	Frequency							Model			Page of Dimension Sheet		
	50Hz				60Hz				Size	Assembly	Reduction Ratio	Horizontal	Vertical
Output Torque (Tout) Nm	kgf m	SF	Output Speed r/min	Output Torque (Tout) Nm	kgf m	SF							
53.6	1340	137	4.93	64.3	1110	114	5.86	9030	R3	28	B-44	B-54	B-64
47.6	1500	154	3.58	57.1	1250	128	4.26	9030	R3	31.5	B-44	B-54	B-64
42.3	1700	173	3.58	50.7	1410	144	4.26	9030	R3	35.5	B-44	B-54	B-64
37.5	1910	195	3.44	45	1590	163	4.00	9030	R3	40	B-44	B-54	B-64
			3.58				4.26	9035	R3	40	B-44	B054	B-64
33.3	2150	219	3.09	40	1790	183	3.70	9030	R3	45	B-44	B-54	B-64
			3.58				4.26	9035	R3	45	B-44	B-54	B-64
			4.57				5.48	9040	R3	45	B-44	B-54	B-64
30.0	2390	244	2.14	36	1990	203	2.57	9030	R3	50	B-44	B-54	B-64
			3.58				4.26	9035	R3	50	B-44	B-54	B-64
			3.48				4.17	9040	R3	50	B-44	B-54	B-64
26.8	2670	273	2.14	32.1	2230	228	2.57	9030	R3	56	B-44	B-54	B-64
			3.28				3.92	9035	R3	56	B-44	B-54	B-64
			3.48				4.17	9040	R3	56	B-44	B-54	B-64
			4.80				5.74	9045	R3	56	B-44	B-54	B-64
23.8	3010	307	2.14	28.6	2510	256	2.57	9030	R3	63	B-44	B-54	B-64
			3.48				4.17	9040	R3	63	B-44	B-54	B-64
21.1	3390	346	1.97	25.4	2830	288	2.36	9030	R3	71	B-44	B-54	B-64
			2.14				2.57	9035	R3	71	B-44	B-54	B-64
			2.92				3.49	9040	R3	71	B-44	B-54	B-64
			3.48				4.17	9045	R3	71	B-44	B-54	B-64
			4.26				5.20	9050	R3	71	B-44	B-54	B-64
18.8	3820	390	2.14	22.5	3180	325	2.57	9035	R3	80	B-44	B-54	B-64
			2.85				3.41	9040	R4	80	B-48	B-58	B-68
			3.48				4.17	9045	R3	80	B-44	B-54	B-64
			4.93				6.00	9060	R4	80	B-50	B-60	B-70
16.7	4300	439	2.09	20.0	3580	366	2.50	9035	R3	90	B-44	B-54	B-64
			2.33				2.80	9040	R4	90	B-48	B-58	B-68
			3.06				3.66	9045	R3	90	B-44	B-54	B-64
			3.37				4.00	9050	R4	90	B-48	B-58	B-68
			4.53				5.46	9055	R3	90	B-44	B-54	B-64
			4.93				6.00	9060	R4	90	B-50	B-60	B-70
15.0	4780	488	2.24	18.0	3980	406	2.68	9040	R4	100	B-48	B-58	B-68
			2.89				3.46	9045	R4	100	B-48	B-58	B-68
			3.32				3.97	9050	R4	100	B-48	B-58	B-68
			4.93				6.00	9060	R4	100	B-50	B-60	B-70
13.4	5350	546	1.84	16.1	4460	455	2.20	9040	R4	112	B-48	B-58	B-68
			2.45				2.93	9045	R4	112	B-48	B-58	B-68
			2.72				3.26	9050	R4	112	B-48	B-58	B-68
			3.37				4.00	9055	R4	112	B-48	B-58	B-68
			4.13				5.06	9060	R4	112	B-50	B-60	B-70
12.0	5970	609	1.81	14.4	4970	508	2.17	9040	R4	125	B-48	B-58	B-68
			2.26				2.72	9045	R4	125	B-48	B-58	B-68
			2.65				3.18	9050	R4	125	B-48	B-58	B-68
			3.37				4.00	9055	R4	125	B-48	B-58	B-68
			4.26				5.06	9060	R4	125	B-50	B-60	B-70

SELECTION Drive Unit Right Angle Shaft 7.5kW

Output Speed r/min	Frequency							Model			Page of Dimension Sheet		
	50Hz			60Hz				Size	Assembly	Reduction Ratio	Horizontal	Vertical	Upright
	Output Torque (Tout) Nm	kgf·m	SF	Output Speed r/min	Output Torque (Tout) Nm	kgf·m	SF						
10.7	6690	683	1.49	12.9	5570	569	1.78	9040	R4	140	B-48	B-58	B-68
			1.93				2.30	9045	R4	140	B-48	B-58	B-68
			2.18				2.61	9050	R4	140	B-48	B-58	B-68
			2.85				3.41	9055	R4	140	B-48	B-58	B-68
			3.41				4.00	9060	R4	140	B-50	B-60	B-70
			4.42				5.29	9065	R4	140	B-50	B-60	B-70
9.4	7640	780	1.84	11.3	6370	650	2.20	9045	R4	160	B-48	B-58	B-68
			1.90				2.28	9050	R4	160	B-48	B-58	B-68
			2.84				3.40	9055	R4	160	B-48	B-58	B-68
			4.54				5.45	9065	R4	160	B-50	B-60	B-70
8.3	8600	878	1.56	10.0	7160	731	1.86	9045	R4	180	B-48	B-58	B-68
			1.78				2.14	9050	R4	180	B-48	B-58	B-68
			2.28				2.73	9055	R4	180	B-48	B-58	B-68
			2.78				3.34	9060	R4	180	B-50	B-60	B-70
			3.56				4.26	9065	R4	180	B-50	B-60	B-70
			4.40				5.20	9070	R4	180	B-50	B-60	B-70
7.5	9550	975	1.66	9.0	7960	813	2.00	9050	R4	200	B-48	B-58	B-68
			1.90				2.28	9055	R4	200	B-48	B-58	B-68
			2.70				3.24	9060	R4	200	B-50	B-60	B-70
			2.85				3.42	9065	R4	200	B-50	B-60	B-70
			4.40				5.20	9070	R4	200	B-50	B-60	B-70
			6.7				10700	1090	1.37	8.0	8910	910	1.64
1.86	2.24	9055		R4	224	B-48			B-58				B-68
2.13	2.56	9060		R4	224	B-50			B-60				B-70
2.85	3.42	9065		R4	224	B-50			B-60				B-70
3.74	4.40	9070		R4	224	B-50			B-60				B-70
4.40	5.20	9075		R4	224	B-50			B-60				B-70
6.0	11940	1220	1.33	7.2	9950	1020	1.60	9050	R4	250	B-48	B-58	B-68
			1.78				2.13	9055	R4	250	B-48	B-58	B-68
			2.17				2.61	9060	R4	250	B-50	B-60	B-70
			2.82				3.40	9065	R4	250	B-50	B-60	B-70
			3.44				4.00	9070	R4	250	B-50	B-60	B-70
			4.40				5.20	9075	R4	250	B-50	B-60	B-70
5.4	13370	1370	1.09	6.4	11140	1140	1.32	9050	R4	280	B-48	B-58	B-68
			1.42				1.72	9055	R4	280	B-48	B-58	B-68
			1.72				2.05	9060	R4	280	B-50	B-60	B-70
			2.22				2.66	9065	R4	280	B-50	B-60	B-70
			2.86				3.42	9070	R4	280	B-50	B-60	B-70
			3.97				4.66	9075	R4	280	B-50	B-60	B-70
4.26	5.20	9080	R4	280	B-50	B-60	B-70						
4.8	15040	1540	1.02	5.7	12530	1280	1.22	9050	R4	315	B-48	B-58	B-68
			1.42				1.70	9055	R4	315	B-48	B-58	B-68
			1.53				1.84	9060	R4	315	B-50	B-60	B-70
			2.26				2.72	9065	R4	315	B-50	B-60	B-70
			2.49				3.00	9070	R4	315	B-50	B-60	B-70
			3.62				4.26	9075	R4	315	B-50	B-60	B-70
3.85	4.53	9080	R4	315	B-50	B-60	B-70						
4.2	16950	1730	0.88	5.1	14130	1440	1.06	9050	R4	355	B-48	B-58	B-68
			1.14				1.37	9055	R4	355	B-48	B-58	B-68
			1.38				1.66	9060	R4	355	B-50	B-60	B-70
			1.78				2.14	9065	R4	355	B-50	B-60	B-70
			2.34				2.81	9070	R4	355	B-50	B-60	B-70
			3.04				3.64	9075	R4	355	B-50	B-60	B-70
3.45	4.13	9080	R4	355	B-50	B-60	B-70						
4.53	5.46	9085	R4	355	B-50	B-60	B-70						
3.8	19100	1950	1.07	4.5	15920	1630	1.29	9055	R4	400	B-48	B-58	B-68
			1.60				1.92	9065	R4	400	B-50	B-60	B-70
			2.65				3.17	9075	R4	400	B-50	B-60	B-70
			4.00				4.80	9085	R4	400	B-50	B-60	B-70
3.3	21490	2190	0.92	4.0	17910	1830	1.10	9055	R4	450	B-48	B-58	B-68
			1.44				1.73	9065	R4	450	B-50	B-60	B-70
			2.48				2.98	9075	R4	450	B-50	B-60	B-70
			3.61				4.26	9085	R4	450	B-50	B-60	B-70

Drive Unit
 Selection
 Tables
 Dimension
 Tables

SELECTION Drive Unit Right Angle Shaft 11kW

11kW	Frequency Hz	50Hz	60Hz
	Pole P	4	4
	Speed n1 r/min	1500	1800

Output Speed r/min	Frequency							Model			Page of Dimension Sheet		
	50Hz				60Hz				Size	Assembly	Reduction Ratio	Horizontal	Vertical
Output Torque (Tout) Nm	kgf m	SF	Output Speed r/min	Output Torque (Tout) Nm	kgf m	SF							
93.8	1120	114	3.90	113	934	95	4.63	9030	R2	16	B-42	B-52	B-62
83.3	1260	129	3.90	100	1050	107	4.63	9030	R2	18	B-42	B-52	B-62
75.0	1400	143	4.63	90.0	1170	119	5.54	9030	R3	20	B-44	B-54	B-64
67.0	1570	160	4.18	80.4	1310	133	5.00	9030	R3	22.4	B-44	B-54	B-64
60.0	1750	179	3.72	72.0	1460	149	4.45	9030	R3	25	B-44	B-54	B-64
			4.90				5.81						
53.6	1960	200	3.36	64.3	1630	167	4.00	9030	R3	28	B-44	B-54	B-64
			4.45				5.27						
			5.00				5.90	9040	R3	28	B-44	B-54	B-64
			2.44				2.90						
47.6	2210	225	3.90	57.1	1840	188	4.63	9030	R3	31.5	B-44	B-54	B-64
			4.37				5.18						
			2.44				2.90	9040	R3	31.5	B-44	B-54	B-64
3.54	4.27												
42.3	2490	254	2.44	50.7	2070	212	2.90	9030	R3	35.5	B-44	B-54	B-64
			3.81				4.63						
			2.34				2.72	9040	R3	35.5	B-44	B-54	B-64
2.44	2.90												
37.5	2800	286	2.44	45.0	2330	238	2.90	9035	R3	40	B-44	B-54	B-64
			3.72				4.55						
			4.37				5.25	9040	R3	40	B-44	B-54	B-64
			2.10				2.52						
33.3	3150	322	2.44	40.0	2630	268	2.90	9030	R3	45	B-44	B-54	B-64
			3.11				3.73						
			4.07				4.87	9040	R3	45	B-44	B-54	B-64
			4.54				5.45						
			1.46				1.75	9050	R3	45	B-44	B-54	B-64
2.44	2.90												
30.0	3500	358	3.89	36.0	2920	298	4.67	9035	R3	50	B-44	B-54	B-64
			4.45				5.36						
			1.46				1.75	9045	R3	50	B-44	B-54	B-64
			2.23				2.67						
			2.37				2.84	9030	R3	56	B-44	B-54	B-64
3.27	3.91												
26.8	3920	400	3.63	32.1	3270	334	4.36	9045	R3	56	B-44	B-54	B-64
			4.72				5.63						
			1.46				1.75	9050	R3	56	B-44	B-54	B-64
			2.37				2.84						
			2.37				2.84	9030	R3	63	B-44	B-54	B-64
3.54	4.27												
23.8	4410	450	4.72	28.6	3680	375	5.72	9040	R3	63	B-44	B-54	B-64
			1.34				1.60						
			1.46				1.75	9050	R3	63	B-44	B-54	B-64
			1.99				2.38						
			2.37				2.84	9035	R3	71	B-44	B-54	B-64
2.90	3.54												
21.1	4970	508	3.81	25.4	4140	423	4.54	9045	R3	71	B-44	B-54	B-64
			4.54				5.45						
			1.46				1.75	9055	R3	71	B-44	B-54	B-64
			1.94				2.32						
			2.37				2.84	9035	R3	80	B-44	B-54	B-64
			3.81				4.63						
18.8	5600	572	1.42	22.5	4670	477	1.70	9040	R4	80	B-44	B-54	B-64
			1.59				1.90						
			2.09				2.50	9045	R3	80	B-44	B-54	B-64
			2.30				2.72						
			3.09				3.72	9050	R4	90	B-48	B-58	B-68
			3.36				4.09						
4.81	5.76	9060	R4	90	B-50	B-60	B-70						
1.52	1.82												
15.0	7000	715	1.97	18.0	5840	596	2.36	9040	R4	100	B-48	B-58	B-68
			2.26				2.70						
			3.36				4.09	9050	R4	100	B-48	B-58	B-68
			1.25				1.50						
			1.67				2.00	9060	R4	100	B-50	B-60	B-70
1.85	2.22												
13.4	7840	801	2.30	16.1	6540	667	2.72	9040	R4	112	B-48	B-58	B-68
			2.81				3.45						
			3.40				4.09	9050	R4	112	B-48	B-58	B-68
			4.90				5.90						
			1.23				1.48	9065	R4	112	B-50	B-60	B-70
			1.54				1.85						
			1.80				2.17	9070	R4	112	B-50	B-60	B-70
2.30	2.72												
2.90	3.45	9040	R4	125	B-48	B-58	B-68						
3.40	4.09												
4.54	5.45	9050	R4	125	B-48	B-58	B-68						
								9065	R4	125	B-48	B-58	B-68
		9060	R4	125	B-50	B-60	B-70						
								9065	R4	125	B-50	B-60	B-70
		9070	R4	125	B-50	B-60	B-70						

SELECTION Drive Unit Right Angle Shaft 11kW

Output Speed r/min	Frequency							Model			Page of Dimension Sheet		
	50Hz			SF	60Hz			Size	Assembly	Reduction Ratio	Horizontal	Vertical	Upright
	Output Torque (Tout) Nm	kgf m	Output Speed r/min		Output Torque (Tout) Nm	kgf m	SF						
10.7	9800	1000	1.01	12.9	8170	834	1.21	9040	R4	140	B-48	B-58	B-68
			1.31				1.57	9045	R4	140	B-48	B-58	B-68
			1.49				1.78	9050	R4	140	B-48	B-58	B-68
			1.94				2.32	9055	R4	140	B-48	B-58	B-68
			2.32				2.72	9060	R4	140	B-50	B-60	B-70
			3.01				3.60	9065	R4	140	B-50	B-60	B-70
			3.72				4.54	9070	R4	140	B-50	B-60	B-70
9.4	11210	1140	1.25	11.3	9340	953	1.50	9045	R4	160	B-48	B-58	B-68
			1.30				1.55	9050	R4	160	B-48	B-58	B-68
			1.93				2.31	9055	R4	160	B-48	B-58	B-68
			3.10				3.71	9065	R4	160	B-50	B-60	B-70
			4.81				5.72	9075	R4	160	B-50	B-60	B-70
8.3	12610	1290	1.06	10.0	10510	1070	1.27	9045	R4	180	B-48	B-58	B-68
			1.21				1.46	9050	R4	180	B-48	B-58	B-68
			1.55				1.86	9055	R4	180	B-48	B-58	B-68
			1.90				2.28	9060	R4	180	B-50	B-60	B-70
			2.42				2.90	9065	R4	180	B-50	B-60	B-70
			3.00				3.54	9070	R4	180	B-50	B-60	B-70
			4.00				4.81	9075	R4	180	B-50	B-60	B-70
			4.72				5.63	9080	R4	180	B-50	B-60	B-70
7.5	14010	1430	1.13	9.0	11670	1190	1.36	9050	R4	200	B-48	B-58	B-68
			1.30				1.55	9055	R4	200	B-48	B-58	B-68
			1.84				2.20	9060	R4	200	B-50	B-60	B-70
			1.94				2.33	9065	R4	200	B-50	B-60	B-70
			3.00				3.54	9070	R4	200	B-50	B-60	B-70
			4.45				5.36	9080	R4	200	B-50	B-60	B-70
6.7	15690	1600	0.93	8.0	13070	1330	1.11	9050	R4	224	B-48	B-58	B-68
			1.27				1.52	9055	R4	224	B-48	B-58	B-68
			1.45				1.74	9060	R4	224	B-50	B-60	B-70
			1.94				2.33	9065	R4	224	B-50	B-60	B-70
			2.55				3.00	9070	R4	224	B-50	B-60	B-70
			3.00				3.54	9075	R4	224	B-50	B-60	B-70
			3.90				4.63	9080	R4	224	B-50	B-60	B-70
			4.90				5.90	9085	R4	224	B-50	B-60	B-70
6.0	17510	1790	0.90	7.2	14590	1490	1.09	9050	R4	250	B-48	B-58	B-68
			1.21				1.45	9055	R4	250	B-48	B-58	B-68
			1.48				1.78	9060	R4	250	B-50	B-60	B-70
			1.92				2.31	9065	R4	250	B-50	B-60	B-70
			2.34				2.72	9070	R4	250	B-50	B-60	B-70
			3.00				3.54	9075	R4	250	B-50	B-60	B-70
			3.45				4.09	9080	R4	250	B-50	B-60	B-70
			4.72				5.63	9085	R4	250	B-50	B-60	B-70
5.4	19610	2000	0.97	6.4	16340	1670	1.17	9055	R4	280	B-48	B-58	B-68
			1.17				1.40	9060	R4	280	B-50	B-60	B-70
			1.51				1.81	9065	R4	280	B-50	B-60	B-70
			1.95				2.33	9070	R4	280	B-50	B-60	B-70
			2.70				3.18	9075	R4	280	B-50	B-60	B-70
			2.90				3.54	9080	R4	280	B-50	B-60	B-70
			4.09				4.90	9085	R4	280	B-50	B-60	B-70
			4.8				22060	2250	0.97	5.7	18380	1880	1.16
1.04	1.25	9060		R4	315	B-50			B-60				B-70
1.54	1.85	9065		R4	315	B-50			B-60				B-70
1.70	2.04	9070		R4	315	B-50			B-60				B-70
2.47	2.90	9075		R4	315	B-50			B-60				B-70
2.62	3.09	9080		R4	315	B-50			B-60				B-70
3.63	4.36	9085		R4	315	B-50			B-60				B-70
4.2	24860	2540		0.94	5.1	20720			2120				1.13
			1.21	1.46			9065	R4		355	B-50	B-60	B-70
			1.60	1.91			9070	R4		355	B-50	B-60	B-70
			2.07	2.48			9075	R4		355	B-50	B-60	B-70
			2.35	2.81			9080	R4		355	B-50	B-60	B-70
			3.09	3.72			9085	R4		355	B-50	B-60	B-70
3.8	28010	2860	1.09	4.5	23340	2380	1.30	9065	R4	400	B-50	B-60	B-70
			1.80				2.16	9075	R4	400	B-50	B-60	B-70
			2.72				3.27	9085	R4	400	B-50	B-60	B-70
3.3	31520	3220	0.98	4.0	26260	2680	1.18	9065	R4	450	B-50	B-60	B-70
			1.69				2.03	9075	R4	450	B-50	B-60	B-70
			2.46				2.90	9085	R4	450	B-50	B-60	B-70

Drive Unit
 Selection
 Tables
 Dimension
 Tables

SELECTION Drive Unit Right Angle Shaft 15kW

15kW	Frequency Hz	50Hz	60Hz
	Pole P	4	4
	Speed n1 r/min	1500	1800

Output Speed r/min	Frequency							Model			Page of Dimension Sheet		
	50Hz				60Hz				Size	Assembly	Reduction Ratio	Horizontal	Vertical
Output Torque (Tout) Nm kgf m	SF	Output Speed r/min	Output Torque (Tout) Nm kgf m	SF	Output Speed r/min	Output Torque (Tout) Nm kgf m	SF						
120	1190	122	4.06	144	995	102	4.86	9030	R2	12.5	B-42	B-52	B-62
107	1340	137	4.06	129	1110	114	4.86	9030	R2	14	B-42	B-52	B-62
93.8	1530	156	2.86	113	1270	130	3.40	9030	R2	16	B-42	B-52	B-62
			4.06				4.86	9035	R2	16	B-42	B-52	B-62
			4.20				5.00	9040	R2	16	B-42	B-52	B-62
83.3	1720	176	2.86	100	1430	146	3.40	9030	R2	18	B-42	B-52	B-62
			4.06				4.86	9035	R2	18	B-42	B-52	B-62
			4.20				5.00	9040	R2	18	B-42	B-52	B-62
75.0	1910	195	3.40	90.0	1590	163	4.06	9030	R3	20	B-44	B-54	B-64
			4.46				5.20	9040	R3	20	B-44	B-54	B-64
67.0	2140	218	3.06	80.4	1780	182	3.66	9030	R3	22.4	B-44	B-54	B-64
			4.46				5.20	9040	R3	22.4	B-44	B-54	B-64
60.0	2390	244	2.73	72.0	1990	203	3.26	9030	R3	25	B-44	B-54	B-64
			3.60				4.26	9035	R3	25	B-44	B-54	B-64
			4.47				5.20	9040	R3	25	B-44	B-54	B-64
53.6	2670	273	2.46	64.3	2230	228	2.93	9030	R3	28	B-44	B-54	B-64
			3.26				3.86	9035	R3	28	B-44	B-54	B-64
			3.66				4.33	9040	R3	28	B-44	B-54	B-64
			4.50				5.20	9045	R3	28	B-44	B-54	B-64
47.6	3010	307	1.79	57.1	2510	256	2.13	9030	R3	31.5	B-44	B-54	B-64
			2.86				3.40	9035	R3	31.5	B-44	B-54	B-64
			3.20				3.80	9040	R3	31.5	B-44	B-54	B-64
			4.50				5.20	9045	R3	31.5	B-44	B-54	B-64
42.3	3390	346	1.79	50.7	2830	288	2.13	9030	R3	35.5	B-44	B-54	B-64
			2.60				3.13	9035	R3	35.5	B-44	B-54	B-64
			2.80				3.40	9040	R3	35.5	B-44	B-54	B-64
			3.85				4.61	9045	R3	35.5	B-44	B-54	B-64
			4.33				5.20	9050	R3	35.5	B-44	B-54	B-64
37.5	3820	390	1.72	45.0	3180	325	2.00	9030	R3	40	B-44	B-54	B-64
			1.79				2.13	9035	R3	40	B-44	B-54	B-64
			2.73				3.34	9040	R3	40	B-44	B-54	B-64
			3.20				3.85	9045	R3	40	B-44	B-54	B-64
			4.06				4.86	9050	R3	40	B-44	B-54	B-64
33.3	4300	439	1.54	40.0	3580	366	1.85	9030	R3	45	B-44	B-54	B-64
			1.79				2.13	9035	R3	45	B-44	B-54	B-64
			2.28				2.74	9040	R3	45	B-44	B-54	B-64
			2.98				3.57	9045	R3	45	B-44	B-54	B-64
			3.33				4.00	9050	R3	45	B-44	B-54	B-64
			4.53				5.46	9055	R3	45	B-44	B-54	B-64
30.0	4780	488	1.07	36.0	3980	406	1.28	9030	R3	50	B-44	B-54	B-64
			1.79				2.13	9035	R3	50	B-44	B-54	B-64
			2.85				3.42	9045	R3	50	B-44	B-54	B-64
			3.26				3.93	9050	R3	50	B-44	B-54	B-64
			4.33				5.20	9055	R3	50	B-44	B-54	B-64
			4.93				5.60	9060	R3	50	B-46	B-56	B-66
26.8	5350	546	1.07	32.1	4460	455	1.28	9030	R3	56	B-44	B-54	B-64
			1.64				1.96	9035	R3	56	B-44	B-54	B-64
			1.74				2.08	9040	R3	56	B-44	B-54	B-64
			2.40				2.87	9045	R3	56	B-44	B-54	B-64
			2.66				3.20	9050	R3	56	B-44	B-54	B-64
			3.46				4.13	9055	R3	56	B-44	B-54	B-64
			4.26				5.13	9060	R3	56	B-46	B-56	B-66
23.8	6020	614	1.07	28.6	5010	512	1.28	9030	R3	63	B-44	B-54	B-64
			1.74				2.08	9040	R3	63	B-44	B-54	B-64
			2.60				3.13	9050	R3	63	B-44	B-54	B-64
			3.46				4.20	9055	R3	63	B-44	B-54	B-64
			4.00				4.53	9060	R3	63	B-46	B-56	B-66
			4.93				5.60	9065	R3	63	B-46	B-56	B-66
21.1	6780	692	0.98	25.4	5650	577	1.18	9030	R3	71	B-44	B-54	B-64
			1.07				1.28	9035	R3	71	B-44	B-54	B-64
			1.46				1.74	9040	R3	71	B-44	B-54	B-64
			1.74				2.08	9045	R3	71	B-44	B-54	B-64
			2.13				2.60	9050	R3	71	B-44	B-54	B-64
			2.80				3.33	9055	R3	71	B-44	B-54	B-64
			3.33				4.00	9060	R3	71	B-46	B-56	B-66
			4.48				5.36	9065	R3	71	B-46	B-56	B-66

SELECTION Drive Unit Right Angle Shaft 15kW

Output Speed r/min	Frequency							Model			Page of Dimension Sheet								
	50Hz			60Hz				Size	Assembly	Reduction Ratio	Horizontal	Vertical	Upright						
	Output Torque (Tout) Nm	kgf m	SF	Output Speed r/min	Output Torque (Tout) Nm	kgf m	SF												
18.8	7640	780	1.07	22.5	6370	650	1.28	9035	R3	80	B-44	B-54	B-64						
			1.42				1.70	9040	R4	80	B-48	B-58	B-68						
			1.74				2.08	9045	R3	80	B-44	B-54	B-64						
			2.80				3.40	9055	R3	80	B-44	B-54	B-64						
			4.00				4.53	9065	R3	80	B-46	B-56	B-64						
			4.40				5.33	9070	R4	80	B-50	B-60	B-70						
			16.7				8600	878	1.04	20.0	7160	731	1.25	9035	R3	90	B-44	B-54	B-64
1.16	1.40	9040		R4	90	B-48			B-58				B-68						
1.53	1.83	9045		R3	90	B-44			B-54				B-64						
1.68	2.00	9050		R4	90	B-48			B-58				B-68						
2.26	2.73	9055		R3	90	B-44			B-54				B-64						
2.46	3.00	9060		R4	90	B-50			B-60				B-70						
3.53	4.22	9065		R3	90	B-46			B-56				B-66						
15.0	9550	975	1.12	18.0	7960	813	1.34	9040	R4	100	B-48	B-58	B-68						
			1.44				1.73	9045	R4	100	B-48	B-58	B-68						
			1.66				1.98	9050	R4	100	B-48	B-58	B-68						
			2.46				3.00	9060	R4	100	B-50	B-60	B-70						
			4.33				5.20	9070	R4	100	B-50	B-60	B-70						
			13.4				10700	1090	0.92	16.1	8910	910	1.10	9040	R4	112	B-48	B-58	B-68
									1.22				1.46	9045	R4	112	B-48	B-58	B-68
1.36	1.63	9050		R4	112	B-48			B-58				B-68						
1.68	2.00	9055		R4	112	B-48			B-58				B-68						
2.06	2.53	9060		R4	112	B-50			B-60				B-70						
2.50	3.00	9065		R4	112	B-50			B-60				B-70						
3.60	4.33	9070		R4	112	B-50			B-60				B-70						
12.0	11940	1220	0.90	14.4	9950	1020	1.08	9040	R4	125	B-48	B-58	B-68						
			1.13				1.36	9045	R4	125	B-48	B-58	B-68						
			1.32				1.59	9050	R4	125	B-48	B-58	B-68						
			1.68				2.00	9055	R4	125	B-48	B-58	B-68						
			2.13				2.53	9060	R4	125	B-50	B-60	B-70						
			2.50				3.00	9065	R4	125	B-50	B-60	B-70						
			3.33				4.00	8970	R4	125	B-50	B-60	B-70						
10.7	13370	1370	0.96	12.9	11140	1140	1.15	9045	R4	140	B-48	B-58	B-68						
			1.09				1.30	9050	R4	140	B-48	B-58	B-68						
			1.42				1.70	9055	R4	140	B-48	B-58	B-68						
			1.70				2.00	9060	R4	140	B-50	B-60	B-70						
			2.21				2.64	9065	R4	140	B-50	B-60	B-70						
			2.73				3.33	9070	R4	140	B-50	B-60	B-70						
			3.86				4.59	9075	R4	140	B-50	B-60	B-70						
9.4	15280	1560	0.92	11.3	12730	1300	1.10	9045	R4	160	B-48	B-58	B-68						
			0.95				1.14	9050	R4	160	B-48	B-58	B-68						
			1.42				1.70	9055	R4	160	B-48	B-58	B-68						
			2.27				2.72	9065	R4	160	B-50	B-60	B-70						
			3.53				4.20	9075	R4	160	B-50	B-60	B-70						
			3.80				4.53	9080	R4	160	B-50	B-60	B-70						
			8.3				17190	1760	0.89	10.0	14330	1460	1.07	9050	R4	180	B-48	B-58	B-68
1.14	1.36	9055		R4	180	B-48			B-58				B-68						
1.39	1.67	9060		R4	180	B-50			B-60				B-70						
1.78	2.13	9065		R4	180	B-50			B-60				B-70						
2.93	3.53	9075		R4	180	B-50			B-60				B-70						
3.46	4.13	9080		R4	180	B-50			B-60				B-70						
4.53	5.46	9085		R4	180	B-50			B-60				B-70						
7.5	19100	1950	0.83	9.0	15920	1630	1.00	9050	R4	200	B-48	B-58	B-68						
			0.95				1.14	9055	R4	200	B-48	B-58	B-68						
			1.35				1.62	9060	R4	200	B-50	B-60	B-70						
			1.42				1.71	9065	R4	200	B-50	B-60	B-70						
			2.20				2.0	9070	R4	200	B-50	B-60	B-70						
			3.26				3.93	9080	R4	200	B-50	B-60	B-70						
			3.80				4.53	9085	R4	200	B-50	B-60	B-70						

Drive Unit
 Selection
 Tables
 Dimension
 Tables

SELECTION Drive Unit Right Angle Shaft 15kW, 18.5kW

Output Speed r/min	Frequency							Model			Page of Dimension Sheet								
	50Hz			SF	60Hz			Size	Assembly	Reduction Ratio	Horizontal	Vertical	Upright						
Output Torque (Tout) Nm	kgf m		Output Speed r/min		Output Torque (Tout) Nm	kgf m	SF												
6.7	21390	2180	0.93	8.0	17830	1820	1.12	9055	R4	224	B-48	B-58	B-68						
			1.06				1.28	9060	R4	224	B-50	B-60	B-70						
			1.42				1.71	9065	R4	224	B-50	B-60	B-70						
			1.87				2.20	9070	R4	224	B-50	B-60	B-70						
			2.20				2.60	9075	R4	224	B-50	B-60	B-70						
			2.86				3.40	9080	R4	224	B-50	B-60	B-70						
			3.60				4.33	9085	R4	224	B-50	B-60	B-70						
6.0	23880	2440	0.89	7.2	19900	2030	1.06	9055	R4	250	B-48	B-58	B-68						
			1.08				1.30	9060	R4	250	B-50	B-60	B-70						
			1.41				1.70	9065	R4	250	B-50	B-60	B-70						
			1.72				2.00	9070	R4	250	B-50	B-60	B-70						
			2.20				2.60	9075	R4	250	B-50	B-60	B-70						
			2.53				3.00	9080	R4	250	B-50	B-60	B-70						
			3.46				4.13	9085	R4	250	B-50	B-60	B-70						
5.4	26740	2730	0.86	6.4	22280	2280	1.02	9060	R4	280	B-50	B-60	B-70						
			1.11				1.33	9065	R4	280	B-50	B-60	B-70						
			1.43				1.71	9070	R4	280	B-50	B-60	B-70						
			1.98				2.33	9075	R4	280	B-50	B-60	B-70						
			2.13				2.60	9080	R4	280	B-50	B-60	B-70						
			3.00				3.60	9085	R4	280	B-50	B-60	B-70						
			4.8				30080	3070	1.13	5.7	25070	2560	1.36	9065	R4	315	B-50	B-60	B-70
1.24	1.50	9070		R4	315	B-50			B-60				B-70						
1.81	2.13	9075		R4	315	B-50			B-60				B-70						
1.92	2.26	9080		R4	315	B-50			B-60				B-70						
2.66	3.20	9085		R4	315	B-50			B-60				B-70						
4.2	33900	3460		0.89	5.1	28250			2880				1.07	9065	R4	355	B-50	B-60	B-70
				1.17									1.40	9070	R4	355	B-50	B-60	B-70
			1.52	1.82			9075	R4		355	B-50	B-60	B-70						
			1.72	2.06			9080	R4		355	B-50	B-60	B-70						
			2.26	2.73			9085	R4		355	B-50	B-60	B-70						
			3.8	38200			3900	1.32		4.5	31830	3250	1.58	9075	R4	400	B-50	B-60	B-70
								2.00					2.40	9085	R4	400	B-50	B-60	B-70
3.3	42980	4390	1.24	4.0	35810	3660	1.49	9075	R4	450	B-50	B-60	B-70						
			1.80				2.13	9085	R4	450	B-50	B-60	B-70						

18.5kW	Frequency Hz	50Hz	60Hz
	Pole P	4	4
	Speed n1 r/min	1500	1800

Output Speed r/min	Frequency							Model			Page of Dimension Sheet		
	50Hz			SF	60Hz			Size	Assembly	Reduction Ratio	Horizontal	Vertical	Upright
Output Torque (Tout) Nm	kgf m		Output Speed r/min		Output Torque (Tout) Nm	kgf m	SF						
150	1180	120	5.29	180	982	100	6.10	9035	R2	10	B-42	B-52	B-62
134	1320	135	5.29	161	1100	112	6.10	9035	R2	11.2	B-42	B-52	B-62
120	1470	150	4.75	144	1230	125	5.40	9035	R2	12.5	B-42	B-52	B-62
107	1650	168	4.75	129	1370	140	5.40	9035	R2	14	B-42	B-52	B-62
93.8	1880	192	3.29	113	1570	160	3.94	9035	R2	16	B-42	B-52	B-62
			3.40				4.05	9040	R2	16	B-42	B-52	B-62
			4.37				5.24	9045	R2	16	B-42	B-52	B-62
83.3	2120	216	3.29	100	1770	180	3.94	9035	R2	18	B-42	B-52	B-62
			3.40				4.05	9040	R2	18	B-42	B-52	B-62
			4.37				5.24	9045	R2	18	B-42	B-52	B-62
75.0	2360	241	2.32	90.0	1960	200	2.75	9035	R2	20	B-42	B-52	B-62
			3.62				4.21	9040	R3	20	B-44	B-54	B-64
67.0	2640	269	2.32	80.4	2200	224	2.75	9035	R2	22.4	B-42	B-52	B-62
			3.62				4.21	9040	R3	22.4	B-44	B-54	B-64
60.0	2940	301	2.91	72.0	2450	251	3.25	9035	R3	25	B-44	B-54	B-64
			3.62				4.21	9040	R3	25	B-44	B-54	B-64

SELECTION Drive Unit Right Angle Shaft 18.5kW

Output Speed r/min	Frequency				Model			Page of Dimension Sheet					
	50Hz		SF	60Hz		Size	Assembly	Reduction Ratio	Horizontal	Vertical	Upright		
Output Torque (Tout) Nm	kgf m	Output Speed r/min		Output Torque (Tout) Nm	kgf m							SF	
53.6	3300	337	2.64	64.3	2750	281	3.13	9035	R3	28	B-44	B-54	B-64
			2.97				3.51	9040	R3	28	B-44	B-54	B-64
			3.65				4.21	9045	R3	28	B-44	B-54	B-64
			4.32				5.18	9050	R3	28	B-44	B-54	B-64
47.6	3710	379	2.32	57.1	3090	316	2.75	9035	R3	31.5	B-44	B-54	B-64
			2.60				3.08	9040	R3	31.5	B-44	B-54	B-64
			3.65				4.21	9045	R3	31.5	B-44	B-54	B-64
			4.27				4.91	9050	R3	31.5	B-44	B-54	B-64
42.3	4180	427	2.10	50.7	3480	356	2.54	9035	R3	35.5	B-44	B-54	B-64
			2.27				2.75	9040	R3	35.5	B-44	B-54	B-64
			3.12				3.74	9045	R3	35.5	B-44	B-54	B-64
			3.51				4.21	9050	R3	35.5	B-44	B-54	B-64
37.5	4710	481	1.45	45.0	3930	401	1.72	9035	R3	40	B-44	B-54	B-64
			2.21				2.70	9040	R3	40	B-44	B-54	B-64
			2.60				3.12	9045	R3	40	B-44	B-54	B-64
			3.29				3.94	9050	R3	40	B-44	B-54	B-64
33.3	5300	541	1.45	40.0	4420	451	1.72	9035	R3	45	B-44	B-54	B-64
			1.85				2.22	9040	R3	45	B-44	B-54	B-64
			2.42				2.89	9045	R3	45	B-44	B-54	B-64
			2.70				3.24	9050	R3	45	B-44	B-54	B-64
30.0	5890	601	1.45	36.0	4910	501	1.72	9035	R3	50	B-44	B-54	B-64
			2.31				2.77	9045	R3	50	B-44	B-54	B-64
			2.64				3.18	9050	R3	50	B-44	B-54	B-64
			3.51				4.21	9055	R3	50	B-44	B-54	B-64
26.8	6600	673	1.32	32.1	5500	561	1.58	9035	R3	56	B-44	B-54	B-64
			1.41				1.69	9040	R3	56	B-44	B-54	B-64
			1.94				2.33	9045	R3	56	B-44	B-54	B-64
			2.16				2.59	9050	R3	56	B-44	B-54	B-64
23.8	7420	758	1.41	28.6	6180	631	1.69	9040	R3	63	B-44	B-54	B-64
			2.10				2.54	9050	R3	63	B-44	B-54	B-64
			2.81				3.40	9055	R3	63	B-44	B-54	B-64
			3.24				3.67	9060	R3	63	B-46	B-56	B-66
21.1	8360	854	0.87	25.4	6970	711	1.04	9035	R3	71	B-44	B-54	B-64
			1.18				1.41	9040	R3	71	B-44	B-54	B-64
			1.41				1.69	9045	R3	71	B-44	B-54	B-64
			1.72				2.10	9050	R3	71	B-44	B-54	B-64
18.8	9420	962	0.87	22.5	7850	802	1.04	9035	R3	80	B-44	B-54	B-64
			1.15				1.38	9040	R4	80	B-48	B-58	B-68
			1.41				1.69	9045	R3	80	B-44	B-54	B-64
			2.27				2.75	9055	R3	80	B-44	B-54	B-64
18.8	9420	962	3.24	22.5	7850	802	3.67	9065	R3	80	B-46	B-56	B-66
			3.56				4.32	9070	R4	80	B-50	B-60	B-70
			4.75				5.40	9075	R3	80	B-46	B-56	B-66

Drive Unit
 Selection
 Tables
 Dimension
 Tables

SELECTION Drive Unit Right Angle Shaft 18.5kW

Output Speed r/min	Frequency							Model			Page of Dimension Sheet		
	50Hz			SF	60Hz			SF	Size	Assembly	Reduction Ratio	Horizontal	Vertical
Output Torque (Tout) Nm	kgf m		Output Speed r/min		Output Torque (Tout) Nm	kgf m							
16.7	10600	1080	0.84	20.0	8830	902	1.01	9035	R3	90	B-44	B-54	B-64
			0.94				1.13	9040	R4	90	B-48	B-58	B-68
			1.24				1.48	9045	R3	90	B-44	B-54	B-64
			1.36				1.62	9050	R4	90	B-48	B-58	B-68
			1.83				2.21	9055	R3	90	B-44	B-54	B-64
			2.00				2.43	9060	R4	90	B-50	B-60	B-70
			2.86				3.42	9065	R3	90	B-46	B-56	B-66
			3.56				4.32	9070	R4	90	B-50	B-60	B-70
			4.75				5.40	9075	R3	90	B-46	B-56	B-66
			15.0				11780	1200	0.90	18.0	9820	1000	1.08
1.17	1.40	9045		R4	100	B-48			B-58				B-68
1.34	1.61	9050		R4	100	B-48			B-58				B-68
2.00	2.43	9060		R4	100	B-50			B-60				B-70
3.51	4.21	9070		R4	100	B-50			B-60				B-70
13.4	13190	1350	0.99	16.1	10990	1120	1.18	9045	R4	112	B-48	B-58	B-68
			1.10				1.32	9050	R4	112	B-48	B-58	B-68
			1.36				1.62	9055	R4	112	B-48	B-58	B-68
			1.67				2.05	9060	R4	112	B-50	B-60	B-70
			2.02				2.43	9065	R4	112	B-50	B-60	B-70
			2.91				3.51	9070	R4	112	B-50	B-60	B-70
			3.56				4.32	9075	R4	112	B-50	B-60	B-70
			4.59				5.51	9080	R4	112	B-50	B-60	B-70
12.0	14720	1500	0.91	14.4	12270	1250	1.10	9045	R4	125	B-48	B-58	B-68
			1.07				1.29	9050	R4	125	B-48	B-58	B-68
			1.36				1.62	9055	R4	125	B-48	B-58	B-68
			1.72				2.05	9060	R4	125	B-50	B-60	B-70
			2.02				2.43	9065	R4	125	B-50	B-60	B-70
			2.70				3.24	9070	R4	125	B-50	B-60	B-70
			3.56				4.32	9075	R4	125	B-50	B-60	B-70
			4.05				4.86	9080	R4	125	B-50	B-60	B-70
10.7	16490	1680	0.88	12.9	13740	1400	1.05	9050	R4	140	B-48	B-58	B-68
			1.15				1.38	9055	R4	140	B-48	B-58	B-68
			1.38				1.62	9060	R4	140	B-50	B-60	B-70
			1.79				2.14	9065	R4	140	B-50	B-60	B-70
			2.21				2.70	9070	R4	140	B-50	B-60	B-70
			3.13				3.72	9075	R4	140	B-50	B-60	B-70
			3.51				4.21	9080	R4	140	B-50	B-60	B-70
			4.81				5.78	9085	R4	140	B-50	B-60	B-70
9.4	18850	1920	1.15	11.3	15700	1600	1.37	9055	R4	160	B-48	B-58	B-68
			1.84				2.21	9065	R4	160	B-50	B-60	B-70
			1.78				2.10	9070	R4	160	B-50	B-60	B-70
			2.86				3.40	9075	R4	160	B-50	B-60	B-70
			3.08				3.67	9080	R4	160	B-50	B-60	B-70
			4.27				5.13	9085	R4	160	B-50	B-60	B-70
8.3	21200	2160	0.92	10.0	17670	1800	1.10	9055	R4	180	B-48	B-58	B-68
			1.12				1.35	9060	R4	180	B-50	B-60	B-70
			1.44				1.73	9065	R4	180	B-50	B-60	B-70
			1.78				2.10	9070	R4	180	B-50	B-60	B-70
			2.37				2.86	9075	R4	180	B-50	B-60	B-70
			2.81				3.35	9080	R4	180	B-50	B-60	B-70
			3.67				4.43	9085	R4	180	B-50	B-60	B-70
7.5	23560	2410	1.09	9.0	19630	2000	1.31	9060	R4	200	B-50	B-60	B-70
			1.15				1.38	9065	R4	200	B-50	B-60	B-70
			1.78				2.10	9070	R4	200	B-50	B-60	B-70
			2.64				3.18	9080	R4	200	B-50	B-60	B-70
			3.08				3.67	9085	R4	200	B-50	B-60	B-70
6.7	26380	2690	0.86	8.0	21990	2240	1.03	9060	R4	224	B-50	B-60	B-70
			1.15				1.38	9065	R4	224	B-50	B-60	B-70
			1.51				1.78	9070	R4	224	B-50	B-60	B-70
			1.78				2.10	9075	R4	224	B-50	B-60	B-70
			2.32				2.75	9080	R4	224	B-50	B-60	B-70
			2.91				3.51	9085	R4	224	B-50	B-60	B-70
6.0	29450	3010	0.88	7.2	24540	2510	1.05	9060	R4	250	B-50	B-60	B-70
			1.14				1.37	9065	R4	250	B-50	B-60	B-70
			1.39				1.62	9070	R4	250	B-50	B-60	B-70
			1.78				2.10	9075	R4	250	B-50	B-60	B-70
			2.05				2.43	9080	R4	250	B-50	B-60	B-70
			2.81				3.35	9085	R4	250	B-50	B-60	B-70

SELECTION Drive Unit Right Angle Shaft 18.5kW, 22kW

Output Speed r/min	Frequency				Model			Page of Dimension Sheet					
	50Hz		SF	60Hz		Size	Assembly	Reduction Ratio	Horizontal	Vertical	Upright		
Output Torque (Tout) Nm	kgf m	Output Speed r/min		Output Torque (Tout) Nm	kgf m							SF	
5.4	32980	3370	0.90	6.4	27480	2810	1.08	9065	R4	280	B-50	B-60	B-70
			1.16				1.38	9070	R4	280	B-50	B-60	B-70
			1.61				1.89	9075	R4	280	B-50	B-60	B-70
			1.72				2.10	9080	R4	280	B-50	B-60	B-70
			2.43				2.91	9085	R4	280	B-50	B-60	B-70
4.8	37100	3790	0.91	5.7	30920	3160	1.10	9065	R4	315	B-50	B-60	B-70
			1.01				1.21	9070	R4	315	B-50	B-60	B-70
			1.47				1.72	9075	R4	315	B-50	B-60	B-70
			1.56				1.83	9080	R4	315	B-50	B-60	B-70
			2.16				2.59	9085	R4	315	B-50	B-60	B-70
4.2	41810	4270	0.95	5.1	34840	3560	1.14	9070	R4	355	B-50	B-60	B-70
			1.23				1.47	9075	R4	355	B-50	B-60	B-70
			1.40				1.67	9080	R4	355	B-50	B-60	B-70
			1.83				2.21	9085	R4	355	B-50	B-60	B-70
			1.07				1.28	9075	R4	400	B-50	B-60	B-70
3.8	47110	4810	1.62	4.5	39260	4010	1.94	9085	R4	400	B-50	B-60	B-70
			1.00				1.21	9075	R4	450	B-50	B-60	B-70
3.3	53000	5410	1.46	4.0	44170	4510	1.72	9085	R4	450	B-50	B-60	B-70

22kW	Frequency Hz	50Hz	60Hz
	Pole P	4	4
	Speed n1 r/min	1500	1800

Output Speed r/min	Frequency				Model			Page of Dimension Sheet					
	50Hz		SF	60Hz		Size	Assembly	Reduction Ratio	Horizontal	Vertical	Upright		
Output Torque (Tout) Nm	kgf m	Output Speed r/min		Output Torque (Tout) Nm	kgf m							SF	
188	1120	114	4.68	225	934	95	5.45	9035	R2	8	B-42	B-52	B-62
167	1260	129	4.68	200	1050	107	5.45	9035	R2	9	B-42	B-52	B-62
150	1400	143	4.45	180	1170	119	5.13	9035	R2	10	B-42	B-52	B-62
134	1570	160	4.45	161	1310	133	5.13	9035	R2	11.2	B-42	B-52	B-62
120	1750	179	4.00	144	1460	149	4.54	9035	R2	12.5	B-42	B-52	B-62
107	1960	200	4.00	129	1630	167	4.54	9035	R2	14	B-42	B-52	B-62
			2.77				3.31	9035	R2	16	B-42	B-52	B-62
			2.86				3.40	9040	R2	16	B-42	B-52	B-62
93.8	2240	229	3.68	113	1870	191	4.40	9045	R2	16	B-42	B-52	B-62
			2.77				3.31	9035	R2	18	B-42	B-52	B-62
			2.86				3.40	9040	R2	18	B-42	B-52	B-62
83.3	2520	257	3.68	100	2100	215	4.40	9045	R2	18	B-42	B-52	B-62
			3.04				3.54	9040	R3	20	B-44	B-54	B-64
			4.31				4.90	9050	R3	20	B-44	B-54	B-64
75.0	2800	286	4.95	90.0	2330	238	5.59	9060	R3	20	B-46	B-56	B-66
			3.04				3.54	9040	R3	22.4	B-44	B-54	B-64
			4.31				4.90	9050	R3	22.4	B-44	B-54	B-64
67.0	3140	320	4.95	80.4	2610	267	5.59	9060	R3	22.4	B-46	B-56	B-66
			2.45				2.90	9035	R3	25	B-44	B-54	B-64
			3.05				3.54	9040	R3	25	B-44	B-54	B-64
60.0	3500	358	4.31	72.0	2920	298	4.90	9050	R3	25	B-44	B-54	B-64
			4.95				5.59	9060	R3	25	B-46	B-56	B-66

Drive Unit

Selection Tables

Dimension Tables

SELECTION Drive Unit Right Angle Shaft 22kW

Output Speed r/min	50Hz			Frequency				Model			Page of Dimension Sheet		
	Output Torque (Tout) Nm	kgf m	SF	Output Speed r/min	Output Torque (Tout) Nm	kgf m	SF	Size	Assembly	Reduction Ratio	Horizontal	Vertical	Upright
53.6	3920	400	2.22	64.3	3270	334	2.63	9035	R3	28	B-44	B-54	B-64
			2.50				2.95	9040	R3	28	B-44	B-54	B-64
			3.07				3.54	9045	R3	28	B-44	B-54	B-64
			3.63				4.36	9050	R3	28	B-44	B-54	B-64
			4.31				4.90	9055	R3	28	B-44	B-54	B-64
			4.95				5.59	9060	R3	28	B-46	B-56	B-66
			1.95				2.31	9035	R3	31.5	B-44	B-54	B-64
47.6	4410	450	2.18	57.1	3680	375	2.59	9040	R3	31.5	B-44	B-54	B-64
			3.07				3.54	9045	R3	31.5	B-44	B-54	B-64
			3.59				4.13	9050	R3	31.5	B-44	B-54	B-64
			4.31				4.90	9055	R3	31.5	B-44	B-54	B-64
			4.95				5.59	9065	R3	31.5	B-46	B-56	B-66
			1.77				2.13	9035	R3	35.5	B-44	B-54	B-64
			1.90				2.31	9040	R3	35.5	B-44	B-54	B-64
42.3	4970	508	2.62	50.7	4140	423	3.14	9045	R3	35.5	B-44	B-54	B-64
			2.95				3.54	9050	R3	35.5	B-44	B-54	B-64
			3.81				4.54	9055	R3	35.5	B-44	B-54	B-64
			4.22				4.77	9060	R3	35.5	B-46	B-56	B-66
			4.95				5.59	9065	R3	35.5	B-46	B-56	B-66
			1.22				1.45	9035	R3	40	B-44	B-54	B-64
			1.86				2.27	9040	R3	40	B-44	B-54	B-64
37.5	5600	572	2.18	45.0	4670	477	2.62	9045	R3	40	B-44	B-54	B-64
			2.77				3.31	9050	R3	40	B-44	B-54	B-64
			3.59				4.13	9055	R3	40	B-44	B-54	B-64
			4.22				4.77	9060	R3	40	B-46	B-56	B-66
			1.22				1.45	9035	R3	45	B-44	B-54	B-64
			1.55				1.86	9040	R3	45	B-44	B-54	B-64
			2.03				2.43	9045	R3	45	B-44	B-54	B-64
33.3	6300	644	2.27	40.0	5250	536	2.72	9050	R3	45	B-44	B-54	B-64
			3.09				3.72	9055	R3	45	B-44	B-54	B-64
			3.68				4.40	9060	R3	45	B-46	B-56	B-66
			4.22				4.77	9065	R3	45	B-46	B-56	B-66
			1.22				1.45	9035	R3	50	B-44	B-54	B-64
			1.94				2.33	9045	R3	50	B-44	B-54	B-64
			2.22				2.68	9050	R3	50	B-44	B-54	B-64
30.0	7000	715	2.95	36.0	5840	596	3.54	9055	R3	50	B-44	B-54	B-64
			3.36				3.81	9060	R3	50	B-46	B-56	B-66
			4.22				4.77	9065	R3	50	B-46	B-56	B-66
			4.90				5.59	9070	R3	50	B-46	B-56	B-66
			1.11				1.33	9035	R3	56	B-44	B-54	B-64
			1.18				1.42	9040	R3	56	B-44	B-54	B-64
			1.63				1.95	9045	R3	56	B-44	B-54	B-64
26.8	7840	801	1.81	32.1	6540	667	2.18	9050	R3	56	B-44	B-54	B-64
			2.36				2.81	9055	R3	56	B-44	B-54	B-64
			2.90				3.50	9060	R3	56	B-46	B-56	B-66
			3.87				4.63	9065	R3	56	B-46	B-56	B-66
			4.86				5.59	9070	R3	56	B-46	B-56	B-66
			1.18				1.42	9040	R3	63	B-44	B-54	B-64
			1.77				2.13	9050	R3	63	B-44	B-54	B-64
23.8	8820	901	2.36	28.6	7350	751	2.86	9055	R3	63	B-44	B-54	B-64
			2.72				3.09	9060	R3	63	B-46	B-56	B-66
			3.36				3.81	9065	R3	63	B-46	B-56	B-66
			4.00				4.54	9070	R3	63	B-46	B-56	B-66
			4.90				5.59	9075	R3	63	B-46	B-56	B-66
			0.99				1.19	9040	R3	71	B-44	B-54	B-64
			1.18				1.42	9045	R3	71	B-44	B-54	B-64
21.1	9940	1020	1.45	25.4	8290	846	1.77	9050	R3	71	B-44	B-54	B-64
			1.90				2.27	9055	R3	71	B-44	B-54	B-64
			2.27				2.72	9060	R3	71	B-46	B-56	B-66
			3.05				3.65	9065	R3	71	B-46	B-56	B-66
			3.81				4.54	9070	R3	71	B-46	B-56	B-66
			4.90				5.59	9075	R3	71	B-46	B-56	B-66

SELECTION Drive Unit Right Angle Shaft 22kW

Output Speed r/min	Frequency							Model			Page of Dimension Sheet		
	50Hz			60Hz				Size	Assembly	Reduction Ratio	Horizontal	Vertical	Upright
	Output Torque (Tout) Nm	kgf m	SF	Output Speed r/min	Output Torque (Tout) Nm	kgf m	SF						
18.8	11210	1140	0.97	22.5	9340	953	1.16	9040	R4	80	B-48	B-58	B-68
			1.18				1.42	9045	R3	80	B-44	B-54	B-64
			1.90				2.31	9055	R3	80	B-44	B-54	B-64
			2.72				3.09	9065	R3	80	B-46	B-56	B-66
			3.00				3.63	9070	R4	80	B-50	B-60	B-70
			4.00				4.54	9075	R3	80	B-46	B-56	B-66
			4.54				5.13	9080	R4	80	B-50	B-60	B-70
16.7	12610	1290	1.04	20.0	10510	1070	1.25	9045	R3	90	B-44	B-54	B-64
			1.15				1.36	9050	R4	90	B-48	B-58	B-68
			1.54				1.86	9055	R3	90	B-44	B-54	B-64
			1.68				2.04	9060	R4	90	B-50	B-60	B-70
			2.40				2.88	9065	R3	90	B-46	B-56	B-66
			3.00				3.63	9070	R4	90	B-50	B-60	B-70
			4.00				4.54	9075	R3	90	B-46	B-56	B-66
4.54	5.13	9080	R4	90	B-50	B-60	B-70						
15.0	14010	1430	0.98	18.0	11670	1190	1.18	9045	R4	100	B-48	B-58	B-68
			1.13				1.35	9050	R4	100	B-48	B-58	B-68
			1.68				2.04	9060	R4	100	B-50	B-60	B-70
			2.95				3.54	9070	R4	100	B-50	B-60	B-70
			4.50				5.13	9080	R4	100	B-50	B-60	B-70
			0.83				1.00	9045	R4	112	B-48	B-58	B-68
13.4	15690	1600	0.92	16.1	13070	1330	1.11	9050	R4	112	B-48	B-58	B-68
			1.15				1.36	9055	R4	112	B-48	B-58	B-68
			1.40				1.72	9060	R4	112	B-50	B-60	B-70
			1.70				2.04	9065	R4	112	B-50	B-60	B-70
			2.45				2.95	9070	R4	112	B-50	B-60	B-70
			3.00				3.63	9075	R4	112	B-50	B-60	B-70
			3.86				4.63	9080	R4	112	B-50	B-60	B-70
			4.54				5.13	9085	R4	112	B-50	B-60	B-70
			0.90				1.08	9050	R4	125	B-48	B-58	B-68
			1.15				1.36	9055	R4	125	B-48	B-58	B-68
12.0	17510	1790	1.45	14.4	14590	1490	1.72	9060	R4	125	B-50	B-60	B-70
			1.70				2.04	9065	R4	125	B-50	B-60	B-70
			2.27				2.72	9070	R4	125	B-50	B-60	B-70
			3.00				3.63	9075	R4	125	B-50	B-60	B-70
			3.40				4.09	9080	R4	125	B-50	B-60	B-70
			4.54				5.13	9085	R4	125	B-50	B-60	B-70
			0.97				1.16	9055	R4	140	B-48	B-58	B-68
			1.16				1.36	9060	R4	140	B-50	B-60	B-70
10.7	19610	2000	1.50	12.9	16340	1670	1.80	9065	R4	140	B-50	B-60	B-70
			1.86				2.27	9070	R4	140	B-50	B-60	B-70
			2.63				3.13	9075	R4	140	B-50	B-60	B-70
			2.95				3.54	9080	R4	140	B-50	B-60	B-70
			4.04				4.86	9085	R4	140	B-50	B-60	B-70
			0.96				1.15	9055	R4	160	B-48	B-58	B-68
			1.55				1.85	9065	R4	160	B-50	B-60	B-70
9.4	22410	2290	2.40	11.3	18680	1910	2.86	9075	R4	160	B-50	B-60	B-70
			2.59				3.09	9080	R4	160	B-50	B-60	B-70
			3.59				4.31	9085	R4	160	B-50	B-60	B-70
			0.95				1.14	9060	R4	180	B-50	B-60	B-70
			1.21				1.45	9065	R4	180	B-50	B-60	B-70
8.3	25210	2570	1.50	10.0	21010	2150	1.77	9070	R4	180	B-50	B-60	B-70
			2.00				2.40	9075	R4	180	B-50	B-60	B-70
			2.36				2.81	9080	R4	180	B-50	B-60	B-70
			3.09				3.72	9085	R4	180	B-50	B-60	B-70
			0.92				1.10	9060	R4	200	B-50	B-60	B-70
			0.97				1.16	9065	R4	200	B-50	B-60	B-70
			1.50				1.77	9070	R4	200	B-50	B-60	B-70
7.5	28010	2860	2.22	9.0	23340	2380	2.68	9080	R4	200	B-50	B-60	B-70
			2.59				3.09	9085	R4	200	B-50	B-60	B-70
			0.97				1.16	9065	R4	224	B-50	B-60	B-70
			1.27				1.50	9070	R4	224	B-50	B-60	B-70
6.7	31370	3200	1.50	8.0	26150	2670	1.77	9075	R4	224	B-50	B-60	B-70
			1.95				2.31	9080	R4	224	B-50	B-60	B-70
			2.45				2.95	9085	R4	224	B-50	B-60	B-70
			0.96				1.15	9065	R4	250	B-50	B-60	B-70
			1.17				1.36	9070	R4	250	B-50	B-60	B-70
6.0	35020	3580	1.50	7.2	29180	2980	1.77	9075	R4	250	B-50	B-60	B-70
			1.72				2.04	9080	R4	250	B-50	B-60	B-70
			2.36				2.81	9085	R4	250	B-50	B-60	B-70

Drive Unit
 Selection
 Tables
 Dimension
 Tables

SELECTION Drive Unit Right Angle Shaft 22kW, 30kW

Output Speed r/min	Frequency							Model			Page of Dimension Sheet		
	50Hz			SF	60Hz			Size	Assembly	Reduction Ratio	Horizontal	Vertical	Upright
Output Torque (Tout) Nm	kgf m		Output Speed r/min		Output Torque (Tout) Nm	kgf m	SF						
5.4	39220	4000	0.97	6.4	32680	3340	1.16	9070	R4	280	B-50	B-60	B-70
			1.35				1.59	9075	R4	280	B-50	B-60	B-70
			1.45				1.77	9080	R4	280	B-50	B-60	B-70
			2.04				2.45	9085	R4	280	B-50	B-60	B-70
4.8	44120	4500	0.85	5.7	36770	3750	1.02	9070	R4	315	B-50	B-60	B-70
			1.23				1.45	9075	R4	315	B-50	B-60	B-70
			1.31				1.54	9080	R4	315	B-50	B-60	B-70
			1.81				2.18	9085	R4	315	B-50	B-60	B-70
4.2	49720	5080	1.03	5.1	41440	4230	1.24	9075	R4	355	B-50	B-60	B-70
			1.17				1.40	9080	R4	355	B-50	B-60	B-70
			1.54				1.86	9085	R4	355	B-50	B-60	B-70
			0.90				1.08	9075	R4	400	B-50	B-60	B-70
3.8	56030	5720	1.36	4.5	46690	4770	1.63	9085	R4	400	B-50	B-60	B-70
			0.84				1.01	9075	R4	450	B-50	B-60	B-70
3.3	63030	6440	1.23	4.0	52530	5360	1.45	9085	R4	450	B-50	B-60	B-70

30kW	Frequency Hz	50Hz	60Hz
	Pole P	4	4
	Speed n1 r/min	1500	1800

* marked model upright type need additional cooling system for continuous operation.

Output Speed r/min	Frequency							Model			Page of Dimension Sheet		
	50Hz			SF	60Hz			Size	Assembly	Reduction Ratio	Horizontal	Vertical	Upright
Output Torque (Tout) Nm	kgf m		Output Speed r/min		Output Torque (Tout) Nm	kgf m	SF						
238	1200	123	4.59	286	1000	102	4.59	9040	R2	6.3	B-42	B-52	B-62
211	1360	138	4.59	254	1130	115	4.59	9040	R2	7.1	B-42	B-52	B-62
188	1530	156	4.13	225	1270	130	4.59	9040	R2	8	B-42	B-52	B-62
167	1720	176	4.13	200	1430	146	4.59	9040	R2	9	B-42	B-52	B-62
150	1910	195	3.76	180	1590	163	4.26	9040	R2	10	B-42	B-52	B-62
			4.80				5.76	9045	R2	10	B-42	B-52	B-62
134	2140	218	3.76	161	1780	182	4.26	9040	R2	11.2	B-42	B-52	B-62
			4.80				5.76	9045	R2	11.2	B-42	B-52	B-62
120	2390	244	3.90	144	1990	203	4.66	9045	R2	12.5	B-42	B-52	B-62
107	2670	273	3.90	129	2230	228	4.66	9045	R2	14	B-42	B-52	B-62
93.8	3060	312	2.10	113	2550	260	2.50	9040	R2	16	B-42	B-52	B-62
			2.70				3.23	9045	R2	16	B-42	B-52	B-62
83.3	3440	351	2.10	100	2870	293	2.50	9040	R2	18	B-42	B-52	B-62
			2.70				3.23	9045	R2	18	B-42	B-52	B-62
75.0	3820	390	2.23	90.0	3180	325	2.60	9040	R3	20	B-44	B-54	B-64
			3.16				3.60	9050	R3	20	B-44	B-54	B-64
			3.63				4.09	9060	R3	20	B-46	B-56	B-66
67.0	4280	437	2.23	80.4	3570	364	2.60	9040	R3	22.4	B-44	B-54	B-64
			3.16				3.60	9050	R3	22.4	B-44	B-54	B-64
			3.63				4.09	9060	R3	22.4	B-46	B-56	B-66

SELECTION Drive Unit Right Angle Shaft 30kW

Output Speed r/min	Frequency							Model			Page of Dimension Sheet		
	50Hz			SF	60Hz			Size	Assembly	Reduction Ratio	Horizontal	Vertical	Upright
Output Torque (Tout) Nm	Output Torque (Tout) kgf m	Output Speed r/min	Output Torque (Tout) Nm		Output Torque (Tout) kgf m	SF							
60.0	4780	488	2.23	72.0	3980	406	2.60	9040	R3	25	B-44	B-54	B-64
			3.16				3.60	9050	R3	25	B-44	B-54	B-64
			3.63				4.09	9060	R3	25	B-46	B-56	B-66
53.6	5350	546	1.83	64.3	4460	455	2.16	9040	R3	28	B-44	B-54	B-64
			2.25				2.60	9045	R3	28	B-44	B-54	B-64
			2.66				3.20	9050	R3	28	B-44	B-54	B-64
			3.16				3.60	9055	R3	28	B-44	B-54	B-64
			3.63				4.09	9060	R3	28	B-46	B-56	B-66
			4.53				5.16	9070	R3	28	B-46	B-56	B-66
47.6	6020	614	1.60	57.1	5010	512	1.90	9040	R3	31.5	B-44	B-54	B-64
			2.25				2.60	9045	R3	31.5	B-44	B-54	B-64
			2.63				3.03	9050	R3	31.5	B-44	B-54	B-64
			3.10				3.50	9060	R3	31.5	B-46	B-56	B-66
			3.63				4.10	9065	R3	31.5	B-46	B-56	B-66
			4.53				5.16	9070	R3	31.5	B-46	B-56	B-66
			5.16				6.12	9075	R3	31.5	B-46	B-56	B-66
42.3	6780	692	1.40	50.7	5650	577	1.70	9040	R3	35.5	B-44	B-54	B-64
			1.92				2.30	9045	R3	35.5	B-44	B-54	B-64
			2.16				2.60	9050	R3	35.5	B-44	B-54	B-64
			2.80				3.33	9055	R3	35.5	B-44	B-54	B-64
			3.10				3.50	9060	R3	35.5	B-46	B-56	B-66
			3.63				4.10	9065	R3	35.5	B-46	B-56	B-66
			4.53				5.16	9070	R3	35.5	B-46	B-56	B-66
			5.16				6.12	9075	R3	35.5	B-46	B-56	B-66
37.5	7640	780	1.36	45.0	6370	650	1.67	9040	R3	40	B-44	B-54	B-64
			1.60				1.92	9045	R3	40	B-44	B-54	B-64
			2.03				2.43	9050	R3	40	B-44	B-54	B-64
			2.63				3.03	9055	R3	40	B-44	B-54	B-64
			3.10				3.50	9060	R3	40	B-46	B-56	B-66
			4.53				5.16	9070	R3	40	B-46	B-56	B-66
			5.16				6.12	9075	R3	40	B-46	B-56	B-66
33.3	8600	878	1.14	40.0	7160	731	1.37	9040	R3	45	B-44	B-54	B-64
			1.49				1.78	9045	R3	45	B-44	B-54	B-64
			1.66				2.00	9050	R3	45	B-44	B-54	B-64
			2.26				2.73	9055	R3	45	B-44	B-54	B-64
			2.70				3.23	9060	R3	45	B-46	B-56	B-66
			3.10				3.50	9065	R3	45	B-46	B-56	B-66
			4.50				5.16	9070	R3	45	B-46	B-56	B-66
			5.16				6.12	9075	R3	45	B-46	B-56	B-66
30.0	9550	975	1.42	36.0	7960	813	1.71	9045	R3	50	B-44	B-54	B-64
			1.63				1.96	9050	R3	50	B-44	B-54	B-64
			2.16				2.60	9055	R3	50	B-44	B-54	B-64
			2.46				2.80	9060	R3	50	B-46	B-56	B-66
			3.10				3.50	9065	R3	50	B-46	B-56	B-66
			3.60				4.09	9070	R3	50	B-46	B-56	B-66
			4.53				5.16	9075	R3	50	B-46	B-56	B-66
			5.16				6.12	9075	R3	50	B-46	B-56	B-66
26.8	10700	1090	0.87	32.1	8910	910	1.04	9040	R3	56	B-44	B-54	B-64
			1.20				1.43	9045	R3	56	B-44	B-54	B-64
			1.33				1.60	9050	R3	56	B-44	B-54	B-64
			1.73				2.06	9055	R3	56	B-44	B-54	B-64
			2.13				2.56	9060	R3	56	B-46	B-56	B-66
			2.84				3.40	9065	R3	56	B-46	B-56	B-66
			3.56				4.09	9070	R3	56	B-46	B-56	B-66
			4.53				5.16	9075	R3	56	B-46	B-56	B-66
			5.16				6.12	9075	R3	56	B-46	B-56	B-66
23.8	12030	1230	0.87	28.6	10030	1020	1.04	9040	R3	63	B-44	B-54	B-64
			1.30				1.56	9050	R3	63	B-44	B-54	B-64
			1.73				2.10	9055	R3	63	B-44	B-54	B-64
			2.00				2.26	9060	R3	63	B-46	B-56	B-66
			2.46				2.80	9065	R3	63	B-46	B-56	B-66
			2.93				3.33	9070	R3	63	B-46	B-56	B-66
			3.60				4.09	9075	R3	63	B-46	B-56	B-66
21.1	13560	1380	0.87	25.4	11300	1150	1.04	9045	R3	71	B-44	B-54	B-64
			1.06				1.30	9050	R3	71	B-44	B-54	B-64
			1.40				1.66	9055	R3	71	B-44	B-54	B-64
			1.66				2.00	9060	R3	71	B-46	B-56	B-66
			2.24				2.68	9065	R3	71	B-46	B-56	B-66
			2.80				3.33	9070	R3	71	B-46	B-56	B-66
			3.60				4.09	9075	R3	71	B-46	B-56	B-66

Drive Unit
 Selection
 Tables
 Dimension
 Tables

SELECTION Drive Unit Right Angle Shaft 30kW

Output Speed r/min	Frequency				Model			Page of Dimension Sheet					
	50Hz		SF	60Hz		Size	Assembly	Reduction Ratio	Horizontal	Vertical	Upright		
Output Torque (Tout) Nm	kgf m	Output Speed r/min		Output Torque (Tout) Nm	kgf m							SF	
18.8	15280	1560	0.87	22.5	12730	1300	1.04	9045	R3	80	B-44	B-54	B-64
			1.40				1.70	9055	R3	80	B-44	B-54	B-64
			2.00				2.26	9065	R3	80	B-46	B-56	B-66
			2.20				2.66	9070	R4	80	B-50	B-60	B-70
			2.93				3.33	9075	R3	80	B-46	B-56	B-66
			3.33				3.76	9080	R4	80	B-50	B-60	B-70
16.7	17190	1760	0.84	20.0	14330	1460	1.00	9050	R4	90	B-48	B-58	B-68
			1.13				1.36	9055	R3	90	B-44	B-54	B-64
			1.23				1.50	9060	R4	90	B-50	B-60	B-70
			1.76				2.11	9065	R3	90	B-46	B-56	B-66
			2.20				2.66	9070	R4	90	B-50	B-60	B-70
			2.93				3.33	9075	R3	90	B-46	B-56	B-66
			3.33				3.76	9080	R4	90	B-50	B-60	B-70
15.0	19100	1950	0.84	18.0	15920	1630	1.00	9055	R4	100	B-48	B-58	B-68
			1.23				1.50	9060	R4	100	B-50	B-60	B-70
			2.16				2.60	9070	R4	100	B-50	B-60	B-70
			3.30				3.76	9080	R4	100	B-50	B-60	B-70
13.4	21390	2180	0.84	16.1	17830	1820	1.00	9055	R4	112	B-48	B-58	B-68
			1.03				1.26	9060	R4	112	B-50	B-60	B-70
			1.25				1.50	9065	R4	112	B-50	B-60	B-70
			1.80				2.16	9070	R4	112	B-50	B-60	B-70
			2.20				2.66	9075	R4	112	B-50	B-60	B-70
			2.83				3.40	9080	R4	112	B-50	B-60	B-70
			3.33				3.76	9085	R4	112	B-50	B-60	B-70
12.0	23880	2440	0.84	14.4	19900	2030	1.00	9055	R4	125	B-48	B-58	B-68
			1.06				1.26	9060	R4	125	B-50	B-60	B-70
			1.25				1.50	9065	R4	125	B-50	B-60	B-70
			1.66				2.00	9070	R4	125	B-50	B-60	B-70
			2.20				2.66	9075	R4	125	B-50	B-60	B-70
			2.50				3.00	9080	R4	125	B-50	B-60	B-70
			3.33				3.76	9085	R4	125	B-50	B-60	B-70
10.7	26740	2730	0.85	12.9	22280	2280	1.00	9060	R4	140	B-50	B-60	B-70
			1.10				1.32	9065	R4	140	B-50	B-60	B-70
			1.36				1.66	9070	R4	140	B-50	B-60	B-70
			1.93				2.29	9075	R4	140	B-50	B-60	B-70
			2.16				2.60	9080	R4	140	B-50	B-60	B-70
			2.96				3.56	9085	R4	140	B-50	B-60	B-70
9.4	30560	3120	1.13	11.3	25470	2600	1.36	9065	R4	160	B-50	B-60	B-70
			1.76				2.10	9075	R4	160	B-50	B-60	B-70
			1.90				2.26	9080	R4	160	B-50	B-60	B-70
			2.63				3.16	9085	R4	160	B-50	B-60	B-70
8.3	34380	3510	0.89	10.0	28650	2930	1.06	9065	R4	180	B-50	B-60	B-70
			1.10				1.30	9070	R4	180	B-50	B-60	B-70
			1.46				1.76	9075	R4	180	B-50	B-60	B-70
			1.73				2.06	9080	R4	180	B-50	B-60	B-70
			2.26				2.73	9085	R4	180	B-50	B-60	B-70
7.5	38200	3900	1.10	9.0	31830	3250	1.30	9070	R4	200	B-50	B-60	B-70
			1.63				1.96	9080	R4	200	B-50	B-60	B-70
			1.90				2.26	9085	R4	200	B-50	B-60	B-70
6.7	42780	4370	0.93	8.0	35650	3640	1.10	9070	R4	224	B-50	B-60	B-70
			1.10				1.30	9075	R4	224	B-50	B-60	B-70
			1.43				1.70	9080	R4	224	B-50	B-60	B-70
			1.80				2.16	9085	R4	224	B-50	B-60	B-70
6.0	47750	4880	0.86	7.2	39790	4060	1.00	9070	R4	250	B-50	B-60	B-70
			1.10				1.30	9075	R4	250	B-50	B-60	B-70
			1.26				1.50	9080	R4	250	B-50	B-60	B-70
			1.73				2.06	9085	R4	250	B-50	B-60	B-70
5.4	53480	5460	0.99	6.4	44570	4550	1.16	9075	R4	280	B-50	B-60	B-70
			1.06				1.30	9080	R4	280	B-50	B-60	B-70
			1.50				1.80	9085	R4	280	B-50	B-60	B-70
4.8	60170	6140	0.90	5.7	50140	5120	1.06	9075	R4	315	B-50	B-60	B-70
			0.96				1.13	9080	R4	315	B-50	B-60	B-70
			1.33				1.60	9085	R4	315	B-50	B-60	B-70
4.2	67810	6920	0.86	5.1	56500	5770	1.03	9080	R4	355	B-50	B-60	B-70
			1.13				1.36	9085	R4	355	B-50	B-60	B-70
3.8	76400	7800	1.00	4.5	63670	6500	1.20	9085	R4	400	B-50	B-60	B-70
3.3	85950	8780	0.90	4.0	71630	7310	1.06	9085	R4	450	B-50	B-60	B-70

SELECTION Drive Unit Right Angle Shaft 37kW

37kW	Frequency Hz	50Hz	60Hz
	Pole P	4	4
	Speed n1 r/min	1500	1800

* marked model upright type need additional cooling system for continuous operation.

Output Speed r/min	50Hz				60Hz				Model			Page of Dimension Sheet		
	Output Torque (Tout) Nm	kgf m	SF	Output Speed r/min	Output Torque (Tout) Nm	kgf m	SF	Size	Assembly	Reduction Ratio	Horizontal	Vertical	Upright	
238	1480	152	3.72	286	1240	126	3.72	9040	R2	6.3	B-42	B-52	B-62	
211	1670	171	3.72	254	1390	142	3.72	9040	R2	7.1	B-42	B-52	B-62	
188	1880	192	3.35	225	1570	160	3.72	9040	R2	8	B-42	B-52	B-62	
			4.37				5.24	9045	R2	8	B-42	B-52	B-62	
167	2120	216	3.35	200	1770	180	3.72	9040	R2	9	B-42	B-52	B-62	
			4.37				5.24	9045	R2	9	B-42	B-52	B-62	
150	2360	241	3.05	180	1960	200	3.45	9040	R2	10	B-42	B-52	B-62	
			3.89				4.67	9045	R2	10	B-42	B-52	B-62	
134	2640	269	3.05	161	2200	224	3.45	9040	R2	11.2	B-42	B-52	B-62	
			3.89				4.67	9045	R2	11.2	B-42	B-52	B-62	
120	2940	301	3.16	144	2450	251	3.78	9045	R2	12.5	B-42	B-52	B-62	
107	3300	337	3.16	129	2750	281	3.78	9045	R2	14	B-42	B-52	B-62	
93.8	3770	385	1.70	113	3140	321	2.02	9040	R2	16	B-42	B-52	B-62	
			2.18				2.62	9045	R2	16	B-42	B-52	B-62	
83.3	4240	433	1.70	100	3530	361	2.02	9040	R2	18	B-42	B-52	B-62	
			2.18				2.62	9045	R2	18	B-42	B-52	B-62	
75.0	4710	481	1.81	90.0	3930	401	2.10	9040	R3	20	B-44	B-54	B-64	
			2.56				2.91	9050	R3	20	B-44	B-54	B-64	
			2.94				3.32	9060	R3	20	B-46	B-56	B-66	
			4.51				5.13	9070	R3	20	B-46	B-56	B-66	
67.0	5280	539	1.81	80.4	4400	449	2.10	9040	R3	22.4	B-44	B-54	B-64	
			2.56				2.91	9050	R3	22.4	B-44	B-54	B-64	
			2.94				3.32	9060	R3	22.4	B-46	B-56	B-66	
			4.51				5.13	9070	R3	22.4	B-46	B-56	B-66	
60.0	5890	601	1.81	72.0	4910	501	2.10	9040	R3	25	B-44	B-54	B-64	
			2.56				2.91	9050	R3	25	B-44	B-54	B-64	
			2.94				3.32	9060	R3	25	B-46	B-56	B-66	
			4.51				5.13	9070	R3	25	B-46	B-56	B-66	
53.6	6600	673	1.48	64.3	5500	561	1.75	9040	R3	28	B-44	B-54	B-64	
			1.82				2.10	9045	R3	28	B-44	B-54	B-64	
			2.16				2.59	9050	R3	28	B-44	B-54	B-64	
			2.56				2.91	9055	R3	28	B-44	B-54	B-64	
			2.94				3.32	9060	R3	28	B-46	B-56	B-66	
			4.51				5.13	9070	R3	28	B-46	B-56	B-66	
47.6	7420	758	1.30	57.1	6180	631	1.54	9040	R3	31.5	B-44	B-54	B-64	
			1.82				2.10	9045	R3	31.5	B-44	B-54	B-64	
			2.13				2.45	9050	R3	31.5	B-44	B-54	B-64	
			2.56				2.91	9055	R3	31.5	B-44	B-54	B-64	
			2.94				3.32	9065	R3	31.5	B-46	B-56	B-66	
			3.67				4.18	9070	R3	31.5	B-46	B-56	B-66	
			4.51				5.13	9075	R3	31.5	B-46	B-56	B-66	
42.3	8360	854	1.13	50.7	6970	711	1.37	9040	R3	35.5	B-44	B-54	B-64	
			1.56				1.87	9045	R3	35.5	B-44	B-54	B-64	
			1.75				2.10	9050	R3	35.5	B-44	B-54	B-64	
			2.27				2.70	9055	R3	35.5	B-44	B-54	B-64	
			2.51				2.83	9060	R3	35.5	B-46	B-56	B-66	
			2.94				3.32	9065	R3	35.5	B-46	B-56	B-66	
			3.67				4.18	9070	R3	35.5	B-46	B-56	B-66	
			4.51				5.13	9075	R3	35.5	B-46	B-56	B-66	

Drive Unit
Selection
Tables
Dimension
Tables

SELECTION Drive Unit Right Angle Shaft 37kW

Output Speed r/min	Frequency				Model			Page of Dimension Sheet					
	50Hz		SF	60Hz		Size	Assembly	Reduction Ratio	Horizontal	Vertical	Upright		
Output Torque (Tout) Nm	kgf m	Output Speed r/min		Output Torque (Tout) Nm	kgf m							SF	
37.5	9420	962	1.10	45.0	7850	802	1.35	9040	R3	40	B-44	B-54	B-64
			1.30				1.56	9045	R3	40	B-44	B-54	B-64
			1.64				1.97	9050	R3	40	B-44	B-54	B-64
			2.13				2.45	9055	R3	40	B-44	B-54	B-64
			2.51				2.83	9060	R3	40	B-46	B-56	B-66
			3.67				4.18	9070	R3	40	B-46	B-56	B-66
33.3	10600	1080	0.92	40.0	8830	902	1.11	9040	R3	45	B-44	B-54	B-64
			1.21				1.44	9045	R3	45	B-44	B-54	B-64
			1.35				1.62	9050	R3	45	B-44	B-54	B-64
			1.83				2.21	9055	R3	45	B-44	B-54	B-64
			2.18				2.62	9060	R3	45	B-46	B-56	B-66
			2.51				2.83	9065	R3	45	B-46	B-56	B-66
3.64	4.18	9070	R3	45	B-46	B-56	B-66						
30.0	11780	1200	1.15	36.0	9820	1000	1.38	9045	R3	50	B-44	B-54	B-64
			1.32				1.59	9050	R3	50	B-44	B-54	B-64
			1.75				2.10	9055	R3	50	B-44	B-54	B-64
			2.00				2.27	9060	R3	50	B-46	B-56	B-66
			2.51				2.83	9065	R3	50	B-46	B-56	B-66
			2.91				3.32	9070	R3	50	B-46	B-56	B-66
3.67	4.18	9075	R3	50	B-46	B-56	B-66						
26.8	13190	1350	0.97	32.1	10990	1120	1.16	9045	R3	56	B-44	B-54	B-64
			1.08				1.29	9050	R3	56	B-44	B-54	B-64
			1.40				1.67	9055	R3	56	B-44	B-54	B-64
			1.72				2.08	9060	R3	56	B-46	B-56	B-66
			2.30				2.75	9065	R3	56	B-46	B-56	B-66
			2.89				3.32	9070	R3	56	B-46	B-56	B-66
3.67	4.18	9075	R3	56	B-46	B-56	B-66						
23.8	14840	1520	1.05	28.6	12370	1260	1.27	9050	R3	63	B-44	B-54	B-64
			1.40				1.70	9055	R3	63	B-44	B-54	B-64
			1.62				1.83	9060	R3	63	B-46	B-56	B-66
			2.00				2.27	9065	R3	63	B-46	B-56	B-66
			2.37				2.70	9070	R3	63	B-46	B-56	B-66
			2.91				3.32	9075	R3	63	B-46	B-56	B-66
21.1	16730	1710	0.86	25.4	13940	1420	1.05	9050	R3	71	B-44	B-54	B-64
			1.13				1.35	9055	R3	71	B-44	B-54	B-64
			1.35				1.62	9060	R3	71	B-46	B-56	B-66
			1.81				2.17	9065	R3	71	B-46	B-56	B-66
			2.27				2.70	9070	R3	71	B-46	B-56	B-66
			2.91				3.32	9075	R3	71	B-46	B-56	B-66
18.8	18850	1920	1.13	22.5	15700	1600	1.37	9055	R3	80	B-44	B-54	B-64
			1.62				1.83	9065	R3	80	B-46	B-56	B-66
			1.78				2.16	9070	R4	80	B-50	B-60	B-70
			2.37				2.70	9075	R3	80	B-46	B-56	B-66
			2.70				3.05	9080	R4	80	B-50	B-60	B-70
16.7	21200	2160	0.91	20.0	17670	1800	1.10	9055	R3	90	B-44	B-54	B-64
			1.00				1.21	9060	R4	90	B-50	B-60	B-70
			1.43				1.71	9065	R3	90	B-46	B-56	B-66
			1.78				2.16	9070	R4	90	B-50	B-60	B-70
			2.37				2.70	9075	R3	90	B-46	B-56	B-66
			2.70				3.05	9080	R4	90	B-50	B-60	B-70
15.0	23560	2410	1.00	18.0	19630	2000	1.21	9060	R4	100	B-50	B-60	B-70
			1.75				2.10	9070	R4	100	B-50	B-60	B-70
			2.67				3.05	9080	R4	100	B-50	B-60	B-70
13.4	26380	2690	0.83	16.1	21990	2240	1.02	9060	R4	112	B-50	B-60	B-70
			1.01				1.21	9065	R4	112	B-50	B-60	B-70
			1.45				1.75	9070	R4	112	B-50	B-60	B-70
			1.78				2.16	9075	R4	112	B-50	B-60	B-70
			2.29				2.75	9080	R4	112	B-50	B-60	B-70
			2.70				3.05	9085	R4	112	B-50	B-60	B-70
12.0	29450	3010	0.86	14.4	24540	2510	1.02	9060	R4	125	B-50	B-60	B-70
			1.01				1.21	9065	R4	125	B-50	B-60	B-70
			1.35				1.62	9070	R4	125	B-50	B-60	B-70
			1.78				2.16	9075	R4	125	B-50	B-60	B-70
			2.02				2.43	9080	R4	125	B-50	B-60	B-70
			2.70				3.05	9085	R4	125	B-50	B-60	B-70
10.7	32980	3370	0.89	12.9	27480	2810	1.07	9065	R4	140	B-50	B-60	B-70
			1.10				1.35	9070	R4	140	B-50	B-60	B-70
			1.56				1.86	9075	R4	140	B-50	B-60	B-70
			1.75				2.10	9080	R4	140	B-50	B-60	B-70
			2.40				2.89	9085	R4	140	B-50	B-60	B-70

SELECTION Drive Unit Right Angle Shaft 37kW, 45kW

Drive Unit
Selection Tables
Dimension Tables

Output Speed r/min	Frequency				Model			Page of Dimension Sheet										
	50Hz		SF	60Hz		Size	Assembly	Reduction Ratio	Horizontal	Vertical	Upright							
Output Torque (Tout) Nm	kgf m	Output Speed r/min		Output Torque (Tout) Nm	kgf m							SF						
9.4	37690	3850	0.92	11.3	31410	3210						1.11	9065	R4	160	B-50	B-60	B-70
			1.43									1.70	9075	R4	160	B-50	B-60	B-70
			1.54									1.83	9080	R4	160	B-50	B-60	B-70
			2.13									2.56	9085	R4	160	B-50	B-60	B-70
8.3	42400	4330	0.89	10.0	35340	3610						1.05	9070	R4	180	B-50	B-60	B-70
			1.18									1.43	9075	R4	180	B-50	B-60	B-70
			1.40									1.67	9080	R4	180	B-50	B-60	B-70
			1.83									2.21	9085	R4	180	B-50	B-60	B-70
7.5	47110	4810	0.89	9.0	39260	4010						1.05	9070	R4	200	B-50	B-60	B-70
			1.32									1.59	9080	R4	200	B-50	B-60	B-70
			1.54									1.83	9085	R4	200	B-50	B-60	B-70
			0.89									1.05	9075	R4	224	B-50	B-60	B-70
6.7	52770	5390	1.16	8.0	43970	4490						1.37	9080	R4	224	B-50	B-60	B-70
			1.45									1.75	9085	R4	224	B-50	B-60	B-70
			0.89									1.05	9075	R4	250	B-50	B-60	B-70
			1.02									1.21	9080	R4	250	B-50	B-60	B-70
6.0	58890	6010	1.40	7.2	49080	5010						1.67	9085	R4	250	B-50	B-60	B-70
			0.86									1.05	9080	R4	280	B-50	B-60	B-70
			1.21									1.45	9085	R4	280	B-50	B-60	B-70
4.8	74200	7580	1.08	5.7	61840	6310	1.29	9085	R4	315	B-50	B-60	B-70					
4.2	83630	8540	0.91	5.1	69690	7110	1.10	9085	R4	355	B-50	B-60	B-70					

45kW	Frequency Hz	50Hz	60Hz
	Pole P	4	4
	Speed n1 r/min	1500	1800

* marked model upright type need additional cooling system for continuous operation.

Output Speed r/min	Frequency				Model			Page of Dimension Sheet												
	50Hz		SF	60Hz		Size	Assembly	Reduction Ratio	Horizontal	Vertical	Upright									
Output Torque (Tout) Nm	kgf m	Output Speed r/min		Output Torque (Tout) Nm	kgf m							SF								
238	1800	184	3.06	286	1500	154	3.06	9040	R2	6.3	B-42	B-52	B-62							
211	2030	208	3.06	254	1700	173	3.06	9040	R2	7.1	B-42	B-52	B-62							
188	2290	234	2.75	225	1910	195	3.06	9040	R2	8	B-42	B-52	B-62							
			3.60											4.31	9045	R2	8	B-42	B-52	B-62
167	2580	263	2.75	200	2150	219	3.06	9040	R2	9	B-42	B-52	B-62							
			3.60											4.31	9045	R2	9	B-42	B-52	B-62
150	2870	293	2.51	180	2390	244	2.84	9040	R2	10	B-42	B-52	B-62							
			3.20											3.84	9045	R2	10	B-42	B-52	B-62
134	3210	328	2.51	161	2670	273	2.84	9040	R2	11.2	B-42	B-52	B-62							
			3.20											3.84	9045	R2	11.2	B-42	B-52	B-62
120	3580	366	2.60	144	2980	305	3.11	9045	R2	12.5	B-42	B-52	B-62							
107	4010	410	2.60	129	3340	341	3.11	9045	R2	14	B-42	B-52	B-62							
93.8	4580	468	1.40	113	3820	390	1.66	*9040	R2	16	B-42	B-52	B-62							
			1.80											2.15	9045	R2	16	B-42	B-52	B-62
83.3	5160	527	1.40	100	4300	439	1.66	*9040	R2	18	B-42	B-52	B-62							
			1.80											2.15	9045	R2	18	B-42	B-52	B-62
75.0	5730	585	1.48	90.0	4780	488	1.73	9040	R3	20	B-44	B-54	B-64							
			2.11											2.40	9050	R3	20	B-44	B-54	B-64
			2.42											2.73	9060	R3	20	B-46	B-56	B-66
			3.71											4.22	9070	R3	20	B-46	B-56	B-66
67.0	6420	655	1.48	80.4	5350	546	1.73	9040	R3	22.4	B-44	B-54	B-64							
			2.11											2.40	9050	R3	22.4	B-44	B-54	B-64
			2.42											2.73	9060	R3	22.4	B-46	B-56	B-66
			3.71											4.22	9070	R3	22.4	B-46	B-56	B-66
60.0	7160	731	1.49	72.0	5970	609	1.73	9040	R3	25	B-44	B-54	B-64							
			2.11											2.40	9050	R3	25	B-44	B-54	B-64
			2.42											2.73	9060	R3	25	B-46	B-56	B-66
			3.71											4.22	9070	R3	25	B-46	B-56	B-66

SELECTION Drive Unit Right Angle Shaft 45kW

Output Speed r/min	Frequency							Model			Page of Dimension Sheet						
	50Hz			SF	60Hz			SF	Size	Assembly	Reduction Ratio	Horizontal	Vertical	Upright			
Output Torque (Tout) Nm	kgf m		Output Speed r/min		Output Torque (Tout) Nm	kgf m											
53.6	8020	819	1.22	64.3	6690	683	1.44	9040	R3	28	B-44	B-54	B-64				
			1.50				1.73	9045	R3	28	B-44	B-54	B-64				
			1.77				2.13	9050	R3	28	B-44	B-54	B-64				
			2.11				2.40	9055	R3	28	B-44	B-54	B-64				
			2.42				2.73	9060	R3	28	B-46	B-56	B-66				
			3.71				4.22	9070	R3	28	B-46	B-56	B-66				
			4.22														
47.6	9020	921	1.50	57.1	7520	768	1.73	9045	R3	31.5	B-44	B-54	B-64				
			1.75				2.02	9050	R3	31.5	B-44	B-54	B-64				
			2.11				2.40	9055	R3	31.5	B-44	B-54	B-64				
			2.42				2.73	9065	R3	31.5	B-46	B-56	B-66				
			3.02				3.44	9070	R3	31.5	B-46	B-56	B-66				
			3.71				4.22	9075	R3	31.5	B-46	B-56	B-66				
			4.22														
42.3	10170	1040	1.28	50.7	8480	865	1.53	9045	R3	35.5	B-44	B-54	B-64				
			1.44				1.73	9050	R3	35.5	B-44	B-54	B-64				
			1.86				2.22	9055	R3	35.5	B-44	B-54	B-64				
			2.06				2.33	9060	R3	35.5	B-46	B-56	B-66				
			2.42				2.73	9065	R3	35.5	B-46	B-56	B-66				
			3.02				3.44	9070	R3	35.5	B-46	B-56	B-66				
			3.71				4.22	9075	R3	35.5	B-46	B-56	B-66				
37.5	11460	1170	1.06	45.0	9550	975	1.28	9045	R3	40	B-44	B-54	B-64				
			1.35				1.62	9050	R3	40	B-44	B-54	B-64				
			1.75				2.02	9055	R3	40	B-44	B-54	B-64				
			2.06				2.33	9060	R3	40	B-46	B-56	B-66				
			3.02				3.44	9070	R3	40	B-46	B-56	B-66				
			3.44														
			3.71														
33.3	12890	1320	0.99	40.0	10740	1100	1.19	9045	R3	45	B-44	B-54	B-64				
			1.11				1.33	9050	R3	45	B-44	B-54	B-64				
			1.51				1.82	9055	R3	45	B-44	B-54	B-64				
			1.80				2.15	9060	R3	45	B-46	B-56	B-66				
			2.06				2.33	9065	R3	45	B-46	B-56	B-66				
			3.00				3.44	9070	R3	45	B-46	B-56	B-66				
			3.44														
30.0	14330	1460	0.95	36.0	11940	1220	1.14	9045	R3	50	B-44	B-54	B-64				
			1.08				1.31	9050	R3	50	B-44	B-54	B-64				
			1.44				1.73	9055	R3	50	B-44	B-54	B-64				
			1.64				1.86	9060	R3	50	B-46	B-56	B-66				
			2.06				2.33	9065	R3	50	B-46	B-56	B-66				
			2.40				2.73	9070	R3	50	B-46	B-56	B-66				
			3.02				3.44	9075	R3	50	B-46	B-56	B-66				
26.8	16040	1640	0.88	32.1	13370	1370	1.06	9050	R3	56	B-44	B-54	B-64				
			1.15				1.37	9055	R3	56	B-44	B-54	B-64				
			1.42				1.71	9060	R3	56	B-46	B-56	B-66				
			1.89				2.26	9065	R3	56	B-46	B-56	B-66				
			2.37				2.73	9070	R3	56	B-46	B-56	B-66				
			3.02				3.44	9075	R3	56	B-46	B-56	B-66				
			3.44														
23.8	18050	1840	1.15	28.6	15040	1540	1.40	9055	R3	63	B-44	B-54	B-64				
			1.33				1.51	9060	R3	63	B-46	B-56	B-66				
			1.64				1.86	9065	R3	63	B-46	B-56	B-66				
			1.95				2.22	9070	R3	63	B-46	B-56	B-66				
			2.40				2.73	9075	R3	63	B-46	B-56	B-66				
21.1	20340	2080	0.93	25.4	16950	1730	1.11	9055	R3	71	B-44	B-54	B-64				
			1.11				1.33	9060	R3	71	B-46	B-56	B-66				
			1.49				1.78	9065	R3	71	B-46	B-56	B-66				
			1.86				2.22	9070	R3	71	B-46	B-56	B-66				
			2.40				2.73	9075	R3	71	B-46	B-56	B-66				
18.8	22920	2340	0.93	22.5	19100	1950	1.13	9055	R3	80	B-44	B-54	B-64				
			1.33				1.51	9065	R3	80	B-46	B-56	B-66				
			1.46				1.77	9070	R4	80	B-50	B-60	B-70				
			1.95				2.22	9075	R3	80	B-46	B-56	B-66				
			2.22				2.51	9080	R4	80	B-50	B-60	B-70				
16.7	25790	2630	0.82	20.0	21490	2190	1.00	9060	R4	90	B-50	B-60	B-70				
			1.17				1.40	9065	R3	90	B-46	B-56	B-66				
			1.46				1.77	9070	R4	90	B-50	B-60	B-70				
			1.95				2.22	9075	R3	90	B-46	B-56	B-66				
			2.22				2.51	9080	R4	90	B-50	B-60	B-70				
15.0	28650	2930	0.82	18.0	23880	2440	1.00	9060	R4	100	B-50	B-60	B-70				
			1.44				1.73	9070	R4	100	B-50	B-60	B-70				
			2.20				2.51	9080	R4	100	B-50	B-60	B-70				
13.4	32090	3280	0.83	16.1	26740	2730	1.00	9065	R4	112	B-50	B-60	B-70				
			1.20				1.44	9070	R4	112	B-50	B-60	B-70				
			1.46				1.77	9075	R4	112	B-50	B-60	B-70				
			1.88				2.26	9080	R4	112	B-50	B-60	B-70				
			2.22				2.51	9085	R4	112	B-50	B-60	B-70				

SELECTION Drive Unit Right Angle Shaft 45kW, 55kW

Output Speed r/min	50Hz				60Hz				Model			Page of Dimension Sheet		
	Output Torque (Tout) Nm	kgf m	SF	Output Speed r/min	Output Torque (Tout) Nm	kgf m	SF	Size	Assembly	Reduction Ratio	Horizontal	Vertical	Upright	
12.0	35810	3660	0.83	14.4	29840	3050	1.00	9065	R4	125	B-50	B-60	B-70	
			1.11				1.33	9070	R4	125	B-50	B-60	B-70	
			1.46				1.77	9075	R4	125	B-50	B-60	B-70	
			1.66				2.00	9080	R4	125	B-50	B-60	B-70	
			2.22				2.51	9085	R4	125	B-50	B-60	B-70	
10.7	40110	4100	0.91	12.9	33430	3410	1.11	9070	R4	140	B-50	B-60	B-70	
			1.28				1.53	9075	R4	140	B-50	B-60	B-70	
			1.44				1.73	9080	R4	140	B-50	B-60	B-70	
			1.97				2.37	9085	R4	140	B-50	B-60	B-70	
9.4	45840	4680	1.17	11.3	38200	3900	1.40	9075	R4	160	B-50	B-60	B-70	
			1.26				1.51	9080	R4	160	B-50	B-60	B-70	
			1.75				2.11	9085	R4	160	B-50	B-60	B-70	
8.3	51570	5270	0.97	10.0	42980	4390	1.17	9075	R4	180	B-50	B-60	B-70	
			1.15				1.37	9080	R4	180	B-50	B-60	B-70	
			1.51				1.82	9085	R4	180	B-50	B-60	B-70	
7.5	57300	5850	1.08	9.0	47750	4880	1.31	9080	R4	200	B-50	B-60	B-70	
			1.26				1.51	9085	R4	200	B-50	B-60	B-70	
6.7	64180	6550	0.95	8.0	53480	5460	1.13	9080	R4	224	B-50	B-60	B-70	
			1.20				1.44	9085	R4	224	B-50	B-60	B-70	
6.0	71630	7310	0.84	7.2	59690	6090	1.00	9080	R4	250	B-50	B-60	B-70	
			1.15				1.37	9085	R4	250	B-50	B-60	B-70	
5.4	80220	8190	1.00	6.4	66850	6830	1.20	9085	R4	280	B-50	B-60	B-70	
4.8	90250	9210	0.88	5.7	75210	7680	1.06	9085	R4	315	B-50	B-60	B-70	

Drive Unit
Selection
Tables

Dimension
Tables

55kW	Frequency Hz	50Hz	60Hz
	Pole P	4	4
	Speed n1 r/min	1500	1800

* marked model upright type need additional cooling system for continuous operation.

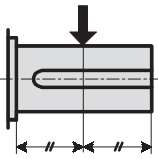
Output Speed r/min	50Hz				60Hz				Model			Page of Dimension Sheet		
	Output Torque (Tout) Nm	kgf m	SF	Output Speed r/min	Output Torque (Tout) Nm	kgf m	SF	Size	Assembly	Reduction Ratio	Horizontal	Vertical	Upright	
238	2210	225	2.50	286	1840	188	2.50	9040	R2	6.3	B-42	B-52	B-62	
211	2490	254	2.50	254	2070	212	2.50	*9040	R2	7.1	B-42	B-52	B-62	
188	2800	286	2.25	225	2330	238	2.50	*9040	R2	8	B-42	B-52	B-62	
			2.94				3.52	9045	R2	8	B-42	B-52	B-62	
167	3150	322	2.25	200	2630	268	2.50	*9040	R2	9	B-42	B-52	B-62	
			2.94				3.52	9045	R2	9	B-42	B-52	B-62	
150	3500	358	2.05	180	2920	298	2.32	*9040	R2	10	B-42	B-52	B-62	
			2.61				3.14	9045	R2	10	B-42	B-52	B-62	
134	3920	400	2.05	161	3270	334	2.32	*9040	R2	11.2	B-42	B-52	B-62	
			2.61				3.14	9045	R2	11.2	B-42	B-52	B-62	
120	4380	447	1.47	144	3650	372	1.76	*9040	R2	12.5	B-42	B-52	B-62	
			2.12				2.54	9045	R2	12.5	B-42	B-52	B-62	
107	4900	501	1.47	129	4090	417	1.76	*9040	R2	14	B-42	B-52	B-62	
			2.12				2.54	9045	R2	14	B-42	B-52	B-62	
93.8	5600	572	1.14	113	4670	477	1.36	*9040	R2	16	B-42	B-52	B-62	
			1.47				1.76	9045	R2	16	B-42	B-52	B-62	
83.8	6300	644	1.47	100.0	5250	536	1.76	*9045	R2	18	B-42	B-52	B-62	
75.0	7000	715	1.14	90.0	5840	596	1.36	*9045	R2	20	B-42	B-52	B-62	
			1.72				1.96	9050	R3	20	B-44	B-54	B-64	
			1.98				2.23	9060	R3	20	B-46	B-56	B-66	
			3.03				3.45	9070	R3	20	B-46	B-56	B-66	
67.0	7840	801	1.14	80.4	6540	667	1.36	*9045	R2	22.4	B-42	B-52	B-62	
			1.72				1.96	9050	R3	22.4	B-44	B-54	B-64	
			1.98				2.23	9060	R3	22.4	B-46	B-56	B-66	
			3.03				3.45	9070	R3	22.4	B-46	B-56	B-66	
60.0	8750	894	1.72	72.0	7300	745	1.96	9055	R3	25	B-44	B-54	B-64	
			1.98				2.23	9060	R3	25	B-46	B-56	B-66	
			3.03				3.45	9070	R3	25	B-46	B-56	B-66	
53.6	9800	1000	1.72	64.3	8170	834	1.96	9055	R3	28	B-44	B-54	B-64	
			1.98				2.23	9060	R3	28	B-46	B-56	B-66	
			3.03				3.45	9070	R3	28	B-46	B-56	B-66	

SELECTION Drive Unit Right Angle Shaft 55kW

Output Speed r/min	Frequency				Model			Page of Dimension Sheet					
	50Hz		SF	60Hz		Size	Assembly	Reduction Ratio	Horizontal	Vertical	Upright		
Output Torque (Tout) Nm	kgf m	Output Speed r/min		Output Torque (Tout) Nm	kgf m							SF	
47.6	11030	1130	1.72	57.1	9190	938	1.96	9055	R3	31.5	B-44	B-54	B-64
			1.98				2.23	9065	R3	31.5	B-46	B-56	B-66
			2.47				2.81	9070	R3	31.5	B-46	B-56	B-66
			3.03				3.45	9075	R3	31.5	B-46	B-56	B-66
42.3	12430	1270	1.52	50.7	10360	1060	1.81	9055	R3	35.5	B-44	B-54	B-64
			1.69				1.90	9060	R3	35.5	B-46	B-56	B-66
			1.98				2.23	9065	R3	35.5	B-46	B-56	B-66
			2.47				2.81	9070	R3	35.5	B-46	B-56	B-66
37.5	14010	1430	1.43	45.0	11670	1190	1.65	9055	R3	40	B-44	B-54	B-64
			1.69				1.90	9060	R3	40	B-46	B-56	B-66
			2.47				2.81	9070	R3	40	B-46	B-56	B-66
			1.23				1.49	9055	R3	45	B-44	B-54	B-64
33.3	15760	1610	1.47	40.0	13130	1340	1.76	9060	R3	45	B-46	B-56	B-66
			1.69				1.90	9065	R3	45	B-46	B-56	B-66
			2.45				2.81	9070	R3	45	B-46	B-56	B-66
			1.18				1.41	9055	R3	50	B-44	B-54	B-64
30.0	17510	1790	1.34	36.0	14590	1490	1.52	9060	R3	50	B-46	B-56	B-66
			1.69				1.90	9065	R3	50	B-46	B-56	B-66
			1.96				2.23	9070	R3	50	B-46	B-56	B-66
			2.47				2.81	9075	R3	50	B-46	B-56	B-66
26.8	19610	2000	0.94	32.1	16340	1670	1.12	9055	R3	56	B-44	B-54	B-64
			1.16				1.40	9060	R3	56	B-46	B-56	B-66
			1.55				1.85	9065	R3	56	B-46	B-56	B-66
			1.94				2.23	9070	R3	56	B-46	B-56	B-66
23.8	22060	2250	0.94	28.6	18380	1880	1.14	9055	R3	63	B-44	B-54	B-64
			1.09				1.23	9060	R3	63	B-46	B-56	B-66
			1.34				1.52	9065	R3	63	B-46	B-56	B-66
			1.60				1.81	9070	R3	63	B-46	B-56	B-66
21.1	24860	2540	0.90	25.4	20720	2120	1.09	9060	R3	71	B-46	B-56	B-66
			1.22				1.46	9065	R3	71	B-46	B-56	B-66
			1.52				1.81	9070	R3	71	B-46	B-56	B-66
			1.96				2.23	9075	R3	71	B-46	B-56	B-66
18.8	28010	2860	1.09	22.5	23340	2380	1.23	9065	R3	80	B-46	B-56	B-66
			1.20				1.45	9070	R4	80	B-50	B-60	B-70
			1.60				1.81	9075	R3	80	B-46	B-56	B-66
			1.81				2.05	9080	R4	80	B-50	B-60	B-70
16.7	31520	3220	0.96	20.0	26260	2680	1.15	9065	R3	90	B-46	B-56	B-66
			1.20				1.45	9070	R4	90	B-50	B-60	B-70
			1.60				1.81	9075	R3	90	B-46	B-56	B-66
			1.81				2.05	9080	R4	90	B-50	B-60	B-70
15.0	35020	3580	1.18	18.0	29180	2980	1.41	9070	R4	100	B-50	B-60	B-70
			1.80				2.05	9080	R4	100	B-50	B-60	B-70
			0.98				1.18	9070	R4	112	B-50	B-60	B-70
			1.20				1.45	9075	R4	112	B-50	B-60	B-70
13.4	39220	4000	1.54	16.1	32680	3340	1.85	9080	R4	112	B-50	B-60	B-70
			1.81				2.05	9085	R4	112	B-50	B-60	B-70
			0.90				1.09	9070	R4	125	B-50	B-60	B-70
			1.20				1.45	9075	R4	125	B-50	B-60	B-70
12.0	43770	4470	1.36	14.4	36480	3720	1.63	9080	R4	125	B-50	B-60	B-70
			1.81				2.05	9085	R4	125	B-50	B-60	B-70
			1.05				1.25	9075	R4	140	B-50	B-60	B-70
			1.18				1.41	9080	R4	140	B-50	B-60	B-70
10.7	49020	5010	1.61	12.9	40850	4170	1.94	9085	R4	140	B-50	B-60	B-70
			0.96				1.14	9075	R4	160	B-50	B-60	B-70
			1.03				1.23	9080	R4	160	B-50	B-60	B-70
			1.43				1.72	9085	R4	160	B-50	B-60	B-70
8.3	63030	6440	0.94	10.0	52530	5360	1.12	9080	R4	180	B-50	B-60	B-70
			1.23				1.49	9085	R4	180	B-50	B-60	B-70
7.5	70030	7150	0.89	9.0	58360	5960	1.07	9080	R4	200	B-50	B-60	B-70
			1.03				1.23	9085	R4	200	B-50	B-60	B-70
6.7	78440	8010	0.98	8.0	65360	6670	1.18	9085	R4	224	B-50	B-60	B-70
6.0	87540	8940	0.94	7.2	72950	7450	1.12	9085	R4	250	B-50	B-60	B-70

SELECTION Drive Unit Allowable Radial and Axial Loads on Slow Speed Shaft

Allowable Radial Load (kN)



Sheet 1

Applicable to configurations: Double Reduction RMR, LML
Triple Reduction RML, LMR/Quadruple Reduction RMR, LML

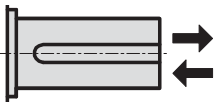
L.Speed Shaft Speed r/min	Size of Reducer												
	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085	
Standard bearing model	250	17.7	29.4	29.9	32.4	37.8	46.6	39.7	49.1	44.1	77.0	77.0	100.1
	160	20.1	31.4	32.4	33.8	39.7	48.1	41.7	50.5	46.1	89.0	89.0	108.9
	100	25.0	35.3	38.7	39.2	47.1	53.5	47.6	54.4	54.4	99.0	99.0	122.1
	63	26.5	35.3	42.2	47.1	54.9	62.3	58.9	64.3	65.2	131.5	131.5	125.6
	40	26.5	35.3	42.2	49.1	54.9	67.7	71.1	78.0	79.0	141.0	141.0	125.1
≤ 25	26.5	35.3	42.2	49.1	54.9	67.7	81.4	95.2	99.1	139.5	139.5	122.6	
Heavy duty bearing model	250						71.1	93.7	70.1	122.5	122.5	141.8	
	160						78.0	94.7	77.5	137.5	137.5	132.4	
	100						81.4	98.1	92.2	149.5	149.5	127.0	
	63						81.4	98.1	114.8	149.0	149.0	125.6	
	40						81.4	98.1	117.7	148.5	148.5	125.1	
≤ 25						81.4	98.1	117.7	147.0	147.0	122.6		

Sheet 2

Applicable to configurations: Double Reduction RML, LMR
Triple Reduction RMR, LML/Quadruple Reduction RML, LMR

L.Speed Shaft Speed r/min	Size of Reducer												
	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085	
Standard bearing model	250	9.8	21.6	19.1	21.6	22.6	31.4	16.7	28.4	17.2	44.0	44.0	58.4
	160	12.3	23.1	20.6	23.1	24.0	31.4	18.1	27.0	17.7	55.5	55.5	64.3
	100	16.7	29.4	26.0	27.5	28.4	35.3	22.1	30.4	25.5	63.5	63.5	74.6
	63	21.6	35.3	32.9	35.3	37.3	42.7	33.4	38.3	33.8	95.0	95.0	104.5
	40	26.5	35.3	41.7	43.7	48.6	55.4	45.1	51.5	47.6	129.0	129.0	146.7
≤ 25	26.5	35.3	42.2	49.1	54.9	67.7	60.8	68.7	67.7	167.0	167.0	171.2	
Heavy duty bearing model	250						46.1	74.6	40.2	90.0	90.0	114.8	
	160						52.0	72.1	45.6	103.5	103.5	125.1	
	100						60.3	79.0	59.4	116.0	116.0	140.8	
	63						81.4	96.6	80.0	152.5	152.5	174.1	
	40						81.4	98.1	108.9	192.0	192.0	191.8	
≤ 25						81.4	98.1	117.7	180.5	180.5	171.2		

Allowable Axial Load (kN)



L.Speed Shaft Speed r/min	Size of Reducer												
	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085	
Standard bearing model	250	14.7	23.1	26.5	31.4	32.9	31.9	27.0	43.2	28.0	28.0	23.5	23.5
	160	18.1	23.1	28.4	31.4	33.4	31.9	28.9	43.2	28.4	28.4	27.5	27.5
	100	24.5	23.1	32.9	31.4	37.3	31.9	34.3	43.2	39.7	39.7	32.9	32.9
	63	26.5	23.1	32.9	31.4	37.3	31.9	49.1	43.2	52.5	52.5	45.6	45.6
	40	26.5	23.1	32.9	31.4	37.3	31.9	49.1	43.2	61.4	61.4	63.3	60.3
≤ 25	26.5	23.1	32.9	31.4	37.3	31.9	49.1	43.2	61.4	61.4	67.7	60.3	
Heavy duty bearing model	250						23.1	34.8	18.6	18.6	56.9	56.9	
	160						25.0	33.4	21.1	21.1	56.9	56.9	
	100						29.4	36.8	27.5	27.5	56.9	56.9	
	63						39.2	43.2	36.3	36.3	56.9	56.9	
	40						39.2	43.2	49.1	49.1	56.9	56.9	
≤ 25						39.2	43.2	56.9	56.9	56.9	56.9		

SELECTION Drive Unit Allowable Radial and Axial Loads on Slow Speed Shaft

Overhang Factor

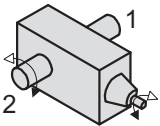
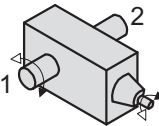
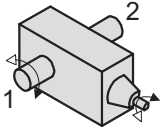
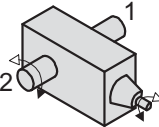
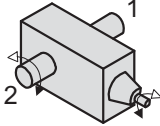
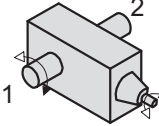
Overhang Member	Overhang Factor
Sprocket (Single Row)	1
Sprocket (Double Row)	1.25
Gears	1.25

Notes

- The value shown in the table is allowable radial load when it is applied to the center of the solid shaft (except hollow shaft). Consult us when a load is not in the center.
- Consult us for the blanks in the table.
- Consult us when the radial load is applied upward.
- In case of double projection shaft (RMB,LMB)
 - See sheet1 when the radial load is applied only to the shaft1.
 - See sheet2 when the radial load is applied only to the shaft2.
 - Consult us when the radial load is applied to both shafts.
- Refer to B-6 to check overhang load, and calculate equivalent load at peak load value. Be careful under following condition because large peak load may be generated.

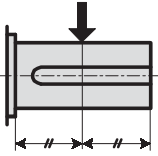
Application: When the inertia is large, such as for crane driving, slewing, etc.

Motor: inline motor
Connecting method: Sprocket or gear
Consult us when the peak load is larger than allowable value.

	RMB	LMB
Double Reduction Ratio		
Triple Reduction Ratio		
Quadruple Reduction Ratio		

SELECTION Drive Unit Allowable Radial and Axial Loads on Slow Speed Shaft

Allowable Radial Load (kgf)



Sheet 1

Applicable to configurations: Double Reduction RMR, LML
Triple Reduction RML, LMR/Quadruple Reduction RMR, LML

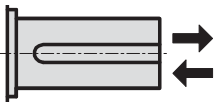
L. Speed Shaft Speed r/min	Size of Reducer												
	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085	
Standard bearing model	250	1800	3000	3050	3300	3850	4750	4050	5000	4500	7850	7850	10200
	160	2050	3200	3300	3450	4050	4900	4250	5150	4700	9050	9050	11100
	100	2550	3600	3950	4000	4800	5450	4850	5550	5550	10100	10100	12450
	63	2700	3600	4300	4800	5600	6350	6000	6550	6650	13400	13400	12800
	40	2700	3600	4300	5000	5600	6900	7250	7950	8050	14350	14350	12750
≤ 25	2700	3600	4300	5000	5600	6900	8300	9700	10100	14200	14200	12500	
Heavy duty bearing model	250							7250	9550	7150	12500	12500	14450
	160							7950	9650	7900	14000	14000	13500
	100							8300	10000	9400	15250	15250	12950
	63							8300	10000	11700	15200	15200	12800
	40							8300	10000	12000	15150	15150	12750
≤ 25							8300	10000	12000	15000	15000	12500	

Sheet 2

Applicable to configurations: Double Reduction RML, LMR
Triple Reduction RMR, LML/Quadruple Reduction RML, LMR

L. Speed Shaft Speed r/min	Size of Reducer												
	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085	
Standard bearing model	250	1000	2200	1950	2200	2300	3200	1700	2900	1750	4500	4500	5950
	160	1250	2350	2100	2350	2450	3200	1850	2750	1800	5650	5650	6550
	100	1700	3000	2650	2800	2900	3600	2250	3100	2600	6450	6450	7600
	63	2200	3600	3350	3600	3800	4350	3400	3900	3450	9700	9700	10650
	40	2700	3600	4250	4450	4950	5650	4600	5250	4850	13150	13150	14950
≤ 25	2700	3600	4300	5000	5600	6900	6200	7000	6900	17000	17000	17450	
Heavy duty bearing model	250							4700	7600	4100	9150	9150	11700
	160							5300	7350	4650	10550	10550	12750
	100							6150	8050	6050	11800	11800	14350
	63							8300	9850	8150	15550	15550	17750
	40							8300	10000	11100	19550	19550	19550
≤ 25							8300	10000	12000	18400	18400	17450	

Allowable Axial Load (kgf)



L. Speed Shaft Speed r/min	Size of Reducer												
	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085	
Standard bearing model	250	1500	2350	2700	3200	3350	3250	2750	4400	2850	2850	2400	2400
	160	1850	2350	2900	3200	3400	3250	2950	4400	2900	2900	2800	2800
	100	2500	2350	3350	3200	3800	3250	3500	4400	4050	4050	3350	3350
	63	2700	2350	3350	3200	3800	3250	5000	4400	5350	5350	4650	4650
	40	2700	2350	3350	3200	3800	3250	5000	4400	6260	6260	6450	6150
≤ 25	2700	2350	3350	3200	3800	3250	5000	4400	6260	6260	6900	6150	
Heavy duty bearing model	250							2350	3550	1900	1900	5800	5800
	160							2550	3400	2150	2150	5800	5800
	100							3000	3750	2800	2800	5800	5800
	63							4000	4400	3700	3700	5800	5800
	40							4000	4400	5000	5000	5800	5800
≤ 25							4000	4400	5800	5800	5800	5800	

SELECTION Drive Unit Allowable Radial and Axial Loads on Slow Speed Shaft

Overhang Factor

Overhang Member	Overhang Factor
Sprocket (Single Row)	1
Sprocket (Double Row)	1.25
Gears	1.25

Notes

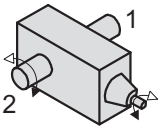
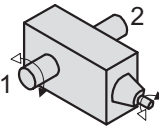
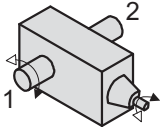
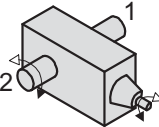
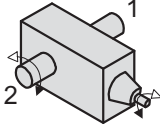
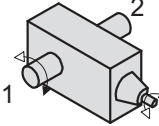
- The value shown in the table is allowable radial load when it is applied to the center of the solid shaft (except hollow shaft). Consult us when a load is not in the center.
- Consult us for the blanks in the table.
- Consult us when the radial load is applied upward.
- In case of double projection shaft (RMB,LMB)
 - See sheet1 when the radial load is applied only to the shaft1.
 - See sheet2 when the radial load is applied only to the shaft2.
 - Consult us when the radial load is applied to both shafts.
- Refer to B-6 to check overhang load, and calculate equivalent load at peak load value. Be careful under following condition because large peak load may be generated.

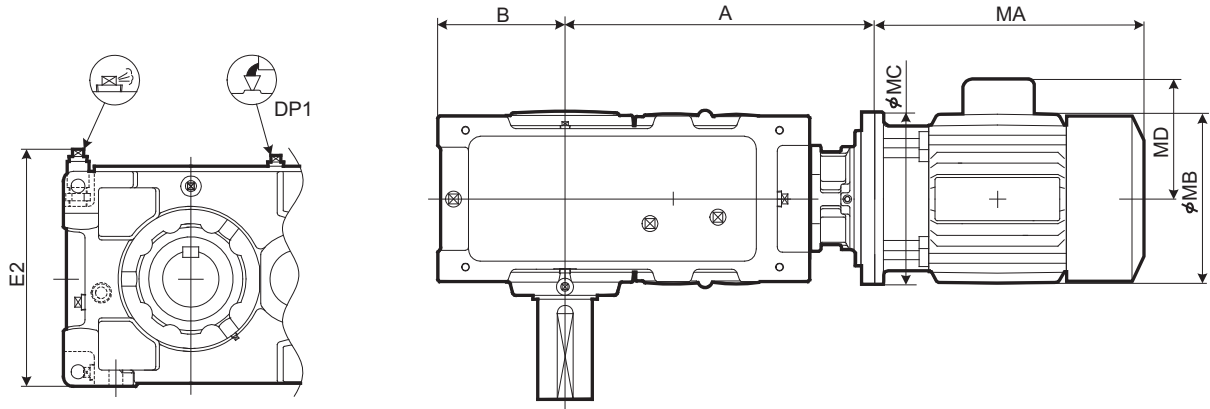
Application: When the inertia is large, such as for crane driving, slewing, etc.

Motor: inline motor

Connecting method: Sprocket or gear

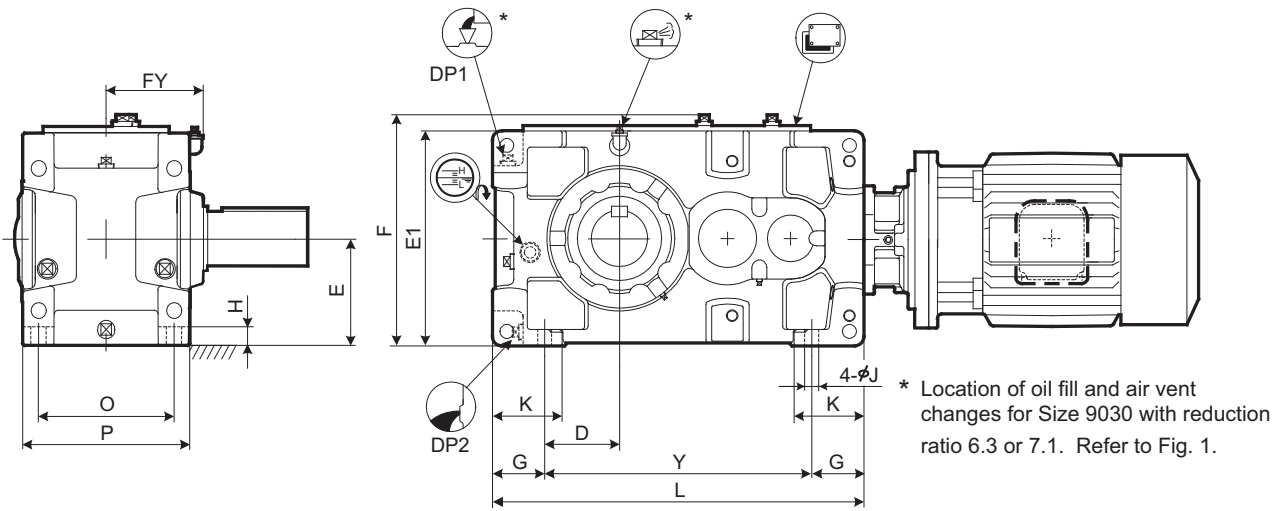
Consult us when the peak load is larger than allowable value.

	RMB	LMB
Double Reduction Ratio		
Triple Reduction Ratio		
Quadruple Reduction Ratio		



[Fig. 1] Location of oil fill and air vent for Size 9030 with reduction ratio 6.3 or 7.1

Drive Unit
 Selection Tables
 Dimension Tables



* Location of oil fill and air vent changes for Size 9030 with reduction ratio 6.3 or 7.1. Refer to Fig. 1.

Slow Speed Shaft

Solid Shaft	Hollow Shaft (Shrink Disk Type)	Hollow Shaft (Key Type)
	<p>Refer to the Page D-18 for details.</p>	<p>Refer to the Page D-18 for details.</p>

Standard Shaft Arrangement Configuration

RML	RMR	RMB	LMR	LML	LMB

1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
 2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.

DIMENSIONS Right Angle Double Reduction Horizontal Mounting 9030 ▶ 9045

PARAMAX Horizontal Monoblock
 9030
 9045
 Right Angle Double Reduction
 P
 H
 A
 R
 2

Size	A	B	D	E	E1	E2	F	FY	G	H	J	K	L	O	P	Y
9030		200	110	160	320	353	349	154	90	28	24	120	590	215	265	410
9035	See	219	129	185	370		399	154	90	28	24	120	640	215	265	460
9040	below	235	120	200	400		431	172	115	30	28	150	685	255	315	455
9045		256	141	220	440		471	172	115	30	28	150	745	255	315	515

Size	DP1	DP2	Oil Qty. (L)	Wt.[kg]*	
				5.5-30kW	37-55kW
9030	3/4"	3/4"	10	240	255
9035	3/4"	3/4"	12	260	275
9040	1"	1"	16	340	350
9045	1"	1"	18	400	410

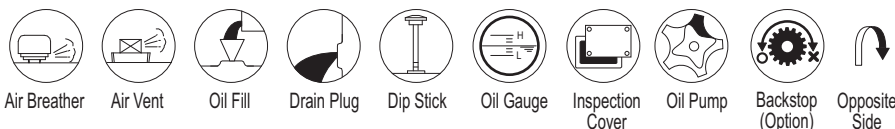
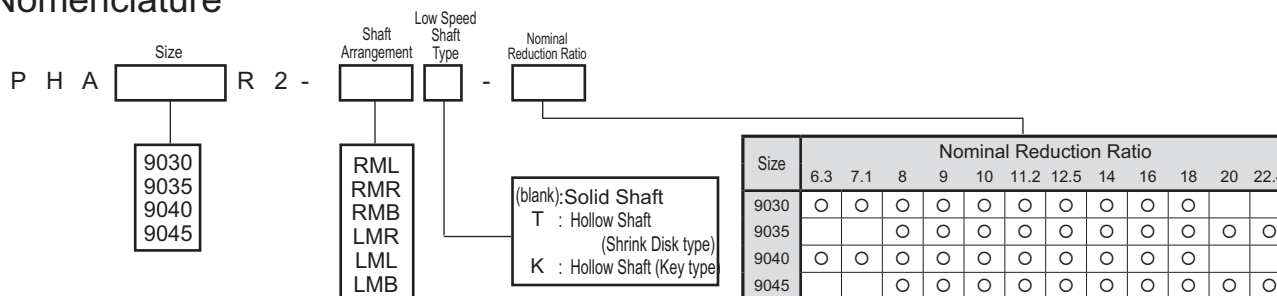
*) Mass of drive unit with motor, add mass of motor flange and mass of motor, shown in table below.

kW	Motor							A				Mass of Motor Mounting Flange [kg]	Mass of Motor [kg]	
	Without Brake			With Brake			MD	9030	9035	9040	9045		Without Brake	With Brake
	MA	MB	MC	MA	MB	MC								
11	480	251	350	575	251	350	188	540	571			11	76	96
15	545	324	350	700	324	350	232	540	571	595	634	11	131	175
18.5	625	394	400	835	394	400	297		601	625	664	33	213	258
22	625	394	400	835	394	400	297		601	625	664	33	213	258
30	625	394	400	835	394	400	297			625	664	33	224	280
37	715.5	394	450	930.5	394	450	297			625	664	15	259	320
45	715.5	394	450	930.5	394	450	297			625	664	15	259	320
55	769.5	484	550				412			625	664	29	276	

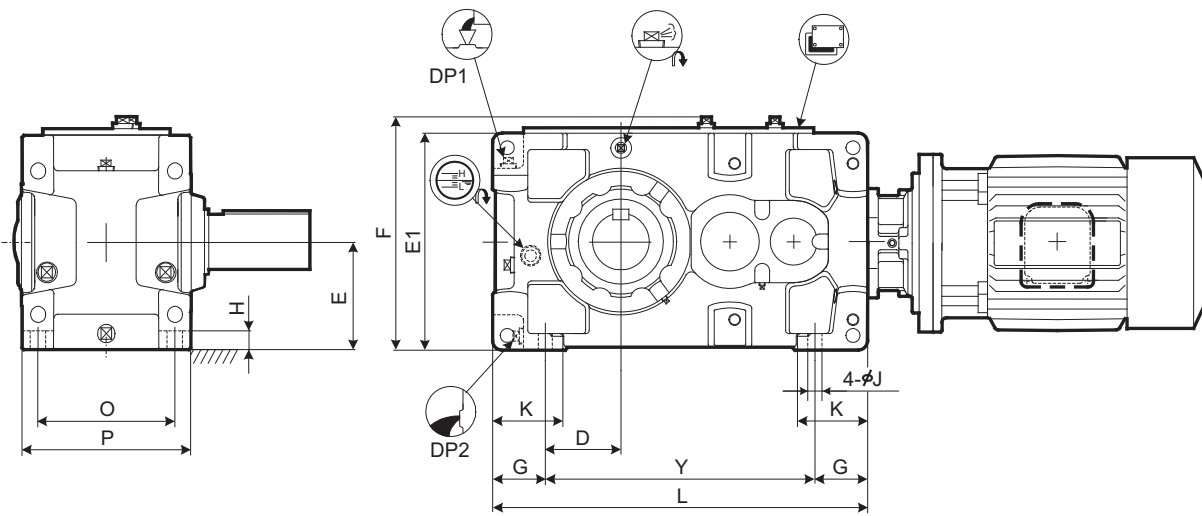
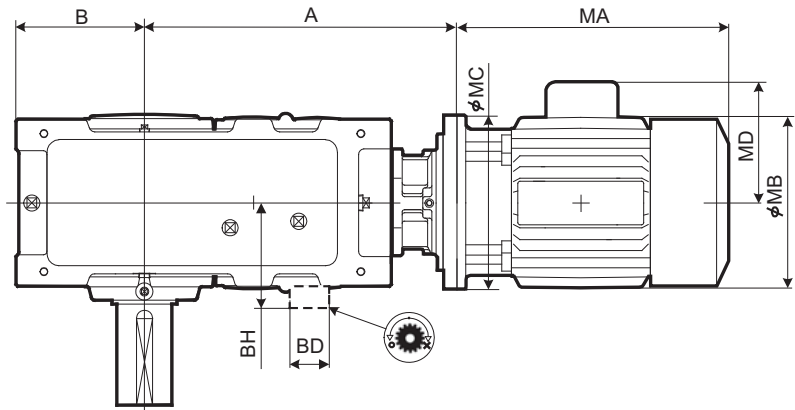
Size	Solid Shaft										Hollow Shaft (Shrink Disk Type)					Hollow Shaft (Key Type)				
	TU1	T1	U1	V1	W1/Depth	Key				TU2	T2	U2	V2	V3	TU4	T4	U4	V4	V5	
						X1	Y1	Z1	L1											
9030	330	160	170	80m6	M20/42	22	9	14	150	393	233	160	83	80	330	165	165	75	75	
9035	330	160	170	90m6	M20/42	25	9	14	150	403	243	160	88	85	330	165	165	85	85	
9040	349	179	170	95m6	M24/50	25	9	14	150	448	268	180	98	95	360	180	180	90	90	
9045	391	181	210	105m6	M24/50	28	10	16	190	463	283	180	108	105	370	185	185	105	105	

Unit: mm

Nomenclature



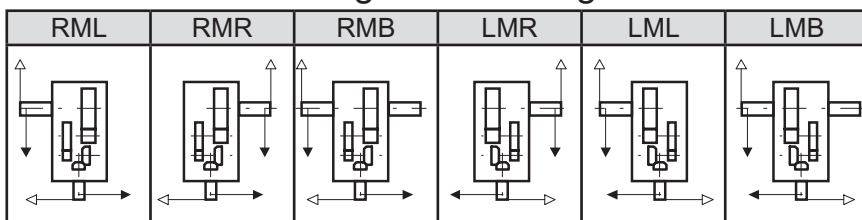
Drive Unit
Selection Tables
Dimension Tables



Slow Speed Shaft

Solid Shaft	Hollow Shaft (Shrink Disk Type)	Hollow Shaft (Key Type)
	<p>Refer to the Page D-18 for details.</p>	<p>Refer to the Page D-18 for details.</p>

Standard Shaft Arrangement Configuration



1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.

DIMENSIONS Right Angle Triple Reduction Horizontal Mounting 9030 ▶ 9055

PARAMAX Horizontal Monoblock
 9030
 9055
 Right Angle Triple Reduction
 P
 H
 A
 9030
 9055
 R
 3

Size	A	B	D	E	E1	F	G	H	J	K	L	O	P	Y
9030		200	110	160	320	349	90	28	24	120	590	215	265	410
9035		219	129	185	370	399	90	28	24	120	640	215	265	460
9040	See below	235	120	200	400	431	115	30	28	150	685	255	315	455
9045		256	141	220	440	471	115	30	28	150	745	255	315	515
9050		255	138.5	210	420	451	116.5	32	28	150	775	285	345	542
9055		286	171	245	490	521	115	32	28	150	845	285	345	615

Size	BD	BH	DP1	DP2	Oil Qty. (L)	Wt. [kg]*	
						5.5-30kW	37-55kW
9030			3/4"	3/4"	10	240	250
9035			3/4"	3/4"	12	260	270
9040			1"	1"	16	325	345
9045			1"	1"	18	385	405
9050	150	263	1"	1"	21	475	485
9055	150	263	1"	1"	28	535	545

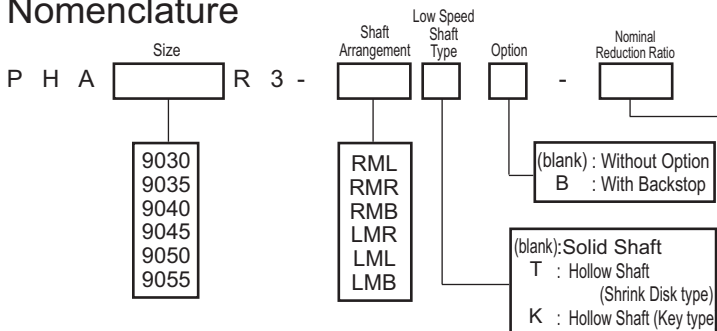
* Mass of drive unit with motor, add mass of motor flange and mass of motor, shown in table below.

kW	Motor							A						Mass of Motor Mounting Flange [kg]	Mass of Motor [kg]		
	Without Brake			With Brake				MD	9030	9035	9040	9045	9050		9055	Without Brake	With Brake
	MA	MB	MC	MA	MB	MC											
5.5	382	212	315	454	212	315	144	540	571	595	634			8	43	54	
7.5	415	251	315	510	251	315	185	540	571	595	634	675	714	8	57	77	
11	480	251	350	575	251	350	188	540	571	595	634	675	714	11	76	96	
15	545	324	350	700	324	350	232	540	571	595	634	675	714	11	131	175	
18.5	625	394	400	835	394	400	297		601	625	664	705	744	33	213	258	
22	625	394	400	835	394	400	297		601	625	664	705	744	33	213	258	
30	625	394	400	835	394	400	297			625	664	705	744	33	224	280	
37	715.5	394	450	930.5	394	450	297			625	664	705	744	15	259	320	
45	715.5	394	450	930.5	394	450	297			625	664	705	744	15	259	320	
55	769.5	484	550				412					705	744	29	276		

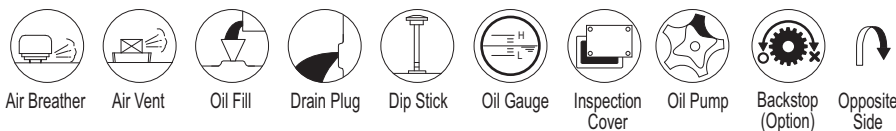
Size	Solid Shaft										Hollow Shaft (Shrink Disk Type)					Hollow Shaft (Key Type)				
	TU1	T1	U1	V1	W1/Depth	Key				TU2	T2	U2	V2	V3	TU4	T4	U4	V4	V5	
9030	330	160	170	80m6	M20/42	22	9	14	150	393	233	160	83	80	330	165	165	75	75	
9035	330	160	170	90m6	M20/42	25	9	14	150	403	243	160	88	85	330	165	165	85	85	
9040	349	179	170	95m6	M24/50	25	9	14	150	448	268	180	98	95	360	180	180	90	90	
9045	391	181	210	105m6	M24/50	28	10	16	190	463	283	180	108	105	370	185	185	105	105	
9050	411	201	210	110m6	M24/50	28	10	16	190	503	303	200	108	105	410	205	205	105	105	
9055	411	201	210	120m6	M24/50	32	11	18	185	528	323	205	123	120	410	205	205	115	115	

Unit: mm

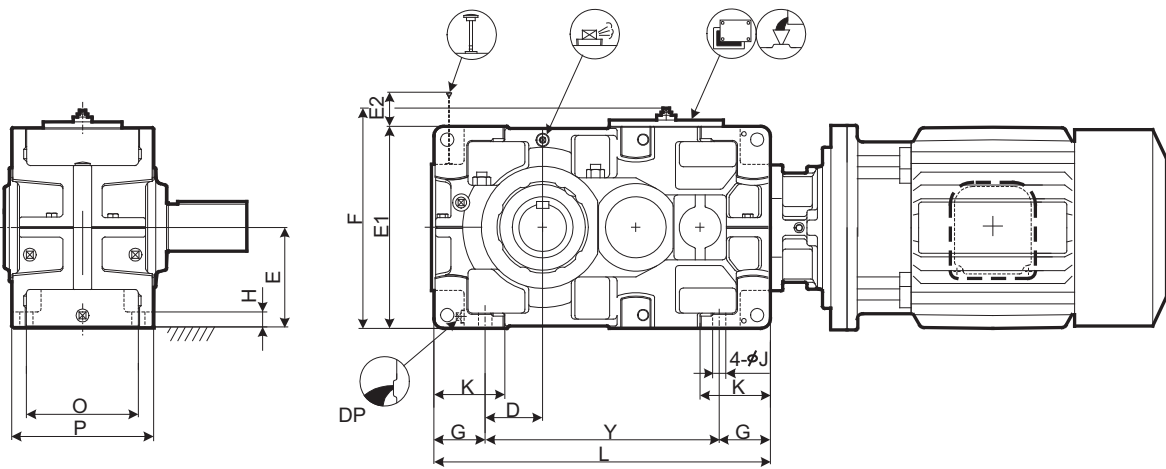
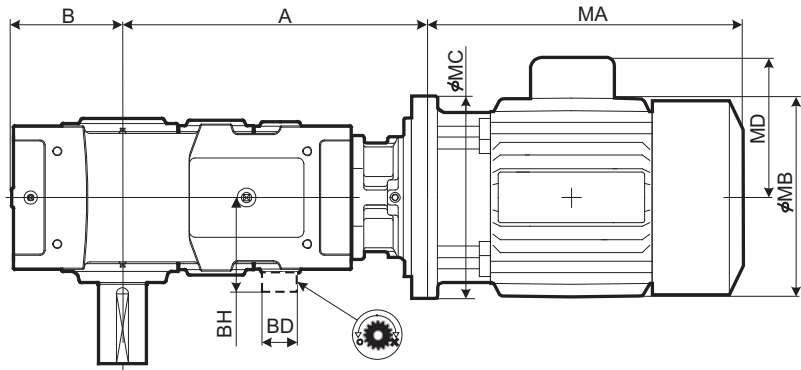
Nomenclature



Size	Nominal Reduction Ratio													
	20	22.4	25	28	31.5	35.5	40	45	50	56	63	71	80	90
9030	○	○	○	○	○	○	○	○	○	○	○	○		
9035			○	○	○	○	○	○	○	○		○	○	○
9040	○	○	○	○	○	○	○	○		○	○	○		
9045	○	○		○	○	○	○	○	○	○		○	○	○
9050	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9055			○	○	○	○	○	○	○	○	○	○	○	○



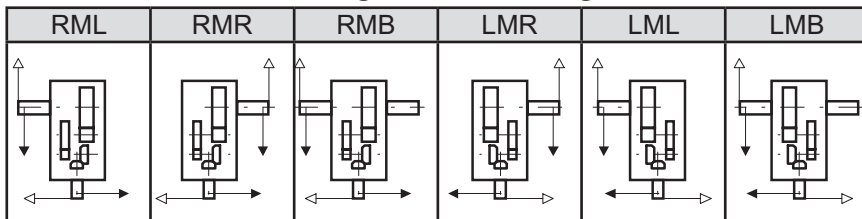
Drive Unit
 Selection
 Tables
 Dimension
 Tables



Slow Speed Shaft

Solid Shaft	Hollow Shaft (Shrink Disk Type)	Hollow Shaft (Key Type)
<p>Technical drawing of a solid shaft. Dimensions shown include: TU1 (total length), U1 (length of the shaft), T1 (length of the shaft), L1 (length of the shaft), φV1 (shaft diameter), Y1 (width of the shaft), X1 (width of the shaft), Z1 (width of the shaft), and W1 (width of the shaft).</p>	<p>Technical drawing of a hollow shaft (shrink disk type). Dimensions shown include: TU2 (total length), U2 (length of the shaft), T2 (length of the shaft), φV2 (shaft diameter), and φV3 (shaft diameter).</p> <p>Refer to the Page D-18 for details.</p>	<p>Technical drawing of a hollow shaft (key type). Dimensions shown include: TU4 (total length), U4 (length of the shaft), T4 (length of the shaft), φV4 (shaft diameter), and φV5 (shaft diameter).</p> <p>Refer to the Page D-18 for details.</p>

Standard Shaft Arrangement Configuration



1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
 2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.

DIMENSIONS Right Angle Triple Reduction Horizontal Mounting 9060 ▶ 9075

PARAMAX Horizontal Split 9060 9075 Right Angle Triple Reduction R 3

Size	A	B	D	E	E1	E2	F	G	H	J	K	L	O	P	Y
9060		299	151	265	530	158	578	135	35	35	180	885	310	380	615
9065	See below	338	190	300	600	123	648	135	35	35	180	970	310	380	700
9070		336	163	300	600	183	648	160	40	42	215	1020	350	430	700
9075		383	210	335	670	148	718	160	52	42	220	1120	350	430	800

Size	BD	BH	DP	Oil Qty. (L)	Wt. [kg]*	
					5.5-30kW	37-55kW
9060	175	308	1"	29	680	690
9065	175	308	1"	33	805	815
9070	190	330	1"	45	950	960
9075	190	330	1"	52	1200	1210

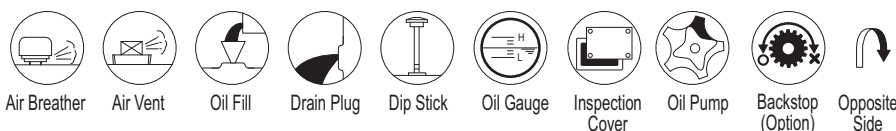
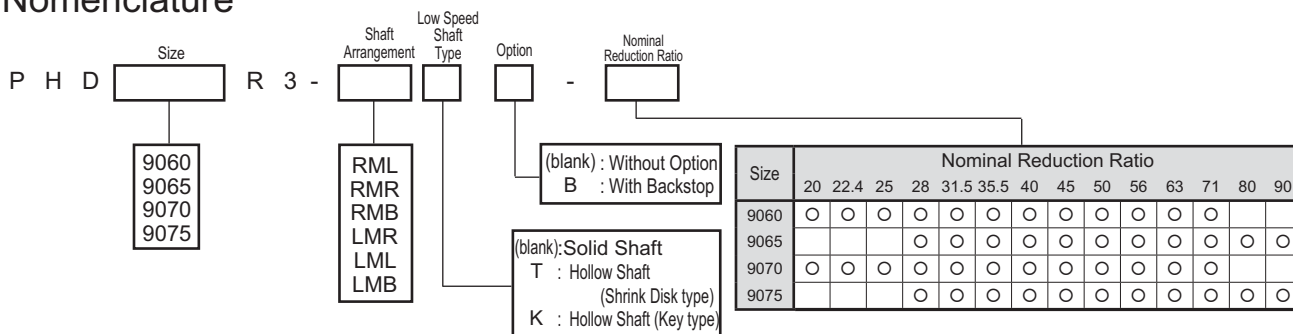
*) Mass of drive unit with motor, add mass of motor flange and mass of motor, shown in table below.

kW	Motor							A				Mass of Motor Mounting Flange [kg]	Mass of Motor [kg]	
	Without Brake			With Brake			MD	9060	9065	9070	9075		Without Brake	With Brake
	MA	MB	MC	MA	MB	MC								
11	480	251	350	575	251	350	188	744	790			11	76	96
15	545	324	350	700	324	350	232	744	790			11	131	175
18.5	625	394	400	835	394	400	297	774	820	882	935	33	213	258
22	625	394	400	835	394	400	297	774	820	882	935	33	213	258
30	625	394	400	835	394	400	297	774	820	882	935	33	224	280
37	715.5	394	450	930.5	394	450	297	774	820	882	935	15	259	320
45	715.5	394	450	930.5	394	450	297	774	820	882	935	15	259	320
55	769.5	484	550				412	774	820	882	935	29	276	

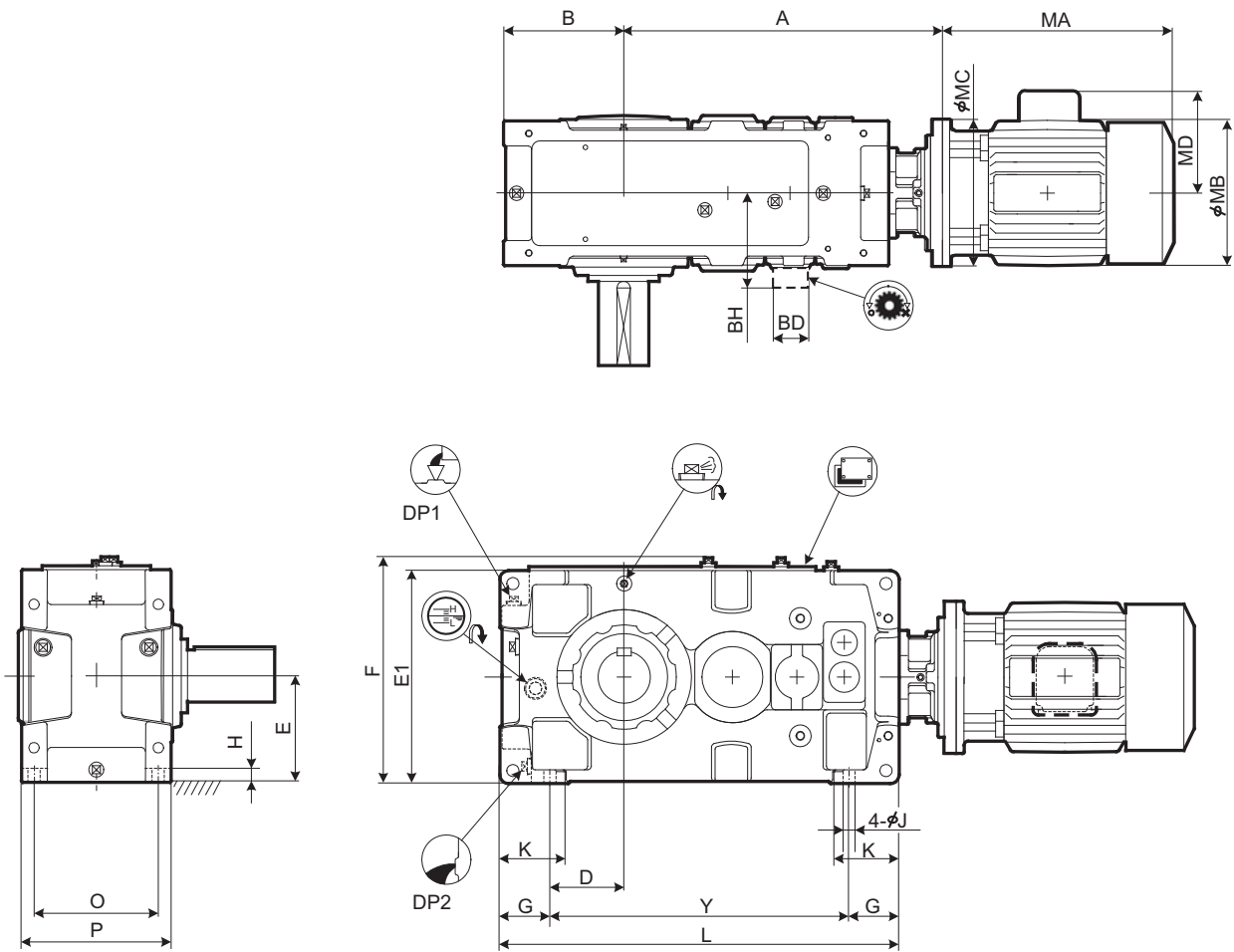
Size	Solid Shaft										Hollow Shaft (Shrink Disk Type)					Hollow Shaft (Key Type)				
	TU1	T1	U1	V1	W1/Depth	Key					TU2	T2	U2	V2	V3	TU4	T4	U4	V4	V5
9060	440	230	210	125m6	M24/50	32	11	18	185		583	353	230	128	125	470	235	235	125	123
9065	484	234	250	140m6	M30/60	36	12	20	225		594	359	235	143	140	480	240	240	145	143
9070	509	259	250	145m6	M30/60	36	12	20	225		644	384	260	148	145	530	265	265	145	143
9075	562	262	300	160m6	M30/60	40	13	22	275		651	386	265	158	155	530	265	265	150	148

Unit: mm

Nomenclature



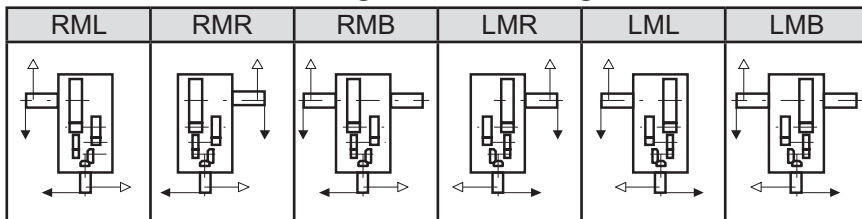
Drive Unit
 Selection Tables
 Dimension Tables



Slow Speed Shaft

Solid Shaft	Hollow Shaft (Shrink Disk Type)	Hollow Shaft (Key Type)
	<p>Refer to the Page D-18 for details.</p>	<p>Refer to the Page D-18 for details.</p>

Standard Shaft Arrangement Configuration



1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
 2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.

DIMENSIONS Right Angle Quadruple Reduction Horizontal Mounting 9040 ▶ 9055

PARAMAX Horizontal Monoblock
 9040
 9055
 Right Angle Quadruple Reduction
 P
 H
 A
 R
 4

Size	A	B	D	E	E1	F	G	H	J	K	L	O	P	Y
9040		235	120	200	400	431	115	30	28	150	759	255	315	529
9045	See below	256	141	220	440	471	115	30	28	150	819	255	315	589
9050		255	138.5	210	420	451	116.5	32	28	150	848	285	345	615
9055		286	171	245	490	521	115	32	28	150	918	285	345	688

Size	BD	BH	DP1	DP2	Oil Qty. (L)	Wt. [kg]*	
						5.5-30kW	37-55kW
9040			1"	1"	19	355	365
9045			1"	1"	21	425	435
9050	150	263	1"	1"	24	490	500
9055	150	263	1"	1"	29	550	560

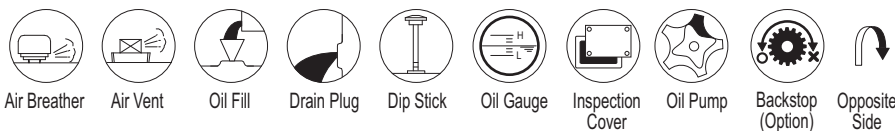
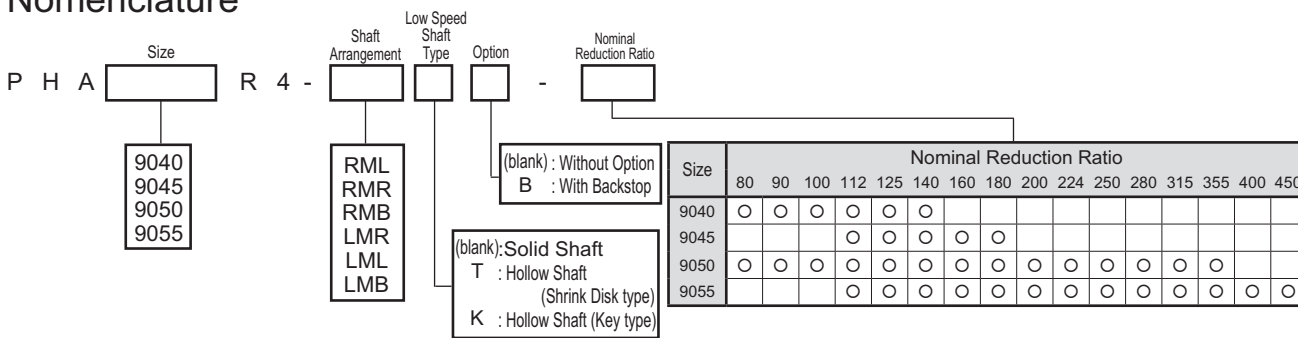
*) Mass of drive unit with motor, add mass of motor flange and mass of motor, shown in table below.

kW	Motor								A				Mass of Motor Mounting Flange [kg]	Mass of Motor [kg]	
	Without Brake			With Brake			MD	9040	9045	9050	9055	Without Brake		With Brake	
	MA	MB	MC	MA	MB	MC									
5.5	382	212	315	454	212	315	144	674	713	743	782	8	43	54	
7.5	415	251	315	510	251	315	185	674	713	743	782	8	57	77	
11	480	251	350	575	251	350	188	674	713	743	782	11	76	96	
15	545	324	350	700	324	350	232	674	713	743	782	11	131	175	
18.5	625	394	400	835	394	400	297	704	743	773	812	33	213	258	
22	625	394	400	835	394	400	297	704	743	773	812	33	213	258	
30	625	394	400	835	394	400	297			773	812	33	224	280	

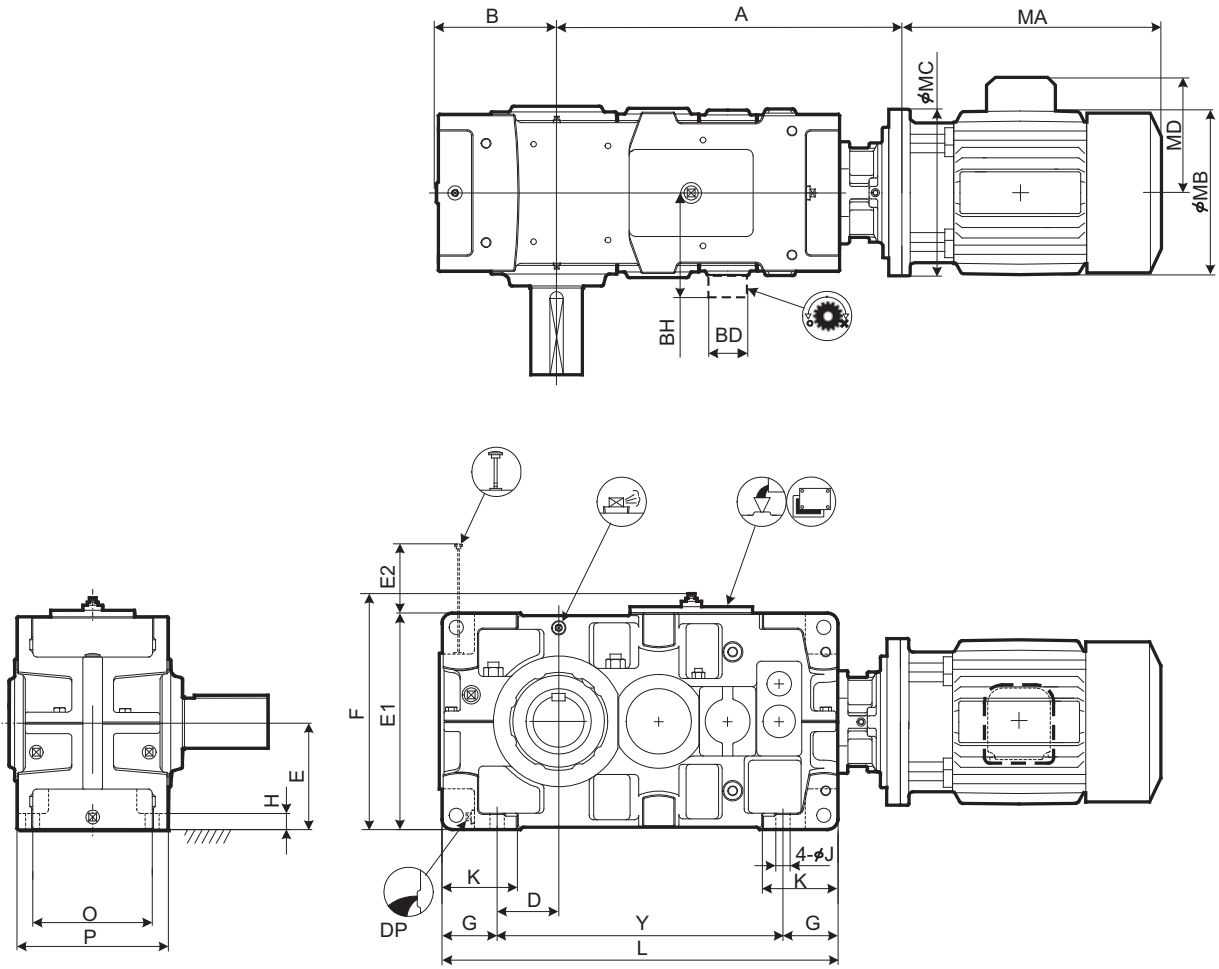
Size	Solid Shaft										Hollow Shaft (Shrink Disk Type)					Hollow Shaft (Key Type)				
	TU1	T1	U1	V1	W1/Depth	Key					TU2	T2	U2	V2	V3	TU4	T4	U4	V4	V5
						X1	Y1	Z1	L1											
9040	349	179	170	95m6	M24/50	25	9	14	150	448	268	180	98	95	360	180	180	90	90	
9045	391	181	210	105m6	M24/50	28	10	16	190	463	283	180	108	105	370	185	185	105	105	
9050	411	201	210	110m6	M24/50	28	10	16	190	503	303	200	108	105	410	205	205	105	105	
9055	411	201	210	120m6	M24/50	32	11	18	185	528	323	205	123	120	410	205	205	115	115	

Unit: mm

Nomenclature



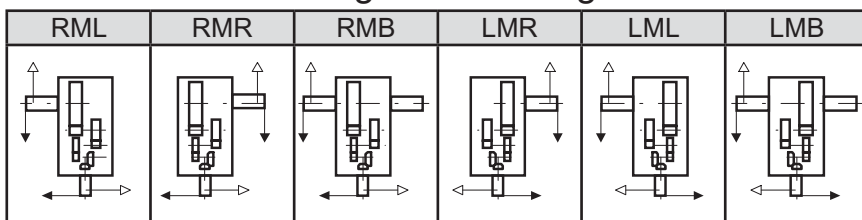
Drive Unit
Selection Tables
Dimension Tables



Slow Speed Shaft

Solid Shaft	Hollow Shaft (Shrink Disk Type)	Hollow Shaft (Key Type)
	<p>Refer to the Page D-18 for details.</p>	<p>Refer to the Page D-18 for details.</p>

Standard Shaft Arrangement Configuration



1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
 2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.

DIMENSIONS Right Angle Quadruple Reduction Horizontal Mounting 9060 ▶ 9085

PARAMAX Horizontal Split 9060 9085 Right Angle Quadruple Reduction P H D R 4

Size	A	B	D	E	E1	E2	F	G	H	J	K	L	O	P	Y
9060		299	151	265	530	121	578	135	35	35	180	970	310	380	700
9065		338	190	300	600	86	648	135	35	35	180	1055	310	380	785
9070	See below	336	163	300	600	140	648	160	40	42	215	1115	350	430	795
9075		383	210	335	670	105	718	160	52	42	220	1215	350	430	895
9080		378	205	335	670	162	718	160	52	42	220	1275	380	460	955
9085		422	249	375	750	122	798	160	52	42	220	1375	380	460	1055

Size	BD	BH	DP	Oil Qty. (L)	Wt. [kg]*	
					5.5-30kW	37-55kW
9060	175	308	1"	38	700	710
9065	175	308	1"	43	855	865
9070	190	330	1"	57	990	1000
9075	190	330	1"	67	1210	1220
9080	210	365	1"	73	1410	1420
9085	210	365	1"	90	1670	1680

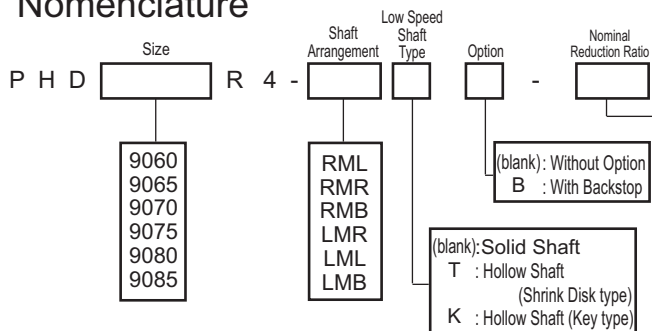
*) Mass of drive unit with motor, add mass of motor flange and mass of motor, shown in table below.

kW	Motor							A						Mass of Motor Mounting Flange [kg]	Mass of Motor [kg]	
	Without Brake			With Brake			MD	9060	9065	9070	9075	9080	9085		Without Brake	With Brake
	MA	MB	MC	MA	MB	MC										
5.5	382	212	315	454	212	315	144	829	875	947	1000	1055	1111	8	43	54
7.5	415	251	315	510	251	315	185	829	875	947	1000	1055	1111	8	57	77
11	480	251	350	575	251	350	188	829	875	947	1000	1055	1111	11	76	96
15	545	324	350	700	324	350	232	829	875	947	1000	1055	1111	11	131	175
18.5	625	394	400	835	394	400	297	859	905	977	1030	1085	1141	33	213	258
22	625	394	400	835	394	400	297	859	905	977	1030	1085	1141	33	213	258
30	625	394	400	835	394	400	297	859	905	977	1030	1085	1141	33	224	280
37	715.5	394	450	930.5	394	450	297	859	905	977	1030	1085	1141	15	259	320
45	715.5	394	450	930.5	394	450	297	859	905	977	1030	1085	1141	15	259	320
55	769.5	484	550				412			977	1030	1085	1141	29	276	

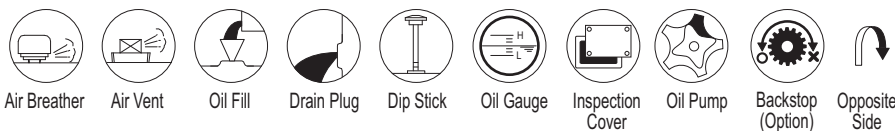
Size	Solid Shaft					Key				Hollow Shaft (Shrink Disk Type)					Hollow Shaft (Key Type)				
	TU1	T1	U1	V1	W1/Depth	X1	Y1	Z1	L1	TU2	T2	U2	V2	V3	TU4	T4	U4	V4	V5
9060	440	230	210	125m6	M24/50	32	11	18	185	583	353	230	128	125	470	235	235	125	123
9065	484	234	250	140m6	M30/60	36	12	20	225	594	359	235	143	140	480	240	240	145	143
9070	509	259	250	145m6	M30/60	36	12	20	225	644	384	260	148	145	530	265	265	145	143
9075	562	262	300	160m6	M30/60	40	13	22	275	651	386	265	158	155	530	265	265	150	148
9080	582	282	300	165m6	M30/60	40	13	22	275	714	429	285	173	170	570	285	285	165	163
9085	585	285	300	175m6	M30/60	45	15	25	270	714	429	285	183	180	570	285	285	175	173

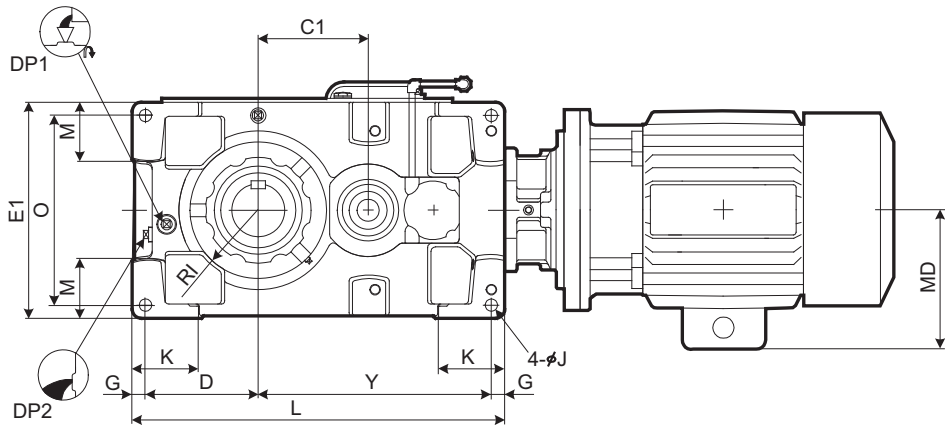
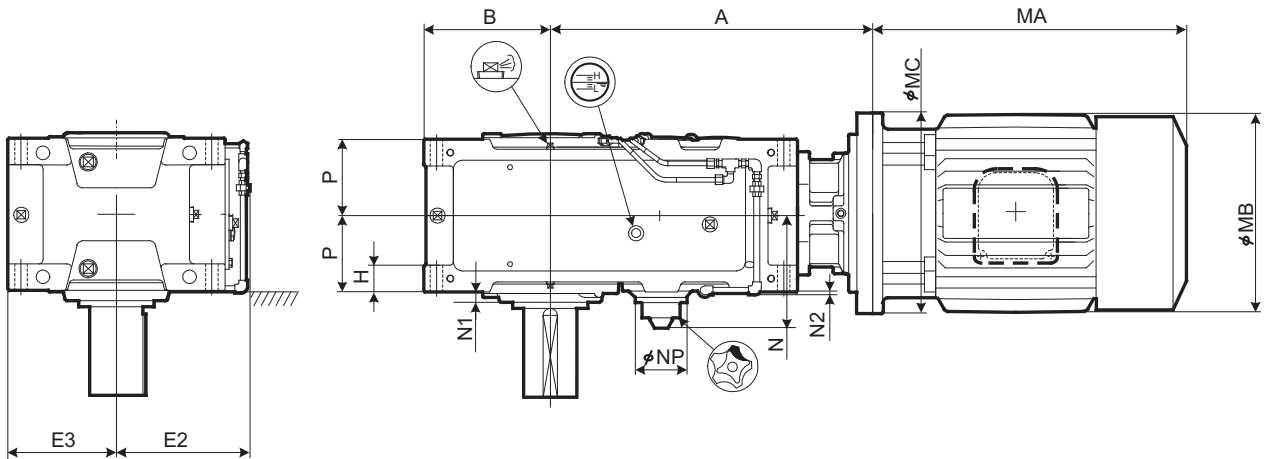
Unit: mm

Nomenclature



Size	Nominal Reduction Ratio																
	80	90	100	112	125	140	160	180	200	224	250	260	280	315	355	400	450
9060		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9065				○	○	○	○	○	○	○	○	○	○	○	○	○	○
9070		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9075				○	○	○	○	○	○	○	○	○	○	○	○	○	○
9080	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9085				○	○	○	○	○	○	○	○	○	○	○	○	○	○



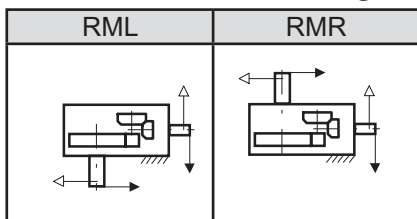


Drive Unit
Selection Tables
Dimension Tables

Slow Speed Shaft

Solid Shaft	Hollow Shaft (Shrink Disk Type)	Hollow Shaft (Key Type)
	<p>Refer to the Page D-18 for details.</p>	<p>Refer to the Page D-18 for details.</p>

Standard Shaft Arrangement Configuration



1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.

DIMENSIONS Right Angle Double Reduction Vertical Mounting 9030 ▶ 9045

PARAMAX Vertical Monoblock
 9030
 9045
 Right Angle
 Double Reduction
 P
 V
 A
 R
 2

Size	A	B	C1	D	E1	E2	E3	G	H	RI	J	K	L	M	N	N1	N2	NP	O	P	Y
9030		200	155	175	320	220	160	25	50	105	24	120	590	85	224	22	9	117	270	132.5	365
9035	See below	219	186	194	370	245	185	25	50	120	24	120	640	100	224	22	9	117	320	132.5	396
9040		235	180	205	400	260	200	30	60	120	28	150	685	100	241.5	15	2	117	340	157.5	420
9045		256	219	266	440	266	220	30	60	140	28	150	745	120	241.5	17.5	2	117	380	157.5	459

Size	DP1	DP2	Oil Qty. (L)	Wt. [kg]*	
				5.5-30kW	37-55kW
9030	3/4"	3/4"	7	240	255
9035	3/4"	3/4"	9	260	275
9040	1"	1"	19	340	350
9045	1"	1"	23	400	410

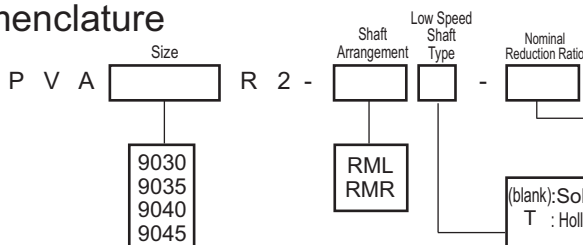
*) Mass of drive unit with motor, add mass of motor flange and mass of motor, shown in table below.

kW	Motor							A				Mass of Motor Mounting Flange [kg]	Mass of Motor [kg]	
	Without Brake			With Brake			MD	9030	9035	9040	9045		Without Brake	With Brake
	MA	MB	MC	MA	MB	MC								
11	480	251	350	575	251	350	188	540	571			11	76	96
15	545	324	350	700	324	350	232	540	571	595	634	11	131	175
18.5	625	394	400	835	394	400	297		601	625	664	33	213	258
22	625	394	400	835	394	400	297		601	625	664	33	213	258
30	625	394	400	835	394	400	297			625	664	33	224	280
37	715.5	394	450	930.5	394	450	297			625	664	15	259	320
45	715.5	394	450	930.5	394	450	297			625	664	15	259	320
55	769.5	484	550				412			625	664	29	276	

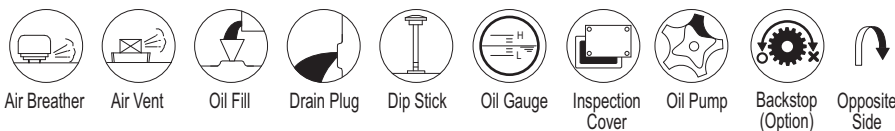
Size	Solid Shaft										Hollow Shaft (Shrink Disk Type)					Hollow Shaft (Key Type)				
	TU1	T1	U1	V1	W1/Depth	Key				TU2	T2	U2	V2	V3	TU4	T4	U4	V4	V5	
						X1	Y1	Z1	L1											
9030	330	160	170	80m6	M20/42	22	9	14	150	393	233	160	83	80	330	165	165	75	75	
9035	330	160	170	90m6	M20/42	25	9	14	150	403	243	160	88	85	330	165	165	85	85	
9040	349	179	170	95m6	M24/50	25	9	14	150	448	268	180	98	95	360	180	180	90	90	
9045	391	181	210	105m6	M24/50	28	10	16	190	463	283	180	108	105	370	185	185	105	105	

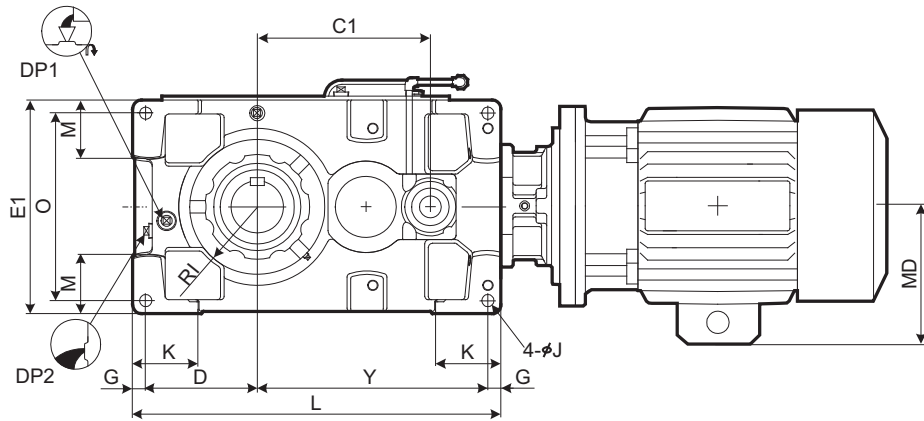
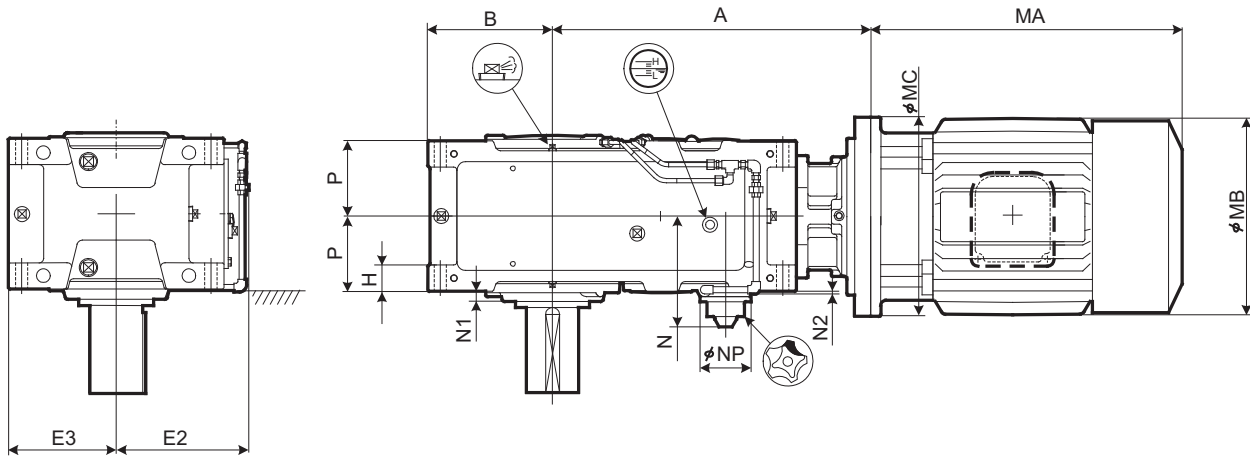
Unit: mm

Nomenclature



Size	Nominal Reduction Ratio											
	6.3	7.1	8	9	10	11.2	12.5	14	16	18	20	22.4
9030	○	○	○	○	○	○	○	○	○	○	○	○
9035		○	○	○	○	○	○	○	○	○	○	○
9040	○	○	○	○	○	○	○	○	○	○	○	○
9045			○	○	○	○	○	○	○	○	○	○



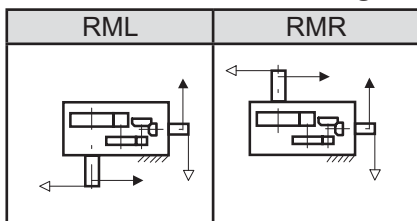


Drive Unit
Selection Tables
Dimension Tables

Slow Speed Shaft

Solid Shaft	Hollow Shaft (Shrink Disk Type)	Hollow Shaft (Key Type)
	<p>Refer to the Page D-18 for details.</p>	<p>Refer to the Page D-18 for details.</p>

Standard Shaft Arrangement Configuration



1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
 2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.

DIMENSIONS Right Angle Triple Reduction Vertical Mounting 9030 ▶ 9055

PARAMAX Vertical Monoblock
 P V A
 9030 9055
 R
 Triple Reduction 3

Size	A	B	C1	D	E1	E2	E3	G	H	RI	J	K	L	M	N	N1	N2	NP	O	P	Y
9030		200	264	175	320	220	160	25	50	105	24	120	590	85	211	22	9	100	270	132.5	365
9035		219	295	194	370	245	185	25	50	120	24	120	640	100	211	22	9	100	320	132.5	396
9040	See below	235	306	205	400	260	200	30	60	120	28	150	685	100	237.5	15	2	117	340	157.5	420
9045		256	345	226	440	266	220	30	60	140	28	150	745	120	237.5	17.5	2	117	380	157.5	459
9050		255	358	225	420	270	210	30	60	140	28	150	775	110	257.5	23	7	117	360	172.5	490
9055		286	397	256	490	305	245	30	60	155	28	150	845	135	257.5	23	7	117	430	172.5	529

Size	DP1	DP2	Oil Qty. (L)	Wt. [kg]*	
				5.5-30kW	37-55kW
9030	3/4"	3/4"	9	240	250
9035	3/4"	3/4"	12	260	270
9040	1"	1"	18	325	345
9045	1"	1"	22	385	405
9050	1"	1"	21	475	485
9055	1"	1"	30	535	545

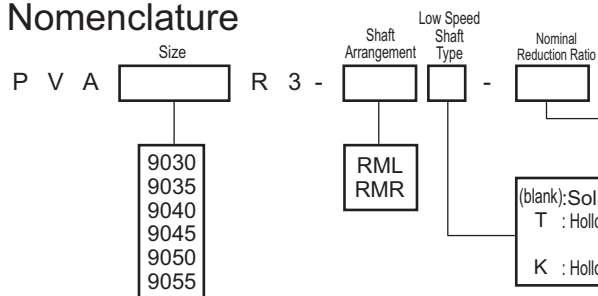
*) Mass of drive unit with motor, add mass of motor flange and mass of motor, shown in table below.

kW	Motor							A						Mass of Motor Mounting Flange [kg]	Mass of Motor [kg]	
	Without Brake			With Brake			MD	9030	9035	9040	9045	9050	9055		Without Brake	With Brake
	MA	MB	MC	MA	MB	MC										
5.5	382	212	315	454	212	315	144	540	571	595	634			8	43	54
7.5	415	251	315	510	251	315	185	540	571	595	634	675	714	8	57	77
11	480	251	350	575	251	350	188	540	571	595	634	675	714	11	76	96
15	545	324	350	700	324	350	232	540	571	595	634	675	714	11	131	175
18.5	625	394	400	835	394	400	297		601	625	664	705	744	33	213	258
22	625	394	400	835	394	400	297		601	625	664	705	744	33	213	258
30	625	394	400	835	394	400	297			625	664	705	744	33	224	280
37	715.5	394	450	930.5	394	450	297			625	664	705	744	15	259	320
45	715.5	394	450	930.5	394	450	297			625	664	705	744	15	259	320
55	769.5	484	550				412					705	744	29	276	

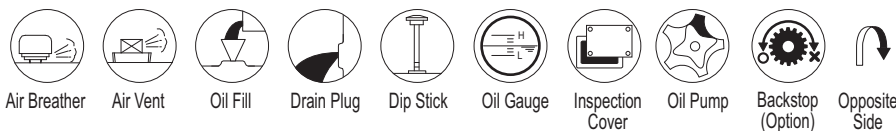
Size	Solid Shaft									Hollow Shaft (Shrink Disk Type)					Hollow Shaft (Key Type)				
	TU1	T1	U1	V1	W1/Depth	Key				TU2	T2	U2	V2	V3	TU4	T4	U4	V4	V5
9030	330	160	170	80m6	M20/42	22	9	14	150	393	233	160	83	80	330	165	165	75	75
9035	330	160	170	90m6	M20/42	25	9	14	150	403	243	160	88	85	330	165	165	85	85
9040	349	179	170	95m6	M24/50	25	9	14	150	448	268	180	98	95	360	180	180	90	90
9045	391	181	210	105m6	M24/50	28	10	16	190	463	283	180	108	105	370	185	185	105	105
9050	411	201	210	110m6	M24/50	28	10	16	190	503	303	200	108	105	410	205	205	105	105
9055	411	201	210	120m6	M24/50	32	11	18	185	528	323	205	123	120	410	205	205	115	115

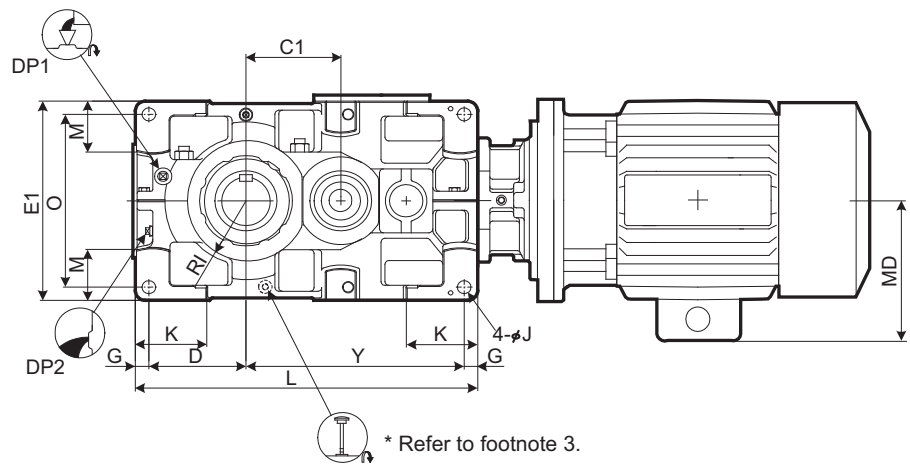
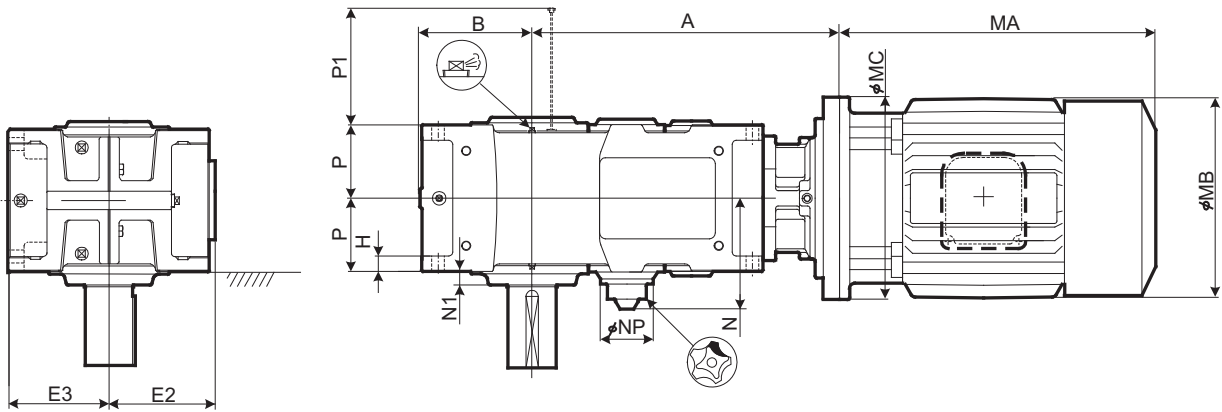
Unit: mm

Nomenclature



Size	Nominal Reduction Ratio													
	20	22.4	25	28	31.5	35.5	40	45	50	56	63	71	80	90
9030	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9035	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9040	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9045				○	○	○	○	○	○	○	○	○	○	○
9050	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9055				○	○	○	○	○	○	○	○	○	○	○





Drive Unit

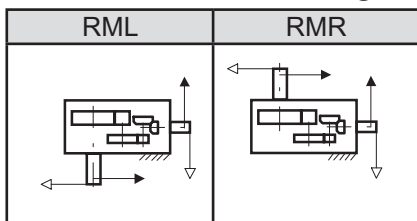
Selection Tables

Dimension Tables

Slow Speed Shaft

Solid Shaft	Hollow Shaft (Shrink Disk Type)	Hollow Shaft (Key Type)
	<p>Refer to the Page D-18 for details.</p>	<p>Refer to the Page D-18 for details.</p>

Standard Shaft Arrangement Configuration



1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
3. Shaft arrangement RMR is equipped with visible gauge. Refer to page D-28.

DIMENSIONS Right Angle Triple Reduction Vertical Mounting 9060 ▶ 9075

PARAMAX Vertical Split 9060 9075 Right Angle Triple Reduction R 3

Size	A	B	C1	D	E1	E2	E3	G	H	RI	J	K	L	M	N	N1	NP	O	P	P1	Y
9060		299	414	251	530	282	265	35	35	160	35	180	885	140	277.5	35	117	460	190	213	564
9065	See below	338	460	290	600	317	300	35	35	175	35	180	970	175	277.5	38	117	530	190	213	610
9070		336	482	283	600	317	300	40	40	175	42	215	1020	155	302.5	38	117	520	215	233	657
9075		383	535	330	670	352	355	40	52	190	42	220	1120	195	302.5	40	117	590	215	233	710

Size	DP1	DP2	Oil Qty. (L)	Wt. [kg]*	
				5.5-30kW	37-55kW
9060	1"	1"	28	680	690
9065	1"	1"	35	805	815
9070	1"	1"	46	950	960
9075	1"	1"	59	1200	1210

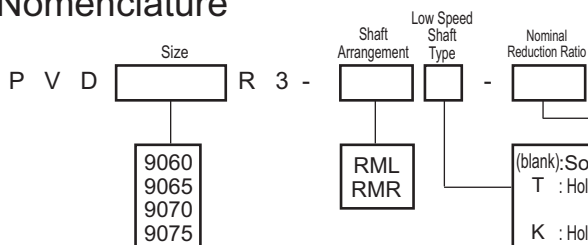
*) Mass of drive unit with motor, add mass of motor flange and mass of motor, shown in table below.

kW	Motor								A				Mass of Motor Mounting Flange [kg]	Mass of Motor [kg]	
	Without Brake			With Brake			MD	9060	9065	9070	9075	Without Brake		With Brake	
	MA	MB	MC	MA	MB	MC									
11	480	251	350	575	251	350	188	744	790			11	76	96	
15	545	324	350	700	324	350	232	744	790			11	131	175	
18.5	625	394	400	835	394	400	297	774	820	882	935	33	213	258	
22	625	394	400	835	394	400	297	774	820	882	935	33	213	258	
30	625	394	400	835	394	400	297	774	820	882	935	33	224	280	
37	715.5	394	450	930.5	394	450	297	774	820	882	935	15	259	320	
45	715.5	394	450	930.5	394	450	297	774	820	882	935	15	259	320	
55	769.5	484	550				412	774	820	882	935	29	276		

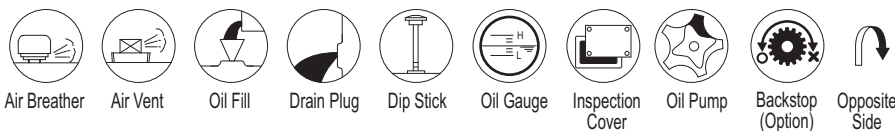
Size	Solid Shaft										Hollow Shaft (Shrink Disk Type)					Hollow Shaft (Key Type)				
	TU1	T1	U1	V1	W1/Depth	Key				TU2	T2	U2	V2	V3	TU4	T4	U4	V4	V5	
						X1	Y1	Z1	L1											
9060	440	230	210	125m6	M24/50	32	11	18	185	583	353	230	128	125	470	235	235	125	123	
9065	484	234	250	140m6	M30/60	36	12	20	225	594	359	235	143	140	480	240	240	145	143	
9070	509	259	250	145m6	M30/60	36	12	20	225	644	384	260	148	145	530	265	265	145	143	
9075	562	262	300	160m6	M30/60	40	13	22	275	651	386	265	158	155	530	265	265	150	148	

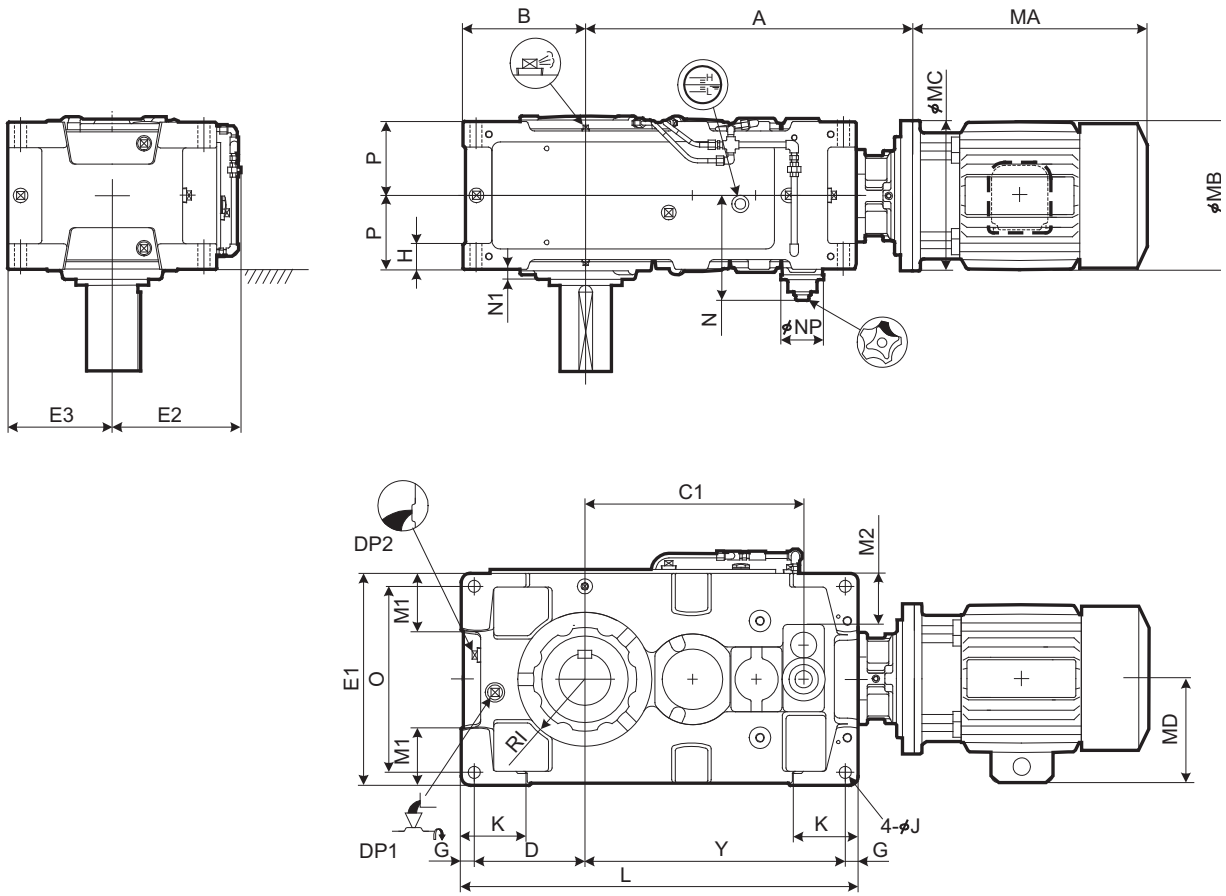
Unit: mm

Nomenclature



Size	Nominal Reduction Ratio													
	20	22.4	25	28	31.5	35.5	40	45	50	56	63	71	80	90
9060	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9065				○	○	○	○	○	○	○	○	○	○	○
9070	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9075				○	○	○	○	○	○	○	○	○	○	○



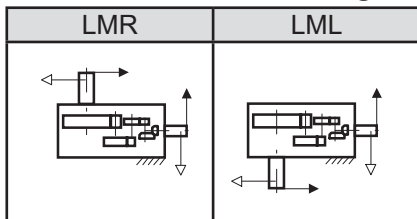


Drive Unit
 Selection Tables
 Dimension Tables

Slow Speed Shaft

Solid Shaft	Hollow Shaft (Shrink Disk Type)	Hollow Shaft (Key Type)
	<p>Refer to the Page D-18 for details.</p>	<p>Refer to the Page D-18 for details.</p>

Standard Shaft Arrangement Configuration



1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.

DIMENSIONS Right Angle Quadruple Reduction Vertical Mounting 9040 ▶ 9055

PARAMAX Vertical Monoblock 9040 9055 Right Angle Quadruple Reduction 4

Size	A	B	C1	D	E1	E2	E3	G	H	RI	J	K	L	M1	M2	N	N1	NP	O	P	Y
9040		235	398	205	400	260	200	30	60	120	28	150	759	100	70	228.5	15	100	340	157.5	494
9045	See below	256	437	226	440	277	220	30	60	140	28	150	819	120	90	228.5	17.5	100	380	157.5	533
9050		255	467	225	420	270	210	30	60	140	28	150	848	110	83	248.5	23	100	360	172.5	563
9055		286	506	256	490	305	245	30	60	155	28	150	918	135	118	248.5	23	100	430	172.5	602

Size	DP1	DP2	Oil Qty. (L)	Wt. [kg]*	
				5.5-30kW	37-55kW
9040	1"	1"	18	355	365
9045	1"	1"	22	425	435
9050	1"	1"	24	490	500
9055	1"	1"	34	550	560

*) Mass of drive unit with motor, add mass of motor flange and mass of motor, shown in table below.

kW	Motor								A				Mass of Motor Mounting Flange [kg]	Mass of Motor [kg]	
	Without Brake			With Brake			MD	9040	9045	9050	9055	Without Brake		With Brake	
	MA	MB	MC	MA	MB	MC									
5.5	382	212	315	454	212	315	144	674	713	743	782	8	43	54	
7.5	415	251	315	510	251	315	185	674	713	743	782	8	57	77	
11	480	251	350	575	251	350	188	674	713	743	782	11	76	96	
15	545	324	350	700	324	350	232	674	713	743	782	11	131	175	
18.5	625	394	400	835	394	400	297	704	743	773	812	33	213	258	
22	625	394	400	835	394	400	297	704	743	773	812	33	213	258	
30	625	394	400	835	394	400	297			773	812	33	224	280	

Size	Solid Shaft										Hollow Shaft (Shrink Disk Type)					Hollow Shaft (Key Type)				
	TU1	T1	U1	V1	W1/Depth	Key				TU2	T2	U2	V2	V3	TU4	T4	U4	V4	V5	
						X1	Y1	Z1	L1											
9040	349	179	170	95m6	M24/50	25	9	14	150	448	268	180	98	95	360	180	180	90	90	
9045	391	181	210	105m6	M24/50	28	10	16	190	463	283	180	108	105	370	185	185	105	105	
9050	411	201	210	110m6	M24/50	28	10	16	190	503	303	200	108	105	410	205	205	105	105	
9055	411	201	210	120m6	M24/50	32	11	18	185	528	323	205	123	120	410	205	205	115	115	

Unit: mm

Nomenclature

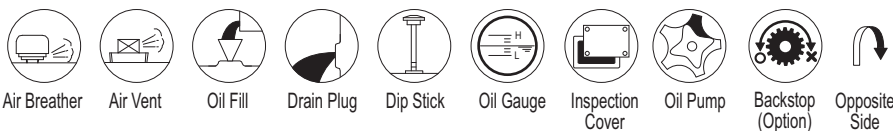
P V A Size R 4 - Shaft Arrangement Low Speed Shaft Type - Nominal Reduction Ratio

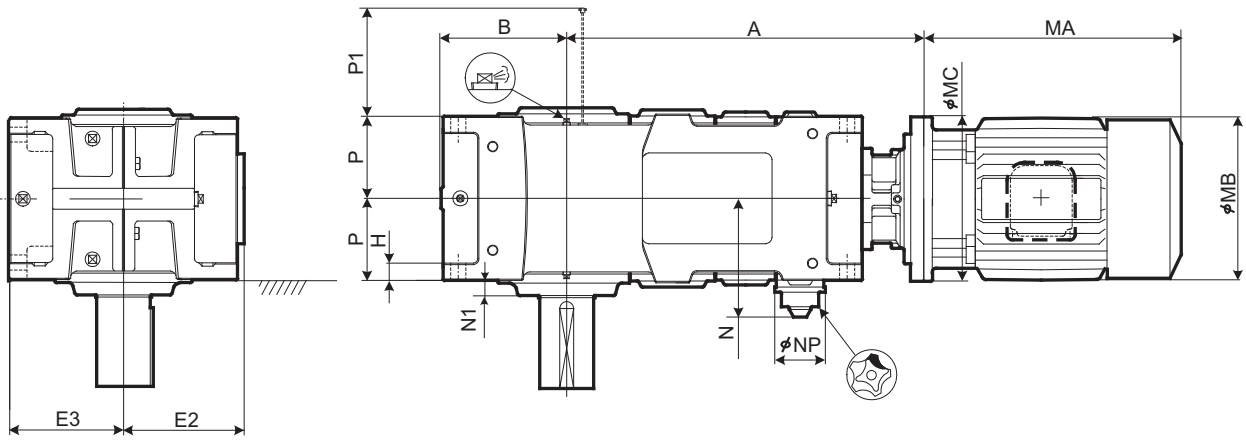
9040
9045
9050
9055

LMR
LML

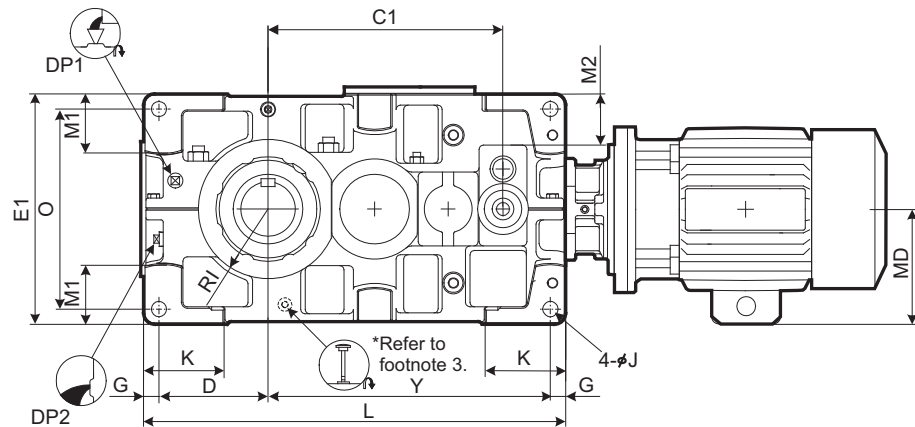
(blank): Solid Shaft
T : Hollow Shaft (Shrink Disk type)
K : Hollow Shaft (Key type)

Size	Nominal Reduction Ratio															
	80	90	100	112	125	140	160	180	200	224	250	280	315	355	400	450
9040	○	○	○	○	○	○										
9045				○	○	○	○									
9050	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
9055				○	○	○	○	○	○	○	○	○	○	○	○	○





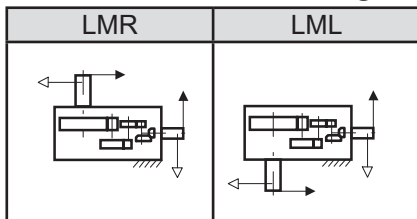
Drive Unit
Selection Tables
Dimension Tables



Slow Speed Shaft

Solid Shaft	Hollow Shaft (Shrink Disk Type)	Hollow Shaft (Key Type)
	<p>Refer to the Page D-18 for details.</p>	<p>Refer to the Page D-18 for details.</p>

Standard Shaft Arrangement Configuration



1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
 2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
 3. Shaft arrangement LMR is equipped with visible gauge. Refer to page D-28.

DIMENSIONS Right Angle Quadruple Reduction Vertical Mounting 9060 ▶ 9085

PARAMAX Vertical Split 9060 9085 Right Angle Quadruple Reduction R 4

Size	A	B	C1	D	E1	E2	E3	G	H	RI	J	K	L	M1	M2	N	NP	N1	O	P	P1	Y
9060		299	540	251	530	282	265	35	35	160	35	180	970	140	118	277.5	117	35	460	190	203	649
9065		338	586	290	600	317	300	35	35	175	35	180	1055	175	153	277.5	117	38	530	190	203	695
9070	See below	336	630	283	600	317	300	40	40	175	42	215	1115	155	128	302.5	117	38	520	215	233	752
9075		383	683	330	670	352	335	40	52	190	42	220	1215	195	163	302.5	117	40	590	215	233	805
9080		378	725	325	670	352	335	40	52	190	42	220	1275	170	140	322.5	117	45	590	230	263	870
9085		422	781	369	750	392	375	40	52	215	42	220	1375	210	180	322.5	117	40	670	230	263	926

Size	DP1	DP2	Oil Qty. (L)	Wt. [kg]*	
				5.5-30kW	37-55kW
9060	1"	1"	36	700	710
9065	1"	1"	45	855	865
9070	1"	1"	54	990	1000
9075	1"	1"	68	1210	1220
9080	1"	1"	69	1410	1420
9085	1"	1"	94	1670	1680

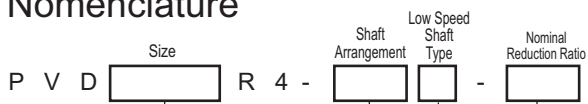
*) Mass of drive unit with motor, add mass of motor flange and mass of motor, shown in table below.

kW	Motor							A						Mass of Motor Mounting Flange [kg]	Mass of Motor [kg]	
	Without Brake			With Brake			MD	9060	9065	9070	9075	9080	9085		Without Brake	With Brake
	MA	MB	MC	MA	MB	MC										
5.5	382	212	315	454	212	315	144	829	875	947	1000	1055	1111	8	43	54
7.5	415	251	315	510	251	315	185	829	875	947	1000	1055	1111	8	57	77
11	480	251	350	575	251	350	188	829	875	947	1000	1055	1111	11	76	96
15	545	324	350	700	324	350	232	829	875	947	1000	1055	1111	11	131	175
18.5	625	394	400	835	394	400	297	859	905	977	1030	1085	1141	33	213	258
22	625	394	400	835	394	400	297	859	905	977	1030	1085	1141	33	213	258
30	625	394	400	835	394	400	297	859	905	977	1030	1085	1141	33	224	280
37	715.5	394	450	930.5	394	450	297	859	905	977	1030	1085	1141	15	259	320
45	715.5	394	450	930.5	394	450	297	859	905	977	1030	1085	1141	15	259	320
55	769.5	484	550				412			977	1030	1085	1141	29	276	

Size	Solid Shaft										Hollow Shaft (Shrink Disk Type)					Hollow Shaft (Key Type)				
	TU1	T1	U1	V1	W1/Depth	Key				TU2	T2	U2	V2	V3	TU4	T4	U4	V4	V5	
						X1	Y1	Z1	L1											
9060	440	230	210	125m6	M24/50	32	11	18	185	583	353	230	128	125	470	235	235	125	123	
9065	484	234	250	140m6	M30/60	36	12	20	225	594	359	235	143	140	480	240	240	145	143	
9070	509	259	250	145m6	M30/60	36	12	20	225	644	384	260	148	145	530	265	265	145	143	
9075	562	262	300	160m6	M30/60	40	13	22	275	651	386	265	158	155	530	265	265	150	148	
9080	582	282	300	165m6	M30/60	40	13	22	275	714	429	285	173	170	570	285	285	165	163	
9085	585	285	300	175m6	M30/60	45	15	25	270	714	429	285	183	180	570	285	285	175	173	

Unit: mm

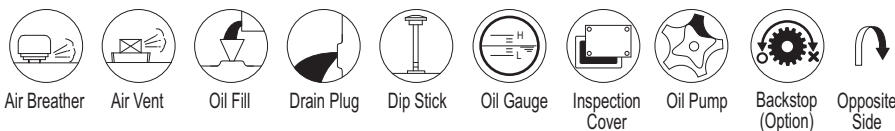
Nomenclature



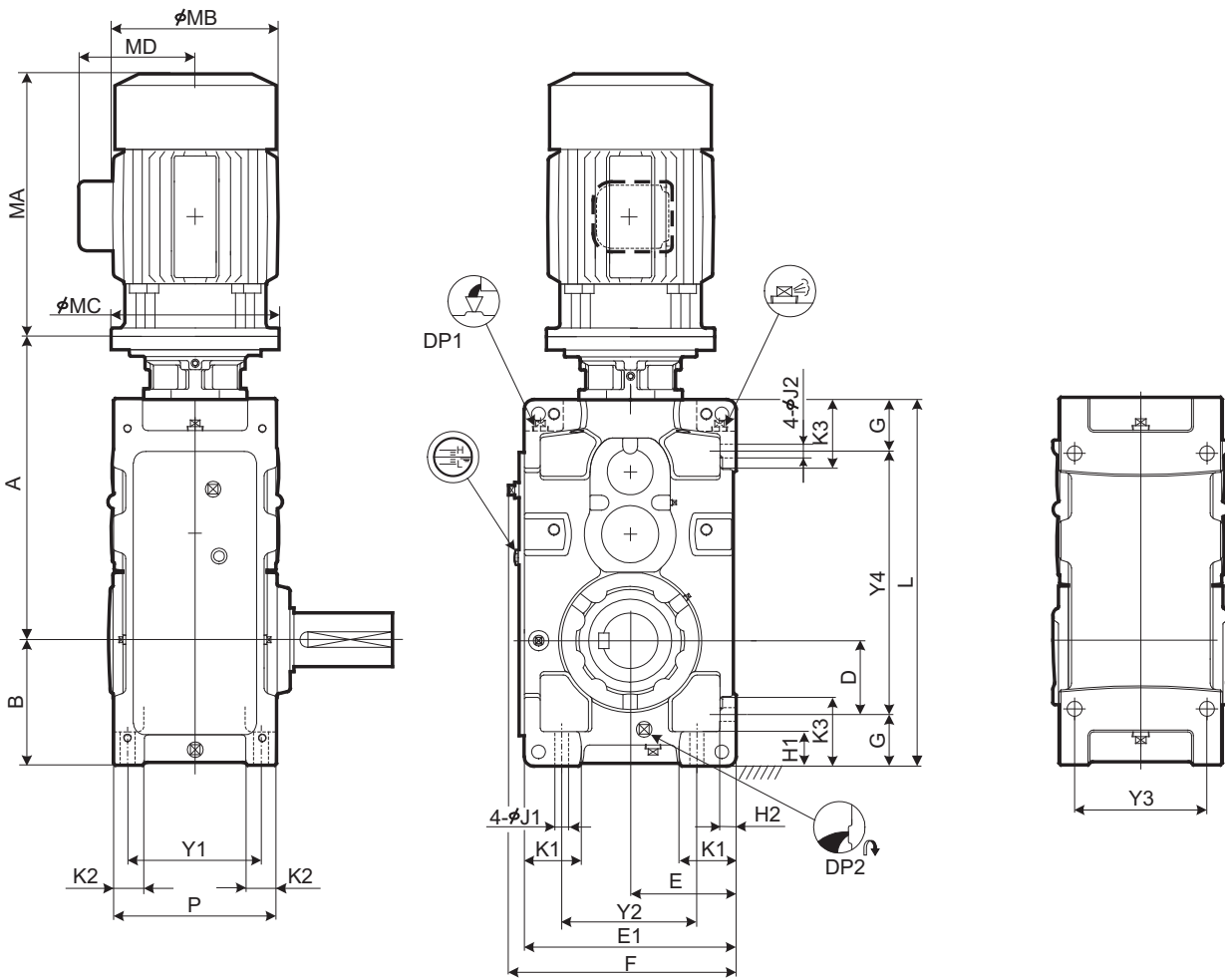
- 9060
- 9065
- 9070
- 9075
- 9080
- 9085

- (blank): Solid Shaft
- T : Hollow Shaft (Shrink Disk type)
- K : Hollow Shaft (Key type)

Size	Nominal Reduction Ratio															
	80	90	100	112	125	140	160	180	200	224	250	280	315	355	400	450
9060																
9065																
9070																
9075																
9080																
9085																



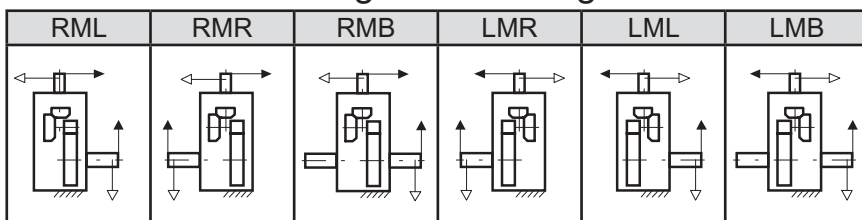
Drive Unit
 Selection Tables
 Dimension Tables



Slow Speed Shaft

Solid Shaft	Hollow Shaft (Shrink Disk Type)	Hollow Shaft (Key Type)
	<p>Refer to the Page D-18 for details.</p>	<p>Refer to the Page D-18 for details.</p>

Standard Shaft Arrangement Configuration



1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
 2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.

DIMENSIONS Right Angle Double Reduction Upright Mounting 9030 ▶ 9045

PARAMAX Upright Monoblock
 9030
 9045
 Right Angle Double Reduction
 P
 W
 A
 R
 2

Size	A	B	D	E	E1	F	G	H1	H2	J1	J2	K1	K2	K3	L	P	Y1	Y2	Y3	Y4
9030		200	110	160	320	348	90	60	28	24	24	85	50	120	590	265	215	200	215	410
9035	See below	219	129	185	370	398	90	60	28	24	24	100	50	120	640	265	215	250	215	460
9040		235	120	200	400	430	115	75	30	28	28	100	60	150	685	315	255	260	255	455
9045		256	141	220	440	470	115	75	30	28	28	120	60	150	745	315	255	300	255	515

Size	DP1	DP2	Oil Qty. (L)	Wt. [kg]*	
				5.5-30kW	37-55kW
9030	3/4"	3/4"	14	240	255
9035	3/4"	3/4"	19	260	275
9040	1"	1"	24	340	350
9045	1"	1"	30	400	410

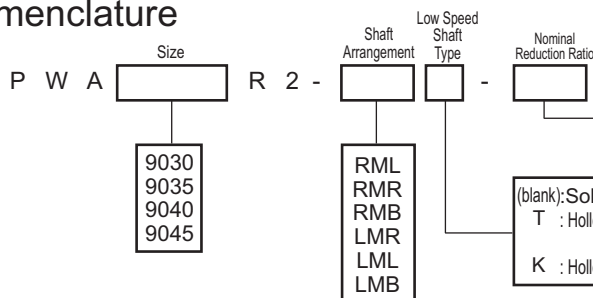
*) Mass of drive unit with motor, add mass of motor flange and mass of motor, shown in table below.

kW	Motor								A				Mass of Motor Mounting Flange [kg]	Mass of Motor [kg]	
	Without Brake			With Brake			MD	9030	9035	9040	9045	Without Brake		With Brake	
	MA	MB	MC	MA	MB	MC									
11	480	251	350	575	251	350	188	540	571			11	76	96	
15	545	324	350	700	324	350	232	540	571	595	634	11	131	175	
18.5	625	394	400	835	394	400	297		601	625	664	33	213	258	
22	625	394	400	835	394	400	297		601	625	664	33	213	258	
30	625	394	400	835	394	400	297			625	664	33	224	280	
37	715.5	394	450	930.5	394	450	297			625	664	15	259	320	
45	715.5	394	450	930.5	394	450	297			625	664	15	259	320	
55	769.5	484	550				412			625	664	29	276		

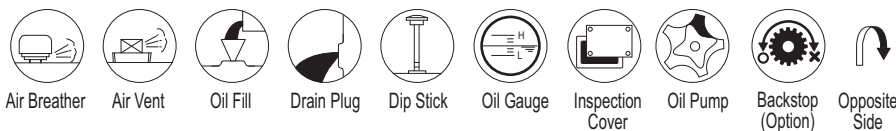
Size	Solid Shaft										Hollow Shaft (Shrink Disk Type)					Hollow Shaft (Key Type)				
	TU1	T1	U1	V1	W1/Depth	Key				TU2	T2	U2	V2	V3	TU4	T4	U4	V4	V5	
						X1	Y1	Z1	L1											
9030	330	160	170	80m6	M20/42	22	9	14	150	393	233	160	83	80	330	165	165	75	75	
9035	330	160	170	90m6	M20/42	25	9	14	150	403	243	160	88	85	330	165	165	85	85	
9040	349	179	170	95m6	M24/50	25	9	14	150	448	268	180	98	95	360	180	180	90	90	
9045	391	181	210	105m6	M24/50	28	10	16	190	463	283	180	108	105	370	185	185	105	105	

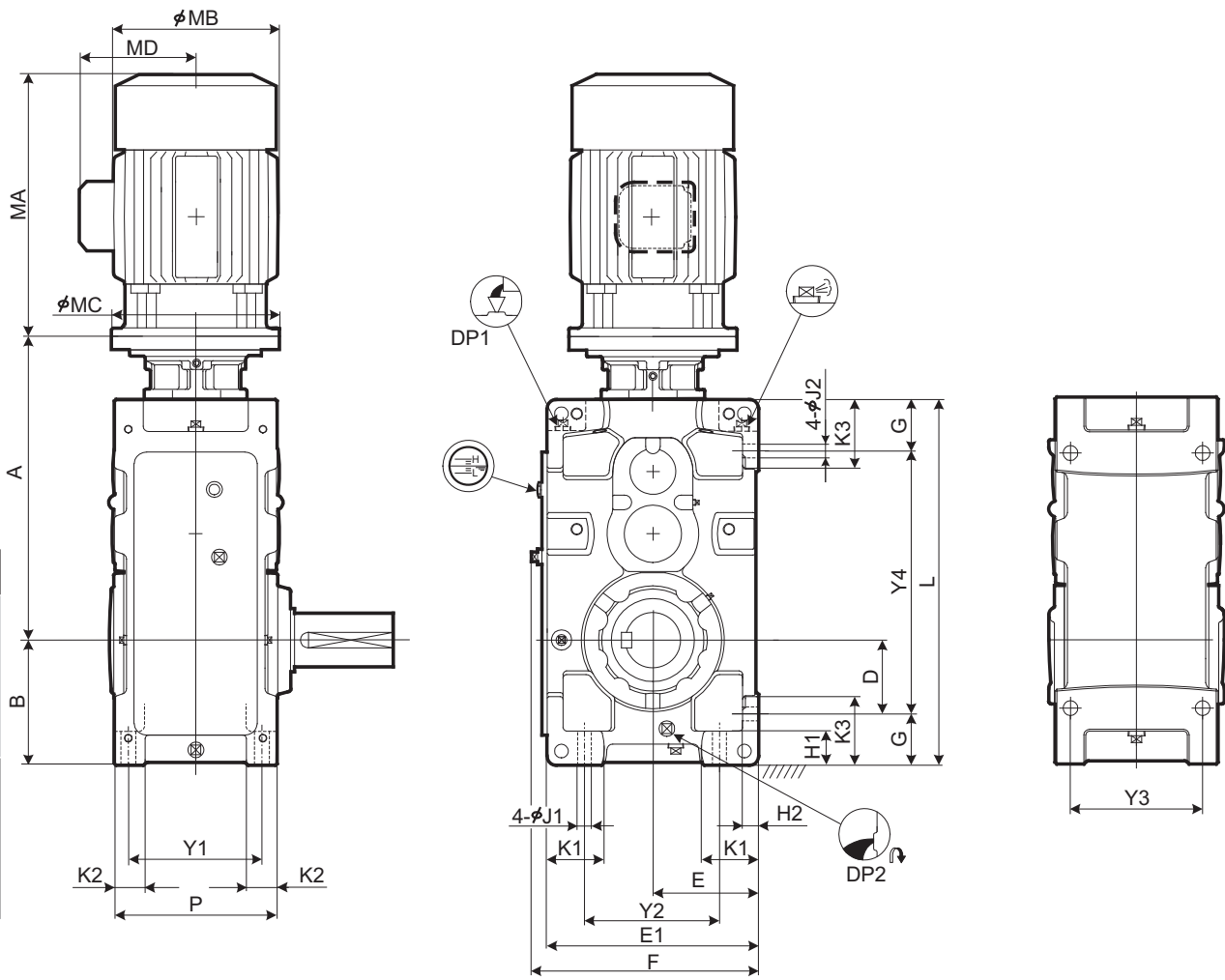
Unit: mm

Nomenclature



Size	Nominal Reduction Ratio											
	6.3	7.1	8	9	10	11.2	12.5	14	16	18	20	22.4
9030	○	○	○	○	○	○	○	○	○	○	○	○
9035			○	○	○	○	○	○	○	○	○	○
9040	○	○	○	○	○	○	○	○	○	○	○	○
9045			○	○	○	○	○	○	○	○	○	○



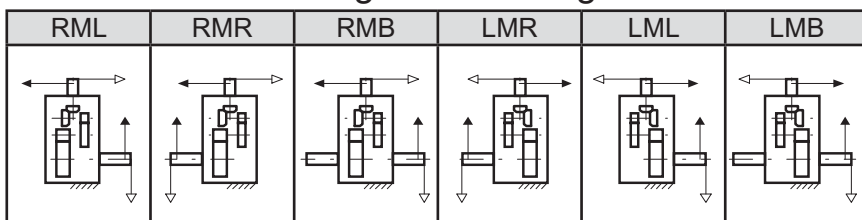


Drive Unit
 Selection Tables
 Dimension Tables

Slow Speed Shaft

Solid Shaft	Hollow Shaft (Shrink Disk Type)	Hollow Shaft (Key Type)
	<p>Refer to the Page D-18 for details.</p>	<p>Refer to the Page D-18 for details.</p>

Standard Shaft Arrangement Configuration



1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
 2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.

DIMENSIONS Right Angle Triple Reduction Upright Mounting 9030 ▶ 9055

PARAMAX Upright Monoblock 9030 9055 Right Angle Triple Reduction P W A R 3

Size	A	B	D	E	E1	F	G	H1	H2	J1	J2	K1	K2	K3	L	P	Y1	Y2	Y3	Y4
9030		200	110	160	320	348	90	60	28	24	24	85	50	120	590	265	215	200	215	410
9035		219	129	185	370	398	90	60	28	24	24	100	50	120	640	265	215	250	215	460
9040	See below	235	120	200	400	430	115	75	30	28	28	100	60	150	685	315	255	260	255	455
9045		256	141	220	440	470	115	75	30	28	28	120	60	150	745	315	255	300	255	515
9050		255	138.5	210	420	450	116.5	75	32	28	28	110	60	150	775	345	285	280	285	542
9055		286	171	245	490	520	115	75	32	28	28	135	60	150	845	345	285	350	285	615

Size	DP1	DP2	Oil Qty. (L)	Wt. [kg]*	
				5.5-30kW	37-55kW
9030	3/4"	3/4"	16	240	250
9035	3/4"	3/4"	21	260	270
9040	1"	1"	29	325	345
9045	1"	1"	36	385	405
9050	1"	1"	35	475	485
9055	1"	1"	46	535	545

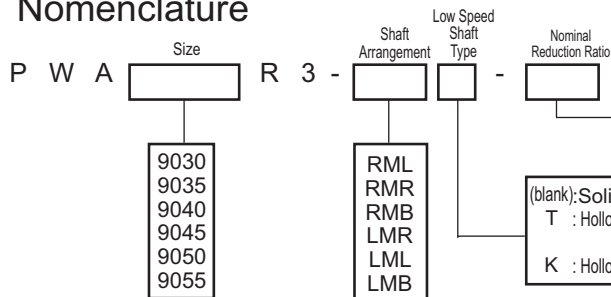
*): Mass of drive unit with motor, add mass of motor flange and mass of motor, shown in table below.

kW	Motor							MD	A						Mass of Motor Mounting Flange [kg]	Mass of Motor [kg]	
	Without Brake			With Brake			9030		9035	9040	9045	9050	9055	Without Brake		With Brake	
	MA	MB	MC	MA	MB	MC											
5.5	382	212	315	454	212	315	144	540	571	595	634			8	43	54	
7.5	415	251	315	510	251	315	185	540	571	595	634	675	714	8	57	77	
11	480	251	350	575	251	350	188	540	571	595	634	675	714	11	76	96	
15	545	324	350	700	324	350	232	540	571	595	634	675	714	11	131	175	
18.5	625	394	400	835	394	400	297		601	625	664	705	744	33	213	258	
22	625	394	400	835	394	400	297		601	625	664	705	744	33	213	258	
30	625	394	400	835	394	400	297			625	664	705	744	33	224	280	
37	715.5	394	450	930.5	394	450	297			625	664	705	744	15	259	320	
45	715.5	394	450	930.5	394	450	297			625	664	705	744	15	259	320	
55	769.5	484	550				412					705	744	29	276		

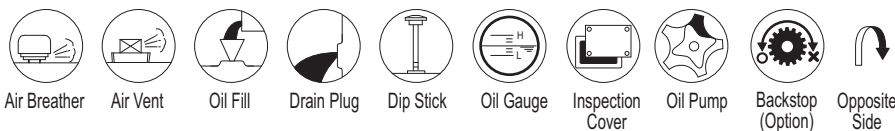
Size	Solid Shaft									Hollow Shaft (Shrink Disk Type)					Hollow Shaft (Key Type)				
	TU1	T1	U1	V1	W1/Depth	Key				TU2	T2	U2	V2	V3	TU4	T4	U4	V4	V5
9030	330	160	170	80m6	M20/42	22	9	14	150	393	233	160	83	80	330	165	165	75	75
9035	330	160	170	90m6	M20/42	25	9	14	150	403	243	160	88	85	330	165	165	85	85
9040	349	179	170	95m6	M24/50	25	9	14	150	448	268	180	98	95	360	180	180	90	90
9045	391	181	210	105m6	M24/50	28	10	16	190	463	283	180	108	105	370	185	185	105	105
9050	411	201	210	110m6	M24/50	28	10	16	190	503	303	200	108	105	410	205	205	105	105
9055	411	201	210	120m6	M24/50	32	11	18	185	528	323	205	123	120	410	205	205	115	115

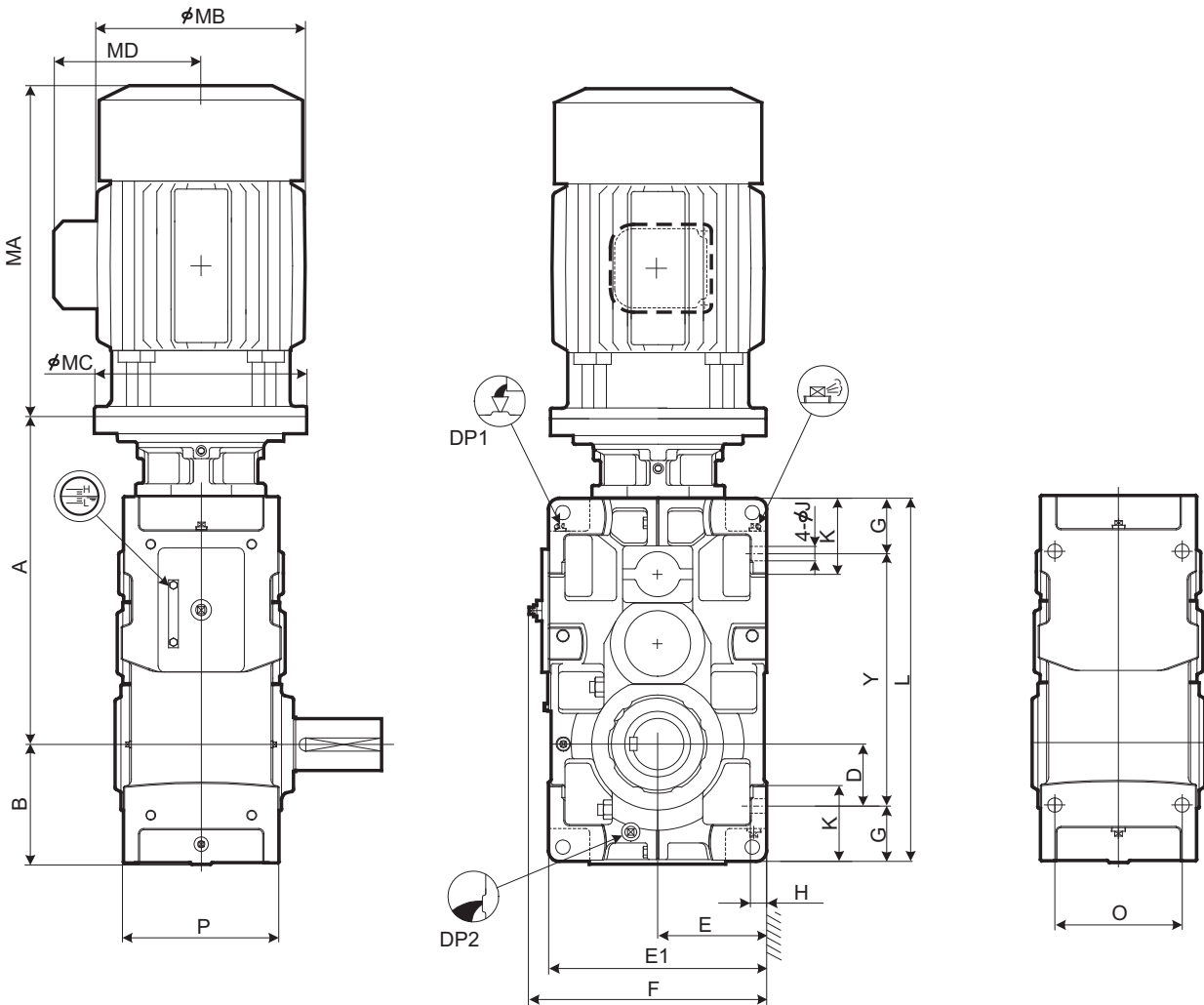
Unit: mm

Nomenclature



Size	Nominal Reduction Ratio													
	20	22.4	25	28	31.5	35.5	40	45	50	56	63	71	80	90
9030	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9035			○	○	○	○	○	○	○	○	○	○	○	○
9040			○	○	○	○	○	○	○	○	○	○	○	○
9045				○	○	○	○	○	○	○	○	○	○	○
9050	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9055			○	○	○	○	○	○	○	○	○	○	○	○



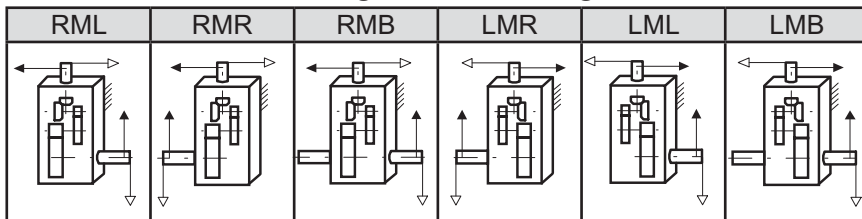


Drive Unit
 Selection Tables
 Dimension Tables

Slow Speed Shaft

Solid Shaft	Hollow Shaft (Shrink Disk Type)	Hollow Shaft (Key Type)
	<p>Refer to the Page D-18 for details.</p>	<p>Refer to the Page D-18 for details.</p>

Standard Shaft Arrangement Configuration



1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
 2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.

DIMENSIONS Right Angle Triple Reduction Upright Mounting 9060 ▶ 9075

PARAMAX Upright Split 9060 9075 R Triple Wall Mount W

Size	A	B	D	E	E1	F	G	H	J	K	L	O	P	Y
9060		299	151	265	530	577	135	35	35	180	885	310	380	615
9065	See	338	190	300	600	647	135	35	35	180	975	310	380	700
9070	below	336	163	300	600	647	160	40	42	215	1020	350	430	700
9075		383	210	355	670	717	160	52	42	220	1120	350	430	800

Size	DP1	DP2	Oil Qty. (L)	Wt. [kg]*	
				5.5-30kW	37-55kW
9060	1"	1"	56	680	690
9065	1"	1"	65	805	815
9070	1"	1"	83	950	960
9075	1"	1"	100	1200	1210

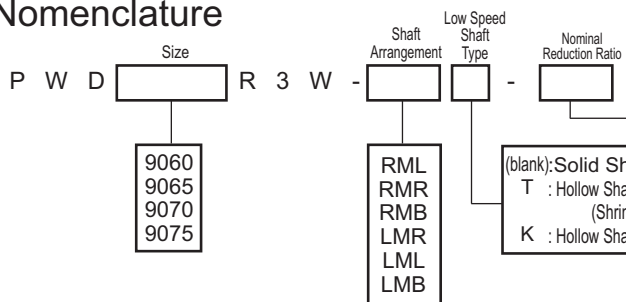
*) Mass of drive unit with motor, add mass of motor flange and mass of motor, shown in table below.

kW	Motor							A				Mass of Motor Mounting Flange [kg]	Mass of Motor [kg]	
	Without Brake			With Brake			MD	9060	9065	9070	9075		Without Brake	With Brake
	MA	MB	MC	MA	MB	MC								
11	480	251	350	575	251	350	188	744	790			11	76	96
15	545	324	350	700	324	350	232	744	790			11	131	175
18.5	625	394	400	835	394	400	297	774	820	882	935	33	213	258
22	625	394	400	835	394	400	297	774	820	882	935	33	213	258
30	625	394	400	835	394	400	297	774	820	882	935	33	224	280
37	715.5	394	450	930.5	394	450	297	774	820	882	935	15	259	320
45	715.5	394	450	930.5	394	450	297	774	820	882	935	15	259	320
55	769.5	484	550				412	774	820	882	935	29	276	

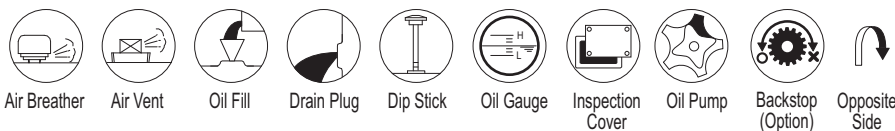
Size	Solid Shaft										Hollow Shaft (Shrink Disk Type)					Hollow Shaft (Key Type)				
	TU1	T1	U1	V1	W1/Depth	Key				TU2	T2	U2	V2	V3	TU4	T4	U4	V4	V5	
						X1	Y1	Z1	L1											
9060	440	230	210	125m6	M24/50	32	11	18	185	583	353	230	128	125	470	235	235	125	123	
9065	484	234	250	140m6	M30/60	36	12	20	225	594	359	235	143	140	480	240	240	145	143	
9070	509	259	250	145m6	M30/60	36	12	20	225	644	384	260	148	145	530	265	265	145	143	
9075	562	262	300	160m6	M30/60	40	13	22	275	651	386	265	158	155	530	265	265	150	148	

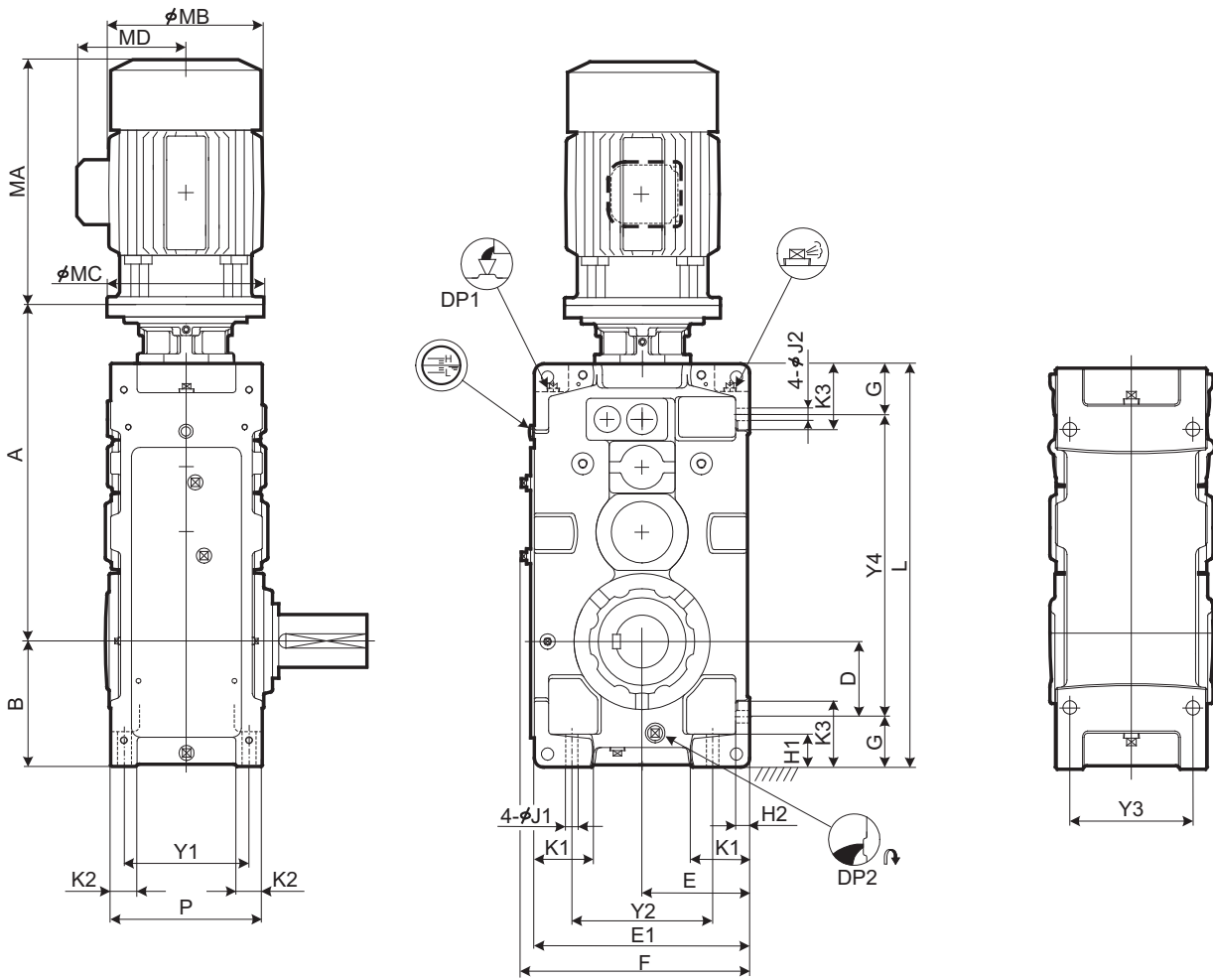
Unit: mm

Nomenclature



Size	Nominal Reduction Ratio													
	20	22.4	25	28	31.5	35.5	40	45	50	56	63	71	80	90
9060	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9065				○	○	○	○	○	○	○	○	○	○	○
9070	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9075				○	○	○	○	○	○	○	○	○	○	○



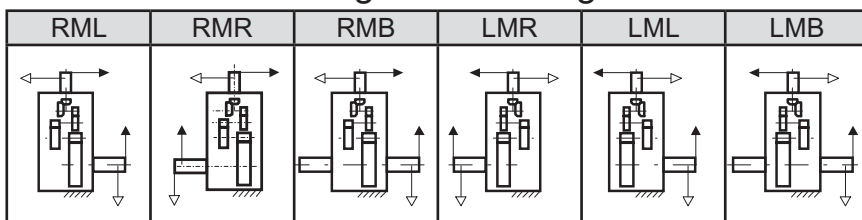


Drive Unit
Selection Tables
Dimension Tables

Slow Speed Shaft

Solid Shaft	Hollow Shaft (Shrink Disk Type)	Hollow Shaft (Key Type)
	<p>Refer to the Page D-18 for details.</p>	<p>Refer to the Page D-18 for details.</p>

Standard Shaft Arrangement Configuration



1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
 2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.

DIMENSIONS Right Angle Quadruple Reduction Upright Mounting 9040 ▶ 9055

PARAMAX Upright Monoblock 9040 9055 Right Angle Quadruple Reduction P W A R 4

Size	A	B	D	E	E1	F	G	H1	H2	J1	J2	K1	K2	K3	L	P	Y1	Y2	Y3	Y4
9040		235	120	200	400	430	115	75	30	28	28	100	60	150	759	315	255	260	255	529
9045	See below	256	141	220	440	470	115	75	30	28	28	120	60	150	819	315	255	300	255	589
9050		255	138.5	210	420	450	116.5	75	32	28	28	110	60	150	848	345	285	280	285	615
9055		286	171	245	490	520	115	75	32	28	28	135	60	150	918	345	285	350	285	688

Size	DP1	DP2	Oil Qty. (L)	Wt. [kg]*	
				5.5-30kW	37-55kW
9040	1"	1"	35	355	365
9045	1"	1"	43	425	435
9050	1"	1"	46	490	500
9055	1"	1"	59	550	560

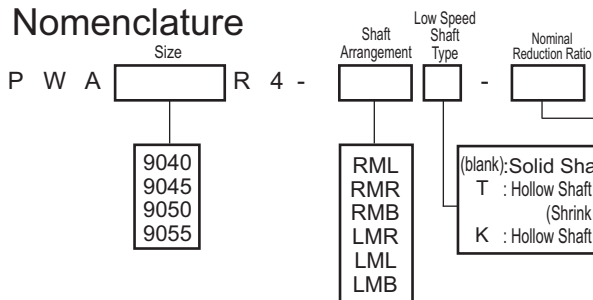
*) Mass of drive unit with motor, add mass of motor flange and mass of motor, shown in table below.

kW	Motor								A				Mass of Motor Mounting Flange [kg]	Mass of Motor [kg]	
	Without Brake			With Brake			MD	9040	9045	9050	9055	Without Brake		With Brake	
	MA	MB	MC	MA	MB	MC									
5.5	382	212	315	454	212	315	144	674	713	743	782	8	43	54	
7.5	415	251	315	510	251	315	185	674	713	743	782	8	57	77	
11	480	251	350	575	251	350	188	674	713	743	782	11	76	96	
15	545	324	350	700	324	350	232	674	713	743	782	11	131	175	
18.5	625	394	400	835	394	400	297	704	743	773	812	33	213	258	
22	625	394	400	835	394	400	297	704	743	773	812	33	213	258	
30	625	394	400	835	394	400	297			773	812	33	224	280	

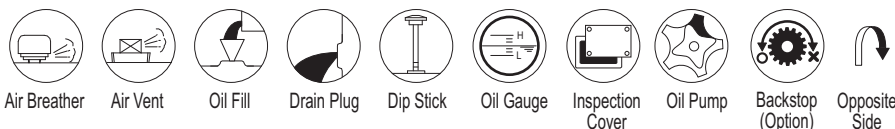
Size	Solid Shaft										Hollow Shaft (Shrink Disk Type)					Hollow Shaft (Key Type)				
	TU1	T1	U1	V1	W1/Depth	Key				TU2	T2	U2	V2	V3	TU4	T4	U4	V4	V5	
						X1	Y1	Z1	L1											
9040	349	179	170	95m6	M24/50	25	9	14	150	448	268	180	98	95	360	180	180	90	90	
9045	391	181	210	105m6	M24/50	28	10	16	190	463	283	180	108	105	370	185	185	105	105	
9050	411	201	210	110m6	M24/50	28	10	16	190	503	303	200	108	105	410	205	205	105	105	
9055	411	201	210	120m6	M24/50	32	11	18	185	528	323	205	123	120	410	205	205	115	115	

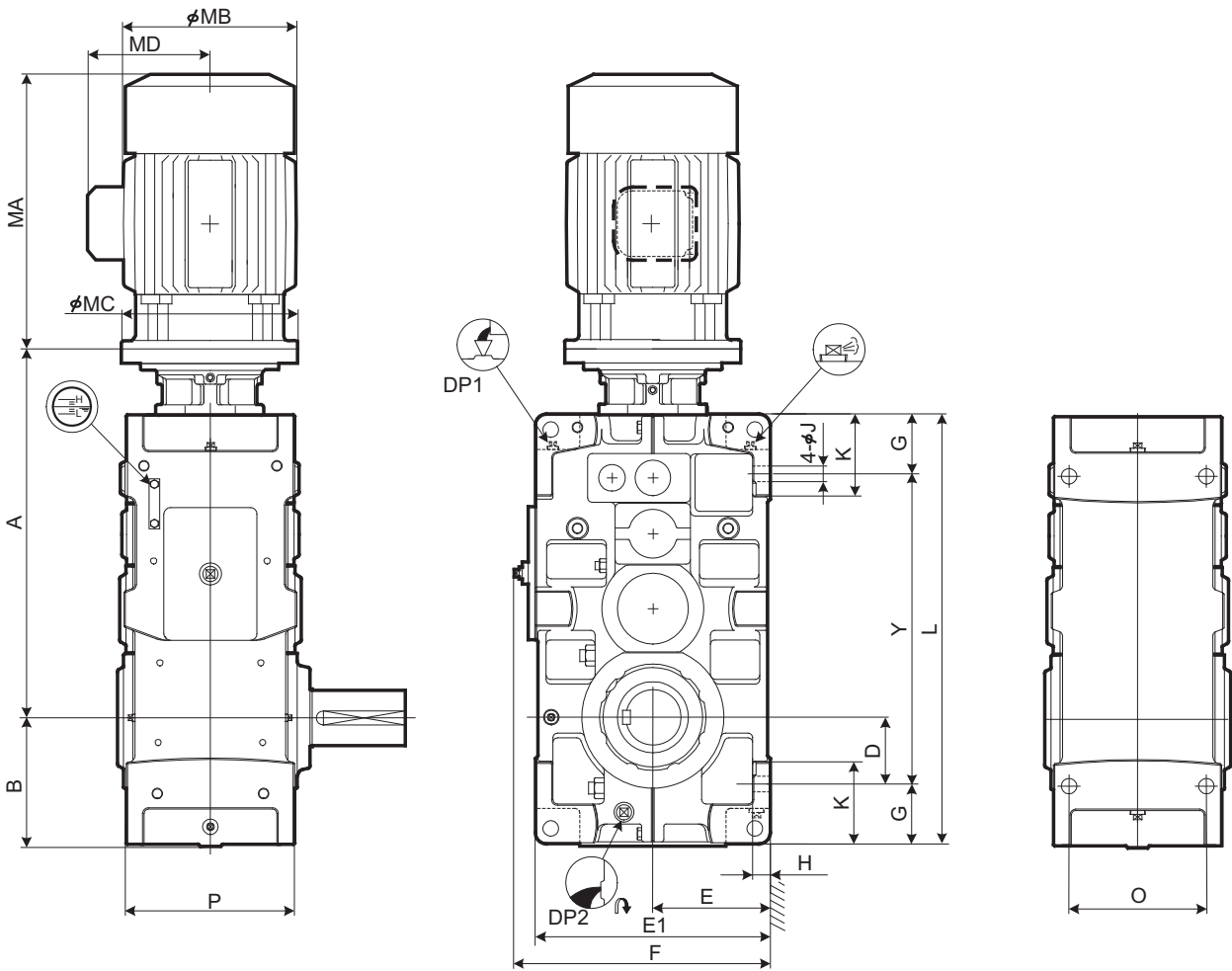
Unit: mm

Nomenclature



Size	Nominal Reduction Ratio															
	80	90	100	112	125	140	160	180	200	224	250	280	315	355	400	450
9040	○	○	○	○	○	○										
9045				○	○	○	○									
9050	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9055				○	○	○	○	○	○	○	○	○	○	○	○	○



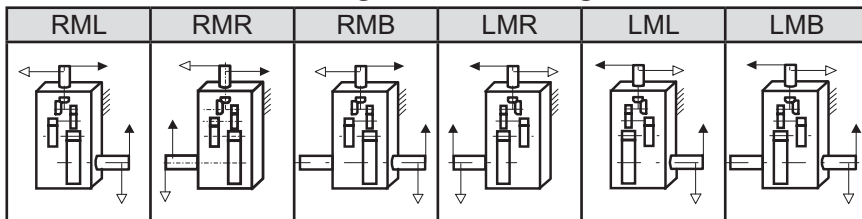


Drive Unit
Selection Tables
Dimension Tables

Slow Speed Shaft

Solid Shaft	Hollow Shaft (Shrink Disk Type)	Hollow Shaft (Key Type)
	<p>Refer to the Page D-18 for details.</p>	<p>Refer to the Page D-18 for details.</p>

Standard Shaft Arrangement Configuration



1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
 2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.

DIMENSIONS Right Angle Quadruple Reduction Upright Mounting 9060 ▶ 9085

PARAMAX Upright Split 9060 9085 R 4 W Right Angle Quadruple Reduction Wall Mount

Size	A	B	D	E	E1	F	G	H	J	K	L	O	P	Y
9060		299	151	265	530	577	135	35	35	180	970	310	380	700
9065		338	190	300	600	648	135	35	35	180	1055	310	380	785
9070	See below	336	163	300	600	648	160	40	42	215	1115	350	430	795
9075		383	210	335	670	717	160	52	42	220	1215	350	430	895
9080		378	205	335	670	717	160	52	42	220	1275	380	460	955
9085		422	249	375	750	797	160	52	42	220	1375	380	460	1055

Size	DP1	DP2	Oil Qty. (L)	Wt. [kg]*	
				5.5-30kW	37-55kW
9060	1"	1"	68	700	710
9065	1"	1"	85	855	865
9070	1"	1"	107	990	1000
9075	1"	1"	122	1210	1220
9080	1"	1"	128	1410	1420
9085	1"	1"	174	1670	1680

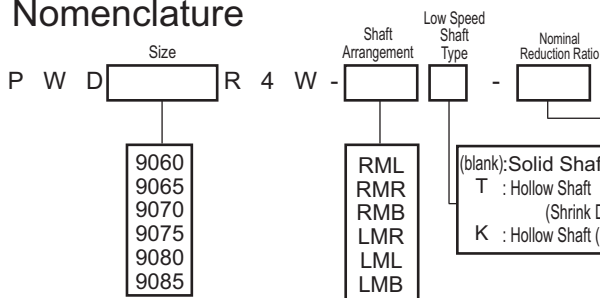
*) Mass of drive unit with motor, add mass of motor flange and mass of motor, shown in table below.

kW	Motor								A						Mass of Motor Mounting Flange [kg]	Mass of Motor [kg]	
	Without Brake			Brake			MD	9060	9065	9070	9075	9080	9085	Without Brake		With Brake	
	MA	MB	MC	MA	MB	MC											
5.5	382	212	315	454	212	315	144	829	875	947	1000	1055	1111	8	43	54	
7.5	415	251	315	510	251	315	185	829	875	947	1000	1055	1111	8	57	77	
11	480	251	350	575	251	350	188	829	875	947	1000	1055	1111	11	76	96	
15	545	324	350	700	324	350	232	829	875	947	1000	1055	1111	11	131	175	
18.5	625	394	400	835	394	400	297	859	905	977	1030	1085	1141	33	213	258	
22	625	394	400	835	394	400	297	859	905	977	1030	1085	1141	33	213	258	
30	625	394	400	835	394	400	297	859	905	977	1030	1085	1141	33	224	280	
37	715.5	394	450	930.5	394	450	297	859	905	977	1030	1085	1141	15	259	320	
45	715.5	394	450	930.5	394	450	297	859	905	977	1030	1085	1141	15	259	320	
55	769.5	484	550				412			977	1030	1085	1141	29	276		

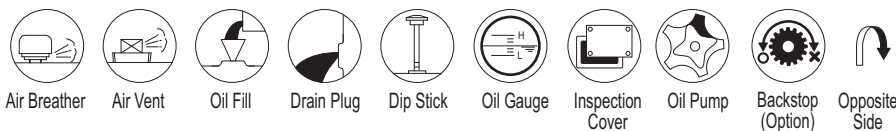
Size	Solid Shaft										Hollow Shaft (Shrink Disk Type)					Hollow Shaft (Key Type)				
	TU1	T1	U1	V1	W1/Depth	Key				TU2	T2	U2	V2	V3	TU4	T4	U4	V4	V5	
9060	440	230	210	125m6	M24/50	32	11	18	185	583	353	230	128	125	470	235	235	125	123	
9065	484	234	250	140m6	M30/60	36	12	20	225	594	359	235	143	140	480	240	240	145	143	
9070	509	259	250	145m6	M30/60	36	12	20	225	644	384	260	148	145	530	265	265	145	143	
9075	562	262	300	160m6	M30/60	40	13	22	275	651	386	265	158	155	530	265	265	150	148	
9080	582	282	300	165m6	M30/60	40	13	22	275	714	429	285	173	170	570	285	285	165	163	
9085	585	285	300	175m6	M30/60	45	15	25	270	714	429	285	183	180	570	285	285	175	173	

Unit: mm

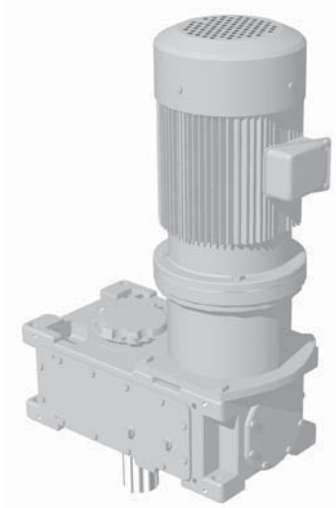
Nomenclature



Size	Nominal Reduction Ratio															
	80	90	100	112	125	140	160	180	200	224	250	280	315	355	400	450
9060		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9065			○	○	○	○	○	○	○	○	○	○	○	○	○	○
9070	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9075			○	○	○	○	○	○	○	○	○	○	○	○	○	○
9080	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9085			○	○	○	○	○	○	○	○	○	○	○	○	○	○







B

<Drive Unit Parallel Shaft Vertical Mounting>

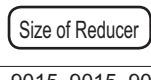
Drive Unit: Parallel Shaft

Selection Tables	··· B- 74
Allowable Radial and Axial Loads	··· B- 98
Dimension Tables	··· B-102
Actual Reduction Ratio	··· B-111

SELECTION Drive Unit Parallel Shaft Combinations with 4P motor

Shaft Position	High Speed Shaft Speed	Ambient Temperature
Parallel Shaft	1500r/min	40 Dgree

kW	SF	Low Speed Shaft Speed (r/min)																			
		238	211	188	168	150	134	120	107	94	83	75	67	60	54	48	42	38	33	30	
		Nominal Reduction Ratio																			
		6.3	7.1	8	9	10	11.2	12.5	14	16	18	20	22.4	25	28	31.5	35.5	40	45	50	
5.5kW	1								9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9030	
	1.25								9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9030	
	4P								9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9030	
	2								9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9025	9030
7.5kW	1					9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9030	
	1.25					9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9025	9030
	4P					9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9025	9030
	2					9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9025	9025	9025	9025	9030	9030
11kW	1		9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9025	9030
	1.25		9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9025	9025	9025	9030
	4P		9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9025	9025	9025	9025	9030	9030
	2		9015	9015	9015	9015	9015	9015	9015	9015	9015	9025	9015	9025	9025	9025	9025	9030	9030	9030	9030
15kW	1	9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9025	9025	9025	9025	9030	9030
	1.25	9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9025	9025	9025	9025	9025	9030	9030	9030	9030
	4P		9015	9015	9015	9015	9015	9015	9015	9015	9025	9025	9025	9025	9025	9030	9030	9030	9030	9030	9035
	2	9015	9015	9015	9015	9015	9015	9015	9025	9025	9025	9025	9025	9030	9030	9030	9030	9035	9035	9035	9040
18.5kW	1	9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9025	9025	9025	9025	9025	9030	9030	9030	9030
	1.25	9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9025	9025	9025	9025	9025	9030	9030	9030	9035	9035
	4P		9015	9015	9015	9015	9015	9015	9015	9025	9025	9025	9025	9025	9025	9030	9030	9030	9035	9035	9040
	2	9015	9015	9015	9015	9015	9025	9025	9025	9025	9030	9030	9030	9030	9030	9030	9035	9035	9040	9045	9045
22kW	1	9015	9015	9015	9015	9015	9015	9015	9015	9025	9025	9025	9025	9025	9025	9030	9030	9030	9030	9030	9035
	1.25	9015	9015	9015	9015	9015	9015	9015	9025	9025	9025	9025	9025	9025	9030	9030	9030	9035	9035	9040	9040
	4P		9015	9015	9015	9015	9015	9025	9025	9025	9025	9030	9030	9030	9030	9035	9035	9040	9045	9045	9045
	2	9015	9015	9015	9025	9025	9025	9025	9030	9030	9030	9030	9030	9030	9035	9035	9040	9045	9045	9045	9050
30kW	1	9025	9025	9025	9025	9025	9025	9025	9025	9025	9030	9030	9030	9035	9035	9035	9035	9035	9035	9035	9040
	1.25	9025	9025	9025	9025	9025	9025	9025	9025	9025	9030	9030	9030	9035	9035	9035	9035	9035	9040	9045	9045
	4P		9025	9025	9025	9025	9025	9025	9030	9030	9030	9030	9030	9035	9035	9035	9040	9045	9045	9045	9050
	2	9025	9025	9025	9025	9025	9030	9030	9030	9030	9035	9035	9040	9040	9045	9045	9050	9050	9055	9055	
37kW	1	9025	9030	9030	9030	9030	9030	9030	9030	9030	9035	9035	9035	9040	9040	9040	9040	9040	9045	9045	
	1.25	9025	9030	9030	9030	9030	9030	9030	9030	9030	9035	9035	9035	9040	9040	9040	9045	9045	9050	9055	9055
	4P		9025	9030	9030	9030	9030	9030	9030	9030	9035	9035	9040	9045	9045	9050	9050	9055	9055	9060	9060
	2	9025	9030	9030	9030	9030	9030	9035	9035	9040	9040	9045	9045	9050	9050	9055	9055	9060	9060	9070	9070
45kW	1	9040	9040	9035	9035	9035	9035	9035	9035	9035	9035	9035	9045	9045	9045	9045	9045	9045	9045	9045	9055
	1.25	9040	9040	9035	9035	9035	9035	9035	9035	9035	9035	9035	9045	9045	9045	9045	9045	9050	9055	9055	9060
	4P		9040	9040	9035	9035	9035	9035	9035	9035	9035	9035	9040	9045	9045	9045	9045	9050	9055	9055	9060
	2	9040	9040	9035	9035	9035	9035	9035	9035	9040	9045	9045	9050	9050	9055	9055	9060	9060	9070	9070	
55kW	1	9040	9040	9040	9040	9040	9040	9040	9040	9045	9045	9045	9045	9055	9055	9055	9055	9055	9055	9055	9065
	1.25	9040	9040	9040	9040	9040	9040	9040	9040	9045	9045	9045	9045	9055	9055	9055	9055	9055	9065	9065	9065
	4P		9040	9040	9040	9040	9040	9040	9040	9045	9045	9045	9045	9055	9055	9055	9055	9055	9065	9065	9065
	2	9040	9040	9040	9040	9040	9040	9040	9045	9045	9050	9050	9055	9055	9055	9060	9065	9065	9065	9070	9070
75kW	1	9050	9050	9055	9055	9055	9055	9055	9055	9055	9055	9055	9055	9055	9065	9065	9065	9065	9065	9065	9065
	1.25	9050	9050	9055	9055	9055	9055	9055	9055	9055	9055	9055	9055	9065	9065	9065	9065	9065	9065	9065	9065
	4P		9050	9050	9055	9055	9055	9055	9055	9055	9055	9055	9055	9065	9065	9065	9065	9065	9065	9070	9070
	2	9050	9050	9055	9055	9055	9055	9055	9055	9055	9055	9055	9060	9065	9065	9065	9065	9070	9070	9075	9075
90kW	1			9055	9055	9060	9055	9060	9060	9060	9060	9060	9065	9065	9070	9070	9070	9070	9070	9070	9075
	1.25			9055	9055	9060	9055	9060	9060	9060	9060	9060	9065	9065	9070	9070	9070	9070	9070	9070	9075
	4P			9055	9055	9060	9055	9060	9060	9060	9060	9060	9065	9065	9070	9070	9070	9070	9070	9075	9075
	2			9055	9055	9060	9055	9060	9060	9060	9060	9060	9065	9065	9070	9070	9070	9075	9075	9080	9080
110kW	1			9065	9065	9065	9065	9065	9065	9065	9070	9075	9075	9075	9075	9075	9075	9075	9075	9075	9075
	1.25			9065	9065	9065	9065	9065	9065	9065	9070	9075	9075	9075	9075	9075	9075	9075	9075	9075	9075
	4P			9065	9065	9065	9065	9065	9065	9065	9070	9075	9075	9075	9075	9075	9075	9075	9075	9075	9075
	2			9065	9065	9065	9065	9065	9065	9065	9070	9075	9075	9075	9075	9075	9075	9075	9080	9085	9085



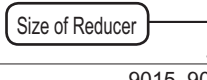
SELECTION Drive Unit Parallel Shaft Combinations with 4P motor

Low Speed Shaft Speed (r/min)					SF	kW
27	24	21	19	17		
Nominal Reduction Ratio					SF	kW
56	63	71	80	90		
9030	9030	9030	9035	9035	1	
9030	9030	9030	9035	9035	1.25	5.5kW
9030	9030	9030	9035	9035	1.5	4P
9030	9030	9030	9035	9035	2	
9030	9030	9030	9035	9035	1	
9030	9030	9030	9035	9035	1.25	7.5kW
9030	9030	9030	9035	9035	1.5	4P
9030	9030	9035	9035	9035	2	
9030	9030	9030	9035	9035	1	
9030	9030	9030	9035	9035	1.25	11kW
9030	9030	9035	9035	9045	1.5	4P
9035	9040	9040	9045	9045	2	
9030	9030	9035	9035	9035	1	
9035	9035	9035	9045	9045	1.25	15kW
9035	9040	9045	9045	9045	1.5	4P
9045	9045	9050	9055	9055	2	
9030	9035	9035	9045	9045	1	
9035	9040	9045	9045	9045	1.25	18.5kW
9045	9045	9045	9055	9055	1.5	4P
9050	9050	9055	9055	9065	2	
9035	9040	9040	9045	9045	1	
9040	9045	9045	9055	9055	1.25	22kW
9045	9045	9055	9055	9055	1.5	4P
9055	9055	9055	9065	9065	2	
9045	9045	9050	9055	9055	1	
9050	9050	9055	9055	9065	1.25	30kW
9055	9055	9060	9065	9065	1.5	4P
9060	9060	9065	9065	9075	2	
9050	9050	9055	9055	9065	1	
9055	9055	9060	9065	9065	1.25	37kW
9060	9060	9065	9065	9075	1.5	4P
9065	9065	9070	9075	9075	2	
9055	9055	9060	9065	9065	1	
9060	9060	9065	9065	9075	1.25	45kW
9065	9065	9065	9065	9075	1.5	4P
9070	9070	9075	9075	9085	2	
9060	9060	9065	9065	9075	1	
9065	9065	9065	9075	9075	1.25	55kW
9065	9065	9070	9075	9075	1.5	4P
9075	9075	9080	9085	9085	2	
9070	9070	9070	9075	9075	1	
9070	9070	9075	9075	9085	1.25	75kW
9075	9075	9080	9085	9085	1.5	4P
9080	9080	9085	9085	9085	2	
9075	9075	9075	9075	9085	1	
9075	9075	9080	9085	9085	1.25	90kW
9075	9080	9085	9085	9085	1.5	4P
9085	9085	9085	9085	9085	2	
9080	9085	9085	9085	9085	1	
9080	9085	9085	9085	9085	1.25	110kW
9085	9085	9085	9085	9085	1.5	4P
9085	9085	9085	9085	9085	2	

SELECTION Drive Unit Parallel Shaft Combinations with 4P motor

Shaft Position	High Speed Shaft Speed	Ambient Temperature
Parallel Shaft	1800r/min	40 Dgree

kW	SF	Low Speed Shaft Speed (r/min)																		
		286	254	225	200	180	161	144	129	113	100	90	80	72	64	57	51	45	40	36
		Nominal Reduction Ratio																		
		6.3	7.1	8	9	10	11.2	12.5	14	16	18	20	22.4	25	28	31.5	35.5	40	45	50
5.5kW 4P	1										9015	9015	9015	9015	9015	9015	9015	9015	9015	9030
	1.25										9015	9015	9015	9015	9015	9015	9015	9015	9015	9030
	1.5										9015	9015	9015	9015	9015	9015	9015	9015	9015	9030
	2										9015	9015	9015	9015	9015	9015	9015	9015	9015	9030
7.5kW 4P	1									9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9030
	1.25									9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9030
	1.5									9015	9015	9015	9015	9015	9015	9015	9015	9015	9025	9030
	2									9015	9015	9015	9015	9015	9015	9015	9025	9025	9025	9030
11kW 4P	1				9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9030
	1.25				9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9025	9025	9025	9030
	1.5				9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9025	9025	9025	9030
	2				9015	9015	9015	9015	9015	9015	9015	9015	9025	9025	9025	9025	9030	9030	9030	9035
15kW 4P	1		9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9025	9025	9025	9025	9030
	1.25		9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9025	9025	9025	9025	9030	9030	9030
	1.5		9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9025	9025	9025	9025	9030	9030	9030	9030
	2		9015	9015	9015	9015	9015	9015	9015	9015	9025	9025	9025	9030	9030	9030	9030	9035	9035	9035
18.5kW 4P	1	9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9025	9025	9025	9025	9025	9030	9030	9030	9030
	1.25	9015	9015	9015	9015	9015	9015	9015	9015	9015	9015	9025	9025	9025	9025	9030	9030	9030	9030	9030
	1.5	9015	9015	9015	9015	9015	9015	9015	9015	9025	9025	9025	9025	9025	9030	9030	9030	9030	9035	9035
	2	9015	9015	9015	9015	9015	9015	9015	9025	9025	9025	9025	9030	9030	9030	9030	9035	9035	9040	9040
22kW 4P	1	9015	9015	9015	9015	9015	9015	9015	9015	9025	9025	9025	9025	9025	9025	9030	9030	9030	9030	9030
	1.25	9015	9015	9015	9015	9015	9015	9015	9015	9025	9025	9025	9025	9025	9030	9030	9030	9030	9030	9035
	1.5	9015	9015	9015	9015	9015	9015	9015	9025	9025	9025	9025	9025	9030	9030	9030	9030	9030	9035	9040
	2	9015	9015	9015	9015	9015	9025	9025	9025	9025	9030	9030	9030	9030	9030	9035	9035	9040	9045	9045
30kW 4P	1	9025	9025	9025	9025	9025	9025	9025	9025	9030	9030	9035	9035	9035	9035	9035	9035	9035	9035	9035
	1.25	9025	9025	9025	9025	9025	9025	9025	9025	9030	9030	9035	9035	9035	9035	9035	9035	9040	9040	9040
	1.5	9025	9025	9025	9025	9025	9025	9025	9025	9030	9030	9035	9035	9035	9035	9035	9035	9040	9045	9045
	2	9025	9025	9025	9025	9025	9025	9030	9030	9030	9030	9035	9035	9040	9040	9045	9045	9050	9050	9050
37kW 4P	1	9030	9030	9030	9030	9030	9030	9030	9030	9030	9035	9035	9035	9040	9040	9040	9040	9040	9040	9040
	1.25	9030	9030	9030	9030	9030	9030	9030	9030	9030	9035	9035	9035	9040	9040	9040	9040	9045	9045	9045
	1.5	9030	9030	9030	9030	9030	9030	9030	9030	9030	9035	9035	9035	9040	9040	9045	9045	9050	9050	9050
	2	9030	9030	9030	9030	9030	9030	9030	9035	9035	9035	9040	9040	9045	9045	9050	9050	9055	9055	9055
45kW 4P	1		9035	9035	9035	9035	9035	9035	9035	9035	9035	9045	9045	9045	9045	9045	9045	9045	9045	9045
	1.25		9035	9035	9035	9035	9035	9035	9035	9035	9035	9045	9045	9045	9045	9045	9045	9050	9050	9050
	1.5		9035	9035	9035	9035	9035	9035	9035	9035	9035	9045	9045	9045	9045	9045	9045	9050	9055	9055
	2		9035	9035	9035	9035	9035	9035	9035	9040	9040	9045	9045	9050	9050	9055	9055	9060	9060	9060
55kW 4P	1	9040	9040	9040	9040	9040	9040	9040	9045	9045	9045	9045	9055	9055	9055	9055	9055	9055	9055	9055
	1.25	9040	9040	9040	9040	9040	9040	9040	9045	9045	9045	9045	9055	9055	9055	9055	9055	9055	9055	9055
	1.5	9040	9040	9040	9040	9040	9040	9040	9045	9045	9045	9045	9055	9055	9055	9055	9055	9055	9055	9060
	2	9040	9040	9040	9040	9040	9040	9040	9045	9045	9045	9050	9055	9055	9055	9055	9060	9060	9065	9065
75kW 4P	1		9055	9055	9055	9055	9055	9055	9055	9055	9055	9065	9065	9065	9065	9065	9065	9065	9065	9065
	1.25		9055	9055	9055	9055	9055	9055	9055	9055	9055	9065	9065	9065	9065	9065	9065	9065	9065	9065
	1.5		9055	9055	9055	9055	9055	9055	9055	9055	9055	9065	9065	9065	9065	9065	9065	9065	9065	9065
	2		9055	9055	9055	9055	9055	9055	9055	9055	9060	9065	9065	9065	9065	9065	9065	9065	9070	9075
90kW 4P	1		9055	9055	9060	9060	9060	9060	9060	9060	9065	9065	9070	9070	9070	9070	9070	9070	9070	9075
	1.25		9055	9055	9060	9060	9060	9060	9060	9060	9065	9065	9070	9070	9070	9070	9070	9070	9070	9075
	1.5		9055	9055	9060	9060	9060	9060	9060	9060	9065	9065	9070	9070	9070	9070	9070	9070	9070	9075
	2		9055	9055	9060	9060	9060	9060	9060	9060	9065	9065	9070	9070	9070	9070	9070	9070	9075	9075
110kW 4P	1		9065	9065	9065	9065	9065	9065	9065	9070	9075	9075	9075	9075	9075	9075	9075	9075	9075	9080
	1.25		9065	9065	9065	9065	9065	9065	9065	9070	9075	9075	9075	9075	9075	9075	9075	9075	9075	9080
	1.5		9065	9065	9065	9065	9065	9065	9065	9070	9075	9075	9075	9075	9075	9075	9075	9075	9075	9080
	2		9065	9065	9065	9065	9065	9065	9065	9070	9075	9075	9075	9075	9075	9075	9075	9075	9080	9085



Drive Unit

Dimension Selection Tables

SELECTION Drive Unit Parallel Shaft Combinations with 4P motor

Low Speed Shaft Speed (r/min)					SF	kW
32	29	25	23	20		
Nominal Reduction Ratio					SF	kW
56	63	71	80	90		
9030	9030	9030	9035	9035	1	
9030	9030	9030	9035	9035	1.25	5.5kW
9030	9030	9030	9035	9035	1.5	4P
9030	9030	9030	9035	9035	2	
9030	9030	9030	9035	9035	1	
9030	9030	9030	9035	9035	1.25	7.5kW
9030	9030	9030	9035	9035	1.5	4P
9030	9030	9035	9035	9035	2	
9030	9030	9030	9035	9035	1	
9030	9030	9030	9035	9035	1.25	11kW
9030	9030	9030	9035	9035	1.5	4P
9030	9035	9035	9045	9045	2	
9030	9030	9030	9035	9035	1	
9030	9030	9035	9035	9035	1.25	15kW
9035	9035	9035	9045	9045	1.5	4P
9040	9040	9045	9045	9055	2	
9030	9030	9035	9035	9035	1	
9035	9035	9035	9045	9045	1.25	18.5kW
9035	9040	9045	9045	9045	1.5	4P
9045	9045	9050	9055	9055	2	
9030	9035	9035	9045	9045	1	
9035	9040	9045	9045	9045	1.25	22kW
9040	9045	9045	9055	9055	1.5	4P
9050	9050	9055	9055	9065	2	
9040	9040	9045	9045	9055	1	
9045	9045	9050	9055	9055	1.25	30kW
9050	9050	9055	9055	9065	1.5	4P
9055	9055	9060	9065	9065	2	
9045	9045	9050	9055	9055	1	
9050	9050	9055	9055	9065	1.25	37kW
9055	9055	9060	9065	9065	1.5	4P
9060	9060	9065	9065	9075	2	
9050	9055	9055	9055	9065	1	
9055	9055	9060	9065	9065	1.25	45kW
9060	9060	9065	9065	9075	1.5	4P
9065	9065	9070	9075	9075	2	
9055	9060	9060	9065	9065	1	
9060	9060	9065	9065	9075	1.25	55kW
9065	9065	9065	9065	9075	1.5	4P
9070	9070	9075	9075	9085	2	
9070	9070	9070	9075	9075	1	
9070	9070	9070	9075	9075	1.25	75kW
9070	9070	9075	9075	9085	1.5	4P
9075	9075	9080	9085	9085	2	
9075	9075	9075	9075	9075	1	
9075	9075	9075	9075	9085	1.25	90kW
9075	9075	9080	9085	9085	1.5	4P
9080	9085	9085	9085	9085	2	
9080	9085	9085	9085	9085	1	
9080	9085	9085	9085	9085	1.25	110kW
9080	9085	9085	9085	9085	1.5	4P
9085	9085	9085	9085	9085	2	

SELECTION Drive Unit Parallel Shaft 5.5kW, 7.5kW

5.5kW	Frequency Hz	50Hz	60Hz
	Pole P	4	4
	Speed n1 r/min	1500	1800

Frequency								Model			Page of Dimension Sheet	
50Hz				60Hz				Size	Assembly	Reduction Ratio	Vertical	
Output Speed r/min	Output Torque (Tout) Nm kgf m		SF	Output Speed r/min	Output Torque (Tout) Nm kgf m		SF					
107	490	50	4.74	129	409	42	5.63	9015	P2	14	B-102	
93.8	560	57	4.70	113	467	48	5.63	9015	P2	16	B-102	
83.3	630	64	3.83	100	525	54	4.60	9015	P2	18	B-102	
75.0	700	72	4.01	90.0	584	60	4.80	9015	P3	20	B-106	
67.0	784	80	3.27	80.4	654	67	3.90	9015	P3	22.4	B-106	
60.0	875	89	3.23	72.0	730	74	3.89	9015	P3	25	B-106	
53.6	980	100	2.63	64.3	817	83	3.16	9015	P3	28	B-106	
			4.25				5.09			28		B-106
47.6	1100	113	2.56	57.1	919	94	3.07	9015	P3	31.5	B-106	
			3.96				4.74			31.5		B-106
42.3	1240	127	2.09	50.7	1040	106	2.49	9015	P3	35.5	B-106	
			3.25				3.89			35.5		B-106
37.5	1400	143	2.07	45.0	1170	119	2.47	9015	P3	40	B-106	
			3.21				3.85			40		B-106
			4.63				5.45			40		B-106
33.3	1580	161	1.69	40.0	1310	134	2.01	9015	P3	45	B-106	
			2.63				3.16			45		B-106
			4.16				5.00			45		B-106
30.0	1750	179	3.72	36.0	1460	149	4.47	9030	P3	50	B-106	
			4.85				5.63			50		B-106
26.8	1960	200	3.36	32.1	1630	167	4.01	9030	P3	56	B-106	
			4.41				5.29			56		B-106
23.8	2210	225	3.00	28.6	1840	188	3.58	9030	P3	63	B-106	
			3.90				4.67			63		B-106
			4.92				5.81			63		B-106
21.1	2490	254	2.69	25.4	2070	212	3.21	9030	P3	71	B-106	
			3.56				4.25			71		B-106
			4.03				4.83			71		B-106
18.8	2800	286	3.12	22.5	2330	238	3.74	9035	P3	80	B-106	
16.7	3150	322	2.85	20.0	2630	268	3.41	9035	P3	90	B-106	
			4.23				5.07			90		B-106

7.5kW	Frequency Hz	50Hz	60Hz
	Pole P	4	4
	Speed n1 r/min	1500	1800

Frequency								Model			Page of Dimension Sheet	
50Hz				60Hz				Size	Assembly	Reduction Ratio	Vertical	
Output Speed r/min	Output Torque (Tout) Nm kgf m		SF	Output Speed r/min	Output Torque (Tout) Nm kgf m		SF					
134	535	55	4.26	161	446	46	5.20	9015	P2	11.2	B-102	
120	597	61	4.26	144	497	51	5.06	9015	P2	12.5	B-102	
107	669	68	3.48	129	557	57	4.13	9015	P2	14	B-102	
93.8	764	78	3.45	113	637	65	4.13	9015	P2	16	B-102	
83.3	860	88	2.81	100	716	73	3.37	9015	P2	18	B-102	
			4.53				5.46			18		B-102
75.0	955	98	2.94	90.0	796	81	3.52	9015	P3	20	B-106	
			4.40				5.20			20		B-106
67.0	1070	109	2.40	80.4	891	91	2.86	9015	P3	22.4	B-106	
			3.84				4.53			22.4		B-106
60.0	1190	122	2.37	72.0	995	102	2.85	9015	P3	25	B-106	
			3.76				4.26			25		B-106
53.6	1340	137	1.93	64.3	1110	114	2.31	9015	P3	28	B-106	
			3.11				3.73			28		B-106
			4.93				5.86			28		B-106
47.6	1500	154	1.88	57.1	1250	128	2.25	9015	P3	31.5	B-106	
			2.90				3.48			31.5		B-106
			4.13				5.06			31.5		B-106
42.3	1700	173	1.53	50.7	1410	144	1.82	9015	P3	35.5	B-106	
			2.38				2.85			35.5		B-106
			3.81				4.53			35.5		B-106

Drive Unit
 Selection Tables
 Dimension Tables

SELECTION Drive Unit Parallel Shaft 7.5kW, 11kW

Output Speed r/min	Frequency						Size	Model		Page of Dimension Sheet	
	50Hz			60Hz				Assembly	Reduction Ratio		Vertical
	Output Torque (Tout) Nm	kgf m	SF	Output Speed r/min	Output Torque (Tout) Nm	kgf m	SF				
37.5	1910	195	1.52	45.0	1590	163	1.81	9015	P3	40	B-106
			2.36				2.82	9025	P3	40	B-106
			3.40				4.00	9030	P3	40	B-106
			4.40				5.20	9035	P3	40	B-106
33.3	2150	219	1.24	40.0	1790	183	1.48	9015	P3	45	B-106
			1.93				2.31	9025	P3	45	B-106
			3.05				3.66	9030	P3	45	B-106
			4.00				4.80	9035	P3	45	B-106
			4.53				5.46	9040	P3	45	B-106
30.0	2390	244	2.73	36.0	1990	203	3.28	9030	P3	50	B-106
			3.56				4.13	9035	P3	50	B-106
			4.40				5.33	9040	P3	50	B-106
26.8	2670	273	2.46	32.1	2230	228	2.94	9030	P3	56	B-106
			3.24				3.88	9035	P3	56	B-106
			3.68				4.40	9040	P3	56	B-106
			4.88				5.84	9045	P3	56	B-106
23.8	3010	307	2.20	28.6	2510	256	2.62	9030	P3	63	B-106
			2.86				3.42	9035	P3	63	B-106
			3.61				4.26	9040	P3	63	B-106
			4.50				5.41	9045	P3	63	B-106
21.1	3390	346	1.97	25.4	2830	288	2.36	9030	P3	71	B-106
			2.61				3.11	9035	P3	71	B-106
			2.96				3.54	9040	P3	71	B-106
			3.86				4.62	9045	P3	71	B-106
			4.26				5.20	9050	P3	71	B-106
18.8	3820	390	2.29	22.5	3180	325	2.74	9035	P3	80	B-106
			3.65				4.38	9045	P3	80	B-106
16.7	4300	439	2.09	20.0	3580	366	2.50	9035	P3	90	B-106
			3.10				3.72	9045	P3	90	B-106
			4.53				5.33	9055	P3	90	B-106

11kW	Frequency Hz	50Hz	60Hz
	Pole P	4	4
	Speed n1 r/min	1500	1800

Output Speed r/min	Frequency						Size	Model		Page of Dimension Sheet	
	50Hz			60Hz				Assembly	Reduction Ratio		Vertical
	Output Torque (Tout) Nm	kgf m	SF	Output Speed r/min	Output Torque (Tout) Nm	kgf m	SF				
211	497	51	4.72	254	414	42	5.63	9015	P2	7.1	B-102
188	560	57	4.63	225	467	48	5.54	9015	P2	8	B-102
167	630	64	3.72	200	525	54	4.45	9015	P2	9	B-102
150	700	72	3.63	180	584	60	4.27	9015	P2	10	B-102
134	784	80	2.90	161	654	67	3.54	9015	P2	11.2	B-102
			4.81				5.81	9025	P2	11.2	B-102
120	875	89	2.90	144	730	74	3.45	9015	P2	12.5	B-102
			4.63				5.54	9025	P2	12.5	B-102
107	980	100	2.37	129	817	83	2.81	9015	P2	14	B-102
			3.81				4.54	9025	P2	14	B-102
93.8	1120	114	2.35	113	934	95	2.81	9015	P2	16	B-102
			3.81				4.54	9025	P2	16	B-102
83.3	1260	129	1.91	100	1050	107	2.30	9015	P2	18	B-102
			3.09				3.72	9025	P2	18	B-102
			4.90				5.90	9030	P2	18	B-102
75.0	1400	143	2.00	90.0	1170	119	2.40	9015	P3	20	B-106
			3.00				3.54	9025	P3	20	B-106
			4.63				5.54	9030	P3	20	B-106

SELECTION Drive Unit Parallel Shaft 11kW

Output Speed r/min	Frequency							Size	Model		Page of Dimension Sheet
	50Hz			Output Speed r/min	60Hz				Assembly	Reduction Ratio	
Output Torque (Tout) Nm	Output Torque (Tout) kgf m	SF	Output Torque (Tout) Nm		Output Torque (Tout) kgf m	SF	Size	Assembly			Reduction Ratio
67.0	1570	160	1.63	80.4	1310	133	1.95	9015	P3	22.4	B-106
			2.61				3.09	9025	P3	22.4	B-106
			4.18				5.00	9030	P3	22.4	B-106
60.0	1750	179	1.61	72.0	1460	149	1.94	9015	P3	25	B-106
			2.56				2.90	9025	P3	25	B-106
			3.72				4.45	9030	P3	25	B-106
			4.81				5.81	9035	P3	25	B-106
53.6	1960	200	1.31	64.3	1630	167	1.58	9015	P3	28	B-106
			2.12				2.54	9025	P3	28	B-106
			3.36				4.00	9030	P3	28	B-106
			4.36				5.27	9035	P3	28	B-106
			4.90				5.90	9040	P3	28	B-106
47.6	2210	225	1.28	57.1	1840	188	1.53	9015	P3	31.5	B-106
			1.98				2.37	9025	P3	31.5	B-106
			2.81				3.45	9030	P3	31.5	B-106
			3.81				4.63	9035	P3	31.5	B-106
			4.72				5.72	9040	P3	31.5	B-106
42.3	2490	254	1.04	50.7	2070	212	1.24	9015	P3	35.5	B-106
			1.62				1.94	9025	P3	35.5	B-106
			2.60				3.09	9030	P3	35.5	B-106
			3.54				4.18	9035	P3	35.5	B-106
			3.90				4.63	9040	P3	35.5	B-106
37.5	2800	286	1.03	45.0	2330	238	1.23	9015	P3	40	B-106
			1.60				1.92	9025	P3	40	B-106
			2.31				2.72	9030	P3	40	B-106
			3.00				3.54	9035	P3	40	B-106
			3.81				4.54	9040	P3	40	B-106
			4.85				5.82	9045	P3	40	B-106
33.3	3150	322	0.84	40.0	2630	268	1.00	9015	P3	45	B-106
			1.31				1.58	9025	P3	45	B-106
			2.08				2.50	9030	P3	45	B-106
			2.72				3.27	9035	P3	45	B-106
			3.09				3.72	9040	P3	45	B-106
			4.12				4.94	9045	P3	45	B-106
			4.72				5.63	9050	P3	45	B-106
30.0	3500	358	1.86	36.0	2920	298	2.23	9030	P3	50	B-106
			2.42				2.81	9035	P3	50	B-106
			3.00				3.63	9040	P3	50	B-106
			3.93				4.71	9045	P3	50	B-106
			4.63				5.54	9050	P3	50	B-106
26.8	3920	400	1.68	32.1	3270	334	2.00	9030	P3	56	B-106
			2.20				2.64	9035	P3	56	B-106
			2.50				3.00	9040	P3	56	B-106
			3.32				3.98	9045	P3	56	B-106
			3.81				4.54	9050	P3	56	B-106
			4.90				5.90	9055	P3	56	B-106
23.8	4410	450	1.50	28.6	3680	375	1.79	9030	P3	63	B-106
			1.95				2.33	9035	P3	63	B-106
			2.46				2.90	9040	P3	63	B-106
			3.07				3.69	9045	P3	63	B-106
			3.54				4.27	9050	P3	63	B-106
			5.00				6.00	9055	P3	63	B-106
21.1	4970	508	1.34	25.4	4140	423	1.60	9030	P3	71	B-106
			1.78				2.12	9035	P3	71	B-106
			2.01				2.41	9040	P3	71	B-106
			2.63				3.15	9045	P3	71	B-106
			2.90				3.54	9050	P3	71	B-106
			4.00				4.81	9055	P3	71	B-106
			4.54				5.45	9060	P3	71	B-108
18.8	5600	572	1.56	22.5	4670	477	1.87	9035	P3	80	B-106
			2.49				2.99	9045	P3	80	B-106
			3.81				4.54	9055	P3	80	B-106
16.7	6300	644	1.42	20.0	5250	536	1.70	9035	P3	90	B-106
			2.11				2.53	9045	P3	90	B-106
			3.09				3.63	9055	P3	90	B-106
			4.81				5.76	9065	P3	90	B-106

Drive Unit

Selection
TablesDimension
Tables

SELECTION Drive Unit Parallel Shaft 15kW

15kW	Frequency Hz	50Hz	60Hz
	Pole P	4	4
	Speed n1 r/min	1500	1800

Output Speed r/min	50Hz				60Hz				Model			Page of Dimension Sheet
	Output Torque (Tout) Nm	kgf m	SF	Output Speed r/min	Output Torque (Tout) Nm	kgf m	SF	Size	Assembly	Reduction Ratio	Vertical	
238	602	61	4.26	286	501	51	5.06	9015	P2	6.3	B-102	
211	678	69	3.46	254	565	58	4.13	9015	P2	7.1	B-102	
188	764	78	3.40	225	637	65	4.06	9015	P2	8	B-102	
167	860	88	2.73	200	716	73	3.26	9015	P2	9	B-102	
			4.53				5.40	9025	P2	9	B-102	
150	955	98	2.66	180	796	81	3.13	9015	P2	10	B-102	
			4.33				5.20	9025	P2	10	B-102	
134	1070	109	2.13	161	891	91	2.60	9015	P2	11.2	B-102	
			3.53				4.26	9025	P2	11.2	B-102	
120	1190	122	2.13	144	995	102	2.53	9015	P2	12.5	B-102	
			3.40				4.06	9025	P2	12.5	B-102	
			5.00				5.93	9030	P2	12.5	B-102	
107	1340	137	1.74	129	1110	114	2.06	9015	P2	14	B-102	
			2.80				3.33	9025	P2	14	B-102	
			4.46				5.40	9030	P2	14	B-102	
93.8	1530	156	1.72	113	1270	130	2.06	9015	P2	16	B-102	
			2.80				3.33	9025	P2	16	B-102	
			4.00				4.80	9030	P2	16	B-102	
83.3	1720	176	1.40	100	1430	146	1.68	9015	P2	18	B-102	
			2.26				2.73	9025	P2	18	B-102	
			3.60				4.33	9030	P2	18	B-102	
			4.73				5.66	9035	P2	18	B-102	
75.0	1910	195	1.47	90.0	1590	163	1.76	9015	P3	20	B-106	
			2.20				2.60	9025	P3	20	B-106	
			3.40				4.06	9030	P3	20	B-106	
			4.20				5.00	9035	P2	20	B-102	
67.0	2140	218	1.20	80.4	1780	182	1.43	9015	P3	22.4	B-106	
			1.92				2.26	9025	P3	22.4	B-106	
			3.06				3.66	9030	P3	22.4	B-106	
			3.80				4.53	9035	P2	22.4	B-102	
			4.46				5.33	9040	P3	22.4	B-106	
4.55	5.44	9045	P3	22.4	B-106							
60.0	2390	244	1.18	72.0	1990	203	1.42	9015	P3	25	B-106	
			1.88				2.13	9025	P3	25	B-106	
			2.73				3.26	9030	P3	25	B-106	
			3.53				4.26	9035	P3	25	B-106	
			4.40				5.26	9040	P3	25	B-106	
53.6	2670	273	0.96	64.3	2230	228	1.15	9015	P3	28	B-106	
			1.55				1.86	9025	P3	28	B-106	
			2.46				2.93	9030	P3	28	B-106	
			3.20				3.86	9035	P3	28	B-106	
			3.60				4.33	9040	P3	28	B-106	
			4.72				5.64	9045	P3	28	B-106	
47.6	3010	307	0.94	57.1	2510	256	1.12	9015	P3	31.5	B-106	
			1.45				1.74	9025	P3	31.5	B-106	
			2.06				2.53	9030	P3	31.5	B-106	
			2.08				3.40	9035	P3	31.5	B-106	
			3.46				4.20	9040	P3	31.5	B-106	
			4.53				5.44	9045	P3	31.5	B-106	
42.3	3390	346	1.19	50.7	2830	288	1.42	9025	P3	35.5	B-106	
			1.90				2.26	9030	P3	35.5	B-106	
			2.60				3.06	9035	P3	35.5	B-106	
			2.86				3.40	9040	P3	35.5	B-106	
			3.80				4.55	9045	P3	35.5	B-106	
			4.53				5.40	9050	P3	35.5	B-106	
37.5	3820	390	1.18	45.0	3180	325	1.41	9025	P3	40	B-106	
			1.70				2.00	9030	P3	40	B-106	
			2.20				2.60	9035	P3	40	B-106	
			2.80				3.33	9040	P3	40	B-106	
			3.56				4.27	9045	P3	40	B-106	
			4.20				5.00	9050	P3	40	B-106	

SELECTION Drive Unit Parallel Shaft 15kW, 18.5kW

Drive Unit
Selection
Tables
Dimension
Tables

		Frequency						Model			Page of Dimension Sheet
Output Speed r/min	50Hz			Output Speed r/min	60Hz			Size	Assembly	Reduction Ratio	Vertical
	Output Torque (Tout) Nm	kgf m	SF		Output Torque (Tout) Nm	kgf m	SF				
33.3	4300	439	0.96	40.0	3580	366	1.15	9025	P3	45	B-106
			1.52				1.83	9030	P3	45	B-106
			2.00				2.40	9035	P3	45	B-106
			2.26				2.73	9040	P3	45	B-106
			3.02				3.62	9045	P3	45	B-106
			3.46				4.13	9050	P3	45	B-106
			4.73				5.66	9055	P3	45	B-106
30.0	4780	488	1.36	36.0	3980	406	1.64	9030	P3	50	B-106
			1.78				2.06	9035	P3	50	B-106
			2.20				2.66	9040	P3	50	B-106
			2.88				3.46	9045	P3	50	B-106
			3.40				4.06	9050	P3	50	B-106
			4.46				5.40	9055	P3	50	B-106
26.8	5350	546	1.23	32.1	4460	455	1.47	9030	P3	56	B-106
			1.62				1.94	9035	P3	56	B-106
			1.84				2.20	9040	P3	56	B-106
			2.44				2.92	9045	P3	56	B-106
			2.80				3.33	9050	P3	56	B-106
			3.60				4.33	9055	P3	56	B-106
			4.40				5.26	9060	P3	56	B-108
23.8	6020	614	1.10	28.6	5010	512	1.31	9030	P3	63	B-106
			1.43				1.71	9035	P3	63	B-106
			1.80				2.13	9040	P3	63	B-106
			2.25				2.70	9045	P3	63	B-106
			2.60				3.13	9050	P3	63	B-106
			3.66				4.40	9055	P3	63	B-106
			4.26				5.13	9060	P3	63	B-108
21.1	6780	692	0.98	25.4	5650	577	1.18	9030	P3	71	B-106
			1.30				1.55	9035	P3	71	B-106
			1.48				1.77	9040	P3	71	B-106
			1.93				2.31	9045	P3	71	B-106
			2.13				2.60	9050	P3	71	B-106
			2.93				3.53	9055	P3	71	B-106
			3.33				4.00	9060	P3	71	B-108
			4.61				5.52	9065	P3	71	B-108
18.8	7640	780	1.14	22.5	6370	650	1.37	9035	P3	80	B-106
			1.82				2.19	9045	P3	80	B-106
			2.80				3.33	9055	P3	80	B-106
			4.58				5.65	9065	P3	80	B-108
16.7	8600	878	1.04	20.0	7160	731	1.25	9035	P3	90	B-106
			1.55				1.86	9045	P3	90	B-106
			2.26				2.66	9055	P3	90	B-106
			3.53				4.22	9065	P3	90	B-108

18.5kW	Frequency Hz	50Hz	60Hz
	Pole P	4	4
	Speed n1 r/min	1500	1800

		Frequency						Model			Page of Dimension Sheet
Output Speed r/min	50Hz			Output Speed r/min	60Hz			Size	Assembly	Reduction Ratio	Vertical
	Output Torque (Tout) Nm	kgf m	SF		Output Torque (Tout) Nm	kgf m	SF				
238	742	76	3.45	286	618	63	4.10	9015	P2	6.3	B-102
211	836	85	2.81	254	697	71	3.35	9015	P2	7.1	B-102
			4.48				5.40	9025	P2	7.1	B-102
188	942	96	2.75	225	785	80	3.29	9015	P2	8	B-102
			4.48				5.35	9025	P2	8	B-102
167	1060	108	2.21	200	883	90	2.64	9015	P2	9	B-102
			3.67				4.37	9025	P2	9	B-102
150	1180	120	2.16	180	982	100	2.54	9015	P2	10	B-102
			3.51				4.21	9025	P2	10	B-102
134	1320	135	1.72	161	1100	112	2.10	9015	P2	11.2	B-102
			2.86				3.45	9025	P2	11.2	B-102
			4.64				5.56	9030	P2	11.2	B-102
120	1470	150	1.72	144	1230	125	2.05	9015	P2	12.5	B-102
			4.05				3.29	9025	P2	12.5	B-102
							4.81	9030	P2	12.5	B-102

SELECTION Drive Unit Parallel Shaft 18.5kW

Output Speed r/min	Frequency						Size	Model			Page of Dimension Sheet Vertical
	50Hz			60Hz				Assembly	Reduction Ratio		
	Output Torque (Tout) Nm	kgf m	SF	Output Speed r/min	Output Torque (Tout) Nm	kgf m	SF				
107	1650	168	1.41	129	1370	140	1.67	9015	P2	14	B-102
			2.27				2.70	9025	P2	14	B-102
			3.62				4.37	9030	P2	14	B-102
			4.91				5.89	9035	P2	14	B-102
			1.40				1.67	9015	P2	16	B-102
93.8	1880	192	2.27	113	1570	160	2.70	9025	P2	16	B-102
			3.24				3.89	9030	P2	16	B-102
			4.21				5.08	9035	P2	16	B-102
			1.14				1.36	9015	P2	18	B-102
			1.83				2.21	9025	P2	18	B-102
83.3	2120	216	2.91	100	1770	180	3.51	9030	P2	18	B-102
			3.83				4.59	9035	P2	18	B-102
			4.32				5.13	9040	P2	18	B-102
			1.78				2.10	9025	P3	20	B-106
			2.75				3.29	9030	P3	20	B-106
75.0	2360	241	3.40	90.0	1960	200	4.05	9035	P2	20	B-102
			4.43				5.29	9040	P3	20	B-106
			1.55				1.83	9025	P3	22.4	B-106
			2.48				2.97	9030	P3	22.4	B-106
			3.08				3.67	9035	P2	22.4	B-102
67.0	2640	269	3.62	80.4	2200	224	4.32	9040	P3	22.4	B-106
			4.55				5.44	9045	P3	22.4	B-106
			1.52				1.72	9025	P3	25	B-106
			2.21				2.64	9030	P3	25	B-106
			2.86				3.45	9035	P3	25	B-106
60.0	2940	301	3.56	72.0	2450	251	4.27	9040	P3	25	B-106
			4.53				5.43	9045	P3	25	B-106
			1.26				1.51	9025	P3	28	B-106
			2.00				2.37	9030	P3	28	B-106
			2.59				3.13	9035	P3	28	B-106
53.6	3300	337	2.91	64.3	2750	281	3.51	9040	P3	28	B-106
			3.82				4.57	9045	P3	28	B-106
			4.37				5.24	9050	P3	28	B-106
			1.17				1.41	9025	P3	31.5	B-106
			1.67				2.05	9030	P3	31.5	B-106
47.6	3710	379	2.27	57.1	3090	316	2.75	9035	P3	31.5	B-106
			2.81				3.40	9040	P3	31.5	B-106
			3.67				4.41	9045	P3	31.5	B-106
			4.43				5.29	9050	P3	31.5	B-106
			0.96				1.15	9025	P3	35.5	B-106
42.3	4180	427	1.54	50.7	3480	356	1.83	9030	P3	35.5	B-106
			2.10				2.48	9035	P3	35.5	B-106
			2.32				2.75	9040	P3	35.5	B-106
			3.08				3.69	9045	P3	35.5	B-106
			3.67				4.37	9050	P3	35.5	B-106
37.5	4710	481	4.59	45.0	3930	401	5.45	9055	P3	35.5	B-106
			0.95				1.14	9025	P3	40	B-106
			1.37				1.62	9030	P3	40	B-106
			1.78				2.10	9035	P3	40	B-106
			2.27				2.70	9040	P3	40	B-106
33.3	5300	541	2.88	40.0	4420	451	3.46	9045	P3	40	B-106
			3.40				4.05	9050	P3	40	B-106
			4.75				5.67	9055	P3	40	B-106
			1.23				1.48	9030	P3	45	B-106
			1.62				1.94	9035	P3	45	B-106
30.0	5890	601	1.83	36.0	4910	501	2.21	9040	P3	45	B-106
			2.45				2.94	9045	P3	45	B-106
			2.81				3.35	9050	P3	45	B-106
			3.83				4.59	9055	P3	45	B-106
			4.43				5.29	9060	P3	45	B-108
30.0	5890	601	1.10	36.0	4910	501	1.32	9030	P3	50	B-106
			1.44				1.67	9035	P3	50	B-106
			1.78				2.16	9040	P3	50	B-106
			2.34				2.80	9045	P3	50	B-106
			2.75				3.29	9050	P3	50	B-106
30.0	5890	601	3.62	36.0	4910	501	4.37	9055	P3	50	B-106
			4.54				5.40	9060	P3	50	B-108

SELECTION Drive Unit Parallel Shaft 18.5kW, 22kW

Drive Unit
Selection Tables
Dimension Tables

		Frequency						Model			Page of Dimension Sheet
Output Speed r/min	50Hz			Output Speed r/min	60Hz			Size	Assembly	Reduction Ratio	Vertical
	Output Torque (Tout) Nm	kgf m	SF		Output Torque (Tout) Nm	kgf m	SF				
26.8	6600	673	1.00	32.1	5500	561	1.19	9030	P3	56	B-106
			1.31				1.57	9035	P3	56	B-106
			1.49				1.78	9040	P3	56	B-106
			1.97				2.36	9045	P3	56	B-106
			2.27				2.70	9050	P3	56	B-106
			2.91				3.51	9055	P3	56	B-106
			3.56				4.27	9060	P3	56	B-108
			4.64				5.56	9065	P3	56	B-108
23.8	7420	758	0.89	28.6	6180	631	1.06	9030	P3	63	B-106
			1.16				1.38	9035	P3	63	B-106
			1.46				1.72	9040	P3	63	B-106
			1.82				2.19	9045	P3	63	B-106
			2.10				2.54	9050	P3	63	B-106
			2.97				3.56	9055	P3	63	B-106
			3.45				4.16	9060	P3	63	B-108
			4.80				5.76	9065	P3	63	B-108
21.1	8360	854	1.05	25.4	6970	711	1.26	9035	P3	71	B-106
			1.20				1.43	9040	P3	71	B-106
			1.56				1.87	9045	P3	71	B-106
			1.72				2.10	9050	P3	71	B-106
			2.37				2.86	9055	P3	71	B-106
			2.70				3.24	9060	P3	71	B-108
			3.74				4.47	9065	P3	71	B-106
			4.48				5.35	9070	P3	71	B-108
18.8	9420	962	0.92	22.5	7850	802	1.11	9035	P3	80	B-106
			1.48				1.77	9045	P3	80	B-106
			2.27				2.70	9055	P3	80	B-106
			3.71				4.45	9065	P3	80	B-108
16.7	10600	1080	0.84	20.0	8830	902	1.01	9035	P3	90	B-106
			1.25				1.50	9045	P3	90	B-106
			1.83				2.16	9055	P3	90	B-106
			2.86				3.42	9065	P3	90	B-108
			4.75				5.67	9075	P3	90	B-108

22kW	Frequency Hz	50Hz	60Hz
	Pole P	4	4
	Speed n1 r/min	1500	1800

		Frequency						Model			Page of Dimension Sheet
Output Speed r/min	50Hz			Output Speed r/min	60Hz			Size	Assembly	Reduction Ratio	Vertical
	Output Torque (Tout) Nm	kgf m	SF		Output Torque (Tout) Nm	kgf m	SF				
238	882	90	2.90	286	735	75	3.45	9015	P2	6.3	B-102
			4.63				5.54	9025	P2	6.3	B-102
211	994	102	2.36	254	829	85	2.81	9015	P2	7.1	B-102
			3.77				4.54	9025	P2	7.1	B-102
188	1120	114	2.31	225	934	95	2.77	9015	P2	8	B-102
			3.77				4.50	9025	P2	8	B-102
167	1260	129	1.86	200	1050	107	2.22	9015	P2	9	B-102
			3.09				3.68	9025	P2	9	B-102
			4.77				5.72	9030	P3	9	B-102
150	1400	143	1.81	180	1170	119	2.13	9015	P2	10	B-102
			2.95				3.54	9025	P2	10	B-102
			4.36				5.22	9030	P3	10	B-102
134	1570	160	1.45	161	1310	133	1.77	9015	P2	11.2	B-102
			2.40				2.90	9025	P2	11.2	B-102
			3.90				4.68	9030	P2	11.2	B-102
120	1750	179	1.45	144	1460	149	1.72	9015	P2	12.5	B-102
			2.31				2.77	9025	P2	12.5	B-102
			3.40				4.04	9030	P2	12.5	B-102
			4.54				5.45	9035	P2	12.5	B-102
			1.18				1.40	9015	P2	14	B-102
107	1960	200	1.90	129	1630	167	2.27	9025	P2	14	B-102
			3.04				3.68	9030	P2	14	B-102
			4.13				4.95	6035	P2	14	B-102
			4.50				5.36	9040	P2	14	B-102

SELECTION Drive Unit Parallel Shaft 22kW

Output Speed r/min	Frequency						Size	Model			Page of Dimension Sheet
	50Hz			60Hz				Assembly	Reduction Ratio	Vertical	
	Output Torque (Tout) Nm	kgf m	SF	Output Speed r/min	Output Torque (Tout) Nm	kgf m	SF				
93.8	2240	229	1.17	113	1870	191	1.40	9015	P2	16	B-102
			1.90				2.27	9025	P2	16	B-102
			2.72				3.27	9030	P2	16	B-102
			3.54				4.27	9035	P2	16	B-102
			4.40				5.27	9040	P2	16	B-102
83.3	2520	257	1.54	100	2100	215	1.86	9025	P2	18	B-102
			2.45				2.95	9030	P2	18	B-102
			3.22				3.86	9035	P2	18	B-102
			3.63				4.31	9040	P2	18	B-102
			4.75				5.67	9045	P2	18	B-102
75.0	2800	286	1.50	90.0	2330	238	1.77	9025	P3	20	B-106
			2.31				2.77	9030	P3	20	B-106
			2.86				3.40	9035	P2	20	B-102
			3.72				4.45	9040	P3	20	B-106
			4.68				5.60	9045	P2	20	B-102
67.0	3140	320	1.30	80.4	2610	267	1.54	9025	P3	22.4	B-106
			2.09				2.50	9030	P3	22.4	B-106
			2.59				3.09	9035	P2	22.4	B-102
			3.04				3.63	9040	P3	22.4	B-106
			3.82				4.57	9045	P2	22.4	B-102
4.81	5.77	9050	P3	22.4	B-106						
60.0	3500	358	1.28	72.0	2920	298	1.45	9025	P3	25	B-106
			1.86				2.22	9030	P3	25	B-106
			2.40				2.90	9035	P3	25	B-106
			3.00				3.59	9040	P3	25	B-106
			3.80				4.57	9045	P3	25	B-106
4.45	5.36	9050	P3	25	B-106						
53.6	3920	400	1.06	64.3	3270	334	1.27	9025	P3	28	B-106
			1.68				2.00	9030	P3	28	B-106
			2.18				2.63	9035	P3	28	B-106
			2.45				2.95	9040	P3	28	B-106
			3.21				3.85	9045	P3	28	B-106
3.68	4.40	9050	P3	28	B-106						
47.6	4410	450	0.99	57.1	3680	375	1.18	9025	P3	31.5	B-106
			1.40				1.72	9030	P3	31.5	B-106
			1.90				2.31	9035	P3	31.5	B-106
			2.36				2.86	9040	P3	31.5	B-106
			3.09				3.70	9045	P3	31.5	B-106
3.72	4.45	9050	P3	31.5	B-106						
4.77	5.72	9055	P3	31.5	B-106						
42.3	4970	508	1.30	50.7	4140	423	1.54	9030	P3	35.5	B-106
			1.77				2.09	9035	P3	35.5	B-106
			1.95				2.31	9040	P3	35.5	B-106
			2.59				3.10	9045	P3	35.5	B-106
			3.09				3.68	9050	P3	35.5	B-106
3.86	4.59	9055	P3	35.5	B-106						
4.86	5.81	9060	P3	35.5	B-108						
37.5	5600	572	1.15	45.0	4670	477	1.36	9030	P3	40	B-106
			1.50				1.77	9035	P3	40	B-106
			1.90				2.27	9040	P3	40	B-106
			2.42				2.91	9045	P3	40	B-106
			2.86				3.40	9050	P3	40	B-106
4.00	4.77	9055	P3	40	B-106						
4.72	5.68	9060	P3	40	B-108						
33.3	6300	644	1.04	40.0	5250	536	1.25	9030	P3	45	B-106
			1.36				1.63	9035	P3	45	B-106
			1.54				1.86	9040	P3	45	B-106
			2.06				2.47	9045	P3	45	B-106
			2.36				2.81	9050	P3	45	B-106
3.22	3.86	9055	P3	45	B-106						
3.72	4.45	9060	P3	45	B-108						
30.0	7000	715	0.93	36.0	5840	596	1.11	9030	P3	50	B-106
			1.21				1.40	9035	P3	50	B-106
			1.50				1.81	9040	P3	50	B-106
			1.96				2.35	9045	P3	50	B-106
			2.31				2.77	9050	P3	50	B-106
3.04	3.68	9055	P3	50	B-106						
3.81	4.54	9060	P3	50	B-108						

SELECTION Drive Unit Parallel Shaft 22kW, 30kW

Drive Unit
 Selection Tables
 Dimension Tables

Output Speed r/min	Frequency				Model			Page of Dimension Sheet			
	50Hz		SF	60Hz		Size	Assembly		Reduction Ratio	Vertical	
	Output Torque (Tout) Nm	kgf m		Output Speed r/min	Output Torque (Tout) Nm			kgf m			
26.8	7840	801	0.84	32.1	6540	667	1.00	9030	P3	56	B-106
			1.10				1.32	9035	P3	56	B-106
			1.25				1.50	9040	P3	56	B-106
			1.66				1.99	9045	P3	56	B-106
			1.90				2.27	9050	P3	56	B-106
			2.45				2.95	9055	P3	56	B-106
			3.00				3.59	9060	P3	56	B-108
			3.90				4.67	9065	P3	56	B-108
			4.68				5.59	9070	P3	56	B-108
23.8	8820	901	0.97	28.6	7350	751	1.16	9035	P3	63	B-106
			1.23				1.45	9040	P3	63	B-106
			1.53				1.84	9045	P3	63	B-106
			1.77				2.13	9050	P3	63	B-106
			2.50				3.00	9055	P3	63	B-106
			2.90				3.50	9060	P3	63	B-108
			4.04				4.84	9065	P3	63	B-108
			4.50				5.40	9070	P3	63	B-108
			21.1				9940	1020	0.89	25.4	8290
1.00	1.20	9040		P3	71	B-106					
1.31	1.57	9045		P3	71	B-106					
1.45	1.77	9050		P3	71	B-106					
2.00	2.40	9055		P3	71	B-106					
2.27	2.72	9060		P3	71	B-108					
3.14	3.76	9065		P3	71	B-108					
3.77	4.50	9070		P3	71	B-108					
4.95	5.95	9075		P3	71	B-108					
18.8	11210	1140	1.24	22.5	9340	953	1.49	9045	P3	80	B-106
			1.90				2.27	9055	P3	80	B-106
			3.12				3.75	9065	P3	80	B-108
			4.77				5.68	9075	P3	80	B-108
			16.7				12610	1290	1.05	20.0	10510
1.54	1.81	9055		P3	90	B-106					
2.40	2.88	9065		P3	90	B-108					
4.00	4.77	9075		P3	90	B-108					

30kW	Frequency Hz	50Hz	60Hz
	Pole P	4	4
	Speed n1 r/min	1500	1800

Output Speed r/min	Frequency				Model			Page of Dimension Sheet			
	50Hz		SF	60Hz		Size	Assembly		Reduction Ratio	Vertical	
	Output Torque (Tout) Nm	kgf m		Output Speed r/min	Output Torque (Tout) Nm			kgf m			
238	1200	123	3.40	286	1000	102	4.06	9025	P2	6.3	B-102
			4.96				5.96	9030	P2	6.3	B-102
211	1360	138	2.76	254	1130	115	3.33	9025	P2	7.1	B-102
			4.50				5.36	9030	P2	7.1	B-102
188	1530	156	2.76	225	1270	130	3.30	9025	P2	8	B-102
			3.90				4.66	9030	P2	8	B-102
167	1720	176	2.26	200	1430	146	2.70	9025	P2	9	B-102
			3.50				4.20	9030	P2	9	B-102
			4.73				5.66	9035	P2	9	B-102
150	1910	195	2.16	180	1590	163	2.60	9025	P2	10	B-102
			3.20				3.83	9030	P2	10	B-102
			4.06				4.86	9035	P2	10	B-102
134	2140	218	1.76	161	1780	182	2.13	9025	P2	11.2	B-102
			2.86				3.43	9030	P2	11.2	B-102
			3.70				4.43	9035	P2	11.2	B-102
			4.30				5.13	9040	P2	11.2	B-102
120	2390	244	1.70	144	1990	203	2.03	9025	P2	12.5	B-102
			2.50				2.96	9030	P2	12.5	B-102
			3.33				4.00	9035	P2	12.5	B-102
			4.03				4.83	9040	P2	12.5	B-102
107	2670	273	1.40	129	2230	228	1.66	9025	P2	14	B-102
			2.23				2.70	9030	P2	14	B-102
			3.03				3.63	9035	P2	14	B-102
			3.30				3.93	9040	P2	14	B-102
			4.54				5.42	9045	P2	14	B-102

SELECTION Drive Unit Parallel Shaft 30kW

Output Speed r/min	Frequency							Size	Model		Page of Dimension Sheet
	50Hz			60Hz					Assembly	Reduction Ratio	
	Output Torque (Tout) Nm	kgf m	SF	Output Speed r/min	Output Torque (Tout) Nm	kgf m	SF				
93.8	3060	312	1.40	113	2550	260	1.66	9025	P2	16	B-102
			2.00				2.40	9030	P2	16	B-102
			2.60				3.13	9035	P2	16	B-102
			3.23				3.86	9040	P2	16	B-102
			4.26				5.09	9045	P2	16	B-102
			4.73				5.66	9050	P2	16	B-102
			1.80				2.16	9030	P2	18	B-102
83.3	3440	351	2.36	100	2870	293	2.83	9035	P2	18	B-102
			2.66				3.16	9040	P2	18	B-102
			3.48				4.16	9045	P2	18	B-102
			3.90				4.66	9050	P2	18	B-102
			1.70				2.03	9030	P3	20	B-106
75.0	3820	390	2.10	90.0	3180	325	2.50	9035	P2	20	B-102
			2.73				3.26	9040	P3	20	B-106
			3.43				4.10	9045	P2	20	B-102
			4.30				5.13	9050	P3	20	B-106
			1.90				2.26	9035	P2	22.4	B-102
67.0	4280	437	2.23	80.4	3570	364	2.66	9040	P3	22.4	B-106
			2.80				3.35	9045	P2	22.4	B-102
			3.53				4.23	9050	P3	22.4	B-106
			4.06				4.86	9055	P2	22.4	B-102
			1.76				2.13	9035	P3	25	B-106
60.0	4780	488	2.20	72.0	3980	406	2.63	9040	P3	25	B-106
			2.79				3.35	9045	P3	25	B-106
			3.26				3.93	9050	P3	25	B-106
			4.59				5.50	9055	P3	25	B-106
			1.60				1.93	9035	P3	28	B-106
53.6	5350	546	1.80	64.3	4460	455	2.16	9040	P3	28	B-106
			2.36				2.82	9045	P3	28	B-106
			2.70				3.23	9050	P3	28	B-106
			3.70				4.40	9055	P3	28	B-106
			4.30				5.13	9060	P3	28	B-108
			1.40				1.70	9035	P3	31.5	B-106
47.6	6020	614	1.73	57.1	5010	512	2.10	9040	P3	31.5	B-106
			2.26				2.72	9045	P3	31.5	B-106
			2.73				3.26	9050	P3	31.5	B-106
			3.50				4.20	9055	P3	31.5	B-106
			4.53				5.43	9060	P3	31.5	B-108
			1.30				1.53	9035	P3	35.5	B-106
42.3	6780	692	1.43	50.7	5650	577	1.70	9040	P3	35.5	B-106
			1.90				2.27	9045	P3	35.5	B-106
			2.26				2.70	9050	P3	35.5	B-106
			2.83				3.36	9055	P3	35.5	B-106
			3.56				4.26	9060	P3	35.5	B-108
			4.48				5.36	9065	P3	35.5	B-108
			1.10				1.30	9035	P3	40	B-106
37.5	7640	780	1.40	45.0	6370	650	1.66	9040	P3	40	B-106
			1.78				2.13	9045	P3	40	B-106
			2.10				2.50	9050	P3	40	B-106
			2.93				3.50	9055	P3	40	B-106
			3.46				4.16	9060	P3	40	B-108
			4.83				5.80	9065	P3	40	B-108
			1.00				1.20	9035	P3	45	B-106
33.3	8600	878	1.13	40.0	7160	731	1.36	9040	P3	45	B-106
			1.51				1.81	9045	P3	45	B-106
			1.73				2.06	9050	P3	45	B-106
			2.36				2.83	9055	P3	45	B-106
			2.73				3.26	9060	P3	45	B-108
			3.74				4.47	9065	P3	45	B-108
			4.46				5.33	9070	P3	45	B-108
			0.89				1.03	9035	P3	50	B-106
30.0	9550	975	1.10	36.0	7960	813	1.33	9040	P3	50	B-106
			1.44				1.73	9045	P3	50	B-106
			1.70				2.03	9050	P3	50	B-106
			2.23				2.70	9055	P3	50	B-106
			2.80				3.33	9060	P3	50	B-108
			3.72				4.45	9065	P3	50	B-108
			4.13				4.93	9070	P3	50	B-108

SELECTION Drive Unit Parallel Shaft 30kW, 37kW

Drive Unit
Selection Tables
Dimension Tables

Output Speed r/min	Frequency				Model			Page of Dimension Sheet			
	50Hz		SF	60Hz		Size	Assembly		Reduction Ratio	Vertical	
	Output Torque (Tout) Nm	kgf m		Output Speed r/min	Output Torque (Tout) Nm			kgf m			
26.8	10700	1090	0.92	32.1	8910	910	1.10	9040	P3	56	B-106
			1.22				1.46	9045	P3	56	B-106
			1.40				1.66	9050	P3	56	B-106
			1.80				2.16	9055	P3	56	B-106
			2.20				2.63	9060	P3	56	B-108
			2.86				3.43	9065	P3	56	B-108
			3.43				4.09	9070	P3	56	B-108
			4.73				5.66	9075	P3	56	B-108
23.8	12030	1230	0.90	28.6	10030	1020	1.06	9040	P3	63	B-106
			1.12				1.35	9045	P3	63	B-106
			1.30				1.56	9050	P3	63	B-106
			1.83				2.20	9055	P3	63	B-106
			2.13				2.56	9060	P3	63	B-108
			2.96				3.55	9065	P3	63	B-108
			3.30				3.96	9070	P3	63	B-108
			4.36				5.20	9075	P3	63	B-108
			5.00				5.96	9080	P3	63	B-108
			21.1				13560	1380	0.96	25.4	11300
1.06	1.30	9050		P3	71	B-106					
1.46	1.76	9055		P3	71	B-106					
1.66	2.00	9060		P3	71	B-108					
2.30	2.76	9065		P3	71	B-108					
2.76	3.30	9070		P3	71	B-108					
3.63	4.36	9075		P3	71	B-108					
4.33	5.16	9080		P3	71	B-108					
18.8	15280	1560	0.91	22.5	12730	1300	1.09	9045	P3	80	B-106
			1.40				1.66	9055	P3	80	B-106
			2.29				2.75	9065	P3	80	B-108
			3.50				4.16	9075	P3	80	B-108
			4.53				5.40	9075	P3	90	B-108
16.7	17190	1760	1.13	20.0	14330	1460	1.33	9055	P3	90	B-106
			1.76				2.11	9065	P3	90	B-108
			2.93				3.50	9075	P3	90	B-108
			4.53				5.40	9075	P3	90	B-108

37kW	Frequency Hz	50Hz	60Hz
	Pole P	4	4
	Speed n1 r/min	1500	1800

Output Speed r/min	Frequency				Model			Page of Dimension Sheet			
	50Hz		SF	60Hz		Size	Assembly		Reduction Ratio	Vertical	
	Output Torque (Tout) Nm	kgf m		Output Speed r/min	Output Torque (Tout) Nm			kgf m			
238	1480	152	2.75	286	1240	126	3.29	9025	P2	6.3	B-102
			4.02				4.83	9030	P2	6.3	B-102
211	1670	171	3.64	254	1390	142	4.35	9030	P2	7.1	B-102
188	1880	192	3.16	225	1570	160	3.78	9030	P2	8	B-102
			4.21				5.05	9035	P2	8	B-102
167	2120	216	2.83	200	1770	180	3.40	9030	P2	9	B-102
			3.83				4.59	9035	P2	9	B-102
			4.27				5.08	9040	P2	9	B-102
150	2360	241	2.59	180	1960	200	3.10	9030	P2	10	B-102
			3.29				3.94	9035	P2	10	B-102
			4.27				5.08	9040	P2	10	B-102
134	2640	269	2.32	161	2200	224	2.78	9030	P2	11.2	B-102
			3.00				3.59	9035	P2	11.2	B-102
			3.48				4.16	9040	P2	11.2	B-102
			4.48				5.35	9045	P2	11.2	B-102
120	2940	301	2.02	144	2450	251	2.40	9030	P2	12.5	B-102
			2.70				3.24	9035	P2	12.5	B-102
			3.27				3.91	9040	P2	12.5	B-102
			4.47				5.16	9045	P2	12.5	B-102
			5.00				6.00	9050	P2	12.5	B-102
107	3300	337	1.81	129	2750	281	2.18	9030	P2	14	B-102
			2.45				2.94	9035	P2	14	B-102
			2.67				3.18	9040	P2	14	B-102
			3.68				4.39	9045	P2	14	B-102
			4.13				4.94	9050	P2	14	B-102

SELECTION Drive Unit Parallel Shaft 37kW

Output Speed r/min	Frequency							Size	Model		Page of Dimension Sheet
	50Hz			60Hz					Assembly	Reduction Ratio	
	Output Torque (Tout) Nm	kgf m	SF	Output Speed r/min	Output Torque (Tout) Nm	kgf m	SF				
93.8	3770	385	1.62	113	3140	321	1.94	9030	P2	16	B-102
			2.10				2.54	9035	P2	16	B-102
			2.62				3.13	9040	P2	16	B-102
			3.45				4.12	9045	P2	16	B-102
			3.83				4.59	9050	P2	16	B-102
83.3	4240	433	1.45	100	3530	361	1.75	9030	P2	18	B-102
			1.91				2.29	9035	P2	18	B-102
			2.16				2.56	9040	P2	18	B-102
			2.82				3.37	9045	P2	18	B-102
			3.16				3.78	9050	P2	18	B-102
			4.29				5.16	9055	P2	18	B-102
			5.00				6.00	9060	P2	18	B-104
75.0	4710	481	1.70	90.0	3930	401	2.02	9035	P2	20	B-102
			2.21				2.64	9040	P3	20	B-106
			2.78				3.33	9045	P2	20	B-102
			3.48				4.16	9050	P3	20	B-106
			4.10				4.91	9055	P2	20	B-102
67.0	5280	539	1.54	80.4	4400	449	1.83	9035	P2	22.4	B-102
			1.81				2.16	9040	P3	22.4	B-106
			2.27				2.72	9045	P2	22.4	B-102
			2.86				3.43	9050	P3	22.4	B-106
			3.29				3.94	9055	P2	22.4	B-102
			4.54				5.43	9060	P3	22.4	B-108
60.0	5890	601	1.43	72.0	4910	501	1.72	9035	P3	25	B-106
			1.78				2.13	9040	P3	25	B-106
			2.26				2.71	9045	P3	25	B-106
			2.64				3.18	9050	P3	25	B-106
			3.72				4.45	9055	P3	25	B-106
			4.40				5.27	9060	P3	25	B-108
53.6	6600	673	1.45	64.3	5500	561	1.75	9040	P3	28	B-106
			1.91				2.28	9045	P3	28	B-106
			2.18				2.62	9050	P3	28	B-106
			3.00				3.56	9055	P3	28	B-106
			3.48				4.16	9060	P3	28	B-108
			4.73				5.66	9065	P3	28	B-108
47.6	7420	758	1.40	57.1	6180	631	1.70	9040	P3	31.5	B-106
			1.83				2.20	9045	P3	31.5	B-106
			2.21				2.64	9050	P3	31.5	B-106
			2.83				3.40	9055	P3	31.5	B-106
			3.67				4.40	9060	P3	31.5	B-108
			4.72				5.64	9065	P3	31.5	B-108
42.3	8360	854	1.16	50.7	6970	711	1.37	9040	P3	35.5	B-106
			1.54				1.84	9045	P3	35.5	B-106
			1.83				2.18	9050	P3	35.5	B-106
			2.29				2.72	9055	P3	35.5	B-106
			2.89				3.45	9060	P3	35.5	B-108
			3.63				4.34	9065	P3	35.5	B-108
			4.51				5.37	9070	P3	35.5	B-108
37.5	9420	962	1.13	45.0	7850	802	1.35	9040	P3	40	B-106
			1.44				1.73	9045	P3	40	B-106
			1.70				2.02	9050	P3	40	B-106
			2.37				2.83	9055	P3	40	B-106
			2.81				3.37	9060	P3	40	B-108
			3.92				4.70	9065	P3	40	B-108
			4.32				5.18	9070	P3	40	B-108
33.3	10600	1080	0.91	40.0	8830	902	1.10	9040	P3	45	B-106
			1.22				1.47	9045	P3	45	B-106
			1.40				1.67	9050	P3	45	B-106
			1.91				2.29	9055	P3	45	B-106
			2.21				2.64	9060	P3	45	B-108
			3.03				3.62	9065	P3	45	B-108
			3.62				4.32	9070	P3	45	B-108
			4.78				5.72	9075	P3	45	B-108
30.0	11780	1200	0.89	36.0	9820	1000	1.08	9040	P3	50	B-106
			1.17				1.40	9045	P3	50	B-106
			1.37				1.64	9050	P3	50	B-106
			1.81				2.18	9055	P3	50	B-106
			2.27				2.70	9060	P3	50	B-108
			3.01				3.61	9065	P3	50	B-108
			3.35				4.00	9070	P3	50	B-108
			4.56				5.48	9075	P3	50	B-108
			4.91				5.89	9080	P3	50	B-108

SELECTION Drive Unit Parallel Shaft 37kW, 45kW

Output Speed r/min	Frequency				Model			Page of Dimension Sheet			
	50Hz		SF	60Hz		Size	Assembly		Reduction Ratio	Vertical	
	Output Torque (Tout) Nm	kgf m		Output Speed r/min	Output Torque (Tout) Nm			kgf m			
26.8	13190	1350	0.98	32.1	10990	1120	1.18	9045	P3	56	B-106
			1.13				1.35	9050	P3	56	B-106
			1.45				1.75	9055	P3	56	B-106
			1.78				2.13	9060	P3	56	B-108
			2.32				2.78	9065	P3	56	B-108
			2.78				3.32	9070	P3	56	B-108
			3.83				4.59	9075	P3	56	B-108
			4.27				5.10	9080	P3	56	B-108
23.8	14840	1520	0.91	28.6	12370	1260	1.09	9045	P3	63	B-106
			1.05				1.27	9050	P3	63	B-106
			1.48				1.78	9055	P3	63	B-106
			1.72				2.08	9060	P3	63	B-108
			2.40				2.88	9065	P3	63	B-108
			2.67				3.21	9070	P3	63	B-108
			3.54				4.21	9075	P3	63	B-108
			4.05				4.83	9080	P3	63	B-108
21.1	16730	1710	0.86	25.4	13940	1420	1.05	9050	P3	71	B-106
			1.18				1.43	9055	P3	71	B-106
			1.35				1.62	9060	P3	71	B-108
			1.87				2.23	9065	P3	71	B-108
			2.24				2.67	9070	P3	71	B-108
			2.94				3.54	9075	P3	71	B-108
			3.51				4.18	9080	P3	71	B-108
			4.45				5.32	9085	P3	71	B-108
18.8	18850	1920	1.13	22.5	15700	1600	1.35	9055	P3	80	B-106
			1.85				2.23	9065	P3	80	B-108
			2.83				3.37	9075	P3	80	B-108
			4.27				5.10	9085	P3	80	B-108
			0.91				1.08	9055	P3	90	B-106
16.7	21200	2160	1.43	20.0	17670	1800	1.71	9065	P3	90	B-108
			2.37				2.83	9075	P3	90	B-108
			3.67				4.37	9085	P3	90	B-108

Drive Unit
 Selection
 Tables
 Dimension
 Tables

45kW	Frequency Hz	50Hz	60Hz
	Pole P	4	4
	Speed n1 r/min	1500	1800

Output Speed r/min	Frequency				Model			Page of Dimension Sheet			
	50Hz		SF	60Hz		Size	Assembly		Reduction Ratio	Vertical	
	Output Torque (Tout) Nm	kgf m		Output Speed r/min	Output Torque (Tout) Nm			kgf m			
238	1800	184	4.95	286	1500	154	5.71	9040	P2	6.3	B-102
211	2030	208	4.46	254	1700	173	5.35	9040	P2	7.1	B-102
188	2290	234	3.46	225	1910	195	4.15	9035	P2	8	B-102
			4.22				4.86	9040	P2	8	B-102
167	2580	263	4.96	200	2150	219	5.72	9045	P2	8	B-102
			3.15				3.77	9035	P2	9	B-102
			3.51				4.17	9040	P2	9	B-102
150	2870	293	4.71	180	2390	244	5.62	9045	P2	9	B-102
			2.71				3.24	9035	P2	10	B-102
			3.51				4.17	9040	P2	10	B-102
134	3210	328	4.23	161	2670	273	4.88	9045	P2	10	B-102
			2.46				2.95	9035	P2	11.2	B-102
			2.86				3.42	9040	P2	11.2	B-102
			3.68				4.40	9045	P2	11.2	B-102
			4.17				5.00	9050	P2	11.2	B-102
120	3580	366	2.22	144	2980	305	2.66	9035	P2	12.5	B-102
			2.68				3.22	9040	P2	12.5	B-102
			3.68				4.24	9045	P2	12.5	B-102
			4.11				4.93	9050	P2	12.5	B-102
			2.02				2.42	9035	P2	14	B-102
107	4010	410	2.20	129	3340	341	2.62	9040	P2	14	B-102
			3.02				3.61	9045	P2	14	B-102
			3.40				4.06	9050	P2	14	B-102
			4.37				5.22	9055	P2	14	B-102

SELECTION Drive Unit Parallel Shaft 45kW

Output Speed r/min	Frequency				Model			Page of Dimension Sheet						
	50Hz		SF	60Hz		Size	Assembly		Reduction Ratio	Vertical				
	Output Torque (Tout) Nm	kgf m		Output Speed r/min	Output Torque (Tout) Nm			kgf m						
93.8	4580	468	113	3820	390				1.73	2.08	9035	P2	16	B-102
									2.15	2.57	9040	P2	16	B-102
									2.84	3.39	9045	P2	16	B-102
									3.15	3.77	9050	P2	16	B-102
									4.40	5.26	9055	P2	16	B-102
83.3	5160	527	100	4300	439				1.57	1.88	9035	P2	18	B-102
									1.77	2.11	9040	P2	18	B-102
									2.32	2.77	9045	P2	18	B-102
									2.60	3.11	9050	P2	18	B-102
									3.53	4.24	9055	P2	18	B-102
4.11	4.93	9060	P2	18	B-104									
75.0	5730	585	90.0	4780	488				1.40	1.66	9035	P2	20	B-102
									1.82	2.17	9040	P3	20	B-106
									2.28	2.73	9045	P2	20	B-102
									2.86	3.42	9050	P3	20	B-106
									3.37	4.04	9055	P2	20	B-102
4.73	5.64	9060	P3	20	B-108									
67.0	6420	655	80.4	5350	546				1.87	2.23	9045	P2	22.4	B-102
									2.35	2.82	9050	P3	22.4	B-106
									2.71	3.24	9055	P2	22.4	B-102
									3.73	4.46	9060	P3	22.4	B-108
									4.30	5.14	9065	P2	22.4	B-108
60.0	7160	731	72.0	5970	609				1.86	2.23	9045	P3	25	B-106
									2.17	2.62	9050	P3	25	B-106
									3.06	3.66	9055	P3	25	B-106
									3.62	4.33	9060	P3	25	B-108
									4.62	5.53	9070	P3	25	B-108
53.6	8020	819	64.3	6690	683				1.57	1.88	9045	P3	28	B-106
									1.80	2.15	9050	P3	28	B-106
									2.46	2.93	9055	P3	28	B-106
									2.86	3.42	9060	P3	28	B-108
									3.89	4.65	9065	P3	28	B-108
4.62	5.53	9070	P3	28	B-108									
47.6	9020	921	57.1	7520	768				1.51	1.81	9045	P3	31.5	B-106
									1.82	2.17	9050	P3	31.5	B-106
									2.33	2.80	9055	P3	31.5	B-106
									3.02	3.62	9060	P3	31.5	B-108
									3.88	4.64	9065	P3	31.5	B-108
4.44	5.31	9070	P3	31.5	B-108									
42.3	10170	1040	50.7	8480	865				1.26	1.51	9045	P3	35.5	B-106
									1.51	1.80	9050	P3	35.5	B-106
									1.88	2.24	9055	P3	35.5	B-106
									2.37	2.84	9060	P3	35.5	B-108
									2.98	3.57	9065	P3	35.5	B-108
3.71	4.42	9070	P3	35.5	B-108									
4.91	5.88	9075	P3	35.5	B-108									
37.5	11460	1170	45.0	9550	975				1.18	1.42	9045	P3	40	B-106
									1.40	1.66	9050	P3	40	B-106
									1.95	2.33	9055	P3	40	B-106
									2.31	2.77	9060	P3	40	B-108
									3.22	3.86	9065	P3	40	B-108
3.55	4.26	9070	P3	40	B-108									
4.68	5.60	9075	P3	40	B-108									
33.3	12890	1320	40.0	10740	1100				1.00	1.20	9045	P3	45	B-106
									1.15	1.37	9050	P3	45	B-106
									1.57	1.88	9055	P3	45	B-106
									1.82	2.17	9060	P3	45	B-108
									2.49	2.98	9065	P3	45	B-108
2.97	3.55	9070	P3	45	B-108									
3.93	4.71	9075	P3	45	B-108									
4.68	5.62	9080	P3	45	B-108									
30.0	14330	1460	36.0	11940	1220				0.96	1.15	9045	P3	50	B-106
									1.13	1.35	9050	P3	50	B-106
									1.48	1.80	9055	P3	50	B-106
									1.86	2.22	9060	P3	50	B-108
									2.48	2.97	9065	P3	50	B-108
2.75	3.28	9070	P3	50	B-108									
3.75	4.51	9075	P3	50	B-108									
4.04	4.84	9080	P3	50	B-108									

SELECTION Drive Unit Parallel Shaft 45kW, 55kW

Drive Unit
Selection Tables
Dimension Tables

Output Speed r/min	Frequency				50Hz			60Hz			Model			Page of Dimension Sheet
	Output Torque (Tout) Nm	kgf m	SF	Output Speed r/min	Output Torque (Tout) Nm	kgf m	SF	Size	Assembly	Reduction Ratio	Vertical			
26.8	16040	1640	0.93	32.1	13370	1370	1.11	9050	P3	56	B-106			
			1.20				1.44	9055	P3	56	B-106			
			1.46				1.75	9060	P3	56	B-108			
			1.91				2.28	9065	P3	56	B-108			
			2.28				2.73	9070	P3	56	B-108			
			3.15				3.77	9075	P3	56	B-108			
			3.51				4.20	9080	P3	56	B-108			
			4.91				5.86	9085	P3	56	B-108			
23.8	18050	1840	1.22	28.6	15040	1540	1.46	9055	P3	63	B-106			
			1.42				1.71	9060	P3	63	B-108			
			1.97				2.36	9065	P3	63	B-108			
			2.20				2.64	9070	P3	63	B-108			
			2.91				3.46	9075	P3	63	B-108			
			3.33				3.97	9080	P3	63	B-108			
			4.26				5.11	9085	P3	63	B-108			
			21.1				20340	2080	0.97	25.4	16950	1730	1.17	9055
1.11	1.33	9060		P3	71	B-108								
1.53	1.84	9065		P3	71	B-108								
1.84	2.20	9070		P3	71	B-108								
2.42	2.91	9075		P3	71	B-108								
2.88	3.44	9080		P3	71	B-108								
3.66	4.37	9085		P3	71	B-108								
18.8	22920	2340		0.93	22.5	19100			1950				1.11	9055
			1.52	1.83			9065	P3		80	B-108			
			2.33	2.77			9075	P3		80	B-108			
			3.51	4.20			9085	P3		80	B-108			
			16.7	25790			2630	1.17		20.0	21490	2190	1.40	9065
1.95	2.33	9075			P3	90		B-108						
3.02	3.60	9085			P3	90		B-108						

55kW	Frequency Hz	50Hz	60Hz
	Pole P	4	4
	Speed n1 r/min	1500	1800

Output Speed r/min	Frequency				50Hz			60Hz			Model			Page of Dimension Sheet
	Output Torque (Tout) Nm	kgf m	SF	Output Speed r/min	Output Torque (Tout) Nm	kgf m	SF	Size	Assembly	Reduction Ratio	Vertical			
238	2210	225	4.05	286	1840	188	4.67	9040	P2	6.3	B-102			
211	2490	254	3.65	254	2070	212	4.38	9040	P2	7.1	B-102			
188	2800	286	3.45	225	2330	238	3.98	9040	P2	8	B-102			
			4.06				4.68	9045	P2	8	B-102			
			4.92				5.65	9050	P2	8	B-102			
167	3150	322	2.87	200	2630	268	3.41	9040	P2	9	B-102			
			3.85				4.60	9045	P2	9	B-102			
			4.34				5.20	9050	P2	9	B-102			
150	3500	358	2.87	180	2920	298	3.41	9040	P2	10	B-102			
			3.46				3.99	9045	P2	10	B-102			
			4.10				4.70	9050	P2	10	B-102			
			4.92				5.65	9055	P2	10	B-102			
134	3920	400	2.34	161	3270	334	2.80	9040	P2	11.2	B-102			
			3.01				3.60	9045	P2	11.2	B-102			
			3.41				4.09	9050	P2	11.2	B-102			
			4.54				5.43	9055	P2	11.2	B-102			
			120				4380	447	2.20	144	3650	372	2.63	9040
3.01	3.47	9045		P2	12.5	B-102								
3.36	4.03	9050		P2	12.5	B-102								
4.10	4.70	9055		P2	12.5	B-102								
107	4900	501		1.80	129	4090			417				2.14	9040
			2.47	2.95			9045	P2		14	B-102			
			2.78	3.32			9050	P2		14	B-102			
			3.58	4.27			9055	P2		14	B-102			
			4.40	5.25			9060	P2		14	B-104			
			93.8	5600			572	2.32		113	4670	477	2.77	9045
2.58	3.09	9050			P2	16		B-102						
3.60	4.30	9055			P2	16		B-102						
4.27	5.10	9060			P2	16		B-104						

SELECTION Drive Unit Parallel Shaft 55kW

Output Speed r/min	Frequency				Output Speed r/min	60Hz			Size	Model		Page of Dimension Sheet			
	50Hz			SF		Output Torque (Tout)		SF		Assembly	Reduction Ratio		Vertical		
	Output Torque (Tout) Nm	kgf m			Output Torque (Tout) Nm	kgf m									
83.3	6300	644	1.90	100	5250	536	2.27	9045	P2	18	B-102				
			2.12				2.54					9050	P2	18	B-102
			2.89				3.47					9055	P2	18	B-102
			3.36				4.03					9060	P2	18	B-104
			4.59				5.48					9065	P2	18	B-104
75.0	7000	715	1.87	90.0	5840	596	2.24	9045	P2	20	B-102				
			2.34				2.80					9050	P3	20	B-106
			2.76				3.30					9055	P2	20	B-102
			3.87				4.61					9060	P3	20	B-108
			4.57				5.46					9065	P2	20	B-104
67.0	7840	801	1.53	80.4	6540	667	1.83	9045	P2	22.4	B-102				
			1.92				2.30					9050	P3	22.4	B-106
			2.21				2.65					9055	P2	22.4	B-102
			3.05				3.65					9060	P3	22.4	B-108
			3.52				4.21					9065	P2	22.4	B-104
			4.72				5.63					9070	P3	22.4	B-108
60.0	8750	894	2.50	72.0	7300	745	3.00	9055	P3	25	B-106				
			2.96				3.54					9060	P3	25	B-108
			4.12				4.76					9065	P3	25	B-108
			4.54				5.43					9070	P3	25	B-108
53.6	9800	1000	2.01	64.3	8170	834	2.40	9055	P3	28	B-106				
			2.34				2.80					9060	P3	28	B-108
			3.18				3.81					9065	P3	28	B-108
			3.78				4.52					9070	P3	28	B-108
			5.00				5.98					9075	P3	28	B-108
47.6	11030	1130	1.90	57.1	9190	938	2.29	9055	P3	31.5	B-106				
			2.47				2.96					9060	P3	31.5	B-108
			3.17				3.79					9065	P3	31.5	B-108
			3.63				4.34					9070	P3	31.5	B-108
			4.80				5.72					9075	P3	31.5	B-108
42.3	12430	1270	1.54	50.7	10360	1060	1.83	9055	P3	35.5	B-106				
			1.94				2.32					9060	P3	35.5	B-108
			2.44				2.92					9065	P3	35.5	B-108
			3.03				3.61					9070	P3	35.5	B-108
			4.01				4.81					9075	P3	35.5	B-108
			4.67				5.58					9080	P3	35.5	B-108
37.5	14010	1430	1.60	45.0	11670	1190	1.90	9055	P3	40	B-106				
			1.89				2.27					9060	P3	40	B-108
			2.63				3.16					9065	P3	40	B-108
			2.90				3.49					9070	P3	40	B-108
			3.83				4.58					9075	P3	40	B-108
			4.43				5.30					9080	P3	40	B-108
33.3	15760	1610	1.29	40.0	13130	1340	1.54	9055	P3	45	B-106				
			1.49				1.78					9060	P3	45	B-108
			2.04				2.44					9065	P3	45	B-108
			2.43				2.90					9070	P3	45	B-108
			3.21				3.85					9075	P3	45	B-108
			3.83				4.59					9080	P3	45	B-108
4.89	5.83	9085	P3	45	B-108										
30.0	17510	1790	1.21	360	14590	1490	1.47	9055	P3	50	B-106				
			1.52				1.81					9060	P3	50	B-108
			2.03				2.43					9065	P3	50	B-108
			2.25				2.69					9070	P3	50	B-108
			3.07				3.69					9075	P3	50	B-108
			3.30				3.96					9080	P3	50	B-108
26.8	19610	2000	0.98	32.1	16340	1670	1.18	9055	P3	56	B-106				
			1.20				1.43					9060	P3	56	B-108
			1.56				1.87					9065	P3	56	B-108
			1.87				2.23					9070	P3	56	B-108
			2.58				3.09					9075	P3	56	B-108
			2.87				3.43					9080	P3	56	B-108
4.01	4.80	9085	P3	56	B-108										
23.8	22060	2250	1.16	28.6	18380	1880	1.40	9060	P3	63	B-108				
			1.61				1.93					9065	P3	63	B-108
			1.80				2.16					9070	P3	63	B-108
			2.38				2.83					9075	P3	63	B-108
			2.72				3.25					9080	P3	63	B-108
			3.49				4.18					9085	P3	63	B-108

SELECTION Drive Unit Parallel Shaft 55kW, 75kW

Output Speed r/min	Frequency				Output Speed r/min	60Hz			Model			Page of Dimension Sheet
	50Hz			SF		Output Torque (Tout) Nm	kgf m	SF	Size	Assembly	Reduction Ratio	Vertical
21.1	24860	2540	0.90	25.4	20720	2120	1.09	9060	P3	71	B-108	
			1.25				1.50	9065	P3	71	B-108	
			1.50				1.80	9070	P3	71	B-108	
			1.98				2.38	9075	P3	71	B-108	
			2.36				2.81	9080	P3	71	B-108	
			3.00				3.58	9085	P3	71	B-108	
18.8	28010	2860	1.24	22.5	23340	2380	1.50	9065	P3	80	B-108	
			1.90				2.27	9075	P3	80	B-108	
			2.87				3.43	9085	P3	80	B-108	
			0.96				1.15	9065	P3	90	B-108	
16.7	31520	3220	1.60	20.0	26260	2680	1.90	9075	P3	90	B-108	
			2.47				2.94	9085	P3	90	B-108	

75kW	Frequency Hz	50Hz	60Hz
	Pole P	4	4
	Speed n1 r/min	1500	1800

Output Speed r/min	Frequency				Output Speed r/min	60Hz			Model			Page of Dimension Sheet
	50Hz			SF		Output Torque (Tout) Nm	kgf m	SF	Size	Assembly	Reduction Ratio	Vertical
238	3010	307	4.06	286	2510	256	4.66	9050	P2	6.3	B-102	
211	3390	346	3.90	254	2830	288	4.65	9050	P2	7.1	B-102	
188	3820	390	4.06	225	3180	325	4.66	9055	P2	8	B-102	
167	4300	439	4.06	200	3580	366	4.66	9055	P2	9	B-102	
			4.94				5.90	9060	P2	9	B-104	
150	4780	488	3.61	180	3980	406	4.14	9055	P2	10	B-102	
134	5350	546	3.33	161	4460	455	3.98	9055	P2	11.2	B-102	
			4.01				4.80	9060	P2	11.2	B-104	
120	5970	609	3.01	144	4970	508	3.45	9055	P2	12.5	B-102	
			4.09				4.88	9060	P2	12.5	B-104	
107	6690	683	2.62	129	5570	569	3.13	9055	P2	14	B-102	
			3.22				3.85	9060	P2	14	B-104	
			4.19				5.00	9065	P2	14	B-104	
			2.64				3.16	9055	P2	16	B-102	
93.8	7640	780	3.13	113	6370	650	3.74	9060	P2	16	B-104	
			4.37				5.19	9065	P2	16	B-104	
			4.90				5.86	9070	P2	16	B-104	
			2.12				2.54	9055	P2	18	B-102	
83.3	8600	878	2.46	100	7160	731	2.96	9060	P2	18	B-104	
			3.36				4.02	9065	P2	18	B-104	
			4.10				4.90	9070	P2	18	B-104	
			2.02				2.42	9055	P2	20	B-102	
75.0	9550	975	2.84	90.0	7960	813	3.38	9060	P3	20	B-108	
			3.35				4.01	9065	P2	20	B-104	
			4.13				4.74	9070	P3	20	B-108	
			1.62				1.94	9055	P2	22.4	B-102	
67.0	10700	1090	2.24	80.4	8910	910	2.68	9060	P3	22.4	B-108	
			2.58				3.08	9065	P2	22.4	B-104	
			3.46				4.13	9070	P3	22.4	B-108	
			4.34				5.20	9075	P2	22.4	B-104	
60.0	11940	1220	3.02	72.0	9950	1020	3.49	9065	P3	25	B-108	
			3.33				3.98	9070	P3	25	B-108	
			4.13				4.74	9075	P3	25	B-108	
			2.33				2.79	9065	P3	28	B-108	
53.6	13370	1370	2.77	64.3	11140	1140	3.32	9070	P3	28	B-108	
			3.66				4.38	9075	P3	28	B-108	
			4.40				5.26	9080	P3	28	B-108	
			2.32				2.78	9065	P3	31.5	B-108	
47.6	15040	1540	2.66	57.1	12530	1280	3.18	9070	P3	31.5	B-108	
			3.52				4.20	9075	P3	31.5	B-108	
			3.96				4.73	9080	P3	31.5	B-108	
			1.79				2.14	9065	P3	35.5	B-108	
42.3	16950	1730	2.22	50.7	14130	1440	2.65	9070	P3	35.5	B-108	
			2.94				3.53	9075	P3	35.5	B-108	
			3.42				4.09	9080	P3	35.5	B-108	
			4.61				5.50	9085	P3	35.5	B-108	

SELECTION Drive Unit Parallel Shaft 75kW, 90kW

Output Speed r/min	Frequency				Model			Page of Dimension Sheet			
	50Hz		SF	60Hz		Size	Assembly		Reduction Ratio	Vertical	
Output Torque (Tout) Nm	kgf m	Output Speed r/min		Output Torque (Tout) Nm	kgf m			SF			
37.5	19100	1950	1.93	45.0	15920	1630	2.32	9065	P3	40	B-108
			2.13				2.56	9070	P3	40	B-108
			2.81				3.36	9075	P3	40	B-108
			3.25				3.89	9080	P3	40	B-108
			4.17				4.98	9085	P3	40	B-108
33.3	21490	2190	1.49	40.0	17910	1830	1.78	9065	P3	45	B-108
			1.78				2.13	9070	P3	45	B-108
			2.36				2.82	9075	P3	45	B-108
			2.81				3.37	9080	P3	45	B-108
			3.58				4.28	9085	P3	45	B-108
30.0	23880	2440	1.48	36.0	19900	2030	1.78	9065	P3	50	B-108
			1.65				1.97	9070	P3	50	B-108
			2.25				2.70	9075	P3	50	B-108
			2.42				2.90	9080	P3	50	B-108
			3.42				4.10	9085	P3	50	B-108
26.8	26740	2730	1.37	32.1	22280	2280	1.64	9070	P3	56	B-108
			1.89				2.26	9075	P3	56	B-108
			2.10				2.52	9080	P3	56	B-108
			2.94				3.52	9085	P3	56	B-108
23.8	30080	3070	1.32	28.6	25070	2560	1.58	9070	P3	63	B-108
			1.74				2.08	9075	P3	63	B-108
			2.00				2.38	9080	P3	63	B-108
			2.56				3.06	9085	P3	63	B-108
21.1	33900	3460	1.10	25.4	28250	2880	1.32	9070	P3	71	B-108
			1.45				1.74	9075	P3	71	B-108
			1.73				2.06	9080	P3	71	B-108
			2.20				2.62	9085	P3	71	B-108
18.8	38200	3900	1.40	22.5	31830	3250	1.66	9075	P3	80	B-108
			2.10				2.52	9085	P3	80	B-108
16.7	42980	4390	1.17	20.0	35810	3660	1.40	9075	P3	90	B-108
			1.81				2.16	9085	P3	90	B-108

90kW	Frequency Hz	50Hz	60Hz
	Pole P	4	4
	Speed n1 r/min	1500	1800

Output Speed r/min	Frequency				Model			Page of Dimension Sheet			
	50Hz		SF	60Hz		Size	Assembly		Reduction Ratio	Vertical	
Output Torque (Tout) Nm	kgf m	Output Speed r/min		Output Torque (Tout) Nm	kgf m			SF			
188	4580	468	3.38	225	3820	390	3.88	9055	P2	8	B-102
167	5160	527	3.38	200	4300	439	3.88	9055	P2	9	B-102
			4.12				4.92	9060	P2	9	B-104
150	5730	582	4.24	180	4780	488	5.02	9060	P2	10	B-104
			2.77				3.32	9055	P2	11.2	B-102
134	6420	655	3.34	161	5350	546	4.00	9060	P2	11.2	B-104
			4.30				5.13	9065	P2	11.2	B-104
			3.41				4.06	9060	P2	12.5	B-104
120	7160	731	4.42	144	5970	609	5.02	9065	P2	12.5	B-104
			2.68				3.21	9060	P2	14	B-104
107	8020	819	3.49	129	6690	683	4.17	9065	P2	14	B-104
			4.25				5.07	9070	P2	14	B-104
			2.61				3.12	9060	P2	16	B-104
93.8	9170	936	3.64	113	7640	780	4.33	9065	P2	16	B-104
			4.08				4.88	9070	P2	16	B-104
			2.05				2.46	9060	P2	18	B-104
			2.80				3.35	9065	P2	18	B-104
83.3	10310	1050	3.42	100	8600	878	4.08	9070	P2	18	B-104
			4.51				5.38	9075	P2	18	B-104
			2.79				3.34	9065	P2	20	B-104
75.0	11460	1170	3.44	90.0	9550	975	3.95	9070	P3	20	B-108
			4.32				5.16	9075	P2	20	B-104

SELECTION Drive Unit Parallel Shaft 90kW, 110kW

Drive Unit
Selection
Tables
Dimension
Tables

Output Speed r/min	Frequency				Output Speed r/min	60Hz			Size	Model		Page of Dimension Sheet
	50Hz		SF	Output Speed r/min		Output Torque (Tout) Nm kgf m		SF		Assembly	Reduction Ratio	
67.0	12840	1310			2.15	80.4	10700		1090			2.57
			2.88	3.44								
			3.62	4.33								
			4.45	5.33								
60.0	14330	1460	2.77	72.0	11940	1220	3.32	9070	P3	25	B-108	
			3.44				3.95					
			4.24				5.06					
53.6	16040	1640	2.31	64.3	13370	1370	2.76	9070	P3	28	B-108	
			3.05				3.65					
			3.66				4.38					
			4.66				5.57					
47.6	18050	1840	2.22	57.1	15040	1540	2.65	9070	P3	31.5	B-108	
			2.93				3.50					
			3.30				3.94					
			4.46				5.34					
42.3	20340	2080	1.85	50.7	16950	1730	2.21	9070	P3	35.5	B-108	
			2.45				2.94					
			2.85				3.41					
			3.84				4.58					
37.5	22920	2340	1.77	45.0	19100	1950	2.13	9070	P3	40	B-108	
			2.34				2.80					
			2.71				3.24					
			3.47				4.15					
33.3	25790	2630	1.48	40.0	21490	2190	1.77	9070	P3	45	B-108	
			1.96				2.35					
			2.34				2.81					
			2.98				3.56					
30.0	28650	2930	1.87	36.0	23880	2440	2.25	9075	P3	50	B-108	
			2.02				2.42					
			2.85				3.42					
26.8	32090	3280	1.57	32.1	26740	2730	1.88	9075	P3	56	B-108	
			1.75				2.10					
			2.45				2.93					
23.8	36100	3690	1.45	28.6	30080	3070	1.73	9075	P3	63	B-108	
			1.66				1.98					
			2.13				2.55					
21.1	40680	4150	1.21	25.4	33900	3460	1.45	9075	P3	71	B-108	
			1.44				1.72					
			1.83				2.18					
18.8	45840	4680	1.16	22.5	38200	3900	1.38	9075	P3	80	B-108	
			1.75				2.10					
16.7	51570	5270	0.97	20.0	42980	4390	1.16	9075	P3	90	B-108	
			1.51				1.80					

110kW	Frequency Hz	50Hz	60Hz
	Pole P	4	4
	Speed n1 r/min	1500	1800

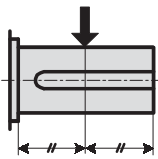
Output Speed r/min	Frequency				Output Speed r/min	60Hz			Size	Model		Page of Dimension Sheet
	50Hz		SF	Output Speed r/min		Output Torque (Tout) Nm kgf m		SF		Assembly	Reduction Ratio	
167	6310	644			4.44	161	5260		536			5.30
150	7010	715	4.13	144	5840	596	4.70	9065	P2	10	B-104	
134	7840	801	3.51	161	6540	667	4.20	9065	P2	11.2	B-104	
			4.50				5.38					
120	8750	894	3.62	144	7300	745	4.11	9065	P2	12.5	B-104	
			4.16				4.97					
107	9800	1000	2.85	129	8170	834	3.41	9065	P2	14	B-104	
			3.48				4.15					
			4.78				5.70					

SELECTION Drive Unit Parallel Shaft 110kW

Output Speed r/min	Frequency							Size	Model		Page of Dimension Sheet
	50Hz			60Hz					Assembly	Reduction Ratio	
	Output Torque (Tout) Nm	kgf m	SF	Output Speed r/min	Output Torque (Tout) Nm	kgf m	SF				
93.8	11210	1140	2.98	113	9340	953	3.54	9065	P2	16	B-104
			3.34				4.00	9070	P2	16	B-104
			4.40				5.13	9075	P2	16	B-104
83.3	12610	1290	2.80	100	10510	1070	3.34	9070	P2	18	B-104
			3.69				4.40	9075	P2	18	B-104
			4.37				5.21	9080	P2	18	B-104
75.0	14010	1430	3.53	90.0	11670	1190	4.22	9075	P2	20	B-104
			4.20				5.03	9080	P3	20	B-108
67.0	15690	1600	2.96	80.4	13070	1330	3.54	9075	P2	22.4	B-104
			3.64				4.36	9080	P3	22.4	B-108
			4.57				5.46	9085	P2	22.4	B-104
60.0	17510	1790	2.81	72.0	14590	1490	3.23	9075	P3	25	B-108
			3.47				4.14	9080	P3	25	B-108
			4.43				5.20	9085	P3	25	B-108
53.6	19610	2000	2.50	64.3	16340	1670	2.99	9075	P3	28	B-108
			3.00				3.59	9080	P3	28	B-108
			3.81				4.56	9085	P3	28	B-108
47.6	22060	2250	2.40	57.1	18380	1880	2.86	9075	P3	31.5	B-108
			2.70				3.22	9080	P3	31.5	B-108
			3.65				4.37	9085	P3	31.5	B-108
42.3	24860	2540	2.00	50.7	20720	2120	2.40	9075	P3	35.5	B-108
			2.33				2.79	9080	P3	35.5	B-108
			3.14				3.75	9085	P3	35.5	B-108
37.5	28010	2860	1.91	45.0	23340	2380	2.29	9075	P3	40	B-108
			2.21				2.65	9080	P3	40	B-108
			2.84				3.40	9085	P3	40	B-108
33.3	31520	3220	1.60	40.0	26260	2680	1.92	9075	P3	45	B-108
			1.91				2.29	9080	P3	45	B-108
			2.44				2.91	9085	P3	45	B-108
30.0	35020	3580	1.65	36.0	29180	2980	1.98	9080	P3	50	B-108
			2.33				2.80	9085	P3	50	B-108
26.8	39220	4000	1.43	32.1	32680	3340	1.71	9080	P3	56	B-108
			2.00				2.40	9085	P3	56	B-108
23.8	44120	4500	1.74	28.6	36770	3750	2.09	9085	P3	63	B-108
21.1	49720	5080	1.50	25.4	41440	4230	1.79	9085	P3	71	B-108
18.8	56030	5720	1.43	22.5	46690	4770	1.71	9085	P3	80	B-108
16.7	63030	6440	1.23	20.0	52530	5360	1.47	9085	P3	90	B-108

SELECTION Drive Unit Allowable Radial and Axial Loads on Slow Speed Shaft

Allowable Radial Load (kN)



Sheet 1

Applicable to configurations: RML

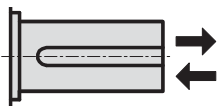
L.Speed Shaft Speed r/min	Size of Reducer														
	9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085	
Standard bearing model	250	11.8	17.7	17.7	29.4	29.9	32.4	37.8	46.6	39.7	49.1	44.1	77.0	77.0	100.1
	160	11.8	17.7	20.1	31.4	32.4	33.8	39.7	48.1	41.7	50.5	46.1	89.0	89.0	108.9
	100	11.8	17.7	25.0	35.3	38.7	39.2	47.1	53.5	47.6	54.4	54.4	99.0	99.0	122.1
	63	11.8	17.7	26.5	35.3	42.2	47.1	54.9	62.3	58.9	64.3	65.2	131.5	131.5	125.6
	40	11.8	17.7	26.5	35.3	42.2	49.1	54.9	67.7	71.1	78.0	79.0	141.0	141.0	125.1
≤ 25	11.8	17.7	26.5	35.3	42.2	49.1	54.9	67.7	81.4	95.2	99.1	139.5	139.5	122.6	
Heavy duty bearing model	250								71.1	93.7	70.1	122.5	122.5	141.8	
	160								78.0	94.7	77.5	137.5	137.5	132.4	
	100								81.4	98.1	92.2	149.5	149.5	127.0	
	63								81.4	98.1	114.8	149.0	149.0	125.6	
	40								81.4	98.1	117.7	148.5	148.5	125.1	
≤ 25								81.4	98.1	117.7	147.0	147.0	122.6		

Sheet 2

Applicable to configurations: RMR

L.Speed Shaft Speed r/min	Size of Reducer														
	9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085	
Standard bearing model	250	8.3	15.2	9.8	21.6	19.1	21.6	22.6	31.4	16.7	28.4	17.2	44.0	44.0	58.4
	160	9.8	17.7	12.3	23.1	20.6	23.1	24.0	31.4	18.1	27.0	17.7	55.5	55.5	64.3
	100	11.8	17.7	16.7	29.4	26.0	27.5	28.4	35.3	22.1	30.4	25.5	63.5	63.5	74.6
	63	11.8	17.7	21.6	35.3	32.9	35.3	37.3	42.7	33.4	38.3	33.8	95.0	95.0	104.5
	40	11.8	17.7	26.5	35.3	41.7	43.7	48.6	55.4	45.1	51.5	47.6	129.0	129.0	146.7
≤ 25	11.8	17.7	26.5	35.3	42.2	49.1	61.6	67.7	60.8	68.7	67.7	167.0	167.0	171.2	
Heavy duty bearing model	250								46.1	74.6	40.2	90.0	90.0	114.8	
	160								52.0	72.1	45.6	103.5	103.5	125.1	
	100								60.3	79.1	59.4	116.0	116.0	140.8	
	63								81.4	96.6	80.0	152.5	152.5	174.1	
	40								81.4	98.1	108.9	192.0	192.0	191.8	
≤ 25								81.4	98.1	117.7	180.5	180.5	171.2		

Allowable Axial Load (kN)



L.Speed Shaft Speed r/min	Size of Reducer														
	9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085	
Standard bearing model	250	9.3	11.4	14.7	23.1	26.5	31.4	32.9	31.9	27.0	43.2	28.0	28.0	23.5	23.5
	160	9.3	11.4	18.1	23.1	28.4	31.4	33.4	31.9	28.9	43.2	28.4	28.4	27.5	27.5
	100	9.3	11.4	24.5	23.1	32.9	31.4	37.3	31.9	34.3	43.2	39.7	39.7	32.9	32.9
	63	9.3	11.4	26.5	23.1	32.9	31.4	37.3	31.9	49.1	43.2	52.5	52.5	45.6	45.6
	40	9.3	11.4	26.5	23.1	32.9	31.4	37.3	31.9	49.1	43.2	61.4	61.4	63.3	60.3
≤ 25	9.3	11.4	26.5	23.1	32.9	31.4	37.3	31.9	49.1	43.2	61.4	61.4	67.7	60.3	
Heavy duty bearing model	250								23.1	34.8	18.6	18.6	56.9	56.9	
	160								25.0	33.4	21.1	21.1	56.9	56.9	
	100								29.4	36.8	27.5	27.5	56.9	56.9	
	63								39.2	43.2	36.3	36.3	56.9	56.9	
	40								39.2	43.2	49.1	49.1	56.9	56.9	
≤ 25								39.2	43.2	56.9	56.9	56.9	56.9		

SELECTION Drive Unit Allowable Radial and Axial Loads on Slow Speed Shaft

Overhang Factor

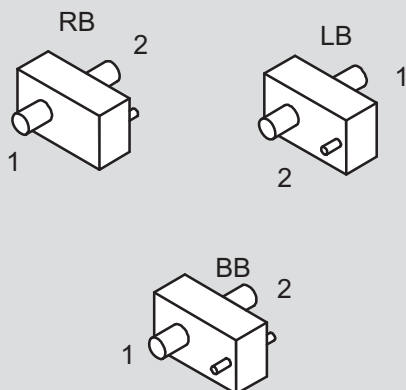
Overhang Member	Overhang Factor
Sprocket (Single Row)	1
Sprocket (Double Row)	1.25
Gears	1.25

Notes

- The value shown in the table is allowable radial load when it is applied to the center of the solid shaft (except hollow shaft). Consult us when a load is not in the center.
- Consult us for the blanks in the table.
- Consult us when the radial load is applied upward.
- In case of double projection shaft (RMB,LMB,BMB)
 - See sheet1 when the radial load is applied only to the shaft1.
 - See sheet2 when the radial load is applied only to the shaft2.
 - Consult us when the radial load is applied to both shafts.
- Refer to B-6 to check overhang load, and calculate equivalent load at peak load value. Be careful under following condition because large peak load may be generated.

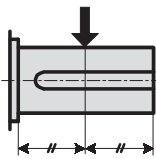
Application: When the inertia is large, such as for crane driving, slewing, etc.

Motor: inline motor
Connecting method: Sprocket or gear
Consult us when the peak load is larger than allowable value.



SELECTION Drive Unit Allowable Radial and Axial Loads on Slow Speed Shaft

Allowable Radial Load (kgf)



Sheet 1

Applicable to configurations: RML

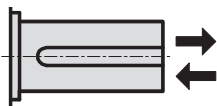
L.Speed Shaft Speed r/min	Size of Reducer														
	9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085	
Standard bearing model	250	1200	1800	1800	3000	3050	3300	3850	4750	4050	5000	4500	7850	7850	10200
	160	1200	1800	2050	3200	3300	3450	4050	4900	4250	5150	4700	9050	9050	11100
	100	1200	1800	2550	3600	3950	4000	4800	5450	4850	5550	5550	10100	10100	12450
	63	1200	1800	2700	3600	4300	4800	5600	6350	6000	6550	6650	13400	13400	12800
	40	1200	1800	2700	3600	4300	5000	5600	6900	7250	7950	8050	14350	14350	12750
≤ 25	1200	1800	2700	3600	4300	5000	5600	6900	8300	9700	10100	14200	14200	12500	
Heavy duty bearing model	250								7250	9550	7150	12500	12500	14450	
	160								7950	9650	7900	14000	14000	13500	
	100								8300	10000	9400	15250	15250	12950	
	63								8300	10000	11700	15200	15200	12800	
	40								8300	10000	12000	15150	15150	12750	
≤ 25								8300	10000	12000	15000	15000	12500		

Sheet 2

Applicable to configurations: RMR

L.Speed Shaft Speed r/min	Size of Reducer														
	9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085	
Standard bearing model	250	850	1550	1000	2200	1950	2200	2300	3200	1700	2900	1750	4500	4500	5950
	160	1000	1800	1250	2350	2100	2350	2450	3200	1850	2750	1800	5650	5650	6550
	100	1200	1800	1700	3000	2650	2800	2900	3600	2250	3100	2600	6450	6450	7600
	63	1200	1800	2200	3600	3350	3600	3800	4350	3400	3900	3450	9700	9700	10650
	40	1200	1800	2700	3600	4250	4450	4950	5650	4600	5250	4850	13150	13150	14950
≤ 25	1200	1800	2700	3600	4300	5000	5600	6900	6200	7000	6900	17000	17000	17450	
Heavy duty bearing model	250								4700	7600	4100	9150	9150	11700	
	160								5300	7350	4650	10550	10550	12750	
	100								6150	8050	6050	11800	11800	14350	
	63								8300	9850	8150	15550	15550	17750	
	40								8300	10000	11100	19550	19550	19550	
≤ 25								8300	10000	12000	18400	18400	17450		

Allowable Axial Load (kgf)



L.Speed Shaft Speed r/min	Size of Reducer														
	9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085	
Standard bearing model	250	950	1160	1500	2350	2700	3200	3350	3250	2750	4400	2850	2850	2400	2400
	160	950	1160	1850	2350	2900	3200	3400	3250	2950	4400	2900	2900	2800	2800
	100	950	1160	2500	2350	3350	3200	3800	3250	3500	4400	4050	4050	3350	3350
	63	950	1160	2700	2350	3350	3200	3800	3250	5000	4400	5350	5350	4650	4650
	40	950	1160	2700	2350	3350	3200	3800	3250	5000	4400	6260	6260	6450	6150
≤ 25	950	1160	2700	2350	3350	3200	3800	3250	5000	4400	6260	6260	6900	6150	
Heavy duty bearing model	250								2350	3550	1900	1900	5800	5800	
	160								2550	3400	2150	2150	5800	5800	
	100								3000	3750	2800	2800	5800	5800	
	63								4000	4400	3700	3700	5800	5800	
	40								4000	4400	5000	5000	5800	5800	
≤ 25								4000	4400	5800	5800	5800	5800		

SELECTION Drive Unit Allowable Radial and Axial Loads on Slow Speed Shaft

Overhang Factor

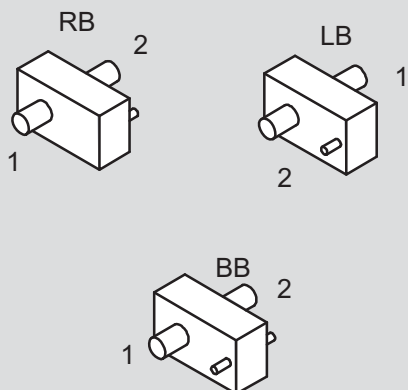
Overhang Member	Overhang Factor
Sprocket (Single Row)	1
Sprocket (Double Row)	1.25
Gears	1.25

Notes

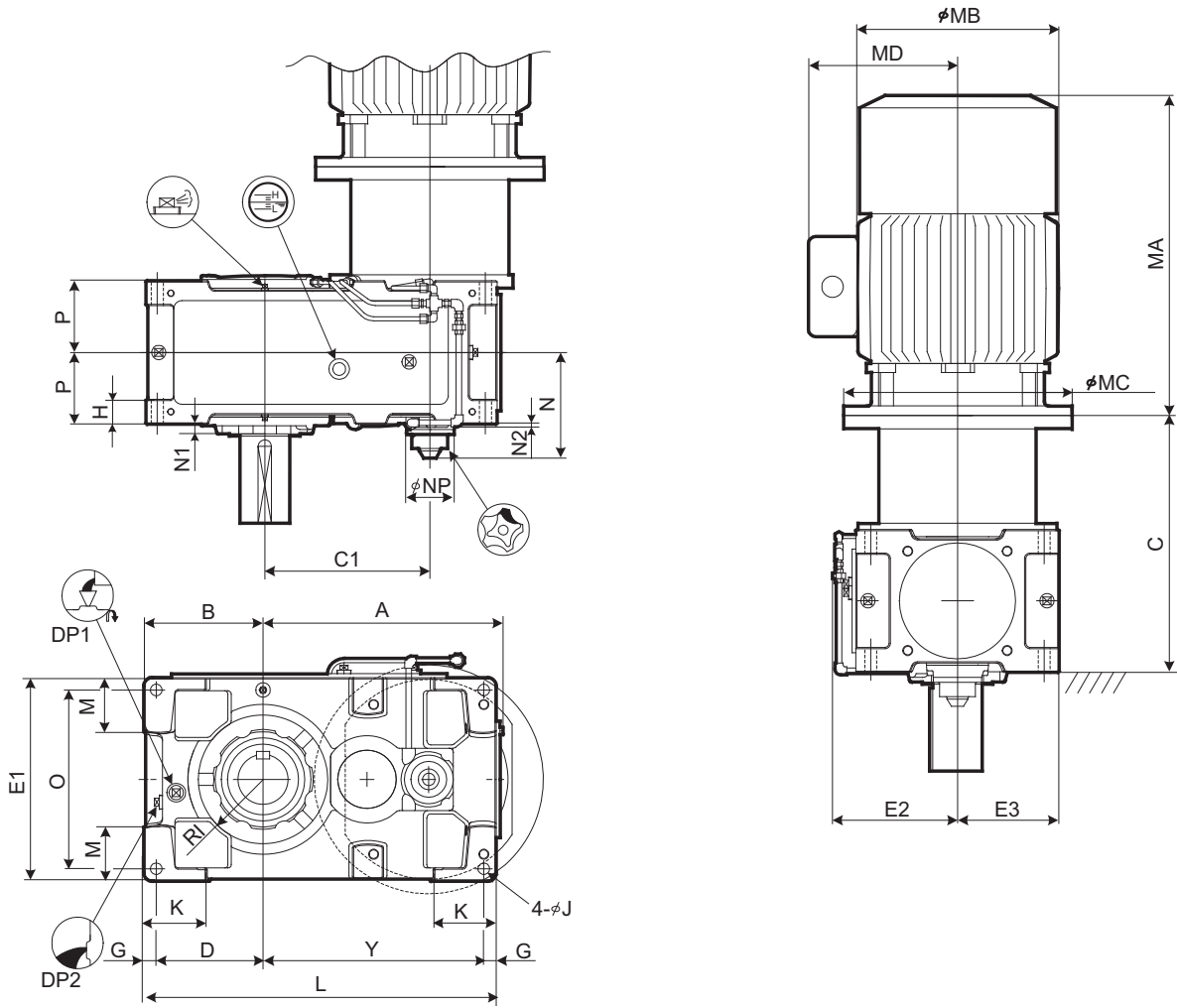
- The value shown in the table is allowable radial load when it is applied to the center of the solid shaft (except hollow shaft). Consult us when a load is not in the center.
- Consult us for the blanks in the table.
- Consult us when the radial load is applied upward.
- In case of double projection shaft (RMB,LMB,BMB)
 - See sheet1 when the radial load is applied only to the shaft1.
 - See sheet2 when the radial load is applied only to the shaft2.
 - Consult us when the radial load is applied to both shafts.
- Refer to B-6 to check overhang load, and calculate equivalent load at peak load value. Be careful under following condition because large peak load may be generated.

Application: When the inertia is large, such as for crane driving, slewing, etc.

Motor: inline motor
Connecting method: Sprocket or gear
Consult us when the peak load is larger than allowable value.



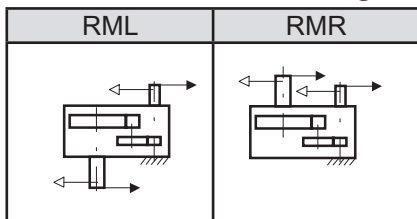
Drive Unit
Selection Tables
Dimension Tables



Slow Speed Shaft

Solid Shaft	Hollow Shaft (Shrink Disk Type)	Hollow Shaft (Key Type)
	<p>Refer to the page D -18 for details.</p>	<p>Refer to the page D -18 for details.</p>

Standard Shaft Arrangement Configuration



1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996) Parallel key in fastening type)
 2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
 3. Refer to the page D-12 for dimensions not shown in these drawings.

4. Refer to the page D -25 for the dimension of optional parts.
 5. Refer to the page D-33 for motor terminal box position.
 6. Refer to the page D-34 for flange dimension.

DIMENSIONS Parallel Shaft Double Reduction Vertical Mounting 9015 ▶ 9055

PARAMAX Vertical Monoblock
 9015
 9055
 Parallel
 Double Reduction
 P
 V
 A
 P
 2

Size	A	B	C1	C	D	E1	E2	E3	G	H	RI	J	K	L	M	N	N1	N2	NP	O	P	Y
9015	295	160	194		140	270	195	135	20	35	80	15	95	440	70	186	25	14	100	230	102.5	260
9025	346	175	227		155	310	215	155	20	40	87.5	19	110	505	75	198.5	23	12	100	270	117.5	310
9030	406	200	264		175	320	220	160	25	50	105	24	120	590	85	211	22	9	100	270	132.5	365
9035	437	219	295	See below	194	370	245	185	25	50	120	24	120	640	100	211	22	9	100	320	132.5	396
9040	467	235	306		205	400	260	200	30	60	128	28	150	685	100	237.5	15	2	117	340	157.5	420
9045	506	256	345		226	440	266	220	30	60	140	28	150	745	120	237.5	17.5	2	117	380	157.5	459
9050	537	255	358		225	420	270	210	30	60	140	28	150	775	110	257.5	23	7	117	360	172.5	490
9055	576	286	397		256	490	305	245	30	60	155	28	150	845	135	257.5	23	7	117	430	172.5	529

Size	DP1	DP2	Oil Qty (L)	Wt. (kg) ^{*)}
9015	3/4"	3/4"	5	125
9025	3/4"	3/4"	7	170
9030	3/4"	3/4"	9	235
9035	3/4"	3/4"	12	255
9040	1"	1"	18	345
9045	1"	1"	22	405
9050	1"	1"	22	485
9055	1"	1"	31	550

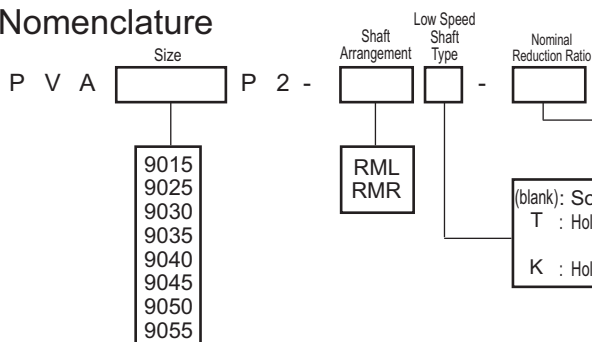
*) Mass of drive unit with motor, add mass of motor flange and mass of motor, shown in table below.

kW	Motor							C								Mass of Motor Mounting Flange (kg)	Mass of Motor (kg)	
	Without Brake			With Brake				MD	9015	9025	9030	9035	9040	9045	9050		9055	Without Brake
MA	MG	MC	MA	MB	MC													
5.5	382	212	315	454	212	315	144	397.5								8	43	54
7.5	415	251	315	510	251	315	185	397.5 427.5								8	57	77
11	480	251	350	575	251	350	188	427.5 457.5 515.5								11	76	96
15	545	324	350	700	324	350	232	427.5 457.5 515.5 515.5								11	131	175
18.5	625	394	400	835	394	400	297	427.5 457.5 515.5 515.5 555.5 555.5								17	213	258
22	625	394	400	835	394	400	297	427.5 457.5 515.5 515.5 555.5 555.5								17	213	258
30	625	394	400	835	394	400	297	457.5 515.5 515.5 555.5 555.5 589.5 589.5								17	224	280
37	715.5	394	450	930.5	394	450	297	487.5 545.5 545.5 585.5 585.5 619.5 619.5								15	259	320
45	715.5	394	450	930.5	394	450	297	545.5 585.5 585.5 619.5 619.5								15	259	320
55	769.5	484	550				412	585.5 585.5 619.5 619.5								29	276	
75	799	490	545				485	619.5 619.5								31	490	
90	799	490	545				485	619.5								31	540	

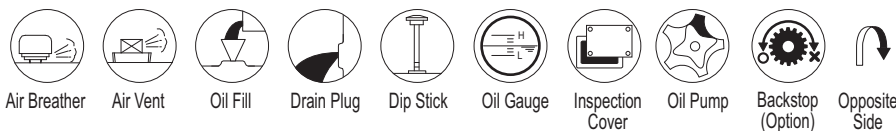
Size	Solid Shaft									Hollow Shaft (Shrink Disk Type)					Hollow Shaft (Key Type)				
	TU1	T1	U1	V1	W1/Depth	X1	Y1	Z1	L1	TU2	T2	U2	V2	V3	TU4	T4	U4	V4	V5
9015	245	135	110	58m6	M20/42	18	7	11	95	328	193	135	63	60	270	135	135	55	55
9025	285	145	140	70m6	M20/42	20	7.5	12	125	358	213	145	73	70	300	150	150	65	65
9030	330	160	170	80m6	M20/42	22	9	14	150	393	233	160	83	80	330	165	165	75	75
9035	330	160	170	90m6	M20/42	25	9	14	150	403	243	160	88	85	330	165	165	85	85
9040	349	179	170	95m6	M24/50	25	9	14	150	448	268	180	98	95	360	180	180	90	90
9045	391	181	210	105m6	M24/50	28	10	16	190	463	283	180	108	105	370	185	185	105	105
9050	411	201	210	110m6	M24/50	28	10	16	190	503	303	200	108	105	410	205	205	105	105
9055	411	201	210	120m6	M24/50	32	11	18	185	528	323	205	123	120	410	205	205	115	115

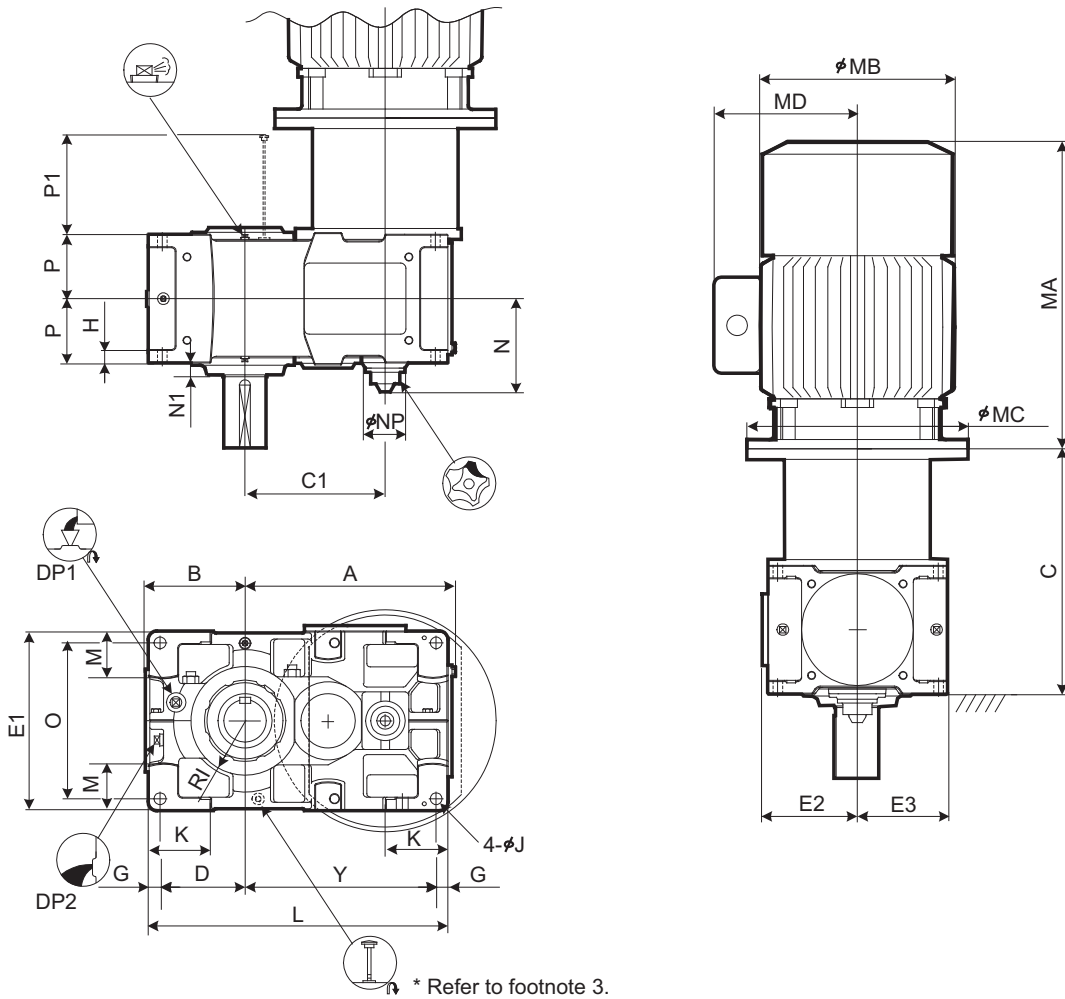
Unit: mm

Nomenclature



Size	Nominal Reduction Ratio											
	6.3	7.1	8	9	10	11.2	12.5	14	16	18	20	22.4
9015	○	○	○	○	○	○	○	○	○	○	○	○
9025	○	○	○	○	○	○	○	○	○	○	○	○
9030	○	○	○	○	○	○	○	○	○	○	○	○
9035			○	○	○	○	○	○	○	○	○	○
9040	○	○	○	○	○	○	○	○	○	○	○	○
9045			○	○	○	○	○	○	○	○	○	○
9050	○	○	○	○	○	○	○	○	○	○	○	○
9055			○	○	○	○	○	○	○	○	○	○



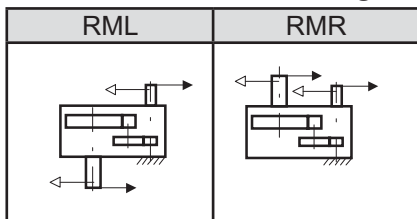


Drive Unit
 Selection Tables
 Dimension Tables

Slow Speed Shaft

Solid Shaft	Hollow Shaft (Shrink Disk Type)	Hollow Shaft (Key Type)
	<p style="text-align: center;">Refer to the page D -18 for details.</p>	<p style="text-align: center;">Refer to the page D -18 for details.</p>

Standard Shaft Arrangement Configuration



1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996) Parallel key in fastening type)
2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
3. Shaft arrangement RMR is equipped with oil gauge. Refer to the page D-28.
4. Refer to the page D-14 for dimensions not shown in these drawings.
5. Refer to the page D -28 for the dimension of optional parts.
6. Refer to the page D-33 for motor terminal box position.
7. Refer to the page D-34 for flange dimension.

DIMENSIONS Parallel Shaft Double Reduction Vertical Mounting 9060 ▶ 9085

PARAMAX Vertical Split 9060 9085 Parallel Double Reduction 2

Size	A	B	C1	C	D	E1	E2	E3	G	H	RI	J	K	L	M	N	N1	NP	O	P	P1	Y
9060	621	299	414		251	530	282	265	35	35	160	35	180	885	140	277.5	35	117	460	190	223	564
9065	667	338	460		290	600	317	300	35	35	175	35	180	970	175	277.5	38	117	530	190	223	610
9070	719	336	482	See below	283	600	317	300	40	40	175	42	215	1020	155	302.5	38	117	520	215	253	657
9075	772	383	535		330	670	352	335	40	52	160	42	220	1120	195	302.5	40	117	590	215	253	710
9080	812	378	556		325	670	352	335	40	52	190	42	220	1155	170	322.5	45	117	590	230	283	750
9085	868	422	612		369	750	392	375	40	52	215	42	220	1255	210	322.5	40	117	670	230	283	806

Size	DP1	DP2	Oil Qty (L)	Wt. (kg)*
9060	1"	1"	25	705
9065	1"	1"	32	830
9070	1"	1"	39	985
9075	1"	1"	49	1245
9080	1"	1"	54	1380
9085	1"	1"	71	1650

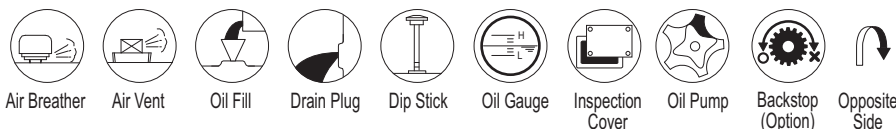
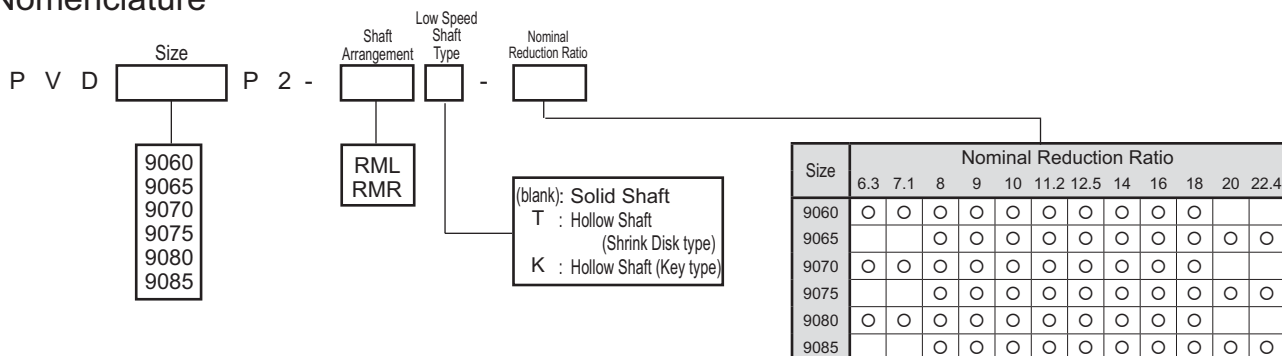
*) Mass of drive unit with motor, add mass of motor flange and mass of motor, shown in table below.

kW	Without Brake			With Brake			MD	C						Mass of Motor Mounting Flange (kg)	Mass of Motor (kg)	
	MA	MG	MC	MA	MB	MC		9060	9065	9070	9075	9080	9085		Without Brake	With Brake
37	715.5	394	450	930.5	394	450	297	694	694					15	259	320
45	715.5	394	450	930.5	394	450	297	694	694					15	259	320
55	769.5	484	550				412	694	694					29	276	
75	799	490	545				485	694	694	744	744			31	490	
90	799	490	545				485	694	694	744	744			31	540	
110	898	550	655				515			724	774	774	838	838	56	675

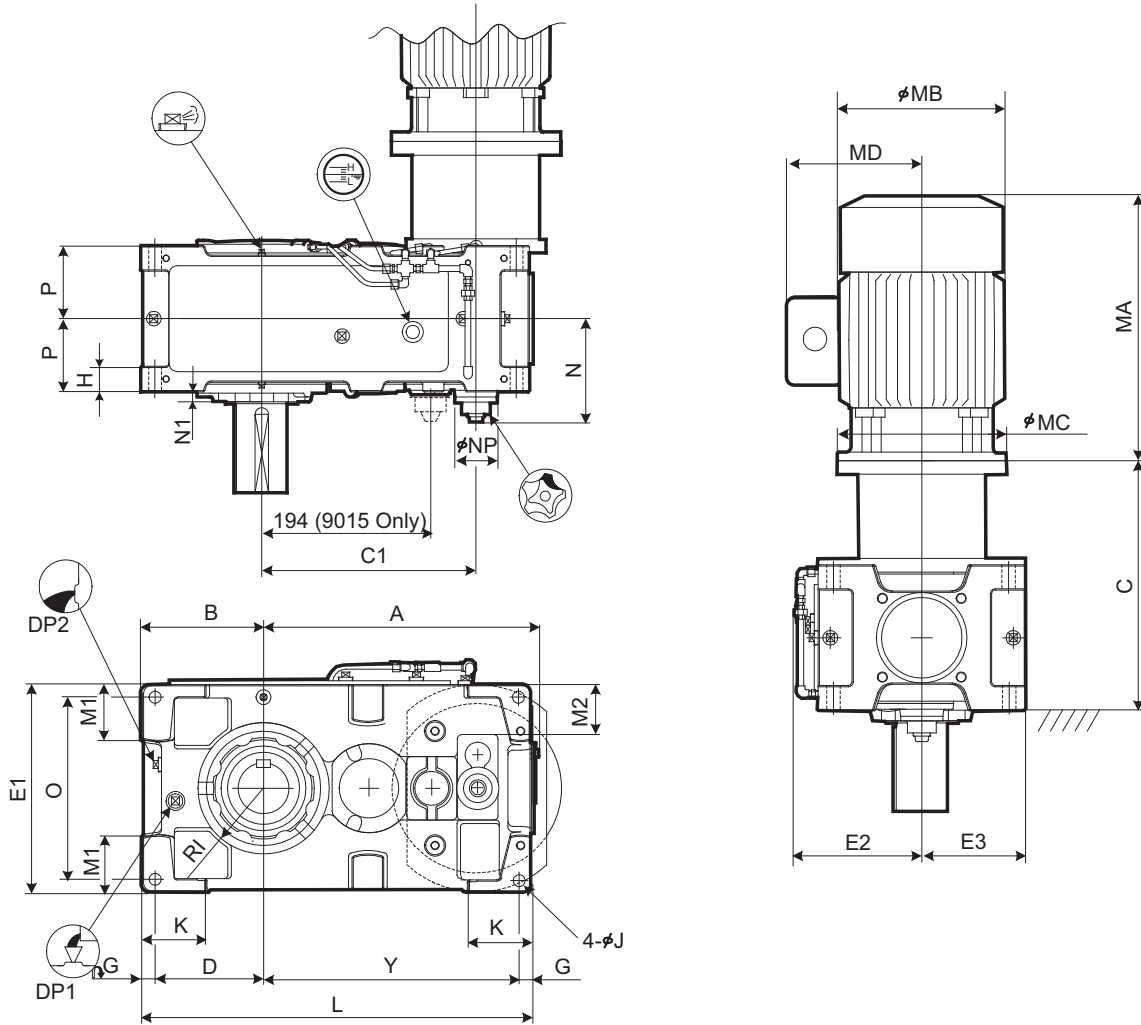
Size	Solid Shaft					Key				Hollow Shaft (Shrink Disk Type)					Hollow Shaft (Key Type)				
	TU1	T1	U1	V1	W1/Depth	X1	Y1	Z1	L1	TU2	T2	U2	V2	V3	TU4	T4	U4	V4	V5
9060	440	230	210	125m6	M24/50	32	11	18	185	583	353	230	128	125	470	235	235	125	123
9065	484	234	250	140m6	M30/60	36	12	20	225	594	359	235	143	140	480	240	240	145	143
9070	509	259	250	145m6	M30/60	36	12	20	225	644	384	260	148	145	530	265	265	145	143
9075	562	262	300	160m6	M30/60	40	13	22	275	651	386	265	158	155	530	265	265	150	148
9080	582	282	300	165m6	M30/60	40	13	22	275	714	429	285	173	170	570	285	285	165	163
9085	585	285	300	175m6	M30/60	45	15	25	270	714	429	285	183	180	570	285	285	175	173

Unit: mm

Nomenclature



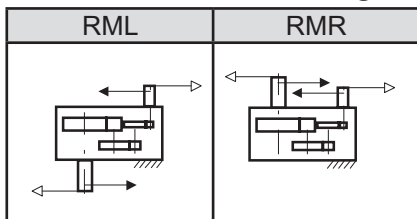
Drive Unit
Selection Tables
Dimension Tables



Slow Speed Shaft

Solid Shaft	Hollow Shaft (Shrink Disk Type)	Hollow Shaft (Key Type)
	<p>Refer to the page D -18 for details.</p>	<p>Refer to the page D -18 for details.</p>

Standard Shaft Arrangement Configuration



1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996) Parallel key in fastening type)
 2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
 3. Refer to the page D-13 for dimensions not shown in these drawings.

4. Refer to the page D -25 for the dimension of optional parts.
 5. Refer to the page D-33 for motor terminal box position.
 6. Refer to the page D-34 for flange dimension.

DIMENSIONS Parallel Shaft Triple Reduction Vertical Mounting 9015 ▶ 9055

PARAMAX Vertical Monoblock
 P
 V
 A
 9015
 9055
 Parallel
 P
 Triple Reduction
 3

Size	A	B	C1	C	D	E1	E2	E3	G	H	RI	J	K	L	M1	M2	N	N1	NP	O	P	Y
9015	338	160	257		140	270	195	135	20	35	80	15	95	485	70	80	186	25	100	230	102.5	305
9025	408	175	306		155	310	215	155	20	40	87.5	19	110	570	75	90	198.5	23	100	270	117.5	375
9030	453	200	343		175	320	220	160	25	50	105	24	120	640	85	50	211	22	100	270	132.5	415
9035	484	219	374	See below	194	370	245	185	25	50	120	24	120	690	100	75	211	22	100	320	132.5	446
9040	540	235	398		205	400	260	200	28	60	120	28	150	759	100	70	228.5	15	100	340	157.5	494
9045	577	256	437		226	440	277	220	30	60	140	28	150	819	120	90	228.5	17.5	100	380	157.5	533
9050	609	255	467		225	420	270	210	30	60	140	28	150	848	110	83	248.5	23	100	360	172.5	563
9055	648	286	506		256	490	305	245	30	60	155	28	150	918	135	118	248.5	23	100	430	172.5	602

Size	DP1	DP2	Oil Qty (L)	Wt. (kg)*
9015	3/4"	3/4"	6	125
9025	3/4"	3/4"	8	175
9030	3/4"	3/4"	10	235
9035	3/4"	3/4"	14	260
9040	1"	1"	18	340
9045	1"	1"	22	410
9050	1"	1"	25	490
9055	1"	1"	35	555

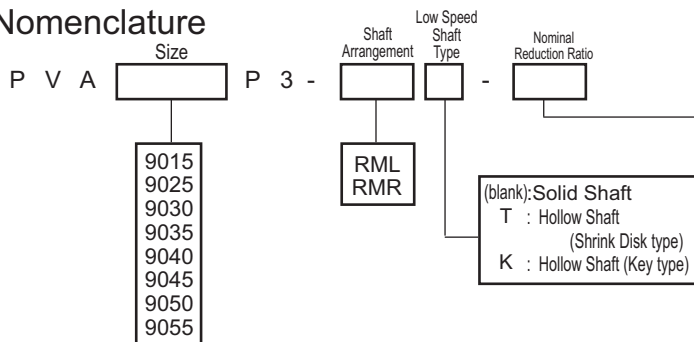
*) Mass of drive unit with motor, add mass of motor flange and mass of motor, shown in table below.

kW	Motor							C								Mass of Motor Mounting Flange (kg)	Mass of Motor (kg)	
	Without Brake			With Brake			MD	9015	9025	9030	9035	9040	9045	9050	9055		Without Brake	With Brake
	MA	MG	MC	MA	MB	MC												
5.5	382	212	315	454	212	315	144	376.5	405.5	457.5	457.5	497.5	497.5		8	43	54	
7.5	415	251	315	510	251	315	185	376.5	405.5	457.5	457.5	497.5	497.5	560.5	560.5	8	57	77
11	480	251	350	575	251	350	188	406.5	435.5	487.5	487.5	527.5	527.5	590.5	590.5	11	76	96
15	545	324	350	700	324	350	232	406.5	435.5	487.5	487.5	527.5	527.5	590.5	590.5	11	131	175
18.5	625	394	400	835	394	400	297		435.5	487.5	487.5	527.5	527.5	590.5	590.5	17	213	258
22	625	394	400	835	394	400	297		435.5	487.5	487.5	527.5	527.5	590.5	590.5	17	213	258
30	625	394	400	835	394	400	297			487.5	487.5	527.5	527.5	590.5	590.5	17	224	280
37	715.5	394	450	930.5	394	450	297			517.5	557.5	557.5	620.5	620.5		15	259	320
45	715.5	394	450	930.5	394	450	297				557.5	557.5	620.5	620.5		15	259	320
55	769.5	484	550				412						620.5	620.5		29	276	

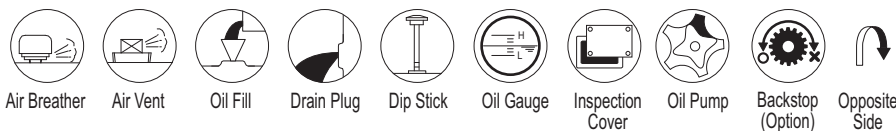
Size	Solid Shaft					Key				Hollow Shaft (Shrink Disk Type)					Hollow Shaft (Key Type)				
	TU1	T1	U1	V1	W1/Depth	X1	Y1	Z1	L1	TU2	T2	U2	V2	V3	TU4	T4	U4	V4	V5
9015	245	135	110	58m6	M20/42	18	7	11	95	328	193	135	63	60	270	135	135	55	55
9025	285	145	140	70m6	M20/42	20	7.5	12	125	358	213	145	73	70	300	150	150	65	65
9030	330	160	170	80m6	M20/42	22	9	14	150	393	233	160	83	80	330	165	165	75	75
9035	330	160	170	90m6	M20/42	25	9	14	150	403	243	160	88	85	330	165	165	85	85
9040	349	179	170	95m6	M24/50	25	9	14	150	448	268	180	98	95	360	180	180	90	90
9045	391	181	210	105m6	M24/50	28	10	16	190	463	283	180	108	105	370	185	185	105	105
9050	411	201	210	110m6	M24/50	28	10	16	190	503	303	200	108	105	410	205	205	105	105
9055	411	201	210	120m6	M24/50	32	11	18	185	528	323	205	123	120	410	205	205	115	115

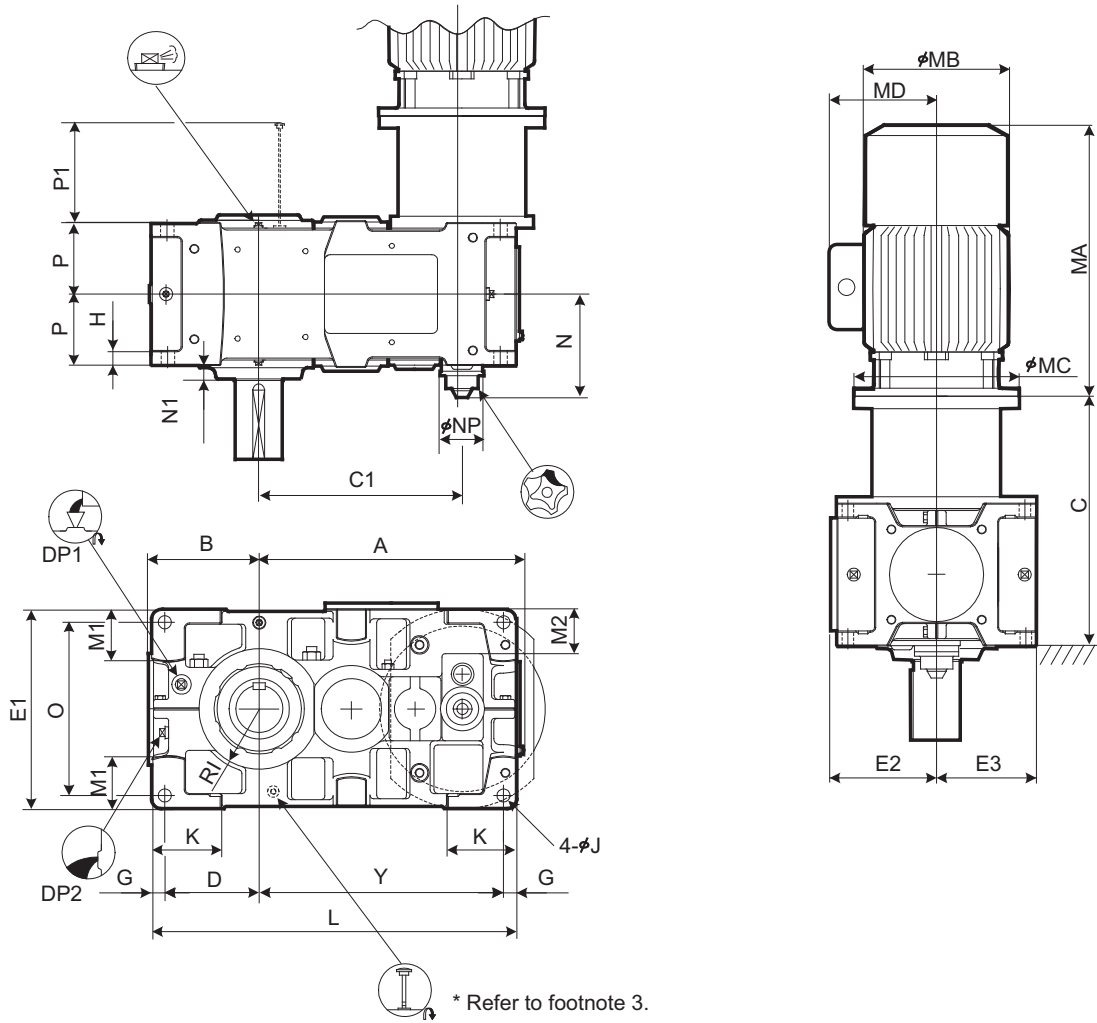
Nomenclature

Unit: mm



Size	Nominal Reduction Ratio														
	20	22.4	25	28	31.5	35.5	40	45	50	56	63	71	80	90	
9015	○	○	○	○	○	○	○	○							
9025	○	○	○	○	○	○	○	○							
9030	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
9035			○	○	○	○	○	○	○	○	○	○	○	○	
9040	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
9045			○	○	○	○	○	○	○	○	○	○	○	○	
9050	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
9055	○	○	○	○	○	○	○	○	○	○	○	○	○	○	



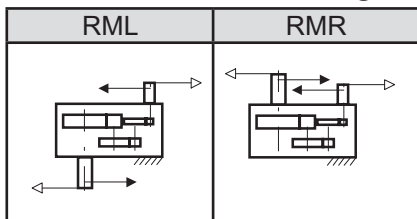


Drive Unit
 Selection Tables
 Dimension Tables

Slow Speed Shaft

Solid Shaft	Hollow Shaft (Shrink Disk Type)	Hollow Shaft (Key Type)
	<p>Refer to the page D -18 for details.</p>	<p>Refer to the page D -18 for details.</p>

Standard Shaft Arrangement Configuration



1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996) Parallel key in fastening type)
2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
3. Shaft arrangement RMR is equipped with oil gauge. Refer to the page D-28.
4. Refer to the page D-15 for dimensions not shown in these drawings.
5. Refer to the page D -28 for the dimension of optional parts.
6. Refer to the page D-33 for motor terminal box position.
7. Refer to the page D-34 for flange dimension.

DIMENSIONS Parallel Shaft Triple Reduction Vertical Mounting 9060 ▶ 9085

Size	A	B	C1	C	D	E1	E2	E3	G	H	RI	J	K	L	M	M2	N	N1	NP	O	P	P1	Y
9060	701	299	540		251	530	282	265	35	35	160	35	180	970	140	118	277.5	35	117	460	190	223	649
9065	747	338	586		290	600	317	300	35	35	175	35	180	1055	175	153	277.5	38	117	530	190	223	695
9070	809	336	630	See below	283	600	317	300	40	40	175	42	215	1115	155	128	302.5	38	117	520	215	253	752
9075	862	383	683		330	670	352	335	40	52	190	42	220	1215	195	163	302.5	40	117	590	215	253	805
9080	932	378	725		325	670	352	335	40	52	190	42	220	1275	170	140	322.5	45	117	590	230	283	870
9085	988	422	781		369	750	392	375	40	52	215	42	220	1375	210	180	322.5	40	117	670	230	283	926

Size	DP1	DP2	Oil Qty (L)	Wt. (kg)*
9060	1"	1"	32	730
9065	1"	1"	35	885
9070	1"	1"	53	1030
9075	1"	1"	67	1255
9080	1"	1"	65	1460
9085	1"	1"	89	1730

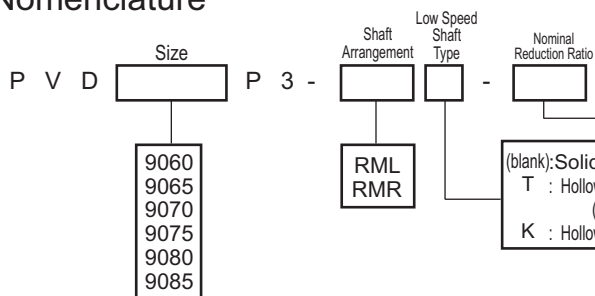
*) Mass of drive unit with motor, add mass of motor flange and mass of motor, shown in table below.

kW	With Brake			Without Brake			MD	C						Mass of Motor Mounting Flange (kg)	Mass of Motor (kg)	
	MA	MG	MC	MA	MB	MC		9060	9065	9070	9075	9080	9085		Without Brake	With Brake
11	480	251	350	575	251	350	188	633	633					11	76	96
15	545	324	350	700	324	350	232	633	633					11	131	175
18.5	625	394	400	835	394	400	297	633	633	683	683			17	213	258
22	625	394	400	835	394	400	297	633	633	683	683			17	213	258
30	625	394	400	835	394	400	297	633	633	683	683	749	749	17	224	280
37	715.5	394	450	930.5	394	450	297	663	663	713	713	779	779	15	259	320
45	715.5	394	450	930.5	394	450	297	663	663	713	713	779	779	15	259	320
55	769.5	484	550				412	663	663	713	713	779	779	29	276	
75	799	490	545				485	663	663	713	713	779	779	31	490	
90	799	490	545				485			713	713	779	779	31	540	
110	898	550	655				515			743	809	809		56	675	

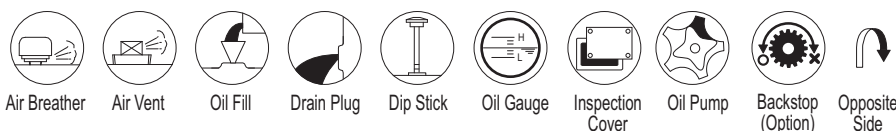
Size	Solid Shaft									Hollow Shaft (Shrink Disk Type)					Hollow Shaft (Key Type)				
	TU1	T1	U1	V1	W1/Depth	Key				TU2	T2	U2	V2	V3	TU4	T4	U4	V4	V5
9060	440	230	210	125m6	M24/50	32	11	18	185	583	353	230	128	125	470	235	235	125	123
9065	484	234	250	140m6	M30/60	36	12	20	225	594	359	235	143	140	480	240	240	145	143
9070	509	259	250	145m6	M30/60	36	12	20	225	644	384	260	148	145	530	265	265	145	143
9075	562	262	300	160m6	M30/60	40	13	22	275	651	386	265	158	155	530	265	265	150	148
9080	582	282	300	165m6	M30/60	40	13	22	275	714	429	285	173	170	570	285	285	165	163
9085	585	285	300	175m6	M30/60	45	15	25	270	714	429	285	183	180	570	285	285	175	173

Unit: mm

Nomenclature



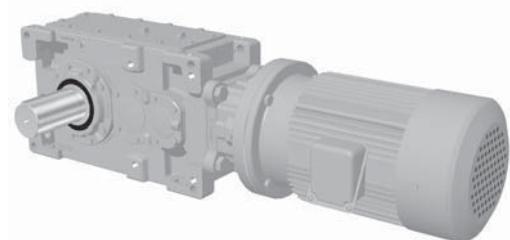
Size	Nominal Reduction Ratio													
	20	22.4	25	28	31.5	35.5	40	45	50	56	63	71	80	90
9060	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9065			○	○	○	○	○	○	○	○	○	○	○	○
9070	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9075			○	○	○	○	○	○	○	○	○	○	○	○
9080	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9085			○	○	○	○	○	○	○	○	○	○	○	○



Exact Reduction Ratio Drive Unit Right Angle Shaft

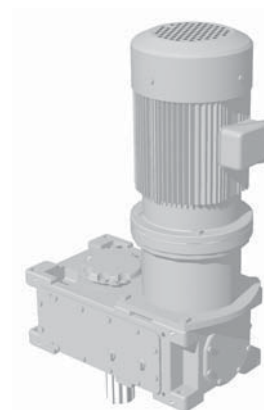
Nominal Reduction Ratio	Size of Reducer											
	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085
6.3	6.378		6.111									
7.1	6.875		6.973									
8	8.118	7.950	7.778	7.770								
9	8.750	8.643	8.875	8.839								
10	10.303	10.118	9.608	9.889								
11.2	11.106	11.000	10.963	11.250								
12.5	12.756	12.842	12.222	12.216								
14	13.750	13.962	13.946	13.897								
16	15.897	15.899	15.556	15.540								
18	17.135	17.286	17.750	17.679								
20	20.091	19.814	19.620	19.778	19.790		19.181		19.950			
22.4	21.656	21.542	22.388	22.500	22.530		22.351		22.353			
25	25.137	25.041	24.444	24.945	25.935	24.662	25.137	24.053	24.938	24.700		
28	27.096	27.225	27.893	28.379	29.526	27.706	29.291	27.509	27.941	27.718		
31.5	32.455	31.331	31.694	31.079	31.969	32.319	30.157	31.521	31.129	30.875		
35.5	34.983	34.063	36.165	35.357	36.395	36.309	35.140	36.050	34.879	34.647		
40	40.607	40.451	39.487	40.296	41.895	39.838	39.520	37.815	38.912	38.541		
45	43.770	43.979	45.058	45.843	47.695	44.756	46.051	43.250	43.599	43.250		
50	51.141	50.611	49.942	50.205	51.869	52.207	50.273	49.557	49.500	48.176		
56	55.125	55.025	56.987	57.115	59.051	58.652	58.582	56.678	55.462	54.062		
63	63.986	53.741	62.222	63.497	64.640	64.637	63.984	63.041	63.000	61.286		
71	68.971	69.300	71.000	72.237	73.590	72.617	74.559	72.101	70.588	68.773		
80		79.751	77.989	79.111	79.341	80.552	78.377	80.234	78.120	78.000	79.124	
90		86.706	88.991	90.000	90.326	90.496	91.330	91.765	87.529	87.529	87.269	
100			99.259	99.158	103.97	98.871	102.71	98.282	97.650	96.720	96.444	96.432
112			113.26	112.81	118.37	111.08	119.69	112.41	109.41	108.54	106.37	105.89
125			122.72	126.20	130.09	129.57	127.97	128.80	127.97	120.90	126.39	117.54
140			140.03	143.57	148.10	145.56	149.12	147.31	143.38	135.67	139.40	129.07
160				156.02	158.68	162.11	156.75	160.47	152.99	158.44	158.25	154.04
180				177.50	180.65	182.13	182.66	183.53	171.41	177.79	174.54	169.14
200					207.95	197.74	205.42	196.56	191.23	189.41	192.89	192.86
224					236.74	222.15	239.37	224.81	214.26	212.55	212.75	211.77
250					260.18	259.14	255.94	257.59	250.61	236.76	252.78	235.08
280					296.20	291.13	298.24	294.61	280.79	265.69	278.80	258.13
315					315.95	324.22	332.51	320.94	322.08	310.27	318.63	308.07
355					367.08	364.25	369.46	367.06	343.56	348.18	355.25	338.28
400						388.53		409.25		399.38		386.60
450						451.41		454.72		426.01		431.03

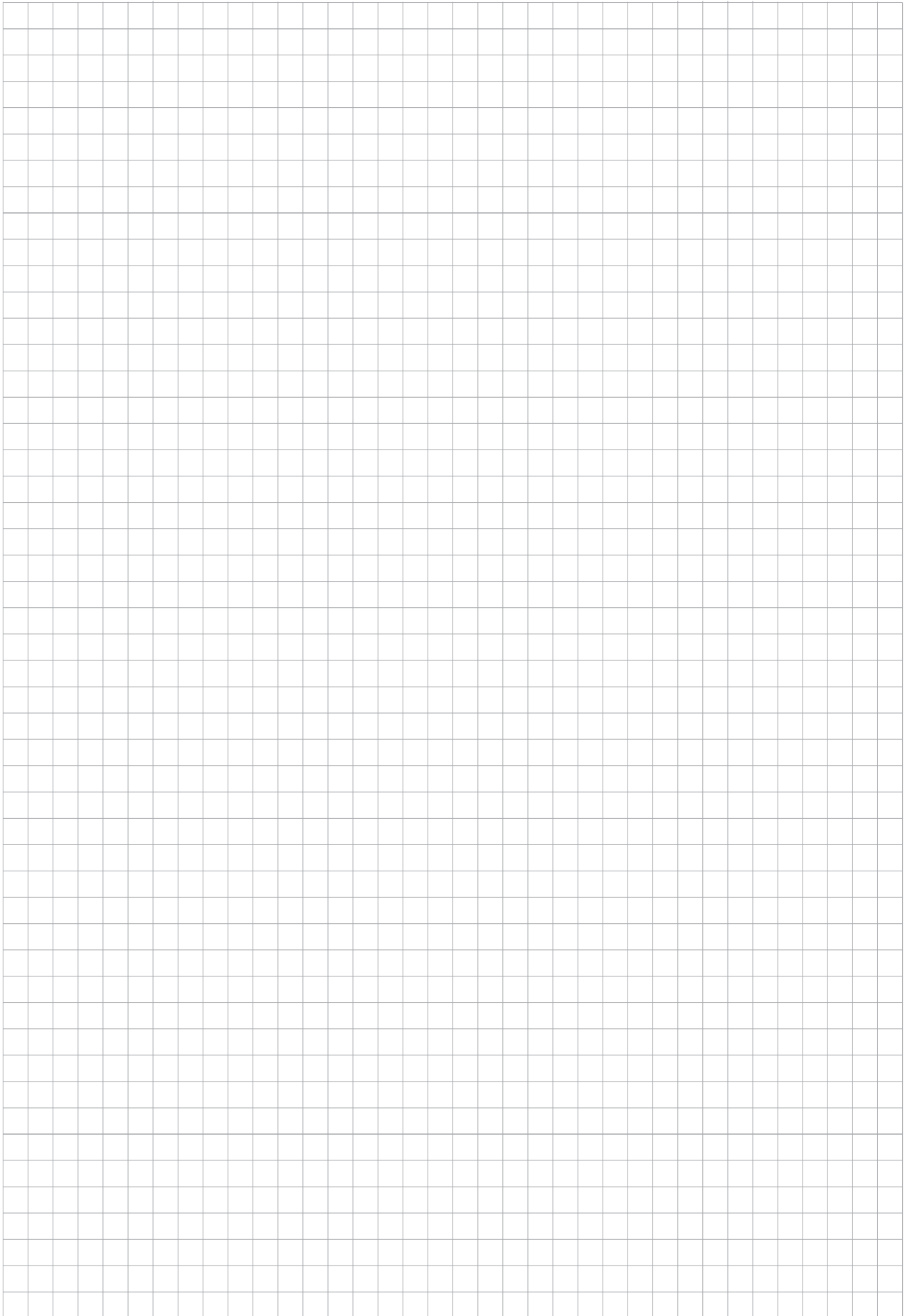
Drive Unit
 Selection Tables
 Dimension Tables

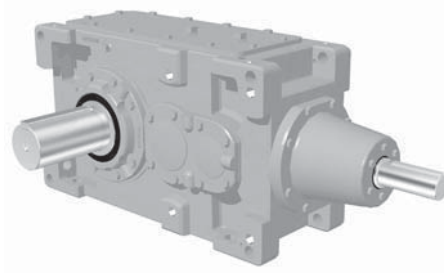


Exact Reduction Ratio Drive Unit Parallel Shaft

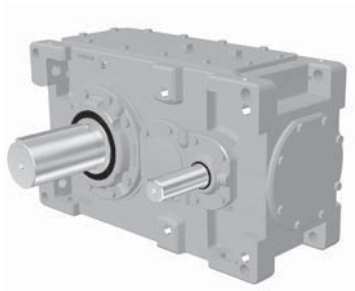
Nominal Reduction Ratio	Size of Reducer													
	9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085
6.3	6.257	6.193	6.314		6.049		6.470		6.188		6.246		6.429	
7.1	7.237	7.067	6.806		6.903		7.366		7.210		6.998		7.090	
8	7.889	7.616	8.118	7.869	7.778	7.691	7.956	8.062	7.875	7.759	8.033	7.733	8.167	7.835
9	9.125	8.690	8.750	8.556	8.875	8.750	9.057	9.058	9.176	8.874	9.000	8.677	9.007	8.603
10	10.143	9.722	9.944	10.118	9.528	9.889	10.156	9.914	9.750	9.875	9.665	9.945	9.905	9.953
11.2	11.732	11.094	10.719	11.000	10.872	11.250	11.562	11.138	11.361	11.294	10.829	11.160	10.924	10.929
12.5	12.710	12.407	12.785	12.394	12.485	12.114	12.594	12.656	12.206	12.226	12.600	11.966	12.762	12.071
14	14.701	14.158	13.781	13.475	14.247	13.781	14.337	14.219	14.224	13.983	14.118	13.428	14.076	13.255
16	15.778	15.340	15.997	15.935	15.556	15.874	16.504	15.694	15.996	15.306	15.750	15.600	15.556	15.554
18	18.250	17.503	17.243	17.325	17.750	18.059	18.789	17.631	18.640	17.506	17.647	17.506	17.157	17.078
20	19.894	19.681	20.280	19.938	19.884	19.778	19.590	20.566	18.988	20.059	20.067	19.500	20.054	18.958
22.4	23.011	22.457	21.860	21.676	22.689	22.500	22.303	23.105	22.125	22.941	22.484	21.882	22.119	20.817
25	24.696	24.332	25.374	25.277	24.774	25.281	25.673	24.413	24.883	23.810	25.083	28.844	24.444	24.441
28	28.565	27.764	27.350	27.481	28.269	28.761	29.227	27.426	28.995	27.231	28.105	27.880	26.961	26.838
31.5	31.401	31.905	32.876	31.625	31.213	31.498	30.855	31.992	29.905	31.202	31.500	31.056	31.601	29.792
35.5	36.321	36.406	35.438	34.383	35.617	35.833	35.127	35.942	34.848	35.686	35.294	34.850	34.854	32.712
40	38.980	39.444	41.134	40.976	38.889	39.686	40.435	38.450	39.190	37.500	39.375	39.000	38.519	38.514
45	45.088	45.009	44.338	44.550	44.375	45.148	46.033	43.197	45.667	42.889	44.118	43.765	42.484	42.289
50			51.141	51.268	49.248	49.444	49.634	50.388	48.825	49.144	51.188	48.750	51.845	46.944
56			55.125	55.739	56.195	56.250	56.507	56.608	56.894	56.206	57.353	54.706	57.182	51.547
63			63.986	63.741	61.358	62.615	65.045	61.852	63.984	61.225	63.984	63.375	63.194	63.186
71			68.971	69.300	70.014	71.234	74.051	69.488	74.559	70.024	71.691	71.118	69.700	69.381
80				79.751		78.012		81.056		80.234		79.219		77.018
90				86.706		88.750		91.063		91.765		88.897		84.569







<Reducer: Right Angle Shaft Horizontal Mounting>



<Reducer: Parallel Shaft-Horizontal Mounting>

C

Reducer

Standard Specifications	...	C- 2
Construction Drawing	...	C- 3
Nomenclature	...	C- 4
Selection Flowchart and Formula for Selection	...	C- 6
Service Factor	...	C- 8
Right Angle Shaft	...	C- 11
Parallel Shaft	...	C-101

Reducer Standard Specifications

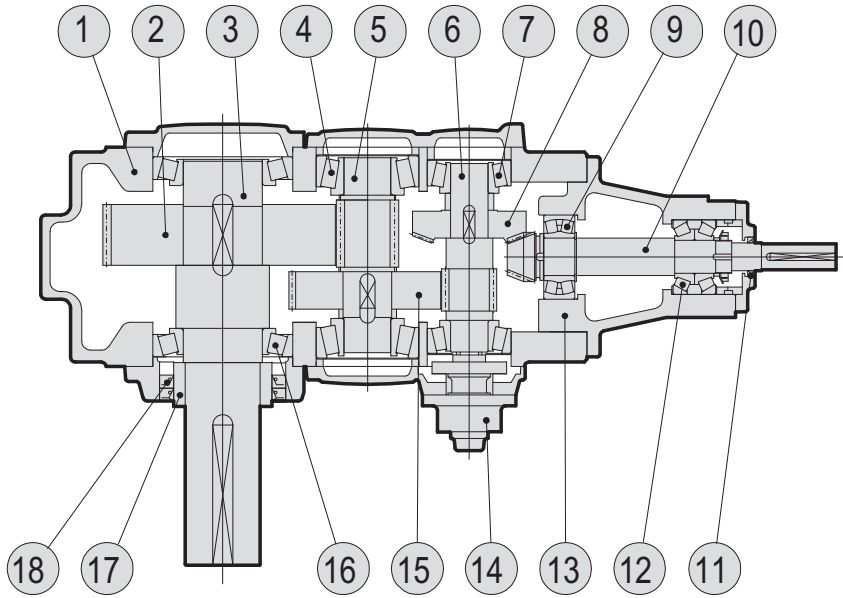
Item		Standard Specification		
		Mounting	High Speed Shaft Speed	
Reducer	Lubrication Method	Horizontal Shaft	750 ~ 1800r/min	Oil bath lubrication In case of high speed shaft speed is less than 750r/min, electric pump lubrication may be used. Consult SUMITOMO for details.
		Vertical Shaft	400 ~ 1800r/min	Pump lubrication (Two different pump lubrication systems are available; shaft connected pump lubrication and electric pump lubrication. For details, refer to the outline dimension drawing.)
		Upright Shaft	750 ~ 1800r/min	Oil bath lubrication Grease lubrication for right angle input shaft.
	Lubricant	Refer to the page D-2.		
	Gear Type	Involute external gear		
Ambient Conditions	Installation Location	Indoor (Minimal dust and humidity)		
	Ambient Temperature	- 10°C ~ 40°C A cooling fan may be required depending on the usage (Note)		
	Ambient Humidity	Under 85%		
	Elevation	Under 1,000 meters		
	Atmosphere	Well ventilated location, free of corrosive gases, explosive gases, vapors and dust.		
Installation	Horizontal installation Refer to the page D-2			
Method of Coupling with Driven Machine	Coupling, gears, chain sprocket or belt.			
Painting	Surface preparation: Shot blasting after washing before machining Inside painting: UNI GROUND PTC primer is sprayed once Outside painting: For primer coating, UNI GROUND PTC primer is sprayed once. For final coating, NEORON #2000 is sprayed once. Painting color: Donau Blue (equivalent Munsell color: 6.5PB 3.6/8.2), Refer to the page D-3.			

Note : In general, a heating or cooling system is necessary when ambient temperature is lower than -10°C or higher than 50°C.

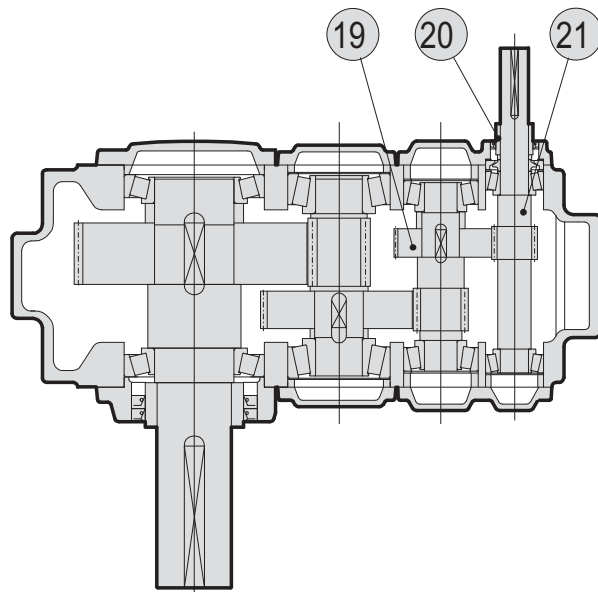
e.g. High temperature gas or liquid passes through the hollow shaft.

Consult us when substances lower than -10°C or higher than 50°C will be in contact with PARAMAX DRIVES.

Reducer Construction Drawing



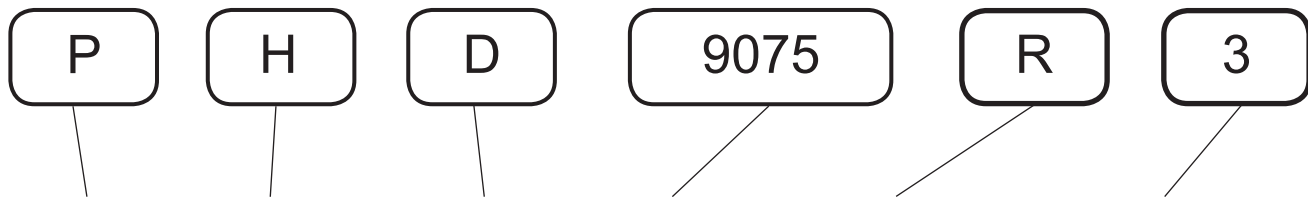
<Reducer: Right Angle Triple Reduction>

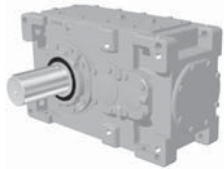
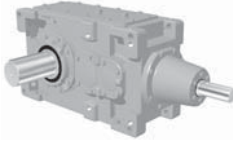
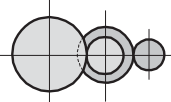
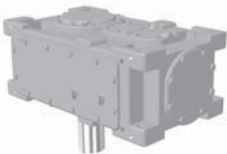
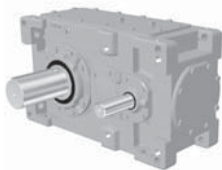
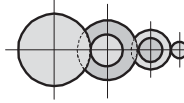
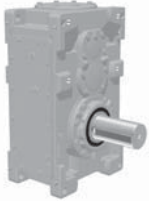
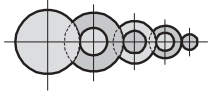


<Reducer: Parallel Shaft Triple Reduction>

Ref.No.	Part Name	Ref.No.	Part Name	Ref.No.	Part Name	Ref.No.	Part Name
1	Housing	7	Taper roller bearing	13	Bearing housing	19	Helical gear
2	Helical gear	8	Bevel gear	14	Oil pump	20	Collar
3	Slow speed shaft	9	Spherical roller bearing	15	Helical gear	21	Helical pinion shaft
4	Taper roller bearing	10	Bevel pinion shaft	16	Taper roller bearing		
5	Helical pinion shaft	11	Oil seal	17	Collar		
6	Helical pinion shaft	12	Taper roller bearing	18	Oil seal		

Reducer Nomenclature

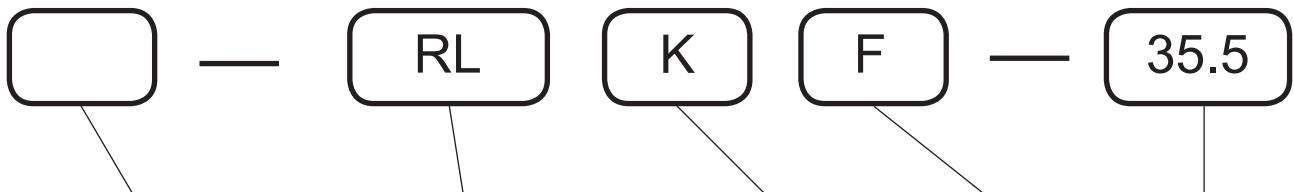


Series	Mounting	Housing	Size	Torque kNm	Shaft Position	Number of Gear Stages
P Paramax	H  Horizontal	A Monoblock	9015	2.6	R  Right Angle	2  Double Reduction
			9025	4.2		
			9030	6.4		
			9035	8.5		
			9040	10.1		
			9045	13.2		
			9050	15.3		
	V  Vertical	D Split	9055	19.9	P  Parallel	3  Triple Reduction
			9060	24.4		
			9065	31.4		
			9070	38.2		
			9075	47.8		
			9080	58.5		
			9085	73.1		
			9090	85.9		
			9095	101		
			9100	122		
			9105	144		
			9110	174		
			9115	207		
W  Upright		9118	260		4  Quadruple Reduction	
		9121	301			
		9126	351			
		9128	420			
		9131	473			
		9136	552			

1. For shaft arrangement, refer to the dimension sheets.
2. Consult us for reduction ratios smaller than 6.3.

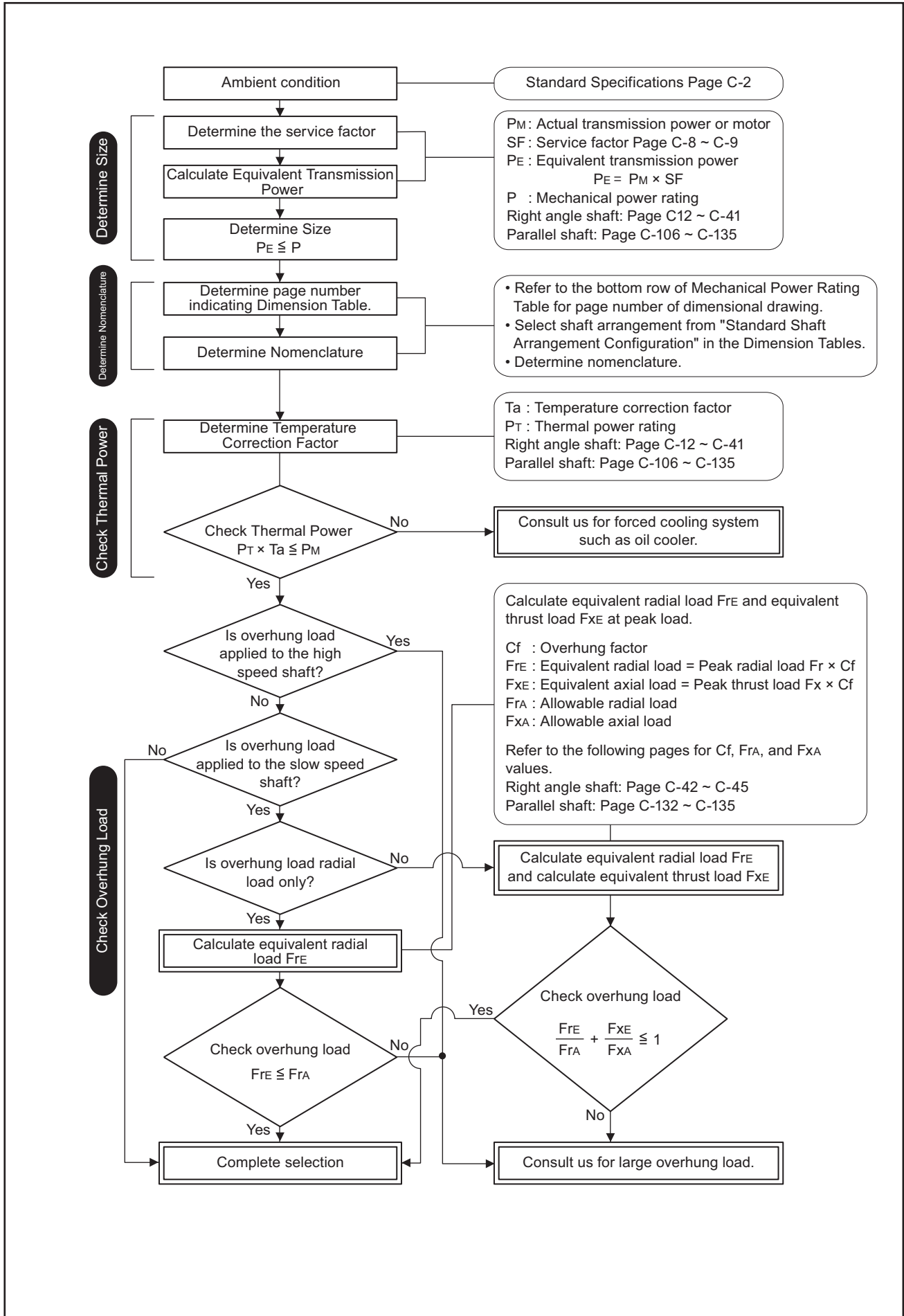
Speed Reducer
Selection Tables
Dimension Tables

Reducer Nomenclature



Mounting for Upright	Shaft Arrangement	Slow Speed Shaft	Option	Nominal Ratio	
(Blank)		(Blank) Solid Shaft	(Blank) Without option	Right Angle Shaft	
				6.3	56
W		T Hollow Shaft (Shrink Disk Type)	F With fan	7.1	63
				8	71
W		K Hollow Shaft (Key Type)	B With backstop	9	80
				10	90
W		K Hollow Shaft (Key Type)	FB With fan & backstop	11.2	100
				12.5	112
W		K Hollow Shaft (Key Type)	FB With fan & backstop	14	125
				16	140
W		K Hollow Shaft (Key Type)	FB With fan & backstop	18	160
				20	180
W		K Hollow Shaft (Key Type)	FB With fan & backstop	22.4	200
				25	224
W		K Hollow Shaft (Key Type)	FB With fan & backstop	28	250
				31.5	280
W		K Hollow Shaft (Key Type)	FB With fan & backstop	35.5	315
				40	355
W		K Hollow Shaft (Key Type)	FB With fan & backstop	45	400
				50	450
W		K Hollow Shaft (Key Type)	FB With fan & backstop	50	450
				50	500

Reducer Selection

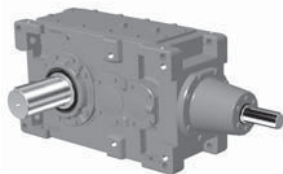


Speed Reducer

Selection Tables

Dimension Tables

Reducer Selection Example

○ : Conditions ■ : Selected item		
○ Ambient condition	: Indoor, Ambient temperature 40°C	C-2 Standard Specifications
■ Check ambient condition	→ OK	
○ Motor power	: 55 kW	
○ High speed shaft speed	: 1500 r/min	
○ Shaft and mounting positions	: Right Angle Shaft · Horizontal Mounting	
Load Condition		
○ Type of load, Operating hours	: Uniform load · 14 hours/day	C-8 Service Factor
■ Determine service factor	→ SF = 1.25	
■ Calculate equivalent transmission power	→ PE = 55 × 1.25 = 68.75 kW	
○ Slow speed shaft speed	: 85 r/min	
■ Reduction ratio	→ 1500/85 = 17.6	C-4 ~ C-5 Nomenclature
Select nominal reduction ratio	→ 17.6 → 18	
■ Determine size	→ Size 9035, Nominal Reduction Ratio 18 Mechanical power rating P = 72 kW PE ≤ P → OK	C-18 Selection Tables
■ Check dimension		C-50 *1 Dimension Tables
■ Check shaft arrangement	→ RL	Standard shaft arrangement configuration in Dimension Tables
■ Check nomenclature	→ PHA9035R2-RLF-18	Nomenclature in Dimension Tables
○ Ambient temperature	: 40°C	C-18 Selection Tables
■ Temperature correction factor without fan Ta	→ Ta = 0.70	C-18 Selection Tables
■ Thermal rating without fan PT	→ PT = 48kW	Standard Specifications
	→ PT × Ta = 33.6 < 55 = PM → OUT	
■ Temperature correction factor with fan Ta	→ Ta = 0.73	C-18 Selection Tables
■ Thermal rating with fan PT	→ PT = 120kW	
	→ PT × Ta = 87.6 > 55 = PM → OK	
	→ With fan	
Check overhung load		
○ Overhung load to high speed shaft	: No load	
○ Overhung member	: Sprocket (Single row)	C-42 Allowable External Load
■ Overhang factor Cf	→ Cf = 1.0	
○ Radial load position and direction	: Center of solid shaft, Downward	
○ Peak radial load Fr	: 10.6 kN	
○ Peak thrust load Fx	: 0 kN	
■ Equivalent radial load FrE	→ FrE = 10.6 × 1.0 = 10.6	C-42 Allowable External Load
■ Allowable radial load	→ 29.4 kN	
	10.6 ≤ 29.4	→ OK
■ Complete selection		
Selected model	→ PHA9035R2-RLF-18	
		
		*1 Page number of the relevant Dimension Table is indicated in the Selection Table.

Reducer Service Factor SF

Service Factor SF

Driven Machine	Operating Hours (hours/day)		
	3 hrs	10 hrs	24 hrs
CRANES			
Classification of Crane	Hoisting	Traverse Motion	Travel Motion
Group I	1.00	1.50	1.25
Group II	1.25	1.50	1.00
Group III	1.50	1.75	1.25
Group IV	1.75	2.00	1.50
The crane classification is based on JIS B8821-1976 "Calculation standard for the structure of crane."			
CONVEYORS (General purpose)			
Uniformly load or fed		1.00	1.00
Heavy load			1.25
Not uniformly fed		1.00	1.25
Reciprocating or shaker		1.50	1.75
ELEVATORS			
Elevators		1.50	1.50
Escalators		1.25	1.25
METAL MILLS			
Draw bench carriage and main drive		1.50	1.50
Runout table			
Non reversing			
Group drives		1.50	1.50
Individual drivers		2.00	2.00
Reversing		2.00	2.00
Slab pushers		1.50	1.50
Shears		2.00	2.00
Wire drawing		1.25	1.25
Wire winding machine		1.25	1.50
METAL STRIP PROCESSING MACHINERY			
Bridles		1.50	1.50
Coilers & uncoilers		1.00	1.25
Edge trimmers		1.00	1.25
Flatteners		1.25	1.25
Loopers (Accumulators)		1.50	1.50
Pinch rolls		1.25	1.25
Scrap choppers		2.00	2.00
Shears		2.00	2.00
Slitters		1.00	1.25
MILL, ROTARY TYPE			
Ball and rod		2.00	2.00
Cement Kilns		2.00	2.00
Kilns (Except cement kilns)		1.50	1.50
Dryers and coolers		1.50	1.50
SEWAGE DISPOSAL EQUIPMENT			
Aerators		2.00	2.00
Bar screens		1.25	1.25
Chemical feeders		1.25	1.25
Dewatering screens		1.50	1.50
Scum breakers		1.50	1.50
Slow or rapid mixers		1.50	1.50
Sludge collectors		1.25	1.25
Thickeners		1.50	1.50
Vacuum filters		1.50	1.50
EXTRUDERS			
Plastics		1.25	1.25
Rubber		1.50	1.50
FEEDERS			
Apron		1.00	1.25
Belt		1.00	1.25
Disk		1.00	1.25
Reciprocating		1.50	1.75
Screw		1.00	1.25

Driven Machine	Operating Hours (hours/day)		
	3 hrs	10 hrs	24 hrs
RUBBER INDUSTRY			
Mixers	1.75	1.75	2.00
Mixing mill -2 smooth rolls	1.50	1.50	1.75
Batch drop mill -2 smooth rolls	1.50	1.50	1.50
Cracker warmer			
-2 roll: 1 corrugated roll	1.75	1.75	1.75
Cracker -2 corrugated rolls	2.00	2.00	2.00
Holding, feed and blend mill			
-2 rolls	1.25	1.25	1.25
Refiner -2 rolls	1.50	1.50	1.50
Calenders	1.50	1.50	1.50
PAPER MILL			
All types incl. Paper making machine	2.00	2.00	2.00
AGITATORS AND MIXERS			
Pure liquids	1.00	1.00	1.25
Liquids and solids	1.00	1.25	1.50
Liquids variable density	1.00	1.25	1.50
MIXERS			
Concrete	1.25	1.25	1.50
CRUSHER			
Stone or ore	2.50	2.50	2.50
BLOWERS			
Centrifugal	1.00	1.00	1.25
Lobe	1.00	1.25	1.50
Vane	1.00	1.25	1.50
COMPRESSORS			
Centrifugal	1.00	1.00	1.25
Lobe	1.00	1.25	1.50
Reciprocating: multi cylinder	1.50	1.50	1.75
Reciprocating: single cylinder	1.75	1.75	2.00
FANS			
Centrifugal	1.00	1.00	1.25
Cooling towers	※	※	※
Forced draft	1.25	1.25	1.25
Suction draft	1.50	1.50	1.50
Industrial and mine	1.50	1.50	1.50
PUMPS			
Centrifugal	1.00	1.00	1.25
Screw pump	1.25	1.25	1.50
Gear pump	1.25	1.25	1.50
DREDGES			
Cable reels	1.25	1.25	1.50
Conveyors	1.25	1.25	1.50
Cutter head drive	2.00	2.00	2.00
Pumps	2.00	2.00	2.00
Screen drives	1.75	1.75	2.00
Stackers	1.25	1.25	1.50
Winches	1.25	1.25	1.50
GENERATORS AND EXCITERS			
	1.00	1.00	1.25
HAMMER MILLS			
	1.75	1.75	2.00
SUGAR INDUSTRY			
Beet slicer	2.00	2.00	2.00
Cane knives	1.50	1.50	1.50
Crushers	1.50	1.50	1.50
Mills (Slow speed end)	1.75	1.75	1.75

Notes:

- (1) Values in the above table are based on AGMA standards and SUMITOMO's experience.
- (2) Values in the above table apply for electric motors as prime movers - if prime mover is a multi cylinder combustion engine, 0.25 has to be added to the SF.
- (3) Consult us for special duty or when special safety specifications are needed.
- (4) ※ : For SF, consult us.

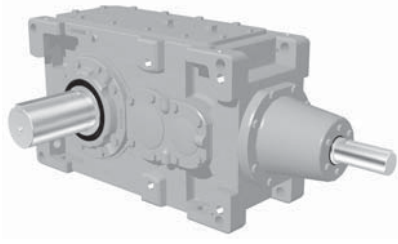
Reducer Service Factor SF

Refer to the following for driven machines not shown on the left page.

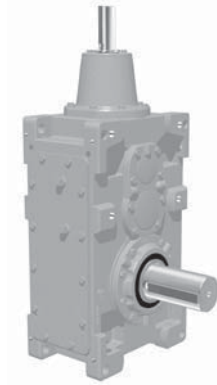
Prime Mover	Operating Hours	Type of Load		
		Uniform Load U	Moderate Shock Load M	Heavy Shock Load H
Electric Motor	3 hours/day	1.00	1.00	1.50
	10 hours/day	1.00	1.25	1.75
	24 hours/day	1.25	1.50	2.00
Internal Combustion Engine (multi cylinder)	3 hours/day	1.00	1.25	1.75
	10 hours/day	1.25	1.50	2.00
	24 hours/day	1.50	1.75	2.25

Note: Consult us when the operating hours are less than 3 hours/day or when an internal combustion engine (single cylinder) is used.

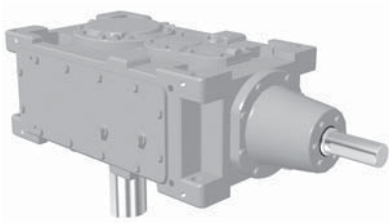




<Reducer: Right Angle Shaft-Horizontal Mounting>



<Reducer: Right Angle Shaft Upright Mounting>



<Reducer: Right Angle Shaft Vertical Mounting>

C

Reducer: Right Angle

Selection Tables	··· C- 12
Allowable Loads	··· C- 42
Dimension Sheets	··· C- 46

SELECTION Right Angle Shaft Double Reduction Nominal Reduction Ratio 6.3 ▶ 8

MECHANICAL POWER RATING (kW)

Nominal Reduction Ratio	H.Speed Shaft Speed r/min	L.Speed Shaft Speed r/min	Size of Reducer													
			9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085
6.3	Exact Reduction Ratio		6.265	6.049	6.539		6.405		6.384		6.188		6.188		6.286	
	1800	286	74	98	152		236		334		568		798		1020*	
	1500	238	62	81	127		197		279		475		667		857	
	1200	190	49	65	102		158		224		381		535		688	
	1000	159	41	54	85		132		187		318		447		575	
	900	143	37	49	76		119		168		287		403		518	
	750	119	31	41	64		99		141		240		337		433	
7.1	Exact Reduction Ratio		7.246	6.903	7.049		7.309		7.268		7.210		6.933		6.933	
	1800	254	62	98	152		228		334		559		798		1020*	
	1500	211	52	81	127		191		279		469		667		857	
	1200	169	42	65	102		153		224		377		535		688	
	1000	141	35	54	85		128		187		316		447		575	
	900	127	31	49	76		116		168		285		403		518	
	750	106	26.5	41	64		97		141		238		337		433	
8	Exact Reduction Ratio		7.889	8.056	8.118	8.150	7.778	8.144	8.125		7.875	7.759	8.082		8.190	
	1800	225	57	76	140	152	217	236	340		544	568	810		1150*	
	1500	188	47	63	117	127	181	197	285		467	475	705		1010	
	1200	150	38	51	94	102	145	158	229		374	381	568		834	
	1000	125	31	42	78	85	120	132	191		312	318	476		699	
	900	113	28.6	38	71	76	108	119	173		280	287	429		630	
	750	94	23.8	31	59	64	90	99	144		234	240	359		528	
Dimension Tables	Horizontal		C-46	C-46	C-46	C-46	C-46	C-46	C-46		C-48	C-48	C-48		C-48	
	Vertical		C-72	C-72	C-72	C-72	C-72	C-72	C-72		C-74	C-74	C-74		C-74	
	Upright		C-88	C-88	C-88	C-88	C-88	C-88	C-88		C-90	C-90	C-90		C-90	

THERMAL POWER RATING (kW)

Speed Reducer	Nominal Reduction Ratio	H.Speed Shaft Speed r/min	Number of Cooling Fans	Size of Reducer												
				9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080
Double Reduction Horizontal Type	1800	-	-	30	39	46	61	73	88	79		108	134	138		160
			1	75	105	124	171	217	261	233		332	414	372		561
	1500	-	-	31	40	49	64	77	92	86		118	146	154		183
			1	68	95	117	160	203	243	224		326	402	369		574
	1200	-	-	31	40	50	66	79	95	90		126	154	165		200
			1	60	84	106	145	184	223	208		307	376	351		557
1000	-	-	30	39	50	65	78	95	91		128	156	169		207	
		1	52	73	94	128	163	198	186		276	337	319		511	
900	-	-	29	39	50	65	78	94	91		128	156	169		209	
		1	48	69	89	121	154	187	178		265	323	306		493	
750	-	-	28	37	48	63	76	92	89		127	154	169		209	
		1	42	60	79	107	137	167	159		239	290	278		449	
Double Reduction Vertical Type	1800	-	-	30	39	46	61	73	88	79		108	134	138		160
			1	75	105	124	171	217	261	233		332	414	372		561
	1500	-	-	31	40	49	64	77	92	86		118	146	154		183
			1	68	95	117	160	203	243	224		326	402	369		574
	1200	-	-	31	40	50	66	79	95	90		126	154	165		200
			1	60	84	106	145	184	223	208		307	376	351		557
1000	-	-	30	39	50	65	78	95	91		128	156	169		207	
		1	52	73	94	128	163	198	186		276	337	319		511	
900	-	-	29	39	50	65	78	94	91		128	156	169		209	
		1	48	69	89	121	154	187	178		265	323	306		493	
750	-	-	28	37	48	63	76	92	89		127	154	169		209	
		1	42	60	79	107	137	167	159		239	290	278		449	
Double Reduction Upright Type	1800	-	-	24	31	37	49	58	70	64		86	107	110		128
			1	60	84	99	137	174	209	186		266	331	297		449
	1500	-	-	25	32	39	51	61	74	69		95	117	123		146
			1	54	76	93	128	162	195	179		260	321	295		459
	1200	-	-	24	32	40	52	63	76	72		100	123	132		160
			1	48	67	85	116	147	178	166		245	301	281		446
1000	-	-	24	31	40	52	63	76	73		102	125	135		166	
		1	41	58	75	102	130	158	149		221	270	255		408	
900	-	-	23	31	40	52	62	75	72		102	125	136		167	
		1	39	55	71	97	124	150	142		212	258	245		395	
750	-	-	23	30	39	50	61	74	71		101	123	135		167	
		1	34	48	63	86	110	133	128		191	232	222		360	

SELECTION Right Angle Shaft Double Reduction Nominal Reduction Ratio 6.3 ▶ 8

Size of Reducer										L.Speed Shaft Speed r/min	H.Speed Shaft Speed r/min	Nominal Reduction Ratio	
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136			
											Exact Reduction Ratio		
											286	1800	6.3
											238	1500	
											190	1200	
											159	1000	
											143	900	
											119	750	
											Exact Reduction Ratio		
											254	1800	7.1
											211	1500	
											169	1200	
											141	1000	
											127	900	
											106	750	
											Exact Reduction Ratio		
											225	1800	8
											188	1500	
											150	1200	
											125	1000	
											113	900	
											94	750	
											Horizontal Vertical Upright	Dimension Tables	

Notes

1. For ※ marked values, the forced oil lubrication is required at continuous operation.

2. Consult us when the high speed shaft speed is over 1800r/min.

3. When the high speed shaft speed is not shown in the table, find it by the interpolation method.

4. When the high speed shaft speed (N) is lower than 750r/min, find the mechanical power rating (PN) according to the following formula.

$$P_N = P_{750} \times \frac{N}{750}$$

5. Shown in the table are the ratings for the slow speed shaft.

6. Refer to C42-C45 for the allowable radial and axial load on each shaft.

Size of Reducer										Number of Cooling Fans	H.Speed Shaft Speed r/min	Nominal Reduction Ratio	
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136			
											-	1800	Double Reduction Horizontal Type
											-	1500	
											1	1200	
											-	1000	
											1	900	
											-	750	
											-	1800	Double Reduction Vertical Type
											-	1500	
											1	1200	
											-	1000	
											1	900	
											-	750	
											-	1800	Double Reduction Upright Type
											-	1500	
											1	1200	
											-	1000	
											1	900	
											-	750	

Ambient Temperature °C	Temperature Correction Factor	
	Without Fan	With Fan
20	1.00	1.00
30	0.85	0.87
40	0.70	0.73
50	0.55	0.60

Notes

1. Shown in the table are the ratings for models without a fan cooling unit and those with a fan. (-: none fan, 1: with a fan)

2. The values are applicable to continuous operation at ambient temperatures of 20 °C or less. When the temperature is out of the range, refer to the temperature correction factor shown above.

3. When the high speed shaft speed is not shown in the table, find it by interpolation method.

SELECTION Right Angle Shaft Double Reduction Nominal Reduction Ratio 9 ▶ 11.2

MECHANICAL POWER RATING (kW)

Nominal Reduction Ratio	H.Speed Shaft Speed r/min	L.Speed Shaft Speed r/min	Size of Reducer															
			9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085	9090	
9	Exact Reduction Ratio		9.125	9.192	8.750	8.861	8.875	9.265	9.250	8.938	9.176	8.874	9.056	8.597	9.034			
	1800	200	49	76	126	152	188	236	280	334	443	568	704	798	1070*			
	1500	167	41	63	105	127	158	197	234	279	371	475	590	667	897			
	1200	133	33	51	85	102	127	158	188	224	298	381	474	535	722			
	1000	111	28.0	42	71	85	106	132	158	187	250	318	397	447	605			
	900	100	25.3	38	64	76	95	119	142	168	225	287	358	403	546			
	750	83	21.1	31	53	64	80	99	119	141	188	240	300	337	457			
10	Exact Reduction Ratio		10.040	9.899	10.303	10.118	10.171	9.889	10.000	10.125	9.995	9.875	10.125	10.007	9.882	9.982		
	1800	180	43	72	111	143	161	217	278	351	434	546	677	810	1000*	1150*		
	1500	150	36	60	92	119	134	181	232	297	362	469	567	713	863	1010		
	1200	120	29.1	48	74	95	107	145	187	237	289	375	456	577	695	867		
	1000	100	24.3	40	62	79	89	120	156	198	241	313	382	482	582	736		
	900	90	21.9	36	55	71	80	108	141	178	217	281	344	435	525	663		
	750	75	18.2	30	46	59	67	90	118	148	181	234	288	363	439	553		
11.2	Exact Reduction Ratio		11.614	11.295	11.106	11.000	11.606	11.250	11.385	11.375	11.647	11.294	11.345	11.229	10.900	10.961		
	1800	161	39	63	100	133	145	198	229	293	351	462	565	747	892*	1120*		
	1500	134	33	52	83	111	121	166	191	245	294	387	473	626	748	938		
	1200	107	26.5	42	67	89	97	133	154	197	236	311	381	504	602	756		
	1000	89	22.1	35	56	75	81	111	129	165	198	260	319	421	504	633		
	900	80	19.9	31	50	67	73	100	116	149	178	235	287	380	454	571		
	750	67	16.7	26.6	42	56	61	84	97	124	149	196	240	318	380	478		
Dimension Tables	Horizontal		C-46	C-46	C-46	C-46	C-46	C-46	C-46	C-46	C-48	C-48	C-48	C-48	C-48	C-48		
	Vertical		C-72	C-72	C-72	C-72	C-72	C-72	C-72	C-72	C-74	C-74	C-74	C-74	C-74	C-74		
	Upright		C-88	C-88	C-88	C-88	C-88	C-88	C-88	C-88	C-90	C-90	C-90	C-90	C-90	C-90		

THERMAL POWER RATING (kW)

Speed Reducer	Nominal Reduction Ratio	H.Speed Shaft Speed r/min	Number of Cooling Fans	Size of Reducer													
				9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085
Dimension Selection Tables	Double Reduction Horizontal Type	1800	-	27	36	44	56	69	82	78	99	109	130	142	173	164	203
			1	67	96	118	156	205	244	227	290	337	402	382	467	577	715
		1500	-	27	36	46	58	71	85	82	105	116	141	153	188	183	226
			1	59	86	109	144	187	225	214	274	319	388	368	452	575	708
		1200	-	26	36	46	59	71	86	84	108	120	147	160	198	195	242
			1	52	76	98	129	166	202	195	250	292	359	341	422	543	673
	9	-	26	35	46	58	70	85	84	108	120	148	161	200	199	248	
		1	44	66	85	113	145	177	173	222	260	320	305	379	491	610	
	11.2	-	25	34	45	57	69	84	84	108	119	148	161	200	200	249	
		1	41	62	81	107	137	167	164	211	247	306	291	363	471	586	
	750	-	24	33	44	56	66	82	82	105	117	146	158	198	198	247	
		1	36	54	71	95	120	149	146	188	221	275	261	326	425	531	
Dimension Selection Tables	Double Reduction Vertical Type	1800	-	27	36	44	56	69	82	78	99	109	130	142	173	164	203
			1	67	96	118	156	205	244	227	290	337	402	382	467	577	715
		1500	-	27	36	46	58	71	85	82	105	116	141	153	188	183	226
			1	59	86	109	144	187	225	214	274	319	388	368	452	575	708
		1200	-	26	36	46	59	71	86	84	108	120	147	160	198	195	242
			1	52	76	98	129	166	202	195	250	292	359	341	422	543	673
	9	-	26	35	46	58	70	85	84	108	120	148	161	200	199	248	
		1	44	66	85	113	145	177	173	222	260	320	305	379	491	610	
	11.2	-	25	34	45	57	69	84	84	108	119	148	161	200	200	249	
		1	41	62	81	107	137	167	164	211	247	306	291	363	471	586	
	750	-	24	33	44	56	66	82	82	105	117	146	158	198	198	247	
		1	36	54	71	95	120	149	146	188	221	275	261	326	425	531	
Dimension Selection Tables	Double Reduction Upright Type	1800	-	22	29	35	45	55	66	62	79	87	104	113	138	131	163
			1	53	76	95	125	164	195	182	232	270	321	306	373	461	572
		1500	-	22	29	37	46	57	68	66	84	93	113	123	151	147	181
			1	47	69	87	115	150	180	171	219	255	310	295	362	460	567
		1200	-	21	29	37	47	57	69	68	86	96	118	128	158	156	194
			1	41	61	78	104	133	161	156	200	234	287	273	338	434	538
	9	-	20	28	36	46	56	68	67	87	96	118	129	160	159	198	
		1	35	52	68	91	116	141	138	178	208	256	244	303	392	488	
	11.2	-	20	28	36	46	55	67	67	86	96	118	129	160	160	199	
		1	33	49	64	86	109	134	131	169	198	245	233	290	377	469	
	750	-	19	26	35	45	53	66	65	84	94	117	127	158	158	198	
		1	29	43	57	76	96	119	117	151	176	220	209	261	340	425	

SELECTION Right Angle Shaft Double Reduction Nominal Reduction Ratio 9 ▶ 11.2

Size of Reducer										L.Speed Shaft Speed r/min	H.Speed Shaft Speed r/min	Nominal Reduction Ratio		
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136				
9.000	9.000	8.947		Exact Reduction Ratio										
1550*	1880*	2800*		200									1800	9
1350*	1660*	2460*		167									1500	
1120*	1420*	2110*		133									1200	9
964*	1250*	1850*		111									1000	
882*	1160*	1720*		100									900	9
756*	998*	1500*		83									750	
9.765	9.765	10.235		Exact Reduction Ratio										
1460*	1880*	2800*		180									1800	10
1280*	1660*	2460*		150									1500	
1060*	1420*	2060*		120									1200	10
911*	1250*	1770*		100									1000	
834*	1160*	1620*		90									900	10
716*	998*	1390*		75									750	
11.382	11.382	11.302		Exact Reduction Ratio										
1230*	1570*	2430*		161									1800	11.2
1050*	1380*	2140*		134									1500	
877*	1180*	1780*		107									1200	11.2
752*	1040*	1520*		89									1000	
688*	971*	1390*		80									900	11.2
590*	833*	1200*		67									750	
C-50	C-50	C-50		Horizontal Vertical Upright									Dimension Tables	

Notes

- For * marked values, the forced oil lubrication is required at continuous operation.
- Consult us when the high speed shaft speed is over 1800r/min.
- When the high speed shaft speed is not shown in the table, find it by the interpolation method.
- When the high speed shaft speed (N) is lower than 750r/min, find the mechanical power rating (PN) according to the following formula.

$$PN = P_{750} \times \frac{N}{750}$$
- Shown in the table are the ratings for the slow speed shaft.
- Refer to C42-C45 for the allowable radial and axial load on each shaft.

Size of Reducer										Number of Cooling Fans	H.Speed Shaft Speed r/min	Nominal Reduction Ratio			
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136					
490											-	1800	Double Reduction Horizontal Type		
200											-	1500			
538	560	570		-									1	1500	9
220	270	590		-									1	1200	
525	599	600		-									1	1000	11.2
210	280	320		-									1	900	
444	551	600		-									1	750	11.2
210	270	330		-									1	900	
425	508	593		-									1	750	11.2
190	250	320		-									1	750	
350	429	523		-									1	750	11.2

Ambient Temperature °C	Temperature Correction Factor	
	Without Fan	With Fan
20	1.00	1.00
30	0.85	0.87
40	0.70	0.73
50	0.55	0.60

											-	1800	Double Reduction Vertical Type
											-	1500	
											-	1200	9
											-	1000	
											-	900	11.2
											-	750	

Notes

- Shown in the table are the ratings for models without a fan cooling unit and those with a fan. (-: none fan, 1: with a fan)
- The values are applicable to continuous operation at ambient temperatures of 20 °C or less. When the temperature is out of the range, refer to the temperature correction factor shown above.
- When the high speed shaft speed is not shown in the table, find it by interpolation method.

											-	1800	Double Reduction Upright Type
											-	1500	
											-	1200	9
											-	1000	
											-	900	11.2
											-	750	

SELECTION Right Angle Shaft Double Reduction Nominal Reduction Ratio 12.5 ▶ 16

MECHANICAL POWER RATING (kW)

Nominal Reduction Ratio	H.Speed Shaft Speed r/min	L.Speed Shaft Speed r/min	Size of Reducer													
			9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085
12.5	Exact Reduction Ratio		12.162	12.020	12.545	12.842	12.727	12.932	12.188	12.462	12.469	12.534	12.797	12.536	12.923	12.044
	1800	144	36	58	89	111	122	161	225	284	322	435	512	700	732*	1000*
	1500	120	30	48	74	93	102	134	188	237	269	362	428	598	612	863
	1200	96	24.2	39	59	74	82	107	150	189	216	290	343	482	491	715
	1000	80	20.1	32	49	62	68	89	125	158	180	242	286	403	410	600
	900	72	18.1	29.3	44	55	61	80	112	142	162	217	258	364	369	540
750	60	15.1	24.4	37	46	51	67	94	118	136	181	215	304	308	450	
14	Exact Reduction Ratio		14.068	13.716	13.523	13.962	14.523	14.712	13.875	14.000	14.529	14.335	14.338	14.067	14.253	13.225
	1800	129	32	51	82	105	116	152	188	239	283	366	450	600	688*	933*
	1500	107	27.3	43	69	88	97	126	158	200	237	306	377	502	576	782
	1200	86	21.9	34	55	71	78	101	127	161	190	246	303	404	463	629
	1000	71	18.3	28.7	46	59	65	84	106	134	159	206	253	338	388	527
	900	64	16.5	25.8	41	53	58	76	95	121	143	186	228	305	350	475
750	54	13.8	21.5	34	44	49	63	80	101	120	155	191	255	292	398	
16	Exact Reduction Ratio		15.778	15.988	16.235	15.636	15.556	16.182	15.881	15.188	15.392	15.635	15.750	15.844	16.000	15.750
	1800	113	27.1	42	67	89	96	122	169	226	261	322	373	512	545*	732*
	1500	94	22.6	35	56	74	80	102	141	188	218	269	311	428	455	612
	1200	75	18.1	28.5	45	59	64	82	113	150	175	216	250	343	365	491
	1000	63	15.1	23.7	37	49	54	68	94	125	146	180	208	286	305	410
	900	56	13.5	21.4	33	44	48	61	84	113	131	162	188	258	275	369
750	47	11.3	17.8	28.2	37	40	51	70	94	109	136	157	215	229	308	
Dimension Tables	Horizontal		C-46	C-46	C-46	C-46	C-46	C-46	C-46	C-46	C-48	C-48	C-48	C-48	C-48	C-48
	Vertical		C-72	C-72	C-72	C-72	C-72	C-72	C-72	C-72	C-74	C-74	C-74	C-74	C-74	C-74
	Upright		C-88	C-88	C-88	C-88	C-88	C-88	C-88	C-88	C-90	C-90	C-90	C-90	C-90	C-90

THERMAL POWER RATING (kW)

Nominal Reduction Ratio	H.Speed Shaft Speed r/min	Number of Cooling Fans	Size of Reducer													
			9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085
Double Reduction Horizontal Type	1800	-	23	33	41	54	63	79	73	96	101	130	137	175	172	208
		1	57	88	110	150	187	235	214	282	312	402	369	472	607	731
	1500	-	23	33	41	55	63	79	74	98	103	133	140	180	178	224
		1	50	77	98	137	166	209	192	256	283	366	336	433	558	702
	1200	-	22	31	40	55	61	78	73	98	103	134	140	181	180	230
		1	42	66	85	121	144	183	169	227	250	327	298	387	500	641
1000	-	21	30	39	54	59	76	71	96	101	132	138	179	178	229	
	1	36	56	73	105	123	158	146	198	218	286	260	339	438	565	
12.5 ▼	900	-	20	29	38	53	58	74	70	95	99	130	136	177	176	227
		1	33	52	68	99	115	147	137	186	205	269	245	321	414	535
16	750	-	19	28	36	51	55	71	67	92	95	126	131	172	171	221
		1	28	45	59	86	100	129	120	164	180	237	216	284	367	475
Double Reduction Vertical Type	1800	-	23	33	41	54	63	79	73	96	101	130	137	175	172	208
		1	57	88	110	150	187	235	214	282	312	402	369	472	607	731
	1500	-	23	33	41	55	63	79	74	98	103	133	140	180	178	224
		1	50	77	98	137	166	209	192	256	283	366	336	433	558	702
	1200	-	22	31	40	55	61	78	73	98	103	134	140	181	180	230
		1	42	66	85	121	144	183	169	227	250	327	298	387	500	641
1000	-	21	30	39	54	59	76	71	96	101	132	138	179	178	229	
	1	36	56	73	105	123	158	146	198	218	286	260	339	438	565	
12.5 ▼	900	-	20	29	38	53	58	74	70	95	99	130	136	177	176	227
		1	33	52	68	99	115	147	137	186	205	269	245	321	414	535
16	750	-	19	28	36	51	55	71	67	92	95	126	131	172	171	221
		1	28	45	59	86	100	129	120	164	180	237	216	284	367	475
Double Reduction Upright Type	1800	-	18	26	33	43	50	63	58	77	81	104	109	140	138	166
		1	46	70	88	120	150	188	171	225	250	321	295	378	485	585
	1500	-	18	26	33	44	50	63	59	79	82	106	112	144	142	179
		1	40	62	79	109	133	167	154	205	227	293	269	346	446	562
	1200	-	17	25	32	44	49	62	58	79	82	107	112	145	144	184
		1	34	53	68	97	115	146	135	182	200	262	239	310	400	513
1000	-	17	24	31	43	47	61	57	77	80	106	110	144	142	183	
	1	29	45	58	84	99	126	117	158	174	228	208	271	350	452	
12.5 ▼	900	-	16	23	30	42	46	59	56	76	79	104	108	142	141	182
		1	27	42	55	79	92	118	110	149	164	215	196	257	331	428
16	750	-	15	22	29	40	44	57	54	73	76	101	105	138	137	177
		1	23	36	47	69	80	103	96	131	144	190	173	227	293	380

Speed Reducer
Selection Tables
Dimension Tables

SELECTION Right Angle Shaft Double Reduction Nominal Reduction Ratio 12.5 ▶ 16

Size of Reducer										L.Speed Shaft Speed r/min	H.Speed Shaft Speed r/min	Nominal Reduction Ratio	
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136			
12.349	12.349	12.929									Exact Reduction Ratio		
1180*	1570*	2310*									144	1800	12.5
1010*	1380*	1980*									120	1500	
840*	1180*	1640*									96	1200	12.5
721*	1040*	1410*									80	1000	
660*	971*	1290*									72	900	12.5
566*	830*	1110*									60	750	
14.143	14.344	14.260									Exact Reduction Ratio		
993*	1280*	1980*									129	1800	14
852*	1130*	1700*									107	1500	
706*	966*	1410*									86	1200	14
605*	850*	1210*									71	1000	
554*	790*	1110*									64	900	14
475*	678*	952*									54	750	
15.345	15.562	16.312									Exact Reduction Ratio		
953*	1280*	1840*									113	1800	16
817*	1130*	1580*									94	1500	
678*	966*	1310*									75	1200	16
581*	850*	1120*									63	1000	
532*	790*	1020*									56	900	16
456*	662*	883*									47	750	
C-50	C-50	C-50									Horizontal Vertical Upright	Dimension Tables	

Notes

- For * marked values, the forced oil lubrication is required at continuous operation.
- Consult us when the high speed shaft speed is over 1800r/min.
- When the high speed shaft speed is not shown in the table, find it by the interpolation method.
- When the high speed shaft speed (N) is lower than 750r/min, find the mechanical power rating (PN) according to the following formula.

$$PN = P_{750} \times \frac{N}{750}$$
- Shown in the table are the ratings for the slow speed shaft.
- Refer to C42-C45 for the allowable radial and axial load on each shaft.

Size of Reducer										Number of Cooling Fans	H.Speed Shaft Speed r/min	Nominal Reduction Ratio	
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136			
490											-	1800	Double Reduction Horizontal Type
200											-	1500	
538	560	570									-	1500	Double Reduction Vertical Type
220	270										-	1200	
525	599	590									1	1200	12.5
210	280	320									-	1000	
444	551	600									1	1000	16
210	270	330									-	900	
425	508	593									1	900	16
190	250	320									-	750	
350	429	523									1	750	

Ambient Temperature °C	Temperature Correction Factor	
	Without Fan	With Fan
20	1.00	1.00
30	0.85	0.87
40	0.70	0.73
50	0.55	0.60

											-	1800	Double Reduction Vertical Type
											-	1500	
											-	1500	12.5
											-	1200	
											1	1200	16
											-	1000	
											-	1000	16
											1	900	
											-	900	16
											-	750	

Notes

- Shown in the table are the ratings for models without a fan cooling unit and those with a fan. (-: none fan, 1: with a fan)
- The values are applicable to continuous operation at ambient temperatures of 20 °C or less. When the temperature is out of the range, refer to the temperature correction factor shown above.
- When the high speed shaft speed is not shown in the table, find it by interpolation method.

											-	1800	Double Reduction Upright Type
											-	1500	
											-	1500	12.5
											-	1200	
											1	1200	16
											-	1000	
											-	1000	16
											1	900	
											-	900	16
											-	750	

SELECTION Right Angle Shaft Double Reduction Nominal Reduction Ratio 18 ▶ 22.4

MECHANICAL POWER RATING (kW)

Nominal Reduction Ratio	H.Speed Shaft Speed r/min	L.Speed Shaft Speed r/min	Size of Reducer														
			9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085	9090
18	Exact Reduction Ratio		18.250	18.243	17.500	17.000	17.750	18.409	18.080	17.063	17.936	17.882	17.647	17.779	17.647	17.294	
	1800	100	25.3	37	64	86	95	117	145	197	230	295	368	478	545*	719*	
	1500	83	21.1	31	53	72	79	98	122	165	193	247	308	400	455	602	
	1200	67	17.0	25.1	43	57	63	78	98	132	155	198	247	321	365	484	
	1000	56	14.2	20.9	36	48	53	65	81	111	129	166	207	269	305	405	
	900	50	12.8	18.9	32	43	47	58	73	100	116	149	186	242	275	366	
750	42	10.7	15.7	27.1	36	39	49	61	83	97	125	156	203	229	306		
20	Exact Reduction Ratio		20.235			19.778			19.790			19.301			19.500		19.500
	1800	90	*	67	*	96	*	170	*	261	*	373	*	545*			
	1500	75	*	56	*	80	*	141	*	218	*	311	*	455			
	1200	60	*	45	*	64	*	113	*	175	*	250	*	365			
	1000	50	*	37	*	54	*	94	*	146	*	208	*	305			
	900	45	*	33	*	48	*	85	*	131	*	188	*	275			
750	38	*	28.2	*	40	*	70	*	109	*	157	*	229				
22.4	Exact Reduction Ratio		22.000			22.500			22.233			22.075			21.882		21.412
	1800	80	*	65	*	95	*	152	*	240	*	373	*	545*			
	1500	67	*	54	*	79	*	127	*	201	*	311	*	455			
	1200	54	*	43	*	63	*	102	*	161	*	250	*	365			
	1000	45	*	36	*	53	*	85	*	135	*	208	*	305			
	900	40	*	32	*	47	*	77	*	121	*	188	*	275			
750	33	*	27.4	*	39	*	64	*	101	*	157	*	229				
Dimension Tables	Horizontal		C-46	C-46	C-46	C-46	C-46	C-46	C-46	C-46	C-48	C-48	C-48	C-48	C-48	C-48	
	Vertical		C-72	C-72	C-72	C-72	C-72	C-72	C-72	C-72	C-74	C-74	C-74	C-74	C-74	C-74	
	Upright		C-88	C-88	C-88	C-88	C-88	C-88	C-88	C-88	C-90	C-90	C-90	C-90	C-90	C-90	

THERMAL POWER RATING (kW)

Speed Reducer	Nominal Reduction Ratio	H.Speed Shaft Speed r/min	Number of Cooling Fans	Size of Reducer													
				9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085
Dimension Selection Tables	Double Reduction Horizontal Type	1800	-	22	32	40	49	56	69	73	89	103	119	139	165	175	209
			1	55	85	108	136	165	205	213	259	317	368	375	445	617	736
		1500	-	22	31	40	48	55	69	74	89	104	120	142	167	181	213
			1	48	74	96	120	146	182	192	231	287	330	341	401	567	668
		1200	-	21	30	39	47	54	67	73	87	104	119	142	165	183	213
			1	41	64	83	103	127	157	169	201	254	290	303	353	507	593
	18	1000	-	20	29	38	45	53	64	71	84	102	116	140	162	181	210
		1	35	54	71	88	110	133	146	173	220	251	264	306	445	517	
	22.4	900	-	19	28	37	44	52	63	70	83	100	114	138	159	178	207
		1	32	50	67	82	103	125	137	162	207	236	249	288	421	487	
	750	-	18	27	35	42	50	60	67	79	97	109	133	154	173	200	
	1	27	43	58	71	88	109	120	141	182	205	219	253	372	430		
Dimension Selection Tables	Double Reduction Vertical Type	1800	-	22	32	40	49	53	69	73	89	103	119	139	165	175	209
			1	55	85	108	136	157	205	213	259	317	368	375	445	617	736
		1500	-	22	31	40	48	53	69	74	89	104	120	142	167	181	213
			1	48	74	96	120	141	182	192	231	287	330	341	401	567	668
		1200	-	21	30	39	47	53	67	73	87	104	119	142	165	183	213
			1	41	64	83	103	124	157	169	201	254	290	303	353	507	593
	18	1000	-	20	29	38	45	52	64	71	84	102	116	140	162	181	210
		1	35	54	71	88	107	133	146	173	220	251	264	306	445	517	
	22.4	900	-	19	28	37	44	51	63	70	83	100	114	138	159	178	207
		1	32	50	67	82	101	125	137	162	207	236	249	288	421	487	
	750	-	18	27	35	42	49	60	67	79	97	109	133	154	173	200	
	1	27	43	58	71	88	109	120	141	182	205	219	253	372	430		
Dimension Selection Tables	Double Reduction Upright Type	1800	-	18	25	32	39	44	55	58	71	82	95	111	132	140	167
			1	44	68	87	109	132	164	171	207	254	294	300	356	494	589
		1500	-	17	25	32	39	44	55	59	71	84	96	114	133	145	171
			1	38	60	77	96	117	146	154	185	230	264	273	321	453	535
		1200	-	17	24	32	37	43	54	58	70	83	95	114	132	146	170
			1	33	51	67	82	102	126	135	161	203	232	242	282	406	474
	18	1000	-	16	23	30	36	42	51	57	68	82	93	112	130	144	168
		1	28	43	57	70	88	106	116	138	176	201	211	245	356	413	
	22.4	900	-	15	23	30	35	41	50	56	66	80	91	110	127	143	165
		1	26	40	53	66	82	100	109	130	166	189	199	230	336	390	
	750	-	15	21	28	33	40	48	54	63	77	87	107	123	139	160	
	1	22	35	46	57	72	87	96	113	146	164	176	202	298	344		

SELECTION Right Angle Shaft Double Reduction Nominal Reduction Ratio 18 ▶ 22.4

Size of Reducer									L.Speed Shaft Speed r/min	H.Speed Shaft Speed r/min	Nominal Reduction Ratio
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136	
17.625	18.000	17.895									Exact Reduction Ratio
803*	1040*	1590*									100 1800
689*	918*	1370*									83 1500
571*	785*	1130*									67 1200
490*	691*	975*									56 1000
448*	642*	892*									50 900
384*	551*	765*									42 750
19.123	19.529	20.471									Exact Reduction Ratio
771*	1040*	1480*									90 1800
662*	918*	1270*									75 1500
548*	785*	1050*									60 1200
470*	691*	905*									50 1000
431*	634*	829*									45 900
369*	530*	711*									38 750
											Exact Reduction Ratio
*	*	*									80 1800
*	*	*									67 1500
*	*	*									54 1200
*	*	*									45 1000
*	*	*									40 900
*	*	*									33 750
C-50	C-50	C-50									Horizontal Vertical Upright Dimension Tables

Notes

- For * marked values, the forced oil lubrication is required at continuous operation.
- Consult us when the high speed shaft speed is over 1800r/min.
- When the high speed shaft speed is not shown in the table, find it by the interpolation method.
- When the high speed shaft speed (N) is lower than 750r/min, find the mechanical power rating (PN) according to the following formula.

$$PN = P_{750} \times \frac{N}{750}$$
- Shown in the table are the ratings for the slow speed shaft.
- Refer to C42-C45 for the allowable radial and axial load on each shaft.

*Marked models are triple reduction units. Refer to C-20 and C-21.

Size of Reducer									Number of Cooling Fans	H.Speed Shaft Speed r/min	Nominal Reduction Ratio
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136	
490											- 1800 Double Reduction Horizontal Type
200											- 1500
538	560	570									- 1200
220	270										- 1000
525	599	590									- 900
210	280	320									- 750
444	551	600									18
210	270	330									22.4
425	508	593									
190	250	320									
350	429	523									

Ambient Temperature °C	Temperature Correction Factor	
	Without Fan	With Fan
20	1.00	1.00
30	0.85	0.87
40	0.70	0.73
50	0.55	0.60

											- 1800 Double Reduction Vertical Type
											- 1500
											- 1200
											- 1000
											- 900
											- 750

Notes

- Shown in the table are the ratings for models without a fan cooling unit and those with a fan. (-: none fan, 1: with a fan)
- The values are applicable to continuous operation at ambient temperatures of 20 °C or less. When the temperature is out of the range, refer to the temperature correction factor shown above.
- When the high speed shaft speed is not shown in the table, find it by interpolation method.

											- 1800 Double Reduction Upright Type
											- 1500
											- 1200
											- 1000
											- 900
											- 750

SELECTION Right Angle Shaft Triple Reduction Nominal Reduction Ratio 20 ▶ 25

MECHANICAL POWER RATING (kW)

Nominal Reduction Ratio	H.Speed Shaft Speed r/min	L.Speed Shaft Speed r/min	Size of Reducer																					
			9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085	9090							
20	Exact Reduction Ratio				20.091		19.620		19.790		19.181		19.950		20.206		20.548							
	1800	90	61	*	81	*	124	*	194	*	295	*	516	*	735									
	1500	75	51	*	67	*	103	*	162	*	246	*	431	*	616									
	1200	60	41	*	54	*	83	*	130	*	198	*	346	*	495									
	1000	50	34	*	45	*	69	*	108	*	165	*	289	*	413									
	900	45	31	*	40	*	62	*	97	*	149	*	261	*	373									
	750	38	26.1	*	34	*	52	*	81	*	124	*	218	*	311									
22.4	Exact Reduction Ratio				21.656		22.388		22.530		22.351		22.353		22.286		22.353							
	1800	80	55	*	81	*	124	*	194	*	295	*	476	*	696									
	1500	67	46	*	67	*	103	*	162	*	246	*	398	*	582									
	1200	54	37	*	54	*	83	*	130	*	198	*	320	*	468									
	1000	45	31	*	45	*	69	*	108	*	165	*	268	*	391									
	900	40	28.1	*	40	*	62	*	97	*	149	*	241	*	353									
	750	33	23.5	*	34	*	52	*	81	*	124	*	202	*	295									
25	Exact Reduction Ratio				25.137		25.041		24.444		25.935		24.662		25.137		24.938		24.630		24.626		25.685	
	1800	72	49	64	80		117	124	193		295		453	516	625									
	1500	60	41	54	67		98	103	162		246		379	431	528									
	1200	48	33	43	53		78	83	130		198		304	346	424									
	1000	40	27.8	36	45		65	69	108		165		254	289	355									
	900	36	25.0	32	40		59	62	97		149		229	261	320									
	750	30	20.9	27.3	33		49	52	81		124		192	218	267									
Dimension Tables	Horizontal		C-52	C-52	C-52		C-52	C-52	C-54		C-54		C-54	C-54	C-54		C-56							
	Vertical		C-76	C-76	C-76		C-76	C-76	C-78		C-78		C-78	C-78	C-78		C-80							
	Upright		C-92	C-92	C-92		C-92	C-92	C-94		C-94		C-94	C-94	C-94									

THERMAL POWER RATING (kW)

Speed Reducer
Selection Tables
Dimension Tables

Nominal Reduction Ratio	H.Speed Shaft Speed r/min	Number of Cooling Fans	Size of Reducer														
			9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085	9090
Triple Reduction Horizontal Type	1800	-	34	43	53		61	77	84		113		138	172	213		
	1500	-	65	86	93		141	178	177		214		368	459	510		
	1200	-	34	43	53		61	77	85		115		144	178	220		
20	1200	1	58	77	83		126	159	160		195		340	421	468		
	1000	-	33	43	52		60	76	85		115		146	180	222		
	900	1	51	67	72		111	139	141		173		307	377	419		
25	1000	-	33	42	50		59	74	83		114		145	178	220		
	900	-	44	58	62		96	120	122		151		271	332	369		
	750	1	32	41	49		58	73	82		112		144	176	218		
Triple Reduction Vertical Type	1800	-	31	41	51		57	73	79		105		126	159	181		
	1500	-	61	81	89		133	169	166		200		336	422	433		
	1200	-	32	42	51		59	74	81		109		135	168	195		
20	1200	1	55	74	80		121	153	152		185		319	397	416		
	1000	-	32	41	51		59	74	82		111		140	172	205		
	900	1	49	65	70		107	135	136		167		293	362	386		
25	1000	-	32	41	49		58	72	81		111		141	173	207		
	900	-	43	56	60		93	117	119		147		262	321	346		
	750	1	31	40	48		57	71	80		110		140	172	207		
Triple Reduction Upright Type	1800	-	34	43	55		61	77	84		113		138	172	213		
	1500	-	65	86	96		141	178	177		214		368	459	510		
	1200	-	34	43	55		61	77	85		115		144	178	220		
20	1200	1	58	77	85		126	159	160		195		340	421	468		
	1000	-	33	43	54		60	76	85		115		146	180	222		
	900	1	51	67	74		111	139	141		173		307	377	419		
25	1000	-	33	42	52		59	74	83		114		145	178	220		
	900	-	44	58	64		96	120	122		151		271	332	369		
	750	1	32	41	51		58	73	82		112		144	176	218		

SELECTION Right Angle Shaft Triple Reduction Nominal Reduction Ratio 20 ▶ 25

Size of Reducer										L.Speed Shaft Speed r/min	H.Speed Shaft Speed r/min	Nominal Reduction Ratio			
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136					
20.504		19.608											Exact Reduction Ratio		
*	992*	*	1520*	*									90	1800	20
*	829	*	1270	*									75	1500	
*	666	*	1020	*									60	1200	
*	556	*	856	*									50	1000	
*	501	*	772	*									45	900	
*	419	*	645	*									38	750	
22.800	22.004	22.444	22.499	22.222									Exact Reduction Ratio		
735	992*	992*	1360*	1520*									80	1800	22.4
616	829	829	1160	1270									67	1500	
495	666	666	936	1020									54	1200	
413	556	556	783	856									45	1000	
373	501	501	706	772									40	900	
311	419	419	591	645									33	750	
24.737	25.271	24.351	24.166	25.421	24.837								Exact Reduction Ratio		
714	912*	992*	1270*	1360*	1520*								72	1800	25
613	763	829	1090	1170	1270								60	1500	
495	613	666	910	970	1020								48	1200	
413	513	556	771	827	856								40	1000	
373	462	501	696	746	772								36	900	
311	386	419	582	624	645								30	750	
C-56	C-56	C-56	C-56	C-56	C-58								Horizontal Vertical Upright		Dimension Tables

*marked models are double reduction units. Refer to C-18 and C-19.

Notes
1. _____ For ※ marked values, the forced oil lubrication is required at continuous operation.
2. _____ Consult us when the high speed shaft speed is over 1800r/min.
3. _____ When the high speed shaft speed is not shown in the table, find it by the interpolation method.
4. _____ When the high speed shaft speed (N) is lower than 750r/min, find the mechanical power rating (PN) according to the following formula. $PN = P_{750} \times \frac{N}{750}$
5. _____ Shown in the table are the ratings for the slow speed shaft.
6. _____ Refer to C42-C45 for the allowable radial and axial load on each shaft.

Size of Reducer										Number of Cooling Fans	H.Speed Shaft Speed r/min	Nominal Reduction Ratio		
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136				
239	273	306	348	385	426							-	1800	Triple Reduction Horizontal Type
572	767	860	933	1031	703							1	1500	
246	282	317	366	402	443							1	1200	
524	705	792	874	958	730							1	1000	20
249	286	321	375	410	450							-	900	
469	634	711	794	869	743							1	750	25
247	284	319	375	410	449							-	1800	
413	558	627	703	769	741							1	1500	
244	281	316	373	408	446							-	1200	
391	530	595	669	732	736							1	1000	20
239	275	309	366	400	437							-	900	
348	472	530	599	654	722							1	750	25
203	230	258	280	316							-	1800	Triple Reduction Upright Type	
485	646	724	750	847							1	1500		
219	249	280	315	350							-	1200		
466	624	700	751	834							1	1000	20	
229	262	294	340	373							-	900		
433	582	653	719	791							1	750	25	
232	266	299	349	382							-	1800		Triple Reduction Upright Type
388	524	588	655	717							1	1500		
232	266	299	351	384							-	1200		
371	502	563	630	689							1	1000	20	
229	264	296	350	382							-	900		
334	453	508	571	625							1	750	25	

Ambient Temperature °C	Temperature Correction Factor	
	Without Fan	With Fan
20	1.00	1.00
30	0.85	0.87
40	0.70	0.73
50	0.55	0.60

Notes
1. _____ Shown in the table are the ratings for models without a fan cooling unit and those with a fan. (-: none fan, 1: with a fan)
2. _____ The values are applicable to continuous operation at ambient temperatures of 20 °C or less. When the temperature is out of the range, refer to the temperature correction factor shown above.
3. _____ When the high speed shaft speed is not shown in the table, find it by interpolation method.

SELECTION Right Angle Shaft Triple Reduction Nominal Reduction Ratio 28 ▶ 35.5

MECHANICAL POWER RATING (kW)

Nominal Reduction Ratio	H.Speed Shaft Speed r/min	L.Speed Shaft Speed r/min	Size of Reducer												
			9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080
28	Exact Reduction Ratio		27.096	27.225	27.893	28.379	29.526	27.706	29.291	27.509	27.941	27.718	27.165	27.041	27.941
	1800	65	44	58	65	81	96	124	152	194	251	295	392	498	559
	1500	54	37	49	55	67	80	103	127	162	210	246	328	417	468
	1200	43	29.9	39	44	54	64	83	102	130	168	198	263	335	376
	1000	36	25.0	33	36	45	54	69	85	108	141	165	220	280	314
	900	32	22.5	29.7	33	40	48	62	77	97	127	149	198	252	283
31.5	Exact Reduction Ratio		32.455	31.331	31.694	31.079	31.969	32.319	30.157	31.521	31.129	30.875	32.280	30.017	32.063
	1800	57	32	51	57	81	92	124	140	194	225	295	331	473	508
	1500	48	26.9	43	48	67	79	103	117	162	190	246	280	399	425
	1200	38	21.5	34	38	54	64	83	94	130	152	198	224	321	341
	1000	32	18.0	29.1	32	45	53	69	78	108	127	165	187	268	285
	900	29	16.2	26.2	29	40	48	62	70	97	114	149	169	242	257
35.5	Exact Reduction Ratio		34.983	34.063	36.165	35.357	36.395	36.309	35.140	36.050	34.879	34.647	35.603	32.960	34.879
	1800	51	32	47	51	69	78	100	127	159	202	266	301	410	450
	1500	42	26.9	39	42	57	65	84	106	133	169	223	251	343	376
	1200	34	21.5	31	34	46	52	67	85	106	135	179	202	276	302
	1000	28	18.0	26.4	29	38	44	56	71	89	113	149	169	230	253
	900	25	16.2	23.8	25.7	34	39	50	64	80	102	134	152	208	228
Dimension Tables	Horizontal		C-52	C-52	C-52	C-52	C-52	C-52	C-54	C-54	C-54	C-54	C-54	C-54	C-56
	Vertical		C-76	C-76	C-76	C-76	C-76	C-76	C-78	C-78	C-78	C-78	C-78	C-78	C-80
	Upright		C-92	C-92	C-92	C-92	C-92	C-92	C-92	C-94	C-94	C-94	C-94	C-94	C-94

THERMAL POWER RATING (kW)

Nominal Reduction Ratio	H.Speed Shaft Speed r/min	Number of Cooling Fans	Size of Reducer													
			9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085
Triple Reduction Horizontal Type	1800	-	31	40	49	59	58	74	81	99	109	136	137	168	210	
		1	59	79	85	103	135	171	172	209	208	259	364	447	502	
	1500	-	30	40	48	58	58	73	81	100	110	138	139	172	212	
		1	52	71	75	90	120	152	153	188	186	233	328	408	452	
	1200	-	29	39	46	57	57	72	80	98	108	136	138	173	211	
		1	44	61	64	79	104	132	133	163	162	205	289	364	398	
28	1000	-	28	38	44	55	55	70	78	96	106	134	135	172	207	
		1	38	53	54	67	89	114	115	142	140	178	251	319	346	
	900	-	27	37	43	54	53	69	76	94	104	132	133	170	204	
		1	35	50	51	63	83	106	108	133	132	168	236	302	327	
	35.5	750	-	26	36	41	51	51	66	73	91	100	128	128	165	198
			1	30	43	44	54	72	93	94	117	116	148	208	268	288
Triple Reduction Vertical Type	1800	-	30	38	47	56	56	70	77	94	103	128	128	156	180	
		1	57	75	82	98	129	163	162	198	196	244	341	415	430	
	1500	-	29	38	47	56	56	71	78	96	105	132	132	163	194	
		1	50	68	72	87	115	146	147	180	178	222	313	386	412	
	1200	-	28	38	45	55	55	70	78	95	105	132	133	167	198	
		1	43	60	62	76	101	128	129	158	157	198	279	351	373	
28	1000	-	27	37	44	54	54	69	76	94	103	131	131	167	197	
		1	37	52	54	66	87	111	112	139	137	174	244	310	330	
	900	-	27	37	43	53	52	67	75	92	102	129	130	165	196	
		1	34	49	50	62	81	105	105	130	129	164	231	295	313	
	35.5	750	-	25	35	41	51	50	65	72	89	98	126	126	162	191
			1	30	43	43	54	71	92	92	115	114	146	204	263	279
Triple Reduction Upright Type	1800	-	31	40	51	59	58	74	81	99	109	136	137	168	210	
		1	59	79	90	103	135	171	172	209	208	259	364	447	502	
	1500	-	30	40	50	58	58	73	81	100	110	138	139	172	212	
		1	52	71	78	90	120	152	153	188	186	233	328	408	452	
	1200	-	29	39	49	57	57	72	80	98	108	136	138	173	211	
		1	44	61	67	79	104	132	133	163	162	205	289	364	398	
28	1000	-	28	38	47	55	55	70	78	96	106	134	135	172	207	
		1	38	53	57	67	89	114	115	142	140	178	251	319	346	
	900	-	27	37	45	54	53	69	76	94	104	132	133	170	204	
		1	35	50	53	63	83	106	108	133	132	168	236	302	327	
	35.5	750	-	26	36	43	51	51	66	73	91	100	128	128	165	198
			1	30	43	46	54	72	93	94	117	116	148	208	268	288

SELECTION Right Angle Shaft Triple Reduction Nominal Reduction Ratio 28 ▶ 35.5

Size of Reducer											L.Speed Shaft Speed r/min	H.Speed Shaft Speed r/min	Nominal Reduction Ratio
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136			
28.500	27.119	27.662	27.730	27.389		28.500	28.500		27.737	27.737	Exact Reduction Ratio		
625	812*	970*	1130*	1280*		1930*	2060*		3110*	3260*	65	1800	28
536	679	825	949	1090		1610*	1770*		2600*	2800*	54	1500	
444	546	663	763	910		1300	1460		2090*	2320*	43	1200	
379	456	554	638	781		1080	1250		1750	1990	36	1000	
341	411	500	575	715		982	1140		1580	1820	32	900	
285	344	418	481	612		821	955		1320	1560	27	750	
30.922	32.716	30.012	31.413	31.331	31.500	30.922	30.922		31.729	31.729	Exact Reduction Ratio		
589	708*	877*	988*	1140*	1380*	1780*	1920*		2730*	2910*	57	1800	31.5
498	592	734	823	978	1150	1490*	1640*		2280*	2500*	48	1500	
400	476	590	658	806	923	1200	1360		1840*	2070*	38	1200	
335	398	493	548	674	769	1000	1160		1530	1770	32	1000	
302	359	445	494	608	692	906	1050		1380	1620	29	900	
252	300	372	411	508	576	758	882		1160	1360	24	750	
35.576	35.108	35.811	36.045	35.601	36.176	36.000	36.000	36.500	35.036	35.036	Exact Reduction Ratio		
522	630*	766*	878*	988*	1330*	1530*	1690*	2110*	2480*	2680*	51	1800	35.5
448	527	640	734	823	1110	1280*	1450*	1760*	2070*	2300*	42	1500	
364	424	514	590	658	895	1030	1200	1420*	1670*	1910*	34	1200	
304	354	430	493	548	748	866	1000	1180	1390	1630	28	1000	
274	319	388	445	494	675	780	908	1070	1260	1480	25	900	
229	267	324	372	411	564	652	759	895	1050	1240	21	750	
C-56	C-56	C-56	C-56	C-56	C-58	C-58	C-58	C-60	C-60	C-60	Horizontal Vertical Upright	Dimension Tables	

Notes

1. For * marked values, the forced oil lubrication is required at continuous operation.

2. Consult us when the high speed shaft speed is over 1800r/min.

3. When the high speed shaft speed is not shown in the table, find it by the interpolation method.

4. When the high speed shaft speed (N) is lower than 750r/min, find the mechanical power rating (PN) according to the following formula.

$$PN = P_{750} \times \frac{N}{750}$$

5. Shown in the table are the ratings for the slow speed shaft.

6. Refer to C42-C45 for the allowable radial and axial load on each shaft.

Size of Reducer											Number of Cooling Fans	H.Speed Shaft Speed r/min	Nominal Reduction Ratio
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136			
229	272	298	340	376	417	500	500	455	537	537	-	1800	Triple Reduction Horizontal Type
547	764	839	912	1007	688	824	824	751	886	886	1	1500	
230	275	303	348	389	428	529	529	488	586	586	1	1200	
490	688	758	830	929	706	872	872	805	966	966	-	1000	28
228	274	300	348	390	431	546	546	509	619	619	1	900	
430	607	666	736	825	712	901	901	841	1021	1021	-	750	35.5
223	269	294	343	383	428	543	543	516	630	630	1	1800	
373	529	579	643	719	706	895	895	851	1040	1040	-	1500	
220	265	290	338	378	424	538	538	516	629	629	1	1200	
352	499	546	607	679	700	888	888	851	1038	1038	-	1000	
213	257	281	329	367	415	526	526	511	622	622	1	900	
310	441	481	538	600	684	868	868	843	1026	1026	-	750	

Ambient Temperature °C	Temperature Correction Factor	
	Without Fan	With Fan
20	1.00	1.00
30	0.85	0.87
40	0.70	0.73
50	0.55	0.60

200	232	255	280	315							-	1800	Triple Reduction Vertical Type
477	651	717	750	844							1	1500	
212	251	274	310	343							-	1200	28
450	627	685	738	819							1	1000	
215	256	282	324	363							-	900	35.5
405	569	627	686	768							1	750	
213	256	281	325	365							-	1800	
357	503	552	609	684							1	1500	
211	254	278	323	362							-	1200	
338	478	524	580	651							1	1000	
206	248	272	317	355							-	900	
300	426	466	519	581							1	750	

											-	1800	Triple Reduction Upright Type
											1	1500	
											-	1200	28
											1	1000	
											-	900	35.5
											1	750	

Notes

1. Shown in the table are the ratings for models without a fan cooling unit and those with a fan. (-: none fan, 1: with a fan)

2. The values are applicable to continuous operation at ambient temperatures of 20 °C or less. When the temperature is out of the range, refer to the temperature correction factor shown above.

3. When the high speed shaft speed is not shown in the table, find it by interpolation method.

SELECTION Right Angle Shaft Triple Reduction Nominal Reduction Ratio 40 ▶ 50

MECHANICAL POWER RATING (kW)

Nominal Reduction Ratio	H.Speed Shaft Speed r/min	L.Speed Shaft Speed r/min	Size of Reducer												
			9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080
40	Exact Reduction Ratio		40.607	40.451	39.487	40.296	41.895	39.838	39.520	37.815	38.912	38.541	39.346	39.341	40.078
	1800	45	30	32	50	57	73	92	124	140	194	225	286	331	408
	1500	38	25.8	26.9	41	48	61	79	103	117	162	190	239	280	341
	1200	30	20.7	21.5	33	38	49	65	83	94	130	152	192	224	274
	1000	25	17.3	18.0	28.0	32	40	56	69	78	109	127	160	187	229
	900	23	15.6	16.2	25.3	28.9	36	51	62	70	98	114	144	169	206
750	19	13.0	13.5	21.1	24.1	30	42	52	59	82	95	121	141	172	
45	Exact Reduction Ratio		43.770	43.979	45.058	45.843	47.695	44.756	46.051	43.250	43.599	43.250	43.397	43.198	43.599
	1800	40	27.8	32	41	53	60	82	97	133	162	214	248	315	362
	1500	33	23.2	26.9	34	44	50	68	81	111	135	179	207	263	302
	1200	27	18.6	21.5	28	35	40	55	65	89	108	144	166	211	243
	1000	22	15.6	18.0	23.0	30	33	46	54	74	91	120	139	176	203
	900	20	14.0	16.2	20.7	27.0	30	41	49	67	82	108	125	159	183
750	17	11.7	13.5	17.3	22.6	25.3	34	41	56	68	90	104	133	152	
50	Exact Reduction Ratio		51.141	50.611	50.205	51.869	52.207	50.273	49.557	49.500	48.176	48.889	47.953	50.984	
	1800	36	19.3	32	51	59	78	97	130	153	199	231	295	322	
	1500	30	16.1	26.9	42	49	65	81	110	128	170	193	252	269	
	1200	24	12.9	21.5	34	39	52	65	88	102	137	155	202	216	
	1000	20	10.8	18.0	28.6	33	43	54	73	86	115	129	169	180	
	900	18	9.7	16.2	25.7	39.9	39	49	66	77	103	116	152	162	
750	15	8.1	13.5	21.4	24.9	32	41	55	64	86	97	127	136		
Dimension Tables	Horizontal		C-52	C-52	C-52	C-52	C-52	C-52	C-54	C-54	C-54	C-54	C-54	C-54	C-56
	Vertical		C-76	C-76	C-76	C-76	C-76	C-76	C-76	C-78	C-78	C-78	C-78	C-78	C-80
	Upright		C-92	C-92	C-92	C-92	C-92	C-92	C-92	C-92	C-92	C-92	C-92	C-92	

THERMAL POWER RATING (kW)

Speed Reducer	Nominal Reduction Ratio	H.Speed Shaft Speed r/min	Number of Cooling Fans	Size of Reducer												
				9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080
Triple Reduction Horizontal Type	1800	-	1	26	37	44	54	53	67	74	91	102	126	129	159	196
				51	73	76	94	123	155	155	192	194	240	342	422	468
	1500	-	1	26	36	42	53	52	66	73	90	101	125	128	159	195
				44	63	66	83	108	136	136	169	171	212	304	376	415
	1200	-	1	24	34	40	51	50	64	70	87	98	122	126	156	191
				37	54	55	70	92	117	117	145	147	184	264	328	360
1000	-	1	23	33	38	49	48	61	68	85	95	119	122	152	186	
			31	46	46	60	78	100	100	126	126	158	227	283	310	
50	900	-	1	22	32	37	48	47	60	66	83	93	117	120	149	182
				29	42	43	57	73	93	93	117	118	148	213	266	291
50	750	-	1	21	30	34	45	45	57	63	79	89	112	115	144	175
				24	36	37	48	63	81	81	102	103	130	186	233	255
Triple Reduction Vertical Type	1800	-	1	26	36	43	53	51	64	71	87	98	121	123	151	179
				49	71	74	93	119	149	149	184	186	229	326	401	427
	1500	-	1	25	35	41	52	51	64	70	87	98	121	124	153	182
				43	62	64	81	105	132	132	163	165	205	293	362	387
	1200	-	1	24	34	39	50	49	62	69	85	96	119	122	152	182
				36	53	54	69	90	114	115	142	144	179	257	319	343
1000	-	1	23	32	37	48	48	60	67	83	93	117	120	149	179	
			30	45	46	59	77	98	98	123	124	155	223	277	299	
50	900	-	1	22	31	36	47	46	59	65	81	91	115	117	147	176
				28	42	42	55	72	92	92	115	116	146	209	261	282
50	750	-	1	20	30	34	45	44	56	62	78	87	110	113	142	170
				24	36	36	48	62	80	80	100	101	128	184	230	248
Triple Reduction Upright Type	1800	-	1	26	37	47	54	53	67	74	91	102	126	129	159	
				51	73	83	95	123	155	155	192	194	240	342	422	
	1500	-	1	26	36	47	53	52	66	73	90	101	125	128	159	
				44	63	72	83	108	136	136	169	171	212	304	376	
	1200	-	1	24	34	45	51	50	64	70	87	98	122	126	156	
				37	54	62	71	92	117	117	145	147	184	264	328	
1000	-	1	23	33	43	49	48	61	68	85	95	119	122	152		
			31	46	53	60	78	100	100	126	126	158	227	283		
50	900	-	1	22	32	42	48	47	60	66	83	93	117	120	149	
				29	42	49	56	73	93	93	117	118	148	213	266	
50	750	-	1	21	30	40	45	45	57	63	79	89	112	115	144	
				24	36	42	48	63	81	81	102	103	130	186	233	

SELECTION Right Angle Shaft Triple Reduction Nominal Reduction Ratio 40 ▶ 50

Size of Reducer											L.Speed Shaft Speed r/min	H.Speed Shaft Speed r/min	Nominal Reduction Ratio
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136			
38.599	40.322	38.853	38.716	40.726	38.824	39.059	39.059	39.601	40.079	40.079	Exact Reduction Ratio		
479	577*	682*	861*	917*	1240*	1420*	1570*	1940*	2170*	2390*	45	1800	40
401	483	570	723	775	1030	1180*	1350*	1630*	1820*	2050*	38	1500	
322	388	458	581	623	835	955	1110	1310*	1460*	1700*	30	1200	
269	324	383	486	521	698	799	930	1090	1220	1440	25	1000	40
242	292	345	438	469	630	720	839	988	1100	1300	23	900	
202	244	288	366	392	526	602	701	826	923	1080	19	750	
44.471	43.271	44.136	44.425	43.878	45.882	45.529	45.529	46.162	44.206	44.206	Exact Reduction Ratio		
430	514*	624*	715*	861*	1050*	1220*	1390*	1670*	1970*	2200*	40	1800	45
364	429	522	598	739	882	1020*	1190*	1400*	1650*	1890*	33	1500	
292	345	419	480	610	709	822	957	1120*	1330*	1560*	27	1200	
244	288	350	402	508	593	687	800	943	1110	1310	22	1000	45
220	260	315	362	457	534	620	721	850	1000	1180	20	900	
184	217	264	302	381	446	518	603	710	838	988	17	750	
48.249	50.875	47.886	48.680	50.194	49.040	49.398	49.398	50.084	50.569	50.569	Exact Reduction Ratio		
385	459*	555*	691*	755*	988*	1120*	1290*	1540*	1730*	1970*	36	1800	50
322	384	464	578	632	827	945*	1090*	1290*	1450*	1690*	30	1500	
258	308	373	464	507	664	759	883	1040*	1160*	1370*	24	1200	
216	257	312	388	424	555	634	738	870	974	1140	20	1000	50
194	232	281	349	382	500	572	666	785	878	1030	18	900	
162	194	234	292	319	416	478	556	656	734	866	15	750	
C-56	C-56	C-56	C-56	C-56	C-58	C-58	C-58	C-60	C-60	C-60	Horizontal Vertical Upright	Dimension Tables	

Notes

- For * marked values, the forced oil lubrication is required at continuous operation.
- Consult us when the high speed shaft speed is over 1800r/min.
- When the high speed shaft speed is not shown in the table, find it by the interpolation method.
- When the high speed shaft speed (N) is lower than 750r/min, find the mechanical power rating (PN) according to the following formula.

$$PN = P_{750} \times \frac{N}{750}$$
- Shown in the table are the ratings for the slow speed shaft.
- Refer to C42-C45 for the allowable radial and axial load on each shaft.

Size of Reducer											Number of Cooling Fans	H.Speed Shaft Speed r/min	Nominal Reduction Ratio
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136			
219	258	285	330	362	399	524	524	450	552	552	-	1800	Triple Reduction Horizontal Type
524	724	801	885	969	658	864	864	743	911	911	1	1500	
220	257	287	335	365	401	529	529	481	586	586	-	1500	
468	642	717	798	870	662	872	872	793	966	966	1	1200	40
217	252	283	330	362	397	525	525	490	593	593	-	1200	
410	558	629	700	767	655	866	866	809	978	978	1	1000	
213	245	277	323	356	389	516	516	490	590	590	-	1000	50
356	482	545	606	667	642	852	852	808	973	973	1	900	
209	240	273	317	351	383	509	509	487	585	585	-	900	
335	453	514	570	630	633	840	840	803	965	965	1	750	50
202	232	264	306	340	372	495	495	478	573	573	-	750	
295	397	453	501	556	613	817	817	788	945	945	1	750	
197	233	256	291	322							-	1800	Triple Reduction Vertical Type
471	656	720	779	862							1	1500	
203	239	265	305	335							-	1500	
432	599	661	727	799							1	1200	40
205	239	268	312	341							-	1200	
387	531	594	661	721							1	1000	
203	236	265	310	340							-	1000	50
340	463	522	581	637							1	900	
201	232	263	306	337							-	900	
322	438	495	550	605							1	750	50
196	225	256	298	330							-	750	
286	386	439	487	539							1	750	
											-	1800	Triple Reduction Upright Type
											-	1500	
											-	1200	
											-	1000	
											-	900	
											-	750	

Ambient Temperature °C	Temperature Correction Factor	
	Without Fan	With Fan
20	1.00	1.00
30	0.85	0.87
40	0.70	0.73
50	0.55	0.60

Notes

- Shown in the table are the ratings for models without a fan cooling unit and those with a fan. (-: none fan, 1: with a fan)
- The values are applicable to continuous operation at ambient temperatures of 20 °C or less. When the temperature is out of the range, refer to the temperature correction factor shown above.
- When the high speed shaft speed is not shown in the table, find it by interpolation method.

SELECTION Right Angle Shaft Triple Reduction Nominal Reduction Ratio 56 ▶ 71

MECHANICAL POWER RATING (kW)

Nominal Reduction Ratio	H.Speed Shaft Speed r/min	L.Speed Shaft Speed r/min	Size of Reducer												
			9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080
56	Exact Reduction Ratio		55.125	55.025	56.987	57.115	59.051	58.652	58.582	56.678	55.462	54.062	53.922	52.655	55.462
	1800	32	19.3	29.4	31	43	48	62	77	102	128	172	200	259	285
	1500	27	16.1	24.6	26.1	36	40	52	64	85	107	144	167	216	238
	1200	21	12.9	19.7	20.9	28.9	32	42	51	68	85	115	134	174	191
	1000	18	10.8	16.5	17.5	24.1	27.3	35	43	57	71	96	112	145	160
	900	16	9.7	14.8	15.7	21.7	24.6	31	38	51	64	87	101	131	144
750	13	8.1	12.4	13.1	18.1	20.5	26.5	32	43	54	72	84	109	120	
63	Exact Reduction Ratio		63.986		62.222		64.640	64.637	63.984	63.041	63.000	61.286	62.222	59.583	64.889
	1800	29	19.3		31		47	63	75	97	111	156	172	238	254
	1500	24	16.1		26.1		39	52	63	81	92	132	143	202	212
	1200	19	12.9		20.9		31	42	50	65	74	106	115	162	170
	1000	16	10.8		17.5		26.6	35	42	54	62	88	96	135	142
	900	14	9.7		15.7		24.0	31	38	49	55	80	86	122	128
750	12	8.1		13.1		20.0	26.6	31	41	46	66	72	102	107	
71	Exact Reduction Ratio		68.971	69.300	71.000	72.237	73.590	72.617	74.559	72.101	70.588	68.773	68.627	65.425	70.588
	1800	25	17.7	19.3	26	31	39	50	60	80	101	135	158	209	225
	1500	21	14.8	16.1	21.9	26.1	32	42	50	67	84	113	132	175	188
	1200	17	11.9	12.9	17.5	20.9	26.3	34	40	53	67	91	105	140	151
	1000	14	9.9	10.8	14.6	17.5	21.9	28.5	34	45	56	76	88	117	126
	900	13	8.9	9.7	13.2	15.7	19.7	25.6	30	40	50	68	79	105	113
750	11	7.4	8.1	11.0	13.1	16.5	21.4	25.6	33	42	57	66	88	95	
Dimension Tables	Horizontal		C-52	C-52	C-52	C-52	C-52	C-52	C-52	C-54	C-54	C-54	C-54	C-54	C-56
	Vertical		C-76	C-76	C-76	C-76	C-76	C-76	C-76	C-78	C-78	C-78	C-78	C-78	C-80
	Upright		C-92	C-92	C-92	C-92	C-92	C-92	C-92	C-94	C-94	C-94	C-94	C-94	

THERMAL POWER RATING (kW)

Nominal Reduction Ratio	H.Speed Shaft Speed r/min	Number of Cooling Fans	Size of Reducer												
			9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080
Triple Reduction Horizontal Type	1800	-	25	31	41	48	49	64	68	86	93	121	118	153	182
	1500	-	48	62	71	84	114	148	143	181	177	230	314	408	436
	1200	-	24	30	39	46	48	62	66	84	91	119	116	152	180
	1000	-	41	53	61	72	98	129	124	158	154	202	276	359	382
	900	-	23	28	37	44	46	60	63	81	88	115	113	148	174
	750	-	35	44	51	61	83	109	106	135	132	173	237	310	328
56	1000	-	22	27	35	41	43	57	61	78	84	111	109	143	168
	900	-	29	37	43	50	70	93	89	115	112	148	202	266	281
	750	-	21	26	34	40	42	56	59	76	82	109	106	140	164
	900	1	27	34	40	47	65	86	83	107	104	138	189	249	262
	750	-	19	24	32	37	40	53	56	72	78	103	101	134	156
	750	1	23	29	34	39	56	74	72	93	90	120	164	217	228
Triple Reduction Vertical Type	1800	-	24	30	40	47	47	62	65	83	90	117	113	147	169
	1500	-	47	60	69	82	110	143	138	175	171	222	301	391	405
	1200	-	24	29	38	45	46	61	64	82	89	116	113	147	170
	1000	-	40	52	60	70	96	125	121	154	150	196	267	348	361
	900	-	22	28	37	43	45	59	62	80	86	113	110	144	167
	750	-	34	43	50	59	82	107	103	133	129	170	232	303	315
56	1000	-	21	26	35	41	43	56	60	77	83	109	107	140	162
	900	-	29	36	43	50	69	91	88	114	110	146	199	261	272
	750	-	21	25	34	39	42	55	58	75	81	107	104	138	159
	900	1	27	34	39	46	65	85	82	106	103	136	186	245	255
	750	-	19	24	32	37	39	52	55	72	77	102	100	132	153
	750	1	23	29	34	39	55	74	71	93	89	119	162	215	223
Triple Reduction Upright Type	1800	-	25	31	43	48	49	64	68	86	93	121	118	153	
	1500	-	48	62	74	84	114	148	143	181	177	230	314	408	
	1200	-	24	30	41	46	48	62	66	84	91	119	116	152	
	1000	-	41	53	64	72	98	129	124	158	154	202	276	359	
	900	-	23	28	39	44	46	60	63	81	88	115	113	148	
	750	-	35	44	54	61	83	109	106	135	132	173	237	310	
56	1000	-	22	27	37	41	43	57	61	78	84	111	109	143	
	900	-	29	37	45	50	70	93	89	115	112	148	202	266	
	750	-	21	26	36	40	42	56	59	76	82	109	106	140	
	900	1	27	34	42	47	65	86	83	107	104	138	189	249	
	750	-	19	24	33	37	40	53	56	72	78	103	101	134	
	750	1	23	29	36	39	56	74	72	93	90	120	164	217	

Speed Reducer Selection Tables Dimension Tables

SELECTION Right Angle Shaft Triple Reduction Nominal Reduction Ratio 56 ▶ 71

Size of Reducer											L.Speed Shaft Speed r/min	H.Speed Shaft Speed r/min	Nominal Reduction Ratio
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136			
56.571	54.596	55.688	55.858	55.170	57.957	56.571	56.571	58.172	55.474	55.474	Exact Reduction Ratio		
344	409*	497*	571*	706*	839*	989*	1150*	1330*	1580*	1820*	32	1800	56
287	342	415	478	588	702	827*	962*	1110*	1320*	1560*	27	1500	
231	274	333	383	470	563	664	773	899*	1060*	1250*	21	1200	
193	229	278	320	392	471	555	646	751	889	1040	18	1000	56
173	206	251	289	353	424	500	582	677	802	946	16	900	
145	172	209	241	294	354	418	487	566	670	790	13	750	
61.378	63.843	60419	61.300	63.112	61.661	61.378	61.378	63.115	63.459	63.459	Exact Reduction Ratio		
304	367*	442*	548*	603*	763*	913*	1060*	1230*	1380*	1620*	29	1800	63
254	307	369	456	504	638	763*	888*	1030*	1160*	1360*	24	1500	
204	246	296	365	405	512	613	713	829*	932*	1100*	19	1200	
170	206	248	304	338	427	512	596	693	779	919	16	1000	63
153	185	223	274	305	384	462	537	625	702	828	14	900	
128	155	186	228	255	320	386	449	522	587	692	12	750	
72.000	68.512	69.882	70.339	69.474	72.872	70.500	70.500	73.000	Exact Reduction Ratio				
271	327*	397*	456*	548*	660*	797*	927*	1070*	*	*	25	1800	71
226	273	332	381	456	550	666*	775*	895*	*	*	21	1500	
182	219	266	305	365	440	535	622	719*	*	*	17	1200	
152	183	222	255	304	367	447	520	601	*	*	14	1000	71
137	165	200	230	274	330	403	469	541	*	*	13	900	
114	138	167	192	228	275	336	391	452	*	*	11	750	
C-56	C-56	C-56	C-56	C-56	C-58	C-58	C-58	C-60	C-60	C-60	Horizontal Vertical Upright Dimension Tables		

* marked models are quadruple reduction units. Refer to C-30 and C-31.

Notes

1. For ✘ marked values, the forced oil lubrication is required at continuous operation.

2. Consult us when the high speed shaft speed is over 1800r/min.

3. When the high speed shaft speed is not shown in the table, find it by the interpolation method.

4. When the high speed shaft speed (N) is lower than 750r/min, find the mechanical power rating (PN) according to the following formula.

$$PN = P_{750} \times \frac{N}{750}$$

5. Shown in the table are the ratings for the slow speed shaft.

6. Refer to C42-C45 for the allowable radial and axial load on each shaft.

Size of Reducer											Number of Cooling Fans	H.Speed Shaft Speed r/min	Nominal Reduction Ratio
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136			
197	243	267	306	344	387	489	489	454	554	554	-	1800	Triple Reduction Horizontal Type
472	683	750	821	921	639	806	806	748	914	914	1	1500	
194	240	263	303	339	385	483	483	457	562	562	1	1200	
412	600	657	723	810	634	797	797	754	928	928	-	1000	56
187	233	255	296	330	376	470	470	452	561	561	1	900	
353	517	565	626	698	621	776	776	746	925	925	-	750	
180	225	246	287	319	366	456	456	443	553	553	1	1800	56
302	443	483	537	599	604	752	752	731	912	912	1	1500	
176	220	240	281	313	359	447	447	437	546	546	-	1000	
282	415	452	504	561	593	737	737	720	900	900	1	900	71
168	211	230	269	300	346	430	430	423	530	530	-	750	
245	361	394	440	490	571	709	709	697	875	875	1		

184	225	249	283	319	-	1	1800	Triple Reduction Vertical Type
441	633	699	757	855	-	1	1500	
184	226	249	285	321	-	1	1200	
391	566	623	680	765	-	1	1000	56
180	223	245	283	317	-	1	900	
340	495	543	598	670	-	1	750	
175	218	238	277	309	-	1	1800	71
293	429	469	519	580	-	1	1500	
172	214	234	272	304	-	1	1200	
275	403	440	489	546	-	1	1000	56
164	206	225	263	293	-	1	900	
240	353	386	430	479	-	1	750	

-	1	1800	Triple Reduction Upright Type
-	1	1500	
-	1	1200	
-	1	1000	56
-	1	900	
-	1	750	

Ambient Temperature °C	Temperature Correction Factor	
	Without Fan	With Fan
20	1.00	1.00
30	0.85	0.87
40	0.70	0.73
50	0.55	0.60

Notes

1. Shown in the table are the ratings for models without a fan cooling unit and those with a fan. (-: none fan, 1: with a fan)

2. The values are applicable to continuous operation at ambient temperatures of 20 °C or less. When the temperature is out of the range, refer to the temperature correction factor shown above.

3. When the high speed shaft speed is not shown in the table, find it by interpolation method.

SELECTION Right Angle Shaft Triple Reduction Nominal Reduction Ratio 80 ▶ 90

MECHANICAL POWER RATING (kW)

Nominal Reduction Ratio	H.Speed Shaft Speed r/min	L.Speed Shaft Speed r/min	Size of Reducer																
			9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085	9090		
80	Exact Reduction Ratio		79.751			79.111			80.552			80.234			78.000			75.833 77.090	
	1800	23	19.3 *			31 *			51 *			75 *			111 *			172 206	
	1500	19	16.1 *			26.1 *			42 *			63 *			92 *			143 172	
	1200	15	12.9 *			20.9 *			34 *			50 *			74 *			115 138	
	1000	13	10.8 *			17.5 *			28.5 *			42 *			62 *			96 115	
	900	11	9.7 *			15.7 *			25.7 *			38 *			55 *			86 104	
750	9.4	8.1 *			13.1 *			21.4 *			31 *			46 *			72 87		
90	Exact Reduction Ratio		86.706			90.000			90.496			91.765			87.529			83.268	
	1800	20	18.8 *			27.5 *			41 *			63 *			107 *			165 *	
	1500	17	15.7 *			23.0 *			34 *			53 *			89 *			138 *	
	1200	13	12.6 *			18.4 *			27.4 *			42 *			71 *			110 *	
	1000	11	10.5 *			15.4 *			22.9 *			35 *			59 *			92 *	
	900	10	9.4 *			13.8 *			20.6 *			32 *			54 *			83 *	
750	8.3	7.9 *			11.6 *			17.2 *			26.7 *			45 *			69 *		
Dimension Tables	Horizontal		C-52			C-52			C-52			C-54			C-54			C-54 C-56	
	Vertical		C-76			C-76			C-76			C-78			C-78			C-78 C-80	
	Upright		C-92			C-92			C-92			C-94			C-94			C-94	

THERMAL POWER RATING (kW)

Speed Reducer	Nominal Reduction Ratio	H.Speed Shaft Speed r/min	Number of Cooling Fans	Size of Reducer																
				9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085	9090		
Selection Tables	Triple Reduction Horizontal Type	1800	-	30			46			59			79			110			140 185	
		1500	-	59			81			136			167			210			372 443	
		1200	-	29			44			57			77			108			137 183	
	80	1200	1	51			69			117			145			182			325 388	
		1000	-	27			42			54			73			103			132 177	
		1000	1	42			58			99			122			155			278 334	
90	1000	-	25			39			51			70			99			127 171		
	900	-	35			48			83			103			131			237 285		
	900	1	24			38			50			68			96			124 167		
Dimension Tables	900	1	33			45			77			96			122			221 267		
	750	-	23			36			47			64			91			118 159		
	750	1	28			38			66			82			105			191 232		
Selection Tables	Triple Reduction Vertical Type	1800	-	29			45			57			76			107			135 173	
		1500	-	58			79			132			160			203			359 412	
		1200	-	28			43			56			75			105			134 173	
	80	1200	1	50			67			115			141			178			316 367	
		1200	-	27			41			53			72			101			130 170	
		1200	1	42			57			97			120			152			272 320	
90	1000	-	25			39			51			69			97			125 165		
	1000	1	35			48			82			102			129			233 276		
	900	-	24			38			49			67			95			122 162		
Dimension Tables	900	1	32			45			76			95			121			218 259		
	750	-	23			35			46			63			90			117 156		
	750	1	27			37			66			81			104			189 227		
Selection Tables	Triple Reduction Upright Type	1800	-	30			46			59			79			110			140 185	
		1500	-	59			81			136			167			210			372 443	
		1200	-	29			44			57			77			108			137 183	
	80	1200	1	51			69			117			145			182			325 388	
		1200	-	27			42			54			73			103			132 177	
		1200	1	42			58			99			122			155			278 334	
90	1000	-	25			39			51			70			99			127 171		
	1000	1	35			48			83			103			131			237 285		
	900	-	24			38			50			68			96			124 167		
Dimension Tables	900	1	33			45			77			96			122			221 267		
	750	-	23			36			47			64			91			118 159		
	750	1	28			38			66			82			105			191 232		

SELECTION Right Angle Shaft Triple Reduction Nominal Reduction Ratio 80 ▶ 90

Size of Reducer											L.Speed Shaft Speed r/min	H.Speed Shaft Speed r/min	Nominal Reduction Ratio
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136			
78.118	77.451	75.820	83.128	79.474	77.647	76.490	76.490	79.203			Exact Reduction Ratio		
240	290*	353*	386*	481*	587*	735*	856*	988*	*	*	23	1800	80
200	242	295	323	402	490	615*	716*	826*	*	*	19	1500	
160	194	237	259	323	393	493	574	663*	*	*	15	1200	
134	162	198	216	269	328	412	480	554	*	*	13	1000	
121	146	178	195	243	296	372	432	499	*	*	11	900	
101	122	149	163	203	247	310	361	417	*	*	9.4	750	
85.313		85.712		93.924	91.765						Exact Reduction Ratio		
220	*	313*	*	408*	512*	*	*	*	*	*	20	1800	90
183	*	262	*	341	427	*	*	*	*	*	17	1500	
147	*	210	*	273	341	*	*	*	*	*	13	1200	
123	*	175	*	228	284	*	*	*	*	*	11	1000	
111	*	158	*	206	256	*	*	*	*	*	10	900	
92	*	132	*	172	213	*	*	*	*	*	8.3	750	
C-56	C-56	C-56	C-56	C-56	C-58	C-58	C-58	C-60			Horizontal Vertical Upright	Dimension Tables	
C-80	C-80	C-80	C-80	C-80									

* marked models are quadruple reduction units. Refer to C-30 and C-31.

Notes

- For ✖ marked values, the forced oil lubrication is required at continuous operation.
- Consult us when the high speed shaft speed is over 1800r/min.
- When the high speed shaft speed is not shown in the table, find it by the interpolation method.
- When the high speed shaft speed (N) is lower than 750r/min, find the mechanical power rating (PN) according to the following formula.

$$PN = P_{750} \times \frac{N}{750}$$
- Shown in the table are the ratings for the slow speed shaft.
- Refer to C42-C45 for the allowable radial and axial load on each shaft.

Size of Reducer											Number of Cooling Fans	H.Speed Shaft Speed r/min	Nominal Reduction Ratio
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136			
197	245	263	304	330	363	487	487	447			-	1800	Triple Reduction Horizontal Type
471	689	738	814	885	599	803	803	737			1	1500	
194	242	259	300	326	357	481	481	450			-	1500	
412	605	647	717	778	590	793	793	742			1	1200	
187	235	251	293	317	346	468	468	445			-	1200	80
353	521	556	619	671	571	772	772	734			1	1000	
180	227	242	284	307	335	454	454	436			-	1000	90
301	447	476	532	575	553	749	749	719			1	900	
176	222	237	278	300	328	445	445	429			-	900	
282	418	445	499	539	540	734	734	708			1	750	
168	213	226	267	288	314	427	427	416			-	750	
244	364	388	436	470	517	705	705	686			1	750	

Ambient Temperature °C	Temperature Correction Factor	
	Without Fan	With Fan
20	1.00	1.00
30	0.85	0.87
40	0.70	0.73
50	0.55	0.60

184	228	245	281	308							-	1800	Triple Reduction Vertical Type
440	640	689	753	825							1	1500	
184	229	245	283	309							-	1500	
391	572	613	675	737							1	1200	
180	225	241	280	304							-	1200	80
340	500	535	593	644							1	1000	
175	220	235	274	297							-	1000	90
292	433	462	515	558							1	900	
171	216	230	270	292							-	900	
274	407	433	484	524							1	750	
164	208	221	261	282							-	750	
239	357	380	426	460							1	750	

Notes

- Shown in the table are the ratings for models without a fan cooling unit and those with a fan. (-: none fan, 1: with a fan)
- The values are applicable to continuous operation at ambient temperatures of 20 °C or less. When the temperature is out of the range, refer to the temperature correction factor shown above.
- When the high speed shaft speed is not shown in the table, find it by interpolation method.

											-	1800	Triple Reduction Upright Type
											-	1500	
											-	1200	
											-	1000	80
											-	900	90
											-	750	

SELECTION Right Angle Shaft Quadruple Reduction Nominal Reduction Ratio 71 ▶ 90

MECHANICAL POWER RATING (kW)

Nominal Reduction Ratio	H.Speed Shaft Speed r/min	L.Speed Shaft Speed r/min	Size of Reducer														
			9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085	9090
71	Exact Reduction Ratio																
	1800	25		*	*	*	*	*	*	*	*	*	*	*	*	*	*
	1500	21		*	*	*	*	*	*	*	*	*	*	*	*	*	*
	1200	17		*	*	*	*	*	*	*	*	*	*	*	*	*	*
	1000	14		*	*	*	*	*	*	*	*	*	*	*	*	*	*
	900	13		*	*	*	*	*	*	*	*	*	*	*	*	*	*
750	11		*	*	*	*	*	*	*	*	*	*	*	*	*	*	
80	Exact Reduction Ratio						77.989		79.341				78.120		79.124		
	1800	23				*	26	*	30	*		*	80	*	127	*	*
	1500	19				*	21	*	25.3	*		*	66	*	106	*	*
	1200	15				*	17	*	20.3	*		*	53	*	84	*	*
	1000	13				*	14	*	16.9	*		*	44	*	70	*	*
	900	11				*	13	*	15.2	*		*	40	*	63	*	*
750	9.4				*	11	*	12.7	*		*	33	*	53	*	*	
90	Exact Reduction Ratio						88.991		90.326		91.330		87.529		87.269		90.353
	1800	20				*	21.0	*	30	*	45	*	80	*	124	*	176
	1500	17				*	17.5	*	25.3	*	37	*	66	*	104	*	147
	1200	13				*	14.0	*	20.3	*	30	*	53	*	83	*	118
	1000	11				*	11.7	*	16.9	*	25.0	*	44	*	69	*	98
	900	10				*	10.5	*	15.2	*	22.5	*	40	*	62	*	89
750	8.3				*	8.8	*	12.7	*	18.8	*	33	*	52	*	74	
Dimension Tables	Horizontal						C-62		C-62		C-64		C-64		C-64		C-66
	Vertical						C-82		C-82		C-84		C-84		C-84		C-86
	Upright						C-96		C-96		C-98		C-98		C-98		

THERMAL POWER RATING (kW)

Nominal Reduction Ratio	H.Speed Shaft Speed r/min	Number of Cooling Fans	Size of Reducer														
			9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085	9090
Quadruple Reduction Horizontal Type	1800	-					40		50		70		94		119		157
	1500	-					40		49		69		93		118		157
	1200	-					39		47		66		90		115		155
	1000	-					38		45		63		87		112		151
	900	-					37		44		62		85		109		149
	750	-					36		42		59		82		105		143
Quadruple Reduction Vertical Type	1800	-					44		54		75		103		130		175
	1500	-					43		52		73		99		127		171
	1200	-					41		49		69		95		121		165
	1000	-					40		47		66		91		116		159
	900	-					39		45		64		88		113		155
	750	-					37		43		60		84		108		148
Quadruple Reduction Upright Type	1800	-					43		50		70		94		118		
	1500	-					43		49		68		93		117		
	1200	-					42		47		66		90		115		
	1000	-					41		45		63		87		111		
	900	-					40		44		62		85		109		
	750	-					38		41		59		81		105		

Speed Reducer Selection Tables Dimension Tables

SELECTION Right Angle Shaft Quadruple Reduction Nominal Reduction Ratio 71 ▶ 90

Size of Reducer										L.Speed Shaft Speed r/min	H.Speed Shaft Speed r/min	Nominal Reduction Ratio						
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136								
										68.889	68.889	Exact Reduction Ratio						
*	*	*	*	*	*	*	*	*	*	*	1280	1510	25	1800	71			
*	*	*	*	*	*	*	*	*	*	*	1070	1260	21	1500				
*	*	*	*	*	*	*	*	*	*	*	860	1010	17	1200				
*	*	*	*	*	*	*	*	*	*	*	718	848	14	1000				
*	*	*	*	*	*	*	*	*	*	*	648	764	13	900				
*	*	*	*	*	*	*	*	*	*	*	541	638	11	750				
										78.568	78.568	Exact Reduction Ratio						
*	*	*	*	*	*	*	*	*	*	*	1120	1320	23	1800	80			
*	*	*	*	*	*	*	*	*	*	*	941	1110	19	1500				
*	*	*	*	*	*	*	*	*	*	*	755	891	15	1200				
*	*	*	*	*	*	*	*	*	*	*	631	745	13	1000				
*	*	*	*	*	*	*	*	*	*	*	569	671	11	900				
*	*	*	*	*	*	*	*	*	*	*	475	560	9.4	750				
										88.676	89.695	91.800	91.800	91.022	87.371	87371	Exact Reduction Ratio	
*	254	*	379	*	*	615	715	862	1010	1190	20	1800	90					
*	212	*	316	*	*	514	598	720	848	1000	17	1500						
*	170	*	254	*	*	412	480	578	680	803	13	1200						
*	142	*	212	*	*	344	401	483	568	670	11	1000						
*	128	*	191	*	*	310	361	435	512	604	10	900						
*	106	*	159	*	*	259	301	363	428	505	8.3	750						
										C-66	C-66	C-68	C-68	C-70	C-70	C-70	Horizontal Vertical Upright	Dimension Tables

* marked models are triple reduction units. Refer to C-28 ~ C-29.

Notes

- For ✕ marked values, the forced oil lubrication is required at continuous operation.
- Consult us when the high speed shaft speed is over 1800r/min.
- When the high speed shaft speed is not shown in the table, find it by the interpolation method.
- When the high speed shaft speed (N) is lower than 750r/min, find the mechanical power rating (PN) according to the following formula.

$$PN = P_{750} \times \frac{N}{750}$$
- Shown in the table are the ratings for the slow speed shaft.
- Refer to C42-C45 for the allowable radial and axial load on each shaft.

Size of Reducer										Number of Cooling Fans	H.Speed Shaft Speed r/min	Nominal Reduction Ratio	
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136			
202		259				359	359	386	472	472	-	1800	Quadruple Reduction Horizontal Type 71 ▼ 90
204		259				361	361	395	484	484	-	1500	
202		255				356	356	397	488	488	-	1200	
199		250				349	349	394	484	484	-	1000	
196		246				344	344	390	480	480	-	900	
190		237				334	334	381	469	469	-	750	
228		288									-	1800	Quadruple Reduction Vertical Type 71 ▼ 90
224		281									-	1500	
216		271									-	1200	
209		262									-	1000	
205		256									-	900	
197		245									-	750	
										-	1800	Quadruple Reduction Upright Type 71 ▼ 90	
										-	1500		
										-	1200		
										-	1000		
										-	900		
										-	750		

Ambient Temperature °C	Temperature Correction Factor	
	Without Fan	With Fan
20	1.00	1.00
30	0.85	0.87
40	0.70	0.73
50	0.55	0.60

Notes

- Shown in the table are the ratings for models without a fan cooling unit and those with a fan. (-: none fan, 1: with a fan)
- The values are applicable to continuous operation at ambient temperatures of 20 °C or less. When the temperature is out of the range, refer to the temperature correction factor shown above.
- When the high speed shaft speed is not shown in the table, find it by interpolation method.

SELECTION Right Angle Shaft Quadruple Reduction Nominal Reduction Ratio 100 ▶ 125

MECHANICAL POWER RATING (kW)

Nominal Reduction Ratio	H.Speed Shaft Speed r/min	L.Speed Shaft Speed r/min	Size of Reducer														
			9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085	9090
100	Exact Reduction Ratio						99.259	99.158	103.97	98.871	102.71		97.650	96.720	96.444	96.432	103.82
	1800	18					20.1	26.0	29.8	30	45		78	80	118	127	160
	1500	15					16.8	21.7	24.9	25.3	37		65	66	99	106	133
	1200	12					13.5	17.4	19.9	20.3	30		52	53	79	84	107
	1000	10					11.2	14.5	16.6	16.9	25.0		43	44	66	70	89
	900	9.0					10.1	13.0	15.0	15.2	22.5		39	40	59	63	80
	750	7.5				8.4	10.8	12.5	12.7	18.8		33	33	49	53	67	
112	Exact Reduction Ratio						113.26	112.81	118.37	111.08	119.69	112.41	109.41	108.54	106.37	105.89	112.94
	1800	16					16.5	22.0	24.5	30	38	45	65	80	102	127	141
	1500	13					13.8	18.4	20.4	25.3	31	37	54	66	85	106	118
	1200	11					11.0	14.7	16.4	20.3	25.5	30	43	53	68	84	95
	1000	8.9					9.2	12.3	13.7	16.9	21.3	25.0	36	44	57	70	79
	900	8.0					8.3	11.1	12.3	15.2	19.2	22.5	33	40	51	63	71
	750	6.7				6.9	9.2	10.3	12.7	16.0	18.8	27.5	33	43	53	59	
125	Exact Reduction Ratio						122.72	126.20	130.09	129.57	127.97	128.80	127.97	120.90	126.39	117.54	129.78
	1800	14					16.3	20.4	23.9	30	38	45	60	80	90	124	128
	1500	12					13.6	17.0	19.9	25.3	32	37	50	66	75	104	107
	1200	9.6					10.6	13.6	16.0	20.3	26.0	30	40	53	60	83	86
	1000	8.0					9.1	11.4	13.3	16.9	21.7	25.0	33	44	50	69	71
	900	7.2					8.2	10.2	12.0	15.2	19.6	22.5	30	40	45	62	64
	750	6.0				6.8	8.5	10.0	12.7	16.3	18.8	25.2	33	38	52	53	
Dimension Tables	Horizontal						C-62	C-62	C-62	C-62	C-64	C-64	C-64	C-64	C-64	C-64	C-66
	Vertical						C-82	C-82	C-82	C-82	C-84	C-84	C-84	C-84	C-84	C-84	C-86
	Upright						C-96	C-96	C-96	C-96	C-98	C-98	C-98	C-98	C-98	C-98	

THERMAL POWER RATING (kW)

Nominal Reduction Ratio	H.Speed Shaft Speed r/min	Number of Cooling Fans	Size of Reducer														
			9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085	9090
Quadruple Reduction Horizontal Type	1800	-					39	45	46	57	64	78	87	107	110	135	147
	1500	-					38	44	45	55	63	76	86	105	109	133	147
	1200	-					36	42	43	53	60	72	83	102	106	129	144
	1000	-					35	40	41	50	58	69	80	98	103	125	140
	900	-					34	39	40	49	56	68	78	96	100	122	138
	750	-					32	37	38	46	54	64	74	91	96	117	133
Quadruple Reduction Vertical Type	1800	-					41	48	49	60	69	82	94	115	120	146	162
	1500	-					40	46	47	58	66	79	91	111	116	142	158
	1200	-					38	44	45	55	63	75	86	106	111	135	152
	1000	-					36	42	43	52	60	71	83	101	107	130	147
	900	-					35	40	41	50	58	69	80	98	104	126	143
	750	-					33	38	39	47	55	65	76	93	99	120	137
Quadruple Reduction Upright Type	1800	-					41	45	46	56	64	78	87	107	110	135	
	1500	-					40	44	45	55	63	76	85	105	109	133	
	1200	-					38	42	43	53	60	72	83	101	106	129	
	1000	-					37	40	41	50	58	69	80	98	103	125	
	900	-					36	39	40	49	56	68	78	95	100	122	
	750	-					34	37	38	46	54	64	74	91	96	117	

Speed Reducer
Selection Tables
Dimension Tables

SELECTION Right Angle Shaft Quadruple Reduction Nominal Reduction Ratio 100 ▶ 125

Size of Reducer											L.Speed Shaft Speed r/min	H.Speed Shaft Speed r/min	Nominal Reduction Ratio
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136			
99.991	101.85	98.135	97.789	101.65	98.060	99.600	99.600	98.756	99.948	99.948	Exact Reduction Ratio		100
188	232	274	348	401	500	567	660	796*	889*	1040*	18	1800	
157	194	229	290	335	418	474	552	665	742	876	15	1500	
126	155	184	233	269	335	380	443	534	596	703	12	1200	
105	129	153	194	224	280	318	370	446	498	587	10	1000	
94	117	138	175	202	252	286	333	402	448	529	9.0	900	
79	97	115	146	169	210	239	278	335	374	442	7.5	750	
115.20	109.29	111.48	112.21	110.83	113.61	115.20	115.20	112.18	110.36	110.36	Exact Reduction Ratio		112
170	206	251	287	368	433	492	572	702*	806*	951*	16	1800	
142	172	209	240	308	362	411	478	586	673	794	13	1500	
114	138	168	192	247	290	329	383	470	540	637	11	1200	
95	115	140	161	206	242	275	320	393	451*	532*	8.9	1000	
86	104	126	145	186	218	248	288	354	406	480	8.0	900	
71	86	105	121	155	181	207	241	295	339	400	6.7	750	
124.99	124.14	120.95	119.20	126.78	123.87	124.99	124.99	121.72	126.25	126.25	Exact Reduction Ratio		125
151	191	223	286	304	397	454	528	648*	706*	833*	14	1800	
126	159	186	239	253	332	349	441	541	590	696	12	1500	
101	127	149	191	203	266	304	354	434	473	558	9.6	1200	
84	106	124	160	170	222	254	295	362	395	466	8.0	1000	
76	96	112	144	153	200	229	266	327	356	420	7.0	900	
63	80	94	120	127	167	191	222	273	297	350	6.0	750	
C-66	C-66	C-66	C-66	C-66	C-68	C-68	C-68	C-70	C-70	C-70	Horizontal Vertical Upright	Dimension Tables	

Notes

- For * marked values, the forced oil lubrication is required at continuous operation.
- Consult us when the high speed shaft speed is over 1800r/min.
- When the high speed shaft speed is not shown in the table, find it by the interpolation method.
- When the high speed shaft speed (N) is lower than 750r/min, find the mechanical power rating (PN) according to the following formula.

$$PN = P_{750} \times \frac{N}{750}$$
- Shown in the table are the ratings for the slow speed shaft.
- Refer to C42-C45 for the allowable radial and axial load on each shaft.

Size of Reducer											Number of Cooling Fans	H.Speed Shaft Speed r/min	Nominal Reduction Ratio
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136			
164	189	211	252	275	302	355	355	374	470	470	-	1800	Quadruple Reduction Horizontal Type 100 ▼ 125
163	190	212	250	273	300	355	355	380	470	470	-	1500	
160	188	209	245	268	293	350	350	380	464	464	-	1200	
156	184	205	239	261	285	342	342	375	454	454	-	1000	
153	181	202	235	256	280	337	337	371	447	447	-	900	
148	176	195	227	247	270	326	326	362	433	433	-	750	

180	211	236	275	300	-	1800	Quadruple Reduction Vertical Type 100 ▼ 125
176	207	230	268	293	-	1500	
169	200	223	258	282	-	1200	
163	193	215	249	272	-	1000	
159	189	210	243	265	-	900	
152	181	202	233	254	-	750	

-	1800	Quadruple Reduction Upright Type 100 ▼ 125
-	1500	
-	1200	
-	1000	
-	900	
-	750	

Ambient Temperature °C	Temperature Correction Factor	
	Without Fan	With Fan
20	1.00	1.00
30	0.85	0.87
40	0.70	0.73
50	0.55	0.60

Notes

- Shown in the table are the ratings for models without a fan cooling unit and those with a fan. (-: none fan, 1: with a fan)
- The values are applicable to continuous operation at ambient temperatures of 20 °C or less. When the temperature is out of the range, refer to the temperature correction factor shown above.
- When the high speed shaft speed is not shown in the table, find it by interpolation method.

SELECTION Right Angle Shaft Quadruple Reduction Nominal Reduction Ratio 140 ▶ 180

MECHANICAL POWER RATING (kW)

Nominal Reduction Ratio	H.Speed Shaft Speed r/min	L.Speed Shaft Speed r/min	Size of Reducer														
			9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085	9090
140	Exact Reduction Ratio						140.03	143.57	148.10	145.56	149.12	147.31	143.38	135.67	139.40	129.07	141.18
	1800	13					13.4	17.3	19.6	25.6	30	39	50	69	78	107	113
	1500	11					11.2	14.5	16.4	21.4	25.6	33	41	58	65	89	95
	1200	8.6					8.9	11.6	13.1	17.1	20.5	26.6	33	46	52	71	76
	1000	7.1					7.5	9.7	10.9	14.3	17.1	22.2	28.0	38	43	59	63
	900	6.4					6.7	8.7	9.9	12.9	15.4	20.0	25.2	35	39	54	57
	750	5.4					5.6	7.3	8.2	10.7	12.9	16.7	21.0	29.2	32	45	47
160	Exact Reduction Ratio						156.02	158.68	162.11	156.75	160.47	152.99	158.44	158.25	154.04	163.15	
	1800	11					16.5	17.1	25.5	25.7	40		63	68	95	102	
	1500	9.4					13.8	14.3	21.3	21.4	34		53	57	79	85	
	1200	7.5					11.0	11.4	17.1	17.1	27.2		42	46	64	68	
	1000	6.3					9.2	9.5	14.2	14.3	22.7		35	38	53	57	
	900	5.6					8.3	8.6	12.8	12.8	20.4		31	34	48	51	
	750	4.7					6.9	7.1	10.7	10.7	17.0		26.6	28.7	40	43	
180	Exact Reduction Ratio						177.50	180.65	182.13	182.66	183.53	171.41	177.79	174.54	169.14	177.48	
	1800	10					14.0	16.1	20.5	25.1	32	39	53	62	82	90	
	1500	8.3					11.7	13.4	17.1	20.9	26.7	33	44	52	68	75	
	1200	6.7					9.4	10.8	13.7	16.8	21.4	26.6	35	42	54	60	
	1000	5.6					7.8	9.0	11.4	14.0	17.8	22.1	29.7	35	45	50	
	900	5.0					7.1	8.1	10.3	12.6	16.1	19.9	26.7	31	41	45	
	750	4.2					5.9	6.7	8.6	10.5	13.4	16.6	22.3	26.4	34	38	
Dimension Tables	Horizontal						C-62	C-62	C-62	C-62	C-64	C-64	C-64	C-64	C-64	C-64	C-66
	Vertical						C-82	C-82	C-82	C-82	C-84	C-84	C-84	C-84	C-84	C-84	C-86
	Upright						C-96	C-96	C-96	C-96	C-98	C-98	C-98	C-98	C-98	C-98	

THERMAL POWER RATING (kW)

Speed Reducer	Nominal Reduction Ratio	H.Speed Shaft Speed r/min	Number of Cooling Fans	Size of Reducer															
				9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085	9090	
Selection Tables Dimension Tables	Quadruple Reduction Horizontal Type	1800	-					38	42	40	55	59	75	81	102	101	130	144	
		1500	-					37	41	38	53	56	73	78	100	98	127	140	
		1200	-					35	39	36	51	53	70	73	97	93	123	135	
		140	1000	-					34	38	34	48	50	67	70	93	89	119	129
		▼	900	-					33	37	32	47	48	65	67	91	86	117	126
		180	750	-					31	35	30	45	45	62	63	86	81	111	120
		Dimension Tables	Quadruple Reduction Vertical Type	1800	-					40	45	42	58	61	79	84	109	107	139
1500	-							39	43	39	55	58	76	81	105	102	135	147	
1200	-							37	41	37	52	54	72	75	100	96	129	139	
140	1000			-					35	39	34	50	51	68	71	96	91	123	133
▼	900			-					34	38	33	48	49	66	69	93	88	120	129
180	750			-					32	36	30	45	46	63	64	88	82	114	122
Dimension Tables	Quadruple Reduction Upright Type			1800	-					39	42	40	54	59	75	81	102	101	129
		1500	-					38	41	38	53	56	73	78	100	98	127		
		1200	-					37	39	36	51	53	70	73	96	93	123		
		140	1000	-					35	38	33	48	50	67	70	93	89	119	
		▼	900	-					34	37	32	47	48	65	67	91	86	116	
		180	750	-					33	35	30	44	45	62	63	86	81	111	

SELECTION Right Angle Shaft Quadruple Reduction Nominal Reduction Ratio 140 ▶ 180

Size of Reducer											L.Speed Shaft Speed r/min	H.Speed Shaft Speed r/min	Nominal Reduction Ratio
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136			
144.00	133.22	135.88	136.77	135.09	146.39	142.31	142.31	145.23	136.02	136.02	Exact Reduction Ratio		
137	170	206	236	303	337	399	464	544*	656*	774*	13	1800	140
114	141	172	197	253	281	333	388	454	548	646	11	1500	
91	113	138	158	203	226	267	311	364	439	518	8.6	1200	
76	95	115	132	169	188	223	260	304	367	433	7.1	1000	
69	85	104	119	152	170	201	234	274	330	390	6.4	900	
57	71	86	99	127	142	168	195	229	276	325	5.4	750	
156.24	158.28	147.43	153.67	154.53	150.98	154.40	154.40	157.57	155.60	155.60	Exact Reduction Ratio		
121	150	183	222	250	327	368	429	502*	574*	678*	11	1800	160
101	125	153	186	208	273	307	358	419	480	566	9.4	1500	
81	100	123	149	167	219	246	287	336	385	454	7.5	1200	
67	84	102	124	139	183	206	240	281	321	379	6.3	1000	
61	75	92	112	126	165	185	216	253	289	341	5.6	900	
50	63	77	93	105	137	155	180	211	241	285	4.7	750	
181.03	169.85	173.25	181.61	174.16	178.43	177.88	177.88	179.00	171.03	171.03	Exact Reduction Ratio		
109	133	162	189	236	277	320	373	443*	523*	617*	10	1800	180
91	111	135	157	197	231	267	311	370	437	515	8.3	1500	
73	89	108	126	158	185	214	249	296	350	413	6.7	1200	
61	74	90	105	131	155	179	208	247	292	345	5.6	1000	
55	67	81	95	118	139	161	187	223	263	311	5.0	900	
45	56	68	79	99	116	134	156	186	220	259	4.2	750	
C-66	C-66	C-66	C-66	C-66	C-68	C-68	C-68	C-70	C-70	C-70	Horizontal Vertical Upright	Dimension Tables	

Notes

- For ✖ marked values, the forced oil lubrication is required at continuous operation.
- Consult us when the high speed shaft speed is over 1800r/min.
- When the high speed shaft speed is not shown in the table, find it by the interpolation method.
- When the high speed shaft speed (N) is lower than 750r/min, find the mechanical power rating (PN) according to the following formula.

$$P_N = P_{750} \times \frac{N}{750}$$
- Shown in the table are the ratings for the slow speed shaft.
- Refer to C42-C45 for the allowable radial and axial load on each shaft.

Size of Reducer											Number of Cooling Fans	H.Speed Shaft Speed r/min	Nominal Reduction Ratio
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136			
155	188	205	242	265	291	339	339	372	457	457	-	1800	Quadruple Reduction Horizontal Type 140 ▼ 180
151	184	201	237	258	288	334	334	369	456	456	-	1500	
145	178	194	228	248	281	325	325	361	444	444	-	1200	
139	171	186	219	238	273	316	316	352	431	431	-	1000	
135	167	182	213	232	268	309	309	346	422	422	-	900	
129	160	174	204	221	258	298	298	334	406	406	-	750	
164	200	218	256	279							-	1800	Quadruple Reduction Vertical Type 140 ▼ 180
158	194	211	247	269							-	1500	
150	184	200	235	255							-	1200	
143	176	192	224	244							-	1000	
138	172	186	218	237							-	900	
131	163	177	207	225							-	750	

Ambient Temperature °C	Temperature Correction Factor	
	Without Fan	With Fan
20	1.00	1.00
30	0.85	0.87
40	0.70	0.73
50	0.55	0.60

Notes

- Shown in the table are the ratings for models without a fan cooling unit and those with a fan. (-: none fan, 1: with a fan)
- The values are applicable to continuous operation at ambient temperatures of 20 °C or less. When the temperature is out of the range, refer to the temperature correction factor shown above.
- When the high speed shaft speed is not shown in the table, find it by interpolation method.

SELECTION Right Angle Shaft Quadruple Reduction Nominal Reduction Ratio 200 ▶ 250

MECHANICAL POWER RATING (kW)

Nominal Reduction Ratio	H.Speed Shaft Speed r/min	L.Speed Shaft Speed r/min	Size of Reducer														
			9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085	9090
200	Exact Reduction Ratio								207.95	197.74	205.42	196.56	191.23		192.89	192.86	207.64
	1800	9.0							15.0	17.1	24.3	25.7	39		59	68	80
	1500	7.5							12.5	14.3	20.3	21.4	33		49	57	67
	1200	6.0							10.0	11.4	16.3	17.1	26.6		39	46	53
	1000	5.0							8.4	9.5	13.6	14.3	22.1		33	38	45
	900	4.5							7.5	8.6	12.2	12.8	19.9		30	34	40
	750	3.8							6.3	7.1	10.2	10.7	16.6		25.0	28.7	33
224	Exact Reduction Ratio								236.74	222.15	239.37	224.81	214.26	212.55	212.75	211.77	225.88
	1800	8.0							12.3	16.8	19.2	25.7	33	39	51	65	71
	1500	6.7							10.3	14.0	16.0	21.4	28.1	33	43	54	59
	1200	5.4							8.2	11.3	12.8	17.1	22.5	26.6	34	44	47
	1000	4.5							6.9	9.4	10.7	14.3	18.8	22.1	28.8	36	39
	900	4.0							6.2	8.5	9.6	12.9	16.9	19.9	25.9	33	35
	750	3.3							5.2	7.1	8.0	10.7	14.1	16.6	21.6	27.6	30
250	Exact Reduction Ratio								260.18	259.14	255.94	257.59	250.61	236.76	252.78	235.08	259.56
	1800	7.2							12.0	16.0	19.6	25.5	30	39	45	62	64
	1500	6.0							10.0	13.4	16.3	21.2	25.8	33	38	52	53
	1200	4.8							8.0	10.7	13.1	17.0	20.6	26.6	30	42	43
	1000	4.0							6.7	8.9	10.9	14.1	17.2	22.2	25.5	35	36
	900	3.6							6.0	8.0	9.8	12.7	15.5	19.9	22.9	31	32
	750	3.0							5.0	6.7	8.2	10.6	12.9	16.6	19.1	26.4	27.1
Dimension Tables	Horizontal								C-62	C-62	C-64	C-64	C-64	C-64	C-64	C-64	C-66
	Vertical								C-82	C-82	C-84	C-84	C-84	C-84	C-84	C-84	C-86
	Upright								C-96	C-96	C-98	C-98	C-98	C-98	C-98	C-98	C-98

THERMAL POWER RATING (kW)

Nominal Reduction Ratio	H.Speed Shaft Speed r/min	Number of Cooling Fans	Size of Reducer														
			9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085	9090
Quadruple Reduction Horizontal Type	1800	-							37	45	54	65	74	91	94	114	128
	1500	-							35	43	52	62	71	87	91	110	124
	1200	-							33	40	48	58	67	82	86	104	118
	1000	-							31	38	46	55	64	78	82	99	112
	900	-							30	36	44	53	62	75	79	96	109
	750	-							28	34	41	49	58	71	75	90	103
	Quadruple Reduction Vertical Type	1800	-							38	47	56	67	77	94	98	119
1500		-							36	44	53	63	74	90	94	114	129
1200		-							34	41	50	59	69	84	88	107	121
1000		-							31	38	47	55	65	79	84	101	115
900		-							30	37	45	53	63	76	81	98	111
750		-							28	34	42	50	59	72	76	92	105
Quadruple Reduction Upright Type		1800	-							37	45	54	65	74	91	94	114
	1500	-							35	43	52	62	71	87	91	110	
	1200	-							33	40	48	58	67	82	86	104	
	1000	-							31	38	46	55	64	78	82	99	
	900	-							30	36	44	53	62	75	79	96	
	750	-							28	34	41	49	58	71	75	90	

SELECTION Right Angle Shaft Quadruple Reduction Nominal Reduction Ratio 200 ▶ 250

Size of Reducer											L.Speed Shaft Speed r/min	H.Speed Shaft Speed r/min	Nominal Reduction Ratio
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136			
196.41	203.69	187.97	195.58	205.82	190.95	193.00	193.00	194.21	195.65	195.65	Exact Reduction Ratio		
96	117	144	172	200	259	295	344	408*	458*	540*	9.0	1800	200
80	97	120	143	167	216	246	287	341	382	451	7.5	1500	
64	78	96	115	133	173	198	230	273	307	362	6.0	1200	
53	65	80	96	111	145	165	192	228	256	302	5.0	1000	
48	58	72	86	100	130	148	173	205	230	272	4.5	900	
40	49	60	72	84	109	124	144	171	192	227	3.8	750	
230.40	218.59	222.96	224.42	221.65	230.04	226.29	226.29	229.95	215.37	215.37	Exact Reduction Ratio		
86	104	126	145	172	215	252	294	345*	417*	491*	8.0	1800	224
71	86	105	121	143	180	211	245	288	348	410	6.7	1500	
57	69	84	97	115	144	169	196	231	279	329	5.4	1200	
48	58	70	81	96	120	141	164	193	233	274	4.5	1000	
43	52	63	73	86	108	127	148	174	209	247	4.0	900	
36	43	53	60	72	90	106	123	145	175	206	3.3	750	
249.98	248.28	241.90	238.39	253.56	237.26	245.51	245.51	249.49	246.37	246.37	Exact Reduction Ratio		
76	96	112	144	153	209	233	271	319*	365*	430*	7.2	1800	250
63	80	94	120	127	174	194	226	266	304	359	6.0	1500	
50	64	75	96	102	140	156	181	213	244	288	4.8	1200	
42	53	62	80	85	117	130	151	178	203	240	4.0	1000	
38	48	56	72	77	105	117	136	160	183	216	3.6	900	
31	40	47	60	64	87	97	113	134	153	180	3.0	750	
C-66	C-66	C-66	C-66	C-66	C-68	C-68	C-68	C-70	C-70	C-70	Horizontal Vertical Upright	Dimension Tables	

Notes

- For ✖ marked values, the forced oil lubrication is required at continuous operation.
- Consult us when the high speed shaft speed is over 1800r/min.
- When the high speed shaft speed is not shown in the table, find it by the interpolation method.
- When the high speed shaft speed (N) is lower than 750r/min, find the mechanical power rating (PN) according to the following formula.

$$PN = P_{750} \times \frac{N}{750}$$
- Shown in the table are the ratings for the slow speed shaft.
- Refer to C42-C45 for the allowable radial and axial load on each shaft.

Size of Reducer											Number of Cooling Fans	H.Speed Shaft Speed r/min	Nominal Reduction Ratio
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136			
142	167	186	217	237	273	325	325	352	426	426	-	1800	Quadruple Reduction Horizontal Type 200 ▼ 250
137	162	180	210	229	265	317	317	344	417	417	-	1500	
131	155	173	200	218	254	306	306	331	402	402	-	1200	
125	149	165	191	208	244	294	294	318	388	388	-	1000	
121	145	161	186	203	238	287	287	310	379	379	-	900	
114	137	152	176	192	226	275	275	296	362	362	-	750	
149	176	196	226	247							-	1800	Quadruple Reduction Vertical Type 200 ▼ 250
143	169	188	217	237							-	1500	
134	160	178	205	224							-	1200	
128	153	169	195	213							-	1000	
123	148	164	189	206							-	900	
116	140	155	179	195							-	750	

Ambient Temperature °C	Temperature Correction Factor	
	Without Fan	With Fan
20	1.00	1.00
30	0.85	0.87
40	0.70	0.73
50	0.55	0.60

Notes

- Shown in the table are the ratings for models without a fan cooling unit and those with a fan. (-: none fan, 1: with a fan)
- The values are applicable to continuous operation at ambient temperatures of 20 °C or less. When the temperature is out of the range, refer to the temperature correction factor shown above.
- When the high speed shaft speed is not shown in the table, find it by interpolation method.

SELECTION Right Angle Shaft Quadruple Reduction Nominal Reduction Ratio 280 ▶ 355

MECHANICAL POWER RATING (kW)

Nominal Reduction Ratio	H.Speed Shaft Speed r/min	L.Speed Shaft Speed r/min	Size of Reducer															
			9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085	9090	
280	Exact Reduction Ratio																	
		1800	6.4						296.20	291.13	298.24	294.61	280.79	265.69	278.80	258.13	282.35	
		1500	5.4						9.9	12.9	15.4	20.0	25.7	35	39	54	57	
		1200	4.3						8.2	10.7	12.9	16.7	21.5	29.8	32	45	47	
		1000	3.6						6.6	8.6	10.3	13.4	17.2	23.9	26.4	36	38	
		900	3.2						5.5	7.2	8.6	11.1	14.4	19.9	22.0	30	31	
		750	2.7						4.9	6.5	7.7	10.0	12.9	17.9	19.8	27.1	28.8	
315	Exact Reduction Ratio																	
		1800	5.7						315.95	324.22	332.51	320.94	322.08	310.27	318.63	308.07	308.36	
		1500	4.8						9.2	12.8	13.8	20.4	22.5	32	34	48	52	
		1200	3.8						7.7	10.7	11.5	17.0	18.7	27.2	28.9	40	43	
		1000	3.2						6.2	8.6	9.2	13.6	15.0	21.8	23.1	32	35	
		900	2.9						5.2	7.1	7.7	11.4	12.5	18.2	19.3	26.8	29.3	
		750	2.4						4.6	6.4	6.9	10.2	11.3	16.4	17.4	24.2	26.3	
355	Exact Reduction Ratio																	
		1800	5.1						367.08	364.25	369.46	367.06	343.56	348.18	355.25	338.28	353.71	
		1500	4.2						8.0	10.3	12.5	16.1	21.1	27.3	31	41	45	
		1200	3.4						6.6	8.6	10.4	13.4	17.6	22.8	25.9	34	38	
		1000	2.8						5.3	6.9	8.3	10.7	14.1	18.3	20.7	27.6	30	
		900	2.5						4.4	5.7	6.9	9.0	11.7	15.2	17.3	23.0	25.5	
		750	2.1						4.0	5.2	6.2	8.1	10.6	13.7	15.6	20.7	23.0	
Dimension Tables	Horizontal Vertical Upright																	
		C-62	C-62	C-64	C-64	C-64	C-64	C-64	C-64	C-64	C-64	C-64	C-64	C-64	C-64	C-66		
		C-82	C-82	C-84	C-84	C-84	C-84	C-84	C-84	C-84	C-84	C-84	C-84	C-84	C-84	C-86		

THERMAL POWER RATING (kW)

Nominal Reduction Ratio	H.Speed Shaft Speed r/min	Number of Cooling Fans	Size of Reducer															
			9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085	9090	
Quadruple Reduction Horizontal Type	280	▼	1800	-														
			1500	-														
			1200	-														
			1000	-														
			900	-														
			750	-														
			Quadruple Reduction Vertical Type	280	▼	1800	-											
1500	-																	
1200	-																	
1000	-																	
900	-																	
750	-																	
Quadruple Reduction Upright Type	280	▼				1800	-											
			1500	-														
			1200	-														
			1000	-														
			900	-														
			750	-														

SELECTION Right Angle Shaft Quadruple Reduction Nominal Reduction Ratio 280 ▶ 355

Size of Reducer											L.Speed Shaft Speed r/min	H.Speed Shaft Speed r/min	Nominal Reduction Ratio	
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136				
288.00	266.44	271.77	273.54	270.18	280.39	288.00	288.00	283.41	291.16	291.16	Exact Reduction Ratio			
69	85	104	119	152	177	199	231	281*	309*	365*	6.4	1800	280	
57	71	86	99	127	148	166	193	234	258	304	5.4	1500		
46	57	69	79	102	118	133	155	188	207	244	4.3	1200		
38	47	58	66	85	99	111	129	157	172	203	3.6	1000		
34	43	52	60	76	89	100	116	141	155	183	3.2	900		
28.9	35	43	50	64	74	83	97	118	129	153	2.7	750		
312.47	301.20	294.86	323.28	309.07	320.45	312.47	312.47	307.49	Exact Reduction Ratio					
61	75	92	101	126	155	183	213	259*				5.7	1800	315
50	63	77	84	105	129	153	178	216				4.8	1500	
40	50	61	67	84	104	122	142	173				3.8	1200	
34	42	51	56	70	86	102	119	144				3.2	1000	
30	38	46	50	63	78	92	107	130				2.9	900	
25.5	31	38	42	52	65	77	89	108				2.4	750	
341.25	344.23	333.33	369.46	365.26	356.86	341.25	341.25	347.61	Exact Reduction Ratio					
55	66	81	88	106	139	168	195	229*				5.1	1800	355
46	55	68	73	89	116	140	163	191				4.2	1500	
37	44	54	59	71	93	112	131	153				3.4	1200	
31	37	45	49	59	78	93	109	128				2.8	1000	
28.1	33	41	44	53	70	84	98	115				2.5	900	
23.4	27.8	34	37	44	58	70	82	96				2.1	750	
C-66	C-66	C-66	C-66	C-66	C-68	C-68	C-68	C-70	C-70	C-70	Horizontal Vertical Upright	Dimension Tables		

Notes

- For * marked values, the forced oil lubrication is required at continuous operation.
- Consult us when the high speed shaft speed is over 1800r/min.
- When the high speed shaft speed is not shown in the table, find it by the interpolation method.
- When the high speed shaft speed (N) is lower than 750r/min, find the mechanical power rating (PN) according to the following formula.

$$PN = P_{750} \times \frac{N}{750}$$
- Shown in the table are the ratings for the slow speed shaft.
- Refer to C42-C45 for the allowable radial and axial load on each shaft.

Size of Reducer											Number of Cooling Fans	H.Speed Shaft Speed r/min	Nominal Reduction Ratio
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136			
137	167	180	208	228	248	304	304	340	421	421	-	1800	Quadruple Reduction Horizontal Type 280 ▼ 355
132	162	175	202	220	240	295	295	332	412	412	-	1500	
126	155	167	192	210	228	282	282	319	397	397	-	1200	
120	149	160	184	200	218	270	270	306	383	383	-	1000	
116	145	155	179	195	212	263	263	299	374	374	-	900	
110	138	147	169	184	200	250	250	285	358	358	-	750	
143	176	189	217	237							-	1800	Quadruple Reduction Vertical Type 280 ▼ 355
137	169	182	208	227							-	1500	
129	160	172	197	215							-	1200	
123	153	164	188	204							-	1000	
119	148	159	182	198							-	900	
112	140	150	172	187							-	750	
											-	1800	Quadruple Reduction Upright Type 280 ▼ 355
											-	1500	
											-	1200	
											-	1000	
											-	900	
											-	750	

Ambient Temperature °C	Temperature Correction Factor	
	Without Fan	With Fan
20	1.00	1.00
30	0.85	0.87
40	0.70	0.73
50	0.55	0.60

Notes

- Shown in the table are the ratings for models without a fan cooling unit and those with a fan. (-: none fan, 1: with a fan)
- The values are applicable to continuous operation at ambient temperatures of 20 °C or less. When the temperature is out of the range, refer to the temperature correction factor shown above.
- When the high speed shaft speed is not shown in the table, find it by interpolation method.

SELECTION Right Angle Shaft Quadruple Reduction Nominal Reduction Ratio 400 ▶ 450

MECHANICAL POWER RATING (kW)

Nominal Reduction Ratio	H.Speed Shaft Speed r/min	L.Speed Shaft Speed r/min	Size of Reducer													
			9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085
400	Exact Reduction Ratio									388.53		409.25		399.38		386.60
	1800	4.5							9.7		14.4		23.8		36	
	1500	3.8							8.1		12.0		19.9		30	
	1200	3.0							6.5		9.6		15.9		24.2	
	1000	2.5							5.4		8.0		13.3		20.2	
	900	2.3							4.8		7.2		12.0		18.2	
450	750	1.9							4.0		6.0		10.0		15.1	
	Exact Reduction Ratio								451.41		454.72		426.01		431.03	
	1800	4.0							8.3		13.0		22.4		32	
	1500	3.3							6.9		10.8		18.6		27.1	
	1200	2.7							5.6		8.7		14.9		21.7	
	1000	2.2							4.6		7.2		12.5		18.1	
Dimension Tables	Horizontal									C-62		C-64		C-64		C-64
	Vertical									C-82		C-84		C-84		C-84
	Upright									C-96		C-98		C-98		C-98

THERMAL POWER RATING (kW)

Nominal Reduction Ratio	H.Speed Shaft Speed r/min	Number of Cooling Fans	Size of Reducer													
			9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085
Quadruple Reduction Horizontal Type	1800	-								45		64		86		110
	1500	-								43		61		83		106
	1200	-								40		58		78		100
	1000	-								37		54		74		95
	900	-								36		52		71		92
	750	-								33		49		67		87
Quadruple Reduction Vertical Type	1800	-								46		66		89		114
	1500	-								44		63		85		109
	1200	-								41		59		80		103
	1000	-								38		55		75		97
	900	-								36		53		72		94
	750	-								34		49		68		88
Quadruple Reduction Upright Type	1800	-								45		64		86		110
	1500	-								43		61		83		106
	1200	-								40		58		78		100
	1000	-								37		54		74		95
	900	-								36		52		71		92
	750	-								33		49		67		87

Speed Reducer Selection Tables Dimension Tables

SELECTION Right Angle Shaft Quadruple Reduction Nominal Reduction Ratio 400 ▶ 450

Size of Reducer										L.Speed Shaft Speed r/min	H.Speed Shaft Speed r/min	Nominal Reduction Ratio	
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136			
391.44	380.94		417.44	407.84							Exact Reduction Ratio		
48	71		93	122							4.5	1800	400
40	59		78	102						3.8	1500		
32	48		62	81						3.0	1200		
27.2	40		52	68						2.5	1000		
24.5	36		47	61						2.3	900		
20.4	30		39	51						1.9	750		
											Exact Reduction Ratio		450
											4.0	1800	
											3.3	1500	
											2.7	1200	
											2.2	1000	
											2.0	900	
											1.7	750	
C-66	C-66		C-66	C-68							Horizontal	Dimension Tables	
C-86	C-86		C-86								Vertical Upright		

Notes

- For ※ marked values, the forced oil lubrication is required at continuous operation.
- Consult us when the high speed shaft speed is over 1800r/min.
- When the high speed shaft speed is not shown in the table, find it by the interpolation method.
- When the high speed shaft speed (N) is lower than 750r/min, find the mechanical power rating (PN) according to the following formula.

$$PN = P_{750} \times \frac{N}{750}$$
- Shown in the table are the ratings for the slow speed shaft.
- Refer to C42-C45 for the allowable radial and axial load on each shaft.

Size of Reducer										Number of Cooling Fans	H.Speed Shaft Speed r/min	Nominal Reduction Ratio	
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136			
137	179		225	246							-	1800	Quadruple Reduction Horizontal Type 400 ▼
133	174		218	238							-	1500	
127	166		208	226							-	1200	
121	159		198	216							-	1000	
117	155		193	210							-	900	
111	147		183	198							-	750	450
144	188		234								-	1800	Quadruple Reduction Vertical Type 400 ▼
138	181		225								-	1500	
130	171		213								-	1200	
123	163		202								-	1000	
119	158		196								-	900	
113	149		185								-	750	450
											-	1800	Quadruple Reduction Upright Type 400 ▼
											-	1500	
											-	1200	
											-	1000	
											-	900	
											-	750	450

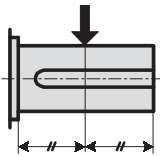
Ambient Temperature °C	Temperature Correction Factor	
	Without Fan	With Fan
20	1.00	1.00
30	0.85	0.87
40	0.70	0.73
50	0.55	0.60

Notes

- Shown in the table are the ratings for models without a fan cooling unit and those with a fan. (-: none fan, 1: with a fan)
- The values are applicable to continuous operation at ambient temperatures of 20 °C or less. When the temperature is out of the range, refer to the temperature correction factor shown above.
- When the high speed shaft speed is not shown in the table, find it by interpolation method.

SELECTION Allowable Radial and Axial Loads on Slow Speed Right Angle shaft

Allowable Radial Load (kN)



Sheet 1

Applicable to configurations: Double Reduction RR, LL/

L.Speed Shaft Speed r/min	Size of Reducer																	
	9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085	9090	9095	9100	
Standard bearing model	250	11.8	17.7	17.7	29.4	29.9	32.4	37.8	46.6	39.7	49.1	44.1	77.0	77.0	100.1	100.1	137.8	139.8
	160	11.8	17.7	20.1	31.4	32.4	33.8	39.7	48.1	41.7	50.5	46.1	89.0	89.0	108.9	108.9	145.7	157.5
	100	11.8	17.7	25.0	35.3	38.7	39.2	47.1	53.5	47.6	54.4	54.4	99.0	99.0	122.1	122.1	147.6	166.3
	63	11.8	17.7	26.5	35.3	42.2	47.1	54.9	62.3	58.9	64.3	65.2	131.5	131.5	125.6	125.6	143.7	165.3
	40	11.8	17.7	26.5	35.3	42.2	49.1	54.9	67.7	71.1	78.0	79.0	141.0	141.0	125.1	125.1	137.8	164.8
≤ 25	11.8	17.7	26.5	35.3	42.2	49.1	54.9	67.7	81.4	95.2	99.1	139.5	139.5	122.6	122.6	135.4	163.3	
Heavy duty bearing model	250								71.1	93.7	70.1	122.5	122.5	141.8	141.8	158.9	181.0	
	160								78.0	94.7	77.5	137.5	137.5	132.4	132.4	151.6	174.6	
	100								81.4	98.1	92.2	149.5	149.5	127.0	127.0	147.6	166.8	
	63								81.4	98.1	114.8	149.0	149.0	125.6	125.6	143.7	165.8	
	40								81.4	98.1	117.7	148.5	148.5	125.1	125.1	137.8	165.3	
≤ 25								81.4	98.1	117.7	147.0	147.0	122.6	122.6	135.4	163.8		

Sheet 2

Applicable to configurations: Double Reduction RL, LR/

L.Speed Shaft Speed r/min	Size of Reducer																	
	9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085	9090	9095	9100	
Standard bearing model	250	8.3	15.2	9.8	21.6	19.1	21.6	22.6	31.4	16.7	28.4	17.2	44.0	44.0	58.4	58.4	97.6	80.4
	160	9.8	17.7	12.3	23.1	20.6	23.1	24.0	31.4	18.1	27.0	17.7	55.5	55.5	64.3	64.3	103.0	96.1
	100	11.8	17.7	16.7	29.4	26.0	27.5	28.4	35.3	22.1	30.4	25.5	63.5	63.5	74.6	74.6	110.9	105.9
	63	11.8	17.7	21.6	35.3	32.9	35.3	37.3	42.7	33.4	38.3	33.8	95.0	95.0	104.5	104.5	148.1	153.5
	40	11.8	17.7	26.5	35.3	41.7	43.7	48.6	55.4	45.1	51.5	47.6	129.0	129.0	146.7	146.7	172.2	203.6
≤ 25	11.8	17.7	26.5	35.3	42.2	49.1	54.9	67.7	60.8	68.7	67.7	167.0	167.0	171.2	171.2	171.2	215.3	
Heavy duty bearing model	250								46.1	74.6	40.2	90.0	90.0	114.8	114.8	156.0	150.6	
	160								52.0	72.1	45.6	103.5	103.5	125.1	125.1	164.8	170.7	
	100								60.3	79.0	59.4	116.0	116.0	140.8	140.8	176.1	187.4	
	63								81.4	96.6	80.0	152.5	152.5	174.1	174.1	186.9	218.8	
	40								81.4	98.1	108.9	192.0	192.0	191.8	191.8	193.7	241.8	
≤ 25								81.4	98.1	117.7	180.5	180.5	171.2	171.2	171.2	214.8		

Allowable Axial Load (kN)



L.Speed Shaft Speed r/min	Size of Reducer																	
	9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085	9090	9095	9100	
Standard bearing model	250	9.3	11.4	14.7	23.1	26.5	31.4	32.9	31.9	27.0	43.2	28.0	28.0	23.5	23.5	31.4	52.0	45.1
	160	9.3	11.4	18.1	23.1	28.4	31.4	33.4	31.9	28.9	43.2	28.4	28.4	27.5	27.5	34.3	53.0	53.0
	100	9.3	11.4	24.5	23.1	32.9	31.4	37.3	31.9	34.3	43.2	39.7	39.7	32.9	32.9	43.2	59.4	58.4
	63	9.3	11.4	26.5	23.1	32.9	31.4	37.3	31.9	49.1	43.2	52.5	52.5	45.6	45.6	54.0	59.8	81.4
	40	9.3	11.4	26.5	23.1	32.9	31.4	37.3	31.9	49.1	43.2	61.4	61.4	63.3	60.3	59.8	59.8	83.4
≤ 25	9.3	11.4	26.5	23.1	32.9	31.4	37.3	31.9	49.1	43.2	61.4	61.4	67.7	60.3	59.8	59.8	83.4	
Heavy duty bearing model	250								23.1	34.8	18.6	18.6	56.9	56.9	59.8	59.8	83.4	
	160								25.0	33.4	21.1	21.1	56.9	56.9	59.8	59.8	83.4	
	100								29.4	36.8	27.5	27.5	56.9	56.9	59.8	59.8	83.4	
	63								39.2	43.2	36.3	36.3	56.9	56.9	59.8	59.8	83.4	
	40								39.2	43.2	49.1	49.1	56.9	56.9	59.8	59.8	83.4	
≤ 25								39.2	43.2	56.9	56.9	56.9	56.9	59.8	59.8	83.4		

Speed Reducer Selection Tables Dimension Tables

SELECTION Allowable Radial and Axial Loads on Slow Speed Right Angle shaft

Triple Reduction RL, LR/Quadruple Reduction RR, LL

Size of Reducer									L.Speed Shaft Speed r/min	
9105	9110	9115	9118	9121	9126	9128	9131	9136		
192.3	167.8	222.7							250	Standard bearing model
200.6	174.1	234.9							160	
183.9	184.9	245.7	391.9	352.7	330.6	315.4	403.2	391.9	100	Standard bearing model
178.1	190.8	303.1	387.5	369.3	341.4	328.6	462.5	430.7	63	
173.6	194.7	320.8	460.1	449.3	401.2	409.6	572.4	511.1	40	
167.3	184.9	316.4	448.3	554.8	497.4	534.6	733.8	638.6	≤ 25	
213.9	250.6	316.9							250	Heavy duty bearing model
200.6	214.8	334.5							160	
183.9	195.2	340.9							100	
178.1	190.8	333.5							63	
173.6	194.7	320.8							40	
167.3	184.9	316.4							≤ 25	

Unit: kN

Triple Reduction RR, LL/Quadruple Reduction RL, LR

Size of Reducer									L.Speed Shaft Speed r/min	
9105	9110	9115	9118	9121	9126	9128	9131	9136		
131.5	94.2	152.5							250	Standard bearing model
138.3	92.2	155.0							160	
146.7	101.0	167.3	312.0	228.1	197.7	159.4	203.6	190.3	100	Standard bearing model
200.1	144.7	220.7	292.3	244.3	206.0	170.7	260.9	218.8	63	
235.4	199.1	250.2	373.3	322.7	257.0	250.2	369.3	286.5	40	
304.1	272.7	353.2	460.1	427.2	348.7	373.3	528.3	398.3	≤ 25	
213.4	191.3	248.7							250	Heavy duty bearing model
223.2	197.7	261.4							160	
236.9	210.4	274.2							100	
301.7	267.8	341.9							63	
304.1	323.7	382.1							40	
304.1	323.7	374.7							≤ 25	

Unit: kN

Overhang Factor

Overhang Member	Overhang Factor
Sprocket (Single Row)	1
Sprocket (Double Row)	1.25
Gears	1.25

Notes

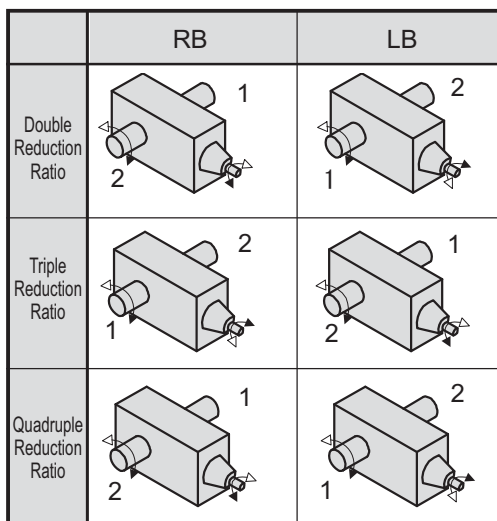
- The value shown in the table is allowable radial load when it is applied to the center of the solid shaft (except hollow shaft). Consult us when a load is not in the center.
- Consult us for the blanks in the table.
- Consult us when the radial load is applied upward.
- In case of double projection shaft (RB, LB)
 - See sheet1 when the radial load is applied only to the shaft1.
 - See sheet2 when the radial load is applied only to the shaft2.
 - Consult us when the radial load is applied to both shafts.
- Refer to C-6 to check overhang load, and calculate equivalent load at peak load value. Be careful under following condition because large peak load may be generated.

Application: When the inertia is large, such as for crane driving, slewing, etc.

Motor: inline motor
Connecting method: Sprocket or gear
Consult us when the peak load is larger than allowable value.

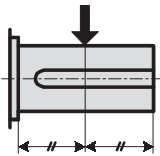
Size of Reducer									L.Speed Shaft Speed r/min	
9105	9110	9115	9118	9121	9126	9128	9131	9136		
50.0	50.0	76.5							250	Standard bearing model
49.5	49.5	76.5							160	
54.0	54.0	83.4	119.7	121.6	116.7	91.2	113.3	107.9	100	Standard bearing model
74.6	74.6	83.4	119.7	121.6	121.6	96.6	140.3	122.6	63	
83.4	83.4	83.4	119.7	121.6	121.6	134.9	191.3	155.5	40	
83.4	83.4	83.4	119.7	121.6	121.6	144.2	192.3	192.3	≤ 25	
83.4	83.4	83.4							250	Heavy duty bearing model
83.4	83.4	83.4							160	
83.4	83.4	83.4							100	
83.4	83.4	83.4							63	
83.4	83.4	83.4							40	
83.4	83.4	83.4							≤ 25	

Unit: kN



SELECTION Allowable Radial and Axial Loads on Slow Speed Right Angle shaft

Allowable Radial Load (kgf)



Sheet 1

Applicable to configurations: Double Reduction RR, LL/

L.Speed Shaft Speed r/min	Size of Reducer																	
	9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085	9090	9095	9100	
Standard bearing model	250	1200	1800	1800	3000	3050	3300	3850	4750	4050	5000	4500	7850	7850	10200	10200	14050	14250
	160	1200	1800	2050	3200	3300	3450	4050	4900	4250	5150	4700	9050	9050	11100	11100	14850	16050
	100	1200	1800	2550	3600	3950	4000	4800	5450	4850	5550	5550	10100	10100	12450	12450	15050	16950
	63	1200	1800	2700	3600	4300	4800	5600	6350	6000	6550	6650	13400	13400	12800	12800	14650	16850
	40	1200	1800	2700	3600	4300	5000	5600	6900	7250	7950	8050	14350	14350	12750	12750	14050	16800
≤ 25	1200	1800	2700	3600	4300	5000	5600	6900	8300	9700	10100	14200	14200	12500	12500	13800	16650	
Heavy duty bearing model	250								7250	9550	7150	12500	12500	14450	14450	16200	18450	
	160								7950	9650	7900	14000	14000	13500	13500	15450	17800	
	100								8300	10000	9400	15250	15250	12950	12950	15050	17000	
	63								8300	10000	11700	15200	15200	12800	12800	14650	16900	
	40								8300	10000	12000	15150	15150	12750	12750	14050	16850	
≤ 25								8300	10000	12000	15000	15000	12500	12500	13800	16700		

Sheet 2

Applicable to configurations: Double Reduction RL, LR/

L.Speed Shaft Speed r/min	Size of Reducer																	
	9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085	9090	9095	9100	
Standard bearing model	250	850	1550	1000	2200	1950	2200	2300	3200	1700	2900	1750	4500	4500	5950	5950	9950	8200
	160	1000	1800	1250	2350	2100	2350	2450	3200	1850	2750	1800	5650	5650	6550	6550	10500	9800
	100	1200	1800	1700	3000	2650	2800	2900	3600	2250	3100	2600	6450	6450	7600	7600	11300	10800
	63	1200	1800	2200	3600	3350	3600	3800	4350	3400	3900	3450	9700	9700	10650	10650	15100	15650
	40	1200	1800	2700	3600	4250	4450	4950	5650	4600	5250	4850	13150	13150	14950	14950	17550	20750
≤ 25	1200	1800	2700	3600	4300	5000	5600	6900	6200	7000	6900	17000	17000	17450	17450	17450	21950	
Heavy duty bearing model	250								4700	7600	4100	9150	9150	11700	11700	15900	15350	
	160								5300	7350	4650	10550	10550	12750	12750	16800	17400	
	100								6150	8050	6050	11800	11800	14350	14350	17950	19100	
	63								8300	9850	8150	15550	15550	17750	17750	19050	22300	
	40								8300	10000	11100	19550	19550	19550	19550	19750	24650	
≤ 25								8300	10000	12000	18400	18400	17450	17450	17450	21900		

Allowable Axial Load (kgf)



L.Speed Shaft Speed r/min	Size of Reducer																	
	9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085	9090	9095	9100	
Standard bearing model	250	950	1160	1500	2350	2700	3200	3350	3250	2750	4400	2850	2850	2400	2400	3200	5300	4600
	160	950	1160	1850	2350	2900	3200	3400	3250	2950	4400	2900	2900	2800	2800	3500	5400	5400
	100	950	1160	2500	2350	3350	3200	3800	3250	3500	4400	4050	4050	3350	3350	4400	6050	5950
	63	950	1160	2700	2350	3350	3200	3800	3250	5000	4400	5350	5350	4650	4650	5500	6100	8300
	40	950	1160	2700	2350	3350	3200	3800	3250	5000	4400	6260	6260	6450	6150	6100	6100	8500
≤ 25	950	1160	2700	2350	3350	3200	3800	3250	5000	4400	6260	6260	6900	6150	6100	6100	8500	
Heavy duty bearing model	250								2350	3550	1900	1900	5800	5800	6100	6100	8500	
	160								2550	3400	2150	2150	5800	5800	6100	6100	8500	
	100								3000	3750	2800	2800	5800	5800	6100	6100	8500	
	63								4000	4400	3700	3700	5800	5800	6100	6100	8500	
	40								4000	4400	5000	5000	5800	5800	6100	6100	8500	
≤ 25								4000	4400	5800	5800	5800	5800	6100	6100	8500		

Speed Reducer Selection Tables Dimension Tables

SELECTION Allowable Radial and Axial Loads on Slow Speed Right Angle shaft

Triple Reduction RL, LR/Quadruple Reduction RR, LL

Size of Reducer									L.Speed Shaft Speed r/min	
9105	9110	9115	9118	9121	9126	9128	9131	9136		
19600	17100	22700							250	Standard bearing model
20450	17750	23950							160	
18750	18850	25050	39950	35950	33700	32150	41100	39950	100	Standard bearing model
18150	19450	30900	39500	37650	34800	33500	47150	43900	63	
17700	19850	32700	46900	45800	40900	41750	58350	52100	40	
17050	18850	32250	45700	56550	50700	54500	74800	65100	≤ 25	
21800	25550	32300							250	
20450	21900	34100							160	
18750	19900	34750							100	
18150	19450	34000							63	
17700	19850	32700							40	
17050	18850	32250							≤ 25	

Unit: kgf

Triple Reduction RR, LL/Quadruple Reduction RL, LR

Size of Reducer									L.Speed Shaft Speed r/min	
9105	9110	9115	9118	9121	9126	9128	9131	9136		
13400	9600	15550							250	Standard bearing model
14100	9400	15800							160	
14950	10300	17050	31800	23250	20150	16250	20750	19400	100	Standard bearing model
20400	14750	22500	29800	24900	21000	17400	26600	22300	63	
24000	20300	25500	38050	32900	26200	25500	37650	29200	40	
31000	27800	36000	46900	43550	35550	38050	53850	40600	≤ 25	
21750	19500	25350							250	
22750	20150	26650							160	
24150	21450	27950							100	
30750	27300	34850							63	
31000	33000	38950							40	
31000	33000	38200							≤ 25	

Unit: kgf

Overhang Factor

Overhang Member	Overhang Factor
Sprocket (Single Row)	1
Sprocket (Double Row)	1.25
Gears	1.25

Notes

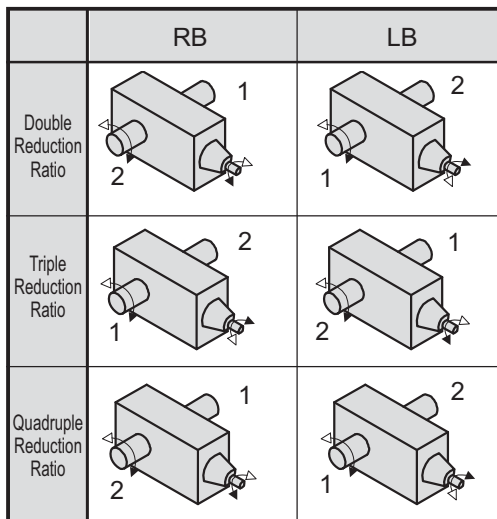
- The value shown in the table is allowable radial load when it is applied to the center of the solid shaft (except hollow shaft). Consult us when a load is not in the center.
- Consult us for the blanks in the table.
- Consult us when the radial load is applied upward.
- In case of double projection shaft (RB, LB)
 - See sheet1 when the radial load is applied only to the shaft1.
 - See sheet2 when the radial load is applied only to the shaft2.
 - Consult us when the radial load is applied to both shafts.
- Refer to C-6 to check overhang load, and calculate equivalent load at peak load value. Be careful under following condition because large peak load may be generated.

Application: When the inertia is large, such as for crane driving, slewing, etc.

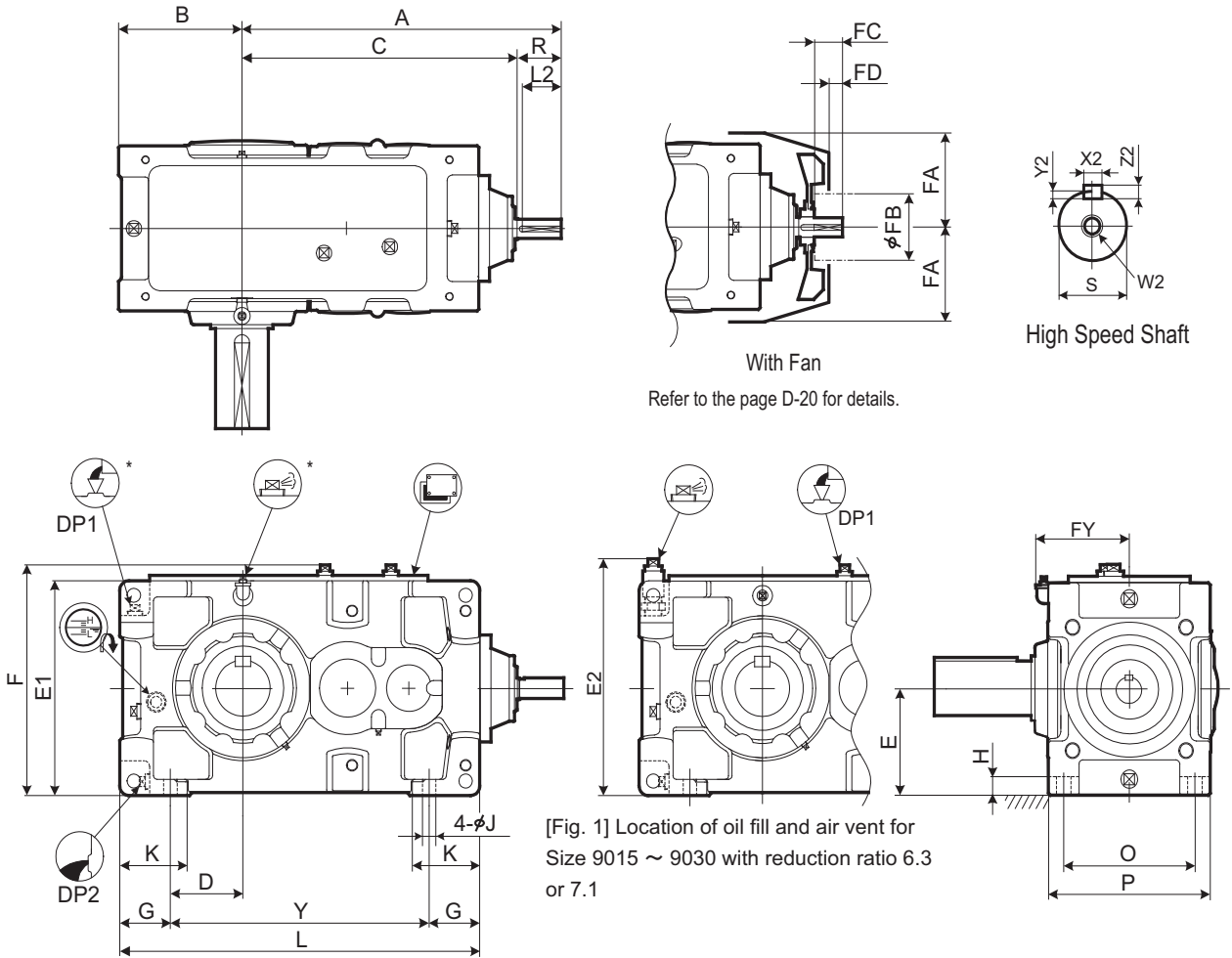
Motor: inline motor
Connecting method: Sprocket or gear
Consult us when the peak load is larger than allowable value.

Size of Reducer									L.Speed Shaft Speed r/min	
9105	9110	9115	9118	9121	9126	9128	9131	9136		
5100	5100	7800							250	Standard bearing model
5050	5050	7800							160	
5500	5500	8500	12200	12400	11900	9300	11550	11000	100	Standard bearing model
7600	7600	8500	12200	12400	12400	9850	14300	12500	63	
8500	8500	8500	12200	12400	12400	13750	19500	15850	40	
8500	8500	8500	12200	12400	12400	14700	19600	19600	≤ 25	
8500	8500	8500							250	
8500	8500	8500							160	
8500	8500	8500							100	
8500	8500	8500							63	
8500	8500	8500							40	
8500	8500	8500							≤ 25	

Unit: kgf



DIMENSIONS Right Angle Shaft Double Reduction Horizontal Mounting 9015 ▶ 9055



[Fig. 1] Location of oil fill and air vent for Size 9015 ~ 9030 with reduction ratio 6.3 or 7.1

* Location of oil fill and air vent changes for Size 9015 ~ 9030 with reduction ratio 6.3 or 7.1. Refer to Fig. 1.

Speed Reducer

Selection Tables
Dimension Tables

Size	A	B	C	D	E	E1	E2	F	FY	G	H	J	K	L	O	P	Y
9015	507	160	427	90	135	270	309	299	129	70	22	15	95	440	170	205	300
9025	545	175	465	95	155	310	346	339	142	80	25	19	110	505	195	235	345
9030	645	200	535	110	160	320	353	349	154	90	28	24	120	590	215	265	410
9035	676	219	566	129	185	370		399	154	90	28	24	120	640	215	265	460
9040	705	235	595	120	200	400		431	172	115	30	28	150	685	255	315	455
9045	744	256	634	141	220	440		471	172	115	30	28	150	745	255	315	515
9050	755	255	645	138.5	210	420		451	192	116.5	32	28	150	775	285	345	542
9055	794	286	684	171	245	490		521	192	115	32	28	150	845	285	345	615

Size	High Speed Shaft							Fan				DP1	DP2	Wt. kg	Oil Qty. L
	R	S	W2/Depth	Key			L2	FA	FB	FC	FD				
9015	80	28k6	M12/28	8	4	7	70	125	125	50	30	3/4"	3/4"	95	5
9025	80	35k6	M12/28	10	5	8	70	135	140	50	30	3/4"	3/4"	140	7
9030	110	40k6	M16/36	14	5.5	9	95	150	140	80	52	3/4"	3/4"	205	10
9035	110	40k6	M16/36	14	5.5	9	95	150	140	80	52	3/4"	3/4"	225	12
9040	110	45k6	M16/36	14	5.5	9	95	170	160	80	52	1"	1"	305	16
9045	110	45k6	M16/36	14	5.5	9	95	170	160	80	52	1"	1"	365	18
9050	110	50k6	M16/36	14	5.5	9	95	190	160	80	52	1"	1"	435	21
9055	110	50k6	M16/36	14	5.5	9	95	190	160	80	52	1"	1"	495	28

Unit: mm

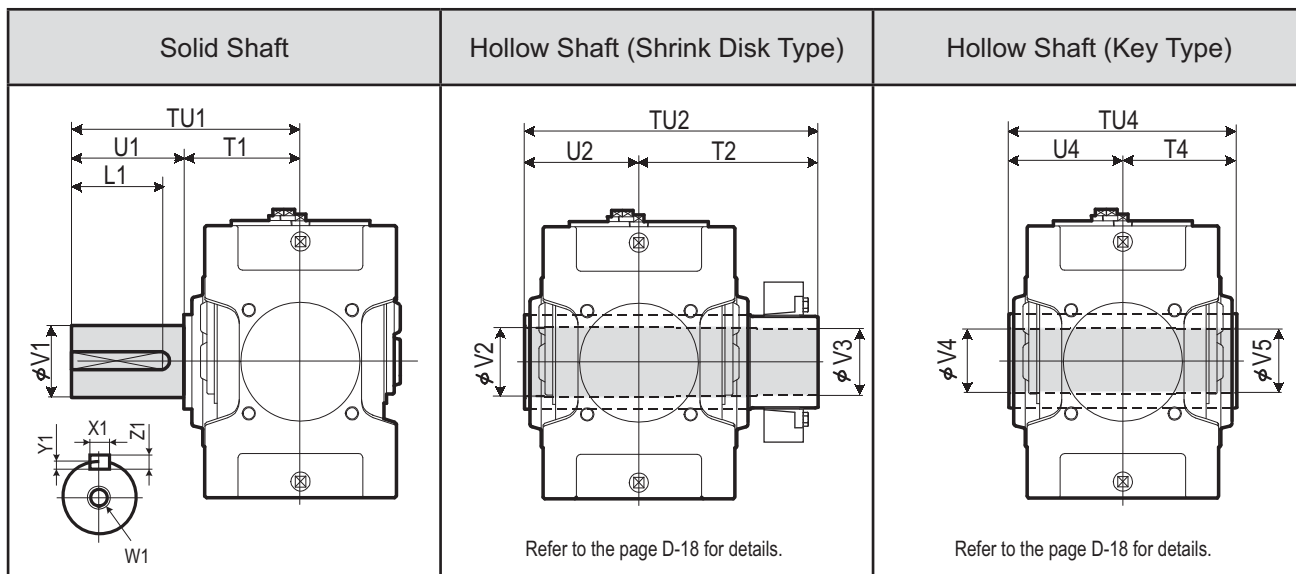
1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
 2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
 3. Refer to the page D-12 for dimensions shown in these drawings.

4. Refer to the page D -24 for the dimension of optional parts.

DIMENSIONS Right Angle Shaft Double Reduction Horizontal Mounting 9015 ▶ 9055

PARAMAX Horizontal Monoblock
 9015
 Right Angle Double Reduction
 2

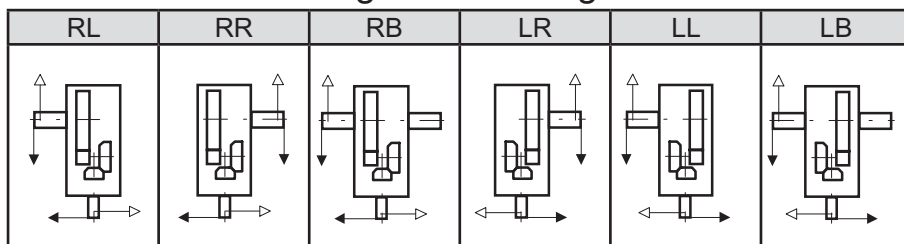
Slow Speed Shaft



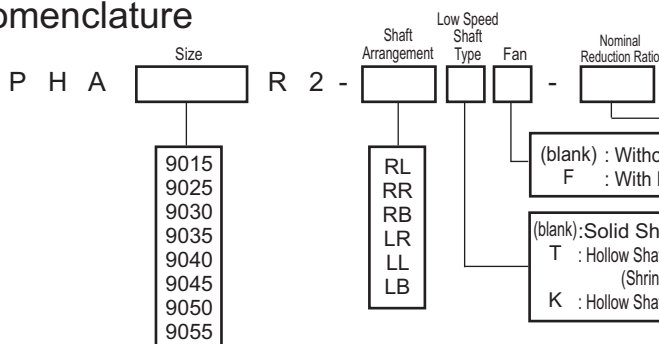
Size	Solid Shaft					Hollow Shaft (Shrink Disk Type)					Hollow Shaft (Key Type)								
	TU1	T1	U1	V1	W1/Depth	X1	Y1	Z1	L1	TU2	T2	U2	V2	V3	TU4	T4	U4	V4	V5
9015	245	135	110	58m6	M20/42	18	7	11	95	328	193	135	63	60	270	135	135	55	55
9025	285	145	140	70m6	M20/42	20	7.5	12	125	358	213	145	73	70	300	150	150	65	65
9030	330	160	170	80m6	M20/42	22	9	14	150	393	233	160	83	80	330	165	165	75	75
9035	330	160	170	90m6	M20/42	25	9	14	150	403	243	160	88	85	330	165	165	85	85
9040	349	179	170	95m6	M24/50	25	9	14	150	448	268	180	98	95	360	180	180	90	90
9045	391	181	210	105m6	M24/50	28	10	16	190	463	283	180	108	105	370	185	185	105	105
9050	411	201	210	110m6	M24/50	28	10	16	190	503	303	200	108	105	410	205	205	105	105
9055	411	201	210	120m6	M24/50	32	11	18	185	528	323	205	123	120	410	205	205	115	115

Unit: mm

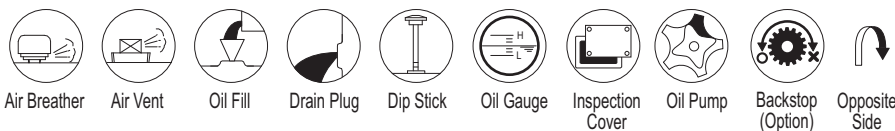
Standard Shaft Arrangement Configuration



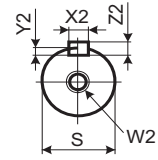
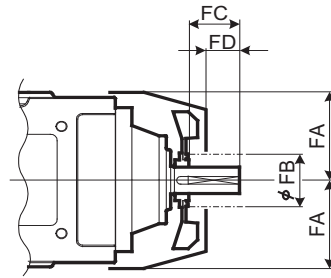
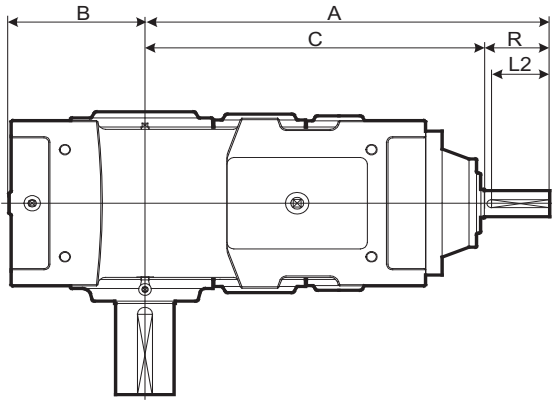
Nomenclature



Size	Nominal Reduction Ratio											
	6.3	7.1	8	9	10	11.2	12.5	14	16	18	20	22.4
9015	○	○	○	○	○	○	○	○	○	○		
9025	○	○	○	○	○	○	○	○	○	○		
9030	○	○	○	○	○	○	○	○	○	○		
9035			○	○	○	○	○	○	○	○	○	○
9040	○	○	○	○	○	○	○	○	○	○		
9045			○	○	○	○	○	○	○	○	○	○
9050	○	○	○	○	○	○	○	○	○	○		
9055				○	○	○	○	○	○	○	○	○



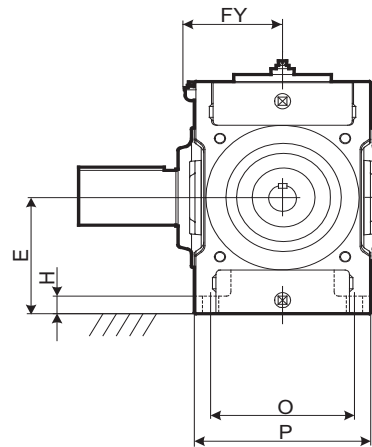
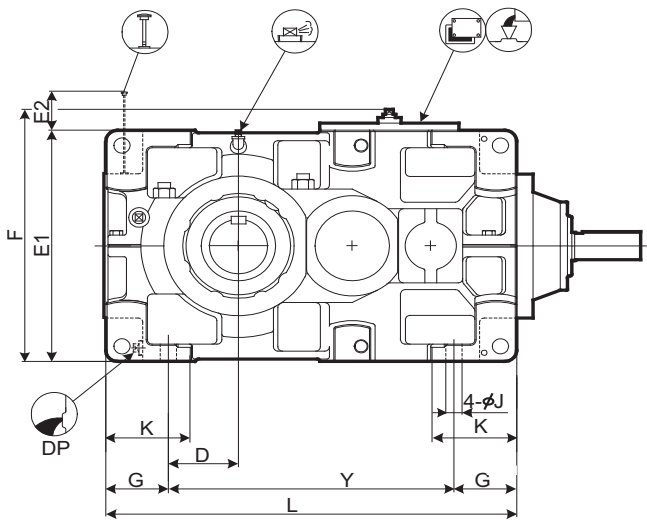
DIMENSIONS Right Angle Shaft Double Reduction Horizontal Mounting 9060 ▶ 9085



With Fan

High Speed Shaft

Refer to the page D-20 for details.



Speed Reducer

Selection Tables

Dimension Tables

Size	A	B	C	D	E	E1	E2	F	FY	G	H	J	K	L	O	P	Y
9060	865	299	725	151	265	530	183	578	212	135	35	35	180	885	310	380	615
9065	911	338	771	190	300	600	148	648	212	135	35	35	180	970	310	380	700
9070	965	336	825	163	300	600	213	648	237	160	40	42	215	1020	350	430	700
9075	1018	383	878	210	335	670	178	718	237	160	52	42	220	1120	350	430	800
9080	1080	378	940	205	335	670	236	718	257	160	52	42	220	1155	380	460	835
9085	1136	422	996	249	375	750	196	798	257	160	52	42	220	1255	380	460	935

Size	High Speed Shaft								Fan				DP	Wt. kg	Oil Qty. L
	R	S	W2/Depth	Key			L2	FA	FB	FC	FD				
			X2	Y2	Z2										
9060	140	60m6	M20/42	18	7	11	125	220	160	105	65	1"	600	25	
9065	140	60m6	M20/42	18	7	11	125	220	160	105	65	1"	725	34	
9070	140	65m6	M20/42	18	7	11	125	245	200	105	65	1"	920	37	
9075	140	65m6	M20/42	18	7	11	125	245	200	105	65	1"	1170	46	
9080	140	75m6	M20/42	20	7.5	12	125	270	225	105	60	1"	1300	53	
9085	140	75m6	M20/42	20	7.5	12	125	270	225	105	60	1"	1560	67	

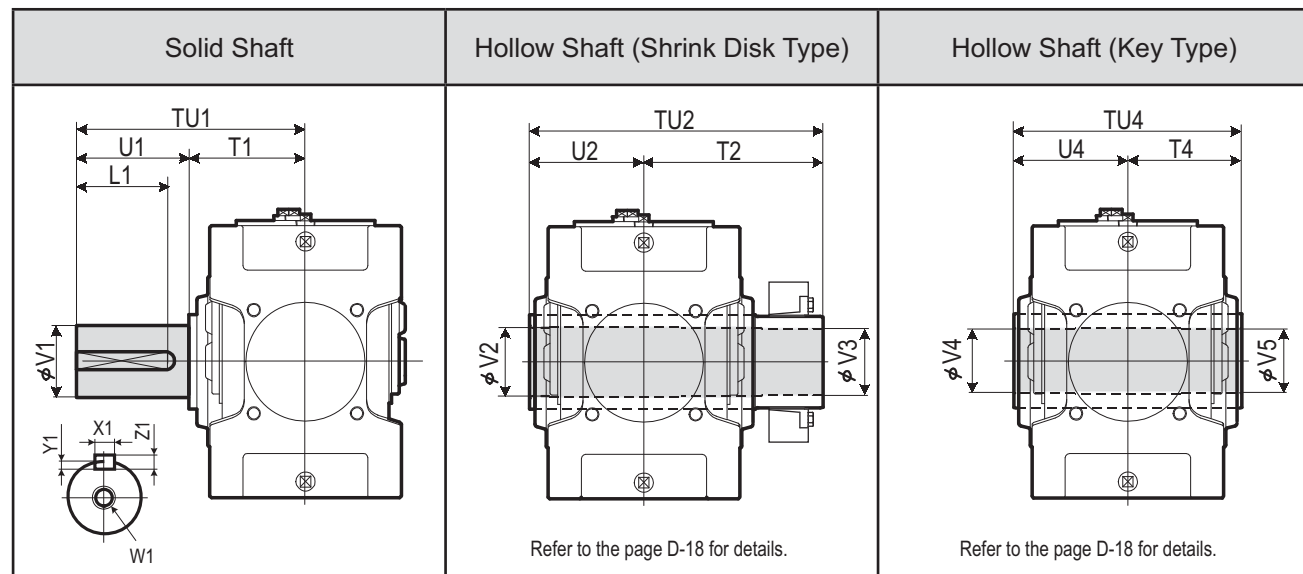
Unit: mm

1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
 2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
 3. Refer to the page D-14 for dimensions not shown in these drawings.

4. Refer to the page D-27 for the dimension of optional parts.

DIMENSIONS Right Angle Shaft Double Reduction Horizontal Mounting 9060 ▶ 9085

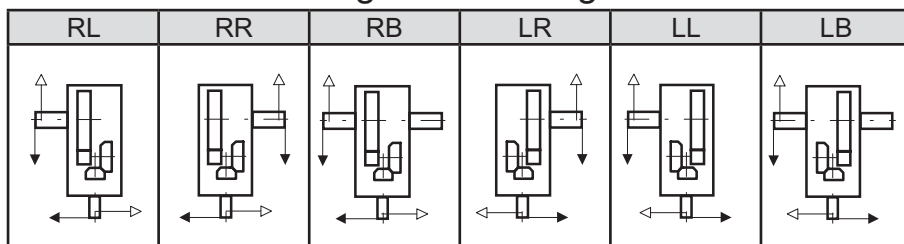
Slow Speed Shaft



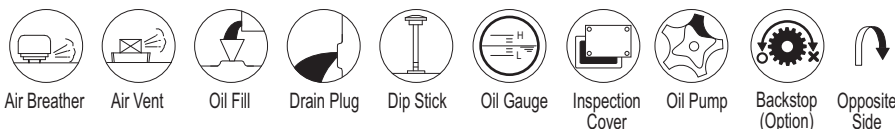
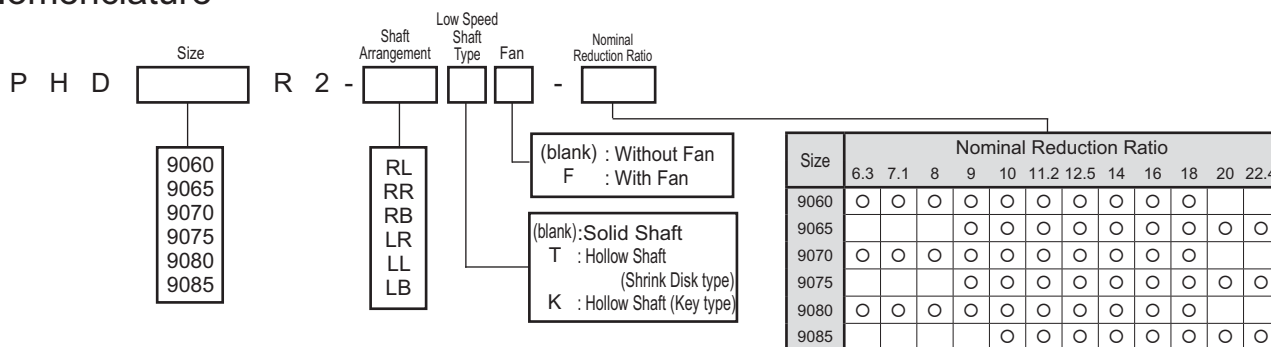
Size	Solid Shaft					Key				Hollow Shaft (Shrink Disk Type)					Hollow Shaft (Key Type)				
	TU1	T1	U1	V1	W1/Depth	X1	Y1	Z1	L1	TU2	T2	U2	V2	V3	TU4	T4	U4	V4	V5
9060	440	230	210	125m6	M24/50	32	11	18	185	583	353	230	128	125	470	235	235	125	123
9065	484	234	250	140m6	M30/60	36	12	20	225	594	359	235	143	140	480	240	240	145	143
9070	509	259	250	145m6	M30/60	36	12	20	225	644	384	260	148	145	530	265	265	145	143
9075	562	262	300	160m6	M30/60	40	13	22	275	651	386	265	158	155	530	265	265	150	148
9080	582	282	300	165m6	M30/60	40	13	22	275	714	429	285	173	170	570	285	285	165	163
9085	585	285	300	175m6	M30/60	45	15	25	270	714	429	285	183	180	570	285	285	175	173

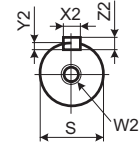
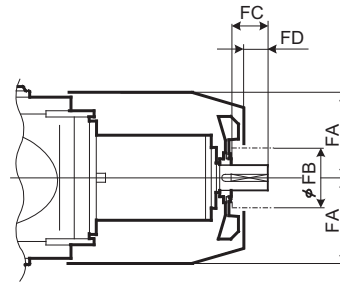
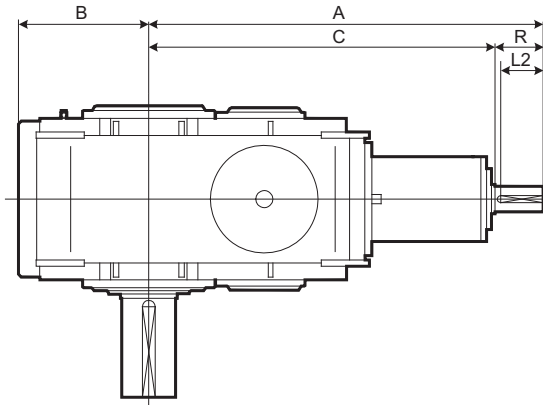
Unit: mm

Standard Shaft Arrangement Configuration



Nomenclature

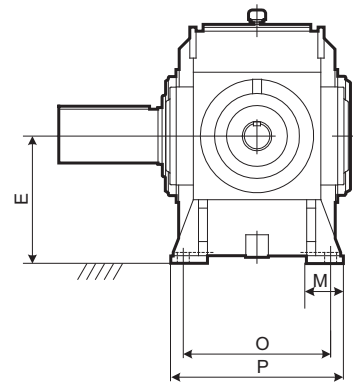
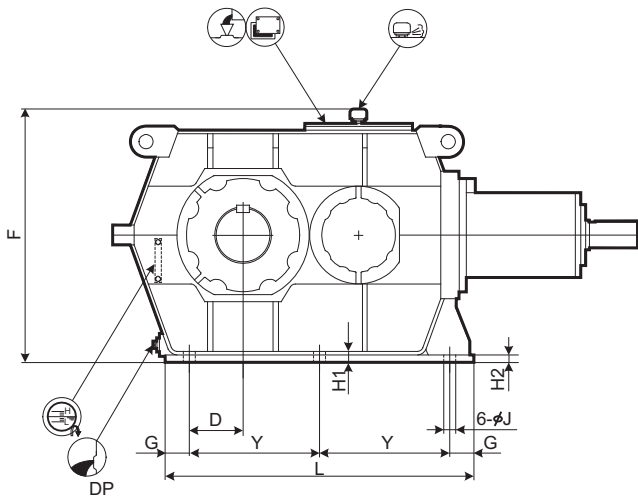




High Speed Shaft

With Fan

Refer to the page D-20 for details.



Speed Reducer

Selection Tables

Dimension Tables

Size	A	B	C	D	E	F	G	H1	H2	J	L	M	O	P	Y
9095	1393	460	1223	190	450	895	85	39	27	42	1090	130	520	610	460
9105	1589	500	1379	210	500	995	90	39	27	42	1220	130	570	660	520
9115	1802	560	1592	240	560	1120	100	46	34	48	1390	140	630	730	595

Size	High Speed Shaft							Fan				DP	Wt. kg	Oil Qty. L	
	R	S	W2/Depth	Key				FA	FB	FC	FD				
				X2	Y2	Z2	L2								
9095	170	90m6	M24/50	25	9	14	150	340	250	135	90	1 1/2"	2050	100	
9105	210	100m6	M24/50	28	10	16	190	380	250	175	130	1 1/2"	2800	150	
9115	210	110m6	M24/50	28	10	16	190	410	250	175	130	1 1/2"	3800	200	

• In case of continuous load, the forced oil lubrication is necessary. For details, consult us.

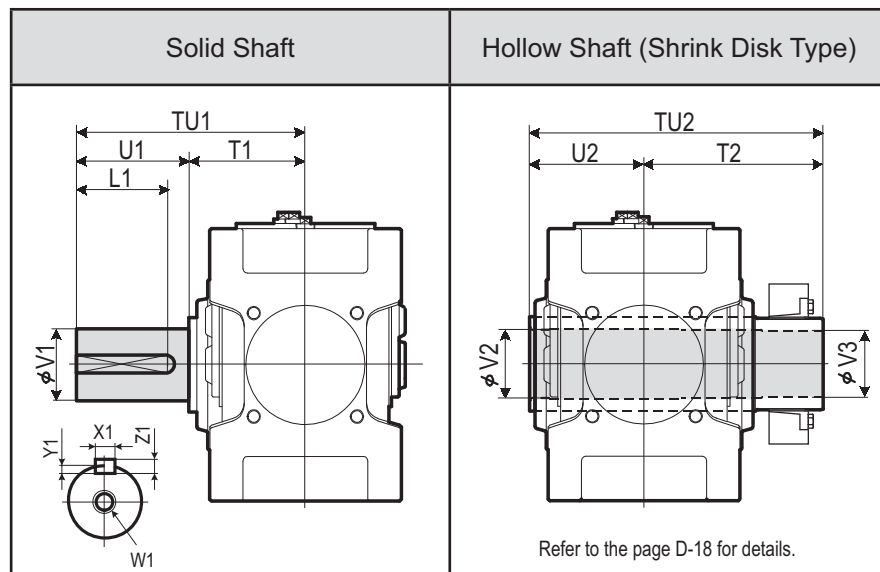
Unit: mm

1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
 2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
 3. Consult us for the dimensions not shown in these drawings.

4. Refer to the page D -30 for the dimension of optional parts.

DIMENSIONS Right Angle Shaft Double Reduction Horizontal Mounting 9095, 9105, 9115

Slow Speed Shaft

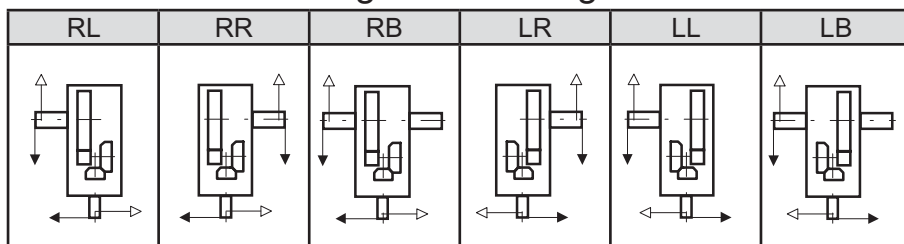


Size	Solid Shaft									Hollow Shaft (Shrink Disk Type)				
	TU1	T1	U1	V1	W1/Depth	X1	Y1	Z1	L1	TU2	T2	U2	V2	V3
9095	700	350	350	190m6	M30/60	45	15	25	320	859	509	350	203	200
9105	740	390	350	220m6	M30/60	50	17	28	320	949	559	390	223	220
9115	830	420	410	240m6	M30/60	56	20	32	375	1065	645	420	253	250

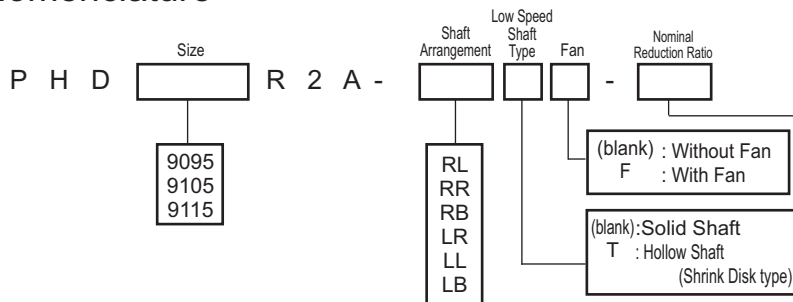
Unit: mm

PARAMAX Horizontal Split 9095 9115 Right Angle Double Reduction Steel Housing P H D 2 A

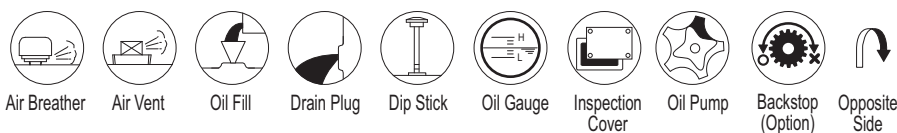
Standard Shaft Arrangement Configuration



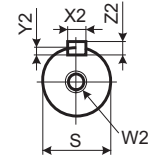
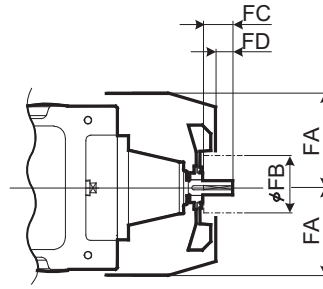
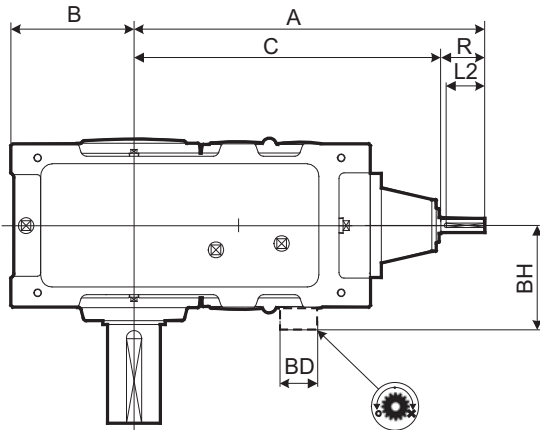
Nomenclature



Size	Nominal Reduction Ratio										
	6.3	7.1	8	9	10	11.2	12.5	14	16	18	20
9090											
9095				○	○	○	○	○	○	○	○
9100											
9105			○	○	○	○	○	○	○	○	○
9110											
9115			○	○	○	○	○	○	○	○	○

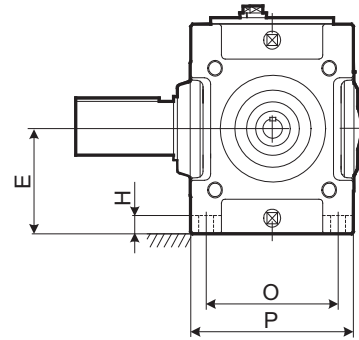
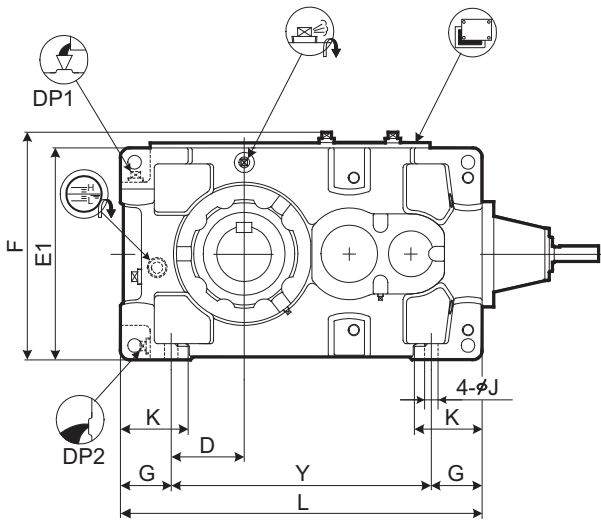


DIMENSIONS Right Angle Shaft Triple Reduction Horizontal Mounting 9030 ▶ 9055



High Speed Shaft

With Fan
Refer to the page D-21 for details.



Speed Reducer

Selection Tables
Dimension Tables

Size	A	B	C	D	E	E1	F	G	H	J	K	L	O	P	Y
9030	656	200	576	110	160	320	349	90	28	24	120	590	215	265	410
9035	687	219	607	129	185	370	399	90	28	24	120	640	215	265	460
9040	716	235	636	120	200	400	431	115	30	28	150	685	255	315	455
9045	755	256	675	141	220	440	471	115	30	28	150	745	255	315	515
9050	808	255	728	138.5	210	420	451	116.5	32	28	150	775	285	345	542
9055	847	286	767	171	245	490	521	115	32	28	150	845	285	345	615

Size	High Speed Shaft							Fan				Backstop		DP1	DP2	Wt. kg	Oil Qty. L
	R	S	W2/Depth	Key			L2	FA	FB	FC	FD	BD	BH				
9030	80	28k6	M10/22	8	4	7	70	150	125	50	30			3/4"	3/4"	210	10
9035	80	28k6	M10/22	8	4	7	70	150	125	50	30			3/4"	3/4"	230	12
9040	80	30k6	M10/22	8	4	7	70	170	125	50	30			1"	1"	305	16
9045	80	30k6	M10/22	8	4	7	70	170	125	50	30			1"	1"	365	18
9050	80	35k6	M12/28	10	5	8	70	190	140	50	22	150	263	1"	1"	445	21
9055	80	35k6	M12/28	10	5	8	70	190	140	50	22	150	263	1"	1"	505	28

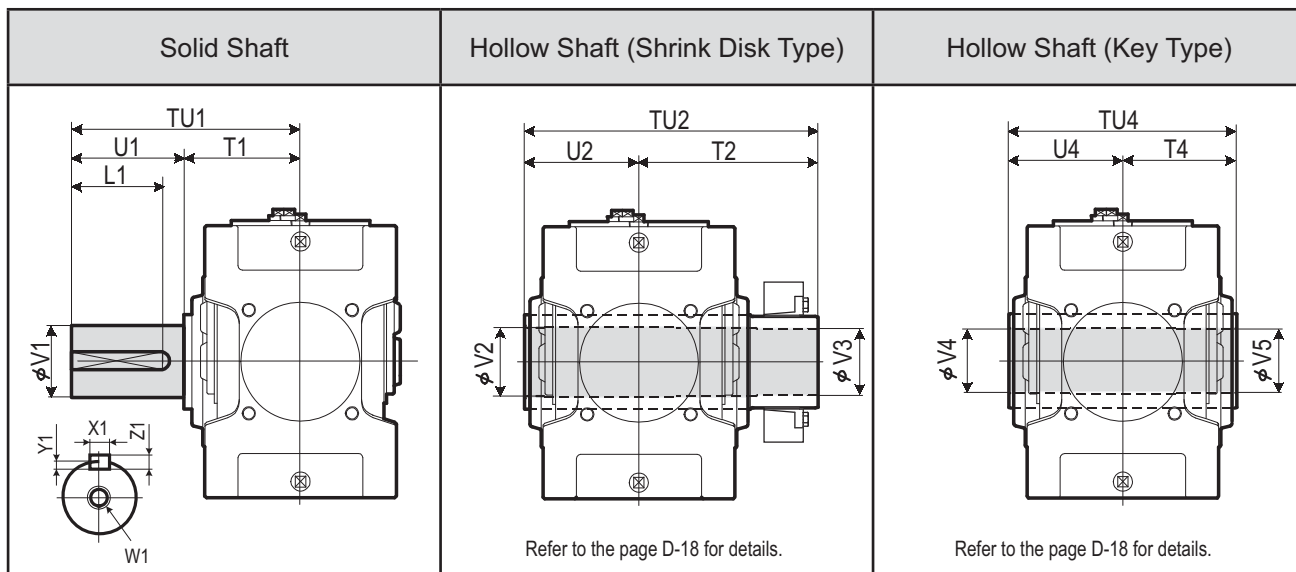
Unit: mm

1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
 2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
 3. Refer to the page D-12 for dimensions shown in these drawings.

4. Refer to the page D -24 for the dimension of optional parts.

DIMENSIONS Right Angle Shaft Triple Reduction Horizontal Mounting 9030 ▶ 9055

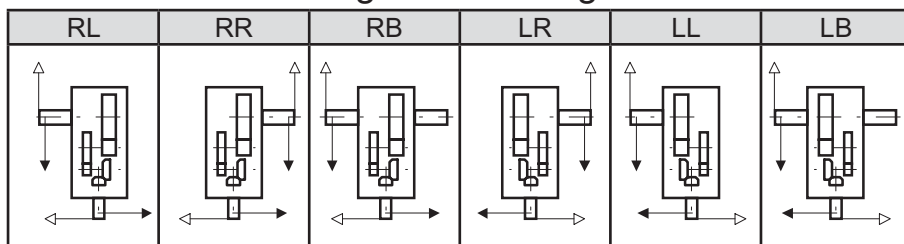
Slow Speed Shaft



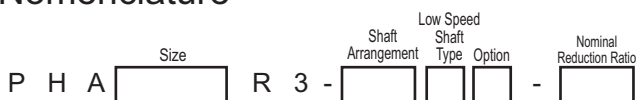
Size	Solid Shaft										Hollow Shaft (Shrink Disk Type)					Hollow Shaft (Key Type)				
	TU1	T1	U1	V1	W1/Depth	Key				TU2	T2	U2	V2	V3	TU4	T4	U4	V4	V5	
						X1	Y1	Z1	L1											
9030	330	160	170	80m6	M20/42	22	9	14	150	393	233	160	83	80	330	165	165	75	75	
9035	330	160	170	90m6	M20/42	25	9	14	150	403	243	160	88	85	330	165	165	85	85	
9040	349	179	170	95m6	M24/50	25	9	14	150	448	268	180	98	95	360	180	180	90	90	
9045	391	181	210	105m6	M24/50	28	10	16	190	463	283	180	108	105	370	185	185	105	105	
9050	411	201	210	110m6	M24/50	28	10	16	190	503	303	200	108	105	410	205	205	105	105	
9055	411	201	210	120m6	M24/50	32	11	18	185	528	323	205	123	120	410	205	205	115	115	

Unit: mm

Standard Shaft Arrangement Configuration



Nomenclature

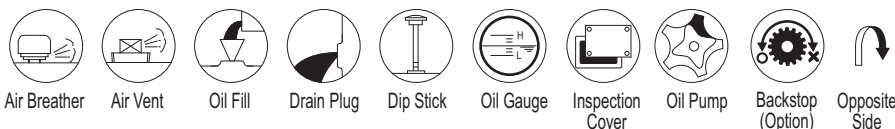


- 9030
- 9035
- 9040
- 9045
- 9050
- 9055

- RL
- RR
- RB
- LR
- LL
- LB

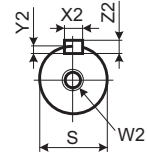
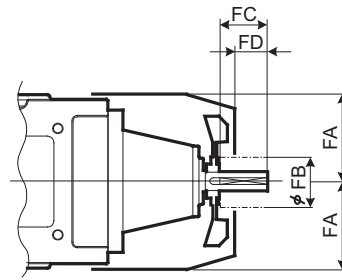
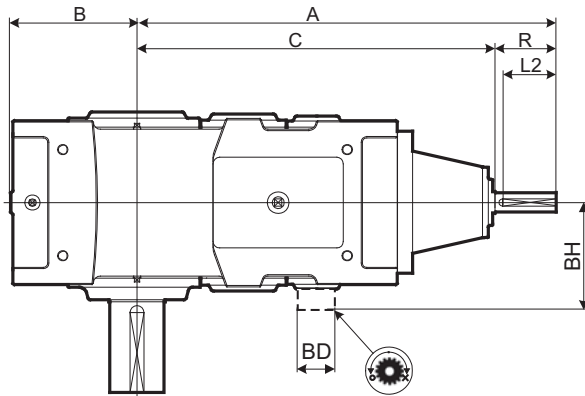
- (blank) : Without Fan
- F : With Fan
- B : With Backstop
- FB : With Fan & Backstop
- (blank) : Solid Shaft
- T : Hollow Shaft (Shrink Disk type)
- K : Hollow Shaft (Key type)

Size	Nominal Reduction Ratio													
	20	22.4	25	28	31.5	35.5	40	45	50	56	63	71	80	90
9030	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9035	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9040	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9045	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9050	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9055	○	○	○	○	○	○	○	○	○	○	○	○	○	○



PARAMAX Horizontal Monoblock 9030 9055 Right Angle Triple Reduction P H A R 3

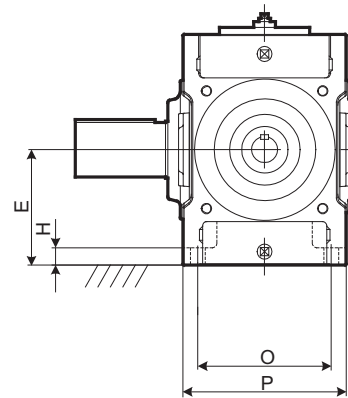
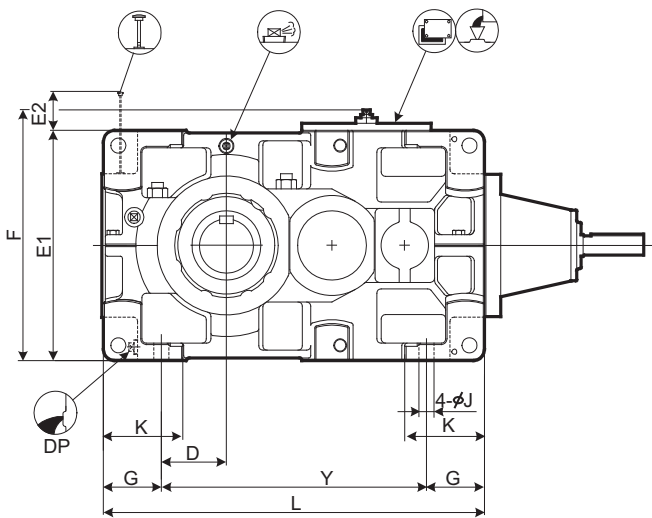
DIMENSIONS Right Angle Shaft Triple Reduction Horizontal Mounting 9060 ▶ 9085



High Speed Shaft

With Fan

Refer to the page D-21 for details.



Speed Reducer

Selection Tables
Dimension Tables

Size	A	B	C	D	E	E1	E2	F	G	H	J	K	L	O	P	Y
9060	939	299	829	151	265	530	158	578	135	35	35	180	885	310	380	615
9065	985	338	875	190	300	600	123	648	135	35	35	180	970	310	380	700
9070	1027	336	917	163	300	600	183	648	160	40	42	215	1020	350	430	700
9075	1080	383	970	210	335	670	148	718	160	52	42	220	1120	350	430	800
9080	1176	378	1036	205	335	670	208	718	160	52	42	220	1155	380	460	835
9085	1232	422	1092	249	375	750	168	798	160	52	42	220	1255	380	460	935

Size	High Speed Shaft							Fan				Backstop		DP	Wt. kg	Oil Qty. L
	R	S	W2/Depth	Key				FA	FB	FC	FD	BD	BH			
			X2	Y2	Z2	L2										
9060	110	45k6	M16/36	14	5.5	9	95	220	160	80	52	175	308	1"	660	29
9065	110	45k6	M16/36	14	5.5	9	95	220	160	80	52	175	308	1"	785	33
9070	110	50k6	M16/36	14	5.5	9	95	245	160	80	52	190	330	1"	940	45
9075	110	50k6	M16/36	14	5.5	9	95	245	160	80	52	190	330	1"	1190	52
9080	140	60m6	M20/42	18	7	11	125	270	160	105	65	210	365	1"	1350	60
9085	140	60m6	M20/42	18	7	11	125	270	160	105	65	210	365	1"	1610	75

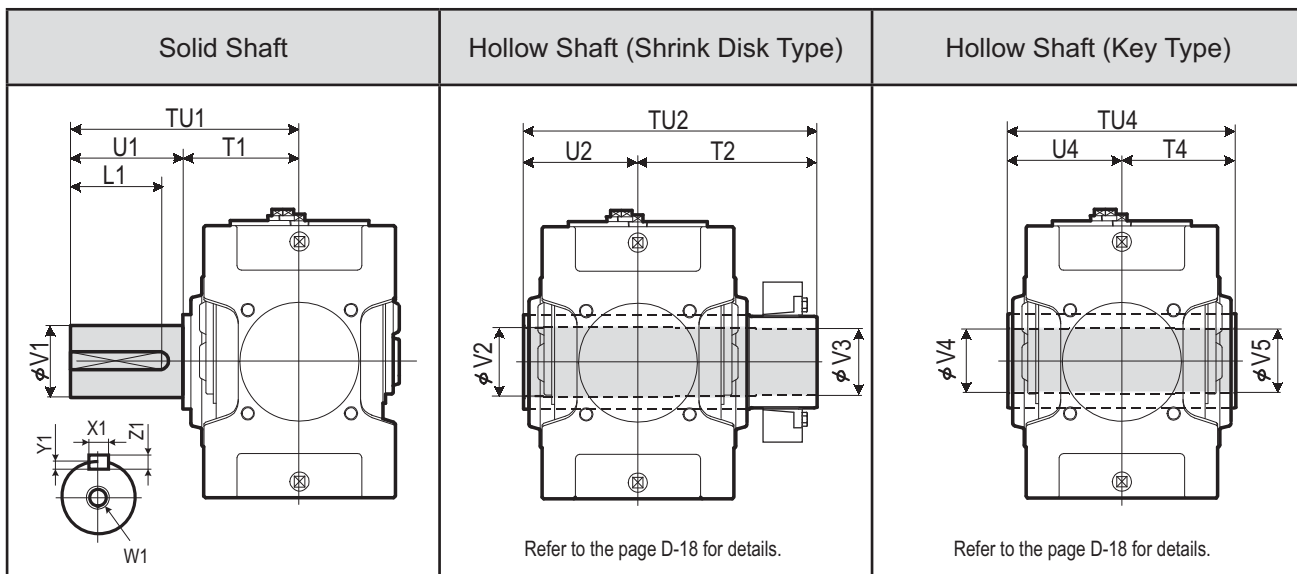
Unit: mm

1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
 2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
 3. Refer to the page D-14 for dimensions not shown in these drawings.

4. Refer to the page D-27 for the dimension of optional parts.

DIMENSIONS Right Angle Shaft Triple Reduction Horizontal Mounting 9060 ▶ 9085

Slow Speed Shaft

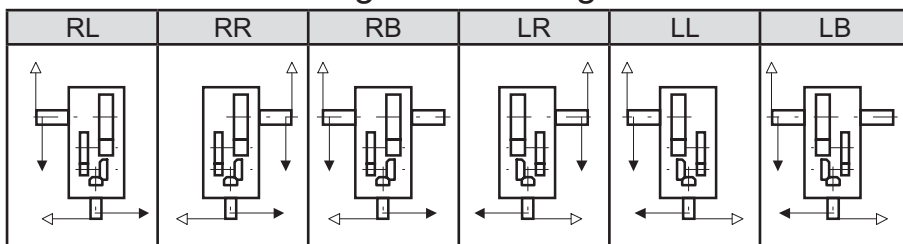


Size	Solid Shaft					Hollow Shaft (Shrink Disk Type)					Hollow Shaft (Key Type)								
	TU1	T1	U1	V1	W1/Depth	Key				TU2	T2	U2	V2	V3	TU4	T4	U4	V4	V5
						X1	Y1	Z1	L1										
9060	440	230	210	125m6	M24/50	32	11	18	185	583	353	230	128	125	470	235	235	125	123
9065	484	234	250	140m6	M30/60	36	12	20	225	594	359	235	143	140	480	240	240	145	143
9070	509	259	250	145m6	M30/60	36	12	20	225	644	384	260	148	145	530	265	265	145	143
9075	562	262	300	160m6	M30/60	40	13	22	275	651	386	265	158	155	530	265	265	150	148
9080	582	282	300	165m6	M30/60	40	13	22	275	714	429	285	173	170	570	285	285	165	163
9085	585	285	300	175m6	M30/60	45	15	25	270	714	429	285	183	180	570	285	285	175	173

Unit: mm

PARAMAX Horizontal Split 9060 9085 Right Angle Triple Reduction P H D R 3

Standard Shaft Arrangement Configuration



Nomenclature

P H D Size R 3 - Shaft Arrangement Shaft Type Option - Nominal Reduction Ratio

Size

- 9060
- 9065
- 9070
- 9075
- 9080
- 9085

Shaft Arrangement

- RL
- RR
- RB
- LR
- LL
- LB

Shaft Type

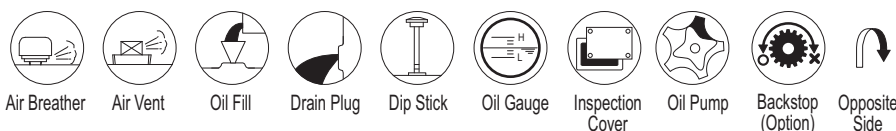
- (blank) : Without Fan
- F : With Fan
- B : With Backstop
- FB : With Fan & Backstop

Option

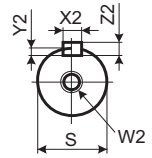
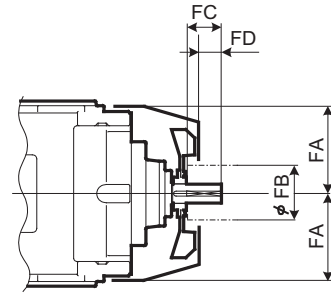
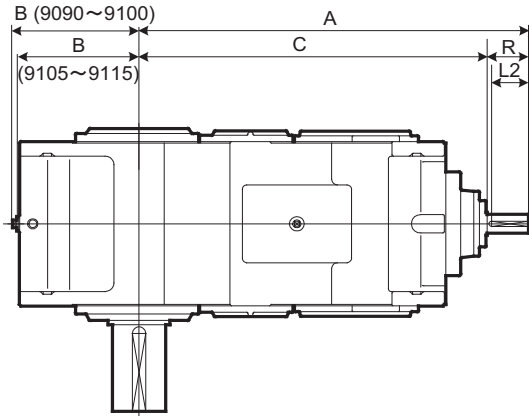
- (blank) : Solid Shaft
- T : Hollow Shaft (Shrink Disk type)
- K : Hollow Shaft (Key type)

Nominal Reduction Ratio

Size	20	22.4	25	28	31.5	35.5	40	45	50	56	63	71	80	90
9060	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9065				○	○	○	○	○	○	○	○	○	○	○
9070				○	○	○	○	○	○	○	○	○	○	○
9075				○	○	○	○	○	○	○	○	○	○	○
9080	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9085			○	○	○	○	○	○	○	○	○	○	○	○



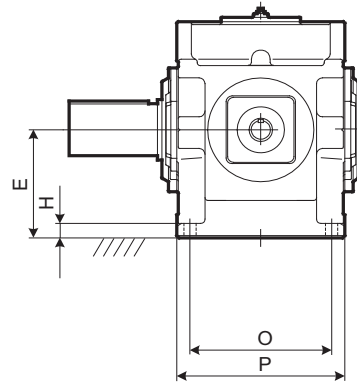
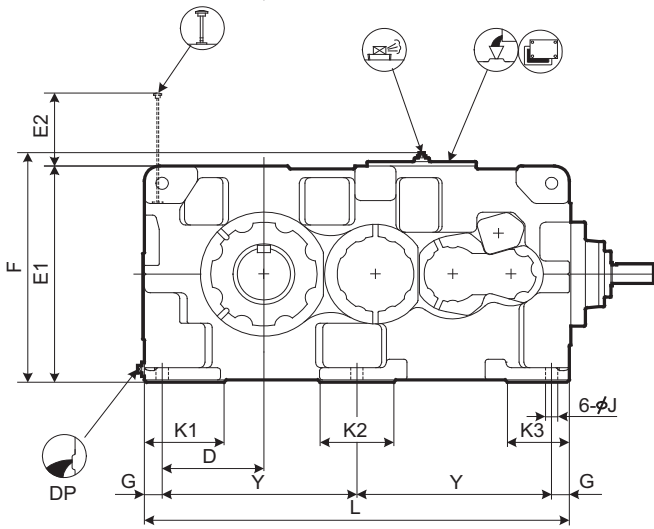
DIMENSIONS Right Angle Shaft Triple Reduction Horizontal Mounting 9090 ▶ 9115



High Speed Shaft

With Fan

Refer to the page D-21 for details.



Speed Reducer
Selection Tables
Dimension Tables

Size	A	B	C	D	E	E1	E2	F	G	H	J	K1	K2	K3	L	O	P	Y
9090	1320	428	1180	345	375	750	253	797	60	50	42	270	250	210	1440	480	570	660
9095	1350	458	1210	375	400	800	258	847	60	50	42	290	250	210	1500	480	570	690
9100	1474	468	1334	375	425	850	282	897	70	55	48	300	280	240	1610	560	650	735
9105	1508	493	1368	410	450	900	287	947	70	55	48	320	280	240	1680	560	650	770
9110	1684	508	1514	420	475	950	303	997	75	60	56	340	310	260	1810	610	710	830
9115	1733	558	1563	470	500	1000	302	1047	75	60	56	350	310	260	1910	610	710	880

Size	High Speed Shaft							Fan				DP	Wt. kg	Oil Qty. L	
	R	S	W2/Depth	Key				FA	FB	FC	FD				
				X2	Y2	Z2	L2								
9090	140	65m6	M20/42	18	7	11	125	340	200	105	65	1 1/2"	2150	120	
9095	140	65m6	M20/42	18	7	11	125	340	200	105	65	1 1/2"	2400	155	
9100	140	75m6	M20/42	20	7.5	12	125	380	225	105	60	1 1/2"	2880	180	
9105	140	75m6	M20/42	20	7.5	12	125	380	225	105	60	1 1/2"	3440	220	
9110	170	85m6	M20/42	22	9	14	150	410	225	135	90	1 1/2"	4160	250	
9115	170	85m6	M20/42	22	9	14	150	410	225	135	90	1 1/2"	4610	310	

Unit: mm

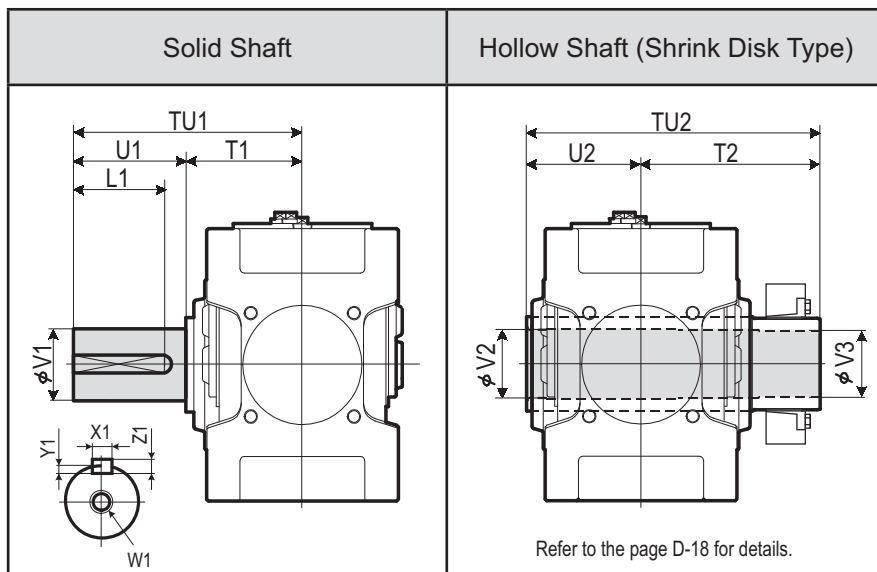
1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
 2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
 3. Refer to the page D -16 for dimensions shown in these drawings.

4. Refer to the page D -30 for the dimension of optional parts.

DIMENSIONS Right Angle Shaft Triple Reduction Horizontal Mounting 9090 ▶ 9115

PARAMAX Horizontal Split 9090 9115 Right Angle Triple Reduction P H D R 3

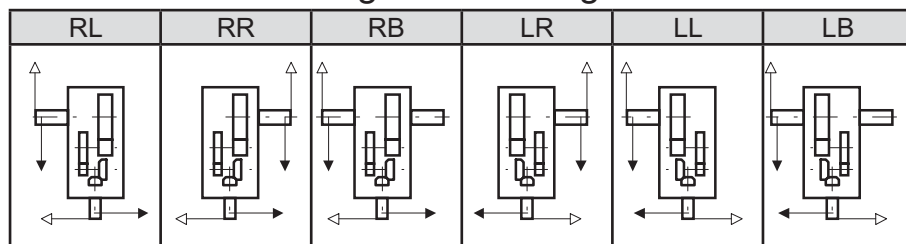
Slow Speed Shaft



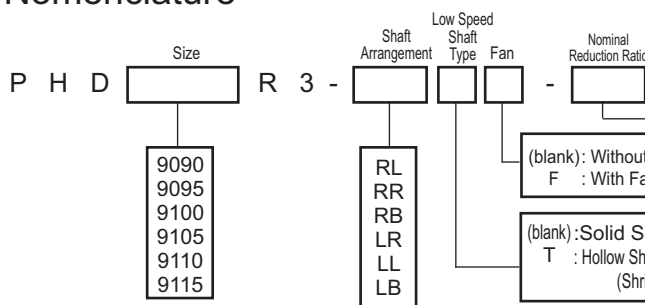
Size	Solid Shaft										Hollow Shaft (Shrink Disk Type)				
	TU1	T1	U1	V1	W1/Depth	X1	Y1	Z1	L1	TU2	T2	U2	V2	V3	
9090	650	350	300	180m6	M30/60	45	15	25	270	844	494	350	193	190	
9095	700	350	350	190m6	M30/60	45	15	25	320	859	509	350	203	200	
9100	740	390	350	200m6	M30/60	45	15	25	320	934	544	390	213	210	
9105	740	390	350	220m6	M30/60	50	17	28	320	949	559	390	223	220	
9110	770	420	350	220m6	M30/60	50	17	28	320	1030	610	420	243	240	
9115	830	420	410	240m6	M30/60	56	20	32	375	1065	645	420	253	250	

Unit: mm

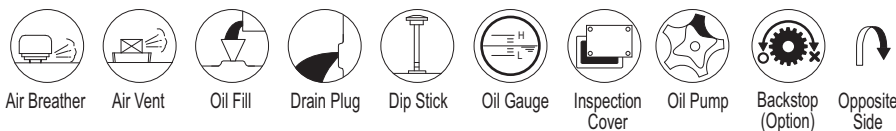
Standard Shaft Arrangement Configuration



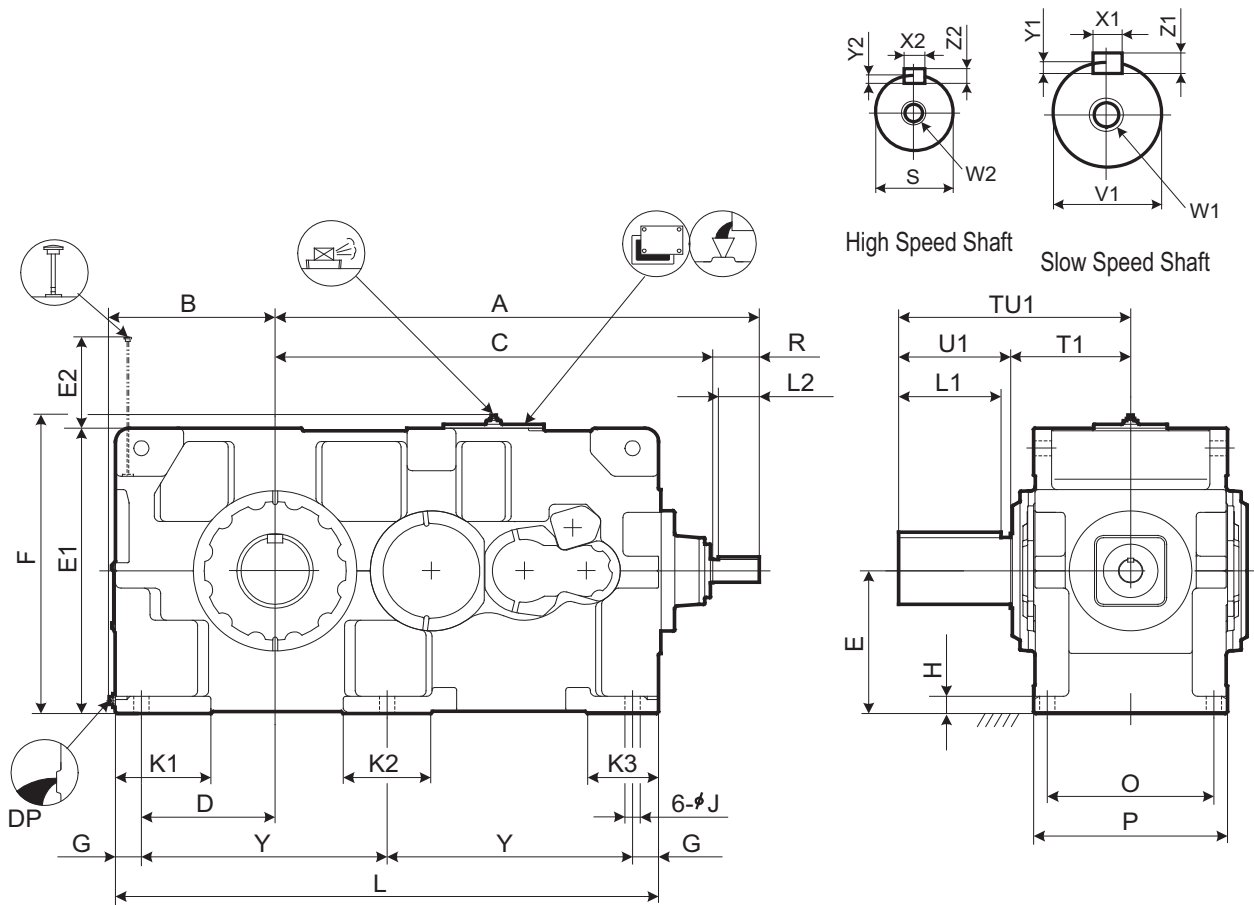
Nomenclature



Size	Nominal Reduction Ratio													
	20	22.4	25	28	31.5	35.5	40	45	50	56	63	71	80	90
9090	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9095		○	○	○	○	○	○	○	○	○	○	○	○	○
9100			○	○	○	○	○	○	○	○	○	○	○	○
9105				○	○	○	○	○	○	○	○	○	○	○
9110					○	○	○	○	○	○	○	○	○	○
9115						○	○	○	○	○	○	○	○	○



DIMENSIONS Right Angle Shaft Triple Reduction Horizontal Mounting 9118 ▶ 9126



Speed Reducer

Selection Tables

Dimension Tables

Size	Ratio	A	B	C	D	E	E1	E2	F	G	H	J	K1	K2	K3	L	O	P	Y
9118	ALL	1774	608	1604	490	535	1070	343	1117	95	65	56	350	320	260	1990	610	710	900
9121	Ⅲ 31.5	2053	663	1843	545	580	1160	357	1207	95	70	56	390	300	270	2180	680	780	995
	Ⅳ 35.5	2013	663	1843	545	580	1160	357	1207	95	70	56	390	300	270	2180	680	780	995
9126	Ⅲ 31.5	2053	663	1843	545	580	1160	357	1207	95	70	56	390	300	270	2180	680	780	995
	Ⅳ 35.5	2013	663	1843	545	580	1160	357	1207	95	70	56	390	300	270	2180	680	780	995

Size	Ratio	High Speed Shaft								DP	Wt. kg	Oil Qty. L
		R	S	W2/Depth	Key			L2				
					X2	Y2	Z2					
9118	ALL	170	85m6	M20/42	22	9	14	150	1 1/2"	5200	350	
9121	Ⅲ 31.5	210	110m6	M24/50	28	10	16	190	1 1/2"	6200	460	
	Ⅳ 35.5	170	90m6	M24/50	25	9	14	150	1 1/2"	6200	460	
9126	Ⅲ 31.5	210	110m6	M24/50	28	10	16	190	1 1/2"	6550	460	
	Ⅳ 35.5	170	90m6	M24/50	25	9	14	150	1 1/2"	6550	460	

Size	Ratio	Solid Shaft						Key			
		TU1	T1	U1	V1	W1/Depth	X1	Y1	Z1	L1	
9118	ALL	850	440	410	260m6	M36/70	56	20	32	375	
9121	Ⅲ 31.5	935	465	470	280m6	M36/70	63	20	32	425	
	Ⅳ 35.5	935	465	470	280m6	M36/70	63	20	32	425	
9126	Ⅲ 31.5	935	465	470	300m6	M36/70	70	22	36	425	
	Ⅳ 35.5	935	465	470	300m6	M36/70	70	22	36	425	

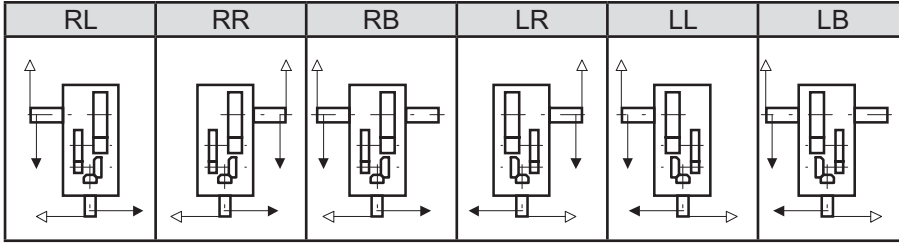
Unit: mm

1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
3. Consult us for the dimensions not shown in these drawings.

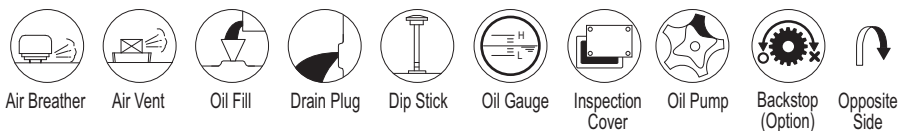
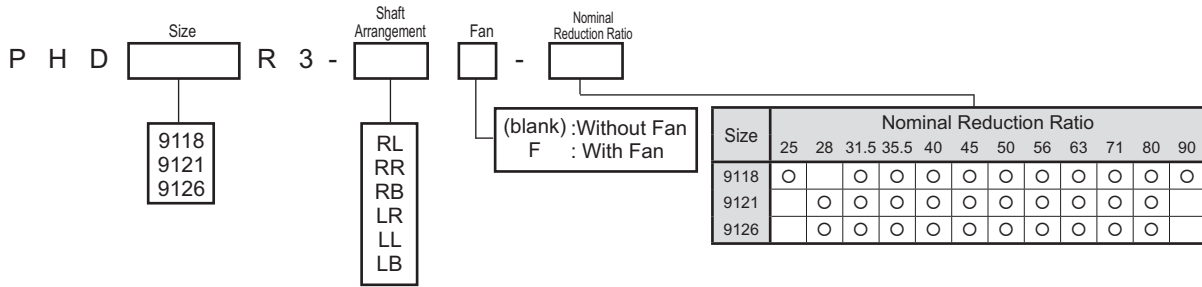
DIMENSIONS Right Angle Shaft Triple Reduction Horizontal Mounting 9118 ▶ 9126

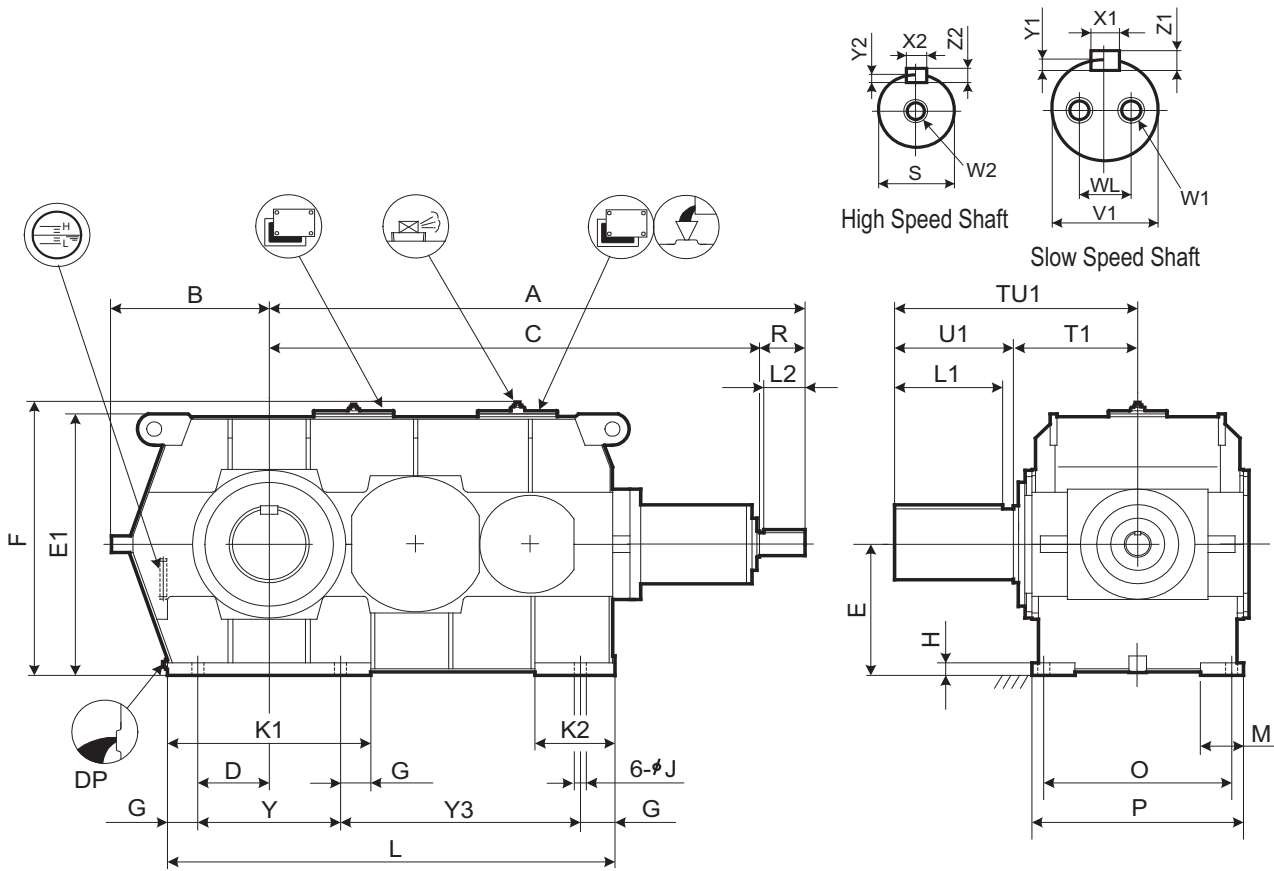
PARAMAX Horizontal Split
 9118
 9126
 Right Angle Triple Reduction
 R
 3

Standard Shaft Arrangement Configuration



Nomenclature





Speed Reducer

Selection Tables

Dimension Tables

Size	A	B	C	D	E	E1	F	G	H	J	K1	K2	L	M	O	P	Y	Y3
9128	2244	680	2034	330	600	1194	1241	140	55	66	940	280	1930	170	710	840	660	990
9131	2479	730	2269	330	630	1256	1303	140	60	66	940	280	2070	200	850	980	660	1130
9136	2479	730	2269	330	630	1256	1303	140	60	66	940	280	2070	200	850	980	660	1130

Size	High Speed Shaft								DP	Wt. kg	Oil Qty. L
	R	S	W2/Depth	Key			L2				
				X2	Y2	Z2					
9128	210	100m6	M24/50	28	10	16	190	1 1/2"	7400	350	
9131	210	110m6	M24/50	28	10	16	190	1 1/2"	9850	510	
9136	210	110m6	M24/50	28	10	16	190	1 1/2"	10200	500	

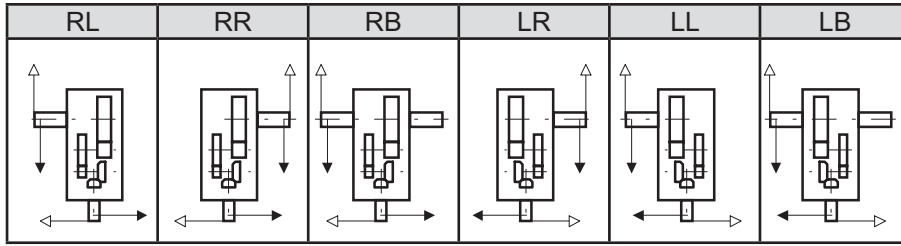
Size	Solid Shaft							Key			
	TU1	T1	U1	V1	W1/Depth	WL	X1	Y1	Z1	L1	
9128	950	480	470	320m6	M36/70	200	70	22	36	425	
9131	1100	550	550	340m6	M36/70	215	80	25	40	500	
9136	1110	560	550	360m6	M36/70	230	80	25	40	500	

Unit: mm

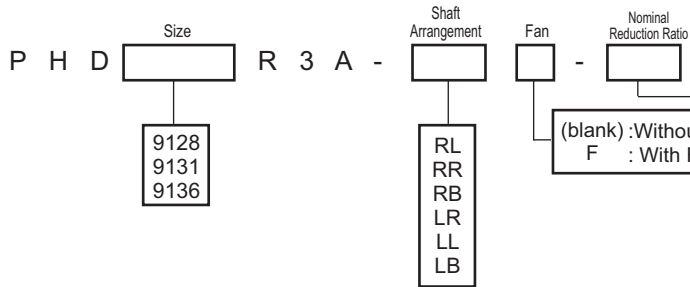
1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
 2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
 3. Consult us for the dimensions not shown in these drawings.

DIMENSIONS Right Angle Shaft Triple Reduction Horizontal Mounting 9128 ▶ 9136

Standard Shaft Arrangement Configuration

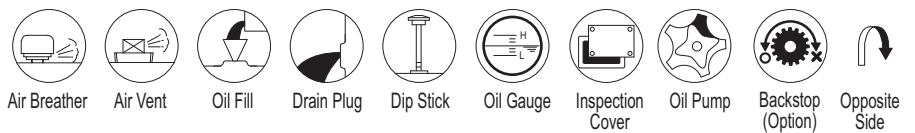


Nomenclature

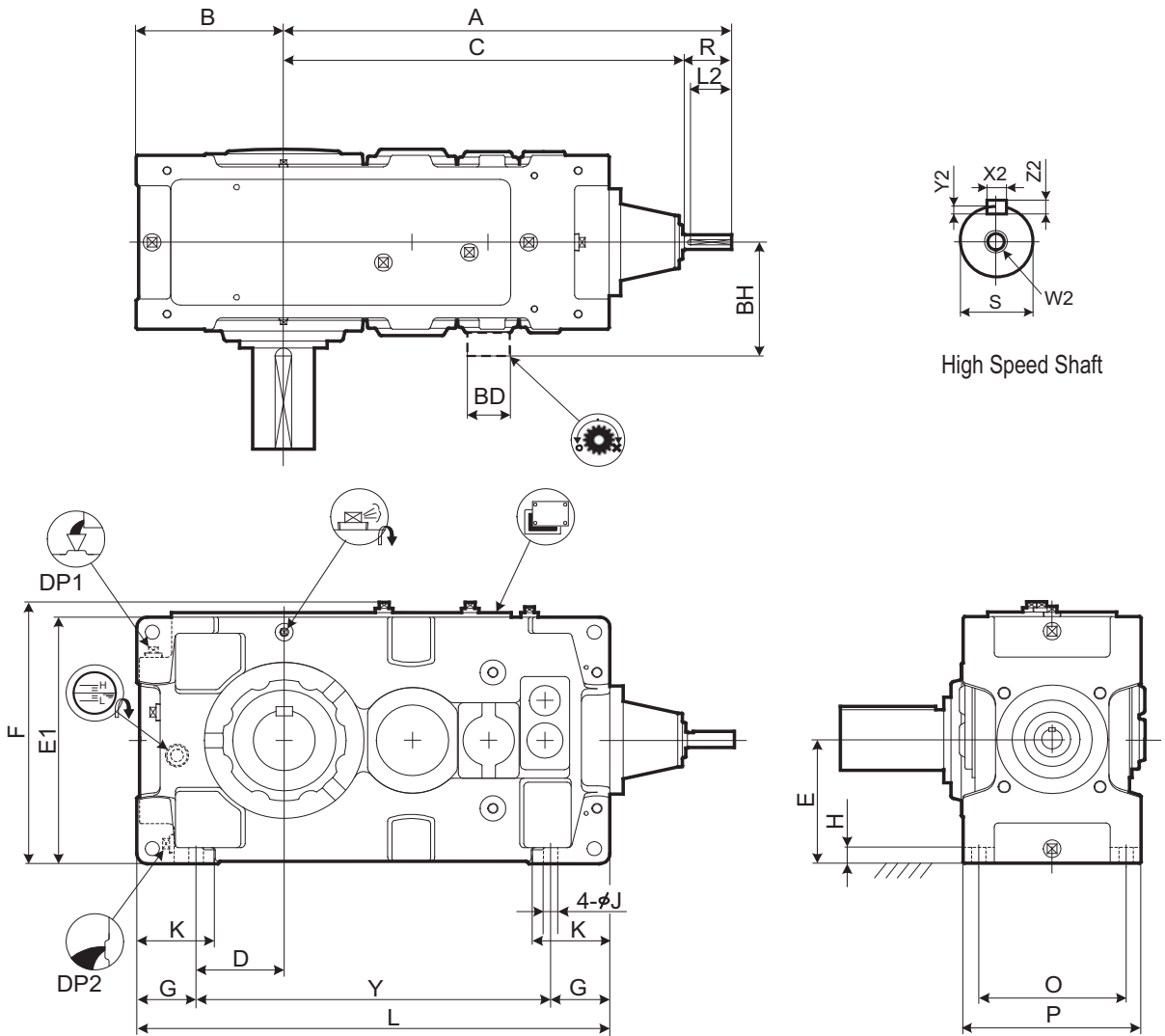


Size	28	31.5	35.5	40	45	50	56	63	71	80
9128			○	○	○	○	○	○	○	○
9131	○	○	○	○	○	○	○	○		
9136	○	○	○	○	○	○	○	○		

P
H
D
9128
9136
R
3
A
Steel
Housing



DIMENSIONS Right Angle Shaft Quadruple Reduction Horizontal Mounting 9040 ▶ 9055



Speed Reducer

Selection Tables

Dimension Tables

Size	A	B	C	D	E	E1	F	G	H	J	K	L	O	P	Y
9040	790	235	710	120	200	400	431	115	30	28	150	759	255	315	529
9045	829	256	749	141	220	440	471	115	30	28	150	819	255	315	589
9050	859	255	779	138.5	210	420	451	116.5	32	28	150	848	285	345	615
9055	898	286	818	171	245	490	521	115	32	28	150	918	285	345	688

Size	High Speed Shaft							Backstop		DP1	DP2	Wt. kg	Oil Qty. L
	R	S	W2/Depth	Key				BD	BH				
				X2	Y2	Z2	L2						
9040	80	28k6	M10/22	8	4	7	70			1"	1"	325	19
9045	80	28k6	M10/22	8	4	7	70			1"	1"	395	21
9050	80	28k6	M10/22	8	4	7	70	150	263	1"	1"	460	24
9055	80	28k6	M10/22	8	4	7	70	150	263	1"	1"	520	29

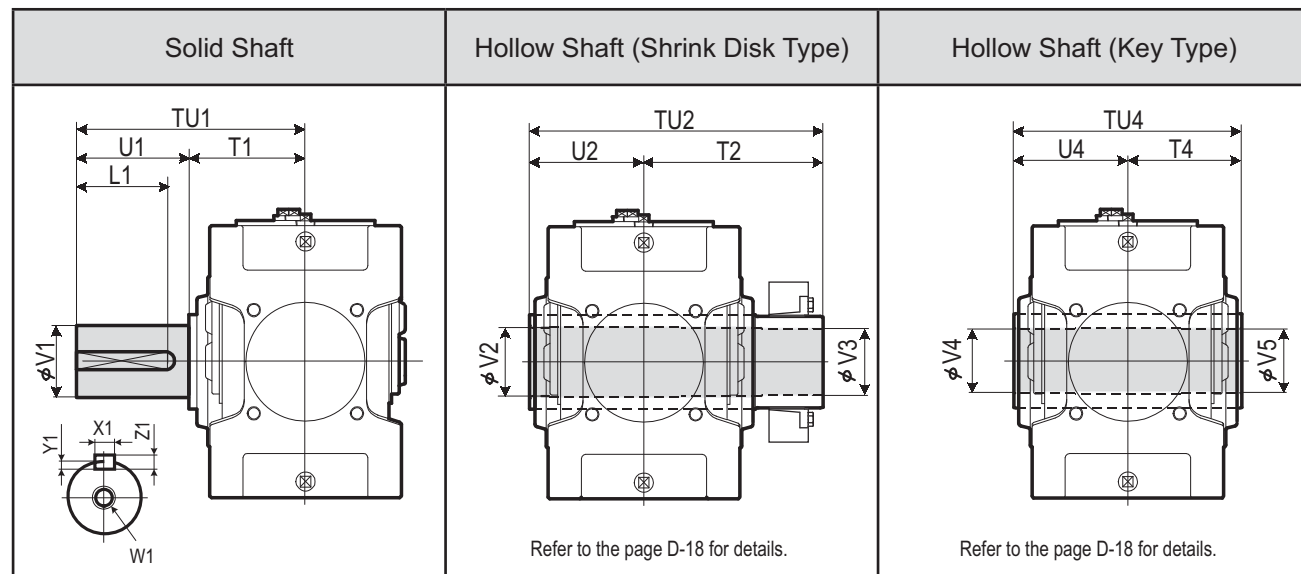
Unit: mm

1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
 2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
 3. Refer to the page D-13 for dimensions shown in these drawings.

4. Refer to the page D -24 for the dimension of optional parts.

DIMENSIONS Right Angle Shaft Quadruple Reduction Horizontal Mounting 9040 ▶ 9055

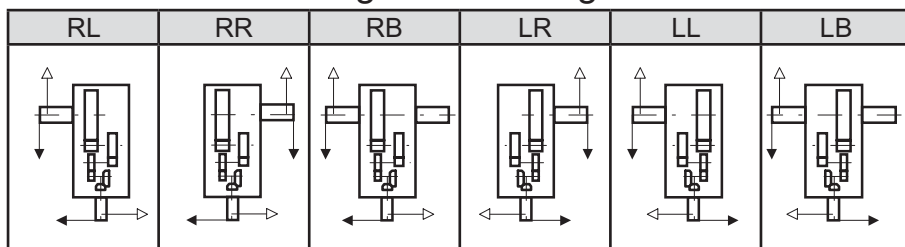
Slow Speed Shaft



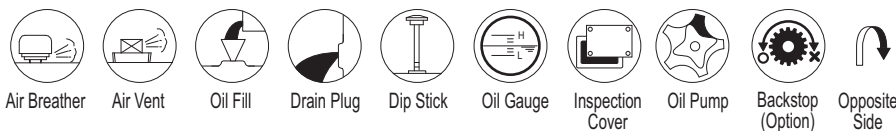
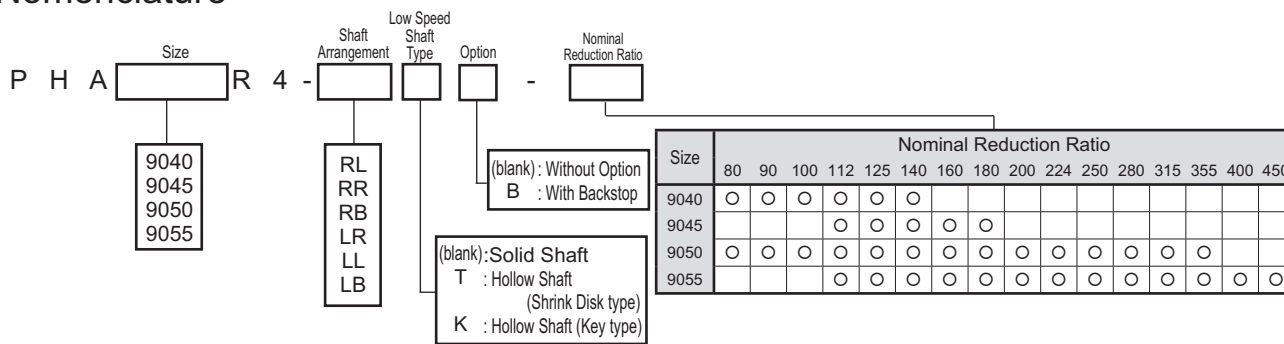
Size	Solid Shaft					Key					Hollow Shaft (Shrink Disk Type)					Hollow Shaft (Key Type)				
	TU1	T1	U1	V1	W1/Depth	X1	Y1	Z1	L1	TU2	T2	U2	V2	V3	TU4	T4	U4	V4	V5	
9040	349	179	170	95m6	M24/50	25	9	14	150	448	268	180	98	95	360	180	180	90	90	
9045	391	181	210	105m6	M24/50	28	10	16	190	463	283	180	108	105	370	185	185	105	105	
9050	411	201	210	110m6	M24/50	28	10	16	190	503	303	200	108	105	410	205	205	105	105	
9055	411	201	210	120m6	M24/50	32	11	18	185	528	323	205	123	120	410	205	205	115	115	

Unit: mm

Standard Shaft Arrangement Configuration

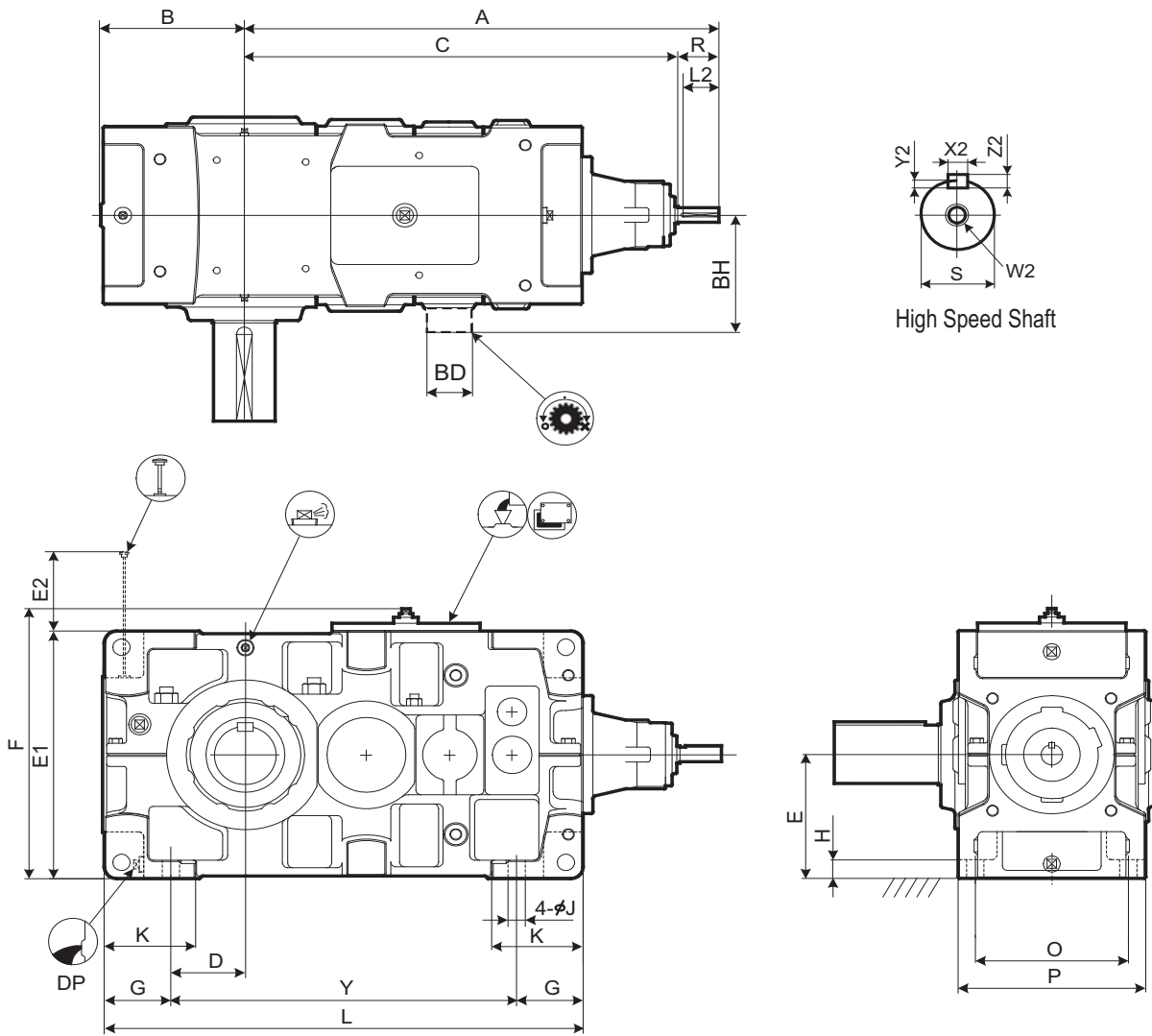


Nomenclature



PARAMAX Horizontal Monoblock 9040 9055 Right Angle Quadruple Reduction P H A R 4

DIMENSIONS Right Angle Shaft Quadruple Reduction Horizontal Mounting 9060 ▶ 9085



Speed Reducer

Selection Tables
Dimension Tables

Size	A	B	C	D	E	E1	E2	F	G	H	J	K	L	O	P	Y
9060	950	299	870	151	265	530	121	578	135	35	35	180	970	310	380	700
9065	996	338	916	190	300	600	86	648	135	35	35	180	1055	310	380	785
9070	1080	336	1000	163	300	600	140	648	160	40	42	215	1115	350	430	795
9075	1133	383	1053	210	335	670	105	718	160	52	42	220	1215	350	430	895
9080	1250	378	1140	205	335	670	162	718	160	52	42	220	1275	380	460	955
9085	1306	422	1196	249	375	750	122	798	160	52	42	220	1375	380	460	1055

Size	High Speed Shaft							Backstop		DP	Wt. kg	Oil Qty. L
	R	S	W2/Depth	Key			BD	BH				
				X2	Y2	Z2	L2					
9060	80	30k6	M10/22	8	4	7	70	175	308	1"	670	38
9065	80	30k6	M10/22	8	4	7	70	175	308	1"	825	43
9070	80	35k6	M12/28	10	5	8	70	190	330	1"	960	57
9075	80	35k6	M12/28	10	5	8	70	190	330	1"	1180	67
9080	110	45k6	M16/36	14	5.5	9	95	210	365	1"	1390	73
9085	110	45k6	M16/36	14	5.5	9	95	210	365	1"	1650	90

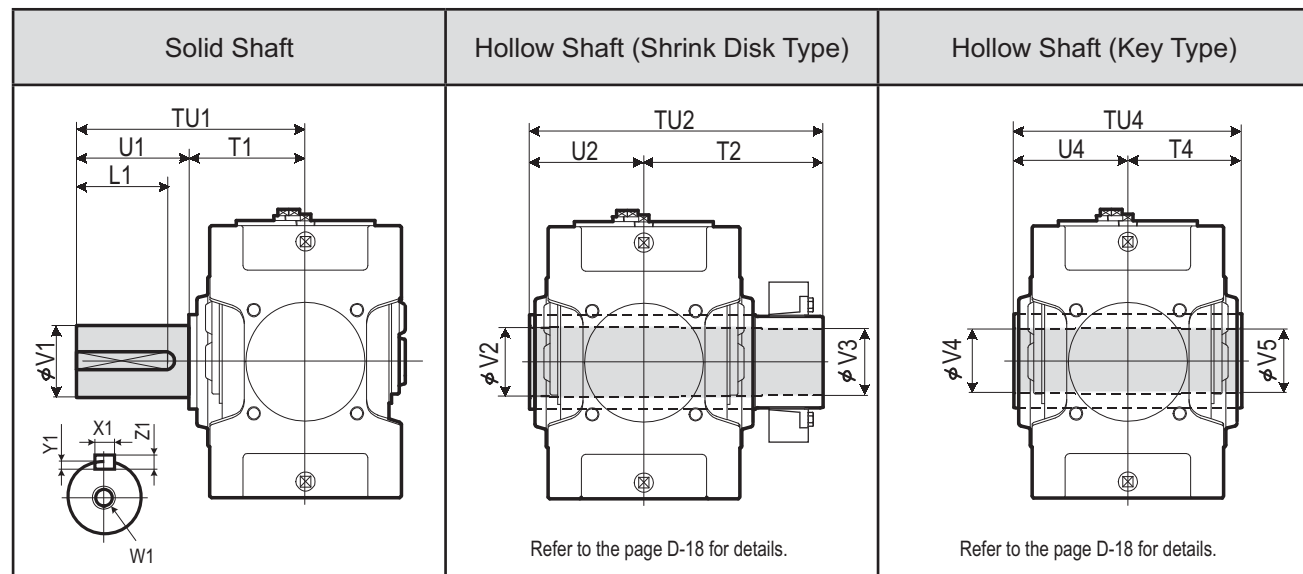
Unit: mm

1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
 2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
 3. Refer to the page D-15 for dimensions shown in these drawings.

4. Refer to the page D-27 for the dimension of optional parts.

DIMENSIONS Right Angle Shaft Quadruple Reduction Horizontal Mounting 9060 ▶ 9085

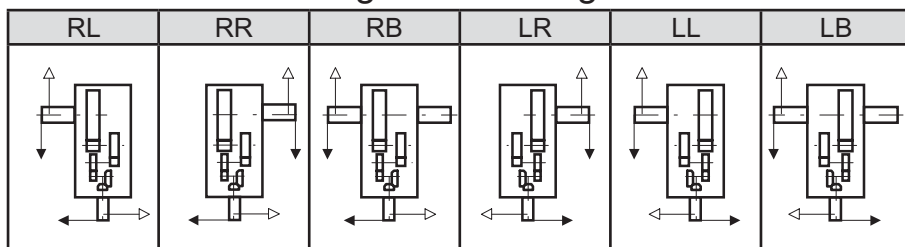
Slow Speed Shaft



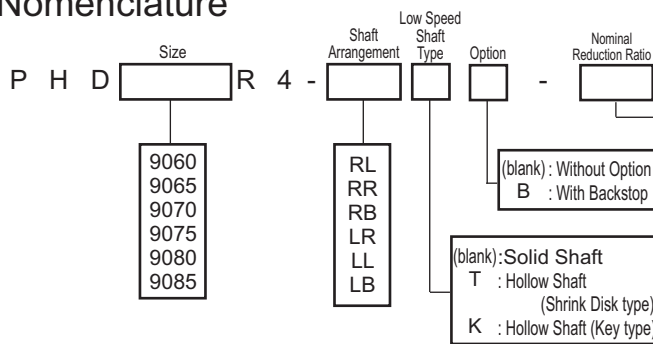
Size	Solid Shaft										Hollow Shaft (Shrink Disk Type)					Hollow Shaft (Key Type)				
	TU1	T1	U1	V1	W1/Depth	Key				TU2	T2	U2	V2	V3	TU4	T4	U4	V4	V5	
9060	440	230	210	125m6	M24/50	32	11	18	185	583	353	230	128	125	470	235	235	125	123	
9065	484	234	250	140m6	M30/60	36	12	20	225	594	359	235	143	140	480	240	240	145	143	
9070	509	259	250	145m6	M30/60	36	12	20	225	644	384	260	148	145	530	265	265	145	143	
9075	562	262	300	160m6	M30/60	40	13	22	275	651	386	265	158	155	530	265	265	150	148	
9080	582	282	300	165m6	M30/60	40	13	22	275	714	429	285	173	170	570	285	285	165	163	
9085	585	285	300	175m6	M30/60	45	15	25	270	714	429	285	183	180	570	285	285	175	173	

Unit: mm

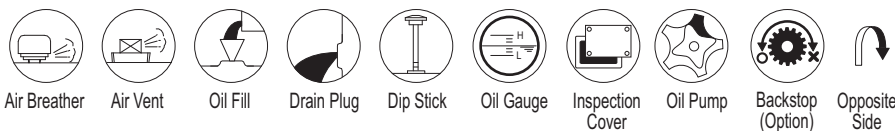
Standard Shaft Arrangement Configuration



Nomenclature

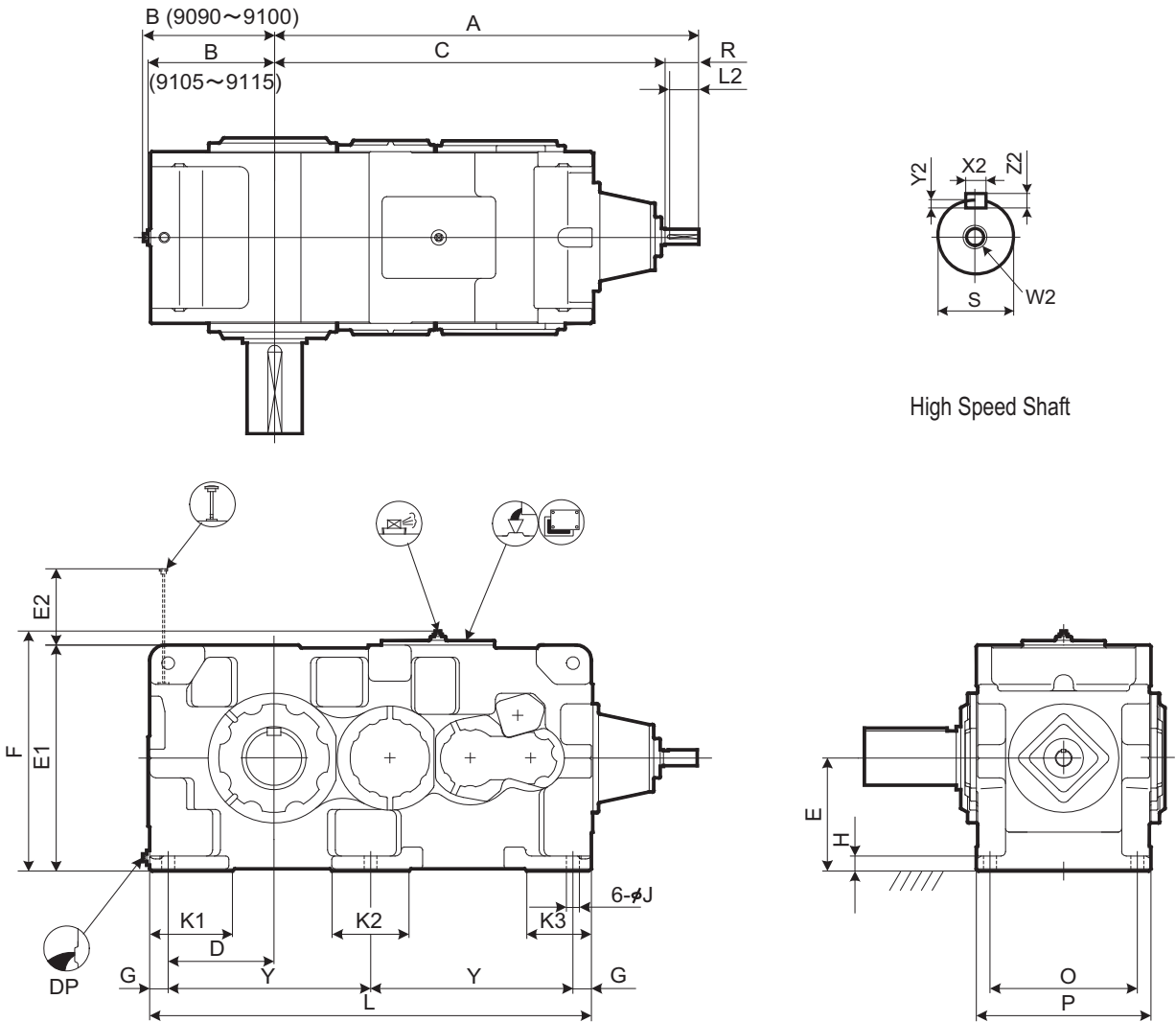


Size	Nominal Reduction Ratio															
	80	90	100	112	125	140	160	180	200	224	250	280	315	355	400	450
9060		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9065				○	○	○	○	○	○	○	○	○	○	○	○	○
9070		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9075			○	○	○	○	○	○	○	○	○	○	○	○	○	○
9080	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9085			○	○	○	○	○	○	○	○	○	○	○	○	○	○



PARAMAX Horizontal Split 9060 9085 Right Angle Quadruple Reduction P H D R 4

DIMENSIONS Right Angle Shaft Quadruple Reduction Horizontal Mounting 9090 ▶ 9115



High Speed Shaft

Speed Reducer
Selection Tables
Dimension Tables

Size	A	B	C	D	E	E1	E2	F	G	H	J	K1	K2	K3	L	O	P	Y
9090	1382	428	1272	345	375	750	198	797	60	50	42	270	250	210	1440	480	570	660
9095	1412	458	1302	375	400	800	203	847	60	50	42	290	250	210	1500	480	570	690
9100	1570	468	1430	375	425	850	215	897	70	55	48	300	280	240	1610	560	650	735
9105	1604	493	1464	410	450	900	220	947	70	55	48	320	280	240	1680	560	650	770
9110	1670	508	1530	420	475	950	225	997	75	60	56	340	310	260	1810	610	710	830
9115	1719	558	1579	470	500	1000	224	1047	75	60	56	350	310	260	1910	610	710	880

Size	High Speed Shaft							DP	Wt. kg	Oil Qty. L
	R	S	W2/Depth	Key						
				X2	Y2	Z2	L2			
9090	110	50k6	M16/36	14	5.5	9	95	1 1/2"	2150	150
9095	110	50k6	M16/36	14	5.5	9	95	1 1/2"	2400	180
9100	140	60m6	M20/42	18	7	11	125	1 1/2"	2880	210
9105	140	60m6	M20/42	18	7	11	125	1 1/2"	3440	255
9110	140	60m6	M20/42	18	7	11	125	1 1/2"	4060	300
9115	140	60m6	M20/42	18	7	11	125	1 1/2"	4510	360

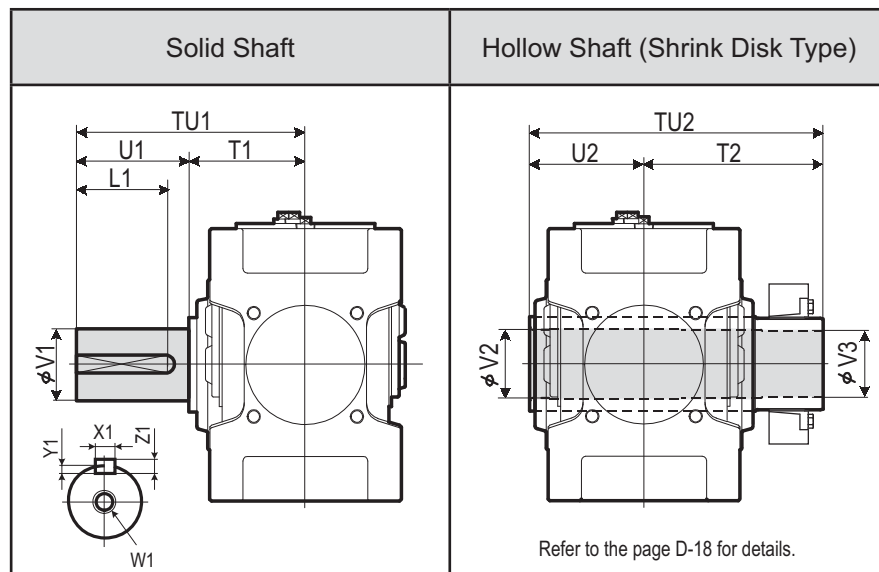
Unit: mm

1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
 2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
 3. Refer to the page D-16 for dimensions shown in these drawings.

4. Refer to the page D -30 for the dimension of optional parts.

DIMENSIONS Right Angle Shaft Quadruple Reduction Horizontal Mounting 9090 ▶ 9115

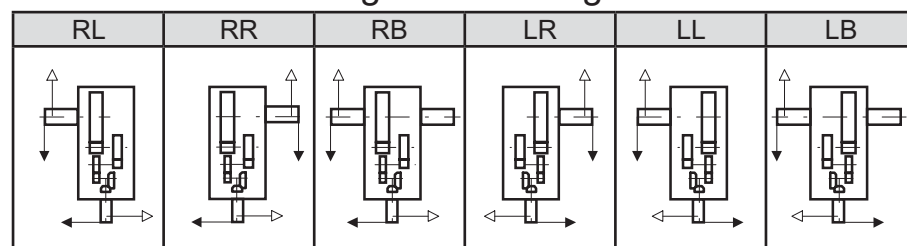
Slow Speed Shaft



Size	Solid Shaft										Hollow Shaft (Shrink Disk Type)				
	TU1	T1	U1	V1	W1/Depth	Key				L1	TU2	T2	U2	V2	V3
9090	650	350	300	180m6	M30/60	45	15	25	270		844	494	350	193	190
9095	700	350	350	190m6	M30/60	45	15	25	320		859	509	350	203	200
9100	740	390	350	200m6	M30/60	45	15	25	320		934	544	390	213	210
9105	740	390	350	220m6	M30/60	50	17	28	320		949	559	390	223	220
9110	770	420	350	220m6	M30/60	50	17	28	320		1030	610	420	243	240
9115	830	420	410	240m6	M30/60	56	20	32	375		1065	645	420	253	250

Unit: mm

Standard Shaft Arrangement Configuration



Nomenclature

P H D Size R 4 - Shaft Arrangement Low Speed Shaft Type - Nominal Reduction Ratio

Size

- 9090
- 9095
- 9100
- 9105
- 9110
- 9115

Shaft Arrangement

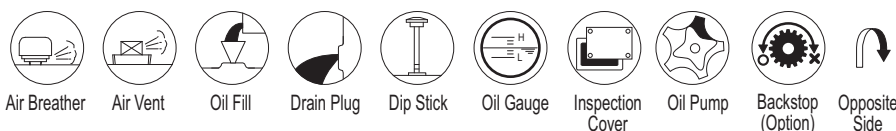
- RL
- RR
- RB
- LR
- LL
- LB

Low Speed Shaft Type

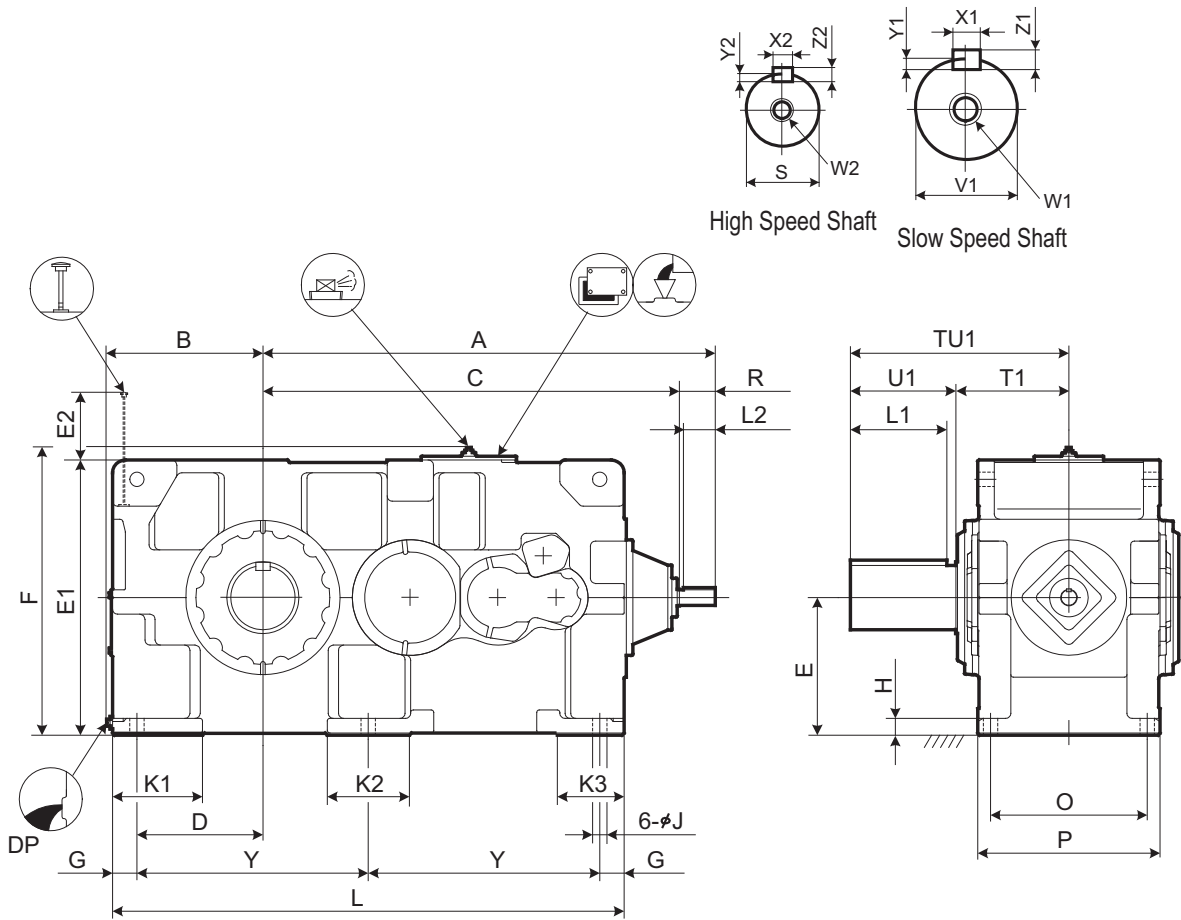
(blank): Solid Shaft
T : Hollow Shaft
(Shrink Disk type)

Nominal Reduction Ratio

Size	90	100	112	125	140	160	180	200	224	250	280	315	355	400
9090	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9095	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9100	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9105	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9110	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9115	○	○	○	○	○	○	○	○	○	○	○	○	○	○



PARAMAX Horizontal Split 9090 9115 Right Angle Quadruple Reduction P H D R 4



Speed Reducer
Selection Tables
Dimension Tables

Size	A	B	C	D	E	E1	E2	F	G	H	J	K1	K2	K3	L	O	P	Y
9118	1760	608	1620	490	535	1070	263	1117	95	65	56	350	320	260	1990	610	710	900
9121	1970	663	1830	545	580	1160	257	1207	95	70	56	390	300	270	2180	680	780	995
9126	1970	663	1830	545	580	1160	257	1207	95	70	56	390	300	270	2180	680	780	995

Size	High Speed Shaft								DP	Wt. kg	Oil Qty. L
	R	S	W2/Depth	Key							
				X2	Y2	Z2	L2				
9118	140	60m6	M20/42	18	7	11	125	1 1/2"	5100	390	
9121	140	65m6	M20/42	18	7	11	125	1 1/2"	6150	540	
9126	140	65m6	M20/42	18	7	11	125	1 1/2"	6450	530	

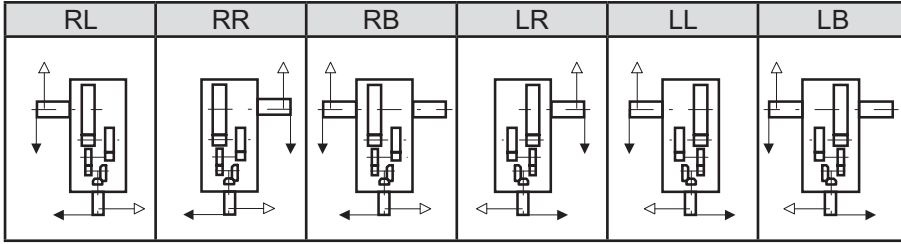
Size	Solid Shaft					Key			
	TU1	T1	U1	V1	W1/Depth	X1	Y1	Z1	L1
9118	850	440	410	260m6	M36/70	56	20	32	375
9121	935	465	470	280m6	M36/70	63	20	32	425
9126	935	465	470	300m6	M36/70	70	22	36	425

Unit: mm

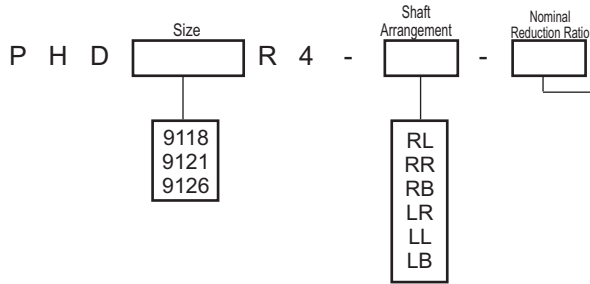
1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
3. Consult us for the dimensions not shown in these drawings.

DIMENSIONS Right Angle Shaft Quadruple Reduction Horizontal Mounting 9118 ▶ 9126

Standard Shaft Arrangement Configuration

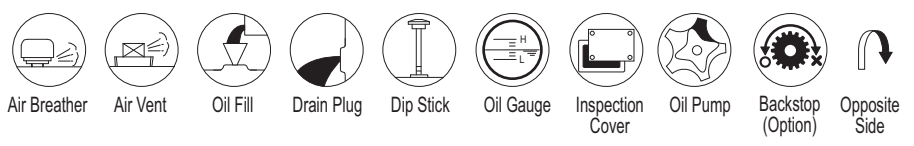


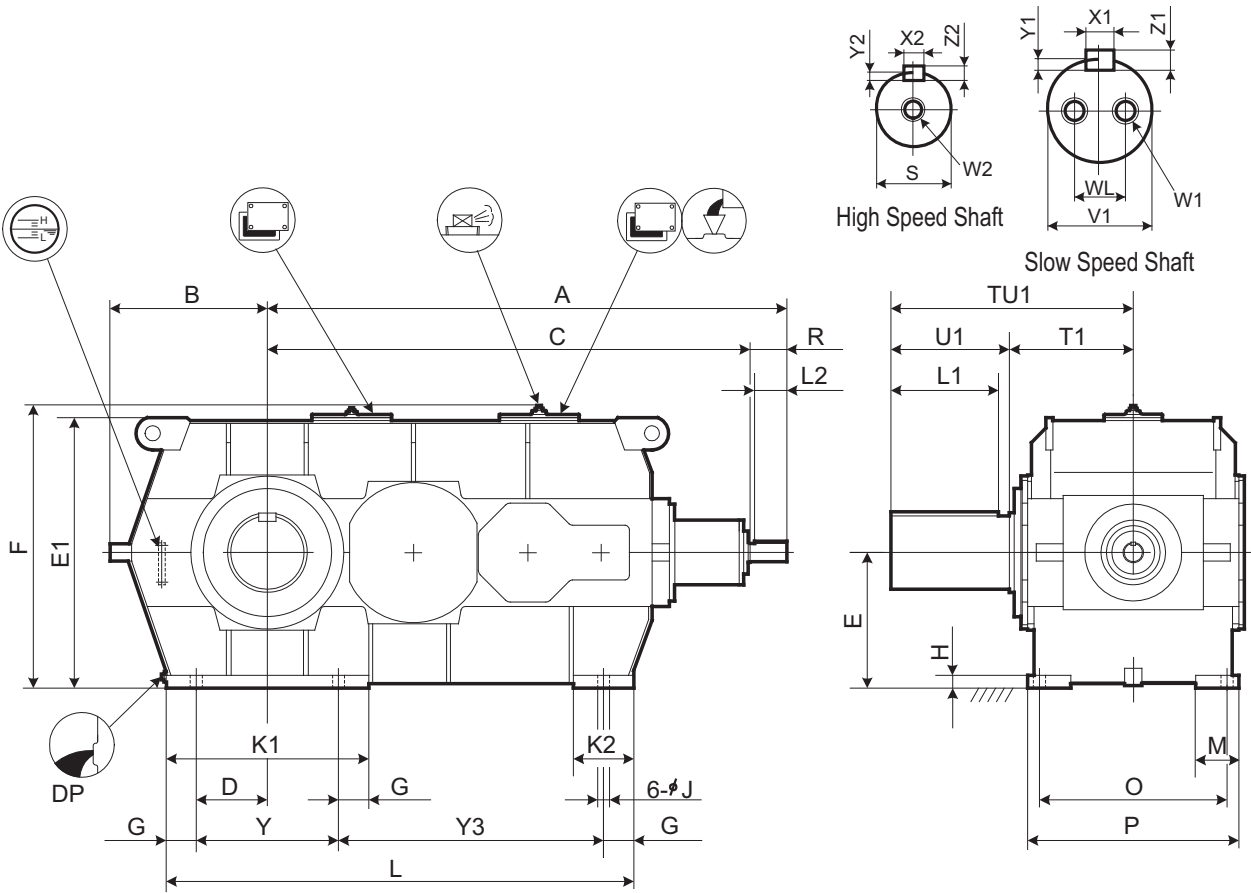
Nomenclature



Size	Nominal Reduction Ratio													
	90	100	112	125	140	160	180	200	224	250	280	315	355	400
9118		○	○	○	○	○	○	○	○	○	○	○	○	○
9121	○	○	○	○	○	○	○	○	○	○	○	○	○	
9126	○	○	○	○	○	○	○	○	○	○	○	○	○	

P
H
D
9118
9126
R
4
PARAMAX Horizontal Split Right Angle Quadruple Reduction





Speed Reducer

Selection Tables

Dimension Tables

Size	A	B	C	D	E	E1	F	G	H	J	K1	K2	L	M	O	P	Y	Y3
9128	2163	680	2023	330	600	1194	1241	140	55	66	940	280	1990	170	710	840	660	1050
9131	2410	730	2240	330	630	1256	1303	140	60	66	940	280	2170	200	850	980	660	1230
9136	2410	730	2240	330	630	1256	1303	140	60	66	940	280	2170	200	850	980	660	1230

Size	High Speed Shaft								DP	Wt. kg	Oil Qty. L
	R	S	W2/Depth	Key							
				X2	Y2	Z2	L2				
9128	140	75m6	M20/42	20	7.5	12	125	1 1/2"	7400	460	
9131	170	85m6	M20/42	22	9	14	150	1 1/2"	9850	680	
9136	170	85m6	M20/42	22	9	14	150	1 1/2"	10200	660	

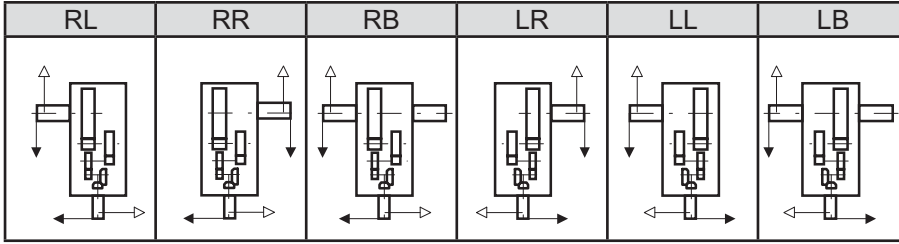
Size	Solid Shaft							Key			
	TU1	T1	U1	V1	W1/Depth	WL	X1	Y1	Z1	L1	
9128	950	480	470	320m6	M36/70	200	70	22	36	425	
9131	1100	550	550	340m6	M36/70	215	80	25	40	500	
9136	1110	560	550	360m6	M36/70	230	80	25	40	500	

Unit: mm

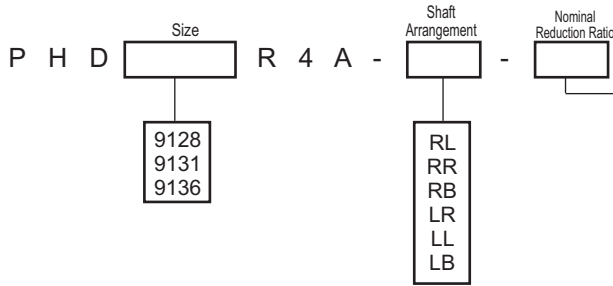
1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
 2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
 3. Consult us for the dimensions not shown in these drawings.

DIMENSIONS Right Angle Shaft Quadruple Reduction Horizontal Mounting 9128 ▶ 9136

Standard Shaft Arrangement Configuration

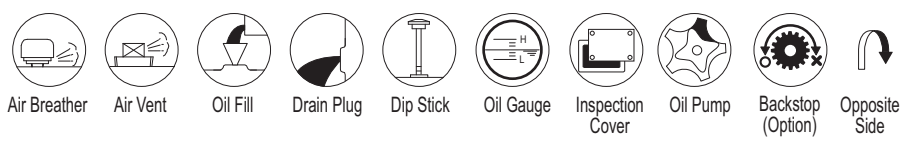


Nomenclature

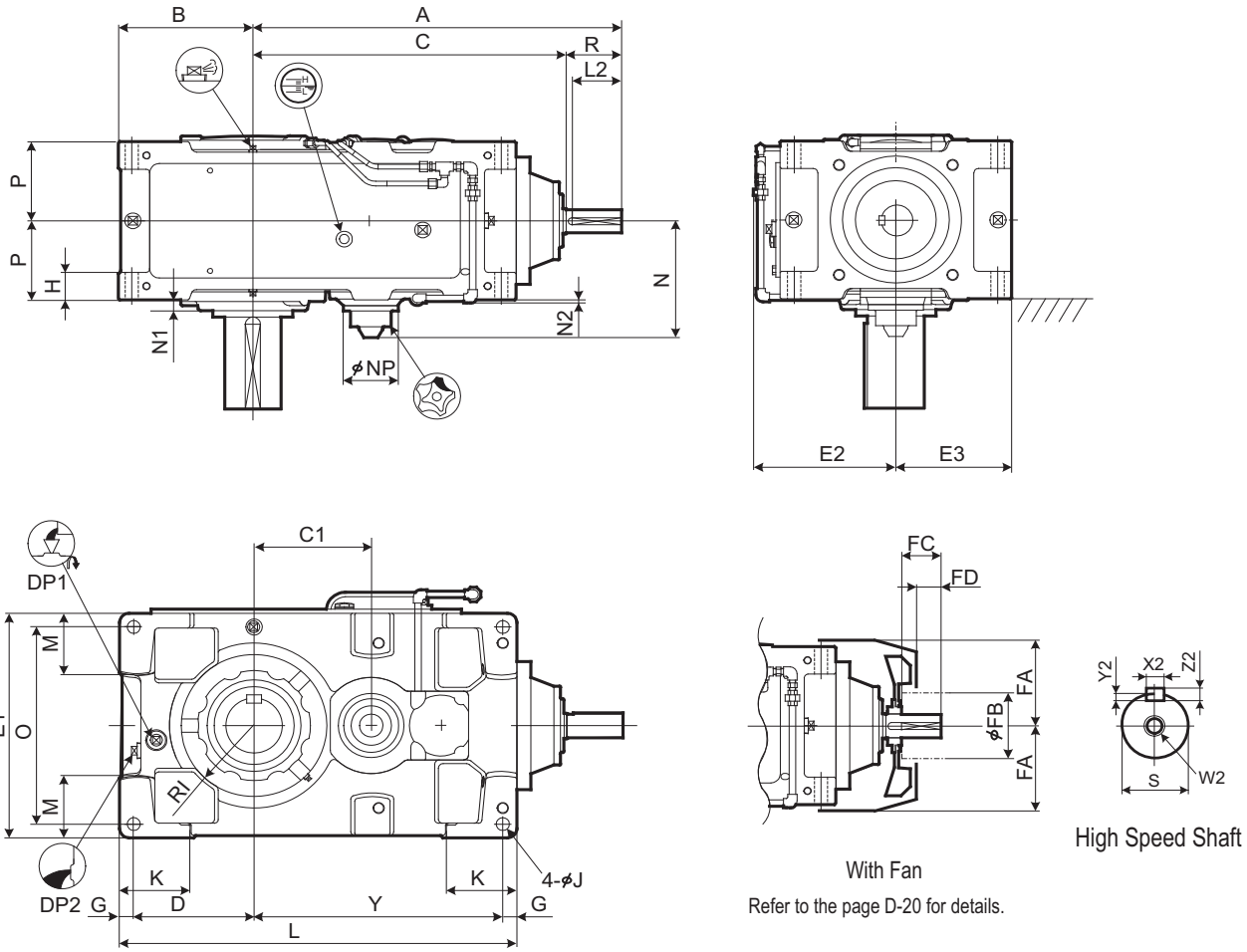


Size	Nominal Reduction Ratio														
	71	80	90	100	112	125	140	160	180	200	224	250	280	315	355
9128			○	○	○	○	○	○	○	○	○	○	○	○	○
9131	○	○	○	○	○	○	○	○	○	○	○	○	○		
9136	○	○	○	○	○	○	○	○	○	○	○	○	○		

PARAMAX Horizontal Split 9128 9136 Right Angle Quadruple Reduction Housing Steel A



DIMENSIONS Right Angle Shaft Double Reduction Vertical Mounting 9015 ▶ 9055



Refer to the page D-20 for details.

Speed Reducer

Selection Tables

Dimension Tables

Size	A	B	C	C1	D	E1	E2	E3	G	H	RI	J	K	L	M	N	N1	N2	NP	O	P	Y
9015	507	160	427	115	140	270	195	135	20	35	80	15	95	440	70	189	25	14	100	230	102.5	260
9025	545	175	465	135	155	310	215	155	20	40	87.5	19	110	505	75	201.5	23	12	100	270	117.5	310
9030	645	200	535	155	175	320	220	160	25	50	105	24	120	590	85	224	22	9	117	270	132.5	365
9035	676	219	566	186	194	370	245	185	25	50	120	24	120	640	100	224	22	9	117	320	132.5	396
9040	705	235	595	180	205	400	260	200	30	60	120	28	150	685	100	241.5	15	2	117	340	157.5	420
9045	744	256	634	219	226	440	266	220	30	60	140	28	150	745	120	241.5	17.5	2	117	380	157.5	459
9050	755	255	645	210	225	420	270	210	30	60	140	28	150	775	110	252	23	7	137	360	172.5	490
9055	794	286	684	249	256	490	305	245	30	60	155	28	150	845	135	252	23	7	137	430	172.5	529

Size	High Speed Shaft							Fan				DP1	DP2	Wt. kg	Oil Qty. L
	R	S	W2/Depth	X2	Y2	Z2	L2	FA	FB	FC	FD				
9015	80	28k6	M12/28	8	4	7	70	125	125	50	30	3/4"	3/4"	95	5
9025	80	35k6	M12/28	10	5	8	70	135	140	50	30	3/4"	3/4"	140	7
9030	110	40k6	M16/36	14	5.5	9	95	150	140	80	52	3/4"	3/4"	205	7
9035	110	40k6	M16/36	14	5.5	9	95	150	140	80	52	3/4"	3/4"	225	9
9040	110	45k6	M16/36	14	5.5	9	95	170	160	80	52	1"	1"	305	19
9045	110	45k6	M16/36	14	5.5	9	95	170	160	80	52	1"	1"	365	23
9050	110	50k6	M16/36	14	5.5	9	95	190	160	80	52	1"	1"	435	20
9055	110	50k6	M16/36	14	5.5	9	95	190	160	80	52	1"	1"	495	26

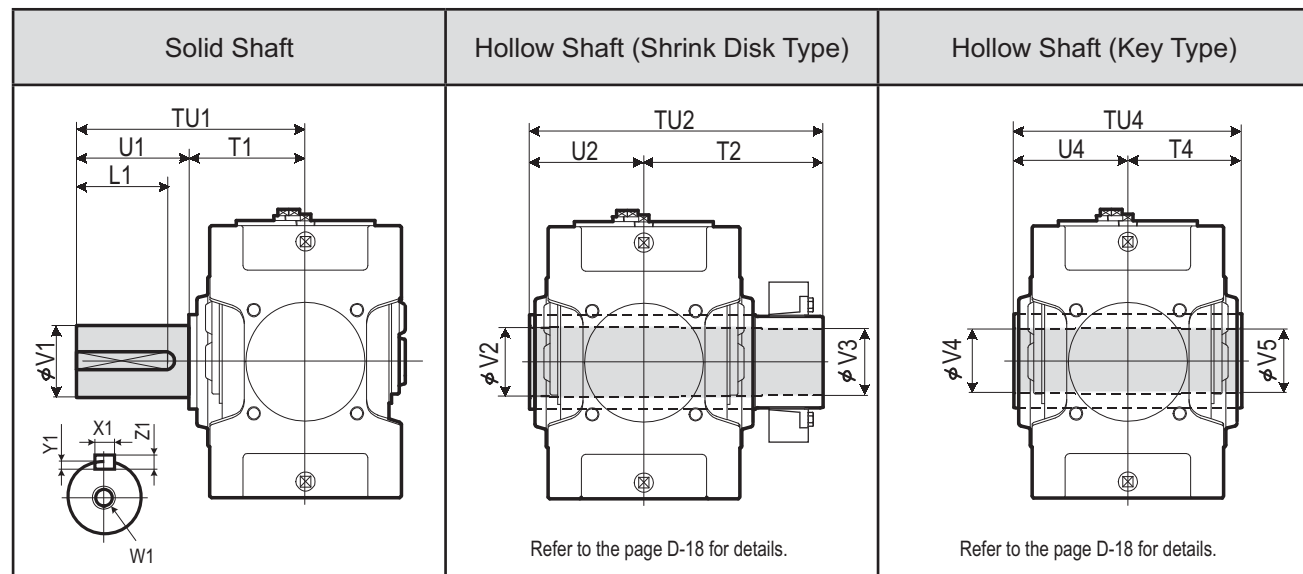
Unit: mm

1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
 2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
 3. Refer to the page D-12 for dimensions shown in these drawings.

4. Refer to the page D -25 for the dimension of optional parts.

DIMENSIONS Right Angle Shaft Double Reduction Vertical Mounting 9015 ▶ 9055

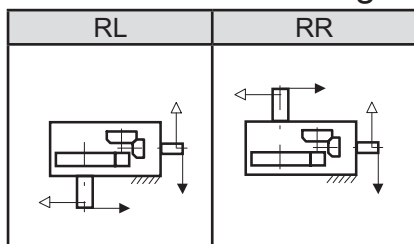
Slow Speed Shaft



Size	Solid Shaft					Key					Hollow Shaft (Shrink Disk Type)					Hollow Shaft (Key Type)				
	TU1	T1	U1	V1	W1/Depth	X1	Y1	Z1	L1	TU2	T2	U2	V2	V3	TU4	T4	U4	V4	V5	
9015	245	135	110	58m6	M20/42	18	7	11	95	328	193	135	63	60	270	135	135	55	55	
9025	285	145	140	70m6	M20/42	20	7.5	12	125	358	213	145	73	70	300	150	150	65	65	
9030	330	160	170	80m6	M20/42	22	9	14	150	393	233	160	83	80	330	165	165	75	75	
9035	330	160	170	90m6	M20/42	25	9	14	150	403	243	160	88	85	330	165	165	85	85	
9040	349	179	170	95m6	M24/50	25	9	14	150	448	268	180	98	95	360	180	180	90	90	
9045	391	181	210	105m6	M24/50	28	10	16	190	463	283	180	108	105	370	185	185	105	105	
9050	411	201	210	110m6	M24/50	28	10	16	190	503	303	200	108	105	410	205	205	105	105	
9055	411	201	210	120m6	M24/50	32	11	18	185	528	323	205	123	120	410	205	205	115	115	

Unit: mm

Standard Shaft Arrangement Configuration



Nomenclature



- 9015
- 9025
- 9030
- 9035
- 9040
- 9045
- 9050
- 9055

- RL
- RR

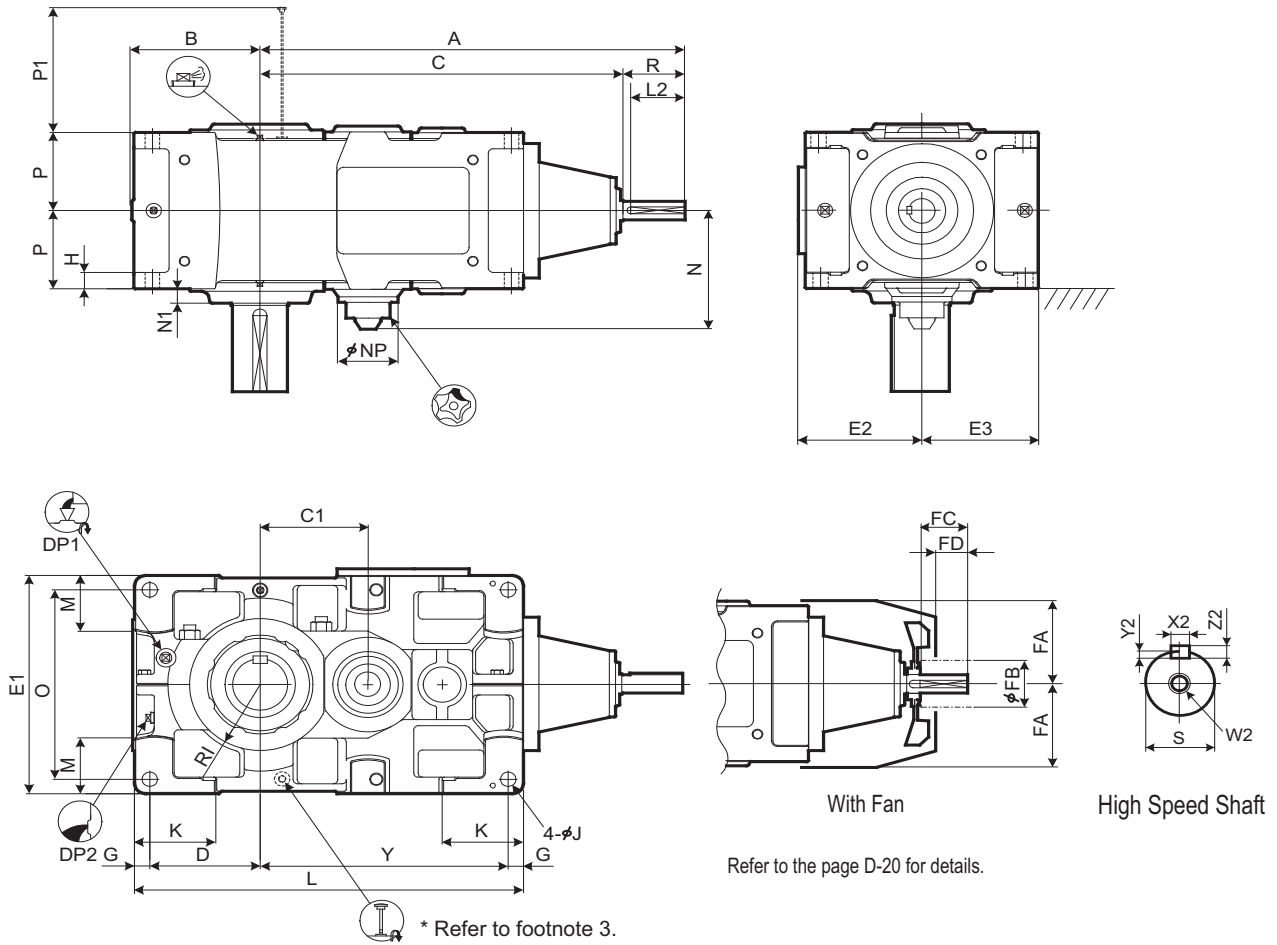
- (blank): Without Fan
- F : With Fan
- (blank): Solid Shaft
- T : Hollow Shaft (Shrink Disk type)
- K : Hollow Shaft (Key type)

Size	Nominal Reduction Ratio											
	6.3	7.1	8	9	10	11.2	12.5	14	16	18	20	22.4
9015	○	○	○	○	○	○	○	○	○	○		
9025	○	○	○	○	○	○	○	○	○	○		
9030	○	○	○	○	○	○	○	○	○	○		
9035			○	○	○	○	○	○	○	○	○	○
9040	○	○	○	○	○	○	○	○	○	○		
9045			○	○	○	○	○	○	○	○	○	○
9050	○	○	○	○	○	○	○	○	○	○		
9055	○	○	○	○	○	○	○	○	○	○	○	○

- Air Breather
- Air Vent
- Oil Fill
- Drain Plug
- Dip Stick
- Oil Gauge
- Inspection Cover
- Oil Pump
- Backstop (Option)
- Opposite Side

PARAMAX Vertical Monoblock 9015 ▶ 9055 Right Angle Double Reduction P V A R 2

DIMENSIONS Right Angle Shaft Double Reduction Vertical Mounting 9060 ▶ 9085



Speed Reducer

Selection Tables

Dimension Tables

Size	A	B	C	C1	D	E1	E2	E3	G	H	RI	J	K	L	M	N	N1	NP	O	P	P1	Y
9060	865	299	725	245	251	530	282	265	35	35	160	35	180	885	140	272	35	137	460	190	229	564
9065	911	338	771	291	290	600	317	300	35	35	175	35	180	970	175	272	38	137	530	190	229	610
9070	965	336	825	285	283	600	317	300	40	40	175	42	215	1020	155	303	38	137	520	215	262	657
9075	1018	383	878	338	330	670	352	335	40	52	190	42	220	1120	195	303	40	137	590	215	262	710
9080	1080	378	940	330	325	670	352	335	40	52	190	42	220	1155	170	323	45	137	590	230	295	750
9085	1136	422	996	386	369	750	392	375	40	52	215	42	220	1255	210	323	40	137	670	230	295	806

Size	High Speed Shaft							Fan				DP1	DP2	Wt. kg	Oil Qty. L
	R	S	W2/Depth	Key			L2	FA	FB	FC	FD				
				X2	Y2	Z2									
9060	140	60m6	M20/42	18	7	11	125	220	160	105	65	1"	1"	600	Refer to the next page.
9065	140	60m6	M20/42	18	7	11	125	220	160	105	65	1"	1"	725	
9070	140	65m6	M20/42	18	7	11	125	245	200	105	65	1"	1"	920	
9075	140	65m6	M20/42	18	7	11	125	245	200	105	65	1"	1"	1170	
9080	140	75m6	M20/42	20	7.5	12	125	270	225	105	60	1"	1"	1300	
9085	140	75m6	M20/42	20	7.5	12	125	270	225	105	60	1"	1"	1560	

Unit: mm

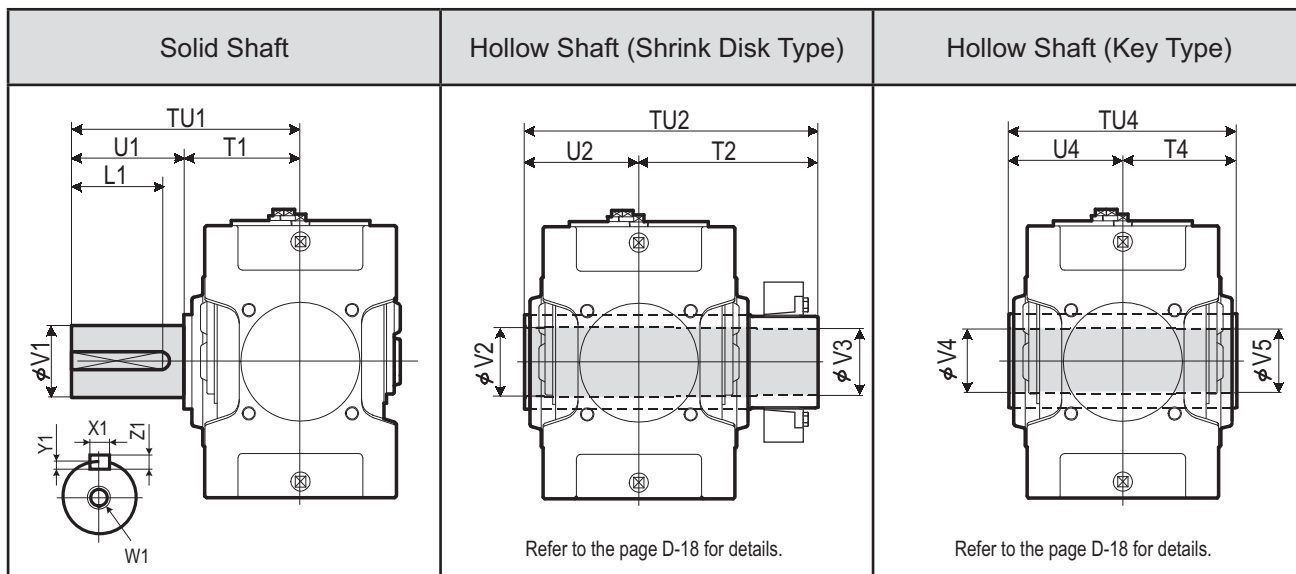
1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
 2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
 3. Shaft arrangement RR is equipped with oil gauge. Refer to the page D-28.

4. Refer to the page D-14 for dimensions shown in these drawings.
 5. Refer to the page D-28 for the dimension of optional parts.

DIMENSIONS Right Angle Shaft Double Reduction Vertical Mounting 9060 ▶ 9085

PARAMAX Vertical Split 9060 9085 Right Angle Double Reduction P V D R 2

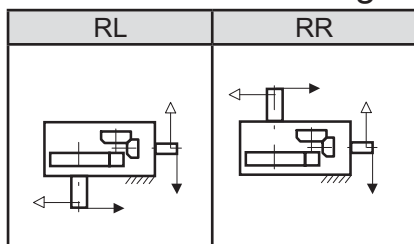
Slow Speed Shaft



Size	Solid Shaft					Key					Hollow Shaft (Shrink Disk Type)					Hollow Shaft (Key Type)				
	TU1	T1	U1	V1	W1/Depth	X1	Y1	Z1	L1	TU2	T2	U2	V2	V3	TU4	T4	U4	V4	V5	
9060	440	230	210	125m6	M24/50	32	11	18	185	583	353	230	128	125	470	235	235	125	123	
9065	484	234	250	140m6	M30/60	36	12	20	225	594	359	235	143	140	480	240	240	145	143	
9070	509	259	250	145m6	M30/60	36	12	20	225	644	384	260	148	145	530	265	265	145	143	
9075	562	262	300	160m6	M30/60	40	13	22	275	651	386	265	158	155	530	265	265	150	148	
9080	582	282	300	165m6	M30/60	40	13	22	275	714	429	285	173	170	570	285	285	165	163	
9085	585	285	300	175m6	M30/60	45	15	25	270	714	429	285	183	180	570	285	285	175	173	

Unit: mm

Standard Shaft Arrangement Configuration

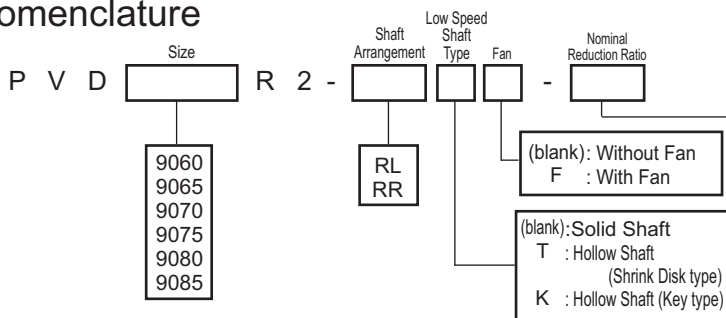


Approx. Oil Qty.

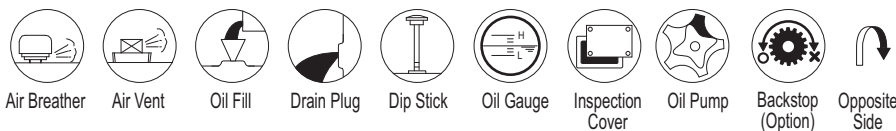
Size	Nominal Reduction Ratio			
	6.3-9	10-18	8-11.2	12.5-22.4
9060	25	25		
9065			32	32
9070	35	41		
9075			47	54
9080	46	55		
9085			58	68

Unit: liters

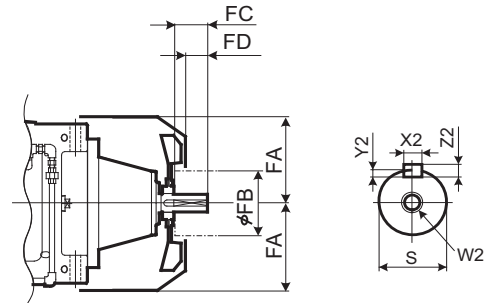
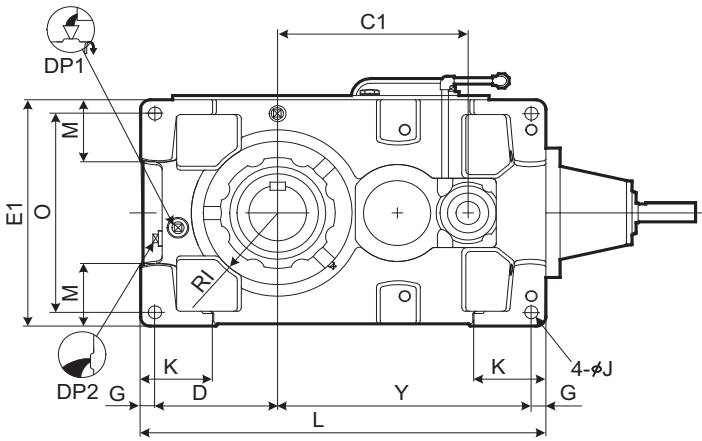
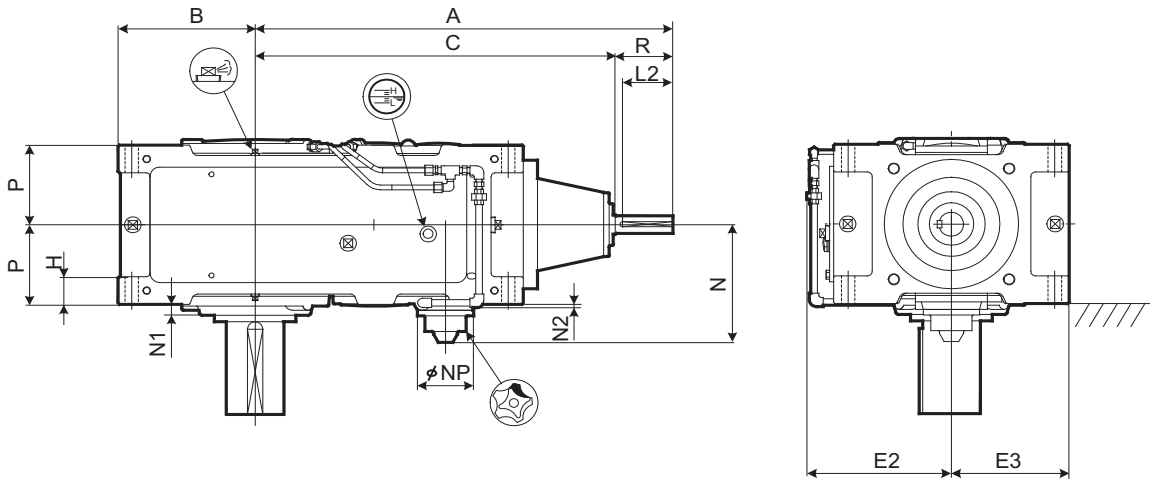
Nomenclature



Size	Nominal Reduction Ratio											
	6.3	7.1	8	9	10	11.2	12.5	14	16	18	20	22.4
9060	○	○	○	○	○	○	○	○	○	○		
9065				○	○	○	○	○	○	○	○	○
9070	○	○	○	○	○	○	○	○	○	○		
9075				○	○	○	○	○	○	○	○	○
9080	○	○	○	○	○	○	○	○	○	○	○	○
9085				○	○	○	○	○	○	○	○	○



DIMENSIONS Right Angle Shaft Triple Reduction Vertical Mounting 9030 ▶ 9055



With Fan
Refer to the page D-21 for details.

High Speed Shaft

Speed Reducer
Selection Tables
Dimension Tables

Size	A	B	C	C1	D	E1	E2	E3	G	H	RI	J	K	L	M	N	N1	N2	NP	O	P	Y
9030	656	200	576	264	175	320	220	160	25	50	105	24	120	590	85	211	22	9	100	270	132.5	365
9035	687	219	607	295	194	370	245	185	25	50	120	24	120	640	100	211	22	9	100	320	132.5	396
9040	716	235	636	306	205	400	260	200	30	60	120	28	150	685	100	237.5	15	2	117	340	157.5	420
9045	755	256	675	345	226	440	266	220	30	60	140	28	150	745	120	237.5	17.5	2	117	380	157.5	459
9050	808	255	728	358	225	420	270	210	30	60	140	28	150	775	110	257.5	23	7	117	360	172.5	490
9055	847	286	767	397	256	490	305	245	30	60	155	28	150	845	135	257.5	23	7	117	430	172.5	529

Size	High Speed Shaft							Fan				DP1	DP2	Wt. kg	Oil Qty. L
	R	S	W2/Depth	X2	Y2	Z2	L2	FA	FB	FC	FD				
9030	80	28k6	M10/22	8	4	7	70	150	125	50	30	3/4"	3/4"	210	9
9035	80	28k6	M10/22	8	4	7	70	150	125	50	30	3/4"	3/4"	230	12
9040	80	30k6	M10/22	8	4	7	70	170	125	50	30	1"	1"	305	18
9045	80	30k6	M10/22	8	4	7	70	170	125	50	30	1"	1"	365	22
9050	80	35k6	M12/28	10	5	8	70	190	140	50	22	1"	1"	445	21
9055	80	35k6	M12/28	10	5	8	70	190	140	50	22	1"	1"	505	30

Unit: mm

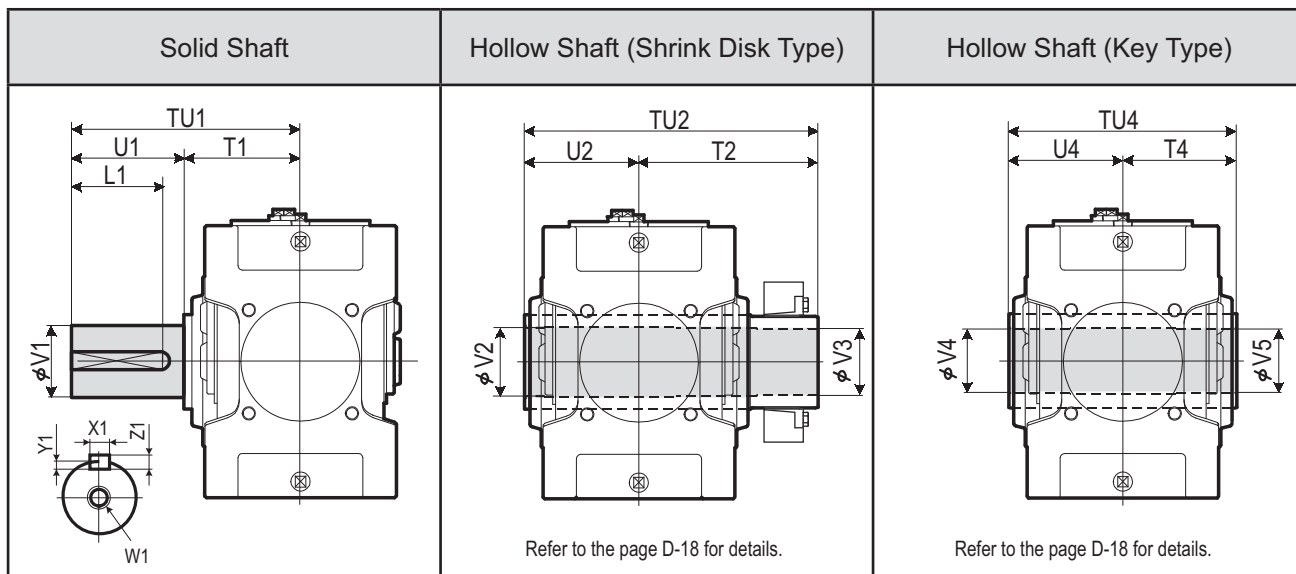
1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
 2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
 3. Refer to the page D-12 for dimensions shown in these drawings.

4. Refer to the page D -25 for the dimension of optional parts.

DIMENSIONS Right Angle Shaft Triple Reduction Vertical Mounting 9030 ▶ 9055

PARAMAX Vertical Monoblock 9030 9055 Right Angle Triple Reduction P V A R 3

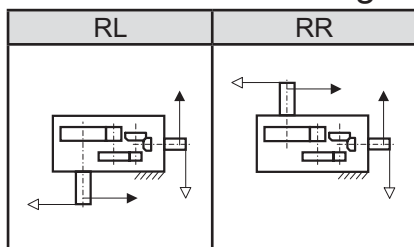
Slow Speed Shaft



Size	Solid Shaft					Key					Hollow Shaft (Shrink Disk Type)					Hollow Shaft (Key Type)				
	TU1	T1	U1	V1	W1/Depth	X1	Y1	Z1	L1	TU2	T2	U2	V2	V3	TU4	T4	U4	V4	V5	
9030	330	160	170	80m6	M20/42	22	9	14	150	393	233	160	83	80	330	165	165	75	75	
9035	330	160	170	90m6	M20/42	25	9	14	150	403	243	160	88	85	330	165	165	85	85	
9040	349	179	170	95m6	M24/50	25	9	14	150	448	268	180	98	95	360	180	180	90	90	
9045	391	181	210	105m6	M24/50	28	10	16	190	463	283	180	108	105	370	185	185	105	105	
9050	411	201	210	110m6	M24/50	28	10	16	190	503	303	200	108	105	410	205	205	105	105	
9055	411	201	210	120m6	M24/50	32	11	18	185	528	323	205	123	120	410	205	205	115	115	

Unit: mm

Standard Shaft Arrangement Configuration



Nomenclature



- 9030
- 9035
- 9040
- 9045
- 9050
- 9055

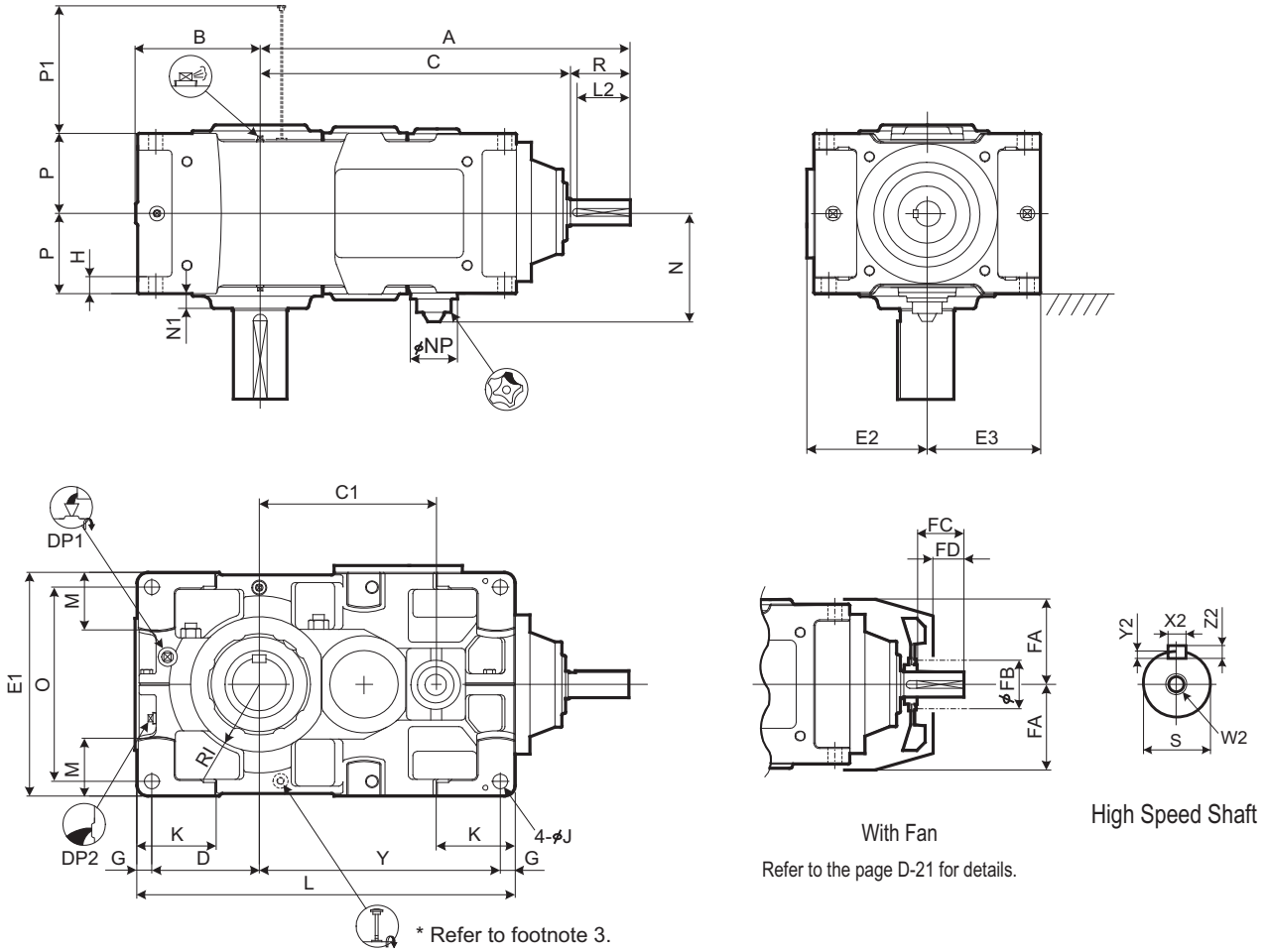
- RL
- RR

- (blank): Without Fan
- F : With Fan
- (blank) : Solid Shaft
- T : Hollow Shaft (Shrink Disk type)
- K : Hollow Shaft (Key type)

Size	Nominal Reduction Ratio													
	20	22.4	25	28	31.5	35.5	40	45	50	56	63	71	80	90
9030	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9035			○	○	○	○	○	○	○	○	○	○	○	○
9040	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9045				○	○	○	○	○	○	○	○	○	○	○
9050	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9055				○	○	○	○	○	○	○	○	○	○	○

- Air Breather
- Air Vent
- Oil Fill
- Drain Plug
- Dip Stick
- Oil Gauge
- Inspection Cover
- Oil Pump
- Backstop (Option)
- Opposite Side

DIMENSIONS Right Angle Shaft Triple Reduction Vertical Mounting 9060 ▶ 9085



With Fan
Refer to the page D-21 for details.

High Speed Shaft

Speed Reducer

Dimension Selection Tables

Size	A	B	C	C1	D	E1	E2	E3	G	H	RI	J	K	L	M	N	N1	NP	O	P	P1	Y
9060	939	299	829	414	251	530	282	265	35	35	160	35	180	885	140	277.5	35	117	460	190	213	564
9065	985	338	875	460	290	600	317	300	35	35	175	35	180	970	175	277.5	38	117	530	190	213	610
9070	1027	336	917	482	283	600	317	300	40	40	175	42	215	1020	155	302.5	38	117	520	215	233	657
9075	1080	383	970	535	330	670	352	335	40	52	190	42	220	1120	195	302.5	40	117	590	215	233	710
9080	1176	378	1036	556	325	670	352	335	40	52	190	42	220	1155	170	322.5	45	117	590	230	268	750
9085	1232	422	1092	612	369	750	392	375	40	52	215	42	220	1255	210	322.5	40	117	670	230	268	806

Size	High Speed Shaft							Fan				DP1	DP2	Wt. kg	Oil Qty. L
	R	S	W2/Depth	Key			L2	FA	FB	FC	FD				
				X2	Y2	Z2									
9060	110	45k6	M16/36	14	5.5	9	95	220	160	80	52	1"	1"	660	28
9065	110	45k6	M16/36	14	5.5	9	95	220	160	80	52	1"	1"	785	35
9070	110	50k6	M16/36	14	5.5	9	95	245	160	80	52	1"	1"	940	46
9075	110	50k6	M16/36	14	5.5	9	95	245	160	80	52	1"	1"	1190	59
9080	140	60m6	M20/42	18	7	11	125	270	160	105	65	1"	1"	1350	60
9085	140	60m6	M20/42	18	7	11	125	270	160	105	65	1"	1"	1610	80

Unit: mm

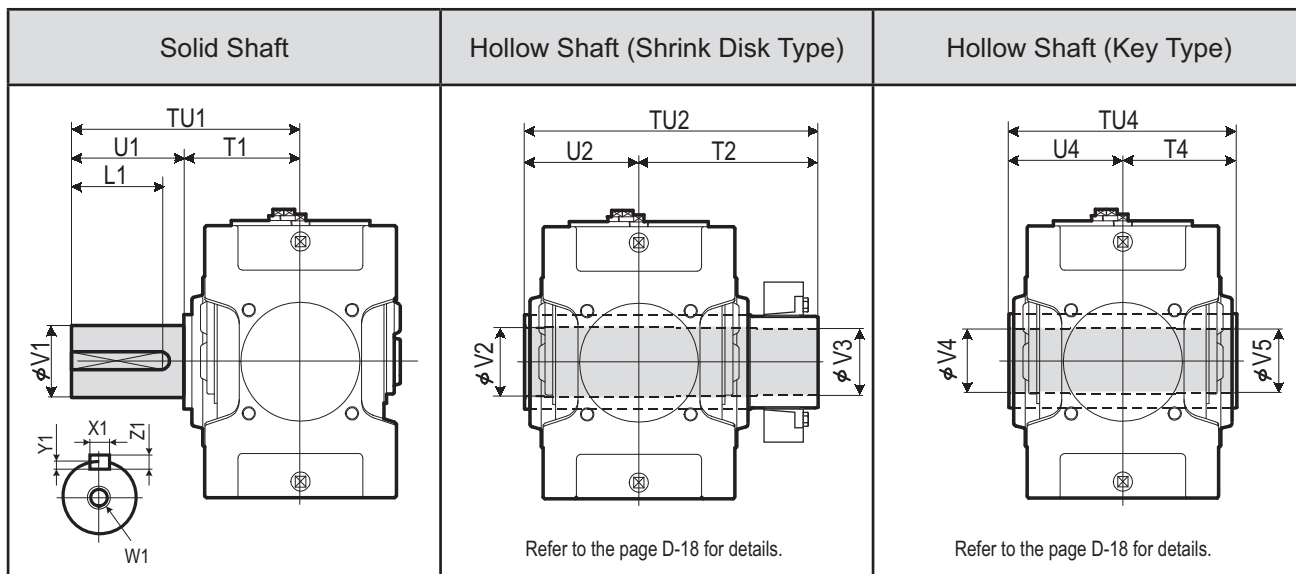
1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
 2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
 3. Shaft arrangement RR is equipped with oil gauge. Refer to the page D-28.

4. Refer to the page D-14 for dimensions shown in these drawings.
 5. Refer to the page D-28 for the dimension of optional parts.

DIMENSIONS Right Angle Shaft Triple Reduction Vertical Mounting 9060 ▶ 9085

PARAMAX Vertical Split 9060 9085 Right Angle Triple Reduction P V D R 3

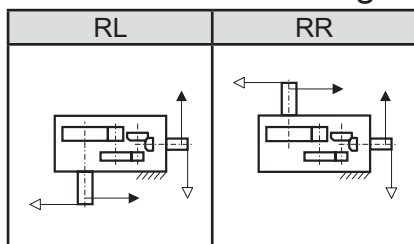
Slow Speed Shaft



Size	Solid Shaft					Key					Hollow Shaft (Shrink Disk Type)					Hollow Shaft (Key Type)				
	TU1	T1	U1	V1	W1/Depth	X1	Y1	Z1	L1	TU2	T2	U2	V2	V3	TU4	T4	U4	V4	V5	
9060	440	230	210	125m6	M24/50	32	11	18	185	583	353	230	128	125	470	235	235	125	123	
9065	484	234	250	140m6	M30/60	36	12	20	225	594	359	235	143	140	480	240	240	145	143	
9070	509	259	250	145m6	M30/60	36	12	20	225	644	384	260	148	145	530	265	265	145	143	
9075	562	262	300	160m6	M30/60	40	13	22	275	651	386	265	158	155	530	265	265	150	148	
9080	582	282	300	165m6	M30/60	40	13	22	275	714	429	285	173	170	570	285	285	165	163	
9085	585	285	300	175m6	M30/60	45	15	25	270	714	429	285	183	180	570	285	285	175	173	

Unit: mm

Standard Shaft Arrangement Configuration

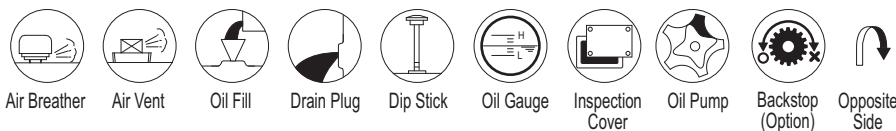


Nomenclature

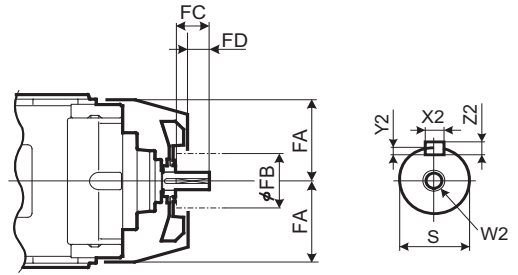
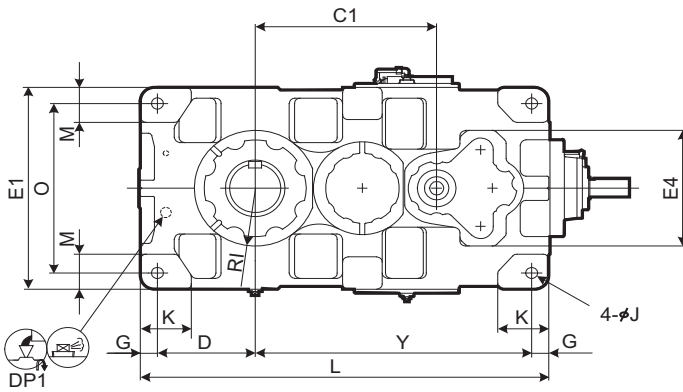
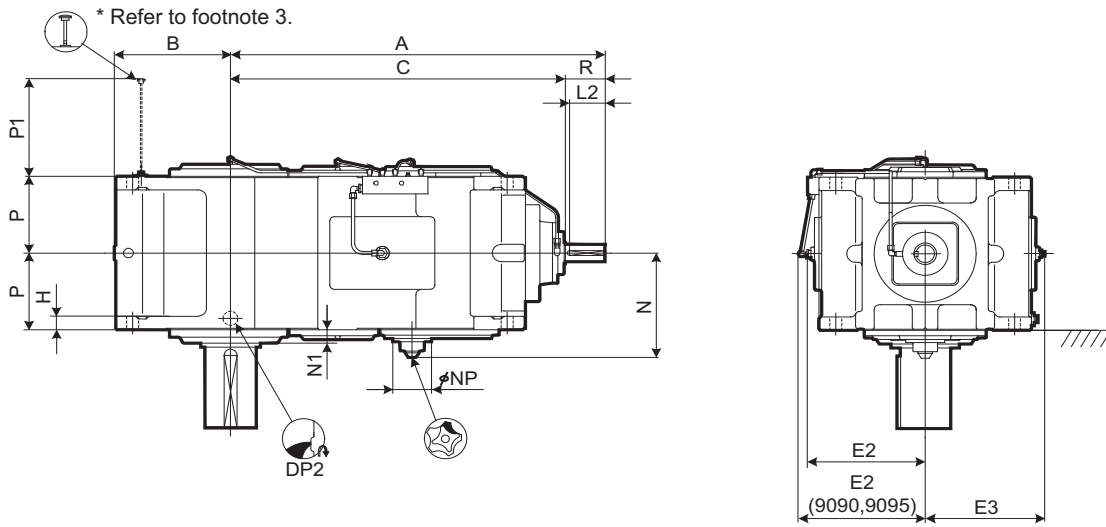
P V D Size R 3 - Shaft Arrangement Low Speed Shaft Type Fan - Nominal Reduction Ratio

Size: 9060, 9065, 9070, 9075, 9080, 9085
 Shaft Arrangement: RL, RR
 Low Speed Shaft Type: (blank) : Without Fan, F : With Fan
 Fan: (blank) : Solid Shaft, T : Hollow Shaft (Shrink Disk type), K : Hollow Shaft (Key type)

Size	Nominal Reduction Ratio													
	20	22.4	25	28	31.5	35.5	40	45	50	56	63	71	80	90
9060	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9065	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9070	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9075	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9080	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9085	○	○	○	○	○	○	○	○	○	○	○	○	○	○



DIMENSIONS Right Angle Shaft Triple Reduction Vertical Mounting 9090 ▶ 9115



With Fan

High Speed Shaft

Refer to the page D-21 for details.

Speed Reducer

Selection Tables
Dimension Tables

Size	A	B	C	C1	D	E1	E2	E3	E4	G	H	RI	J	K	L	M	N	N1	NP	O	P	P1	Y
9090	1320	410	1180	640	345	750	449	421	430	60	50	215	42	180	1440	130	381	50	137	630	285	363	975
9095	1350	440	1210	670	375	800	474	446	430	60	50	235	42	200	1500	140	381	50	137	680	285	363	1005
9100	1474	450	1334		375	850	471	471	500	70	55	235	48	200	1610	150		60		710	325	411	1095
9105	1508	485	1368		410	900	496	496	500	70	55	260	48	220	1680	160		60		760	325	411	1130
9110	1684	500	1514		420	950	521	521	500	75	60	265	56	220	1810	170		55		800	355	446	1240
9115	1733	550	1563		470	1000	546	546	500	75	60	280	56	250	1910	180		55		850	355	446	1290

Size	High Speed Shaft							Fan				DP1	DP2	Wt. kg	Oil Qty. L
	R	S	W2/Depth	Key			L2	FA	FB	FC	FD				
				X2	Y2	Z2									
9090	140	65m6	M20/42	18	7	11	125	340	200	105	65	1"	1 1/2"	2170	120
9095	140	65m6	M20/42	18	7	11	125	340	200	105	65	1"	1 1/2"	2430	145
9100	140	75m6	M20/42	20	7.5	12	125	380	225	105	60	1"	1 1/2"	2970	170
9105	140	75m6	M20/42	20	7.5	12	125	380	225	105	60	1"	1 1/2"	3450	210
9110	170	85m6	M20/42	22	9	14	150	410	225	135	90	1"	1 1/2"	4150	230
9115	170	85m6	M20/42	22	9	14	150	410	225	135	90	1"	1 1/2"	4670	290

※ 9100 ~ 9115 are equipped with motor driven pumps. For details consult us.

Unit: mm

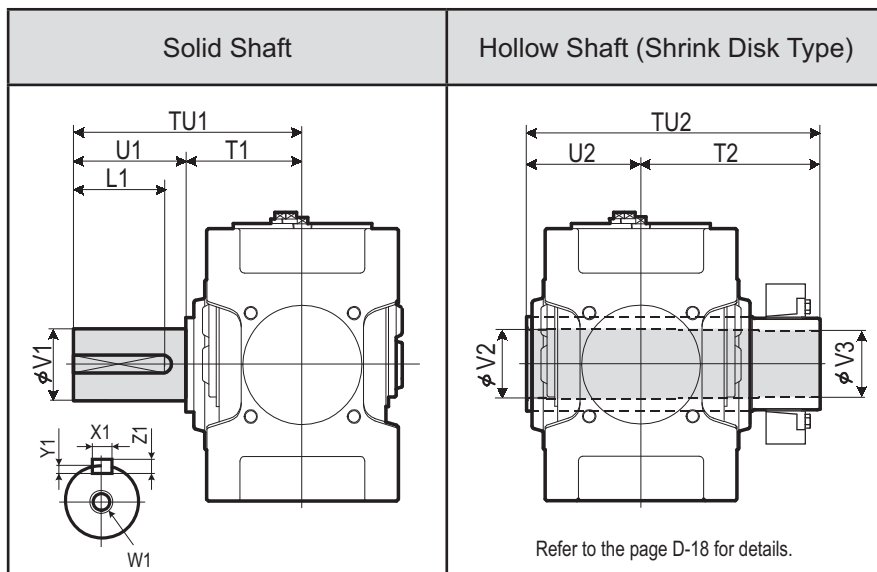
1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
 2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
 3. Shaft arrangement RR is equipped with oil gauge. Refer to the page D-31.

4. Refer to the page D-16 for dimensions shown in these drawings.
 5. Refer to the page D-31 for the dimension of optional parts.

DIMENSIONS Right Angle Shaft Triple Reduction Vertical Mounting 9090 ▶ 9115

PARAMAX Vertical Split 9090 9115 Right Angle Triple Reduction 3

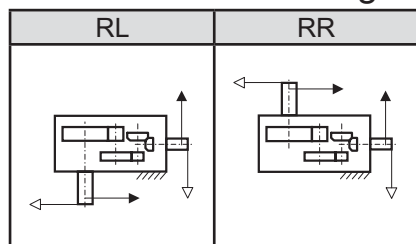
Slow Speed Shaft



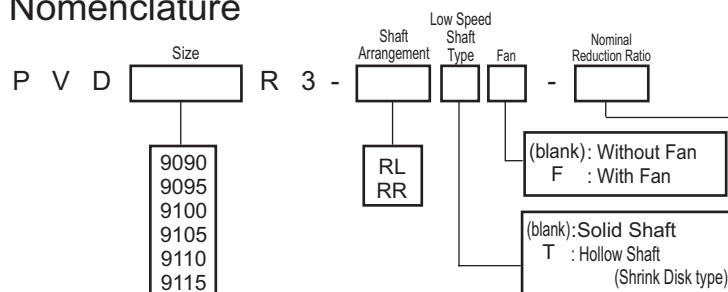
Size	Solid Shaft					Hollow Shaft (Shrink Disk Type)								
	TU1	T1	U1	V1	W1/Depth	Key				TU2	T2	U2	V2	V3
9090	650	350	300	180m6	M30/60	X1	Y1	Z1	L1	844	494	350	193	190
9095	700	350	350	190m6	M30/60	45	15	25	320	859	509	350	203	200
9100	740	390	350	200m6	M30/60	45	15	25	320	934	544	390	213	210
9105	740	390	350	220m6	M30/60	50	17	28	320	949	559	390	223	220
9110	770	420	350	220m6	M30/60	50	17	28	320	1030	610	420	243	240
9115	830	420	410	240m6	M30/60	56	20	32	375	1065	645	420	253	250

Unit: mm

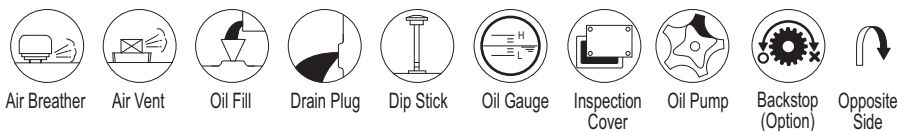
Standard Shaft Arrangement Configuration



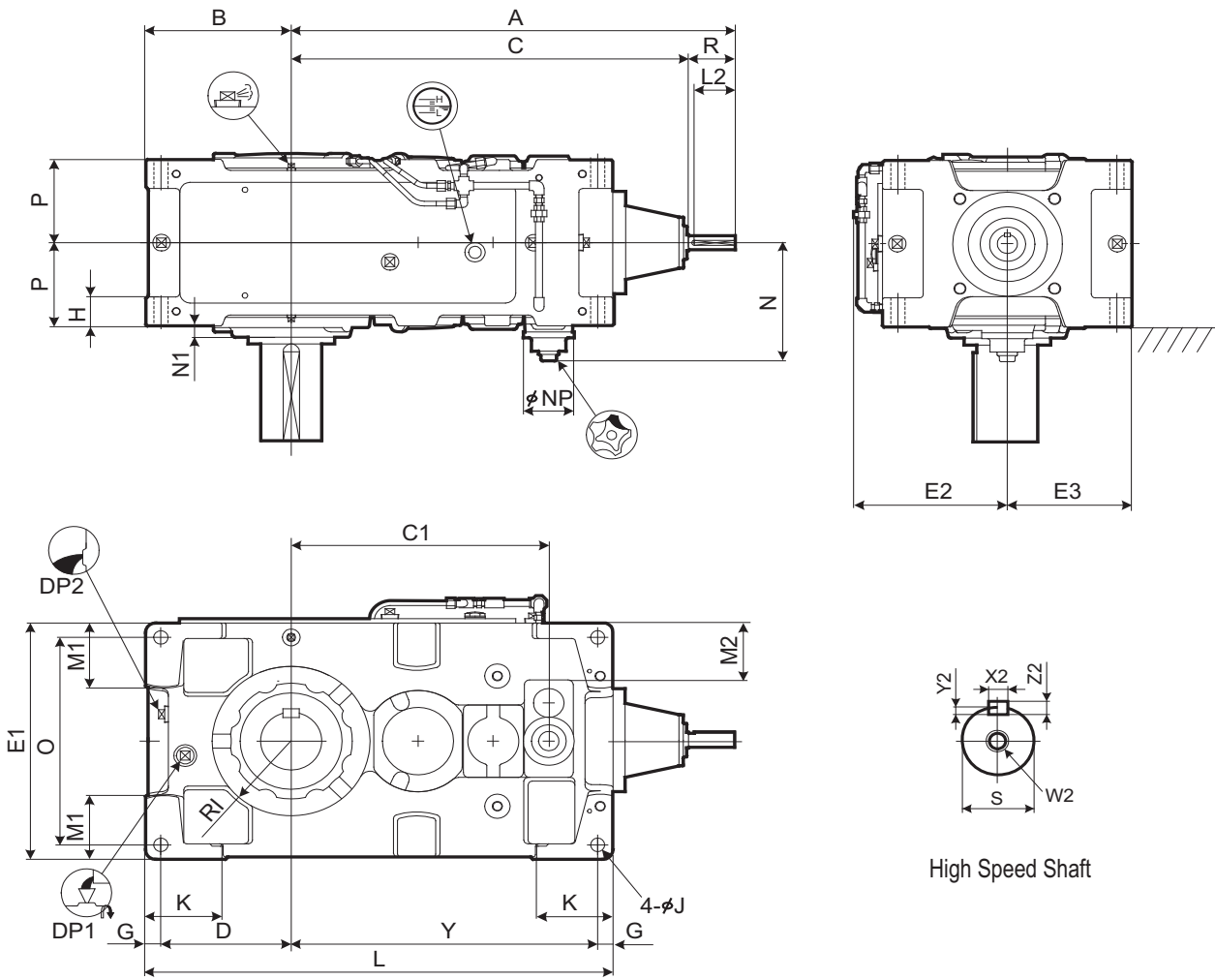
Nomenclature



Size	Nominal Reduction Ratio													
	20	22.4	25	28	31.5	35.5	40	45	50	56	63	71	80	90
9090	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9095	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9100	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9105	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9110	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9115	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



DIMENSIONS Right Angle Shaft Quadruple Reduction Vertical Mounting 9040 ▶ 9055



Speed Reducer

Selection Tables
Dimension Tables

Size	A	B	C	C1	D	E1	E2	E3	G	H	RI	J	K	L	M1	M2	N	N1	NP	O	P	Y
9040	790	235	710	398	205	400	260	200	30	60	120	28	150	759	100	70	228.5	15	100	340	157.5	494
9045	829	256	749	437	226	440	277	220	30	60	140	28	150	819	120	90	228.5	17.5	100	380	157.5	533
9050	859	255	779	467	225	420	270	210	30	60	140	28	150	848	110	83	248.5	23	100	360	172.5	563
9055	898	286	818	506	256	490	305	245	30	60	155	28	150	918	135	118	248.5	23	100	430	172.5	602

Size	High Speed Shaft							DP1	DP2	Wt. kg	Oil Qty. L
	R	S	W2/Depth	Key							
				X2	Y2	Z2	L2				
9040	80	28k6	M10/22	8	4	7	70	1"	1"	325	18
9045	80	28k6	M10/22	8	4	7	70	1"	1"	395	22
9050	80	28k6	M10/22	8	4	7	70	1"	1"	460	24
9055	80	28k6	M10/22	8	4	7	70	1"	1"	520	34

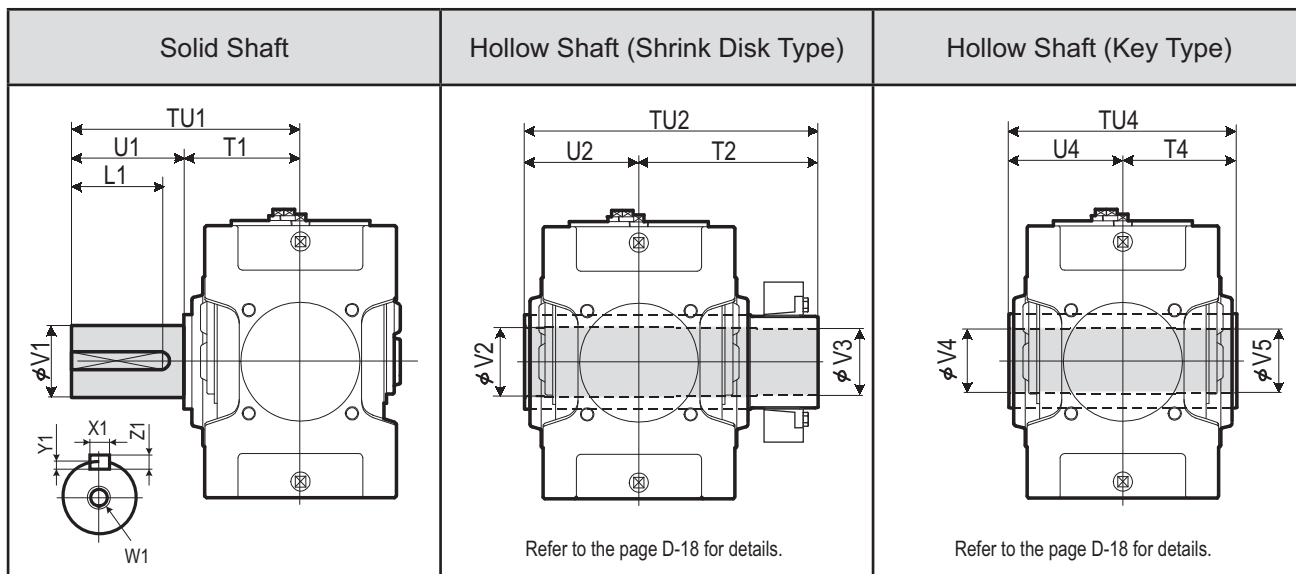
Unit: mm

1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
 2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
 3. Refer to the page D-13 for dimensions shown in these drawings.
 4. Refer to the page D -25 for the dimension of optional parts.

DIMENSIONS Right Angle Shaft Quadruple Reduction Vertical Mounting 9040 ▶ 9055

PARAMAX Vertical Monoblock 9040 9055 Right Angle Quadruple Reduction

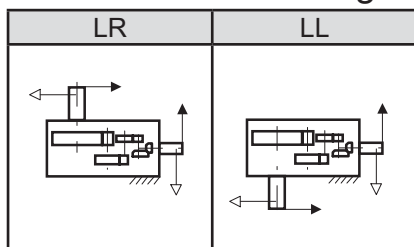
Slow Speed Shaft



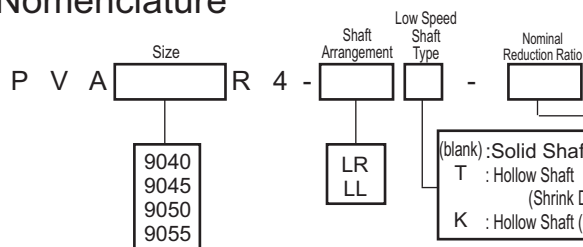
Size	Solid Shaft					Key					Hollow Shaft (Shrink Disk Type)					Hollow Shaft (Key Type)				
	TU1	T1	U1	V1	W1/Depth	X1	Y1	Z1	L1	TU2	T2	U2	V2	V3	TU4	T4	U4	V4	V5	
9040	349	179	170	95m6	M24/50	25	9	14	150	448	268	180	98	95	360	180	180	90	90	
9045	391	181	210	105m6	M24/50	28	10	16	190	463	283	180	108	105	370	185	185	105	105	
9050	411	201	210	110m6	M24/50	28	10	16	190	503	303	200	108	105	410	205	205	105	105	
9055	411	201	210	120m6	M24/50	32	11	18	185	528	323	205	123	120	410	205	205	115	115	

Unit: mm

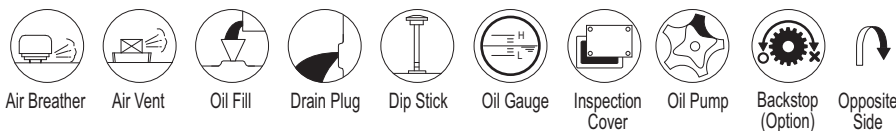
Standard Shaft Arrangement Configuration



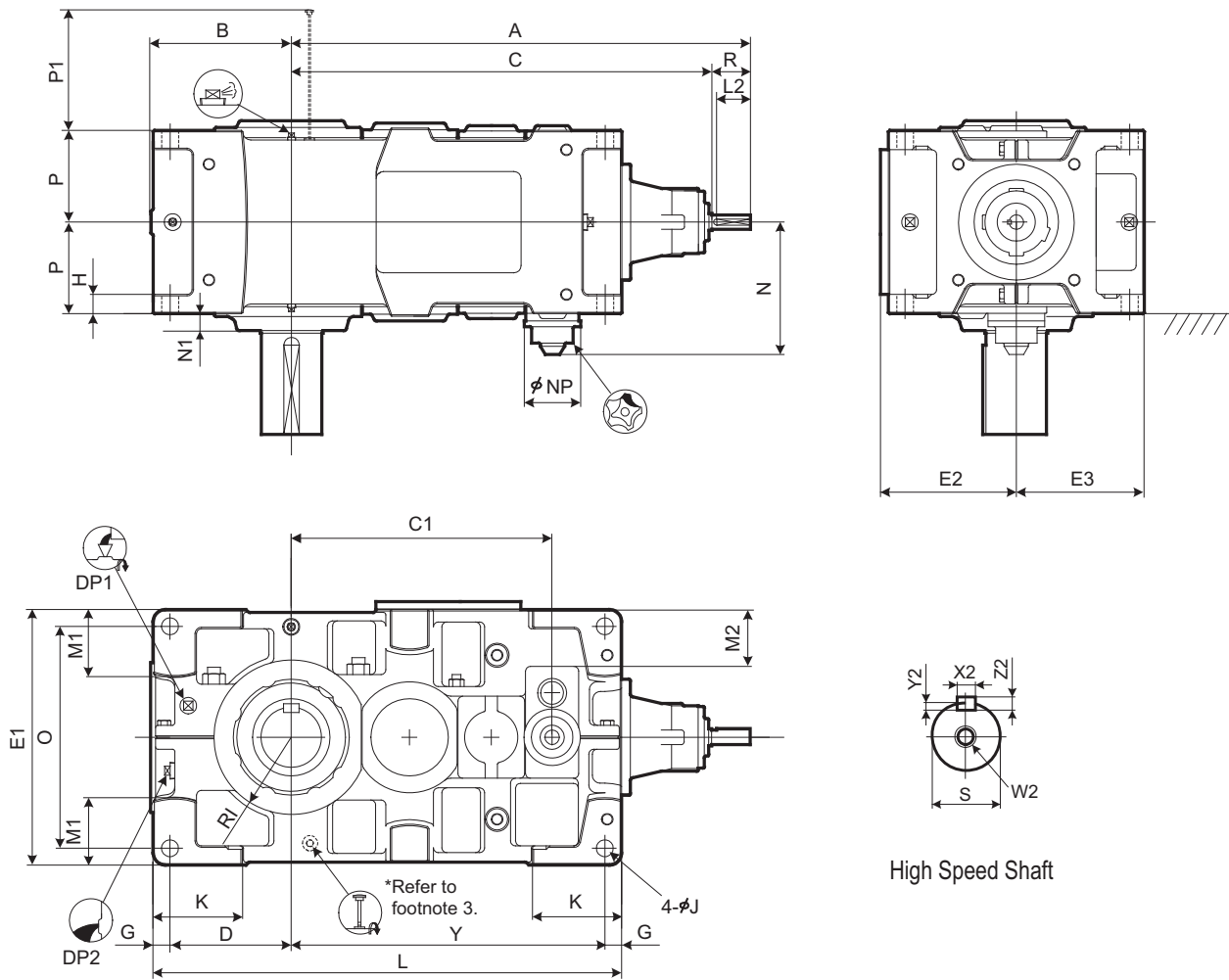
Nomenclature



Size	Nominal Reduction Ratio															
	80	90	100	112	125	140	160	180	200	224	250	280	315	355	400	450
9040	○	○	○	○	○	○										
9045				○	○	○	○	○								
9050	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
9055				○	○	○	○	○	○	○	○	○	○	○	○	○



DIMENSIONS Right Angle Shaft Quadruple Reduction Vertical Mounting 9060 ▶ 9085



Speed Reducer

Selection Tables
Dimension Tables

Size	A	B	C	C1	D	E1	E2	E3	G	H	RI	J	K	L	M1	M2	N	N1	NP	O	P	P1	Y
9060	950	299	870	540	251	530	282	265	35	35	160	35	180	970	140	118	277.5	35	117	460	190	203	649
9065	996	338	916	586	290	600	317	300	35	35	175	35	180	1055	175	153	277.5	38	117	530	190	203	695
9070	1080	336	1000	630	283	600	317	300	40	40	175	42	215	1115	155	128	302.5	38	117	520	215	233	752
9075	1133	383	1053	683	330	670	352	335	40	52	190	42	220	1215	195	163	302.5	40	117	590	215	233	805
9080	1250	378	1140	725	325	670	352	335	40	52	190	42	220	1275	170	140	322.5	45	117	590	230	263	870
9085	1306	422	1196	781	369	750	392	375	40	52	215	42	220	1375	210	180	322.5	40	117	670	230	263	926

Size	High Speed Shaft							DP1	DP2	Wt. kg	Oil Qty. L
	R	S	W2/Depth	Key							
				X2	Y2	Z2	L2				
9060	80	30k6	M10/22	8	4	7	70	1"	1"	670	36
9065	80	30k6	M10/22	8	4	7	70	1"	1"	825	45
9070	80	35k6	M12/28	10	5	8	70	1"	1"	960	54
9075	80	35k6	M12/28	10	5	8	70	1"	1"	1180	68
9080	110	45k6	M16/36	14	5.5	9	95	1"	1"	1390	69
9085	110	45k6	M16/36	14	5.5	9	95	1"	1"	1650	94

Unit: mm

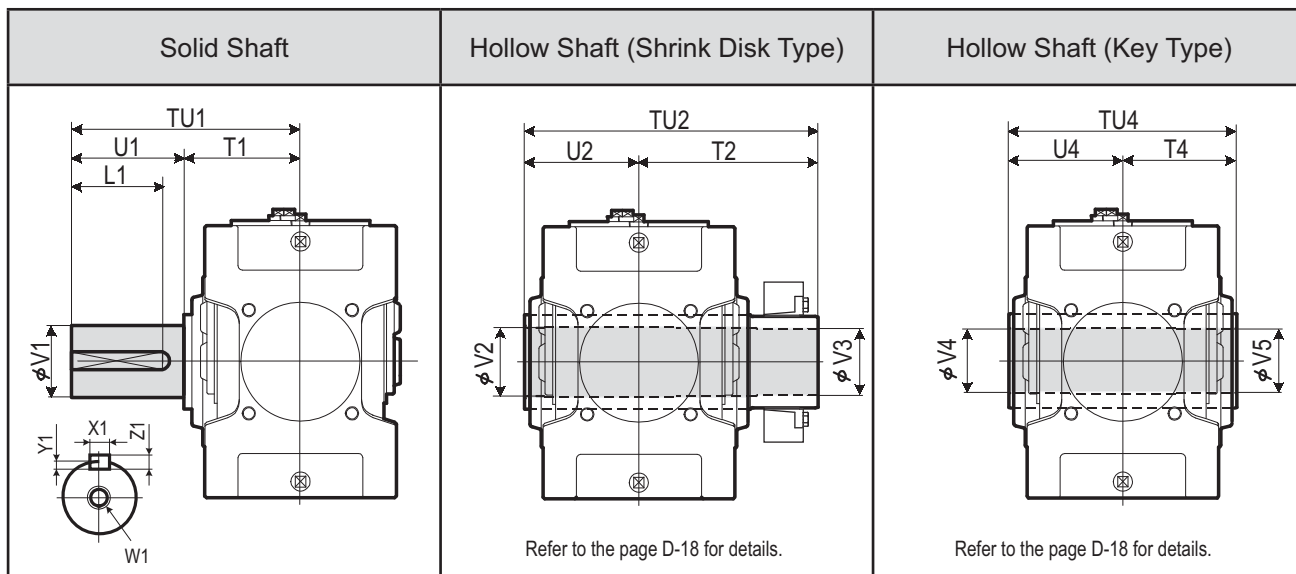
1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
 2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
 3. Shaft arrangement LR is equipped with oil gauge. Refer to the page D-28.

4. Refer to the page D-15 for dimensions shown in these drawings.
 5. Refer to the page D-28 for the dimension of optional parts.

DIMENSIONS Right Angle Shaft Quadruple Reduction Vertical Mounting 9060 ▶ 9085

PARAMAX Vertical Split 9060 9085 Right Angle Quadruple Reduction P V D R 4

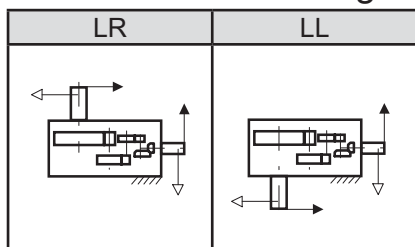
Slow Speed Shaft



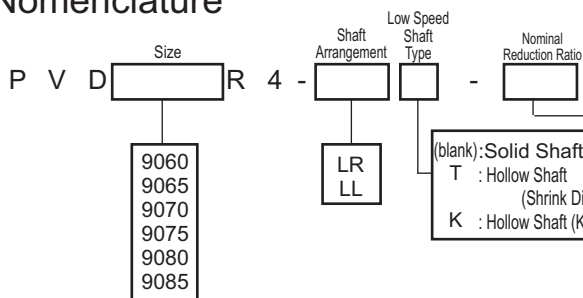
Size	Solid Shaft					Key					Hollow Shaft (Shrink Disk Type)					Hollow Shaft (Key Type)				
	TU1	T1	U1	V1	W1/Depth	X1	Y1	Z1	L1	TU2	T2	U2	V2	V3	TU4	T4	U4	V4	V5	
9060	440	230	210	125m6	M24/50	32	11	18	185	583	353	230	128	125	470	235	235	125	123	
9065	484	234	250	140m6	M30/60	36	12	20	225	594	359	235	143	140	480	240	240	145	143	
9070	509	259	250	145m6	M30/60	36	12	20	225	644	384	260	148	145	530	265	265	145	143	
9075	562	262	300	160m6	M30/60	40	13	22	275	651	386	265	158	155	530	265	265	150	148	
9080	582	282	300	165m6	M30/60	40	13	22	275	714	429	285	173	170	570	285	285	165	163	
9085	585	285	300	175m6	M30/60	45	15	25	270	714	429	285	183	180	570	285	285	175	173	

Unit: mm

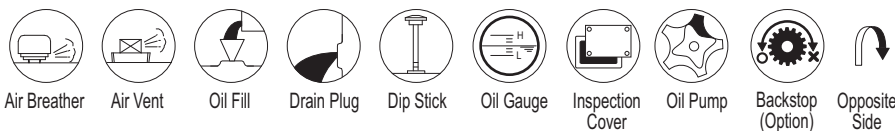
Standard Shaft Arrangement Configuration



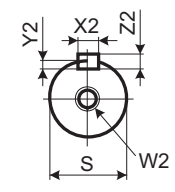
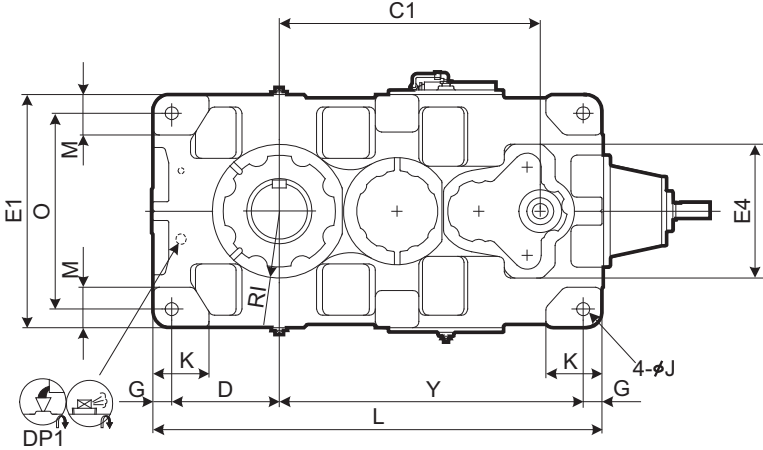
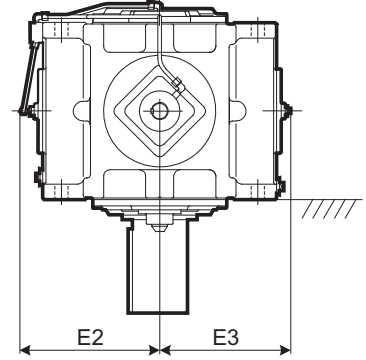
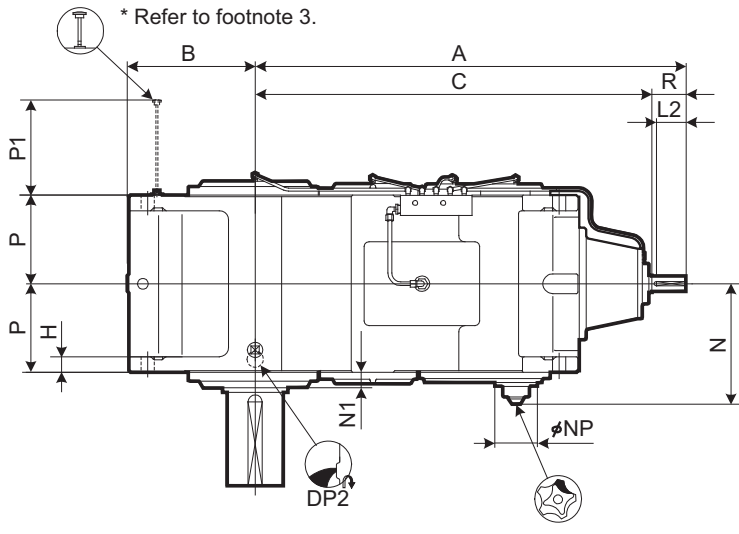
Nomenclature



Size	Nominal Reduction Ratio															
	80	90	100	112	125	140	160	180	200	224	250	280	315	355	400	450
9060		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9065				○	○	○	○	○	○	○	○	○	○	○	○	○
9070		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9075			○	○	○	○	○	○	○	○	○	○	○	○	○	○
9080	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9085			○	○	○	○	○	○	○	○	○	○	○	○	○	○



DIMENSIONS Right Angle Shaft Quadruple Reduction Vertical Mounting 9090 ▶ 9115



High Speed Shaft

Speed Reducer
Selection Tables
Dimension Tables

Size	A	B	C	C1	D	E1	E2	E3	E4	G	H	RI	J	K	L	M	N	N1	NP	O	P	P1	Y
9090	1382	410	1272	837	345	750	449	421	430	60	50	215	42	180	1440	130	381	50	137	630	285	354	975
9095	1412	440	1302	867	375	800	474	446	430	60	50	235	42	200	1500	140	381	50	137	680	285	354	1005
9100	1570	450	1430	950	375	850	499	471	500	70	55	235	48	200	1610	150	421	60	137	710	325	399	1095
9105	1604	485	1464	984	410	900	524	496	500	70	55	260	48	220	1680	160	421	60	137	760	325	399	1130
9110	1670	500	1530	1050	420	950	559	521	500	75	60	265	56	220	1810	170	451	55	137	800	355	429	1240
9115	1719	550	1579	1099	470	1000	584	546	500	75	60	280	56	250	1910	180	451	55	137	850	355	429	1290

Size	High Speed Shaft							DP1	DP2	Wt. kg	Oil Qty. L
	R	S	W2/Depth	Key			L2				
				X2	Y2	Z2					
9090	110	50k6	M16/36	14	5.5	9	95	1"	1 1/2"	2170	120
9095	110	50k6	M16/36	14	5.5	9	95	1"	1 1/2"	2430	155
9100	140	60m6	M20/42	18	7	11	125	1"	1 1/2"	2970	180
9105	140	60m6	M20/42	18	7	11	125	1"	1 1/2"	3450	220
9110	140	60m6	M20/42	18	7	11	125	1"	1 1/2"	4100	250
9115	140	60m6	M20/42	18	7	11	125	1"	1 1/2"	4620	315

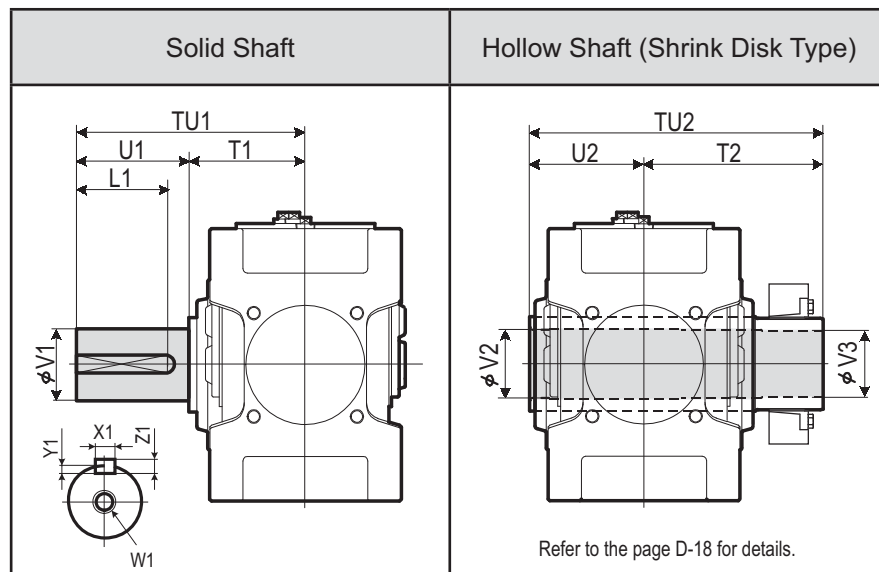
Unit: mm

1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
 2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
 3. Shaft arrangement LR is equipped with oil gauge. Refer to the page D-31.

4. Refer to the page D-16 for dimensions shown in these drawings.
 5. Refer to the page D-31 for the dimension of optional parts.

DIMENSIONS Right Angle Shaft Quadruple Reduction Vertical Mounting 9090 ▶ 9115

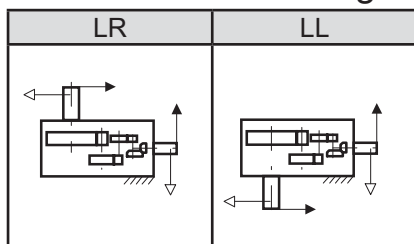
Slow Speed Shaft



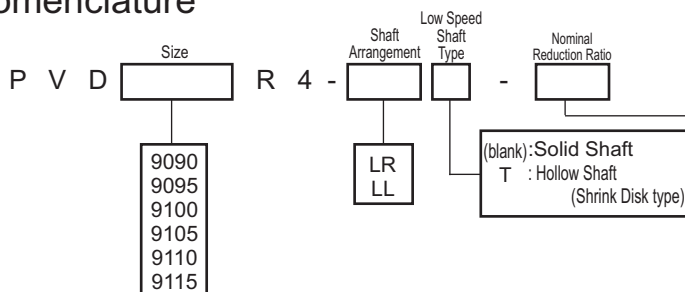
Size	Solid Shaft					Hollow Shaft (Shrink Disk Type)								
	TU1	T1	U1	V1	W1/Depth	Key				TU2	T2	U2	V2	V3
9090	650	350	300	180m6	M30/60	45	15	25	270	844	494	350	193	190
9095	700	350	350	190m6	M30/60	45	15	25	320	859	509	350	203	200
9100	740	390	350	200m6	M30/60	45	15	25	320	934	544	390	213	210
9105	740	390	350	220m6	M30/60	50	17	28	320	949	559	390	223	220
9110	770	420	350	220m6	M30/60	50	17	28	320	1030	610	420	243	240
9115	830	420	410	240m6	M30/60	56	20	32	375	1065	645	420	253	250

Unit: mm

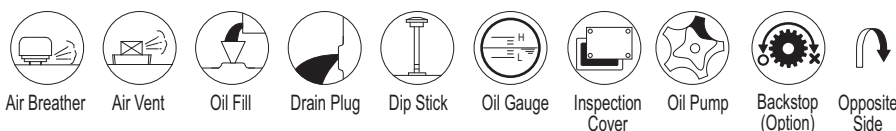
Standard Shaft Arrangement Configuration



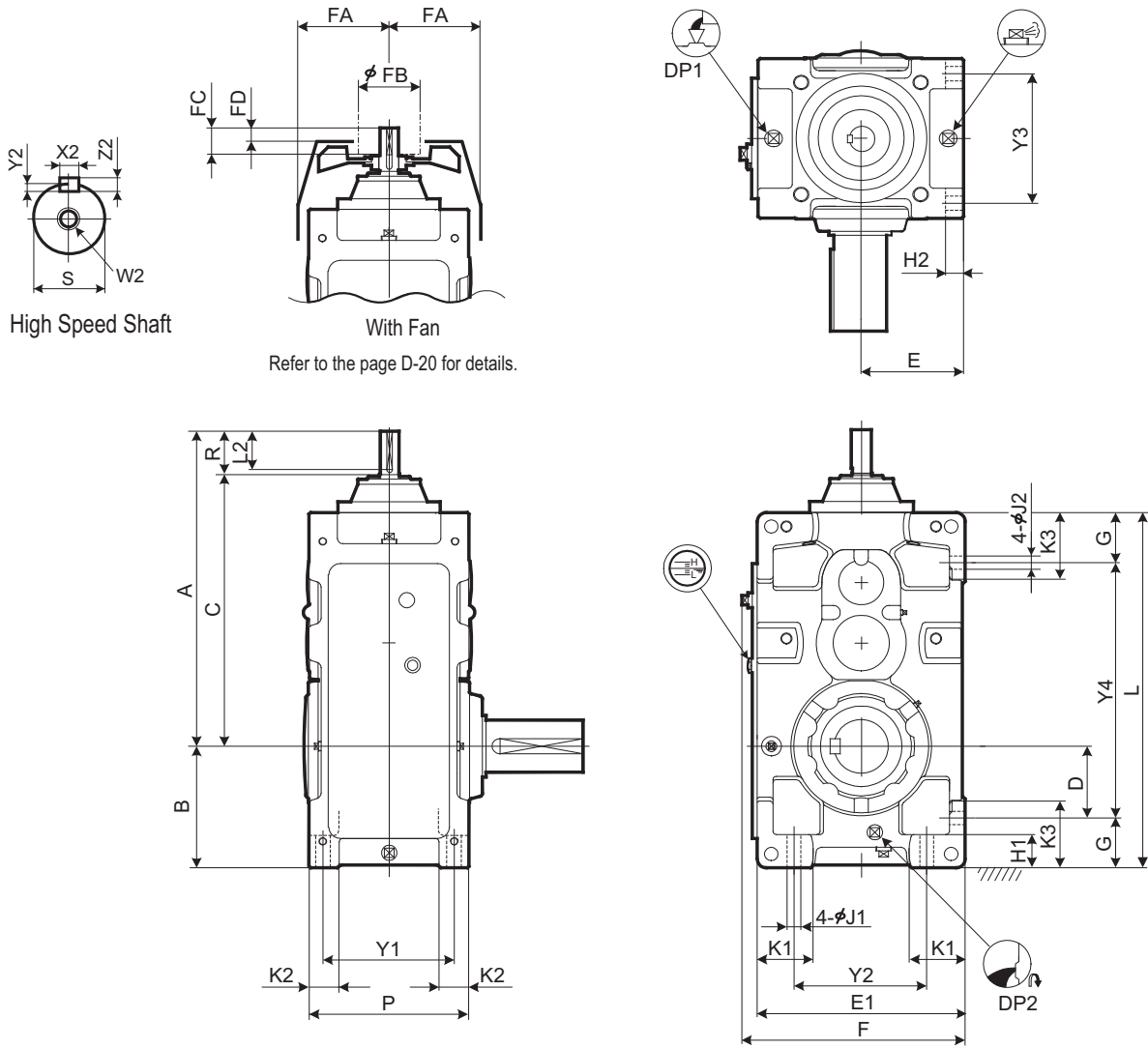
Nomenclature



Size	Nominal Reduction Ratio													
	90	100	112	125	140	160	180	200	224	250	280	315	355	400
9090	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9095	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9100	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9105	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9110	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9115	○	○	○	○	○	○	○	○	○	○	○	○	○	○



DIMENSIONS Right Angle Shaft Double Reduction Upright Mounting 9015 ▶ 9055



Refer to the page D-20 for details.

Speed Reducer
Selection Tables
Dimension Tables

Size	A	B	C	D	E	E1	F	G	H1	H2	J1	J2	K1	K2	K3	L	P	Y1	Y2	Y3	Y4
9015	507	160	427	90	135	270	298	70	50	22	15	15	70	35	95	440	205	170	180	170	300
9025	545	175	465	95	155	310	338	80	55	25	19	19	75	40	110	505	235	195	210	195	345
9030	645	200	535	110	160	320	348	90	60	28	24	24	85	50	120	590	265	215	200	215	410
9035	676	219	566	129	185	370	398	90	60	28	24	24	100	50	120	640	265	215	250	215	460
9040	705	235	595	120	200	400	430	115	75	30	28	28	100	60	150	685	315	255	260	255	455
9045	744	256	634	141	220	440	470	115	75	30	28	28	120	60	150	745	315	255	300	255	515
9050	755	255	645	138.5	210	420	450	116.5	75	32	28	28	110	60	150	775	345	285	280	285	542
9055	794	286	684	171	245	490	520	115	75	32	28	28	135	60	150	845	345	285	350	285	615

Size	High Speed Shaft							Fan				DP1	DP2	Wt. kg	Oil Qty. L
	R	S	W2/Depth	Key				FA	FB	FC	FD				
				X2	Y2	Z2	L2								
9015	80	28k6	M12/28	8	4	7	70	125	125	50	30	3/4"	3/4"	95	7
9025	80	35k6	M12/28	10	5	8	70	135	140	50	30	3/4"	3/4"	140	11
9030	110	40k6	M16/36	14	5.5	9	95	150	140	80	52	3/4"	3/4"	205	14
9035	110	40k6	M16/36	14	5.5	9	95	150	140	80	52	3/4"	3/4"	225	19
9040	110	45k6	M16/36	14	5.5	9	95	170	160	80	52	1"	1"	305	24
9045	110	45k6	M16/36	14	5.5	9	95	170	160	80	52	1"	1"	365	30
9050	110	50k6	M16/36	14	5.5	9	95	190	160	80	52	1"	1"	435	31
9055	110	50k6	M16/36	14	5.5	9	95	190	160	80	52	1"	1"	495	45

Unit: mm

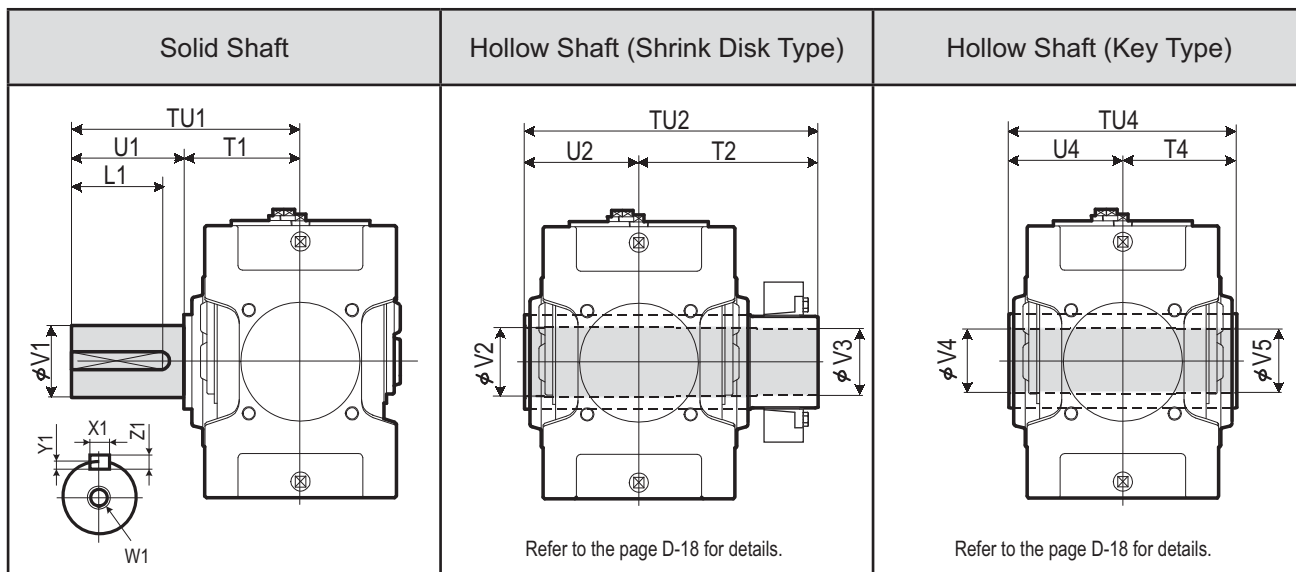
1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
 2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
 3. Refer to the page D-12 for dimensions shown in these drawings.

4. Refer to the page D -26 for the dimension of optional parts.

DIMENSIONS Right Angle Shaft Double Reduction Upright Mounting 9015 ▶ 9055

PARAMAX Upright Monoblock 9015 9025 9030 9035 9040 9045 9050 9055 Right Angle Double Reduction

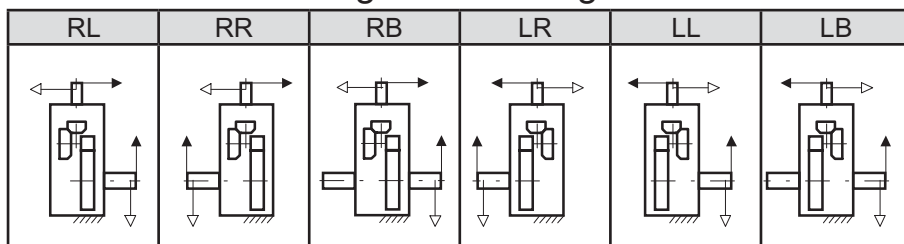
Slow Speed Shaft



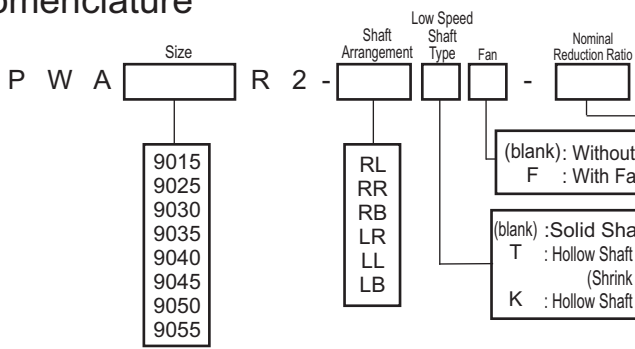
Size	Solid Shaft					Key					Hollow Shaft (Shrink Disk Type)					Hollow Shaft (Key Type)				
	TU1	T1	U1	V1	W1/Depth	X1	Y1	Z1	L1	TU2	T2	U2	V2	V3	TU4	T4	U4	V4	V5	
9015	245	135	110	58m6	M20/42	18	7	11	95	328	193	135	63	60	270	135	135	55	55	
9025	285	145	140	70m6	M20/42	20	7.5	12	125	358	213	145	73	70	300	150	150	65	65	
9030	330	160	170	80m6	M20/42	22	9	14	150	393	233	160	83	80	330	165	165	75	75	
9035	330	160	170	90m6	M20/42	25	9	14	150	403	243	160	88	85	330	165	165	85	85	
9040	349	179	170	95m6	M24/50	25	9	14	150	448	268	180	98	95	360	180	180	90	90	
9045	391	181	210	105m6	M24/50	28	10	16	190	463	283	180	108	105	370	185	185	105	105	
9050	411	201	210	110m6	M24/50	28	10	16	190	503	303	200	108	105	410	205	205	105	105	
9055	411	201	210	120m6	M24/50	32	11	18	185	528	323	205	123	120	410	205	205	115	115	

Unit: mm

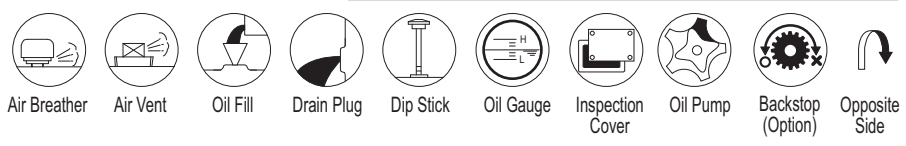
Standard Shaft Arrangement Configuration

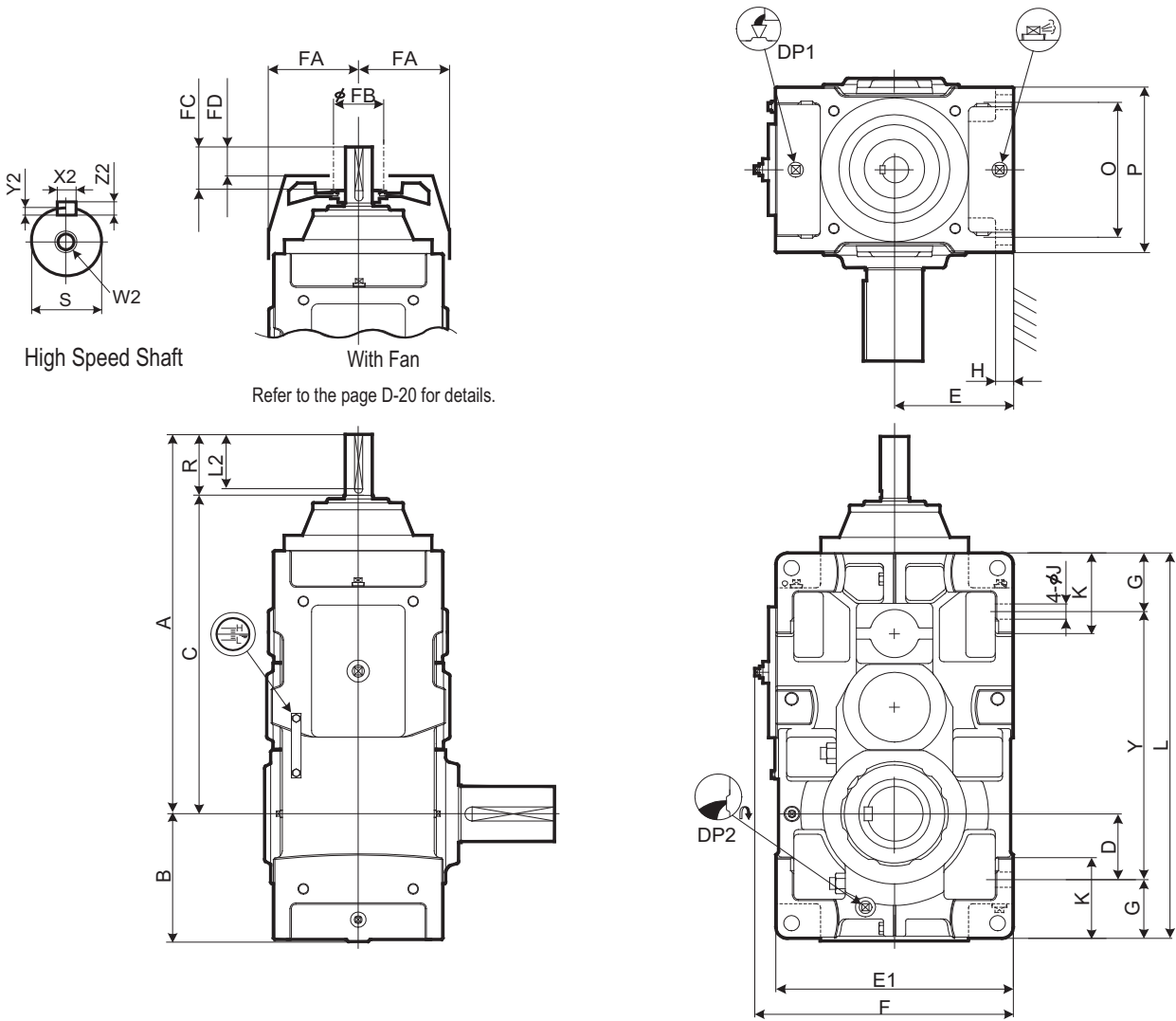


Nomenclature



Size	Nominal Reduction Ratio											
	6.3	7.1	8	9	10	11.2	12.5	14	16	18	20	22.4
9015	○	○	○	○	○	○	○	○	○	○		
9025	○	○	○	○	○	○	○	○	○	○		
9030	○	○	○	○	○	○	○	○	○	○		
9035			○	○	○	○	○	○	○	○	○	○
9040	○	○	○	○	○	○	○	○	○	○		
9045			○	○	○	○	○	○	○	○	○	○
9050	○	○										
9055												





Speed Reducer

Selection Tables

Dimension Tables

Size	A	B	C	D	E	E1	F	G	H	J	K	L	O	P	Y
9060	865	299	725	151	265	530	577	135	35	35	180	885	310	380	615
9065	911	338	771	190	300	600	647	135	35	35	180	970	310	380	700
9070	965	336	825	163	300	600	647	160	40	42	215	1020	350	430	700
9075	1018	383	878	210	335	670	717	160	52	42	220	1120	350	430	800
9080	1080	378	940	205	335	670	717	160	52	42	220	1155	380	460	835
9085	1136	422	996	249	375	750	797	160	52	42	220	1255	380	460	935

Size	High Speed Shaft								Fan				DP1	DP2	Wt. kg	Oil Qty. L
	R	S	W2/Depth	Key				FA	FB	FC	FD					
				X2	Y2	Z2	L2									
9060	140	60m6	M20/42	18	7	11	125	220	160	105	65	1"	1"	600	44	
9065	140	60m6	M20/42	18	7	11	125	220	160	105	65	1"	1"	725	56	
9070	140	65m6	M20/42	18	7	11	125	245	200	105	65	1"	1"	920	65	
9075	140	65m6	M20/42	18	7	11	125	245	200	105	65	1"	1"	1170	87	
9080	140	75m6	M20/42	20	7.5	12	125	270	225	105	60	1"	1"	1300	90	
9085	140	75m6	M20/42	20	7.5	12	125	270	225	105	60	1"	1"	1560	126	

Unit: mm

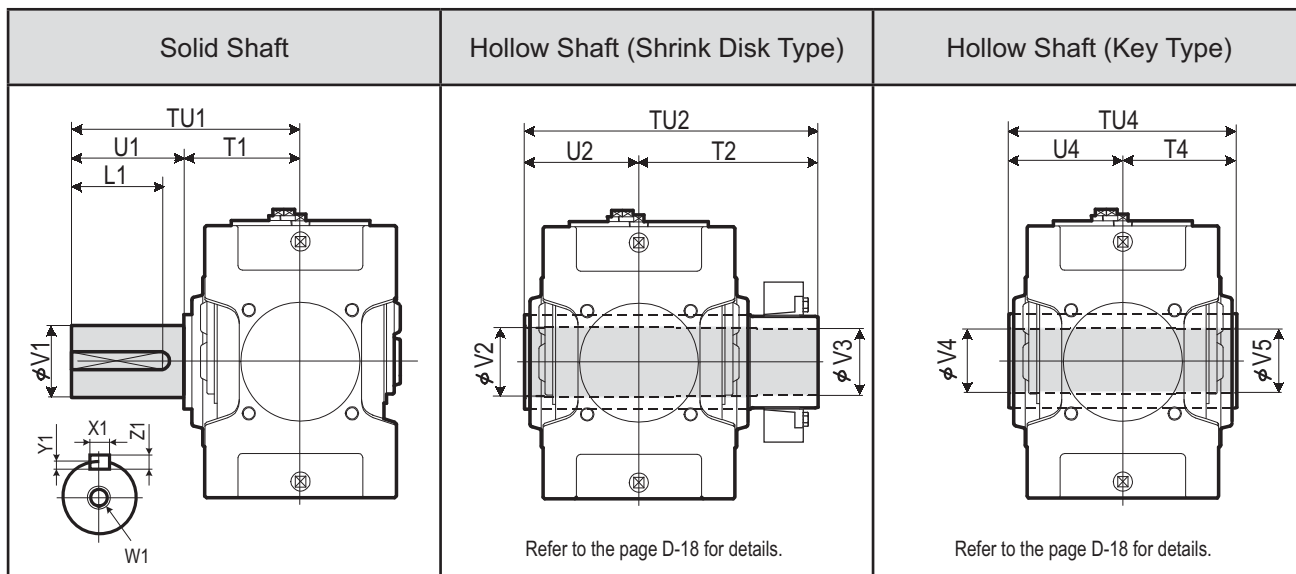
1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
 2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
 3. Refer to the page D-14 for dimensions shown in these drawings.

4. Refer to the page D -29 for the dimension of optional parts.

DIMENSIONS Right Angle Shaft Double Reduction Upright Mounting 9060 ▶ 9085

PARAMAX Upright Split 9060 9085 Right Angle Double Reduction Mount Wall W

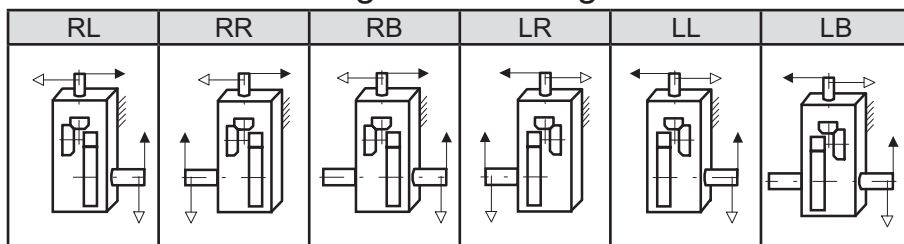
Slow Speed Shaft



Size	Solid Shaft					Key					Hollow Shaft (Shrink Disk Type)					Hollow Shaft (Key Type)				
	TU1	T1	U1	V1	W1/Depth	X1	Y1	Z1	L1	TU2	T2	U2	V2	V3	TU4	T4	U4	V4	V5	
9060	440	230	210	125m6	M24/50	32	11	18	185	583	353	230	128	125	470	235	235	125	123	
9065	484	234	250	140m6	M30/60	36	12	20	225	594	359	235	143	140	480	240	240	145	143	
9070	509	259	250	145m6	M30/60	36	12	20	225	644	384	260	148	145	530	265	265	145	143	
9075	562	262	300	160m6	M30/60	40	13	22	275	651	386	265	158	155	530	265	265	150	148	
9080	582	282	300	165m6	M30/60	40	13	22	275	714	429	285	173	170	570	285	285	165	163	
9085	585	285	300	175m6	M30/60	45	15	25	270	714	429	285	183	180	570	285	285	175	173	

Unit: mm

Standard Shaft Arrangement Configuration



Nomenclature

P W D Size R 2 W - Shaft Arrangement Low Speed Shaft Type Fan - Nominal Reduction Ratio

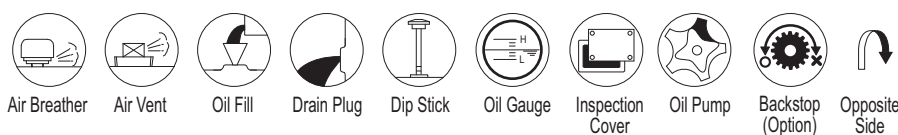
Size
 9060
 9065
 9070
 9075
 9080
 9085

Shaft Arrangement
 RL
 RR
 RB
 LR
 LL
 LB

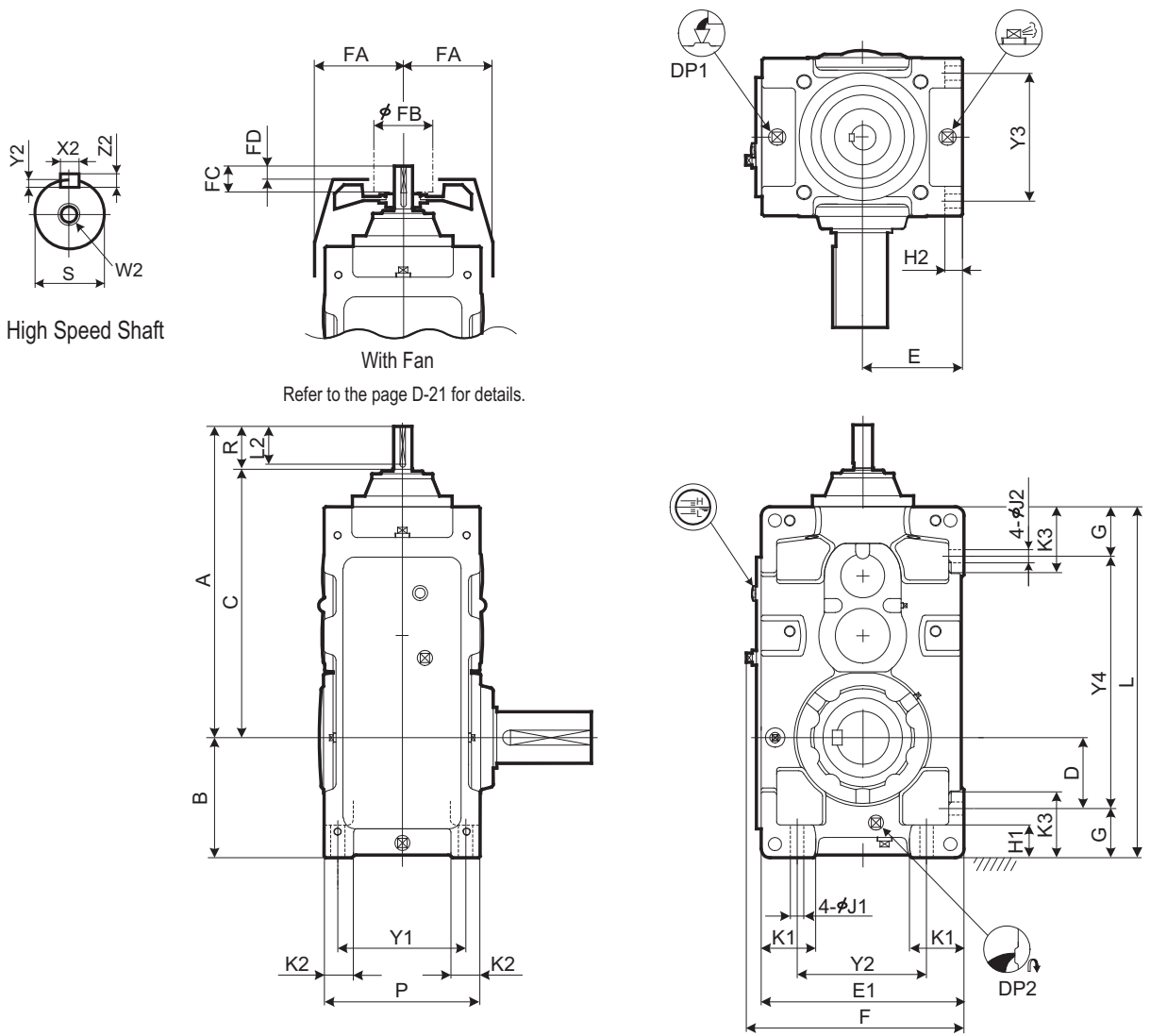
Low Speed Shaft Type
 (blank) : Without Fan
 F : With Fan

Nominal Reduction Ratio
 (blank) : Solid Shaft
 T : Hollow Shaft (Shrink Disk type)
 K : Hollow Shaft (Key type)

Size	Nominal Reduction Ratio											
	6.3	7.1	8	9	10	11.2	12.5	14	16	18	20	22.4
9060	○	○	○	○	○	○	○	○	○	○		
9065				○	○	○	○	○	○	○	○	○
9070	○	○	○	○	○	○	○	○	○	○	○	○
9075				○	○	○	○	○	○	○	○	○
9080	○	○	○	○	○	○	○	○	○	○	○	○
9085				○	○	○	○	○	○	○	○	○



DIMENSIONS Right Angle Shaft Triple Reduction Upright Mounting 9030 ▶ 9055



Speed Reducer

Selection Tables

Dimension Tables

Size	A	B	C	D	E	E1	F	G	H1	H2	J1	J2	K1	K2	K3	L	P	Y1	Y2	Y3	Y4
9030	656	200	576	110	160	320	348	90	60	28	24	24	85	50	120	590	265	215	200	215	410
9035	687	219	607	129	185	370	398	90	60	28	24	24	100	50	120	640	265	215	250	215	460
9040	716	235	636	120	200	400	430	115	75	30	28	28	100	60	150	685	315	255	260	255	455
9045	755	256	675	141	220	440	470	115	75	30	28	28	120	60	150	745	315	255	300	255	515
9050	808	255	728	138.5	210	420	450	116.5	75	32	28	28	110	60	150	775	345	285	280	285	542
9055	847	286	797	171	245	490	520	115	75	32	28	28	135	60	150	845	345	285	350	285	615

Size	High Speed Shaft							Fan				DP1	DP2	Wt. kg	Oil Qty. L
	R	S	W2/Depth	Key				FA	FB	FC	FD				
				X2	Y2	Z2	L2								
9030	80	28k6	M10/22	8	4	7	70	150	125	50	30	3/4"	3/4"	210	16
9035	80	28k6	M10/22	8	4	7	70	150	125	50	30	3/4"	3/4"	230	21
9040	80	30k6	M10/22	8	4	7	70	170	125	50	30	1"	1"	305	29
9045	80	30k6	M10/22	8	4	7	70	170	125	50	30	1"	1"	365	36
9050	80	35k6	M12/28	10	5	8	70	190	140	50	22	1"	1"	445	35
9055	80	35k6	M12/28	10	5	8	70	190	140	50	22	1"	1"	505	46

Unit: mm

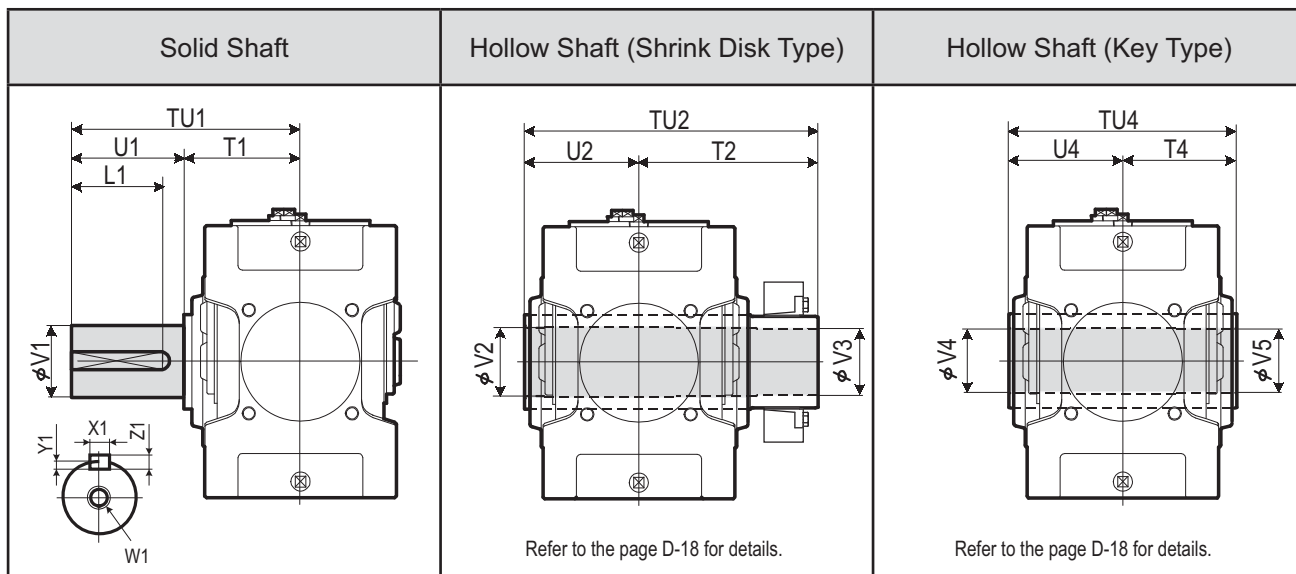
1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
 2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
 3. Refer to the page D-12 for dimensions shown in these drawings.

4. Refer to the page D -26 for the dimension of optional parts.

DIMENSIONS Right Angle Shaft Triple Reduction Upright Mounting 9030 ▶ 9055

PARAMAX Upright Monoblock 9030 9055 Right Angle Triple Reduction P W A R 3

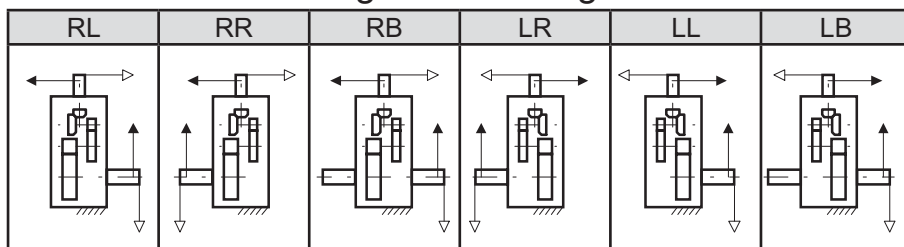
Slow Speed Shaft



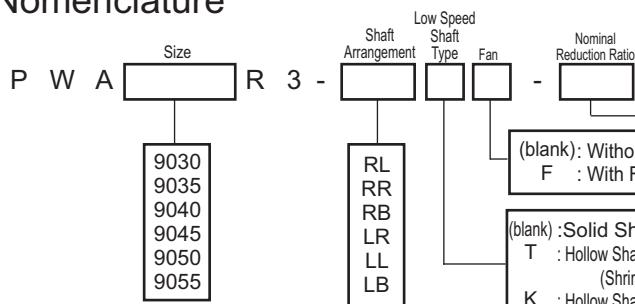
Size	Solid Shaft										Hollow Shaft (Shrink Disk Type)					Hollow Shaft (Key Type)				
	TU1	T1	U1	V1	W1/Depth	Key				TU2	T2	U2	V2	V3	TU4	T4	U4	V4	V5	
						X1	Y1	Z1	L1											
9030	330	160	170	80m6	M20/42	22	9	14	150	393	233	160	83	80	330	165	165	75	75	
9035	330	160	170	90m6	M20/42	25	9	14	150	403	243	160	88	85	330	165	165	85	85	
9040	349	179	170	95m6	M24/50	25	9	14	150	448	268	180	98	95	360	180	180	90	90	
9045	391	181	210	105m6	M24/50	28	10	16	190	463	283	180	108	105	370	185	185	105	105	
9050	411	201	210	110m6	M24/50	28	10	16	190	503	303	200	108	105	410	205	205	105	105	
9055	411	201	210	120m6	M24/50	32	11	18	185	528	323	205	123	120	410	205	205	115	115	

Unit: mm

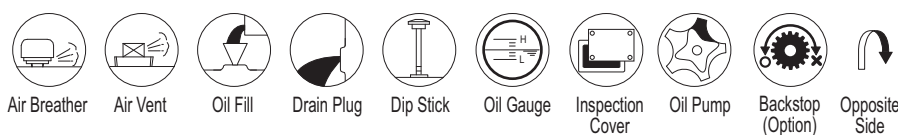
Standard Shaft Arrangement Configuration



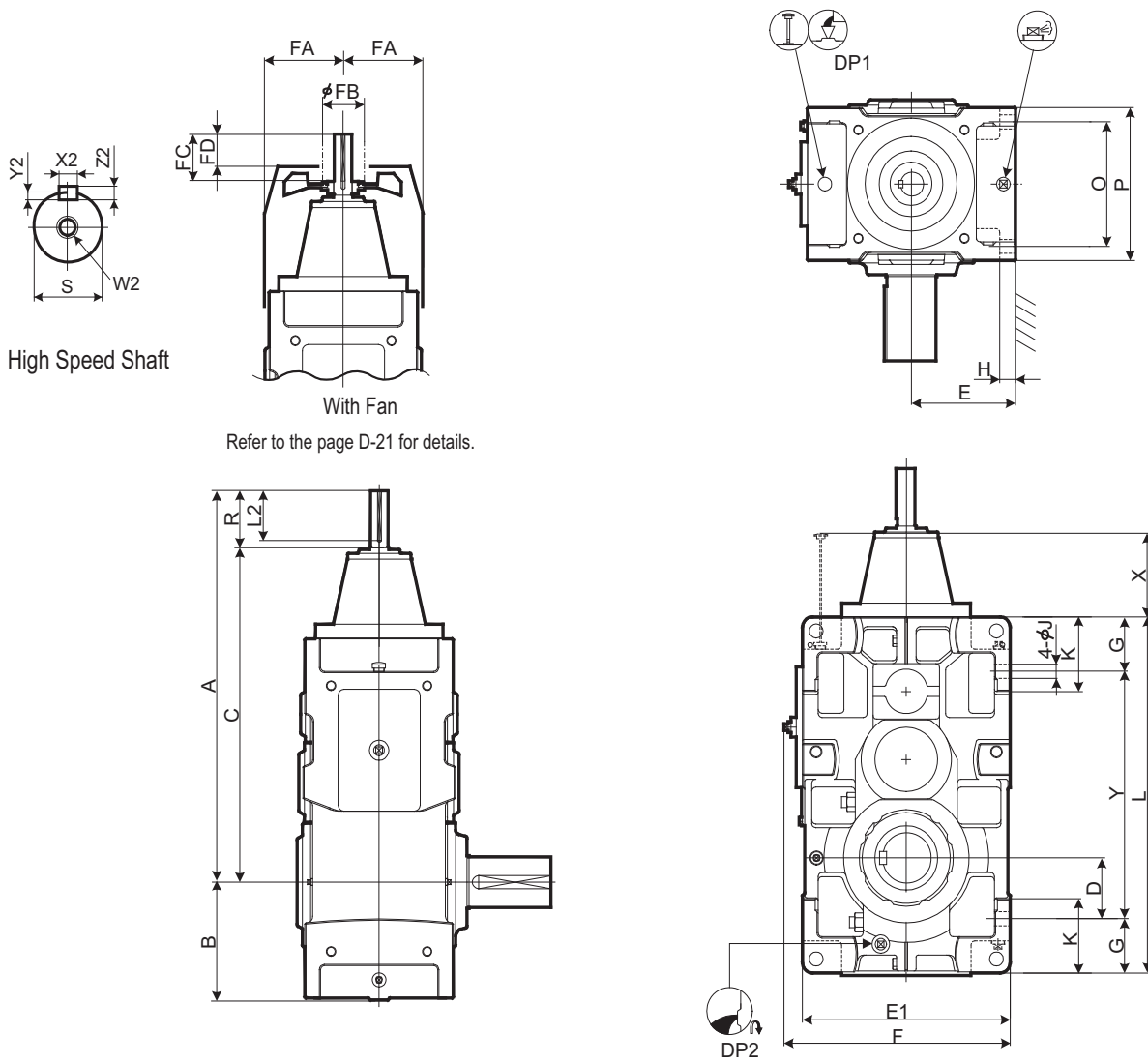
Nomenclature



Size	Nominal Reduction Ratio													
	20	22.4	25	28	31.5	35.5	40	45	50	56	63	71	80	90
9030	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9035			○	○	○	○	○	○	○	○	○	○	○	○
9040				○	○	○	○	○	○	○	○	○	○	○
9045					○	○	○	○	○	○	○	○	○	○
9050	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9055					○	○	○	○	○	○	○	○	○	○



DIMENSIONS Right Angle Shaft Triple Reduction Upright Mounting 9060 ▶ 9085



Refer to the page D-21 for details.

Speed Reducer
Selection Tables
Dimension Tables

Size	A	B	C	D	E	E1	F	G	H	J	K	L	O	P	X	Y
9060	939	299	829	151	265	530	577	135	35	35	180	885	310	380	131	615
9065	985	338	875	190	300	600	647	135	35	35	180	970	310	380	131	700
9070	1027	336	917	163	300	600	647	160	40	42	215	1020	350	430	138	700
9075	1080	383	970	210	335	670	717	160	52	42	220	1120	350	430	138	800
9080	1176	378	1036	205	335	670	717	160	52	42	220	1155	380	460	165	835
9085	1232	422	1092	249	375	750	797	160	52	42	220	1255	380	460	165	935

Size	High Speed Shaft				Fan				DP1	DP2	Wt. kg	Oil Qty. L			
	R	S	W2/Depth	Key				FA					FB	FC	FD
				X2	Y2	Z2	L2								
9060	110	45k6	M16/36	14	5.5	9	95	220	160	80	52	1"	1"	660	56
9065	110	45k6	M16/36	14	5.5	9	95	220	160	80	52	1"	1"	785	65
9070	110	50k6	M16/36	14	5.5	9	95	245	160	80	52	1"	1"	940	83
9075	110	50k6	M16/36	14	5.5	9	95	245	160	80	52	1"	1"	1190	100
9080	140	60m6	M20/42	18	7	11	125	270	160	105	65	1"	1"	1350	115
9085	140	60m6	M20/42	18	7	11	125	270	160	105	65	1"	1"	1610	144

Unit: mm

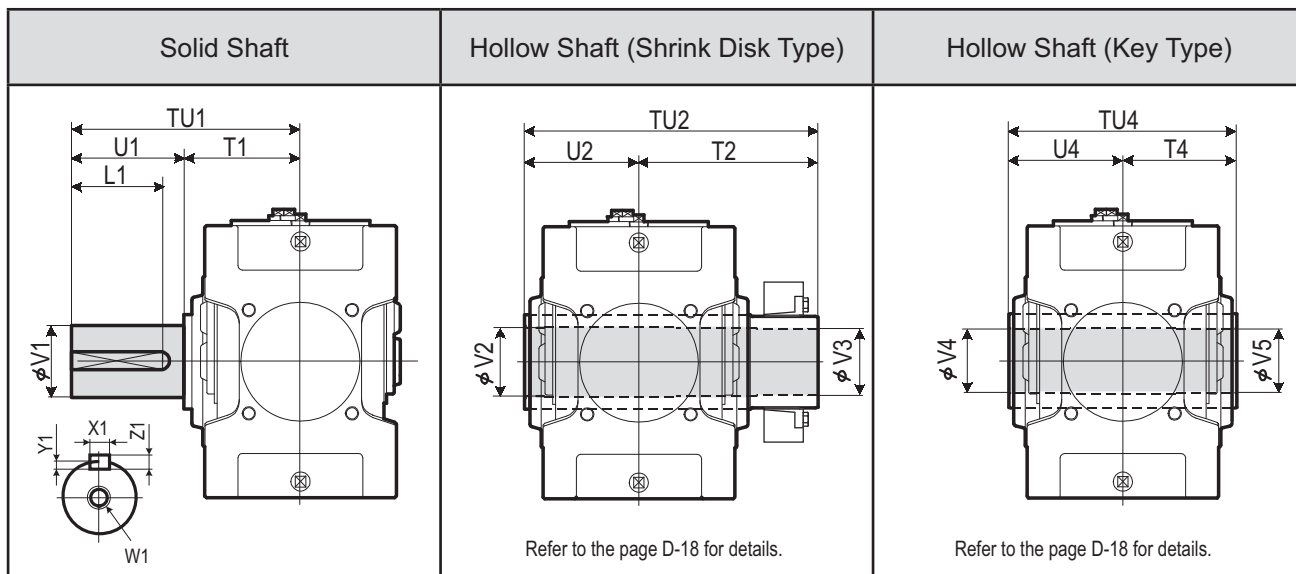
1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
 2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
 3. Refer to the page D-14 for dimensions shown in these drawings.

4. Refer to the page D -29 for the dimension of optional parts.

DIMENSIONS Right Angle Shaft Triple Reduction Upright Mounting 9060 ▶ 9085

PARAMAX Upright Split 9060 9085 Right Angle Triple Reduction Mount Wall W

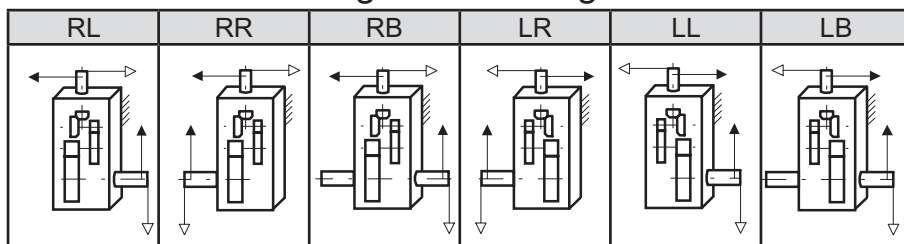
Slow Speed Shaft



Size	Solid Shaft					Key					Hollow Shaft (Shrink Disk Type)					Hollow Shaft (Key Type)				
	TU1	T1	U1	V1	W1/Depth	X1	Y1	Z1	L1	TU2	T2	U2	V2	V3	TU4	T4	U4	V4	V5	
9060	440	230	210	125m6	M24/50	32	11	18	185	583	353	230	128	125	470	235	235	125	123	
9065	484	234	250	140m6	M30/60	36	12	20	225	594	359	235	143	140	480	240	240	145	143	
9070	509	259	250	145m6	M30/60	36	12	20	225	644	384	260	148	145	530	265	265	145	143	
9075	562	262	300	160m6	M30/60	40	13	22	275	651	386	265	158	155	530	265	265	150	148	
9080	582	282	300	165m6	M30/60	40	13	22	275	714	429	285	173	170	570	285	285	165	163	
9085	585	285	300	175m6	M30/60	45	15	25	270	714	429	285	183	180	570	285	285	175	173	

Unit: mm

Standard Shaft Arrangement Configuration



Nomenclature

P W D Size R 3 W - Shaft Arrangement Low Speed Shaft Type Fan - Nominal Reduction Ratio

Size

- 9060
- 9065
- 9070
- 9075
- 9080
- 9085

Shaft Arrangement

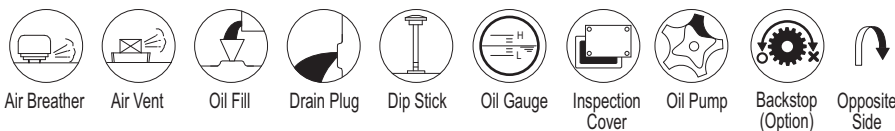
- RL
- RR
- RB
- LR
- LL
- LB

Low Speed Shaft Type

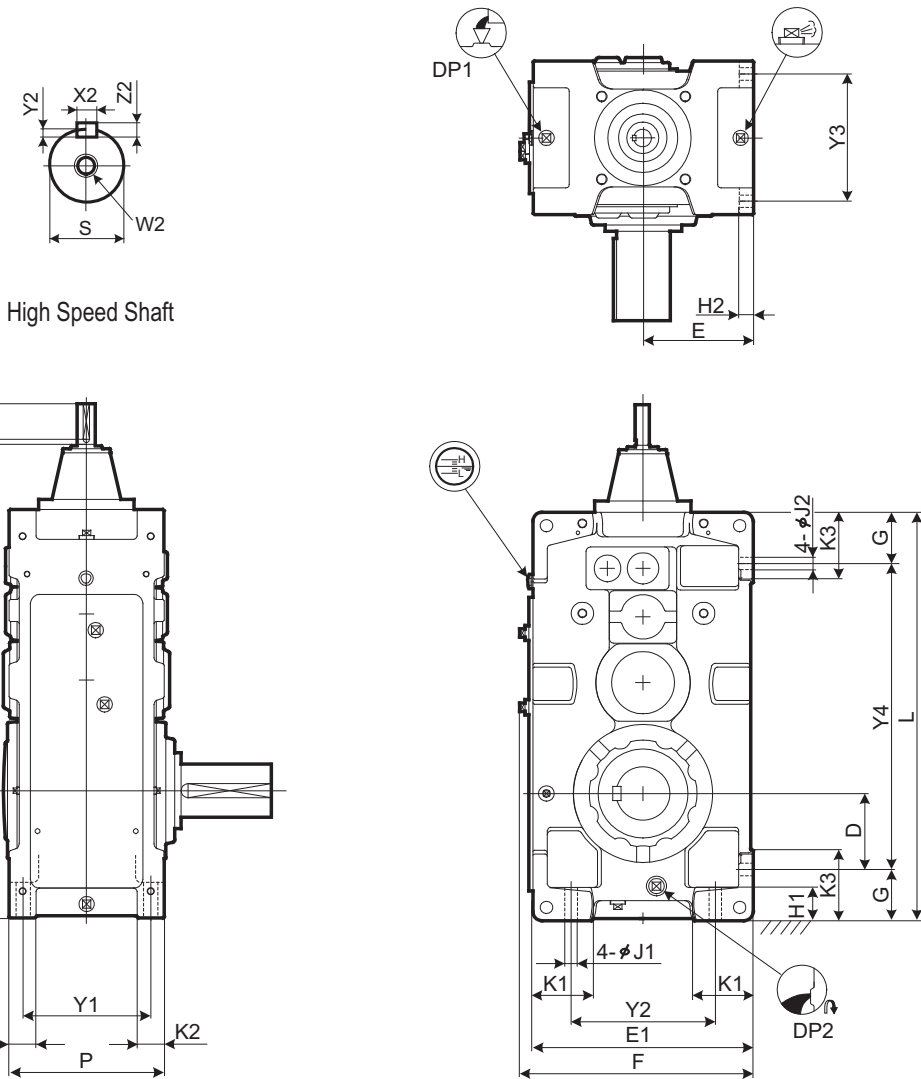
- (blank): Without Fan
- F : With Fan

Nominal Reduction Ratio

Size	20	22.4	25	28	31.5	35.5	40	45	50	56	63	71	80	90
9060	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9065				○	○	○	○	○	○	○	○	○	○	○
9070			○	○	○	○	○	○	○	○	○	○	○	○
9075				○	○	○	○	○	○	○	○	○	○	○
9080	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9085			○	○	○	○	○	○	○	○	○	○	○	○



DIMENSIONS Right Angle Shaft Quadruple Reduction Upright Mounting 9040 ▶ 9055



High Speed Shaft

Speed Reducer
Selection Tables
Dimension Tables

Size	A	B	C	D	E	E1	F	G	H1	H2	J1	J2	K1	K2	K3	L	P	Y1	Y2	Y3	Y4
9040	790	235	710	120	200	400	430	115	75	30	28	28	100	60	150	759	315	255	260	255	529
9045	829	256	749	141	220	440	470	115	75	30	28	28	120	60	150	819	315	255	300	255	589
9050	859	255	779	138.5	210	420	450	116.5	75	32	28	28	110	60	150	848	345	285	280	285	615
9055	898	286	818	171	245	490	520	115	75	32	28	28	135	60	150	918	345	285	350	285	688

Size	High Speed Shaft							DP1	DP2	Wt. kg	Oil Qty. L
	R	S	W2/Depth	Key							
				X2	Y2	Z2	L2				
9040	80	28k6	M10/22	8	4	7	70	1"	1"	325	35
9045	80	28k6	M10/22	8	4	7	70	1"	1"	395	43
9050	80	28k6	M10/22	8	4	7	70	1"	1"	460	46
9055	80	28k6	M10/22	8	4	7	70	1"	1"	520	59

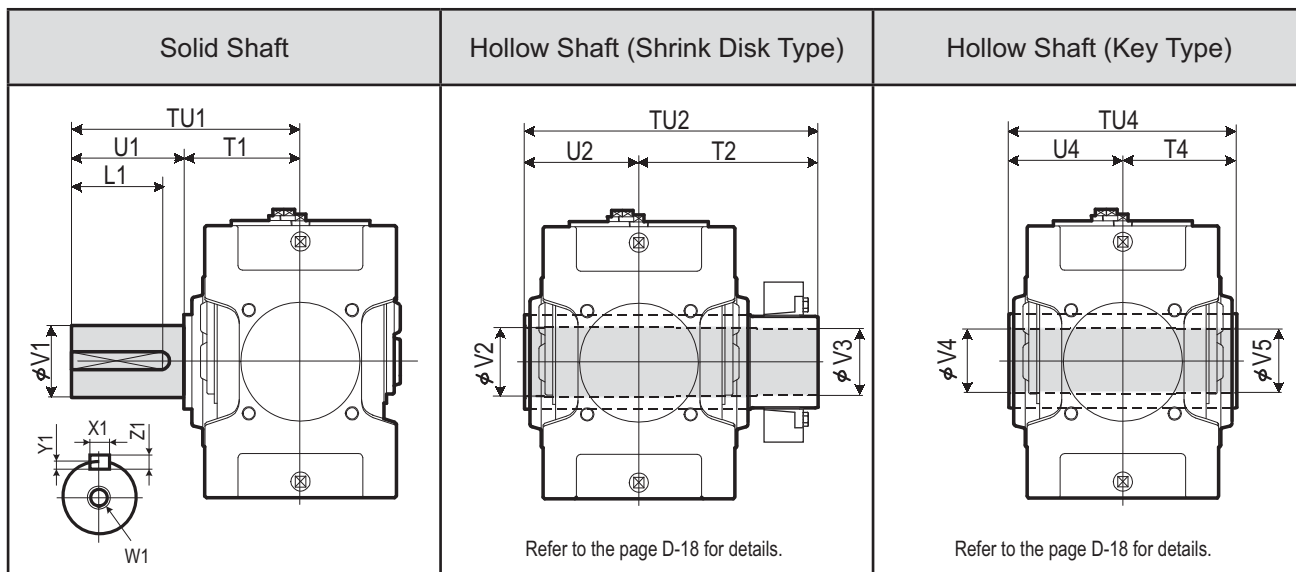
Unit: mm

1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
 2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
 3. Refer to the page D-13 for dimensions shown in these drawings.
 4. Refer to the page D -26 for the dimension of optional parts.

DIMENSIONS Right Angle Shaft Quadruple Reduction Upright Mounting 9040 ▶ 9055

PARAMAX Upright Monoblock 9040 9055 Right Angle Quadruple Reduction

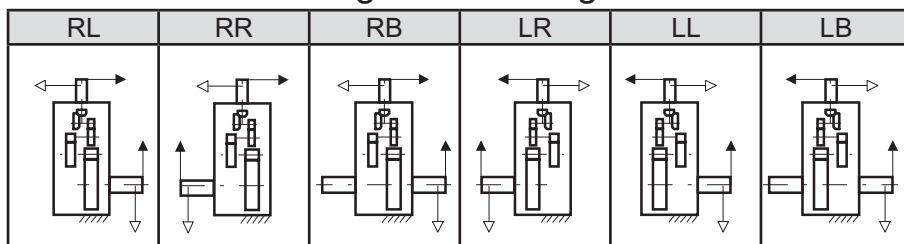
Slow Speed Shaft



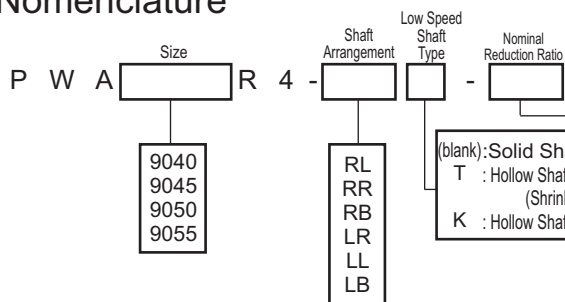
Size	Solid Shaft					Hollow Shaft (Shrink Disk Type)					Hollow Shaft (Key Type)								
	TU1	T1	U1	V1	W1/Depth	Key				TU2	T2	U2	V2	V3	TU4	T4	U4	V4	V5
						X1	Y1	Z1	L1										
9040	349	179	170	95m6	M24/50	25	9	14	150	448	268	180	98	95	360	180	180	90	90
9045	391	181	210	105m6	M24/50	28	10	16	190	463	283	180	108	105	370	185	185	105	105
9050	411	201	210	110m6	M24/50	28	10	16	190	503	303	200	108	105	410	205	205	105	105
9055	411	201	210	120m6	M24/50	32	11	18	185	528	323	205	123	120	410	205	205	115	115

Unit: mm

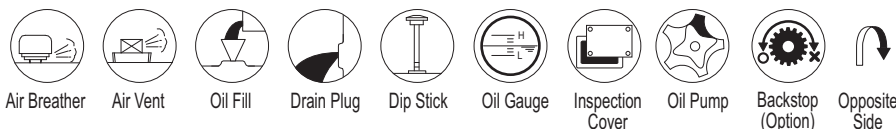
Standard Shaft Arrangement Configuration

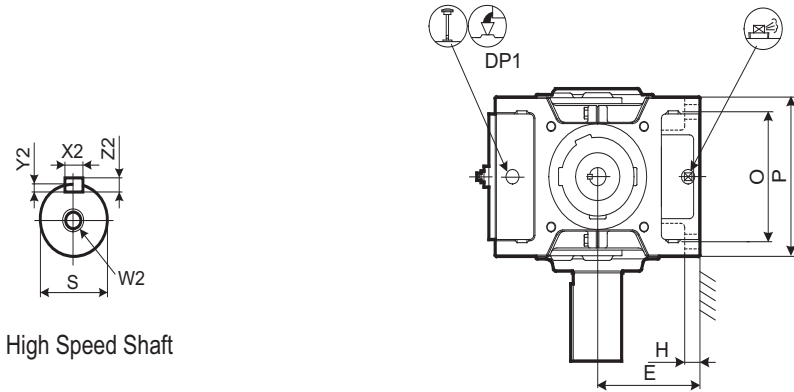


Nomenclature

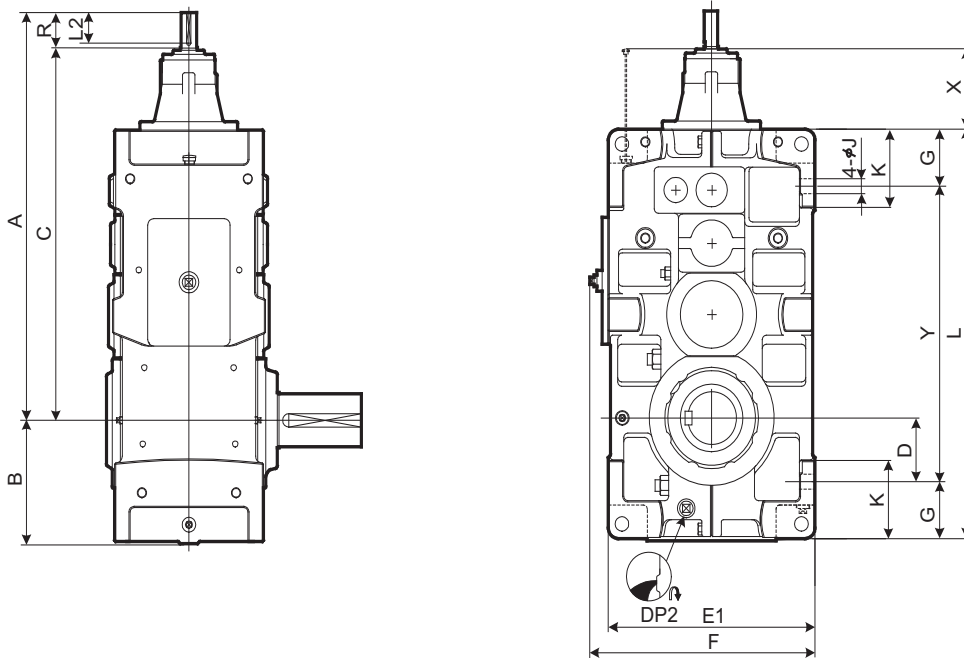


Size	Nominal Reduction Ratio															
	80	90	100	112	125	140	160	180	200	224	250	280	315	355	400	450
9040	○	○	○	○	○	○										
9045				○	○	○	○	○								
9050	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
9055				○	○	○	○	○	○	○	○	○	○	○	○	○





High Speed Shaft



Speed Reducer

Selection Tables

Dimension Tables

Size	A	B	C	D	E	E1	F	G	H	J	K	L	O	P	X	Y
9060	950	299	870	151	265	530	577	135	35	35	180	970	310	380	79	700
9065	996	338	916	190	300	600	647	135	35	35	180	1055	310	380	79	785
9070	1080	336	1000	163	300	600	647	160	40	42	215	1115	350	430	70	795
9075	1133	383	1053	210	335	670	717	160	52	42	220	1215	350	430	70	895
9080	1250	378	1140	205	335	670	717	160	52	42	220	1275	380	460	101	955
9085	1306	422	1196	249	375	750	797	160	52	42	220	1375	380	460	101	1055

Size	High Speed Shaft								DP1	DP2	Wt. kg	Oil Qty. L
	R	S	W2/Depth	Key								
				X2	Y2	Z2	L2					
9060	80	30k6	M10/22	8	4	7	70	1"	1"	670	68	
9065	80	30k6	M10/22	8	4	7	70	1"	1"	825	85	
9070	80	35k6	M12/28	10	5	8	70	1"	1"	960	107	
9075	80	35k6	M12/28	10	5	8	70	1"	1"	1180	122	
9080	110	45k6	M16/36	14	5.5	9	95	1"	1"	1390	128	
9085	110	45k6	M16/36	14	5.5	9	95	1"	1"	1650	174	

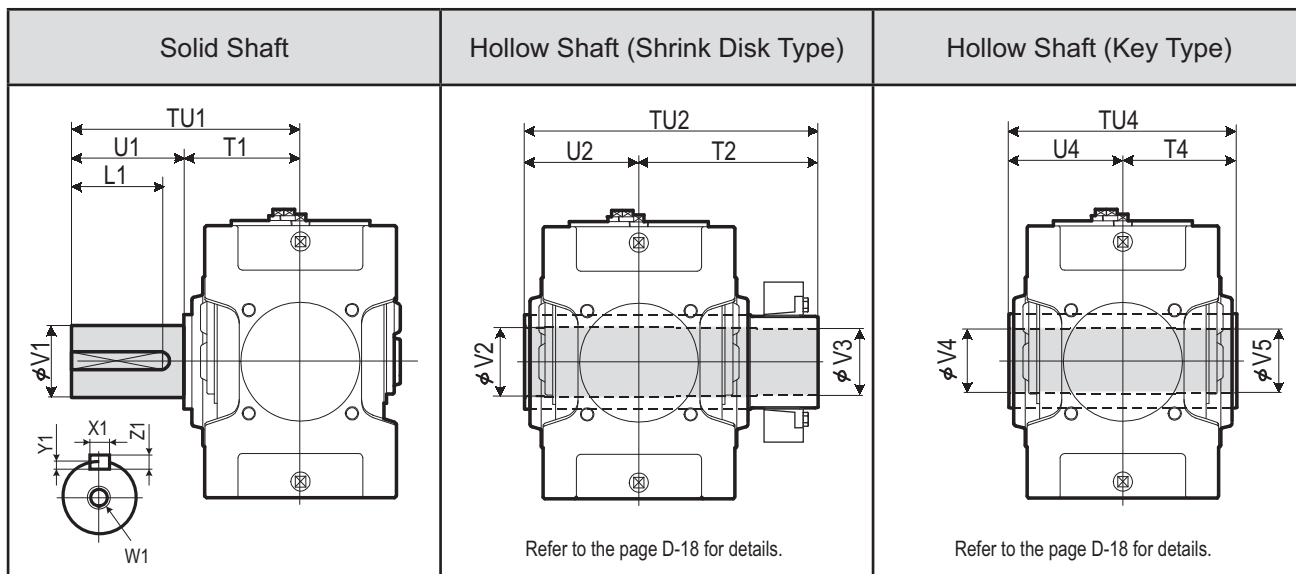
Unit: mm

1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
 2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
 3. Refer to the page D-15 for dimensions shown in these drawings.
 4. Refer to the page D -29 for the dimension of optional parts.

DIMENSIONS Right Angle Shaft Quadruple Reduction Upright Mounting 9060 ▶ 9085

PARAMAX Upright Split 9060 9085 Right Angle Quadruple Reduction Mount Wall

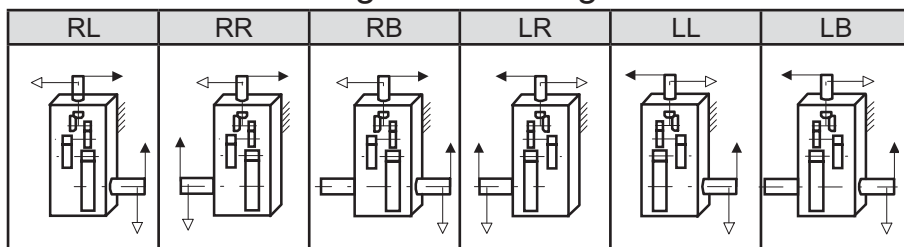
Slow Speed Shaft



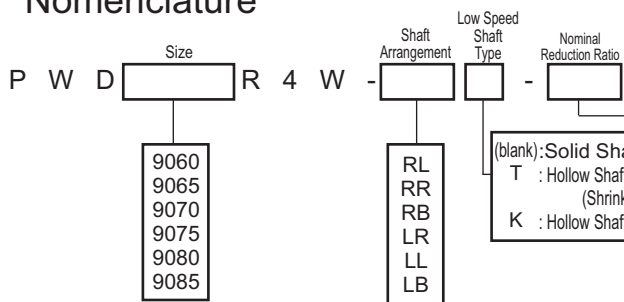
Size	Solid Shaft					Key				Hollow Shaft (Shrink Disk Type)					Hollow Shaft (Key Type)				
	TU1	T1	U1	V1	W1/Depth	X1	Y1	Z1	L1	TU2	T2	U2	V2	V3	TU4	T4	U4	V4	V5
9060	440	230	210	125m6	M24/50	32	11	18	185	583	353	230	128	125	470	235	235	125	123
9065	484	234	250	140m6	M30/60	36	12	20	225	594	359	235	143	140	480	240	240	145	143
9070	509	259	250	145m6	M30/60	36	12	20	225	644	384	260	148	145	530	265	265	145	143
9075	562	262	300	160m6	M30/60	40	13	22	275	651	386	265	158	155	530	265	265	150	148
9080	582	282	300	165m6	M30/60	40	13	22	275	714	429	285	173	170	570	285	285	165	163
9085	585	285	300	175m6	M30/60	45	15	25	270	714	429	285	183	180	570	285	285	175	173

Unit: mm

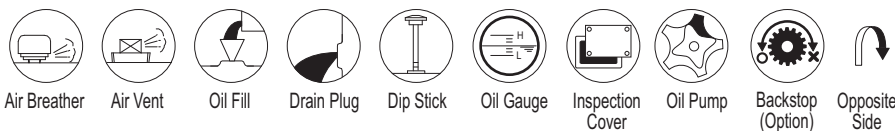
Standard Shaft Arrangement Configuration

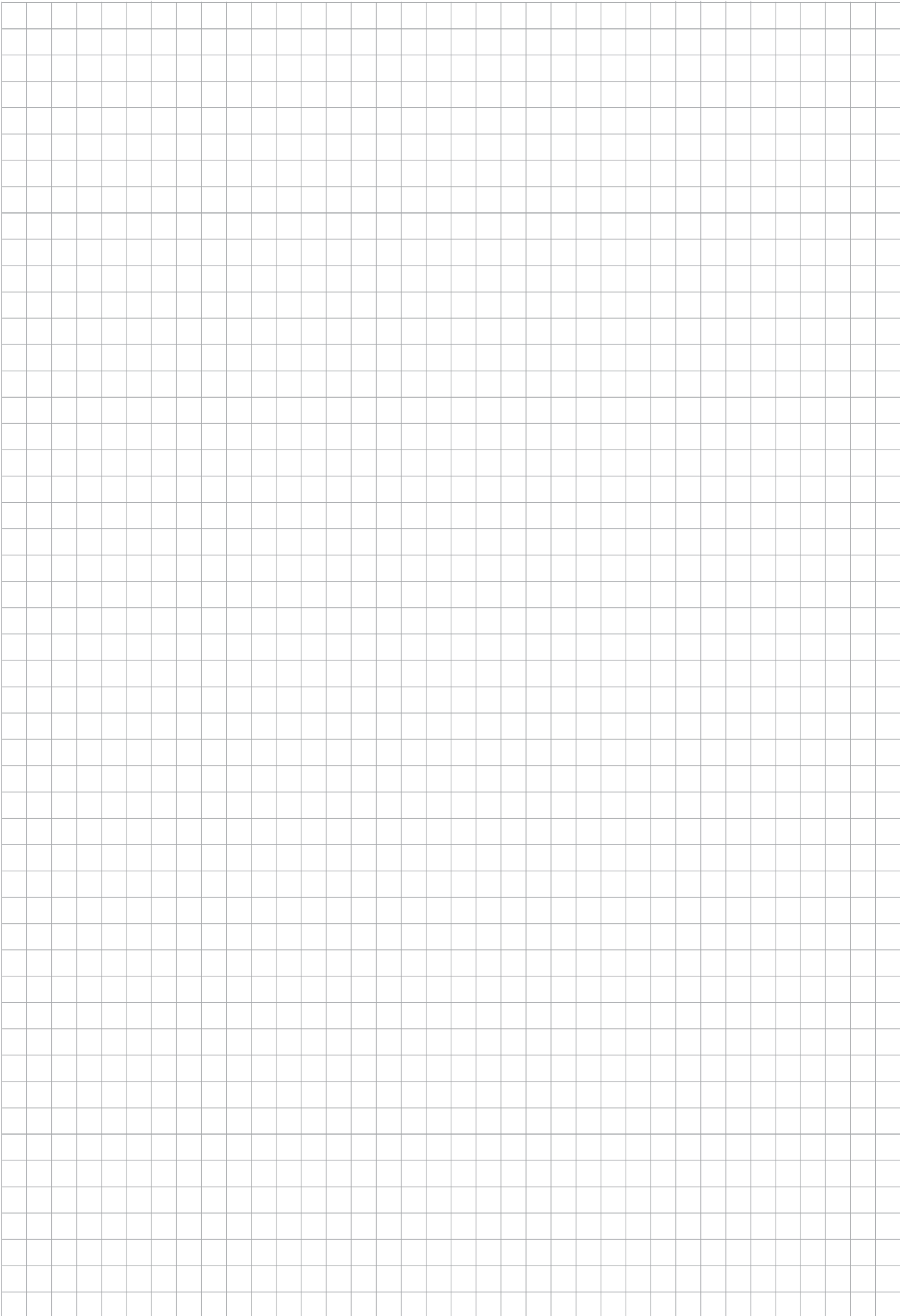


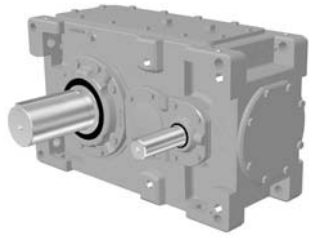
Nomenclature



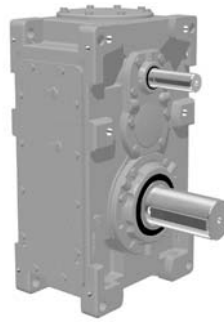
Size	Nominal Reduction Ratio															
	80	90	100	112	125	140	160	180	200	224	250	280	315	355	400	450
9060		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9065				○	○	○	○	○	○	○	○	○	○	○	○	○
9070	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9075			○	○	○	○	○	○	○	○	○	○	○	○	○	○
9080	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9085			○	○	○	○	○	○	○	○	○	○	○	○	○	○



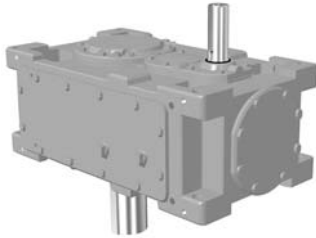




<Reducer: Parallel Shaft Horizontal Mounting>



<Reducer: Parallel Shaft Upright Mounting>



<Reducer: Parallel Shaft Vertical Mounting>

C

Reducer: Parallel shaft

Selection Tables	··· C- 102
Allowable Loads	··· C- 132
Dimension Sheets	··· C- 136

SELECTION Parallel Shaft Double Reduction Nominal Reduction Ratio 6.3 ▶ 8

MECHANICAL POWER RATING (kW)

Nominal Reduction Ratio	H.Speed Shaft Speed r/min	L.Speed Shaft Speed r/min	Size of Reducer														
			9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085	9090
6.3	Exact Reduction Ratio		6.257	6.193	6.314	6.049			6.470		6.188		6.246		6.429		6.609
	1800	286	76	122	179	257			350		603		900		1430		1950
	1500	238	64	102	149	223			305		530		792		1250		1710
	1200	190	51	82	120	187			256		448		677		1050		1450
	1000	159	43	68	100	162			222		388		588		884		1240
	900	143	39	62	91	148			203		355		538		798		1120
750	119	32	51	76	125			174		302		462		668		943	
7.1	Exact Reduction Ratio		7.237	7.067	6.806	6.903			7.366		7.210		6.998		7.090		7.190
	1800	254	62	100	161	241			349		559		900		1350		1830
	1500	211	52	83	135	201			293		469		757		1130		1610
	1200	169	42	67	108	162			235		377		610		914		1320
	1000	141	35	56	90	136			197		316		511		766		1100
	900	127	31	50	82	122			178		285		461		691		999
750	106	26.5	42	68	102			149		238		386		579		836	
8	Exact Reduction Ratio		7.889	7.616	8.118	7.869	7.778	7.691	7.956	8.062	7.875	7.759	8.033	7.733	8.167	7.835	8.111
	1800	225	61	99	140	187	219	257	311	350	517	603	781	900	1230	1430	1660
	1500	188	51	83	117	156	190	223	271	305	455	530	687	792	1030	1250	1450
	1200	150	41	67	94	126	154	187	227	256	378	448	571	677	836	1070	1200
	1000	125	34	56	78	105	129	162	195	222	317	388	478	588	700	932	1020
	900	113	31	50	71	95	116	148	176	203	286	355	432	538	632	841	923
750	94	25.9	42	59	79	97	127	147	174	239	304	361	462	529	704	773	
Dimension Tables	Horizontal		C-136	C-136	C-136	C-136	C-136	C-136	C-136	C-136	C-136	C-138	C-138	C-138	C-138	C-138	C-140
	Vertical		C-162	C-162	C-162	C-162	C-162	C-162	C-162	C-162	C-162	C-164	C-164	C-164	C-164	C-164	C-166
	Upright		C-180	C-180	C-180	C-180	C-180	C-180	C-180	C-180	C-180	C-182	C-182	C-182	C-182	C-182	C-182

THERMAL POWER RATING (kW)

Nominal Reduction Ratio	H.Speed Shaft Speed r/min	Number of Cooling Fans	Size of Reducer														
			9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085	9090
Double Reduction Horizontal Type	1800	-	40	51	57	73	88	108	103	127	147	174	184	225	214	263	340
	1500	-	111	132	143	193	216	265	250	308	415	491	479	531	510	709	1048
	1200	-	39	50	58	75	89	110	106	131	151	180	192	238	232	284	360
	1000	-	97	117	130	176	195	240	228	282	378	452	446	500	492	679	986
	900	-	38	49	58	75	88	110	106	131	151	182	196	245	240	296	370
	750	-	83	101	115	156	171	213	202	251	337	405	404	456	452	629	901
6.3	1000	1	36	47	56	74	86	108	104	130	149	180	195	245	241	299	371
	900	1	71	86	100	136	148	185	176	220	294	355	356	405	402	562	799
	750	1	35	46	55	73	85	107	103	128	147	178	193	243	240	298	369
	8	1	66	81	94	128	139	176	166	208	277	336	337	385	382	537	761
	750	1	33	44	53	70	81	103	99	124	142	173	188	239	235	293	362
	8	1	57	70	82	113	122	154	146	183	245	298	300	343	342	481	680
Double Reduction Vertical Type	1800	-	39	49	54	69	84	102	98	120	135	158	163	200	182	229	220
	1500	-	38	49	56	72	86	106	102	125	142	168	182	219	210	258	277
	1200	-	37	48	56	73	86	107	103	128	145	174	194	231	231	278	317
	1000	-	36	46	55	72	85	106	102	127	144	174	195	235	239	285	330
	900	-	35	45	54	71	83	105	101	126	143	173	193	235	240	286	334
	750	-	33	43	52	69	80	101	98	122	139	169	188	232	235	284	336
Double Reduction Upright Type	1800	-	32	40	45	59	70	86	82	102	118	139	147	180	171	211	
	1500	-	89	106	115	154	173	212	200	246	332	393	383	425	408	567	
	1200	-	31	40	46	60	71	88	85	105	121	144	154	190	186	227	
	1000	-	78	94	104	141	156	192	182	225	303	361	357	400	394	543	
	900	-	30	39	46	60	71	88	85	105	121	146	157	196	192	237	
	750	-	66	81	92	125	137	170	162	201	269	324	323	365	361	503	
6.3	1000	1	29	38	45	59	69	86	83	104	119	144	156	196	193	239	
	900	1	56	69	80	109	118	148	141	176	235	284	285	324	321	450	
	750	1	28	37	44	58	68	86	82	102	117	142	154	195	192	238	
	8	1	53	65	75	103	111	141	133	166	222	269	270	308	306	429	
	750	1	26	35	43	56	65	82	79	99	114	138	151	191	188	235	
	8	1	45	56	66	90	97	123	117	147	196	238	240	275	273	385	

SELECTION Parallel Shaft Double Reduction Nominal Reduction Ratio 6.3 ▶ 8

Size of Reducer										L.Speed Shaft Speed r/min	H.Speed Shaft Speed r/min	Nominal Reduction Ratio	
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136			
6.460					6.203					Exact Reduction Ratio			
2970*					3900*					286	1800	6.3	
2610					3440*					238	1500		
2160					2940					190	1200		
1810					2550					159	1000		
1630					2340					143	900		
1370					2000					119	750		
7.333 6.933 7.071 7.118 7.030										Exact Reduction Ratio			
1950					2790*					254	1800	7.1	
1710					2380					211	1500		
1450					1920					169	1200		
1240					1610					141	1000		
1140					1450					127	900		
978					1220					106	750		
7.956 8.222 7.672 8.059 8.042										Exact Reduction Ratio			
1830					2480*					225	1800	8	
1610					2120					188	1500		
1360					1710					150	1200		
1170					1430					125	1000		
1060					1290					113	900		
891					1080					94	750		
C-140					C-140					Horizontal Vertical Upright		Dimension Tables	

Notes

1. For ※ marked values, the forced oil lubrication is required at continuous operation.

2. Consult us when the high speed shaft speed is over 1800r/min.

3. When the high speed shaft speed is not shown in the table, find it by the interpolation method.

4. When the high speed shaft speed (N) is lower than 750r/min, find the mechanical power rating (PN) according to the following formula.

$$P_N = P_{750} \times \frac{N}{750}$$

5. Shown in the table are the ratings for the slow speed shaft.

6. Refer to C42-C45 for the allowable radial and axial load on each shaft.

Size of Reducer										Number of Cooling Fans	H.Speed Shaft Speed r/min	Nominal Reduction Ratio	
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136			
376					415					-	1800	Double Reduction Horizontal Type	
1113					1179					1			
401					454					-	1500		
1056					1148					1			
415					471					-	1200		
970					1056					1			
417					474					-	1000	6.3	
864					942					1			
415					472					-	900	8	
823					898					1			
408					465					-	750		
737					805					1			
256					221					-	1800	Double Reduction Vertical Type	
311					311					-	1500		
351					382					-	1200		
369					412					-	1000		
375					419					-	900		
378					425					-	750		
										-	1800	Double Reduction Upright Type	
										-	1500		
										-	1200		
										-	1000		
										-	900		
										-	750		

Ambient Temperature °C	Temperature Correction Factor	
	Without Fan	With Fan
20	1.00	1.00
30	0.85	0.87
40	0.70	0.73
50	0.55	0.60

Notes

1. Shown in the table are the ratings for models without a fan cooling unit and those with a fan. (-: none fan, 1: with a fan)

2. The values are applicable to continuous operation at ambient temperatures of 20 °C or less. When the temperature is out of the range, refer to the temperature correction factor shown above.

3. When the high speed shaft speed is not shown in the table, find it by interpolation method.

SELECTION Parallel Shaft Double Reduction Nominal Reduction Ratio 9 ▶ 11.2

MECHANICAL POWER RATING (kW)

Nominal Reduction Ratio	H.Speed Shaft Speed r/min	L.Speed Shaft Speed r/min	Size of Reducer														
			9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085	9090
9	Exact Reduction Ratio		9.125	8.690	8.750	8.556	8.875	8.750	9.057	9.058	9.176	8.874	9.000	8.677	9.007	8.603	8.824
	1800	200	49	81	126	170	188	253	286	350	443	583	708	900	1070	1410	1560
	1500	167	41	68	105	142	158	212	239	305	371	489	593	792	900	1180	1340
	1200	133	33	55	85	114	127	170	192	246	298	393	477	647	725	956	1080
	1000	111	28.0	46	71	96	106	142	161	206	250	329	400	542	607	801	907
	900	100	25.3	41	64	86	95	128	145	186	225	297	361	489	548	723	818
750	83	21.1	34	53	72	80	107	121	155	188	249	302	409	458	605	685	
10	Exact Reduction Ratio		10.143	9.722	9.944	10.118	9.528	9.889	10.156	9.914	9.750	9.875	9.665	9.945	9.905	9.953	10.342
	1800	180	47	78	115	146	188	219	259	311	452	517	689	781	1020	1230	1380
	1500	150	40	65	96	122	158	190	226	271	382	455	593	687	861	1080	1180
	1200	120	32	52	77	98	127	159	184	227	307	384	477	588	693	881	964
	1000	100	26.9	44	64	82	106	136	154	197	257	333	399	505	580	738	807
	900	90	24.2	39	58	74	95	123	139	180	232	304	360	456	524	666	728
750	75	20.2	33	48	62	80	103	116	155	194	255	301	381	438	558	610	
11.2	Exact Reduction Ratio		11.732	11.094	10.719	11.000	10.872	11.250	11.563	11.138	11.361	11.294	10.829	11.160	10.924	10.929	11.250
	1800	161	39	64	103	133	154	198	225	299	360	462	592	751	891	1120	1260
	1500	134	32	53	86	111	129	166	188	250	301	387	495	629	746	941	1060
	1200	107	26.2	43	69	89	104	133	151	201	242	311	399	507	600	758	855
	1000	89	21.9	36	58	75	87	111	127	168	202	260	334	424	503	635	716
	900	80	19.7	32	52	67	78	100	114	152	183	235	301	383	453	573	646
750	67	16.5	27.3	43	56	65	84	95	127	153	196	252	320	379	479	540	
Dimension Tables	Horizontal		C-136	C-136	C-136	C-136	C-136	C-136	C-136	C-136	C-138	C-138	C-138	C-138	C-138	C-138	C-140
	Vertical		C-162	C-162	C-162	C-162	C-162	C-162	C-162	C-162	C-164	C-164	C-164	C-164	C-164	C-164	C-166
	Upright		C-180	C-180	C-180	C-180	C-180	C-180	C-180	C-180	C-182	C-182	C-182	C-182	C-182	C-182	

THERMAL POWER RATING (kW)

Nominal Reduction Ratio	H.Speed Shaft Speed r/min	Number of Cooling Fans	Size of Reducer														
			9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085	9090
Double Reduction Horizontal Type	1800	-	35	46	53	67	81	100	99	124	141	171	180	222	216	266	333
	1500	-	97	119	134	175	199	245	240	300	397	482	469	523	515	716	1024
	1200	-	34	45	53	67	81	100	100	126	143	174	185	229	226	279	344
	1000	-	84	104	120	158	177	218	215	271	358	437	431	481	479	669	942
	900	-	32	43	52	66	79	99	98	125	142	173	187	231	230	286	347
	750	-	71	89	105	138	154	192	188	239	315	385	385	431	433	607	844
9	1000	-	31	41	51	65	77	96	96	122	139	170	185	229	229	285	344
	900	-	60	76	90	119	132	165	163	207	273	336	337	378	382	536	741
	750	-	30	40	50	63	75	94	94	120	136	167	182	226	227	283	340
	11.2	1	56	70	85	112	124	154	153	195	257	316	319	357	362	509	702
	900	-	28	38	48	61	72	90	90	116	131	162	177	220	222	276	331
	750	-	48	61	74	98	108	135	133	171	226	279	282	316	322	453	622
Double Reduction Vertical Type	1800	-	35	46	53	64	81	96	98	118	139	158	180	203	216	238	241
	1500	-	34	45	53	65	81	97	100	121	143	164	185	221	226	266	284
	1200	-	32	43	52	65	79	97	98	122	142	166	187	231	230	285	306
	1000	-	31	41	51	63	77	94	96	120	139	165	185	229	229	285	313
	900	-	30	40	50	62	75	93	94	118	136	163	182	226	227	283	314
	750	-	28	38	48	60	72	89	90	115	131	159	177	220	222	276	311
Double Reduction Upright Type	1800	-	28	36	42	53	65	80	79	99	113	137	144	177	173	213	
	1500	-	78	96	107	140	159	196	192	240	317	386	375	419	412	573	
	1200	-	27	36	43	54	65	80	80	101	114	139	148	183	181	224	
	1000	-	68	84	96	126	141	174	172	217	287	349	345	385	383	535	
	900	-	26	34	42	53	64	79	79	100	113	138	149	185	184	228	
	750	-	57	71	84	110	123	153	150	191	252	308	308	345	346	485	
9	1000	-	25	33	41	52	62	77	77	98	111	136	148	183	183	228	
	900	-	48	61	72	95	106	132	130	166	219	268	270	302	305	429	
	750	-	24	32	40	51	60	75	75	96	109	134	146	181	182	226	
	11.2	1	45	56	68	89	99	123	122	156	206	252	255	286	290	407	
	900	-	22	30	38	49	58	72	72	93	105	130	142	176	177	221	
	750	-	38	48	59	78	86	108	107	137	181	223	225	253	257	362	

SELECTION Parallel Shaft Double Reduction Nominal Reduction Ratio 9 ▶ 11.2

Size of Reducer					L.Speed Shaft Speed r/min	H.Speed Shaft Speed r/min	Nominal Reduction Ratio			
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136
9.000	8.824	9.000	9.248	9.134	Exact Reduction Ratio					
1660	2250*	2480*	2840*	3200*	200	1800	9			
1450	1890	2190	2500*	2820*	167	1500				
1200	1520	1820	2070	2350	133	1200				
1030	1270	1550	1740	2020	111	1000				
948	1150	1390	1570	1850	100	900				
813	965	1170	1310	1580	83	750				
9.765	9.984	9.765	9.774	10.449	Exact Reduction Ratio					
1560	2090*	2330*	2780*	2850*	180	1800	10			
1370	1760	2040	2400*	2500*	150	1500				
1130	1410	1640	1990	2090	120	1200				
966	1180	1380	1700	1790	100	1000				
872	1070	1240	1560	1640	90	900				
730	897	1040	1310	1390	75	750				
11.475	10.714	10.929	11.216	11.078	Exact Reduction Ratio					
1380	1860*	2150*	2470*	2780*	161	1800	11.2			
1180	1560	1850	2130*	2400*	134	1500				
981	1260	1530	1720	1990	107	1200				
842	1050	1280	1440	1710	89	1000				
770	954	1150	1300	1560	80	900				
651	799	970	1090	1340	67	750				
C-140	C-140	C-140	C-140	C-140	Horizontal Vertical Upright		Dimension Tables			
C-166	C-166	C-166	C-166	C-166						

Notes

- For ✖ marked values, the forced oil lubrication is required at continuous operation.
- Consult us when the high speed shaft speed is over 1800r/min.
- When the high speed shaft speed is not shown in the table, find it by the interpolation method.
- When the high speed shaft speed (N) is lower than 750r/min, find the mechanical power rating (PN) according to the following formula.

$$P_N = P_{750} \times \frac{N}{750}$$
- Shown in the table are the ratings for the slow speed shaft.
- Refer to C42-C45 for the allowable radial and axial load on each shaft.

Size of Reducer					Number of Cooling Fans	H.Speed Shaft Speed r/min	Nominal Reduction Ratio			
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136
365	423	476	511	578	-	1800	Double Reduction Horizontal Type			
1079	1200	1303	1354	1480	1	1500				
374	443	496	544	619	-	1500				
986	1119	1210	1282	1411	1	1200				
376	452	504	563	644	-	1200				
879	1015	1090	1178	1302	1	1000	9			
371	451	500	565	646	-	1000				
770	897	960	1049	1157	1	900	11.2			
367	448	496	563	642	-	900				
728	852	910	1000	1102	1	750				
357	438	484	554	631	-	750				
644	759	809	896	985	1	750				

Ambient Temperature °C	Temperature Correction Factor	
	Without Fan	With Fan
20	1.00	1.00
30	0.85	0.87
40	0.70	0.73
50	0.55	0.60

274	279	326	276	338	-	1800	Double Reduction Vertical Type				
315	344	388	379	441	-	1500					
335	384	434	456	518	-	1200					
340	400	448	485	554	-	1000		9			
340	404	451	495	566	-	900					
337	405	451	502	575	-	750	11.2				

					-	1800	Double Reduction Upright Type				
					-	1500					
					-	1200					
					-	1000		9			
					-	900					
					-	750	11.2				

Notes

- Shown in the table are the ratings for models without a fan cooling unit and those with a fan. (-: none fan, 1: with a fan)
- The values are applicable to continuous operation at ambient temperatures of 20 °C or less. When the temperature is out of the range, refer to the temperature correction factor shown above.
- When the high speed shaft speed is not shown in the table, find it by interpolation method.

SELECTION Parallel Shaft Double Reduction Nominal Reduction Ratio 12.5 ▶ 16

MECHANICAL POWER RATING (kW)

Nominal Reduction Ratio	H.Speed Shaft Speed r/min	L.Speed Shaft Speed r/min	Size of Reducer														
			9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085	9090
12.5	Exact Reduction Ratio		12.710	12.407	12.785	12.394	12.485	12.114	12.594	12.656	12.206	12.226	12.600	11.966	12.762	12.071	12.978
	1800	144	38	61	89	120	145	191	222	259	366	452	547	689	804	1060	1110
	1500	120	32	51	75	100	121	165	185	226	307	398	458	607	673	908	959
	1200	96	25.8	41	60	80	97	133	149	190	246	328	368	504	542	731	773
	1000	80	21.5	34	50	67	81	111	125	164	206	274	308	422	453	612	647
	900	72	19.4	31	45	61	73	101	112	148	186	247	278	380	409	552	584
750	60	16.2	26.2	38	51	61	84	94	124	155	207	232	318	342	462	488	
14	Exact Reduction Ratio		14.701	14.158	13.781	13.475	14.247	13.781	14.337	14.219	14.224	13.983	14.118	13.428	14.076	13.255	14.118
	1800	129	31	50	81	109	118	162	183	235	289	375	457	628	696	931	1010
	1500	107	26.1	42	67	91	99	136	153	197	242	314	383	526	583	780	851
	1200	86	21.0	34	54	73	79	109	123	158	194	252	308	423	469	628	685
	1000	71	17.5	28.5	45	61	66	91	102	132	162	211	257	354	392	526	573
	900	64	15.8	25.7	41	55	60	82	92	119	146	190	232	319	354	474	517
750	54	13.2	21.4	34	46	50	69	77	100	122	159	194	267	296	397	433	
16	Exact Reduction Ratio		15.778	15.340	15.997	15.935	15.556	15.874	16.504	15.694	15.996	15.306	15.750	15.600	15.556	15.554	16.222
	1800	113	31	50	72	94	116	152	170	237	281	389	440	565	663	846	920
	1500	94	25.9	42	60	78	97	127	142	198	235	327	368	484	555	709	773
	1200	75	20.8	33	48	63	78	102	114	159	189	263	296	389	446	571	622
	1000	63	17.4	28.2	40	52	65	85	95	133	158	220	248	325	373	478	520
	900	56	15.7	25.4	36	47	59	77	86	120	142	198	223	293	337	431	469
750	47	13.1	21.2	30	39	49	64	72	100	119	166	187	245	281	360	392	
Dimension Tables	Horizontal		C-136	C-136	C-136	C-136	C-136	C-136	C-136	C-136	C-138	C-138	C-138	C-138	C-138	C-138	C-140
	Vertical		C-162	C-162	C-162	C-162	C-162	C-162	C-162	C-162	C-164	C-164	C-164	C-164	C-164	C-164	C-166
	Upright		C-180	C-180	C-180	C-180	C-180	C-180	C-180	C-180	C-182	C-182	C-182	C-182	C-182	C-182	C-182

THERMAL POWER RATING (kW)

Nominal Reduction Ratio	H.Speed Shaft Speed r/min	Number of Cooling Fans	Size of Reducer														
			9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085	9090
Double Reduction Horizontal Type	1800	-	30	42	51	63	74	95	89	116	125	159	159	159	159	159	159
	1500	-	85	111	130	167	182	233	214	281	353	448	448	448	448	448	448
	1200	-	29	41	50	63	73	94	87	115	124	159	164	211	209	265	315
	1000	-	72	95	113	148	159	205	188	248	311	399	380	444	442	635	862
	900	-	27	39	48	62	70	91	85	112	121	155	161	209	208	264	311
	750	-	60	80	96	129	135	176	162	214	268	345	332	389	390	561	757
12.5	1800	-	26	37	46	60	67	88	81	108	116	150	157	204	204	259	304
	1500	-	50	67	81	110	115	151	138	183	230	296	286	336	339	488	656
	1200	-	25	36	44	59	65	85	79	106	113	147	154	200	200	255	299
	1000	-	46	62	75	103	107	140	128	171	214	278	269	316	319	460	617
	900	-	23	33	42	56	62	81	75	101	108	141	147	192	193	247	288
	750	-	39	53	64	90	92	121	111	149	186	243	235	277	280	404	542
Double Reduction Vertical Type	1800	-	31	43	52	63	75	95	90	116	130	159	170	210	216	261	258
	1500	-	29	41	51	63	74	95	88	115	127	159	169	211	220	265	274
	1200	-	27	39	48	62	71	92	85	112	123	155	165	209	216	264	283
	1000	-	26	37	46	60	67	88	82	108	118	150	160	204	210	259	283
	900	-	25	36	45	59	65	86	80	106	115	147	156	200	205	255	281
	750	-	23	33	42	56	62	81	76	101	109	141	149	192	197	247	274
Double Reduction Upright Type	1800	-	24	34	41	51	59	76	71	93	100	127	130	168	164	209	
	1500	-	68	89	104	133	145	186	171	225	283	359	340	396	391	561	
	1200	-	23	33	40	51	58	75	70	92	99	127	131	169	167	212	
	1000	-	58	76	90	119	127	164	151	198	249	319	304	355	354	508	
	900	-	22	31	38	50	56	73	68	90	96	124	129	167	166	211	
	750	-	48	64	77	103	108	141	129	171	215	276	266	311	312	449	
12.5	1800	-	20	29	37	48	54	70	65	87	93	120	125	163	163	207	
	1500	-	40	54	65	88	92	121	110	147	184	237	229	269	271	390	
	1200	-	20	28	35	47	52	68	63	85	91	118	123	160	160	204	
	1000	-	37	50	60	83	85	112	103	137	171	222	215	253	255	368	
	900	-	18	27	33	45	49	65	60	81	86	113	118	154	154	197	
	750	-	31	42	51	72	74	97	89	119	149	194	188	221	224	324	

Speed Reducer Selection Tables Dimension Tables

SELECTION Parallel Shaft Double Reduction Nominal Reduction Ratio 12.5 ▶ 16

Size of Reducer					L.Speed Shaft Speed r/min	H.Speed Shaft Speed r/min	Nominal Reduction Ratio			
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136
12.450	12.950	11.857	12.434	12.672	Exact Reduction Ratio					12.5
1290	1630*	2020*	2240*	2470*	144	1800				
1110	1360	1690*	1920*	2130*	120	1500				
910	1100	1360	1590	1770	96	1200				
762	922	1140	1360	1520	80	1000				
688	832	1030	1240	1370	72	900				
576	696	864	1040	1150	60	750				
14.400	13.897	14.175	14.268	14.092	Exact Reduction Ratio					14
1110	1450*	1700*	1990*	2240*	129	1800				
958	1210	1460	1690*	1920*	107	1500				
794	980	1190	1360	1590	86	1200				
681	821	996	1140	1370	71	1000				
623	740	899	1030	1250	64	900				
521	619	752	862	1070	54	750				
15.624	15.961	15.379	15.325	16.121	Exact Reduction Ratio					16
1050	1330*	1570*	1870*	2000*	113	1800				
902	1110	1310	1600*	1710*	94	1500				
730	898	1060	1330	1420	75	1200				
611	752	887	1120	1200	63	1000				
551	678	800	1010	1080	56	900				
461	567	670	850	911	47	750				
C-140	C-140	C-140	C-140	C-140	Horizontal Vertical Upright		Dimension Tables			
C-166	C-166	C-166	C-166	C-166						

Notes

- For ※ marked values, the forced oil lubrication is required at continuous operation.
- Consult us when the high speed shaft speed is over 1800r/min.
- When the high speed shaft speed is not shown in the table, find it by the interpolation method.
- When the high speed shaft speed (N) is lower than 750r/min, find the mechanical power rating (PN) according to the following formula.

$$PN = P_{750} \times \frac{N}{750}$$
- Shown in the table are the ratings for the slow speed shaft.
- Refer to C42-C45 for the allowable radial and axial load on each shaft.

Size of Reducer					Number of Cooling Fans	H.Speed Shaft Speed r/min	Nominal Reduction Ratio			
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136
※※	※※	※※	※※	※※	-	1800	Double Reduction Horizontal Type			
※※	※※	※※	※※	※※	1	1500				
364	405	471	522	585	-	1500	12.5			
959	1024	1149	1230	1332	1	1200				
362	404	471	527	592	-	1000	16			
847	905	1020	1103	1197	1	900				
355	396	464	522	588	-	900	16			
736	788	890	968	1053	1	750				
350	390	458	516	582	-	750	16			
694	743	841	916	998	1	750				
338	378	444	502	568	-	750	16			
611	654	743	812	887	1	750				
289	315	344	343	373	-	1800	Double Reduction Vertical Type			
316	342	392	406	452	-	1500				
328	359	417	449	504	-	1200	12.5			
329	362	423	463	521	-	1000				
328	361	423	466	525	-	900	16			
322	356	418	464	525	-	750				
					-	1800	Double Reduction Upright Type			
					-	1500				
					-	1200	12.5			
					-	1000				
					-	900	16			
					-	750				

Ambient Temperature °C	Temperature Correction Factor	
	Without Fan	With Fan
20	1.00	1.00
30	0.85	0.87
40	0.70	0.73
50	0.55	0.60

Notes

- Shown in the table are the ratings for models without a fan cooling unit and those with a fan. (-: none fan, 1: with a fan)
- The values are applicable to continuous operation at ambient temperatures of 20 °C or less. When the temperature is out of the range, refer to the temperature correction factor shown above.
- When the high speed shaft speed is not shown in the table, find it by interpolation method.
- For ※ ※ marked, please consult us.

SELECTION Parallel Shaft Double Reduction Nominal Reduction Ratio 18 ▶ 22.4

MECHANICAL POWER RATING (kW)

Nominal Reduction Ratio	H.Speed Shaft Speed r/min	L.Speed Shaft Speed r/min	Size of Reducer															
			9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085	9090	
18	Exact Reduction Ratio		18.250	17.503	17.243	17.325	17.750	18.059	18.789	17.631	18.640	17.506	17.647	17.506	17.157	17.078	17.647	
	1800	100	25.3	41	65	85	95	124	140	191	222	301	368	485	574	728	818	
	1500	83	21.1	34	54	71	80	104	117	159	185	252	308	406	481	610	685	
	1200	67	17.0	27.6	43	57	64	84	94	128	149	203	247	326	386	490	551	
	1000	56	14.2	23.1	36	48	53	70	78	107	124	169	207	273	323	410	461	
	900	50	12.8	20.8	32	43	48	63	71	96	112	153	186	246	291	370	416	
750	42	10.7	17.4	27.5	36	40	52	59	81	94	128	156	206	244	310	348		
20	Exact Reduction Ratio		19.938			19.778			20.566			20.059			19.500		18.958	
	1800	90	*	*	*	75	*	123	*	182	*	300	*	465	*	699	*	
	1500	75	*	*	*	63	*	103	*	152	*	251	*	389	*	585	*	
	1200	60	*	*	*	50	*	82	*	122	*	202	*	313	*	470	*	
	1000	50	*	*	*	42	*	69	*	102	*	169	*	261	*	393	*	
	900	45	*	*	*	38	*	62	*	92	*	152	*	236	*	355	*	
750	38	*	*	*	31	*	52	*	77	*	127	*	197	*	297	*		
22.4	Exact Reduction Ratio		21.676			22.500			23.105			22.941			21.882		20.817	
	1800	80	*	*	*	68	*	100	*	146	*	231	*	390	*	601	*	
	1500	67	*	*	*	57	*	84	*	122	*	193	*	326	*	503	*	
	1200	54	*	*	*	46	*	67	*	98	*	155	*	262	*	404	*	
	1000	45	*	*	*	38	*	56	*	82	*	130	*	219	*	338	*	
	900	40	*	*	*	34	*	51	*	74	*	117	*	198	*	305	*	
750	33	*	*	*	29.1	*	42	*	62	*	98	*	165	*	255	*		
Dimension Tables	Horizontal		C-136	C-136	C-136	C-136	C-136	C-136	C-136	C-136	C-136	C-138	C-138	C-138	C-138	C-138	C-140	
	Vertical		C-162	C-162	C-162	C-162	C-162	C-162	C-162	C-162	C-162	C-164	C-164	C-164	C-164	C-164	C-166	
	Upright		C-180	C-180	C-180	C-180	C-180	C-180	C-180	C-180	C-180	C-182	C-182	C-182	C-182	C-182	C-182	

THERMAL POWER RATING (kW)

Nominal Reduction Ratio	H.Speed Shaft Speed r/min	Number of Cooling Fans	Size of Reducer														
			9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085	9090
Double Reduction Horizontal Type	1800	-	29	41	50	60	66	83	88	106	127	153	166	※※	※※	※※	※※
	1500	-	81	106	127	156	162	203	213	255	358	431	433	※※	※※	※※	※※
18	1200	-	28	39	49	58	65	81	87	104	126	150	167	194	213	249	311
	1000	-	69	91	110	135	142	177	187	223	316	376	387	407	450	595	854
22.4	1200	1	26	37	47	55	63	78	84	100	122	145	164	189	211	245	308
	900	1	58	77	93	114	121	151	161	190	272	323	338	353	397	521	750
18	1000	1	25	35	45	52	60	74	81	96	118	140	160	184	207	239	301
	900	1	48	65	79	96	103	127	137	162	233	276	291	303	345	450	650
22.4	900	1	24	34	43	51	59	72	79	93	115	136	156	180	204	235	296
	750	1	44	60	73	89	97	118	128	151	217	257	273	284	325	423	611
Double Reduction Vertical Type	1800	-	22	32	41	48	56	68	75	88	110	129	150	172	196	226	285
	1500	-	37	51	63	76	84	102	110	130	188	222	239	247	285	370	536
18	1200	-	29	41	51	60	62	85	90	107	131	149	173	201	224	262	256
	1000	-	28	40	49	58	62	82	88	105	129	146	172	199	224	260	272
22.4	1200	-	26	37	47	55	61	79	85	100	124	140	168	193	219	253	280
	900	-	25	35	45	53	59	75	82	96	120	135	162	186	213	246	280
Double Reduction Upright Type	900	-	24	34	43	51	57	73	79	93	116	131	159	182	209	240	278
	750	-	22	32	41	48	55	68	75	88	111	124	152	174	200	230	272
18	1800	-	23	32	40	48	53	66	71	84	102	122	133	156	168	198	
	1500	-	65	85	102	125	130	163	171	204	287	345	346	367	399	532	
22.4	1200	-	22	31	39	46	52	65	70	83	101	120	133	155	170	199	
	900	-	55	73	88	108	114	141	150	178	253	301	310	326	360	476	
18	1200	1	21	30	37	44	50	62	67	80	98	116	131	152	169	196	
	1000	1	46	61	75	91	97	121	129	152	218	258	270	282	318	417	
22.4	1000	1	20	28	36	42	48	59	65	76	94	112	128	147	166	191	
	900	1	38	52	63	77	83	102	110	129	186	221	233	243	276	360	
18	900	-	19	27	35	40	47	58	63	74	92	109	125	144	163	188	
	750	-	35	48	59	71	77	95	102	121	174	206	219	227	260	339	
22.4	900	1	18	25	32	38	45	54	60	70	88	103	120	138	157	181	
	750	1	30	41	50	61	67	81	88	104	151	178	191	198	228	296	

SELECTION Parallel Shaft Double Reduction Nominal Reduction Ratio 18 ▶ 22.4

Size of Reducer					L.Speed Shaft Speed r/min	H.Speed Shaft Speed r/min	Nominal Reduction Ratio				
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136	
18.000	17.128	17.471	17.585	17.368	Exact Reduction Ratio						
920	1180*	1420*	1650*	1870*	100	1800	18				
789	994	1200	1380*	1610*	83	1500					
654	799	971	1110	1330	67	1200					
555	669	812	931	1140	56	1000					
501	603	733	840	1040	50	900					
419	505	613	703	899	42	750					
19.529	18.955	19.869	Exact Reduction Ratio								
867	*	1280*	*	1670*	90	1800	20				
730	*	1070	*	1430*	75	1500					
587	*	864	*	1170	60	1200					
491	*	723	*	983	50	1000					
443	*	652	*	887	45	900					
370	*	546	*	742	38	750					
						Exact Reduction Ratio					
*	*	*	*	*	80	1800	22.4				
*	*	*	*	*	67	1500					
*	*	*	*	*	54	1200					
*	*	*	*	*	45	1000					
*	*	*	*	*	40	900					
*	*	*	*	*	33	750					
C-140	C-140	C-140	C-140	C-140	Horizontal Vertical Upright Dimension Tables						
C-166	C-166	C-166	C-166	C-166							

* marked models are triple reduction units. Refer to C-110 and C-111.

Notes
1. For ※ marked values, the forced oil lubrication is required at continuous operation.
2. Consult us when the high speed shaft speed is over 1800r/min.
3. When the high speed shaft speed is not shown in the table, find it by the interpolation method.
4. When the high speed shaft speed (N) is lower than 750r/min, find the mechanical power rating (PN) according to the following formula. $PN = P_{750} \times \frac{N}{750}$
5. Shown in the table are the ratings for the slow speed shaft.
6. Refer to C42-C45 for the allowable radial and axial load on each shaft.

Size of Reducer					Number of Cooling Fans	H.Speed Shaft Speed r/min	Nominal Reduction Ratio			
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136
※※	※※	※※	※※	※※	-	1800	Double Reduction Horizontal Type			
※※	※※	※※	※※	※※	1	1500				
338	408	441	500	550	-	1500	18			
889	1032	1076	1179	1252	1	1200				
332	406	437	504	551	-	1000	22.4			
777	911	946	1056	1114	1	900				
324	399	428	499	543	-	900	18			
672	793	821	926	973	1	750				
318	393	421	493	536	-	900	22.4			
631	747	773	876	920	1	750				
306	380	406	480	521	-	750				
553	658	679	776	813	1	750				
284	319	355	349	402	-	1800	Double Reduction Vertical Type			
298	346	380	397	447	-	1500				
305	362	393	431	478	-	1200	18			
303	365	395	444	488	-	1000				
300	364	393	446	489	-	900	22.4			
293	358	385	444	485	-	750				
						-	1800	Double Reduction Upright Type		
						-	1500			
						-	1200	18		
						-	1000			
						-	900	22.4		
						-	750			

Ambient Temperature °C	Temperature Correction Factor	
	Without Fan	With Fan
20	1.00	1.00
30	0.85	0.87
40	0.70	0.73
50	0.55	0.60

Notes
1. Shown in the table are the ratings for models without a fan cooling unit and those with a fan. (-: none fan, 1: with a fan)
2. The values are applicable to continuous operation at ambient temperatures of 20 °C or less. When the temperature is out of the range, refer to the temperature correction factor shown above.
3. When the high speed shaft speed is not shown in the table, find it by interpolation method.
4. For ※ ※ marked, please consult us.

SELECTION Parallel Shaft Triple Reduction Nominal Reduction Ratio 20 ▶ 25

MECHANICAL POWER RATING (kW)

Nominal Reduction Ratio	H.Speed Shaft Speed r/min	L.Speed Shaft Speed r/min	Size of Reducer															
			9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085	9090	
20	Exact Reduction Ratio		19.894	19.681	20.280	19.884			19.590			18.988		20.067		20.054		20.585
	1800	90	26.4	39	61	*	98	*	154	*	254	*	356	*	554	*	758	
	1500	75	22.1	33	51	*	82	*	129	*	213	*	310	*	463	*	650	
	1200	60	17.7	27.8	41	*	66	*	103	*	171	*	250	*	372	*	527	
	1000	50	14.8	23.6	34	*	55	*	86	*	143	*	209	*	311	*	441	
	900	45	13.3	21.2	30	*	49	*	78	*	129	*	188	*	281	*	397	
750	38	11.1	17.7	25.8	*	41	*	65	*	107	*	157	*	235	*	332		
22.4	Exact Reduction Ratio		23.011	22.457	21.860	22.689			22.303			22.125		22.484		22.119		22.394
	1800	80	21.5	34	55	*	80	*	127	*	201	*	310	*	480	*	694	
	1500	67	18.0	28.8	46	*	67	*	106	*	168	*	260	*	401	*	581	
	1200	54	14.4	23.1	37	*	54	*	85	*	135	*	208	*	322	*	467	
	1000	45	12.1	19.3	30	*	45	*	71	*	112	*	174	*	269	*	391	
	900	40	10.9	17.4	27.9	*	40	*	64	*	101	*	157	*	243	*	352	
750	33	9.1	14.5	23.3	*	34	*	53	*	85	*	131	*	203	*	294		
25	Exact Reduction Ratio		24.696	24.332	25.374	25.277	24.774	25.281	25.673	24.413	24.883	23.810	25.083	24.844	24.444	24.441	25.732	
	1800	72	21.4	32	49	64	79	100	118	165	195	261	299	356	456	572	624	
	1500	60	17.8	28.2	41	53	66	83	98	138	163	226	250	310	382	488	527	
	1200	48	14.3	22.9	32	43	53	67	79	110	131	182	201	260	307	392	423	
	1000	40	12.0	19.1	27.5	35	44	55	66	92	109	152	168	220	256	328	354	
	900	36	10.8	17.2	24.8	32	40	50	59	83	99	137	151	199	231	296	319	
750	30	9.0	14.4	20.7	27.0	33	41	50	69	82	114	126	166	193	247	267		
Dimension Tables	Horizontal		C-142	C-142	C-142	C-142	C-142	C-142	C-142	C-142	C-142	C-144	C-144	C-144	C-144	C-144	C-146	
	Vertical		C-168	C-168	C-168	C-168	C-168	C-168	C-168	C-168	C-168	C-170	C-170	C-170	C-170	C-170	C-172	
	Upright		C-184	C-184	C-184	C-184	C-184	C-184	C-184	C-184	C-184	C-186	C-186	C-186	C-186	C-186	C-186	

THERMAL POWER RATING (kW)

Nominal Reduction Ratio	H.Speed Shaft Speed r/min	Number of Cooling Fans	Size of Reducer														
			9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085	9090
Triple Reduction Horizontal Type	1800	-	24	36	42	54	63	77	77	97	107	131	145	179	184	225	235
		1	66	93	78	114	155	189	187	234	210	257	269	309	437	605	556
	1500	-	23	35	42	53	62	76	76	95	106	130	145	178	185	226	238
		1	58	81	68	99	135	166	164	205	185	227	238	273	391	540	501
	1200	-	22	34	40	51	60	73	74	92	104	126	142	175	183	223	237
		1	49	70	58	85	115	141	141	176	160	195	207	237	343	473	443
1000	-	21	32	38	49	57	70	71	89	101	123	138	170	179	217	233	
	1	41	59	50	72	98	120	121	151	138	169	179	204	298	409	386	
900	-	20	31	37	47	56	68	70	87	98	120	135	166	176	214	229	
	1	38	55	46	67	91	112	113	141	129	158	168	192	280	385	364	
750	-	19	30	36	45	53	64	67	83	94	115	130	160	170	206	223	
	1	33	48	40	58	79	96	98	122	113	137	147	168	247	338	322	
Triple Reduction Vertical Type	1800	-	22	33	40	51	60	73	73	91	100	122	135	167	168	206	212
		1	22	33	40	50	59	73	73	91	101	123	137	169	173	212	221
	1200	-	21	32	39	49	58	70	71	89	100	122	136	168	174	212	225
		1	21	31	37	47	56	68	69	87	97	119	134	165	172	210	223
	900	-	20	31	37	46	55	66	68	85	96	117	132	162	170	207	222
		1	19	29	35	44	52	63	65	81	92	113	127	156	166	201	217
Triple Reduction Upright Type	1800	-	24	36	42	54	69	77	76	96	106	131	144	178	182	223	
		1	66	93	78	113	168	189	185	231	208	257	266	306	434	601	
	1500	-	23	35	41	53	67	76	76	94	105	130	144	177	184	225	
		1	57	81	68	99	147	166	163	203	184	227	236	271	389	537	
	1200	-	22	34	40	51	65	73	73	92	103	126	141	174	182	222	
		1	49	70	58	85	126	141	140	175	159	195	206	236	342	471	
1000	-	21	32	38	48	62	70	71	89	100	123	137	169	178	217		
	1	41	59	50	72	107	120	120	150	137	169	178	203	297	408		
900	-	20	31	37	47	61	68	69	86	98	120	135	166	175	213		
	1	38	55	46	67	100	112	112	140	129	158	167	191	280	384		
750	-	19	30	35	45	58	64	66	83	94	115	130	159	170	206		
	1	33	48	40	58	86	96	98	122	112	137	146	167	246	338		

SELECTION Parallel Shaft Triple Reduction Nominal Reduction Ratio 20 ▶ 25

Size of Reducer										L.Speed Shaft Speed r/min	H.Speed Shaft Speed r/min	Nominal Reduction Ratio			
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136					
20.812		19.984											Exact Reduction Ratio		
*	1100	*	1500	*								90	1800	20	
*	922	*	1290	*								75	1500		
*	742	*	1070	*								60	1200		
*	620	*	919	*								50	1000		
*	559	*	838	*								45	900		
*	468	*	701	*								38	750		
22.841	22.335	22.781	22.930	22.648					21.793	21.793	Exact Reduction Ratio				
758	981	1140	1340	1500								80	1800	22.4	
650	821	982	1140	1290					3290*	3430*	67	1500			
539	660	801	919	1070					2650*	2840*	54	1200			
462	552	670	769	919					2220*	2440*	45	1000			
423	498	605	693	841					2000	2230	40	900			
355	416	506	580	708					1670	1910	33	750			
24.782	25.651	24.717	24.630	25.908	25.313					24.930	24.930	Exact Reduction Ratio			
713	898	1060	1250	1340	1590								72	1800	25
612	752	888	1080	1150	1400					2890*	3060*	60	1500		
497	604	714	895	954	1190					2320*	2530*	48	1200		
416	505	597	757	812	1050					1940*	2170*	40	1000		
375	456	538	683	732	955					1750	1990	36	900		
313	381	450	571	612	796					1470	1710	30	750		
C-146	C-146	C-146	C-146	C-146	C-148					C-150	C-150	Horizontal Vertical Upright	Dimension Tables		
C-172	C-172	C-172	C-172	C-172											

* marked models are double reduction units. Refer to C-108 and C-109.

Notes

- For ✕ marked values, the forced oil lubrication is required at continuous operation.
- Consult us when the high speed shaft speed is over 1800r/min.
- When the high speed shaft speed is not shown in the table, find it by the interpolation method.
- When the high speed shaft speed (N) is lower than 750r/min, find the mechanical power rating (PN) according to the following formula.

$$PN = P_{750} \times \frac{N}{750}$$
- Shown in the table are the ratings for the slow speed shaft.
- Refer to C42-C45 for the allowable radial and axial load on each shaft.

Size of Reducer										Number of Cooling Fans	H.Speed Shaft Speed r/min	Nominal Reduction Ratio		
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136				
264	296	333	391	429	481					663	663	-	1800	Triple Reduction Horizontal Type
603	651	713	813	867	794					1095	1095			
267	301	340	399	436	486					701	701	-	1500	
545	590	647	738	784	801					1157	1157	1	1200	
266	301	340	397	435	481					723	723	-	1000	
481	524	575	653	694	794					1193	1193	1	900	
262	297	336	391	428	472					726	726	-	750	20 ▼ 25
419	458	503	569	605	779					1199	1199	1		
258	294	332	386	423	465					724	724	-		
396	433	475	538	572	768					1195	1195	1		
250	285	322	375	410	451					714	714	-		
349	383	421	475	506	744					1178	1178	1		
238	265	298	348	386							-	1800	Triple Reduction Vertical Type	
248	278	313	367	404							-	1500		
252	285	321	377	412							-	1200		
251	285	321	375	411							-	1000		
249	283	319	372	408							-	900		
243	277	313	364	399							-	750		
											-	1800	Triple Reduction Upright Type	
											-	1500		
											-	1200		
											-	1000		
											-	900		
											-	750		

Ambient Temperature °C	Temperature Correction Factor	
	Without Fan	With Fan
20	1.00	1.00
30	0.85	0.87
40	0.70	0.73
50	0.55	0.60

Notes

- Shown in the table are the ratings for models without a fan cooling unit and those with a fan. (-: none fan, 1: with a fan)
- The values are applicable to continuous operation at ambient temperatures of 20 °C or less. When the temperature is out of the range, refer to the temperature correction factor shown above.
- When the high speed shaft speed is not shown in the table, find it by interpolation method.

SELECTION Parallel Shaft Triple Reduction Nominal Reduction Ratio 28 ▶ 35.5

MECHANICAL POWER RATING (kW)

Nominal Reduction Ratio	H.Speed Shaft Speed r/min	L.Speed Shaft Speed r/min	Size of Reducer														
			9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085	9090
28	Exact Reduction Ratio		28.565	27.764	27.350	27.481	28.269	28.761	29.227	27.426	28.995	27.231	28.105	27.880	26.961	26.838	27.992
	1800	64	17.4	28.0	44	58	65	84	97	132	154	209	249	329	395	502	558
	1500	54	14.5	23.4	37	48	54	70	81	111	129	175	208	275	330	420	467
	1200	43	11.7	18.8	29.7	39	43	56	65	89	103	140	167	221	265	337	375
	1000	36	9.7	15.7	24.8	32	36	47	54	74	86	117	140	185	222	282	314
	900	32	8.8	14.1	22.3	29.5	32	42	49	67	78	106	126	167	200	254	283
750	27	7.3	11.8	18.6	24.6	27	35	41	56	65	88	105	139	167	212	236	
31.5	Exact Reduction Ratio		31.401	31.905	32.876	31.625	31.213	31.498	30.855	31.992	29.905	31.202	31.500	31.056	31.601	29.792	31.855
	1800	57	16.9	26.1	38	51	63	81	98	126	163	208	239	315	355	481	511
	1500	48	14.1	21.8	31	42	52	68	82	105	136	174	200	264	297	402	427
	1200	38	11.3	17.4	25.5	34	42	54	66	84	109	140	160	212	238	323	343
	1000	32	9.4	14.5	21.3	28.8	35	45	55	71	91	117	134	177	199	270	287
	900	29	8.5	13.1	19.2	25.9	31	40	49	64	82	105	121	159	179	244	259
750	24	7.1	10.9	16.0	21.7	26.6	34	41	53	69	88	101	133	150	203	216	
35.5	Exact Reduction Ratio		36.321	36.406	35.438	34.383	35.617	35.833	35.127	35.942	34.848	35.686	35.294	34.850	34.854	32.712	34.652
	1800	51	13.7	21.4	34	46	51	68	81	101	128	160	199	265	307	413	453
	1500	42	11.5	17.9	28.6	39	43	57	68	85	107	134	167	221	257	346	379
	1200	34	9.2	14.4	23.0	31	34	45	54	68	86	107	134	178	206	278	304
	1000	28	7.7	12.0	19.2	26.2	29.0	38	45	57	72	90	112	148	172	232	254
	900	25	6.9	10.8	17.3	23.6	26.1	34	41	51	65	81	101	134	155	209	229
750	21	5.8	9.0	14.4	19.7	21.8	28.8	34	43	54	67	84	112	130	175	191	
Dimension Tables	Horizontal		C-142	C-142	C-142	C-142	C-142	C-142	C-142	C-142	C-144	C-144	C-144	C-144	C-144	C-144	C-146
	Vertical		C-168	C-168	C-168	C-168	C-168	C-168	C-168	C-168	C-170	C-170	C-170	C-170	C-170	C-170	C-172
	Upright		C-184	C-184	C-184	C-184	C-184	C-184	C-184	C-184	C-186	C-186	C-186	C-186	C-186	C-186	

THERMAL POWER RATING (kW)

Speed Reducer	Nominal Reduction Ratio	H.Speed Shaft Speed r/min	Number of Cooling Fans	Size of Reducer														
				9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085	9090
Triple Reduction Horizontal Type	1800	-	1	21	32	39	49	58	70	74	92	104	124	140	171	177	218	230
				60	84	72	104	142	172	179	222	203	243	258	295	422	586	545
	1500	-	1	21	31	38	48	56	69	72	90	102	123	137	170	176	218	229
				51	72	62	91	122	150	156	194	178	215	226	260	372	521	484
	1200	-	1	19	30	36	46	53	66	69	87	98	119	133	165	171	214	225
				43	61	52	77	103	128	132	166	152	184	194	225	322	454	421
1000	-	1	18	28	34	44	51	64	66	84	94	115	128	161	166	208	219	
			36	51	44	65	87	110	112	142	129	158	166	193	277	392	363	
900	-	1	18	27	33	43	49	62	64	82	92	113	125	157	162	205	215	
			33	48	41	61	81	102	104	132	121	148	155	181	259	369	341	
750	-	1	17	26	31	41	46	59	61	78	87	108	119	151	156	197	206	
			28	41	35	52	69	88	90	115	104	129	135	158	226	323	298	
Triple Reduction Vertical Type	1800	-	-	21	31	37	47	55	68	70	87	98	117	132	161	165	201	211
				20	30	36	46	54	67	69	86	97	117	131	162	167	205	217
	1500	-	-	19	29	35	45	52	65	67	84	95	115	129	160	165	205	216
				18	27	33	43	50	62	65	82	92	112	125	156	161	202	212
	1000	-	-	17	27	32	42	48	61	63	80	90	110	122	153	158	199	209
				16	25	30	40	46	58	60	76	86	106	117	148	152	193	202
Triple Reduction Upright Type	1800	-	1	21	32	39	49	65	70	74	91	104	124	140	170	177	216	230
				60	84	72	104	158	172	179	220	203	243	258	292	422	582	545
	1500	-	1	21	31	38	48	62	69	72	89	102	123	137	169	176	216	229
				51	72	62	90	136	150	156	193	178	215	226	258	372	518	484
	1200	-	1	19	30	36	46	59	66	69	86	98	119	133	165	171	213	225
				43	61	52	77	115	128	132	165	152	184	194	224	322	452	421
1000	-	1	18	28	34	44	56	64	66	83	94	115	128	160	166	208	219	
			36	51	44	65	97	110	112	141	129	158	166	193	277	391	363	
900	-	1	18	27	33	43	55	62	64	81	92	113	125	157	162	204	215	
			33	48	41	61	90	102	104	132	121	148	155	181	259	368	341	
750	-	1	17	26	31	41	51	59	61	77	87	108	119	151	156	197	206	
			28	41	35	52	77	88	90	114	104	129	135	158	226	323	298	

SELECTION Parallel Shaft Triple Reduction Nominal Reduction Ratio 28 ▶ 35.5

Size of Reducer											L.Speed Shaft Speed r/min	H.Speed Shaft Speed r/min	Nominal Reduction Ratio
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136			
28.552	27.527	28.078	28.261	27.914		29.333	29.333	28.679	28.315	28.315	Exact Reduction Ratio		
624	800	957	1110	1260		1870*	2000*	2640*			64	1800	28
535	669	813	932	1080		1570*	1720*	2230*	2550*	2750*	54	1500	
444	538	653	749	896		1260	1430	1790*	2050*	2280*	43	1200	
378	450	546	626	768		1050	1220	1500	1720*	1960*	36	1000	
341	405	492	565	703		954	1110	1350	1550	1790	32	900	
285	339	412	472	603		798	929	1130	1290	1530	27	750	
30.978	32.067	30.463	30.789	31.932	31.197	31.826	31.826	31.115	32.390	32.390	Exact Reduction Ratio		
588	722	865	1040	1120	1530	1730*	1870*	2460*			57	1800	31.5
497	604	724	898	963	1280	1450*	1600*	2060*	2240*	2450*	48	1500	
400	485	581	727	791	1030	1160	1330	1660*	1800*	2030*	38	1200	
334	406	486	608	661	865	977	1130	1380	1500*	1740*	32	1000	
301	366	438	548	596	780	881	1020	1250	1360	1590	29	900	
252	306	366	458	499	653	736	857	1040	1130	1340	24	750	
35.345	34.412	35.100	35.329	34.895	36.870	36.000	36.000	36.500	34.341	34.341	Exact Reduction Ratio		
525	643	781	895	1040	1300	1530*	1690*	2110*			51	1800	35.5
450	538	653	749	899	1090	1280*	1450*	1760*	2110*	2340*	42	1500	
366	432	525	602	745	878	1030	1200	1420*	1700*	1940*	34	1200	
306	361	439	503	639	735	866	1000	1180	1420*	1660*	28	1000	
276	325	395	454	581	662	780	908	1070	1280	1510	25	900	
231	272	330	379	485	554	652	759	895	1070	1260	21	750	
C-146	C-146	C-146	C-146	C-146	C-148	C-148	C-148	C-150	C-150	C-150	Horizontal Vertical Upright	Dimension Tables	

Notes

- For ✖ marked values, the forced oil lubrication is required at continuous operation.
- Consult us when the high speed shaft speed is over 1800r/min.
- When the high speed shaft speed is not shown in the table, find it by the interpolation method.
- When the high speed shaft speed (N) is lower than 750r/min, find the mechanical power rating (PN) according to the following formula.
$$PN = P_{750} \times \frac{N}{750}$$
- Shown in the table are the ratings for the slow speed shaft.
- Refer to C42-C45 for the allowable radial and axial load on each shaft.

Size of Reducer											Number of Cooling Fans	H.Speed Shaft Speed r/min	Nominal Reduction Ratio
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136			
250	294	323	378	417	467	508	508	564	657	657	-	1800	Triple Reduction Horizontal Type
572	647	691	786	842	770	838	838	931	1084	1084	1	1500	
248	295	325	377	421	466	515	515	577	682	682	-	1500	
506	577	618	697	757	769	849	849	952	1125	1125	1	1200	
243	290	319	369	415	458	512	512	579	689	689	-	1200	
439	504	538	607	661	756	845	845	955	1137	1137	1	1000	
236	283	310	359	403	448	504	504	572	683	683	-	1000	
378	436	465	523	570	739	831	831	943	1128	1128	1	900	
231	278	305	353	395	440	497	497	565	677	677	-	900	
355	410	437	491	535	726	820	820	933	1117	1117	1	750	
222	268	294	340	380	426	483	483	551	661	661	-	750	
310	360	383	431	468	702	796	796	909	1091	1091	1	750	

Ambient Temperature °C	Temperature Correction Factor	
	Without Fan	With Fan
20	1.00	1.00
30	0.85	0.87
40	0.70	0.73
50	0.55	0.60

231	267	292	344	380	-	1800	Triple Reduction Vertical Type
235	277	304	356	393	-	1500	
233	277	306	355	398	-	1200	
229	273	301	348	391	-	1000	
225	270	296	343	385	-	900	
218	262	287	332	373	-	750	

Notes

- Shown in the table are the ratings for models without a fan cooling unit and those with a fan. (-: none fan, 1: with a fan)
- The values are applicable to continuous operation at ambient temperatures of 20 °C or less. When the temperature is out of the range, refer to the temperature correction factor shown above.
- When the high speed shaft speed is not shown in the table, find it by interpolation method.

-	1	1800	Triple Reduction Upright Type
-	1	1500	
-	1	1200	
-	1	1000	
-	1	900	
-	1	750	28 ▼ 35.5

SELECTION Parallel Shaft Triple Reduction Nominal Reduction Ratio 40 ▶ 50

MECHANICAL POWER RATING (kW)

Nominal Reduction Ratio	H.Speed Shaft Speed r/min	L.Speed Shaft Speed r/min	Size of Reducer														
			9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085	9090
40	Exact Reduction Ratio		38.980	39.444	41.134	40.976	38.889	39.686	40.435	38.450	39.190	37.500	39.375	39.000	38.519	38.514	39.818
	1800	45	13.6	21.2	30	39	50	64	75	105	125	174	192	252	292	374	411
	1500	38	11.4	17.7	25.5	33	42	53	63	88	104	145	160	211	244	313	343
	1200	30	9.1	14.2	20.4	26.7	34	42	50	70	84	116	129	169	196	251	276
	1000	25	7.6	11.9	17.1	22.3	28.5	35	42	59	70	96	107	141	164	210	230
	900	23	6.9	10.7	15.4	20.1	25.6	32	38	53	63	87	97	127	147	189	207
750	19	5.7	8.9	12.8	16.8	21.4	26.7	31	44	52	72	81	106	123	158	173	
45	Exact Reduction Ratio		45.088	45.009	44.338	44.550	44.375	45.148	46.033	43.197	45.667	42.889	44.118	43.765	42.484	42.289	43.316
	1800	40	11.1	17.4	27.5	36	41	54	62	85	98	134	160	212	253	321	364
	1500	33	9.3	14.5	22.9	30	34	45	52	71	82	112	134	177	211	269	304
	1200	27	7.4	11.6	18.4	24.3	27.9	36	41	57	66	90	107	142	170	216	244
	1000	22	6.2	9.7	15.4	20.3	23.3	30	34	47	55	75	89	118	142	180	204
	900	20	5.6	8.7	13.8	18.3	21.0	27.4	31	42	49	67	81	107	128	162	184
750	17	4.7	7.3	11.5	15.3	17.5	22.9	26.2	35	41	56	67	89	106	135	153	
50	Exact Reduction Ratio			51.141	51.268	49.248	49.444	49.634	50.388	48.825	49.144	51.188	48.750	51.845	46.944	51.911	
	1800	36		24.6	31	40	51	61	81	100	133	148	203	218	308	316	
	1500	30		20.5	26.7	33	43	51	67	84	111	124	169	182	257	264	
	1200	24		16.5	21.4	27.0	34	41	54	67	89	99	136	146	207	212	
	1000	20		13.8	17.9	22.5	28.9	34	45	56	74	83	113	122	173	177	
	900	18		12.4	16.1	20.3	26.0	31	40	50	67	74	102	110	155	160	
750	15		10.3	13.4	16.9	21.6	26.0	34	42	56	62	85	92	130	133		
Dimension Tables	Horizontal		C-142	C-142	C-142	C-142	C-142	C-142	C-142	C-142	C-144	C-144	C-144	C-144	C-144	C-144	C-146
	Vertical		C-168	C-168	C-168	C-168	C-168	C-168	C-168	C-168	C-170	C-170	C-170	C-170	C-170	C-170	C-172
	Upright		C-184	C-184	C-184	C-184	C-184	C-184	C-184	C-184	C-186	C-186	C-186	C-186	C-186	C-186	

THERMAL POWER RATING (kW)

Speed Reducer	Nominal Reduction Ratio	H.Speed Shaft Speed r/min	Number of Cooling Fans	Size of Reducer														
				9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085	9090
Triple Reduction Horizontal Type	1800	-	1	20	31	34	46	53	66	66	83	92	113	125	157	159	201	210
				57	80	63	97	130	162	159	200	180	221	230	270	377	540	497
	1500	-	1	20	30	33	44	51	63	64	80	89	110	121	154	155	198	206
				49	69	54	83	111	137	173	155	192	199	235	328	473	434	
	1200	-	1	18	28	30	42	48	60	60	77	84	106	115	148	148	191	198
				41	58	44	70	92	116	115	146	130	164	168	201	279	406	371
1000	-	1	17	27	29	39	45	57	57	73	80	101	110	142	142	185	191	
			34	49	37	58	77	98	96	124	110	139	142	171	237	348	317	
40	-	1	17	26	27	38	43	55	55	71	78	99	106	138	138	180	186	
			31	45	34	54	71	90	89	115	102	130	132	159	220	325	295	
50	-	1	16	24	25	36	40	52	51	67	73	94	101	132	131	172	177	
			27	39	29	46	60	78	76	99	87	112	113	138	190	283	256	
Triple Reduction Vertical Type	1800	-	-	20	29	33	44	51	64	64	80	88	108	119	150	151	190	199
				19	29	32	43	50	62	62	78	86	107	117	148	149	189	198
	1500	-	-	18	27	30	41	47	59	59	75	82	103	112	144	144	185	192
				17	26	28	39	44	56	56	72	78	99	108	139	139	180	186
	1200	-	-	16	25	27	37	43	54	54	70	76	97	105	136	136	177	182
				15	24	25	35	40	51	51	66	72	92	99	130	129	170	174
Triple Reduction Upright Type	1800	-	1	20	31	34	46	59	66	66	83	92	113	125	157	159	201	210
				57	80	63	97	145	162	159	200	180	221	230	270	377	540	540
	1500	-	1	20	30	33	44	57	63	64	80	89	110	121	154	155	198	206
				49	69	54	83	125	137	173	155	192	199	235	328	473	434	
	1200	-	1	18	28	30	42	54	60	60	77	84	106	115	148	148	191	198
				41	58	44	70	105	116	115	146	130	164	168	201	279	406	371
1000	-	1	17	27	29	39	52	57	57	73	80	101	110	142	142	185	191	
			34	49	37	58	88	98	96	124	110	139	142	171	237	348	317	
40	-	1	17	26	27	38	50	55	55	71	78	99	106	138	138	180	186	
			31	45	34	54	82	90	89	115	102	130	132	159	220	325	295	
50	-	1	16	24	25	36	47	52	51	67	73	94	101	132	131	172	177	
			27	39	29	46	70	78	76	99	87	112	113	138	190	283	256	

SELECTION Parallel Shaft Triple Reduction Nominal Reduction Ratio 40 ▶ 50

Size of Reducer											L.Speed Shaft Speed r/min	H.Speed Shaft Speed r/min	Nominal Reduction Ratio	
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136				
38.349	39.522	38.082	37.948	39.918	39.000	39.059	39.059	39.601	39.284	39.284	Exact Reduction Ratio			
482	589	695	875	933	1190	1420*	1570*	1940*				45	1800	40
403	492	581	738	791	1030	1180*	1350*	1630*	1850*	2080*	38	1500		
324	395	467	593	635	831	955	1110	1310*	1490*	1730*	30	1200		
271	330	390	495	531	695	799	930	1090	1240*	1470*	25	1000		
244	298	352	447	479	627	720	839	988	1120	1320	23	900		
204	249	294	373	400	524	602	701	826	941	1110	19	750		
44.182	42.412	43.261	43.543	43.008	46.838	45.900	45.900	44.321	43.686	43.686	Exact Reduction Ratio			
432	524	636	730	876	1030	1210*	1380*	1740*				40	1800	45
366	438	532	610	751	865	1010*	1180*	1460*	1670*	1910*	33	1500		
294	352	427	490	623	695	816	949	1170*	1340*	1580*	27	1200		
246	294	357	410	524	581	682	794	981	1120*	1320*	22	1000		
222	265	322	369	473	523	615	715	885	1010	1190	20	900		
185	221	269	308	395	437	514	598	740	848	1000	17	750		
47.936	50.361	46.936	48.355	49.198	48.067	49.800	49.800	48.087	49.974	49.974	Exact Reduction Ratio			
388	464	566	695	770	1000	1120*	1280*	1610*				36	1800	50
324	388	474	581	644	843	937*	1090*	1340*	1460*	1700*	30	1500		
260	311	380	467	517	677	753	876	1080*	1170*	1390*	24	1200		
217	260	318	390	432	566	629	732	906	986*	1160*	20	1000		
196	234	286	352	390	510	567	660	817	889	1040	18	900		
163	196	239	294	326	426	474	552	682	742	876	15	750		
C-146	C-146	C-146	C-146	C-146	C-148	C-148	C-148	C-150	C-150	C-150	Horizontal Vertical Upright	Dimension Tables		

Notes

- For ✖ marked values, the forced oil lubrication is required at continuous operation.
- Consult us when the high speed shaft speed is over 1800r/min.
- When the high speed shaft speed is not shown in the table, find it by the interpolation method.
- When the high speed shaft speed (N) is lower than 750r/min, find the mechanical power rating (PN) according to the following formula.
$$PN = P_{750} \times \frac{N}{750}$$
- Shown in the table are the ratings for the slow speed shaft.
- Refer to C42-C45 for the allowable radial and axial load on each shaft.

Size of Reducer											Number of Cooling Fans	H.Speed Shaft Speed r/min	Nominal Reduction Ratio
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136			
238	274	307	363	396	440	488	488	545	631	631	-	1800	Triple Reduction Horizontal Type
545	603	656	756	801	726	805	805	899	1042	1042	1	1500	
236	270	305	357	393	434	489	489	550	641	641	-	1500	
481	529	581	661	706	715	807	807	908	1058	1058	1	1200	
230	262	299	344	383	421	482	482	546	639	639	-	1200	
416	454	505	566	611	695	795	795	901	1055	1055	1	1000	40 ▼ 50
223	253	291	332	371	408	471	471	537	630	630	-	1000	
358	389	435	483	525	673	777	777	886	1039	1039	1	900	
219	247	285	324	364	399	463	463	529	622	622	-	900	
335	364	409	451	493	659	764	764	873	1026	1026	1	750	
210	236	275	309	350	383	448	448	514	604	604	-	750	
293	316	358	392	431	632	739	739	847	997	997	1	750	
223	259	286	340	373							-	1800	Triple Reduction Vertical Type
225	258	289	343	374							-	1500	
222	253	288	334	370							-	1200	
217	246	282	324	362							-	1000	
213	241	278	317	356							-	900	
206	232	269	304	343							-	750	
											-	1800	Triple Reduction Upright Type
											-	1500	
											-	1200	
											-	1000	
											-	900	
											-	750	

Ambient Temperature °C	Temperature Correction Factor	
	Without Fan	With Fan
20	1.00	1.00
30	0.85	0.87
40	0.70	0.73
50	0.55	0.60

Notes

- Shown in the table are the ratings for models without a fan cooling unit and those with a fan. (-: none fan, 1: with a fan)
- The values are applicable to continuous operation at ambient temperatures of 20 °C or less. When the temperature is out of the range, refer to the temperature correction factor shown above.
- When the high speed shaft speed is not shown in the table, find it by interpolation method.

SELECTION Parallel Shaft Triple Reduction Nominal Reduction Ratio 56 ▶ 71

MECHANICAL POWER RATING (kW)

Nominal Reduction Ratio	H.Speed Shaft Speed r/min	L.Speed Shaft Speed r/min	Size of Reducer													
			9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085
56	Exact Reduction Ratio			55.125	55.739	56.195	56.250	56.507	56.608	56.894	56.206	57.353	54.706	57.182	51.547	56.471
	1800	32		22.1	29.1	33	43	50	65	79	102	123	170	189	264	280
	1500	27		18.5	24.3	27.6	36	42	54	66	86	103	142	158	221	234
	1200	21		14.8	19.5	22.1	29.3	34	43	53	69	83	114	126	177	188
	1000	18		12.4	16.2	18.5	24.5	28.5	36	44	57	69	95	105	148	157
	900	16		11.1	14.6	16.6	22.1	25.6	32	40	51	62	86	95	133	141
750	13		9.3	12.2	13.9	18.4	21.4	27.4	33	43	52	71	79	111	118	
63	Exact Reduction Ratio			63.986	63.741	61.358	62.615	65.045	61.852	63.984	61.225	63.984	63.375	63.194	63.186	64.889
	1800	29		19.7	25.7	32	40	47	66	77	106	119	156	179	230	254
	1500	24		16.5	21.5	27.1	33	39	55	64	88	99	131	150	192	212
	1200	19		13.2	17.2	21.7	27.1	31	44	51	71	79	105	120	154	170
	1000	16		11.0	14.4	18.1	22.6	26.5	37	43	59	66	87	100	129	142
	900	14		9.9	13.0	16.3	20.3	23.9	33	38	53	60	79	90	116	128
750	12		8.3	10.8	13.6	16.9	19.9	27.8	32	44	50	66	75	97	107	
71	Exact Reduction Ratio			68.971	69.300	70.014	71.234	74.051	69.488	74.559	70.024	71.691	71.118	69.700	69.381	70.588
	1800	25		17.7	23.4	26.6	34	39	53	60	82	99	131	155	197	225
	1500	21		14.8	19.6	22.2	29.0	32	44	50	69	83	109	130	165	188
	1200	17		11.9	15.7	17.8	23.2	26.1	35	40	55	66	88	104	132	151
	1000	14		9.9	13.1	14.8	19.4	21.8	29.7	34	46	55	73	87	110	126
	900	13		8.9	11.8	13.4	17.5	19.6	26.8	30	41	50	66	78	99	113
750	11		7.4	9.8	11.2	14.6	16.4	22.4	25.6	34	41	55	65	83	95	
Dimension Tables	Horizontal			C-142	C-142	C-142	C-142	C-142	C-142	C-144	C-144	C-144	C-144	C-144	C-144	C-146
	Vertical			C-168	C-168	C-168	C-168	C-168	C-168	C-170	C-170	C-170	C-170	C-170	C-170	C-172
	Upright			C-184	C-184	C-184	C-184	C-184	C-184	C-186	C-186	C-186	C-186	C-186	C-186	C-186

THERMAL POWER RATING (kW)

Nominal Reduction Ratio	H.Speed Shaft Speed r/min	Number of Cooling Fans	Size of Reducer													
			9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085
Triple Reduction Horizontal Type	1800	-		32	39	49	59	62	78	86	106	119	146	152	186	198
	1500	-		59	83	120	145	150	188	169	208	219	250	362	500	469
		1		30	37	47	57	60	75	83	102	115	141	148	181	194
	1200	-		50	70	102	124	128	161	145	178	189	216	314	432	409
		1		28	35	44	53	56	70	79	96	109	134	142	172	187
	1000	-		42	58	85	103	107	134	122	149	160	182	267	366	350
1			27	33	41	50	53	66	75	92	104	127	136	165	180	
56	1000	1		34	48	71	86	90	112	103	126	135	153	227	310	298
	900	-		26	31	40	48	51	64	73	89	101	123	132	160	175
71		1		32	44	65	79	83	104	95	117	125	142	211	289	278
	750	-		24	29	37	45	48	60	68	83	95	116	125	152	167
1			27	38	55	67	71	89	82	99	108	122	182	249	241	
Triple Reduction Vertical Type	1800	-		31	38	47	58	60	75	83	102	114	140	145	178	188
	1500	-		30	36	46	55	58	73	81	99	111	137	143	175	187
		1		28	34	43	52	55	69	77	94	107	131	138	168	182
	1200	-		26	32	41	49	52	65	74	90	102	125	133	162	176
		1		25	31	39	47	51	63	72	87	100	122	130	157	172
	900	-		24	29	37	44	48	59	68	82	94	115	124	150	164
1			27	38	55	67	71	89	82	99	108	122	182	249	241	
Triple Reduction Upright Type	1800	-		32	39	54	59	62	78	86	106	119	146	152	186	198
	1500	-		59	83	133	145	150	188	169	208	219	250	362	500	
		1		30	37	52	57	60	75	83	102	115	141	148	181	194
	1200	-		50	70	113	124	128	161	145	178	189	216	314	432	409
		1		28	35	49	53	56	70	79	96	109	134	142	172	187
	1000	-		42	58	94	103	107	134	122	149	160	182	267	366	350
1			27	33	46	50	53	66	75	92	104	127	136	165	180	
56	1000	1		34	48	79	86	90	112	103	126	135	153	227	310	298
	900	-		26	31	44	48	51	64	73	89	101	123	132	160	175
71		1		32	44	72	79	83	104	95	117	125	142	211	289	278
	750	-		24	29	41	45	48	60	68	83	95	116	125	152	167
1			27	38	61	67	71	89	82	99	108	122	182	249	241	

SELECTION Parallel Shaft Triple Reduction Nominal Reduction Ratio 56 ▶ 71

Size of Reducer											L.Speed Shaft Speed r/min	H.Speed Shaft Speed r/min	Nominal Reduction Ratio
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136			
57.600	54.044	55.125	55.485	54.803	56.807	57.600	57.600	57.487	53.842	53.842	Exact Reduction Ratio		
338	413	502	575	717	856	972*	1130*	1350*			32	1800	56
282	345	419	481	615	716	812*	946*	1130*	1360*	1600*	27	1500	
226	277	336	386	494	575	652	759	909*	1090*	1290*	21	1200	
189	231	281	322	413	480	545	635	760	916*	1080*	18	1000	
170	208	253	291	372	433	492	572	685	826	974	16	900	
142	174	212	243	311	362	411	478	572	690	814	13	750	
62.494	62.070	59.809	59.598	62.691	61.933	62.494	62.494	62.372	61.592	61.592	Exact Reduction Ratio		
299	378	446	566	607	786	897*	1040*	1240*			29	1800	63
249	316	373	473	508	657	750*	873*	1040*	1190*	1410*	24	1500	
200	253	299	380	408	528	602	701	839*	960*	1130*	19	1200	
167	212	250	317	340	441	503	586	701	802*	946*	16	1000	
151	191	225	286	307	397	454	528	632	723	853	14	900	
126	159	188	239	256	332	379	441	528	604	713	12	750	
72.000	66.609	67.941	68.385	67.544	73.193	72.000	72.000	70.853	72.791	72.791	Exact Reduction Ratio		
271	336	408	468	599	667	780*	908*	1100*			25	1800	71
226	281	341	391	501	558	652*	759*	922*	1010*	1190*	21	1500	
182	225	274	314	402	448	524	610	740*	814*	961*	17	1200	
152	188	229	262	336	374	438	509	618	681*	803*	14	1000	
137	170	206	236	303	337	394	459	557	613*	724	13	900	
114	141	172	197	253	281	329	383	466	512	604	11	750	
C-146	C-146	C-146	C-146	C-146	C-148	C-148	C-148	C-150	C-150	C-150	Horizontal Vertical Upright	Dimension Tables	
C-172	C-172	C-172	C-172	C-172									

Notes

- For ✖ marked values, the forced oil lubrication is required at continuous operation.
- Consult us when the high speed shaft speed is over 1800r/min.
- When the high speed shaft speed is not shown in the table, find it by the interpolation method.
- When the high speed shaft speed (N) is lower than 750r/min, find the mechanical power rating (PN) according to the following formula.

$$PN = P_{750} \times \frac{N}{750}$$
- Shown in the table are the ratings for the slow speed shaft.
- Refer to C42-C45 for the allowable radial and axial load on each shaft.

Size of Reducer											Number of Cooling Fans	H.Speed Shaft Speed r/min	Nominal Reduction Ratio
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136			
214	262	288	337	378	422	448	448	512	591	591	-	1800	Triple Reduction Horizontal Type
491	576	617	700	764	696	739	739	845	975	975	-	1500	
210	258	283	329	370	413	443	443	509	592	592	-	1500	
427	504	539	610	664	681	731	731	840	977	977	1	1200	
201	249	273	318	356	398	432	432	498	583	583	-	1200	
364	433	462	522	567	657	712	712	821	962	962	1	1000	
193	241	264	306	342	384	418	418	484	570	570	-	1000	56
310	371	395	445	483	633	690	690	799	940	940	1	900	
188	235	257	298	333	375	410	410	475	560	560	-	900	71
289	346	369	415	451	618	676	676	784	924	924	1	750	
179	225	246	284	318	358	393	393	457	540	540	-	750	
250	301	320	361	391	591	648	648	754	891	891	1	750	

Ambient Temperature °C	Temperature Correction Factor	
	Without Fan	With Fan
20	1.00	1.00
30	0.85	0.87
40	0.70	0.73
50	0.55	0.60

205	248	274	321	362	-	1800	Triple Reduction Vertical Type
202	247	272	318	357	-	1500	
196	242	266	309	347	-	1200	
189	235	258	299	335	-	1000	
185	230	252	293	328	-	900	
177	221	242	280	313	-	750	

Notes

- Shown in the table are the ratings for models without a fan cooling unit and those with a fan. (-: none fan, 1: with a fan)
- The values are applicable to continuous operation at ambient temperatures of 20 °C or less. When the temperature is out of the range, refer to the temperature correction factor shown above.
- When the high speed shaft speed is not shown in the table, find it by interpolation method.

-	1	1800	Triple Reduction Upright Type
-	1	1500	
-	1	1200	
-	1	1000	
-	1	900	
-	1	750	

SELECTION Parallel Shaft Triple Reduction Nominal Reduction Ratio 80 ▶ 90

MECHANICAL POWER RATING (kW)

Nominal Reduction Ratio	H.Speed Shaft Speed r/min	L.Speed Shaft Speed r/min	Size of Reducer																
			9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085	9090		
80	Exact Reduction Ratio		79.751			78.012			81.056			80.234			79.219			77.018 77.090	
	1800	23	*	20.6	*	32	*	50	*	82	*	125	*	189	206				
	1500	19	*	17.2	*	27.4	*	42	*	68	*	105	*	158	172				
	1200	15	*	13.8	*	21.9	*	33	*	55	*	84	*	127	138				
	1000	13	*	11.5	*	18.3	*	28.3	*	45	*	70	*	106	115				
	900	11	*	10.4	*	16.5	*	25.5	*	41	*	63	*	95	104				
	750	9.4	*	8.7	*	13.7	*	21.3	*	34	*	53	*	79	87				
90	Exact Reduction Ratio		86.706			88.750			91.063			91.765			88.897			84.569	
	1800	20	*	18.8	*	27.9	*	40	*	63	*	105	*	162	*				
	1500	17	*	15.7	*	23.3	*	34	*	53	*	88	*	136	*				
	1200	13	*	12.6	*	18.7	*	27.3	*	42	*	70	*	109	*				
	1000	11	*	10.5	*	15.6	*	22.8	*	35	*	59	*	91	*				
	900	10	*	9.4	*	14.0	*	20.5	*	32	*	53	*	82	*				
	750	8.3	*	7.9	*	11.7	*	17.1	*	26.7	*	44	*	68	*				
Dimension Tables	Horizontal		C-142			C-142			C-142			C-144			C-144			C-144 C-146	
	Vertical		C-168			C-168			C-168			C-170			C-170			C-170 C-172	
	Upright		C-184			C-184			C-184			C-186			C-186			C-186	

THERMAL POWER RATING (kW)

Speed Reducer	Nominal Reduction Ratio	H.Speed Shaft Speed r/min	Number of Cooling Fans	Size of Reducer											
				9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075
Selection Tables	Triple Reduction Horizontal Type	1800	-	37	56	73	100	139	178	202					
		1500	-	79	137	177	196	238	479	479					
		1200	-	67	118	151	167	205	414	417					
	80	1000	-	33	50	66	91	127	165	190					
		1200	1	55	97	126	141	173	351	356					
		1000	1	31	47	62	86	121	158	183					
		900	-	46	81	106	118	146	297	304					
90	900	-	30	45	60	83	117	153	178						
	1200	1	42	74	97	109	135	276	283						
	750	-	28	42	56	78	111	145	170						
Dimension Tables	Triple Reduction Vertical Type	1800	-	36	55	71	96	134	171	192					
		1500	-	35	52	69	93	130	168	190					
		1200	-	33	49	65	89	125	161	185					
	80	1000	-	31	47	61	85	119	155	179					
		900	-	29	45	59	82	116	151	175					
		1200	1	42	74	97	109	135	276	283					
		750	-	27	42	56	77	109	143	167					
Selection Tables	Triple Reduction Upright Type	1800	-	37	56	73	100	139	178						
		1500	-	79	137	177	196	238	479	479					
		1200	-	67	118	151	167	205	414	417					
	80	1000	-	33	50	66	91	127	165	190					
		1200	1	55	97	126	141	173	351	356					
		1000	1	31	47	62	86	121	158	183					
		900	-	46	81	106	118	146	297	304					
90	900	-	30	45	60	83	117	153	178						
	1200	1	42	74	97	109	135	276	283						
	750	-	28	42	56	78	111	145	170						
Dimension Tables	Triple Reduction Upright Type	1800	-	36	55	71	96	134	171	192					
		1500	-	35	52	69	93	130	168	190					
		1200	-	33	49	65	89	125	161	185					
	80	1000	-	31	47	61	85	119	155	179					
		900	-	29	45	59	82	116	151	175					
		1200	1	42	74	97	109	135	276	283					
		750	-	27	42	56	77	109	143	167					
90	900	-	28	42	56	78	111	145	170						
	1200	1	42	74	97	109	135	276	283						
	750	-	36	63	83	93	116	238	246						

SELECTION Parallel Shaft Triple Reduction Nominal Reduction Ratio 80 ▶ 90

Size of Reducer											L.Speed Shaft Speed r/min	H.Speed Shaft Speed r/min	Nominal Reduction Ratio									
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136												
78.118	75.300	73.714	80.819	77.266	75.490	78.118	78.118	76.873	Exact Reduction Ratio													
240	298	363	397	495	647	720*	839*	1010*			23	1800	80									
200	249	304	332	413	541	602*	701*	851*			19	1500										
160	200	244	266	332	434	483	563	683*			15	1200										
134	167	203	222	277	363	404	470	571			13	1000										
121	150	183	200	250	327	364	424	514			11	900										
101	125	153	167	208	273	304	354	430			9.4	750										
85.313											83.332		91.315	89.216	85.313	85.313	86.903	Exact Reduction Ratio				
220	*	322	*	420	549	661*	769*	902*			20	1800	90									
183	*	269	*	351	459	552*	643*	754*			17	1500										
147	*	216	*	281	368	443	516	605*			13	1200										
123	*	180	*	235	308	370	431	506			11	1000										
111	*	162	*	212	277	334	388	456			10	900										
92	*	135	*	177	231	278	324	380			8.3	750										
C-146	C-146	C-146	C-146	C-146	C-148	C-148	C-148	C-150			Horizontal Vertical Upright		Dimension Tables									
C-172	C-172	C-172	C-172	C-172																		

* marked models are quadruple reduction units. Refer to C-120 and C-121.

Notes

- For ✕ marked values, the forced oil lubrication is required at continuous operation.
- Consult us when the high speed shaft speed is over 1800r/min.
- When the high speed shaft speed is not shown in the table, find it by the interpolation method.
- When the high speed shaft speed (N) is lower than 750r/min, find the mechanical power rating (PN) according to the following formula.

$$PN = P_{750} \times \frac{N}{750}$$
- Shown in the table are the ratings for the slow speed shaft.
- Refer to C42-C45 for the allowable radial and axial load on each shaft.

Size of Reducer											Number of Cooling Fans	H.Speed Shaft Speed r/min	Nominal Reduction Ratio
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136			
214	265	283	333	362	399	446	446	500			-	1800	Triple Reduction Horizontal Type 80 ▼ 90
490	582	606	693	732	659	735	735	825			1	1500	
209	260	278	326	354	389	441	441	495			-	1500	
426	510	530	604	636	642	727	727	817			1	1200	
201	252	269	314	340	373	429	429	482			-	1200	
363	438	454	516	543	615	708	708	796			1	1000	
193	243	259	302	327	358	415	415	468			-	1000	
309	374	388	440	462	591	685	685	772			1	900	
188	237	253	295	319	349	406	406	459			-	900	
288	350	362	411	431	576	670	670	757			1	750	
179	227	241	281	304	332	389	389	440			-	750	
250	304	315	357	374	548	642	642	726			1	750	

Ambient Temperature °C	Temperature Correction Factor	
	Without Fan	With Fan
20	1.00	1.00
30	0.85	0.87
40	0.70	0.73
50	0.55	0.60

Notes

- Shown in the table are the ratings for models without a fan cooling unit and those with a fan. (-: none fan, 1: with a fan)
- The values are applicable to continuous operation at ambient temperatures of 20 °C or less. When the temperature is out of the range, refer to the temperature correction factor shown above.
- When the high speed shaft speed is not shown in the table, find it by interpolation method.

204	251	269	319	347			-	1800	Triple Reduction Vertical Type 80 ▼ 90
202	250	268	315	343			-	1500	
196	244	261	306	332			-	1200	
189	237	253	296	321			-	1000	
185	233	248	290	314			-	900	
176	223	238	277	300			-	750	

											-	1800	Triple Reduction Upright Type 80 ▼ 90
											-	1500	
											-	1200	
											-	1000	
											-	900	
											-	750	

SELECTION Parallel Shaft Quadruple Reduction Nominal Reduction Ratio 80 ▶ 100

MECHANICAL POWER RATING (kW)

Nominal Reduction Ratio	H.Speed Shaft Speed r/min	L.Speed Shaft Speed r/min	Size of Reducer																							
			9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085	9090									
80	Exact Reduction Ratio		82.394			79.669			79.341			76.744			78.120			79.124								
	1800	23	15.3	*	25.0	*	32	*	50	*	82	*	134	*	*	*										
	1500	19	12.8	*	20.9	*	27.2	*	41	*	68	*	111	*	*	*										
	1200	15	10.3	*	16.7	*	21.7	*	33	*	54	*	89	*	*	*										
	1000	13	8.6	*	13.9	*	18.1	*	27.9	*	45	*	74	*	*	*										
	900	11	7.7	*	12.6	*	16.3	*	25.1	*	41	*	67	*	*	*										
750	9.4	6.4	*	10.5	*	13.6	*	20.9	*	34	*	55	*	*	*											
90	Exact Reduction Ratio		88.813			90.908			90.326			89.427			87.529			87.269			88.471					
	1800	20	13.8	*	20.5	*	32	*	50	*	81	*	124	*	180											
	1500	17	11.5	*	17.1	*	26.7	*	41	*	68	*	104	*	150											
	1200	13	9.2	*	13.7	*	21.4	*	33	*	54	*	83	*	120											
	1000	11	7.7	*	11.5	*	17.9	*	27.9	*	45	*	69	*	101											
	900	10	6.9	*	10.3	*	16.1	*	25.1	*	41	*	62	*	91											
750	8.3	5.8	*	8.6	*	13.4	*	20.9	*	34	*	52	*	75												
100	Exact Reduction Ratio		103.09		102.69		99.26		101.29		103.97		98.871		100.57		97.650		96.720		96.444		96.432		101.66	
	1800	18	12.3	16.1	20.1	25.1	29.8	32	49	78	82	118	134	163												
	1500	15	10.3	13.4	16.8	20.9	24.9	27.2	41	65	68	99	111	136												
	1200	12	8.2	10.7	13.5	16.7	19.9	21.7	33	52	54	79	89	109												
	1000	10	6.9	9.0	11.2	13.9	16.6	18.1	27.6	43	45	66	74	91												
	900	9.0	6.2	8.1	10.1	12.6	15.0	16.3	24.9	39	41	59	67	82												
750	7.5	5.2	6.7	8.4	10.5	12.5	13.6	20.7	33	34	49	55	68													
Dimension Tables	Horizontal		C-152	C-152	C-152	C-152	C-152	C-152	C-152	C-154	C-154	C-154	C-154	C-154	C-156											
	Vertical		C-174	C-174	C-174	C-174	C-174	C-174	C-174	C-176	C-176	C-176	C-176	C-176	C-178											
	Upright		C-188	C-188	C-188	C-188	C-188	C-188	C-188	C-190	C-190	C-190	C-190	C-190	C-190											

THERMAL POWER RATING (kW)

Speed Reducer	Nominal Reduction Ratio	H.Speed Shaft Speed r/min	Number of Cooling Fans	Size of Reducer												
				9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080
Selection Tables	Quadruple Reduction Horizontal Type	1800	-	27	34	42	51	52	65	73	100	122	128	155	157	
		1500	-	26	32	41	50	50	62	71	97	118	125	151	156	
		1200	-	24	30	39	47	47	59	67	93	113	120	145	152	
		1000	-	23	29	37	45	45	56	64	89	108	115	139	148	
		900	-	22	28	36	43	44	54	62	86	105	112	135	145	
		750	-	21	26	34	41	41	51	59	82	99	107	128	139	
Dimension Tables	Quadruple Reduction Vertical Type	1800	-	28	35	45	54	54	67	77	105	128	136	164	172	
		1500	-	27	33	43	51	52	64	73	101	123	131	157	167	
		1200	-	25	31	40	48	49	60	69	96	116	124	149	160	
		1000	-	24	29	38	46	46	57	65	91	110	119	142	154	
		900	-	23	28	37	44	45	55	63	88	107	115	138	150	
		750	-	21	26	34	41	42	51	60	83	101	109	130	143	
Dimension Tables	Quadruple Reduction Upright Type	1800	-	27	34	47	51	52	65	74	101	124	130	157		
		1500	-	26	32	45	50	50	63	71	98	120	126	153		
		1200	-	25	31	43	47	48	59	68	93	114	121	146		
		1000	-	23	29	41	45	45	56	64	89	108	116	139		
		900	-	22	28	39	43	44	54	62	87	105	113	136		
		750	-	21	26	37	41	41	51	59	82	100	107	129		

SELECTION Parallel Shaft Quadruple Reduction Nominal Reduction Ratio 80 ▶ 100

Size of Reducer											L.Speed Shaft Speed r/min	H.Speed Shaft Speed r/min	Nominal Reduction Ratio		
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136					
											80.205	80.205	Exact Reduction Ratio		
*	*	*	*	*	*	*	*	*	*	*	1100	1210	23	1800	80
*	*	*	*	*	*	*	*	*	*	*	922	1060	19	1500	
*	*	*	*	*	*	*	*	*	*	*	740	872	15	1200	
*	*	*	*	*	*	*	*	*	*	*	618	727	13	1000	
*	*	*	*	*	*	*	*	*	*	*	557	654	11	900	
*	*	*	*	*	*	*	*	*	*	*	465	545	9.4	750	
88.676 91.041											89.191	89.191	Exact Reduction Ratio		
*	254	*	353	*	*	*	*	*	*	*	994	1170	20	1800	90
*	212	*	295	*	*	*	*	*	*	*	831	980	17	1500	
*	170	*	237	*	*	*	*	*	*	*	667	786	13	1200	
*	142	*	198	*	*	*	*	*	*	*	557	657	11	1000	
*	128	*	178	*	*	*	*	*	*	*	502	592	10	900	
*	106	*	149	*	*	*	*	*	*	*	419	494	8.3	750	
97.907 101.85 98.135 97.789 102.87 96.134 101.59 101.59 98.178 102.03 102.03											Exact Reduction Ratio				
192	232	274	348	373	465	556	648	800	871	1020	18	1800	100		
160	194	229	290	312	388	465	541	669	728	858	15	1500			
128	155	184	233	250	310	373	434	537	584	689	12	1200			
107	129	153	194	209	258	311	363	448	488	575	10	1000			
96	117	138	175	188	232	281	327	404	439	518	9.0	900			
80	97	115	146	157	194	234	273	337	367	433	7.5	750			
C-156 C-156 C-156 C-156 C-156 C-158 C-158 C-158 C-160 C-160 C-160 C-178 C-178 C-178 C-178 C-178											Horizontal Vertical Upright	Dimension Tables			

* marked models are triple reduction units. Refer to C-118 and C-119.

Notes
1. For ✕ marked values, the forced oil lubrication is required at continuous operation.
2. Consult us when the high speed shaft speed is over 1800r/min.
3. When the high speed shaft speed is not shown in the table, find it by the interpolation method.
4. When the high speed shaft speed (N) is lower than 750r/min, find the mechanical power rating (PN) according to the following formula. $PN = P_{750} \times \frac{N}{750}$
5. Shown in the table are the ratings for the slow speed shaft.
6. Refer to C42-C45 for the allowable radial and axial load on each shaft.

Size of Reducer											Number of Cooling Fans	H.Speed Shaft Speed r/min	Nominal Reduction Ratio
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136			
177	204	230	271	299	328	392	392	425	521	521	-	1800	Quadruple Reduction Horizontal Type 80 ▼ 100
175	203	228	268	295	322	386	386	422	515	515	-	1500	
170	199	223	261	286	311	374	374	413	502	502	-	1200	
165	193	217	253	277	300	362	362	402	487	487	-	1000	
162	190	213	248	271	293	354	354	395	478	478	-	900	
155	182	205	238	260	280	339	339	381	460	460	-	750	
193	225	252	294	323							-	1800	Quadruple Reduction Vertical Type 80 ▼ 100
187	219	245	286	313							-	1500	
179	210	235	273	299							-	1200	
172	202	226	262	287							-	1000	
167	197	221	256	280							-	900	
159	188	211	244	267							-	750	
											-	1800	Quadruple Reduction Upright Type 80 ▼ 100
											-	1500	
											-	1200	
											-	1000	
											-	900	
											-	750	

Ambient Temperature °C	Temperature Correction Factor	
	Without Fan	With Fan
20	1.00	1.00
30	0.85	0.87
40	0.70	0.73
50	0.55	0.60

Notes
1. Shown in the table are the ratings for models without a fan cooling unit and those with a fan. (-: none fan, 1: with a fan)
2. The values are applicable to continuous operation at ambient temperatures of 20 °C or less. When the temperature is out of the range, refer to the temperature correction factor shown above.
3. When the high speed shaft speed is not shown in the table, find it by interpolation method.

SELECTION Parallel Shaft Quadruple Reduction Nominal Reduction Ratio 112 ▶ 140

MECHANICAL POWER RATING (kW)

Nominal Reduction Ratio	H.Speed Shaft Speed r/min	L.Speed Shaft Speed r/min	Size of Reducer													
			9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085
112	Exact Reduction Ratio		111.12	111.65	113.26	115.23	118.37	111.08	117.19	110.06	109.41	108.54	106.37	105.89	110.59	
	1800	16	11.1	14.6	16.5	21.5	24.5	32	38	50	65	82	102	130	144	
	1500	13	9.2	12.2	13.8	18.0	20.4	27.2	32	41	54	68	85	108	120	
	1200	11	7.4	9.8	11.0	14.4	16.4	21.8	26.0	33	43	54	68	87	97	
	1000	8.9	6.2	8.2	9.2	12.0	13.7	18.1	21.7	27.9	36	45	57	72	80	
	900	8.0	5.6	7.3	8.3	10.8	12.3	16.3	19.6	25.1	33	41	51	65	72	
750	6.7	4.6	6.1	6.9	9.0	10.3	13.6	16.3	20.9	27.5	34	43	54	60		
125	Exact Reduction Ratio		127.97	128.49	122.72	126.20	130.09	129.57	125.30	126.11	127.97	120.90	126.39	117.54	127.07	
	1800	14	9.9	12.9	16.3	20.3	23.9	31	39	50	60	82	90	124	131	
	1500	12	8.3	10.7	13.6	17.0	19.9	26.6	33	41	50	68	75	104	109	
	1200	9.6	6.6	8.6	10.9	13.6	16.0	21.3	26.6	33	40	54	60	83	87	
	1000	8.0	5.5	7.2	9.1	11.3	13.3	17.8	22.2	27.9	33	45	50	69	73	
	900	7.2	5.0	6.5	8.2	10.2	12.0	16.0	20.0	25.1	30	41	45	62	66	
750	6.0	4.2	5.4	6.8	8.5	10.0	13.4	16.7	20.9	25.2	34	38	52	55		
140	Exact Reduction Ratio		137.94	139.69	140.03	143.57	148.10	145.56	146.01	144.24	143.38	135.67	139.40	129.07	138.24	
	1800	13	8.9	11.7	13.4	17.3	19.6	25.6	31	40	50	69	78	107	116	
	1500	11	7.4	9.8	11.2	14.5	16.4	21.4	26.1	33	41	58	65	89	97	
	1200	8.6	6.0	7.8	8.9	11.6	13.1	17.1	20.9	27.1	33	46	52	71	77	
	1000	7.1	5.0	6.5	7.5	9.7	10.9	14.3	17.5	22.7	28.0	38	43	59	64	
	900	6.4	4.5	5.9	6.7	8.7	9.9	12.9	15.7	20.4	25.2	35	39	54	58	
750	5.4	3.7	4.9	5.6	7.3	8.2	10.7	13.1	17.0	21.0	29.2	32	45	48		
Dimension Tables	Horizontal		C-152	C-152	C-152	C-152	C-152	C-152	C-152	C-154	C-154	C-154	C-154	C-154	C-154	C-156
	Vertical		C-174	C-174	C-174	C-174	C-174	C-174	C-174	C-176	C-176	C-176	C-176	C-176	C-176	C-178
	Upright		C-188	C-188	C-188	C-188	C-188	C-188	C-188	C-190	C-190	C-190	C-190	C-190	C-190	C-190

THERMAL POWER RATING (kW)

Speed Reducer	Nominal Reduction Ratio	H.Speed Shaft Speed r/min	Number of Cooling Fans	Size of Reducer												
				9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080
Quadruple Reduction Horizontal Type	1800	-	-	25	31	40	48	50	61	70	84	95	117	122	150	151
	1500	-	-	24	30	38	46	48	59	68	81	92	113	119	146	149
	1200	-	-	23	28	36	43	45	56	64	77	88	108	114	139	145
	112	1000	-	22	27	35	41	43	53	61	73	84	103	109	134	141
	▼	900	-	21	26	34	40	42	51	59	71	82	100	106	130	138
	140	750	-	20	24	32	38	39	48	56	67	77	95	101	124	132
Quadruple Reduction Vertical Type	1800	-	-	27	33	42	50	52	64	73	88	100	122	129	158	164
	1500	-	-	25	31	40	47	50	61	70	84	96	117	124	151	159
	1200	-	-	24	29	37	45	47	57	66	79	90	111	118	144	152
	112	1000	-	22	27	35	42	44	54	62	75	86	105	112	137	146
	▼	900	-	21	26	34	41	43	52	60	72	83	102	109	133	143
	140	750	-	20	24	32	38	40	49	57	68	79	96	103	126	136
Quadruple Reduction Upright Type	1800	-	-	26	31	44	48	50	62	71	84	96	118	124	152	-
	1500	-	-	25	30	43	46	48	59	68	81	93	114	120	147	-
	1200	-	-	23	28	40	43	46	56	65	77	89	108	115	140	-
	112	1000	-	22	27	38	41	43	53	61	73	84	103	110	134	-
	▼	900	-	21	26	37	40	42	51	60	71	82	100	107	131	-
	140	750	-	20	24	35	38	39	48	56	67	78	95	102	124	-

SELECTION Parallel Shaft Quadruple Reduction Nominal Reduction Ratio 112 ▶ 140

Size of Reducer											L.Speed Shaft Speed r/min	H.Speed Shaft Speed r/min	Nominal Reduction Ratio
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136			
112.80	109.29	111.48	112.21	110.83	113.61	117.50	117.50	117.37	109.93	109.93	Exact Reduction Ratio		
174	206	251	287	368	433	482	561	671	809	954	16	1800	112
145	172	209	240	308	362	403	469	561	676	797	13	1500	
116	138	168	192	247	290	323	376	450	542	640	11	1200	
97	115	140	161	206	242	270	314	376	453	534	8.9	1000	
87	104	126	145	186	218	243	283	338	408	481	8.0	900	
73	86	105	121	155	182	203	236	283	341	402	6.7	750	
122.38	124.14	120.95	119.20	126.78	123.87	127.49	127.49	127.34	129.91	129.91	Exact Reduction Ratio		
154	191	223	286	304	397	445	518	619	686	810	14	1800	125
128	159	186	239	253	332	371	432	517	573	676	12	1500	
103	127	149	191	203	266	298	347	415	460	542	9.6	1200	
86	106	124	160	170	222	249	290	347	384	453	8.0	1000	
77	96	112	144	153	200	224	261	312	346	408	7.2	900	
64	80	94	120	127	167	187	218	261	289	341	6.0	750	
141.00	133.22	135.88	136.77	135.09	146.39	146.88	146.88	142.35	133.32	133.32	Exact Reduction Ratio		
139	170	206	236	303	337	387	450	555	669	789	13	1800	140
116	141	172	197	253	281	323	376	464	559	659	11	1500	
93	113	138	158	203	226	259	301	372	448	529	8.6	1200	
78	95	115	132	169	188	216	252	310	374	441	7.1	1000	
70	85	104	119	152	170	195	227	280	337	398	6.4	900	
58	71	86	99	127	142	162	189	233	281	332	5.4	750	
C-156 C-156 C-156 C-156 C-156 C-158 C-158 C-158 C-160 C-160 C-160											Horizontal Vertical Upright	Dimension Tables	
C-178 C-178 C-178 C-178 C-178													

Notes

- For ✕ marked values, the forced oil lubrication is required at continuous operation.
- Consult us when the high speed shaft speed is over 1800r/min.
- When the high speed shaft speed is not shown in the table, find it by the interpolation method.
- When the high speed shaft speed (N) is lower than 750r/min, find the mechanical power rating (PN) according to the following formula.

$$PN = P_{750} \times \frac{N}{750}$$
- Shown in the table are the ratings for the slow speed shaft.
- Refer to C42-C45 for the allowable radial and axial load on each shaft.

Size of Reducer											Number of Cooling Fans	H.Speed Shaft Speed r/min	Nominal Reduction Ratio
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136			
164	198	218	256	287	321	372	372	413	502	502	-	1800	Quadruple Reduction Horizontal Type
162	196	216	252	282	314	365	365	406	493	493	-	1500	
157	192	210	245	273	303	352	352	394	476	476	-	1200	
152	187	204	237	264	292	340	340	381	461	461	-	1000	
149	183	200	232	258	285	333	333	373	451	451	-	900	
142	176	192	223	247	273	319	319	358	432	432	-	750	140
177	216	237	276	307							-	1800	Quadruple Reduction Vertical Type
172	211	230	267	297							-	1500	
164	202	220	256	284							-	1200	
157	194	212	245	272							-	1000	
153	189	207	239	265							-	900	
146	181	197	228	253							-	750	140
											-	1800	Quadruple Reduction Upright Type
											-	1500	
											-	1200	
											-	1000	
											-	900	
											-	750	140

Ambient Temperature °C	Temperature Correction Factor	
	Without Fan	With Fan
20	1.00	1.00
30	0.85	0.87
40	0.70	0.73
50	0.55	0.60

Notes

- Shown in the table are the ratings for models without a fan cooling unit and those with a fan. (-: none fan, 1: with a fan)
- The values are applicable to continuous operation at ambient temperatures of 20 °C or less. When the temperature is out of the range, refer to the temperature correction factor shown above.
- When the high speed shaft speed is not shown in the table, find it by interpolation method.

SELECTION Parallel Shaft Quadruple Reduction Nominal Reduction Ratio 160 ▶ 200

MECHANICAL POWER RATING (kW)

Nominal Reduction Ratio	H.Speed Shaft Speed r/min	L.Speed Shaft Speed r/min	Size of Reducer													
			9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085
160	Exact Reduction Ratio		165.49	159.50	159.92	156.02	158.68	162.11	154.58	157.13	153.94	158.44	158.25	154.04	168.71	
	1800	11	7.7	10.4	12.6	16.5	17.4	25.5	26.6	42	44	63	71	95	99	
	1500	9.4	6.4	8.7	10.5	13.7	14.5	21.3	22.2	35	37	53	59	79	82	
	1200	7.5	5.1	6.9	8.4	11.0	11.6	17.1	17.8	28.1	29.9	42	47	64	66	
	1000	6.3	4.3	5.8	7.0	9.1	9.7	14.2	14.8	23.4	24.9	35	39	53	55	
	900	5.6	3.9	5.2	6.3	8.2	8.7	12.8	13.3	21.1	22.4	31	35	48	49	
750	4.7	3.2	4.3	5.3	6.9	7.2	10.7	11.1	17.5	18.7	26.6	29.7	40	41		
180	Exact Reduction Ratio		178.38	173.41	182.48	177.50	180.65	182.13	180.12	179.71	172.48	177.79	174.54	169.14	183.53	
	1800	10	6.9	9.4	10.3	14.0	16.1	20.5	25.4	32	41	53	62	82	87	
	1500	8.3	5.8	7.9	8.6	11.7	13.4	17.1	21.2	27.2	34	44	52	68	73	
	1200	6.7	4.6	6.3	6.9	9.4	10.8	13.7	17.0	21.8	27.9	35	42	54	58	
	1000	5.6	3.9	5.3	5.7	7.8	9.0	11.4	14.2	18.2	23.3	29.7	35	45	49	
	900	5.0	3.5	4.7	5.2	7.1	8.1	10.3	12.8	16.4	21.0	26.7	31	41	44	
750	4.2	2.9	4.0	4.3	5.9	6.7	8.6	10.7	13.7	17.5	22.3	26.4	34	36		
200	Exact Reduction Ratio		205.43	206.26	197.71	203.32	207.95	197.74	202.57	193.83	192.43	190.60	192.89	192.86	210.89	
	1800	9.0	6.2	8.0	10.2	12.6	15.0	17.4	24.7	26.6	40	44	59	71	79	
	1500	7.5	5.2	6.7	8.5	10.5	12.5	14.5	20.6	22.2	33	37	49	59	66	
	1200	6.0	4.1	5.4	6.8	8.4	10.0	11.6	16.5	17.8	26.8	29.9	39	47	53	
	1000	5.0	3.5	4.5	5.7	7.0	8.4	9.7	13.8	14.8	22.4	24.9	33	39	44	
	900	4.5	3.1	4.0	5.1	6.3	7.5	8.7	12.4	13.3	20.2	22.4	30	35	39	
750	3.8	2.6	3.4	4.3	5.3	6.3	7.3	10.3	11.1	16.8	18.7	25.0	29.7	33		
Dimension Tables	Horizontal		C-152	C-152	C-152	C-152	C-152	C-152	C-152	C-154	C-154	C-154	C-154	C-154	C-154	C-156
	Vertical		C-174	C-174	C-174	C-174	C-174	C-174	C-174	C-176	C-176	C-176	C-176	C-176	C-176	C-178
	Upright		C-188	C-188	C-188	C-188	C-188	C-188	C-188	C-190	C-190	C-190	C-190	C-190	C-190	C-190

THERMAL POWER RATING (kW)

Speed Reducer	Nominal Reduction Ratio	H.Speed Shaft Speed r/min	Number of Cooling Fans	Size of Reducer												
				9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080
Selection Tables	Quadruple Reduction Horizontal Type	1800	-	23	29	36	43	42	52	61	74	85	103	109	131	138
		1500	-	22	28	34	41	40	49	58	71	81	98	105	126	134
		1200	-	20	26	32	38	37	46	55	66	76	92	99	118	127
		1000	-	19	24	30	36	35	43	51	62	72	87	93	112	121
		900	-	18	23	29	35	33	41	49	59	69	84	90	108	117
		750	-	17	21	27	32	31	38	46	55	65	78	85	101	111
Dimension Tables	Quadruple Reduction Vertical Type	1800	-	24	30	37	44	43	53	63	76	88	106	113	136	145
		1500	-	23	28	35	42	41	50	60	72	83	101	108	129	139
		1200	-	21	26	33	39	38	46	56	67	78	94	101	121	131
		1000	-	20	24	31	37	35	43	52	63	73	88	95	114	124
		900	-	19	23	30	35	34	41	50	60	70	85	92	110	120
		750	-	17	21	27	33	31	38	47	56	66	79	86	103	113
Selection Tables	Quadruple Reduction Upright Type	1800	-	23	29	39	43	42	52	62	74	85	104	110	132	
		1500	-	22	28	37	41	40	49	59	71	81	99	105	126	
		1200	-	21	26	35	38	37	46	55	66	76	93	99	119	
		1000	-	19	24	33	36	35	43	51	62	72	87	94	112	
		900	-	18	23	32	35	33	41	50	59	69	84	91	108	
		750	-	17	21	30	32	31	38	46	55	65	79	85	102	

SELECTION Parallel Shaft Quadruple Reduction Nominal Reduction Ratio 160 ▶ 200

Size of Reducer											L.Speed Shaft Speed r/min	H.Speed Shaft Speed r/min	Nominal Reduction Ratio
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136			
152.98	167.85	147.43	151.57	154.53	150.98	160.41	160.41	154.45	157.56	157.56	Exact Reduction Ratio		
123	141	183	226	250	327	355	413	512	567	669	11	1800	160
103	118	153	188	208	273	296	345	428	474	559	9.4	1500	
82	94	123	151	167	219	237	276	343	380	448	7.5	1200	
69	79	102	126	139	183	198	231	286	317	374	6.3	1000	
62	71	92	113	126	165	178	208	258	286	337	5.6	900	
51	59	77	95	105	137	149	173	215	238	281	4.7	750	
187.20	180.12	183.73	173.92	171.78	178.43	176.73	176.73	175.45	171.78	171.78	Exact Reduction Ratio		
105	126	153	186	239	277	322	375	451	521	614	10	1800	180
88	105	127	155	199	231	269	313	377	435	513	8.3	1500	
70	84	102	125	160	185	216	251	302	349	411	6.7	1200	
59	70	85	104	133	155	180	209	252	291	343	5.6	1000	
53	63	77	94	120	139	162	189	227	262	309	5.0	900	
44	53	64	78	100	116	135	157	190	219	258	4.2	750	
203.11	206.87	199.34	198.63	196.51	191.99	193.01	193.01	190.35	203.02	203.02	Exact Reduction Ratio		
93	115	136	173	197	258	295	344	416	442	521	9.0	1800	200
78	96	113	144	164	215	246	287	348	369	435	7.5	1500	
62	77	91	115	132	172	198	230	279	296	349	6.0	1200	
52	64	76	96	110	144	165	192	233	247	291	5.0	1000	
47	58	68	87	99	130	148	173	210	222	262	4.5	900	
39	48	57	72	82	108	124	144	175	185	219	3.8	750	
C-156	C-156	C-156	C-156	C-156	C-158	C-158	C-158	C-160	C-160	C-160	Horizontal Vertical Upright	Dimension Tables	
C-178	C-178	C-178	C-178	C-178									

Notes

- For ✕ marked values, the forced oil lubrication is required at continuous operation.
- Consult us when the high speed shaft speed is over 1800r/min.
- When the high speed shaft speed is not shown in the table, find it by the interpolation method.
- When the high speed shaft speed (N) is lower than 750r/min, find the mechanical power rating (PN) according to the following formula.

$$PN = P_{750} \times \frac{N}{750}$$
- Shown in the table are the ratings for the slow speed shaft.
- Refer to C42-C45 for the allowable radial and axial load on each shaft.

Size of Reducer											Number of Cooling Fans	H.Speed Shaft Speed r/min	Nominal Reduction Ratio
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136			
154	180	202	236	269	297	360	360	393	480	480	-	1800	Quadruple Reduction Horizontal Type 160 ▼ 200
149	175	196	229	262	288	351	351	385	467	467	-	1500	
142	167	187	218	250	275	337	337	373	449	449	-	1200	
135	160	179	207	240	263	325	325	361	432	432	-	1000	
131	155	174	201	234	256	317	317	353	422	422	-	900	
123	147	164	190	222	243	303	303	339	403	403	-	750	
162	190	213	247	283							-	1800	Quadruple Reduction Vertical Type 160 ▼ 200
155	183	204	237	272							-	1500	
146	173	193	223	258							-	1200	
138	164	183	212	246							-	1000	
133	159	177	205	239							-	900	
125	150	167	193	226							-	750	
											-	1800	Quadruple Reduction Upright Type 160 ▼ 200
											-	1500	
											-	1200	
											-	1000	
											-	900	
											-	750	

Ambient Temperature °C	Temperature Correction Factor	
	Without Fan	With Fan
20	1.00	1.00
30	0.85	0.87
40	0.70	0.73
50	0.55	0.60

Notes

- Shown in the table are the ratings for models without a fan cooling unit and those with a fan. (-: none fan, 1: with a fan)
- The values are applicable to continuous operation at ambient temperatures of 20 °C or less. When the temperature is out of the range, refer to the temperature correction factor shown above.
- When the high speed shaft speed is not shown in the table, find it by interpolation method.

SELECTION Parallel Shaft Quadruple Reduction Nominal Reduction Ratio 224 ▶ 280

MECHANICAL POWER RATING (kW)

Nominal Reduction Ratio	H.Speed Shaft Speed r/min	L.Speed Shaft Speed r/min	Size of Reducer												
			9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080
224	Exact Reduction Ratio		221.43	224.24	225.60	231.31	236.74	222.15	236.05	221.69	215.61	213.88	212.75	211.77	229.41
	1800	8.0	5.6	7.3	8.3	10.8	12.3	16.8	19.4	26.5	33	44	51	65	70
	1500	6.7	4.7	6.1	6.9	9.0	10.3	14.0	16.2	22.1	27.9	37	43	54	58
	1200	5.4	3.7	4.9	5.6	7.2	8.2	11.3	13.0	17.7	22.4	29.6	34	44	47
	1000	4.5	3.1	4.1	4.6	6.0	6.9	9.4	10.8	14.8	18.7	24.7	28.8	36	39
	900	4.0	2.8	3.7	4.2	5.4	6.2	8.5	9.8	13.3	16.8	22.3	25.9	33	35
	750	3.3	2.3	3.1	3.5	4.5	5.2	7.1	8.1	11.1	14.0	18.6	21.6	27.6	29.5
250	Exact Reduction Ratio		256.04		251.37	260.18	259.14	252.38	254.02	252.17	238.24	252.78	235.08	263.61	
	1800	7.2	6.5		10.2	12.0	16.0	19.8	26.0	30	42	45	62	63	
	1500	6.0	5.4		8.5	10.0	13.4	16.6	21.7	25.6	35	38	52	53	
	1200	4.8	4.3		6.8	8.0	10.7	13.3	17.4	20.5	28.3	30	42	42	
	1000	4.0	3.6		5.7	6.7	8.9	11.1	14.5	17.1	23.6	25.5	35	35	
	900	3.6	3.3		5.1	6.0	8.0	10.0	13.0	15.4	21.3	22.9	31	32	
	750	3.0	2.7		4.3	5.0	6.7	8.3	10.9	12.8	17.8	19.1	26.4	26.7	
280	Exact Reduction Ratio		278.37		285.97	296.20	291.13	294.09	290.52	282.55	267.35	278.80	258.13	286.77	
	1800	6.4	5.9		8.7	9.9	12.9	15.6	20.3	25.6	35	39	54	56	
	1500	5.4	4.9		7.3	8.2	10.7	13.0	16.9	21.3	29.6	32	45	47	
	1200	4.3	3.9		5.8	6.6	8.6	10.4	13.5	17.1	23.7	26.4	36	37	
	1000	3.6	3.3		4.9	5.5	7.2	8.7	11.3	14.3	19.8	22.0	30	31	
	900	3.2	3.0		4.4	4.9	6.5	7.8	10.2	12.8	17.8	19.8	27.1	28.3	
	750	2.7	2.5		3.7	4.1	5.4	6.5	8.5	10.7	14.9	16.5	22.6	23.6	
Dimension Tables	Horizontal		C-152	C-152	C-152	C-152	C-152	C-152	C-152	C-154	C-154	C-154	C-154	C-154	C-156
	Vertical		C-174	C-174	C-174	C-174	C-174	C-174	C-174	C-176	C-176	C-176	C-176	C-176	C-178
	Upright		C-188	C-188	C-188	C-188	C-188	C-188	C-188	C-190	C-190	C-190	C-190	C-190	C-190

THERMAL POWER RATING (kW)

Speed Reducer	Nominal Reduction Ratio	H.Speed Shaft Speed r/min	Number of Cooling Fans	Size of Reducer												
				9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080
Selection Tables	Quadruple Reduction Horizontal Type 224	1800	-	23	27	35	40	40	49	59	71	80	99	104	127	132
		1500	-	22	25	33	38	38	47	56	67	77	94	99	121	127
		1200	-	20	24	31	36	36	43	52	63	72	88	94	114	121
		1000	-	19	22	29	34	33	41	49	59	68	83	89	108	115
		900	-	18	21	28	32	32	39	47	56	66	80	86	104	112
		750	-	17	20	26	30	30	36	44	53	61	75	80	98	106
Dimension Tables	Quadruple Reduction Vertical Type 224	1800	-	24	28	36	41	42	51	60	72	83	102	107	131	138
		1500	-	22	26	34	39	39	48	57	68	79	96	102	124	132
		1200	-	21	24	32	36	36	44	53	64	74	90	96	116	125
		1000	-	19	22	30	34	34	41	50	59	69	84	90	110	118
		900	-	18	21	29	33	32	39	48	57	67	81	87	106	114
		750	-	17	20	27	31	30	36	44	53	62	76	81	99	107
Dimension Tables	Quadruple Reduction Upright Type 224	1800	-	23	27	38	40	41	50	59	71	81	99	104	127	
		1500	-	22	25	36	38	38	47	56	67	77	95	100	122	
		1200	-	20	24	34	36	36	44	52	63	72	89	94	115	
		1000	-	19	22	32	34	33	41	49	59	68	83	89	108	
		900	-	18	21	30	32	32	39	47	56	66	80	86	105	
		750	-	17	20	28	30	30	36	44	53	62	75	81	98	

SELECTION Parallel Shaft Quadruple Reduction Nominal Reduction Ratio 224 ▶ 280

Size of Reducer											L.Speed Shaft Speed r/min	H.Speed Shaft Speed r/min	Nominal Reduction Ratio
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136			
234.00	222.00	226.44	227.92	225.12	226.90	230.40	230.40	223.56	232.24	232.24	Exact Reduction Ratio		
84	102	124	142	183	218	248	288	355	387	456	8.0	1800	224
70	85	104	119	152	182	207	241	297	323	381	6.7	1500	
56	68	83	95	122	146	166	193	238	259	305	5.4	1200	
47	57	69	79	102	122	138	161	198	216	255	4.5	1000	
42	51	62	71	92	110	124	145	179	194	229	4.0	900	
35	43	52	60	76	91	104	121	149	162	191	3.3	750	
253.88	252.16	245.68	242.12	257.52	251.60	251.62	251.62	242.56	247.46	247.46	Exact Reduction Ratio		
74	94	110	142	150	197	227	264	328	363	428	7.2	1800	250
62	79	92	118	126	165	189	221	274	303	357	6.0	1500	
50	63	74	95	101	132	152	177	219	243	287	4.8	1200	
41	52	61	79	84	110	127	147	183	203	239	4.0	1000	
37	47	55	71	75	99	114	133	165	182	215	3.6	900	
31	39	46	59	63	83	95	111	137	152	180	3.0	750	
292.50	270.60	276.01	277.82	274.40	276.57	288.00	288.00	275.54	283.08	283.08	Exact Reduction Ratio		
67	84	102	117	150	179	199	231	289	318	375	6.4	1800	280
56	70	85	98	125	150	166	193	241	265	313	5.4	1500	
45	56	68	78	100	120	133	155	193	212	251	4.3	1200	
37	47	57	65	84	100	111	129	161	177	209	3.6	1000	
34	42	51	59	75	90	100	116	145	160	188	3.2	900	
28.5	35	42	49	63	75	83	97	121	133	157	2.7	750	
C-156	C-156	C-156	C-156	C-156	C-158	C-158	C-158	C-160	C-160	C-160	Horizontal Vertical Upright	Dimension Tables	
C-178	C-178	C-178	C-178	C-178									

Notes

- For ✕ marked values, the forced oil lubrication is required at continuous operation.
- Consult us when the high speed shaft speed is over 1800r/min.
- When the high speed shaft speed is not shown in the table, find it by the interpolation method.
- When the high speed shaft speed (N) is lower than 750r/min, find the mechanical power rating (PN) according to the following formula.

$$PN = P_{750} \times \frac{N}{750}$$
- Shown in the table are the ratings for the slow speed shaft.
- Refer to C42-C45 for the allowable radial and axial load on each shaft.

Size of Reducer											Number of Cooling Fans	H.Speed Shaft Speed r/min	Nominal Reduction Ratio
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136			
142	174	190	222	247	275	322	322	366	443	443	-	1800	Quadruple Reduction Horizontal Type 224 ▼ 280
137	169	184	215	239	265	311	311	356	430	430	-	1500	
130	161	176	204	227	251	296	296	341	411	411	-	1200	
124	154	168	195	216	239	283	283	328	395	395	-	1000	
120	150	163	189	210	232	275	275	319	384	384	-	900	
114	142	155	179	198	219	261	261	304	366	366	-	750	
149	183	200	232	257							-	1800	Quadruple Reduction Vertical Type 224 ▼ 280
142	176	192	222	246							-	1500	
134	166	181	209	232							-	1200	
127	158	172	199	220							-	1000	
123	153	167	192	213							-	900	
115	144	157	181	201							-	750	
											-	1800	Quadruple Reduction Upright Type 224 ▼ 280
											-	1500	
											-	1200	
											-	1000	
											-	900	
											-	750	

Ambient Temperature °C	Temperature Correction Factor	
	Without Fan	With Fan
20	1.00	1.00
30	0.85	0.87
40	0.70	0.73
50	0.55	0.60

Notes

- Shown in the table are the ratings for models without a fan cooling unit and those with a fan. (-: none fan, 1: with a fan)
- The values are applicable to continuous operation at ambient temperatures of 20 °C or less. When the temperature is out of the range, refer to the temperature correction factor shown above.
- When the high speed shaft speed is not shown in the table, find it by interpolation method.

SELECTION Parallel Shaft Quadruple Reduction Nominal Reduction Ratio 315 ▶ 400

MECHANICAL POWER RATING (kW)

Nominal Reduction Ratio	H.Speed Shaft Speed r/min	L.Speed Shaft Speed r/min	Size of Reducer														
			9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085	9090
315	Exact Reduction Ratio																
	1800	5.7							315.95	324.22	327.89	316.48	324.10	312.22	318.63	308.07	313.18
	1500	4.8							9.2	12.8	14.0	20.9	22.3	32	34	48	51
	1200	3.8							7.7	10.7	11.7	17.4	18.6	27.0	28.9	40	43
	1000	3.2							6.2	8.6	9.4	13.9	14.9	21.6	23.1	32	34
	900	2.9							5.2	7.1	7.8	11.6	12.4	18.1	19.3	26.8	28.8
750	2.4							4.6	6.4	7.0	10.5	11.2	16.3	17.4	24.2	25.9	
355	Exact Reduction Ratio								367.08	364.25	364.33	361.96	345.71	350.36	355.25	338.28	359.23
	1800	5.1							8.0	10.3	12.6	16.3	20.9	27.1	31	41	45
	1500	4.2							6.6	8.6	10.5	13.6	17.5	22.6	25.9	34	37
	1200	3.4							5.3	6.9	8.4	10.9	14.0	18.1	20.7	27.6	30
	1000	2.8							4.4	5.7	7.0	9.1	11.7	15.1	17.3	23.0	25.1
	900	2.5							4.0	5.2	6.3	8.2	10.5	13.6	15.6	20.7	22.6
750	2.1							3.3	4.3	5.3	6.8	8.8	11.4	13.0	17.3	18.9	
400	Exact Reduction Ratio								400.89	388.53	421.41	403.56	401.65	401.88	394.72	386.60	383.18
	1800	4.5							7.3	9.7	10.9	14.6	18.0	23.7	28.0	36	42
	1500	3.8							6.1	8.1	9.1	12.2	15.0	19.8	23.3	30	35
	1200	3.0							4.9	6.5	7.3	9.8	12.1	15.8	18.7	24.2	28.3
	1000	2.5							4.1	5.4	6.1	8.1	10.1	13.2	15.6	20.2	23.6
	900	2.3							3.7	4.8	5.5	7.3	9.1	11.9	14.0	18.2	21.2
750	1.9							3.1	4.0	4.6	6.1	7.5	9.9	11.7	15.1	17.7	
Dimension Tables	Horizontal Vertical Upright								C-152	C-152	C-154	C-154	C-154	C-154	C-154	C-154	C-154
									C-174	C-174	C-176	C-176	C-176	C-176	C-176	C-176	C-178
									C-188	C-188	C-190	C-190	C-190	C-190	C-190	C-190	C-190

THERMAL POWER RATING (kW)

Nominal Reduction Ratio	H.Speed Shaft Speed r/min	Number of Cooling Fans	Size of Reducer														
			9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085	9090
Quadruple Reduction Horizontal Type 315	1800	-															
	1500	-							41	47	57	67	80	93	103	120	133
	1200	-							39	45	54	64	76	89	99	115	128
	1000	-							36	42	51	60	72	83	93	108	122
	900	-							34	39	48	56	67	79	88	102	116
	750	-							33	37	46	54	65	76	85	99	113
Quadruple Reduction Vertical Type 315	1800	-							42	49	59	69	82	96	107	124	139
	1500	-							40	46	56	65	78	91	101	118	133
	1200	-							37	42	52	61	73	85	95	110	125
	1000	-							34	39	48	57	68	80	89	104	119
	900	-							33	38	46	55	66	77	86	100	115
	750	-							31	35	43	51	61	72	81	94	108
Quadruple Reduction Upright Type 315	1800	-							41	48	58	67	81	94	104	121	
	1500	-							39	45	55	64	77	89	99	116	
	1200	-							36	42	51	60	72	84	93	109	
	1000	-							34	39	48	56	68	79	88	103	
	900	-							33	37	46	54	65	76	85	99	
	750	-							30	35	42	50	61	71	80	93	

SELECTION Parallel Shaft Quadruple Reduction Nominal Reduction Ratio 315 ▶ 400

Size of Reducer											L.Speed Shaft Speed r/min	H.Speed Shaft Speed r/min	Nominal Reduction Ratio
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136			
317.35	305.90	299.46	328.33	313.90	316.08	314.53	314.53	298.95	323.52	323.52	Exact Reduction Ratio		
60	74	91	99	124	157	182	212	266	278	328	5.7	1800	315
50	62	76	83	103	131	152	177	222	232	274	4.8	1500	
40	49	60	66	83	105	122	142	178	186	220	3.8	1200	
33	41	50	55	69	88	101	118	149	155	183	3.2	1000	
30	37	45	50	62	79	91	106	134	140	165	2.9	900	
25.2	31	38	41	52	66	76	89	112	117	138	2.4	750	
346.58	349.61	338.53	375.23	370.97	362.44	341.25	341.25	355.99			Exact Reduction Ratio		
55	65	80	87	105	137	168	195	224			5.1	1800	355
45	54	67	72	87	114	140	163	187			4.2	1500	
36	43	53	58	70	92	112	131	150			3.4	1200	
30	36	45	48	58	76	93	109	125			2.8	1000	
27.6	32	40	43	52	69	84	98	112			2.5	900	
23.0	27.4	33	36	44	57	70	82	94			2.1	750	
397.55	389.79	386.90	418.36	423.96	414.22	391.44	391.44	386.24			Exact Reduction Ratio		
48	58	70	78	92	120	146	170	207			4.5	1800	400
40	49	59	65	76	100	122	142	172			3.8	1500	
32	39	47	52	61	80	98	114	138			3.0	1200	
26.8	32	39	43	51	67	81	95	115			2.5	1000	
24.1	29.5	35	39	46	60	73	85	104			2.3	900	
20.1	24.6	29.6	32	38	50	61	71	86			1.9	750	
C-156	C-156	C-156	C-156	C-156	C-158	C-158	C-158	C-160	C-160	C-160	Horizontal Vertical Upright	Dimension Tables	
C-178	C-178	C-178	C-178	C-178									

Notes

- For ✕ marked values, the forced oil lubrication is required at continuous operation.
- Consult us when the high speed shaft speed is over 1800r/min.
- When the high speed shaft speed is not shown in the table, find it by the interpolation method.
- When the high speed shaft speed (N) is lower than 750r/min, find the mechanical power rating (PN) according to the following formula.

$$PN = P_{750} \times \frac{N}{750}$$
- Shown in the table are the ratings for the slow speed shaft.
- Refer to C42-C45 for the allowable radial and axial load on each shaft.

Size of Reducer											Number of Cooling Fans	H.Speed Shaft Speed r/min	Nominal Reduction Ratio
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136			
142	172	187	215	237	260	316	316	353	433	433	-	1800	Quadruple Reduction Horizontal Type
137	166	181	207	229	250	304	304	342	419	419	-	1500	
130	158	173	197	217	237	289	289	327	400	400	-	1200	
124	151	165	188	207	226	275	275	313	383	383	-	1000	
120	147	160	182	201	219	267	267	305	372	372	-	900	
113	139	152	172	190	207	253	253	289	354	354	-	750	400
148	180	196	223	246							-	1800	Quadruple Reduction Vertical Type
142	172	188	214	235							-	1500	
134	163	178	201	222							-	1200	
127	154	169	191	211							-	1000	
122	150	164	185	204							-	900	
115	141	154	174	192							-	750	400
											-	1800	Quadruple Reduction Upright Type
											-	1500	
											-	1200	
											-	1000	
											-	900	
											-	750	400

Ambient Temperature °C	Temperature Correction Factor	
	Without Fan	With Fan
20	1.00	1.00
30	0.85	0.87
40	0.70	0.73
50	0.55	0.60

Notes

- Shown in the table are the ratings for models without a fan cooling unit and those with a fan. (-: none fan, 1: with a fan)
- The values are applicable to continuous operation at ambient temperatures of 20 °C or less. When the temperature is out of the range, refer to the temperature correction factor shown above.
- When the high speed shaft speed is not shown in the table, find it by interpolation method.

SELECTION Parallel Shaft Quadruple Reduction Nominal Reduction Ratio 450 ▶ 500

MECHANICAL POWER RATING (kW)

Nominal Reduction Ratio	H.Speed Shaft Speed r/min	L.Speed Shaft Speed r/min	Size of Reducer															
			9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085	9090	
450	Exact Reduction Ratio								451.41		448.40		428.67		431.03			
	1800	4.0							8.3		13.2		22.2		32			
	1500	3.3							6.9		11.0		18.5		27.1			
	1200	2.7							5.6		8.8		14.8		21.7			
	1000	2.2							4.6		7.3		12.4		18.1			
	900	2.0							4.2		6.6		11.1		16.3			
	750	1.7							3.5		5.5		9.3		13.6			
500	Exact Reduction Ratio								492.99		518.66		498.04		478.93			
	1800	3.6							7.6		11.4		19.1		29.2			
	1500	3.0							6.4		9.5		16.0		24.4			
	1200	2.4							5.1		7.6		12.8		19.5			
	1000	2.0							4.2		6.3		10.7		16.3			
	900	1.8							3.8		5.7		9.6		14.7			
	750	1.5							3.2		4.8		8.0		12.2			
Dimension Tables	Horizontal										C-152		C-154		C-154		C-154	
	Vertical											C-174		C-176		C-176		C-176
	Upright												C-188		C-190		C-190	

THERMAL POWER RATING (kW)

Speed Reducer	Nominal Reduction Ratio	H.Speed Shaft Speed r/min	Number of Cooling Fans	Size of Reducer													
				9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085
Selection Tables	Quadruple Reduction Horizontal Type	1800	-								49		67		92		120
		1500	-								47		64		88		115
		1200	-								43		59		82		108
		1000	-								40		56		77		102
		▼ 900	-								39		53		74		98
		500	-								36		50		69		92
		Dimension Tables	Quadruple Reduction Vertical Type	1800	-								50		69		94
1500	-										48		65		89		117
1200	-										44		60		83		109
1000	-										41		56		78		103
▼ 900	-										39		54		75		99
500	-										36		50		70		93
Dimension Tables	Quadruple Reduction Upright Type			1800	-								49		67		92
		1500	-								47		64		88		115
		1200	-								43		59		82		108
		1000	-								41		56		77		102
		▼ 900	-								39		53		74		98
		500	-								36		50		69		92

SELECTION Parallel Shaft Quadruple Reduction Nominal Reduction Ratio 450 ▶ 500

Size of Reducer										L.Speed Shaft Speed r/min	H.Speed Shaft Speed r/min	Nominal Reduction Ratio	
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136			
424.05	431.36		472.69	461.82							Exact Reduction Ratio		
45	63		82	108							4.0	1800	450
37	52		69	90						3.3	1500		
30	42		55	72						2.7	1200		
25.1	35		46	60						2.2	1000		
22.6	31		41	54						2.0	900		
18.9	26.6		34	45						1.7	750		
											Exact Reduction Ratio		500
											3.6	1800	
											3.0	1500	
											2.4	1200	
											2.0	1000	
											1.8	900	
											1.5	750	
C-156	C-156		C-156	C-158							Horizontal	Dimension Tables	
C-178	C-178		C-178								Vertical Upright		

Notes

- For ⚡ marked values, the forced oil lubrication is required at continuous operation.
- Consult us when the high speed shaft speed is over 1800r/min.
- When the high speed shaft speed is not shown in the table, find it by the interpolation method.
- When the high speed shaft speed (N) is lower than 750r/min, find the mechanical power rating (PN) according to the following formula.

$$P_N = P_{750} \times \frac{N}{750}$$
- Shown in the table are the ratings for the slow speed shaft.
- Refer to C42-C45 for the allowable radial and axial load on each shaft.

Size of Reducer										Number of Cooling Fans	H.Speed Shaft Speed r/min	Nominal Reduction Ratio	
9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136			
143	184		233	256							-	1800	Quadruple Reduction Horizontal Type
138	178		225	246							-	1500	
131	170		213	233							-	1200	
125	162		203	221							-	1000	
121	157		196	214							-	900	
114	148		185	202							-	750	500
149	192		241								-	1800	Quadruple Reduction Vertical Type
143	184		231								-	1500	
134	174		217								-	1200	
127	165		206								-	1000	
123	160		199								-	900	
116	151		188								-	750	500
											-	1800	Quadruple Reduction Upright Type
											-	1500	
											-	1200	
											-	1000	
											-	900	
											-	750	500

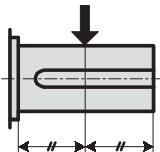
Ambient Temperature °C	Temperature Correction Factor	
	Without Fan	With Fan
20	1.00	1.00
30	0.85	0.87
40	0.70	0.73
50	0.55	0.60

Notes

- Shown in the table are the ratings for models without a fan cooling unit and those with a fan. (-: none fan, 1: with a fan)
- The values are applicable to continuous operation at ambient temperatures of 20 °C or less. When the temperature is out of the range, refer to the temperature correction factor shown above.
- When the high speed shaft speed is not shown in the table, find it by interpolation method.

SELECTION Allowable Radial and Axial Loads on Slow Speed Parallel shaft

Allowable Radial Load (kN)



Sheet 1

Applicable to configurations: RL, LR, BL

L.Speed Shaft Speed r/min	Size of Reducer																	
	9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085	9090	9095	9100	
250	11.8	17.7	17.7	29.4	29.9	32.4	37.8	46.6	39.7	49.1	44.1	77.0	77.0	100.1	100.1	137.8	139.8	
160	11.8	17.7	20.1	31.4	32.4	33.8	39.7	48.1	41.7	50.5	46.1	89.0	89.0	108.9	108.9	145.7	157.5	
Standard bearing model	100	11.8	17.7	25.0	35.3	38.7	39.2	47.1	53.5	47.6	54.4	54.4	99.0	99.0	122.1	122.1	147.6	166.3
	63	11.8	17.7	26.5	35.3	42.2	47.1	54.9	62.3	58.9	64.3	65.2	131.5	131.5	125.6	125.6	143.7	165.3
	40	11.8	17.7	26.5	35.3	42.2	49.1	54.9	67.7	71.1	78.0	79.0	141.0	141.0	125.1	125.1	137.8	164.8
	≤ 25	11.8	17.7	26.5	35.3	42.2	49.1	54.9	67.7	81.4	95.2	99.1	139.5	139.5	122.6	122.6	135.4	163.3
Heavy duty bearing model	250								71.1	93.7	70.1	122.5	122.5	141.8	141.8	158.9	181.0	
	160								78.0	94.7	77.5	137.5	137.5	132.4	132.4	151.6	174.6	
	100								81.4	98.1	92.2	149.5	149.5	127.0	127.0	147.6	166.8	
	63								81.4	98.1	114.8	149.0	149.0	125.6	125.6	143.7	165.8	
	40								81.4	98.1	117.7	148.5	148.5	125.1	125.1	137.8	165.3	
	≤ 25								81.4	98.1	117.7	147.0	147.0	122.6	122.6	135.4	163.8	

Sheet 2

Applicable to configurations: RR, LL, BR

L.Speed Shaft Speed r/min	Size of Reducer																	
	9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085	9090	9095	9100	
250	8.3	15.2	9.8	21.6	19.1	21.6	22.6	31.4	16.7	28.4	17.2	44.0	44.0	58.4	58.4	97.6	80.4	
160	9.8	17.7	12.3	23.1	20.6	23.1	24.0	31.4	18.1	27.0	17.7	55.5	55.5	64.3	64.3	103.0	96.1	
Standard bearing model	100	11.8	17.7	16.7	29.4	26.0	27.5	28.4	35.3	22.1	30.4	25.5	63.5	63.5	74.6	74.6	110.9	105.9
	63	11.8	17.7	21.6	35.3	32.9	35.3	37.3	42.7	33.4	38.3	33.8	95.0	95.0	104.5	104.5	148.1	153.5
	40	11.8	17.7	26.5	35.3	41.7	43.7	48.6	55.4	45.1	51.5	47.6	129.0	129.0	146.7	146.7	172.2	203.6
	≤ 25	11.8	17.7	26.5	35.3	42.2	49.1	54.9	67.7	60.8	68.7	67.7	167.0	167.0	171.2	171.2	171.2	215.3
Heavy duty bearing model	250								46.1	74.6	40.2	90.0	90.0	114.8	114.8	156.0	150.6	
	160								52.0	72.1	45.6	103.5	103.5	125.1	125.1	164.8	170.7	
	100								60.3	79.0	59.4	116.0	116.0	140.8	140.8	176.1	187.4	
	63								81.4	96.6	80.0	152.5	152.5	174.1	174.1	186.9	218.8	
	40								81.4	98.1	108.9	192.0	192.0	191.8	191.8	193.7	241.8	
	≤ 25								81.4	98.1	117.7	180.5	180.5	171.2	171.2	171.2	214.8	

Allowable Axial Load (kN)



L.Speed Shaft Speed r/min	Size of Reducer																	
	9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085	9090	9095	9100	
250	9.3	11.4	14.7	23.1	26.5	31.4	32.9	31.9	27.0	43.2	28.0	28.0	23.5	23.5	31.4	52.0	45.1	
160	9.3	11.4	18.1	23.1	28.4	31.4	33.4	31.9	28.9	43.2	28.4	28.4	27.5	27.5	34.3	53.0	53.0	
Standard bearing model	100	9.3	11.4	24.5	23.1	32.9	31.4	37.3	31.9	34.3	43.2	39.7	39.7	32.9	32.9	43.2	59.4	58.4
	63	9.3	11.4	26.5	23.1	32.9	31.4	37.3	31.9	49.1	43.2	52.5	52.5	45.6	45.6	54.0	59.8	81.4
	40	9.3	11.4	26.5	23.1	32.9	31.4	37.3	31.9	49.1	43.2	61.4	61.4	63.3	60.3	59.8	59.8	83.4
	≤ 25	9.3	11.4	26.5	23.1	32.9	31.4	37.3	31.9	49.1	43.2	61.4	61.4	67.7	60.3	59.8	59.8	83.4
Heavy duty bearing model	250								23.1	34.8	18.6	18.6	56.9	56.9	59.8	59.8	83.4	
	160								25.0	33.4	21.1	21.1	56.9	56.9	59.8	59.8	83.4	
	100								29.4	36.8	27.5	27.5	56.9	56.9	59.8	59.8	83.4	
	63								39.2	43.2	36.3	36.3	56.9	56.9	59.8	59.8	83.4	
	40								39.2	43.2	49.1	49.1	56.9	56.9	59.8	59.8	83.4	
	≤ 25								39.2	43.2	56.9	56.9	56.9	56.9	59.8	59.8	83.4	

Speed Reducer
Selection Tables
Dimension Tables

SELECTION Allowable Radial and Axial Loads on Slow Speed Parallel shaft

Size of Reducer									L.Speed Shaft Speed r/min	
9105	9110	9115	9118	9121	9126	9128	9131	9136		
192.3	167.8	222.7							250	Standard bearing model
200.6	174.1	234.9							160	
183.9	184.9	245.7	391.9	352.7	330.6	315.4	403.2	391.9	100	Standard bearing model
178.1	190.8	303.1	387.5	369.3	341.4	328.6	462.5	430.7	63	
173.6	194.7	320.8	460.1	449.3	401.2	409.6	572.4	511.1	40	
167.3	184.9	316.4	448.3	554.8	497.4	534.6	733.8	638.6	≤ 25	
213.9	250.6	316.9							250	Heavy duty bearing model
200.6	214.8	334.5							160	
183.9	195.2	340.9							100	
178.1	190.8	333.5							63	
173.6	194.7	320.8							40	
167.3	184.9	316.4							≤ 25	

Unit: kN

Size of Reducer									L.Speed Shaft Speed r/min	
9105	9110	9115	9118	9121	9126	9128	9131	9136		
131.5	94.2	152.5							250	Standard bearing model
138.3	92.2	155.0							160	
146.7	101.0	167.3	312.0	228.1	197.7	159.4	203.6	190.3	100	Standard bearing model
200.1	144.7	220.7	292.3	244.3	206.0	170.7	260.9	218.8	63	
235.4	199.1	250.2	373.3	322.7	257.0	250.2	369.3	286.5	40	
304.1	272.7	353.2	460.1	427.2	348.7	373.3	528.3	398.3	≤ 25	
213.4	191.3	248.7							250	Heavy duty bearing model
223.2	197.7	261.4							160	
236.9	210.4	274.2							100	
301.7	267.8	341.9							63	
304.1	323.7	382.1							40	
304.1	323.7	374.7							≤ 25	

Unit: kN

Size of Reducer									L.Speed Shaft Speed r/min	
9105	9110	9115	9118	9121	9126	9128	9131	9136		
50.0	50.0	76.5							250	Standard bearing model
49.5	49.5	76.5							160	
54.0	54.0	83.4	119.7	121.6	116.7	91.2	113.3	107.9	100	Standard bearing model
74.6	74.6	83.4	119.7	121.6	121.6	96.6	140.3	122.6	63	
83.4	83.4	83.4	119.7	121.6	121.6	134.9	191.3	155.5	40	
83.4	83.4	83.4	119.7	121.6	121.6	144.2	192.3	192.3	≤ 25	
83.4	83.4	83.4							250	Heavy duty bearing model
83.4	83.4	83.4							160	
83.4	83.4	83.4							100	
83.4	83.4	83.4							63	
83.4	83.4	83.4							40	
83.4	83.4	83.4							≤ 25	

Unit: kN

Overhang Factor

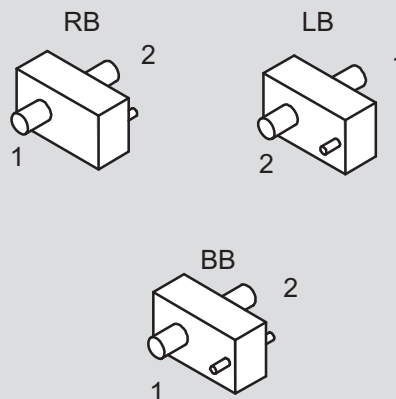
Overhang Member	Overhang Factor
Sprocket (Single Row)	1
Sprocket (Double Row)	1.25
Gears	1.25

Notes

- The value shown in the table is allowable radial load when it is applied to the center of the solid shaft (except hollow shaft). Consult us when a load is not in the center.
- Consult us for the blanks in the table.
- Consult us when the radial load is applied upward.
- In case of double projection shaft (RB, LB, BB)
 - See sheet1 when the radial load is applied only to the shaft1.
 - See sheet2 when the radial load is applied only to the shaft2.
 - Consult us when the radial load is applied to both shafts.
- Refer to C-6 to check overhang load, and calculate equivalent load at peak load value. Be careful under following condition because large peak load may be generated.

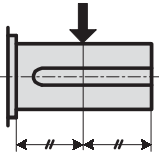
Application: When the inertia is large, such as for crane driving, slewing, etc.

Motor: inline motor
Connecting method: Sprocket or gear
Consult us when the peak load is larger than allowable value.



SELECTION Allowable Radial and Axial Loads on Slow Speed Parallel shaft

Allowable Radial Load (kgf)



Sheet 1

Applicable to configurations: RL, LR, BL

L.Speed Shaft Speed r/min	Size of Reducer																	
	9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085	9090	9095	9100	
Standard bearing model	250	1200	1800	1800	3000	3050	3300	3850	4750	4050	5000	4500	7850	7850	10200	10200	14050	14250
	160	1200	1800	2050	3200	3300	3450	4050	4900	4250	5150	4700	9050	9050	11100	11100	14850	16050
	100	1200	1800	2550	3600	3950	4000	4800	5450	4850	5550	5550	10100	10100	12450	12450	15050	16950
	63	1200	1800	2700	3600	4300	4800	5600	6350	6000	6550	6650	13400	13400	12800	12800	14650	16850
	40	1200	1800	2700	3600	4300	5000	5600	6900	7250	7950	8050	14350	14350	12750	12750	14050	16800
≤ 25	1200	1800	2700	3600	4300	5000	5600	6900	8300	9700	10100	14200	14200	12500	12500	13800	16650	
Heavy duty bearing model	250								7250	9550	7150	12500	12500	14450	14450	16200	18450	
	160								7950	9650	7900	14000	14000	13500	13500	15450	17800	
	100								8300	10000	9400	15250	15250	12950	12950	15050	17000	
	63								8300	10000	11700	15200	15200	12800	12800	14650	16900	
	40								8300	10000	12000	15150	15150	12750	12750	14050	16850	
≤ 25								8300	10000	12000	15000	15000	12500	12500	13800	16700		

Sheet 2

Applicable to configurations: RR, LL, BR

L.Speed Shaft Speed r/min	Size of Reducer																	
	9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085	9090	9095	9100	
Standard bearing model	250	850	1550	1000	2200	1950	2200	2300	3200	1700	2900	1750	4500	4500	5950	5950	9950	8200
	160	1000	1800	1250	2350	2100	2350	2450	3200	1850	2750	1800	5650	5650	6550	6550	10500	9800
	100	1200	1800	1700	3000	2650	2800	2900	3600	2250	3100	2600	6450	6450	7600	7600	11300	10800
	63	1200	1800	2200	3600	3350	3600	3800	4350	3400	3900	3450	9700	9700	10650	10650	15100	15650
	40	1200	1800	2700	3600	4250	4450	4950	5650	4600	5250	4850	13150	13150	14950	14950	17550	20750
≤ 25	1200	1800	2700	3600	4300	5000	5600	6900	6200	7000	6900	17000	17000	17450	17450	17450	21950	
Heavy duty bearing model	250								4700	7600	4100	9150	9150	11700	11700	15900	15350	
	160								5300	7350	4650	10550	10550	12750	12750	16800	17400	
	100								6150	8050	6050	11800	11800	14350	14350	17950	19100	
	63								8300	9850	8150	15550	15550	17750	17750	19050	22300	
	40								8300	10000	11100	19550	19550	19550	19550	19750	24650	
≤ 25								8300	10000	12000	18400	18400	17450	17450	17450	21900		

Allowable Axial Load (kgf)



L.Speed Shaft Speed r/min	Size of Reducer																	
	9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085	9090	9095	9100	
Standard bearing model	250	950	1160	1500	2350	2700	3200	3350	3250	2750	4400	2850	2850	2400	2400	3200	5300	4600
	160	950	1160	1850	2350	2900	3200	3400	3250	2950	4400	2900	2900	2800	2800	3500	5400	5400
	100	950	1160	2500	2350	3350	3200	3800	3250	3500	4400	4050	4050	3350	3350	4400	6050	5950
	63	950	1160	2700	2350	3350	3200	3800	3250	5000	4400	5350	5350	4650	4650	5500	6100	8300
	40	950	1160	2700	2350	3350	3200	3800	3250	5000	4400	6260	6260	6450	6150	6100	6100	8500
≤ 25	950	1160	2700	2350	3350	3200	3800	3250	5000	4400	6260	6260	6900	6150	6100	6100	8500	
Heavy duty bearing model	250								2350	3550	1900	1900	5800	5800	6100	6100	8500	
	160								2550	3400	2150	2150	5800	5800	6100	6100	8500	
	100								3000	3750	2800	2800	5800	5800	6100	6100	8500	
	63								4000	4400	3700	3700	5800	5800	6100	6100	8500	
	40								4000	4400	5000	5000	5800	5800	6100	6100	8500	
≤ 25								4000	4400	5800	5800	5800	5800	6100	6100	8500		

SELECTION Allowable Radial and Axial Loads on Slow Speed Parallel shaft

Size of Reducer									L.Speed Shaft Speed r/min	
9105	9110	9115	9118	9121	9126	9128	9131	9136		
19600	17100	22700							250	Standard bearing model
20450	17750	23950							160	
18750	18850	25050	39950	35950	33700	32150	41100	39950	100	Standard bearing model
18150	19450	30900	39500	37650	34800	33500	47150	43900	63	
17700	19850	32700	46900	45800	40900	41750	58350	52100	40	Heavy duty bearing model
17050	18850	32250	45700	56550	50700	54500	74800	65100	≤ 25	
21800	25550	32300							250	Heavy duty bearing model
20450	21900	34100							160	
18750	19900	34750							100	Heavy duty bearing model
18150	19450	34000							63	
17700	19850	32700							40	Heavy duty bearing model
17050	18850	32250							≤ 25	

Unit: kgf

Size of Reducer									L.Speed Shaft Speed r/min	
9105	9110	9115	9118	9121	9126	9128	9131	9136		
13400	9600	15550							250	Standard bearing model
14100	9400	15800							160	
14950	10300	17050	31800	23250	20150	16250	20750	19400	100	Standard bearing model
20400	14750	22500	29800	24900	21000	17400	26600	22300	63	
24000	20300	25500	38050	32900	26200	25500	37650	29200	40	Heavy duty bearing model
31000	27800	36000	46900	43550	35550	38050	53850	40600	≤ 25	
21750	19500	25350							250	Heavy duty bearing model
22750	20150	26650							160	
24150	21450	27950							100	Heavy duty bearing model
30750	27300	34850							63	
31000	33000	38950							40	Heavy duty bearing model
31000	33000	38200							≤ 25	

Unit: kgf

Size of Reducer									L.Speed Shaft Speed r/min	
9105	9110	9115	9118	9121	9126	9128	9131	9136		
5100	5100	7800							250	Standard bearing model
5050	5050	7800							160	
5500	5500	8500	12200	12400	11900	9300	11550	11000	100	Standard bearing model
7600	7600	8500	12200	12400	12400	9850	14300	12500	63	
8500	8500	8500	12200	12400	12400	13750	19500	15850	40	Heavy duty bearing model
8500	8500	8500	12200	12400	12400	14700	19600	19600	≤ 25	
8500	8500	8500							250	Heavy duty bearing model
8500	8500	8500							160	
8500	8500	8500							100	Heavy duty bearing model
8500	8500	8500							63	
8500	8500	8500							40	Heavy duty bearing model
8500	8500	8500							≤ 25	

Unit: kgf

Overhang Factor

Overhang Member	Overhang Factor
Sprocket (Single Row)	1
Sprocket (Double Row)	1.25
Gears	1.25

Notes

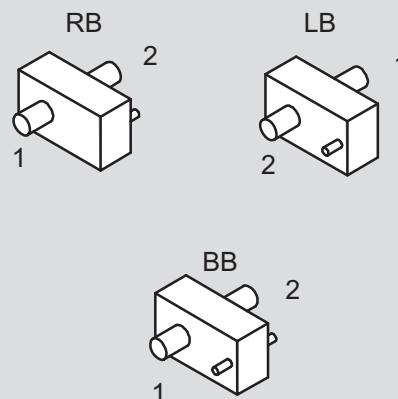
- The value shown in the table is allowable radial load when it is applied to the center of the solid shaft (except hollow shaft). Consult us when a load is not in the center.
- Consult us for the blanks in the table.
- Consult us when the radial load is applied upward.
- In case of double projection shaft (RB, LB, BB)
 - See sheet1 when the radial load is applied only to the shaft1.
 - See sheet2 when the radial load is applied only to the shaft2.
 - Consult us when the radial load is applied to both shafts.
- Refer to C-6 to check overhang load, and calculate equivalent load at peak load value. Be careful under following condition because large peak load may be generated.

Application: When the inertia is large, such as for crane driving, slewing, etc.

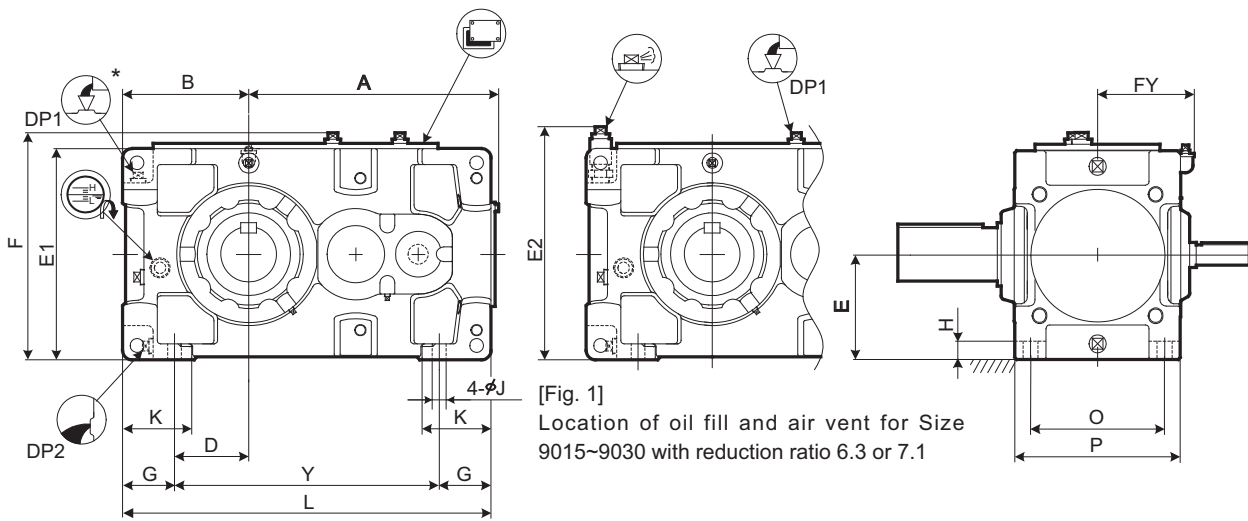
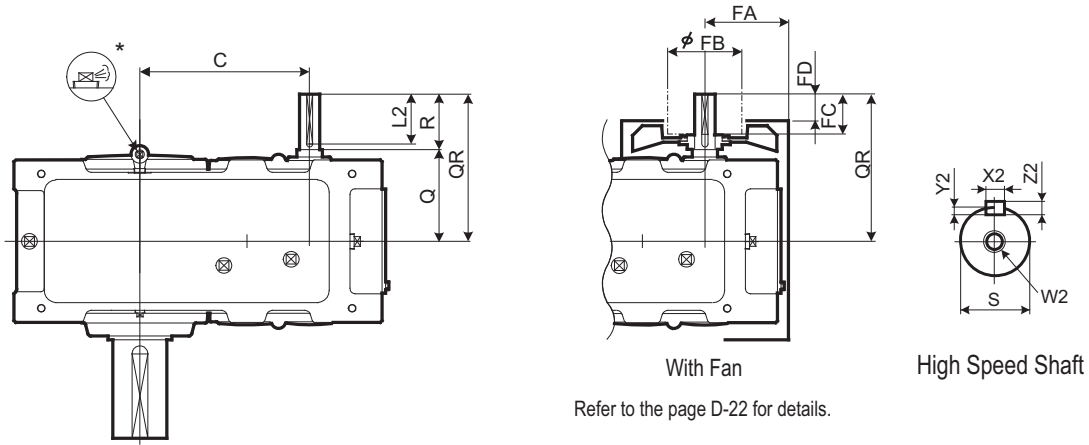
Motor: inline motor

Connecting method: Sprocket or gear

Consult us when the peak load is larger than allowable value.



DIMENSIONS Parallel Shaft Double Reduction Horizontal Mounting 9015 ▶ 9055



* Location of oil fill and air vent changes for Size 9015-9030 with reduction ratio 6.3 or 7.1. Refer to Fig. 1.

Speed Reducer

Selection Tables
Dimension Tables

Size	A	B	C	D	E	E1	E2	F	FY	G	H	J	K	L	O	P	Y
9015	295	160	194	90	135	270	309	299	129	70	22	15	95	440	170	205	300
9025	346	175	227	95	155	310	346	339	142	80	25	19	110	505	195	235	345
9030	406	200	264	110	160	320	353	349	154	90	28	24	120	590	215	265	410
9035	437	219	295	129	185	370		399	154	90	28	24	120	640	215	265	460
9040	467	235	306	120	200	400		431	172	115	30	28	150	685	255	315	455
9045	506	256	345	141	220	440		471	172	115	30	28	150	745	255	315	515
9050	537	255	358	138.5	210	420		451	192	116.5	32	28	150	775	285	345	542
9055	576	286	397	171	245	490		521	192	115	32	28	150	845	285	345	615

Size	High Speed Shaft									Fan				DP1	DP2	Wt. kg	Oil Qty. L
	Q	QR	R	S	W2/Depth	X2	Y2	Z2	L2	FA	FB	FC	FD				
9015	131	211	80	30k6	M10/22	8	4	7	70	129	125	50	30	3/4"	3/4"	100	5
9025	146	226	80	35k6	M12/28	10	5	8	70	143	140	50	30	3/4"	3/4"	140	7
9030	159	269	110	40k6	M16/36	12	5	8	95	169	140	80	52	3/4"	3/4"	195	10
9035	159	269	110	40k6	M16/36	12	5	8	95	169	140	80	52	3/4"	3/4"	215	12
9040	174	284	110	50k6	M16/36	14	5.5	9	95	188	160	80	52	1"	1"	285	16
9045	174	284	110	50k6	M16/36	14	5.5	9	95	188	160	80	52	1"	1"	345	18
9050	193	303	110	55m6	M20/42	16	6	10	95	208	160	80	52	1"	1"	415	21
9055	193	303	110	55m6	M20/42	16	6	10	95	208	160	80	52	1"	1"	475	28

Unit: mm

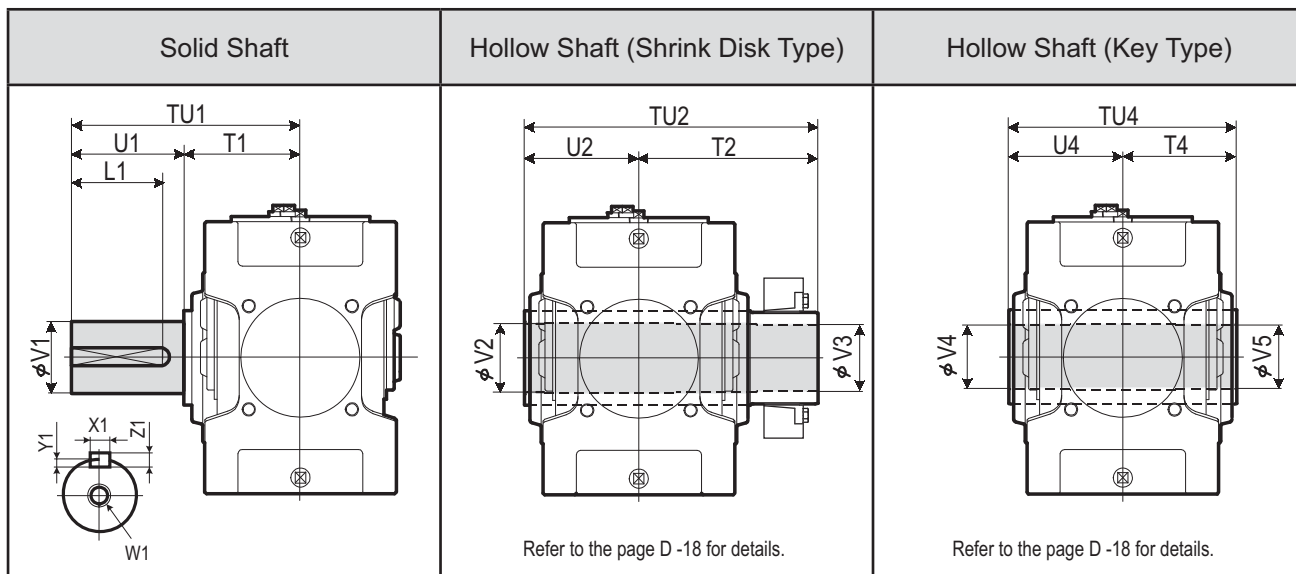
1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
 2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
 3. Refer to the page D-12 for dimensions shown in these drawings.

4. Refer to the page D-24 for the dimension of optional parts.
 5. When fastening the mounting bolt, it is necessary to remove the fan food.

DIMENSIONS Parallel Shaft Double Reduction Horizontal Mounting 9015 ▶ 9055

PARAMAX Horizontal Monoblock
 9015
 Parallel Double Reduction
 P H A
 P 2

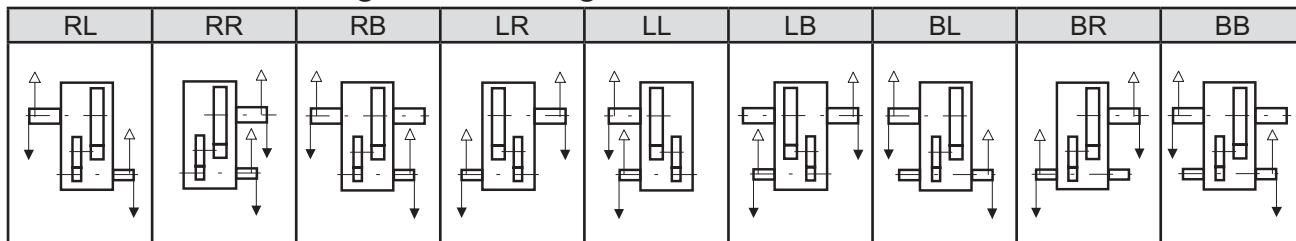
Slow Speed Shaft



Size	Solid Shaft										Hollow Shaft (Shrink Disk Type)					Hollow Shaft (Key Type)				
	TU1	T1	U1	V1	W1/Depth	Key				TU2	T2	U2	V2	V3	TU4	T4	U4	V4	V5	
9015	245	135	110	58m6	M20/42	18	7	11	95	328	193	135	63	60	270	135	135	55	55	
9025	285	145	140	70m6	M20/42	20	7.5	12	125	358	213	145	73	70	300	150	150	65	65	
9030	330	160	170	80m6	M20/42	22	9	14	150	393	233	160	83	80	330	165	165	75	75	
9035	330	160	170	90m6	M20/42	25	9	14	150	403	243	160	88	85	330	165	165	85	85	
9040	349	179	170	95m6	M24/50	25	9	14	150	448	268	180	98	95	360	180	180	90	90	
9045	391	181	210	105m6	M24/50	28	10	16	190	463	283	180	108	105	370	185	185	105	105	
9050	411	201	210	110m6	M24/50	28	10	16	190	503	303	200	108	105	410	205	205	105	105	
9055	411	201	210	120m6	M24/50	32	11	18	185	528	323	205	123	120	410	205	205	115	115	

Unit: mm

Standard Shaft Arrangement Configuration



Nomenclature

P H A Size P 2 - Shaft Arrangement Shaft Type Fan - Nominal Reduction Ratio

9015

9025

9030

9035

9040

9045

9050

9055

RL

RR

RB

LR

LL

LB

BL

BR

BB

(blank) : Without Fan
F : With Fan

(blank): Solid Shaft
T : Hollow Shaft
(Shrink Disk type)
K : Hollow Shaft (Key type)

Size	Nominal Reduction Ratio											
	6.3	7.1	8	9	10	11.2	12.5	14	16	18	20	22.4
9015	○	○	○	○	○	○	○	○	○	○		
9025	○	○	○	○	○	○	○	○	○	○		
9030	○	○	○	○	○	○	○	○	○	○		
9035			○	○	○	○	○	○	○	○	○	○
9040	○	○	○	○	○	○	○	○	○	○		
9045			○	○	○	○	○	○	○	○	○	○
9050	○	○	○	○	○	○	○	○	○	○		
9055			○	○	○	○	○	○	○	○	○	○

Air Breather

Air Vent

Oil Fill

Drain Plug

Dip Stick

Oil Gauge

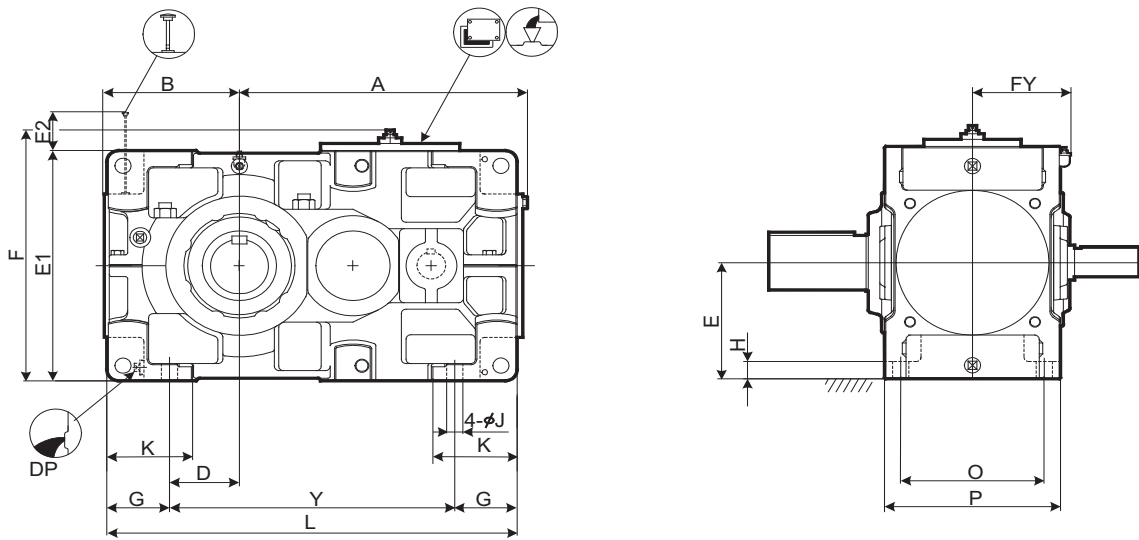
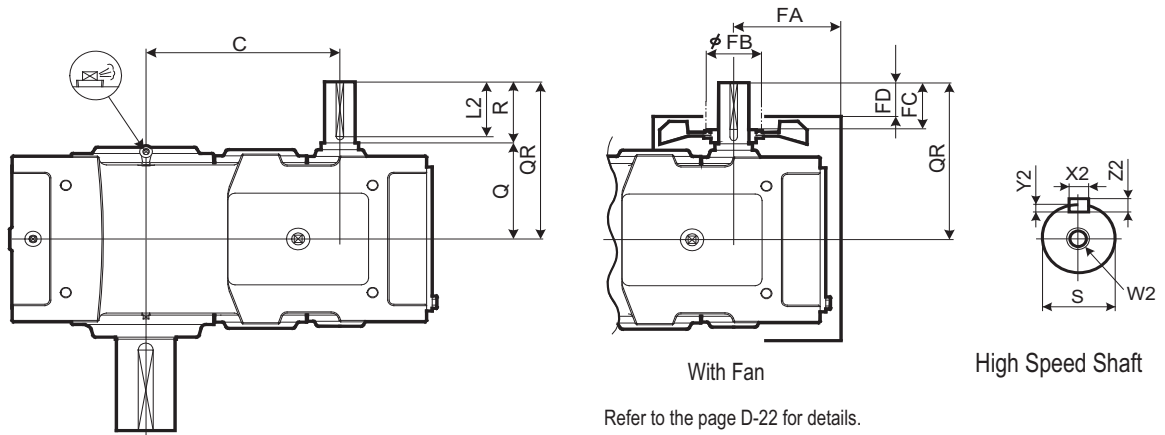
Inspection Cover

Oil Pump

Backstop (Option)

Opposite Side

DIMENSIONS Parallel Shaft Double Reduction Horizontal Mounting 9060 ▶ 9085



Speed Reducer

Selection Tables

Dimension Tables

Size	A	B	C	D	E	E1	E2	F	FY	G	H	J	K	L	O	P	Y
9060	621	299	414	151	265	530	183	578	212	135	35	35	180	885	310	380	615
9065	667	338	460	190	300	600	148	648	212	135	35	35	180	970	310	380	700
9070	719	336	482	163	300	600	213	648	237	160	40	42	215	1020	350	430	700
9075	772	383	535	210	335	670	178	718	237	160	52	42	220	1120	350	430	800
9080	812	378	556	205	335	670	233	718	257	160	52	42	220	1155	380	460	835
9085	868	422	612	249	375	750	193	798	257	160	52	42	220	1255	380	460	935

Size	High Speed Shaft									Fan				DP	Wt. kg	Oil Qty. L
	Q	QR	R	S	W2/Depth	X2	Y2	Z2	L2	FA	FB	FC	FD			
9060	220	360	140	65m6	M20/42	18	7	11	125	240	200	105	65	1"	610	25
9065	220	360	140	65m6	M20/42	18	7	11	125	240	200	105	65	1"	735	34
9070	245	385	140	75m6	M20/42	20	7.5	12	125	274	225	105	65	1"	860	38
9075	245	385	140	75m6	M20/42	20	7.5	12	125	274	225	105	65	1"	1110	47
9080	264	434	170	85m6	M20/42	22	9	14	150	296	225	135	95	1"	1240	54
9085	264	434	170	85m6	M20/42	22	9	14	150	296	225	135	95	1"	1500	68

Unit: mm

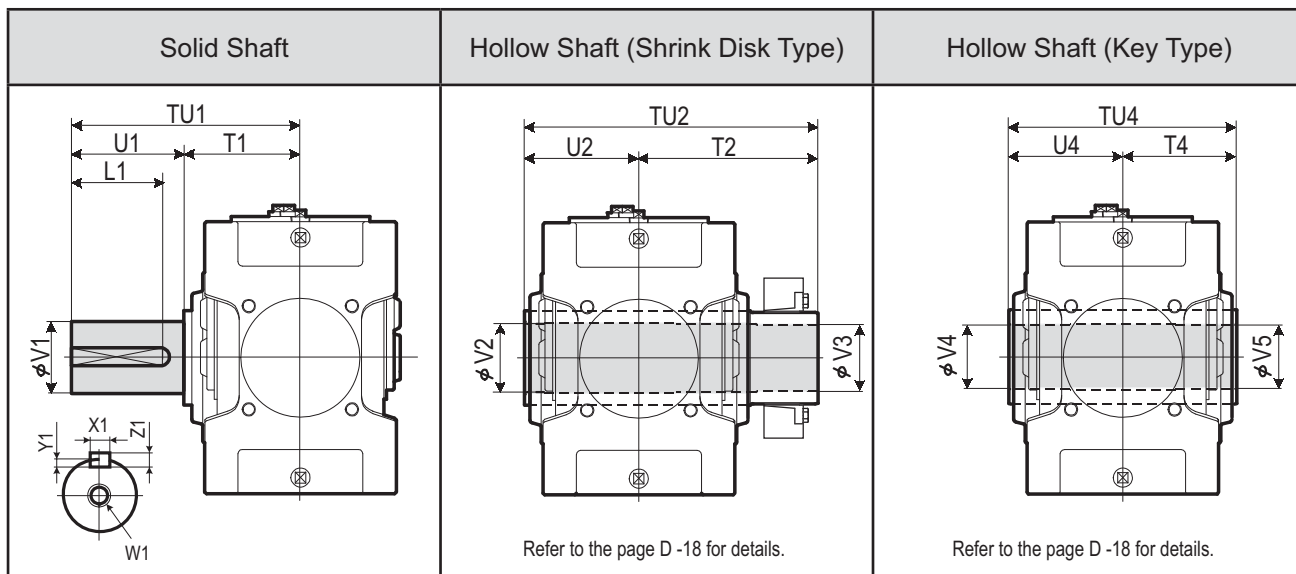
1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
 2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
 3. When fastening the mounting bolt, it is necessary to remove the fan food.

4. Refer to the page D -14 for dimensions not shown in these drawings.
 5. Refer to the page D -27 for the dimension of optional parts.

DIMENSIONS Parallel Shaft Double Reduction Horizontal Mounting 9060 ▶ 9085

PARAMAX Horizontal Split 9060 9085 Parallel Double Reduction 2

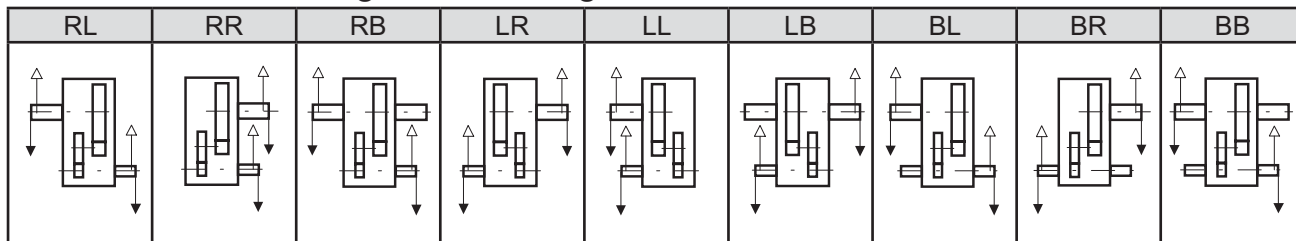
Slow Speed Shaft



Size	Solid Shaft					Key				Hollow Shaft (Shrink Disk Type)					Hollow Shaft (Key Type)				
	TU1	T1	U1	V1	W1/Depth	X1	Y1	Z1	L1	TU2	T2	U2	V2	V3	TU4	T4	U4	V4	V5
9060	440	230	210	125m6	M24/50	32	11	18	185	583	353	230	128	125	470	235	235	125	123
9065	484	234	250	140m6	M30/60	36	12	20	225	594	359	235	143	140	480	240	240	145	143
9070	509	259	250	145m6	M30/60	36	12	20	225	644	384	260	148	145	530	265	265	145	143
9075	562	262	300	160m6	M30/60	40	13	22	275	651	386	265	158	155	530	265	265	150	148
9080	582	282	300	165m6	M30/60	40	13	22	275	714	429	285	173	170	570	285	285	165	163
9085	585	285	300	175m6	M30/60	45	15	25	270	714	429	285	183	180	570	285	285	175	173

Unit: mm

Standard Shaft Arrangement Configuration



Nomenclature

P H D Size P 2 - Shaft Arrangement Low Speed Shaft Type Fan - Nominal Reduction Ratio

Size

9060
9065
9070
9075
9080
9085

Shaft Arrangement

RL
RR
RB
LR
LL
LB
BL
BR
BB

Low Speed Shaft Type

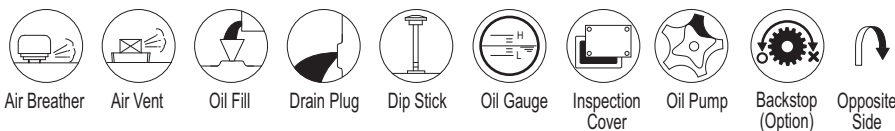
(blank) : Without Fan
F : With Fan

Fan

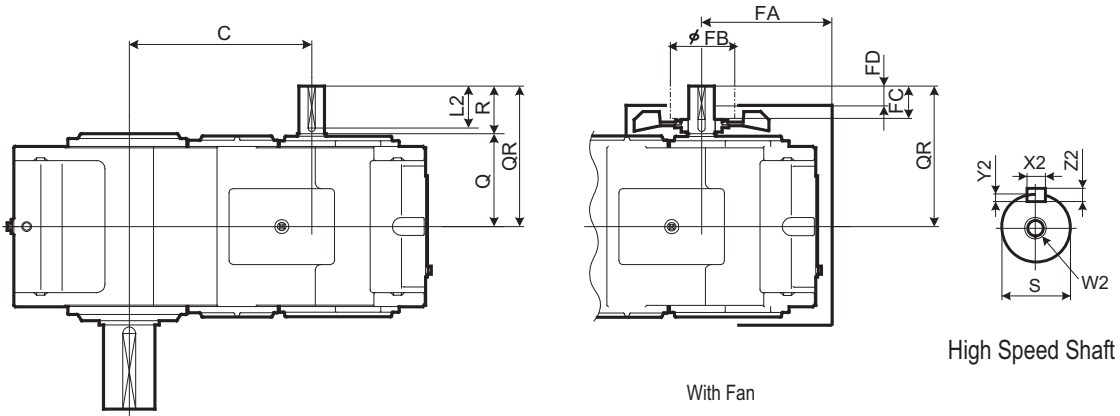
(blank) : Solid Shaft
T : Hollow Shaft (Shrink Disk type)
K : Hollow Shaft (Key type)

Nominal Reduction Ratio

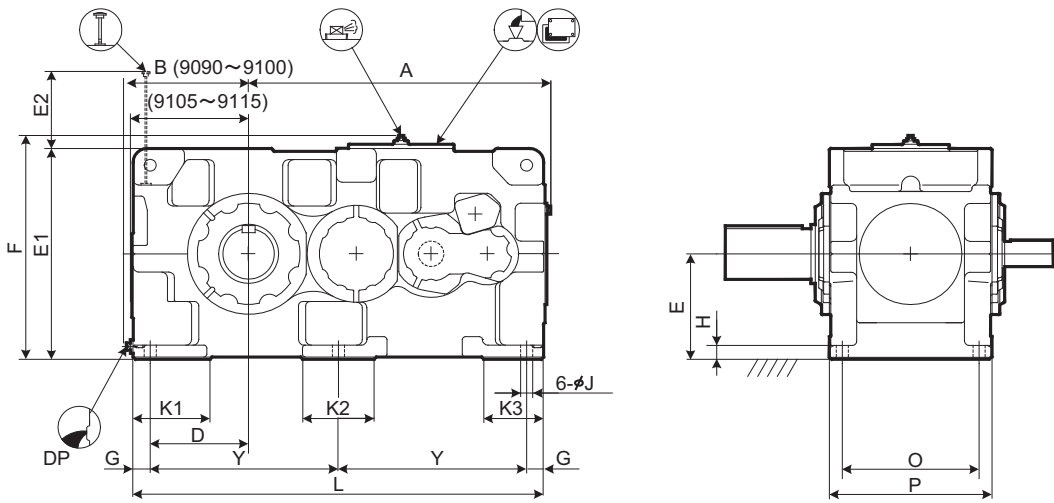
Size	6.3	7.1	8	9	10	11.2	12.5	14	16	18	20	22.4
9060	○	○	○	○	○	○	○	○	○	○		
9065			○	○	○	○	○	○	○	○	○	○
9070		○	○	○	○	○	○	○	○	○	○	○
9075			○	○	○	○	○	○	○	○	○	○
9080	○	○	○	○	○	○	○	○	○	○	○	○
9085			○	○	○	○	○	○	○	○	○	○



DIMENSIONS Parallel Shaft Double Reduction Horizontal Mounting 9090 ▶ 9115



With Fan
Refer to the page D-22 for details.



Speed Reducer

Dimension Selection Tables

Size	A	B	C	D	E	E1	E2	F	G	H	J	K1	K2	K3	L	O	P	Y
9090	1060	428	640	345	375	750	274	797	60	50	42	270	250	210	1440	480	570	660
9095	1090	458	670	375	400	800	286	847	60	50	42	290	250	210	1500	480	570	690
9100	1194	468	724	375	425	850	299	897	70	55	48	300	280	240	1610	560	650	735
9105	1228	493	758	410	450	900	316	947	70	55	48	320	280	240	1680	560	650	770
9110	1344	508	824	420	475	950	321	997	75	60	56	340	310	260	1810	610	710	830
9115	1393	558	873	470	500	1000	333	1047	75	60	56	350	310	260	1910	610	710	880

Size	High Speed Shaft					Key				Fan				DP	Wt. kg	Oil Qty. L
	Q	QR	R	S	W2/Depth	X2	Y2	Z2	L2	FA	FB	FC	FD			
9090	330	500	170	90m6	M24/50	25	9	14	150	465	250	135	90	1 1/2"	2050	120
9095	330	500	170	90m6	M24/50	25	9	14	150	465	250	135	90	1 1/2"	2300	140
9100	375	585	210	100m6	M24/50	28	10	16	190	515	250	175	130	1 1/2"	2730	170
9105	375	585	210	100m6	M24/50	28	10	16	190	515	250	175	130	1 1/2"	3290	205
9110	405	615	210	110m6	M24/50	28	10	16	190	565	250	175	130	1 1/2"	3960	240
9115	405	615	210	110m6	M24/50	28	10	16	190	565	250	175	130	1 1/2"	4410	290

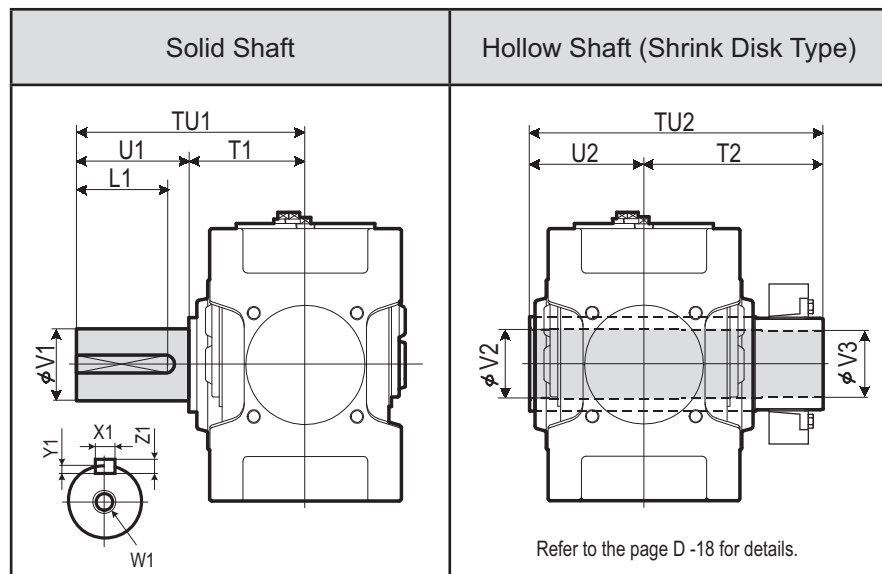
Unit: mm

1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
 2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
 3. Refer to the page D-16 for dimensions not shown in these drawings.

4. Refer to the page D-30 for the dimension of optional parts.

DIMENSIONS Parallel Shaft Double Reduction Horizontal Mounting 9090 ▶ 9115

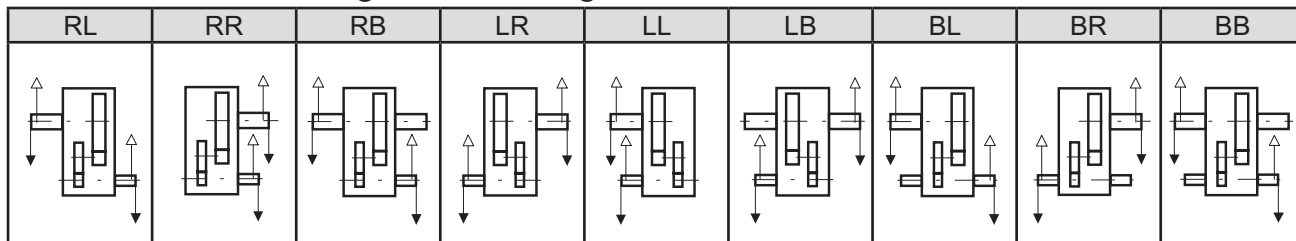
Slow Speed Shaft



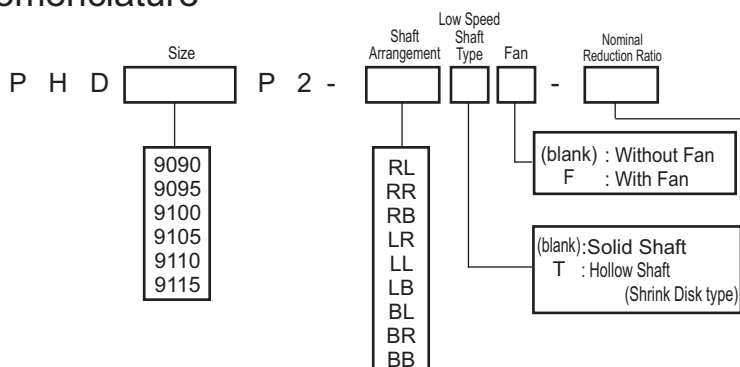
Size	Solid Shaft					Hollow Shaft (Shrink Disk Type)								
	TU1	T1	U1	V1	W1/Depth	Key				TU2	T2	U2	V2	V3
						X1	Y1	Z1	L1					
9090	650	350	300	180m6	M30/60	45	15	25	270	844	494	350	193	190
9095	700	350	350	190m6	M30/60	45	15	25	320	859	509	350	203	200
9100	740	390	350	200m6	M30/60	45	15	25	320	934	544	390	213	210
9105	740	390	350	220m6	M30/60	50	17	28	320	949	559	390	223	220
9110	770	420	350	220m6	M30/60	50	17	28	320	1030	610	420	243	240
9115	830	420	410	240m6	M30/60	56	20	32	375	1065	645	420	253	250

Unit: mm

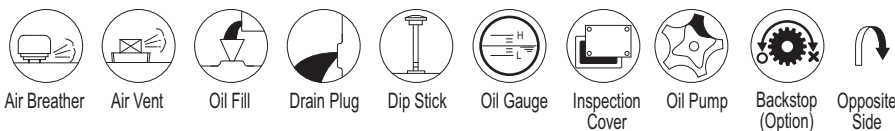
Standard Shaft Arrangement Configuration



Nomenclature

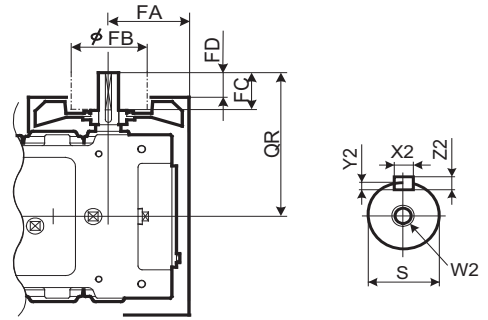
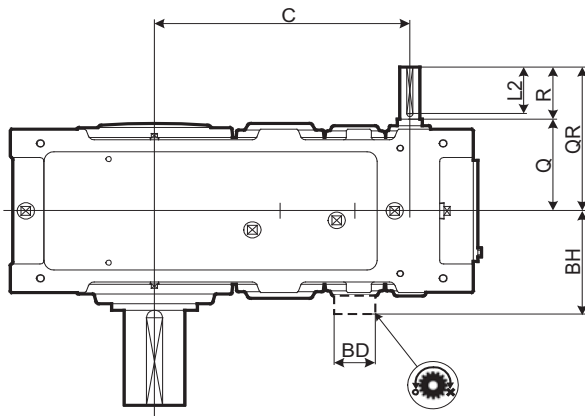


Size	Nominal Reduction Ratio										
	6.3	7.1	8	9	10	11.2	12.5	14	16	18	20
9090	○	○	○	○	○	○	○	○	○	○	
9095		○	○	○	○	○	○	○	○	○	○
9100	○	○	○	○	○	○	○	○	○	○	
9105		○	○	○	○	○	○	○	○	○	○
9110	○	○	○	○	○	○	○	○	○	○	
9115		○	○	○	○	○	○	○	○	○	○



P H D 9090 9115 P 2
 PARAMAX Horizontal Split Parallel Double Reduction

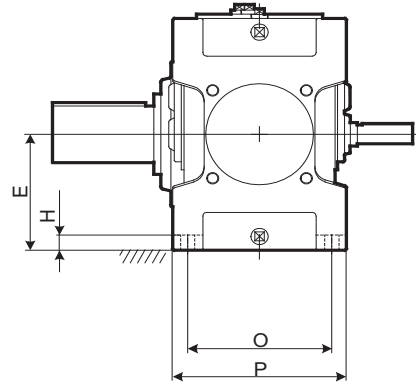
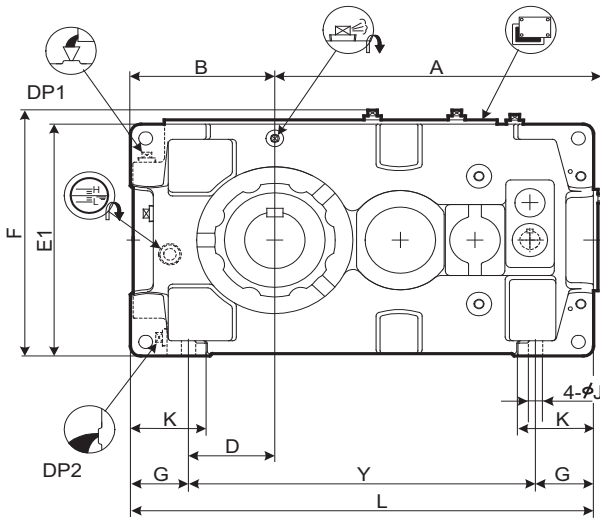
DIMENSIONS Parallel Shaft Triple Reduction Horizontal Mounting 9015 ▶ 9055



High Speed Shaft

With Fan

Refer to the page D-23 for details.



Speed Reducer

Selection Tables

Dimension Tables

Size	A	B	C	D	E	E1	F	G	H	J	K	L	O	P	Y
9015	338	160	257	90	135	270	299	70	22	15	95	485	170	205	345
9025	408	175	306	95	155	310	339	80	25	19	110	570	195	235	410
9030	453	200	343	110	160	320	349	90	28	24	120	640	215	265	460
9035	484	219	374	129	185	370	399	90	28	24	120	690	215	265	510
9040	540	235	398	120	200	400	431	115	30	28	150	759	255	315	529
9045	577	256	437	141	220	440	471	115	30	28	150	819	255	315	589
9050	609	255	467	138.5	210	420	451	116.5	32	28	150	848	285	345	615
9055	648	286	506	171	245	490	521	115	32	28	150	918	285	345	688

Size	High Speed Shaft									Fan				Backstop		DP1	DP2	Wt. kg	Oil Qty. L
	Q	QR	R	S	W2/Depth	X2	Y2	Z2	L2	FA	FB	FC	FD	BD	BH				
9015	130	190	60	25k6	M10/22	8	4	7	50	111	125	30	10			3/4"	3/4"	105	5
9025	144	204	60	28k6	M10/22	8	4	7	50	129	125	30	10			3/4"	3/4"	150	8
9030	161	241	80	30k6	M10/22	8	4	7	70	140	125	50	30			3/4"	3/4"	205	10
9035	161	241	80	30k6	M10/22	8	4	7	70	150	140	50	22			3/4"	3/4"	225	13
9040	176	256	80	35k6	M12/28	10	5	8	70	170	140	50	22			1"	1"	305	19
9045	176	256	80	35k6	M12/28	10	5	8	70	170	140	50	22			1"	1"	375	21
9050	194	304	110	40k6	M16/36	12	5	8	95	172	140	80	52	150	263	1"	1"	445	24
9055	194	304	110	40k6	M16/36	12	5	8	95	172	140	80	52	150	263	1"	1"	505	29

Unit: mm

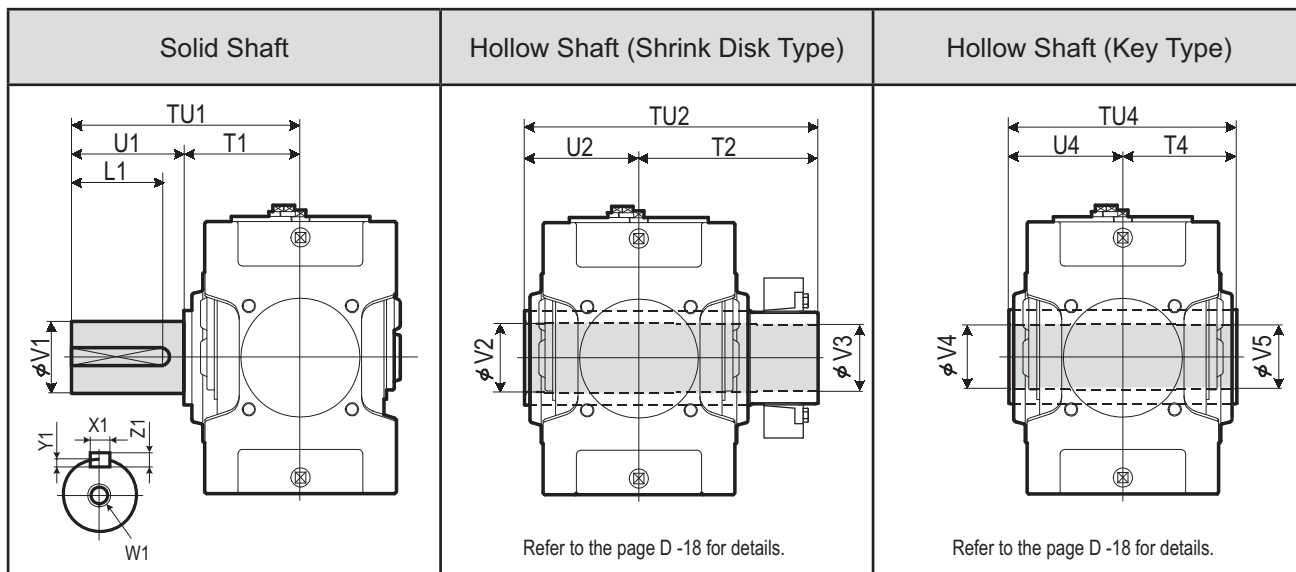
1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
3. When fastening the mounting bolt, it is necessary to remove the fan food.

4. Refer to the page D -13 for dimensions not shown in these drawings.
5. Refer to the page D -24 for the dimension of optional parts.

DIMENSIONS Parallel Shaft Triple Reduction Horizontal Mounting 9015 ▶ 9055

PARAMAX Horizontal Monoblock
 9015
 Parallel Triple Reduction
 3

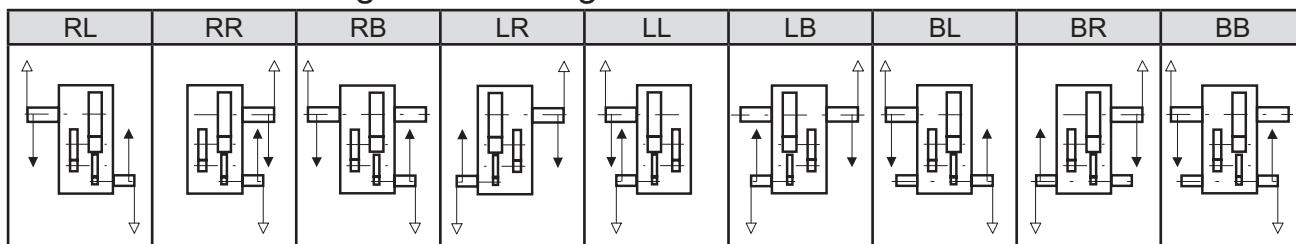
Slow Speed Shaft



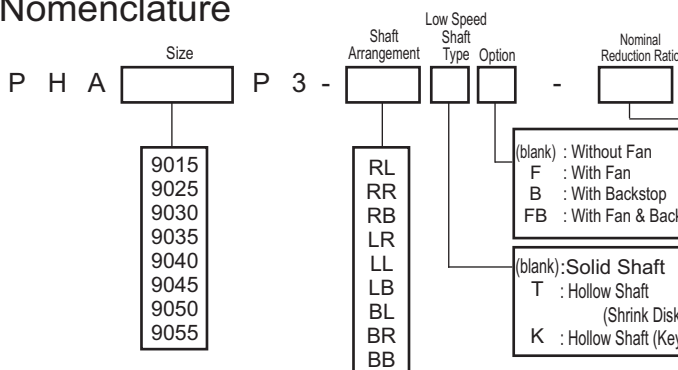
Size	Solid Shaft									Hollow Shaft (Shrink Disk Type)					Hollow Shaft (Key Type)				
	TU1	T1	U1	V1	W1/Depth	Key				TU2	T2	U2	V2	V3	TU4	T4	U4	V4	V5
						X1	Y1	Z1	L1										
9015	245	135	110	58m6	M20/42	18	7	11	95	328	193	135	63	60	270	135	135	55	55
9025	285	145	140	70m6	M20/42	20	7.5	12	125	358	213	145	73	70	300	150	150	65	65
9030	330	160	170	80m6	M20/42	22	9	14	150	393	233	160	83	80	330	165	165	75	75
9035	330	160	170	90m6	M20/42	25	9	14	150	403	243	160	88	85	330	165	165	85	85
9040	349	179	170	95m6	M24/50	25	9	14	150	448	268	180	98	95	360	180	180	90	90
9045	391	181	210	105m6	M24/50	28	10	16	190	463	283	180	108	105	370	185	185	105	105
9050	411	201	210	110m6	M24/50	28	10	16	190	503	303	200	108	105	410	205	205	105	105
9055	411	201	210	120m6	M24/50	32	11	18	185	528	323	205	123	120	410	205	205	115	115

Unit: mm

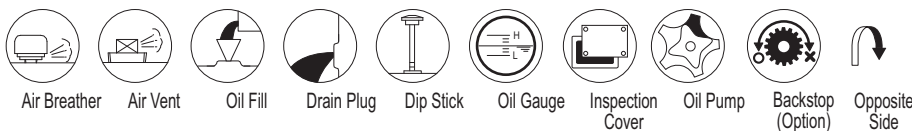
Standard Shaft Arrangement Configuration



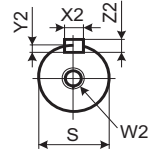
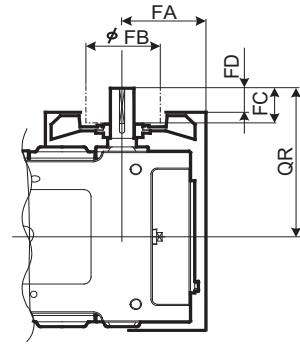
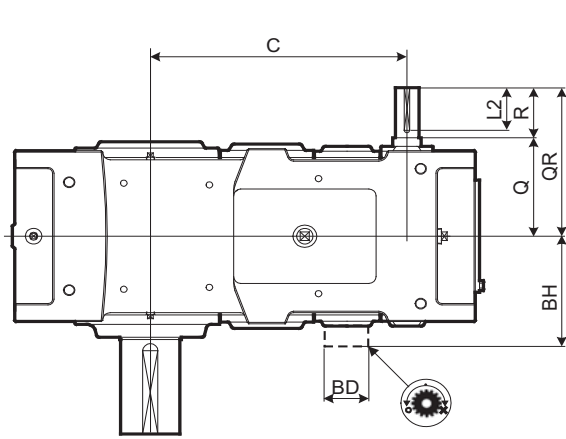
Nomenclature



Size	Nominal Reduction Ratio													
	20	22.4	25	28	31.5	35.5	40	45	50	56	63	71	80	90
9015	○	○	○	○	○	○	○	○						
9025	○	○	○	○	○	○	○	○						
9030	○	○	○	○	○	○	○	○						
9035			○	○	○	○	○	○	○	○	○	○	○	○
9040	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9045			○	○	○	○	○	○	○	○	○	○	○	○
9050	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9055			○	○	○	○	○	○	○	○	○	○	○	○



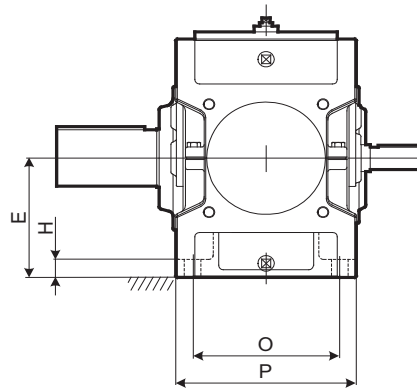
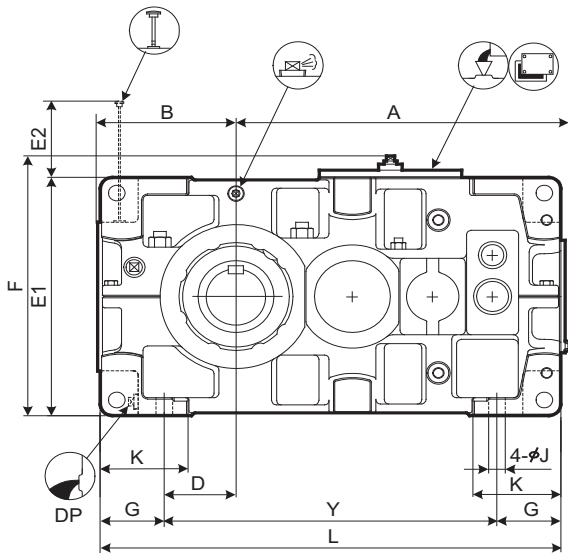
DIMENSIONS Parallel Shaft Triple Reduction Horizontal Mounting 9060 ▶ 9085



High Speed Shaft

With Fan

Refer to the page D-23 for details.



Speed Reducer
Selection Tables
Dimension Tables

Size	A	B	C	D	E	E1	E2	F	G	H	J	K	L	O	P	Y
9060	701	299	540	151	265	530	155	578	135	35	35	180	970	310	380	700
9065	747	338	586	190	300	600	120	648	135	35	35	180	1055	310	380	785
9070	809	336	630	163	300	600	181	648	160	40	42	215	1115	350	430	795
9075	862	383	683	210	335	670	146	718	160	52	42	220	1215	350	430	895
9080	932	378	725	205	335	670	205	718	160	52	42	220	1275	380	460	955
9085	988	422	781	249	375	750	165	798	160	52	42	220	1375	380	460	1055

Size	High Speed Shaft										Fan				Backstop		DP	Wt. kg	Oil Qty. L
	Q	QR	R	S	W2/Depth	X2	Y2	Z2	L2	FA	FB	FC	FD	BD	BH				
9060	219	329	110	50k6	M16/36	14	5.5	9	95	199	160	80	52	175	308	1"	660	33	
9065	219	329	110	50k6	M16/36	14	5.5	9	95	199	160	80	52	175	308	1"	815	38	
9070	244	354	110	55m6	M20/42	16	6	10	95	221	160	80	52	190	330	1"	940	49	
9075	244	354	110	55m6	M20/42	16	6	10	95	221	160	80	52	190	330	1"	1160	59	
9080	265	405	140	65m6	M20/42	18	7	11	125	247	200	105	65	210	365	1"	1350	64	
9085	265	405	140	65m6	M20/42	18	7	11	125	247	200	105	65	210	365	1"	1610	80	

Unit: mm

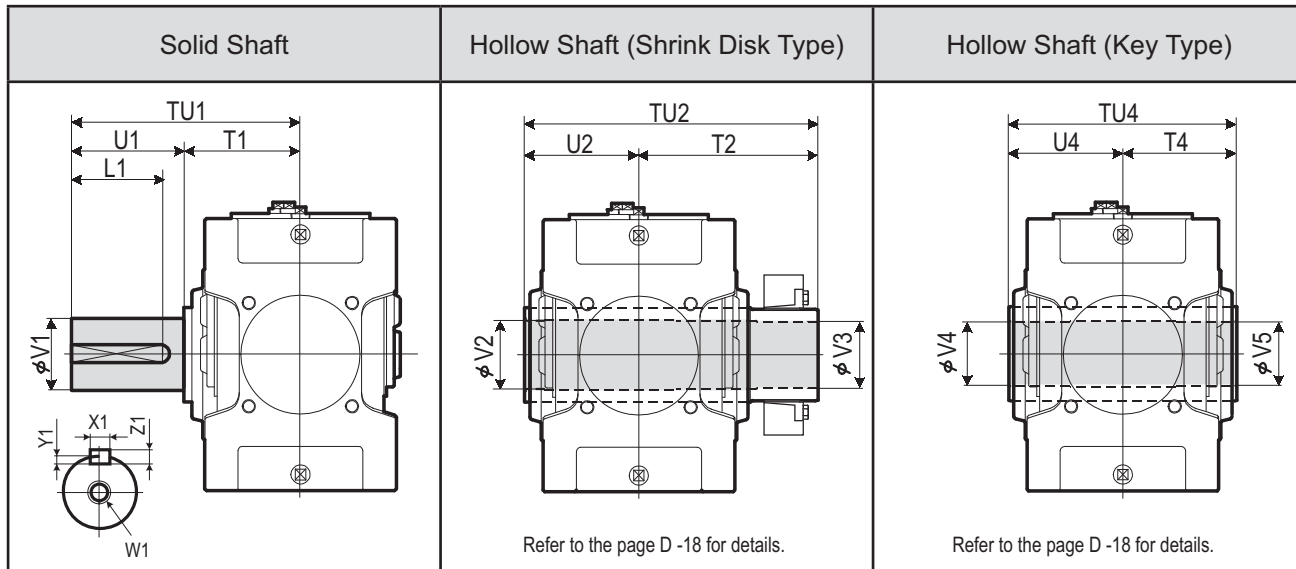
1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
 2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
 3. When fastening the mounting bolt, it is necessary to remove the fan food.

4. Refer to the page D -15 for dimensions not shown in these drawings.
 5. Refer to the page D -27 for the dimension of optional parts.

DIMENSIONS Parallel Shaft Triple Reduction Horizontal Mounting 9060 ▶ 9085

PARAMAX Horizontal Split 9060 9085 Parallel Triple Reduction P H D P 3

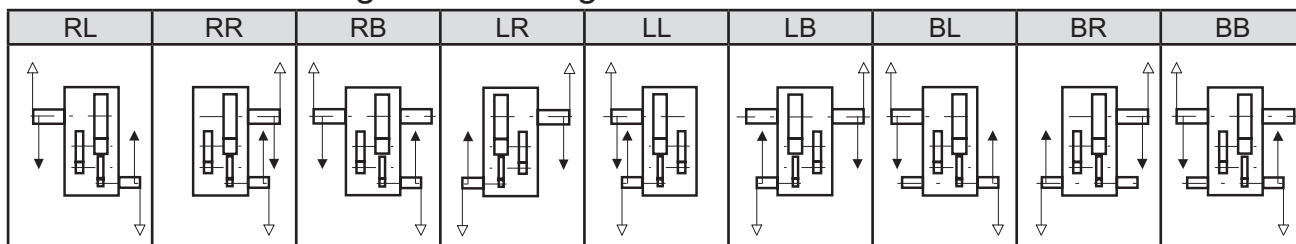
Slow Speed Shaft



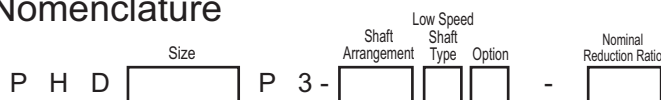
Size	Solid Shaft					Key				Hollow Shaft (Shrink Disk Type)					Hollow Shaft (Key Type)				
	TU1	T1	U1	V1	W1/Depth	X1	Y1	Z1	L1	TU2	T2	U2	V2	V3	TU4	T4	U4	V4	V5
9060	440	230	210	125m6	M24/50	32	11	18	185	583	353	230	128	125	470	235	235	125	123
9065	484	234	250	140m6	M30/60	36	12	20	225	594	359	235	143	140	480	240	240	145	143
9070	509	259	250	145m6	M30/60	36	12	20	225	644	384	260	148	145	530	265	265	145	143
9075	562	262	300	160m6	M30/60	40	13	22	275	651	386	265	158	155	530	265	265	150	148
9080	582	282	300	165m6	M30/60	40	13	22	275	714	429	285	173	170	570	285	285	165	163
9085	585	285	300	175m6	M30/60	45	15	25	270	714	429	285	183	180	570	285	285	175	173

Unit: mm

Standard Shaft Arrangement Configuration



Nomenclature

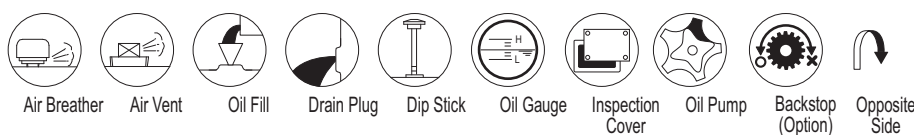


- 9060
- 9065
- 9070
- 9075
- 9080
- 9085

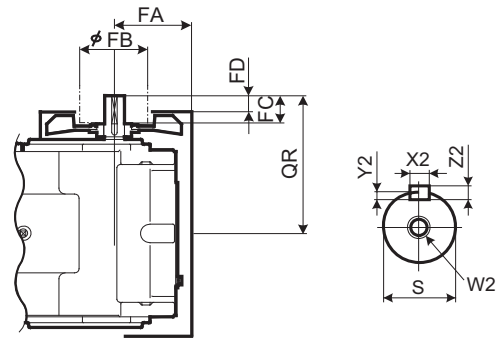
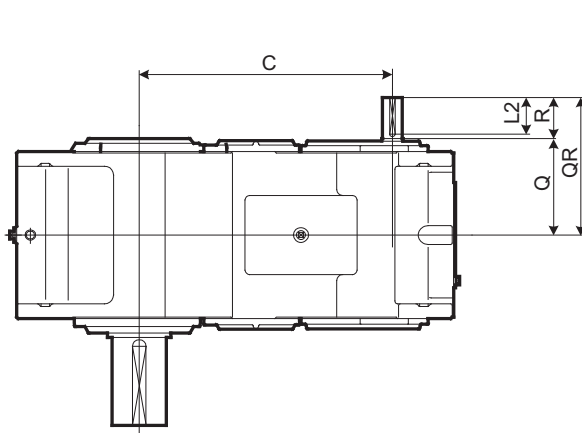
- RL
- RR
- RB
- LR
- LL
- LB
- BL
- BR
- BB

- (blank) : Without Fan
- F : With Fan
- B : With Backstop
- FB : With Fan & Backstop
- (blank) : Solid Shaft
- T : Hollow Shaft (Shrink Disk type)
- K : Hollow Shaft (Key type)

Size	Nominal Reduction Ratio													
	20	22.4	25	28	31.5	35.5	40	45	50	56	63	71	80	90
9060	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9065			○	○	○	○	○	○	○	○	○	○	○	○
9070	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9075			○	○	○	○	○	○	○	○	○	○	○	○
9080	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9085			○	○	○	○	○	○	○	○	○	○	○	○



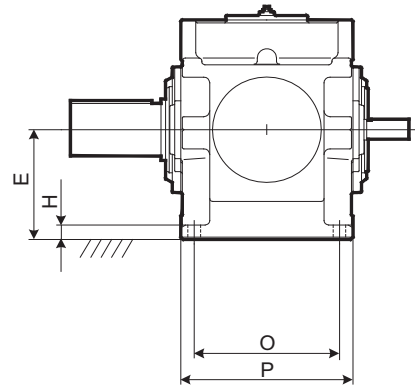
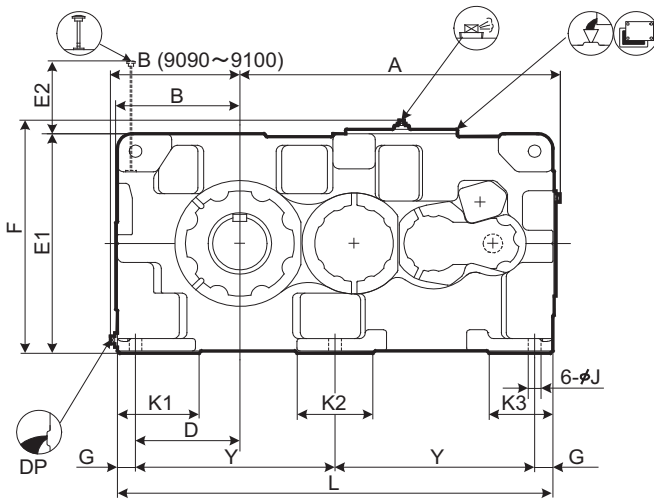
DIMENSIONS Parallel Shaft Triple Reduction Horizontal Mounting 9090 ▶ 9115



High Speed Shaft

With Fan

Refer to the page D-23 for details.



Speed Reducer

Selection Tables

Dimension Tables

Size	A	B	C	D	E	E1	E2	F	G	H	J	K1	K2	K3	L	O	P	Y
9090	1060	428	837	345	375	750	249	797	60	50	42	270	250	210	1440	480	570	660
9095	1090	458	867	375	400	800	254	847	60	50	42	290	250	210	1500	480	570	690
9100	1194	468	950	375	425	850	273	897	70	55	48	300	280	240	1610	560	650	735
9105	1228	493	984	410	450	900	278	947	70	55	48	320	280	240	1680	560	650	770
9110	1344	508	1050	420	475	950	283	997	75	60	56	340	310	260	1810	610	710	830
9115	1393	558	1099	470	500	1000	282	1047	75	60	56	350	310	260	1910	610	710	880

Size	High Speed Shaft					Key				Fan				DP	Wt. kg	Oil Qty. L
	Q	QR	R	S	W2/Depth	X2	Y2	Z2	L2	FA	FB	FC	FD			
9090	330	470	140	65m6	M20/42	18	7	11	125	268	200	105	65	1 1/2"	2100	120
9095	330	470	140	65m6	M20/42	18	7	11	125	268	200	105	65	1 1/2"	2350	155
9100	375	515	140	75m6	M20/42	20	7.5	12	125	289	225	105	65	1 1/2"	2780	180
9105	375	515	140	75m6	M20/42	20	7.5	12	125	289	225	105	65	1 1/2"	3340	225
9110	405	575	170	80m6	M20/42	22	9	14	150	339	225	135	95	1 1/2"	4010	260
9115	405	575	170	80m6	M20/42	22	9	14	150	339	225	135	95	1 1/2"	4460	325

Unit: mm

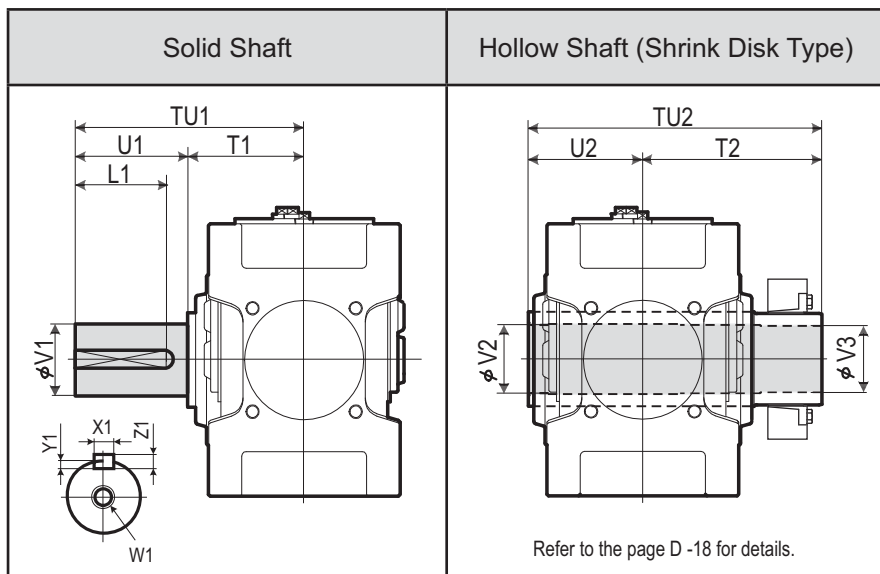
1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
 2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
 3. Refer to the page D -16 for dimensions not shown in these drawings.

4. Refer to the page D -30 for the dimension of optional parts.

DIMENSIONS Parallel Shaft Triple Reduction Horizontal Mounting 9090 ▶ 9115

PARAMAX Horizontal Split 9090 9115 Parallel Triple Reduction P H D P 3

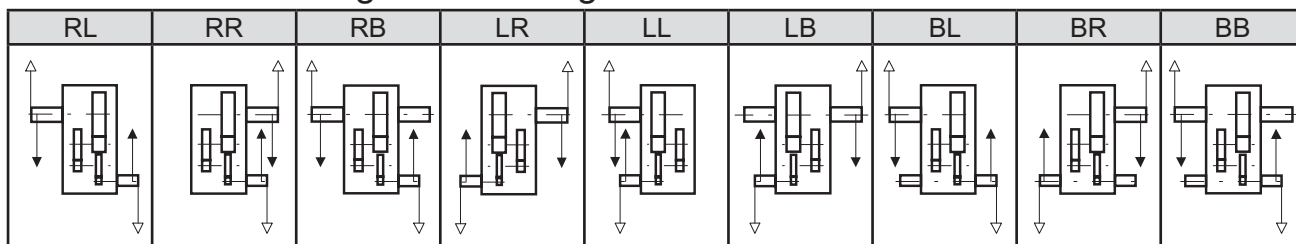
Slow Speed Shaft



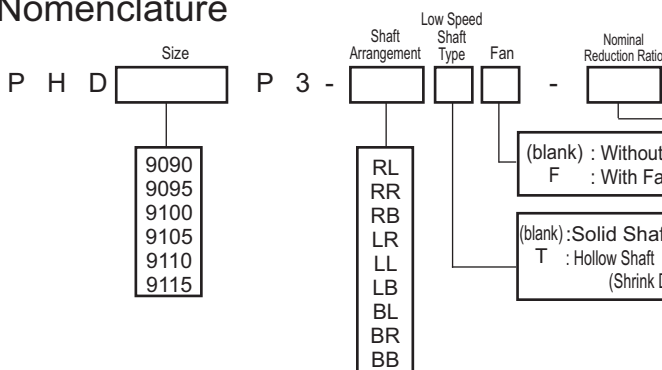
Size	Solid Shaft					Hollow Shaft (Shrink Disk Type)								
	TU1	T1	U1	V1	W1/Depth	Key				TU2	T2	U2	V2	V3
						X1	Y1	Z1	L1					
9090	650	350	300	180m6	M30/60	45	15	25	270	844	494	350	193	190
9095	700	350	350	190m6	M30/60	45	15	25	320	859	509	350	203	200
9100	740	390	350	200m6	M30/60	45	15	25	320	934	544	390	213	210
9105	740	390	350	220m6	M30/60	50	17	28	320	949	559	390	223	220
9110	770	420	350	220m6	M30/60	50	17	28	320	1030	610	420	243	240
9115	830	420	410	240m6	M30/60	56	20	32	375	1065	645	420	253	250

Unit: mm

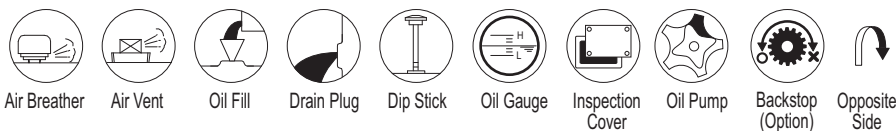
Standard Shaft Arrangement Configuration

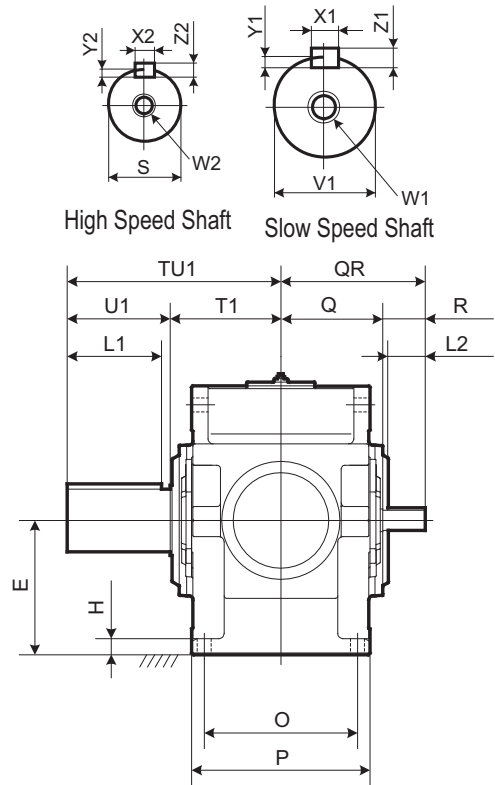
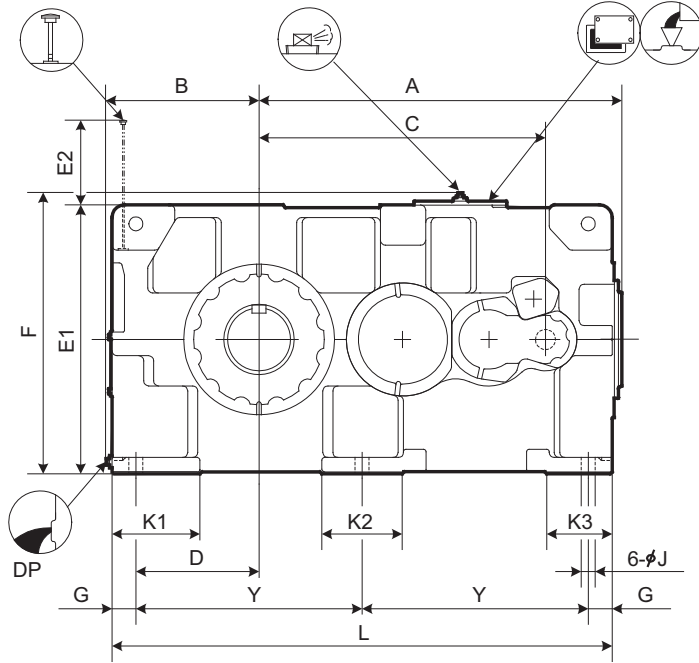


Nomenclature



Size	Nominal Reduction Ratio													
	20	22.4	25	28	31.5	35.5	40	45	50	56	63	71	80	90
9090	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9095		○	○	○	○	○	○	○	○	○	○	○	○	○
9100			○	○	○	○	○	○	○	○	○	○	○	○
9105				○	○	○	○	○	○	○	○	○	○	○
9110					○	○	○	○	○	○	○	○	○	○
9115						○	○	○	○	○	○	○	○	○





Speed Reducer
Selection Tables
Dimension Tables

Size	A	B	C	D	E	E1	E2	F	G	H	J	K1	K2	K3	L	O	P	Y
9118	1434	608	1140	490	535	1070	338	1117	95	65	56	350	320	260	1990	610	710	900
9121	1585	663	1290	545	580	1160	347	1207	95	70	56	390	300	270	2180	680	780	995
9126	1585	663	1290	545	580	1160	347	1207	95	70	56	390	300	270	2180	680	780	995

Size	High Speed Shaft										DP	Wt. kg	Oil Qty. L
	Q	QR	R	S	W2/Depth	Key				L2			
9118	405	575	170	80m6	M20/42	22	9	14	150	1 1/2"	5050	350	
9121	440	650	210	100m6	M24/50	28	10	16	190	1 1/2"	6050	470	
9126	440	650	210	100m6	M24/50	28	10	16	190	1 1/2"	6350	470	

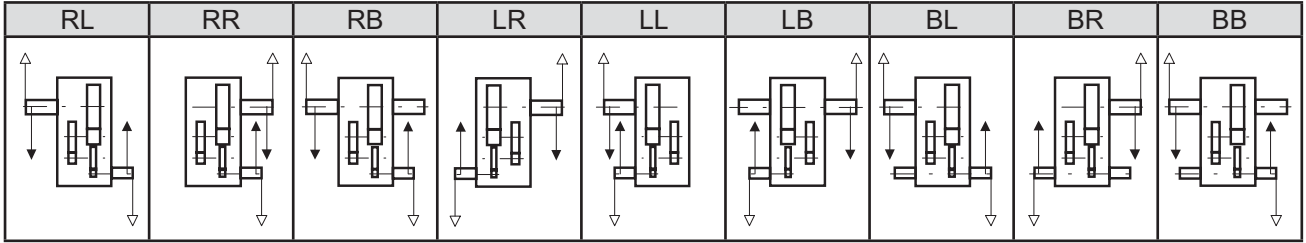
Size	Solid Shaft									
	TU1	T1	U1	V1	W1/Depth	Key				L1
9118	850	440	410	260m6	M36/70	56	20	32	375	
9121	935	465	470	280m6	M36/70	63	20	32	425	
9126	935	465	470	300m6	M36/70	70	22	36	425	

Unit: mm

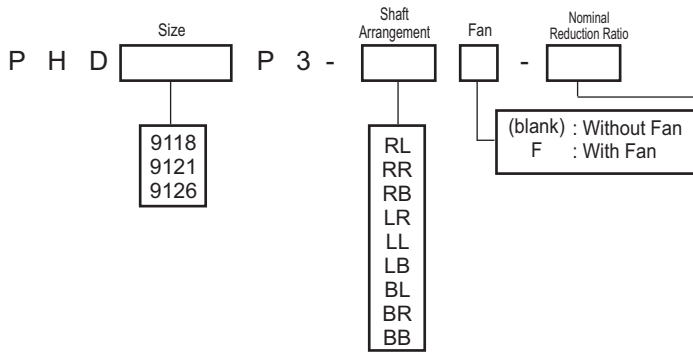
1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
3. Consult us for dimensions not shown in these drawings.

DIMENSIONS Parallel Shaft Triple Reduction Horizontal Mounting 9118 ▶ 9126

Standard Shaft Arrangement Configuration

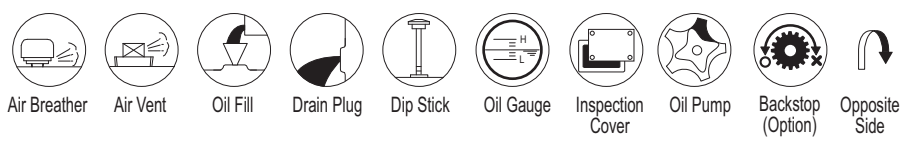


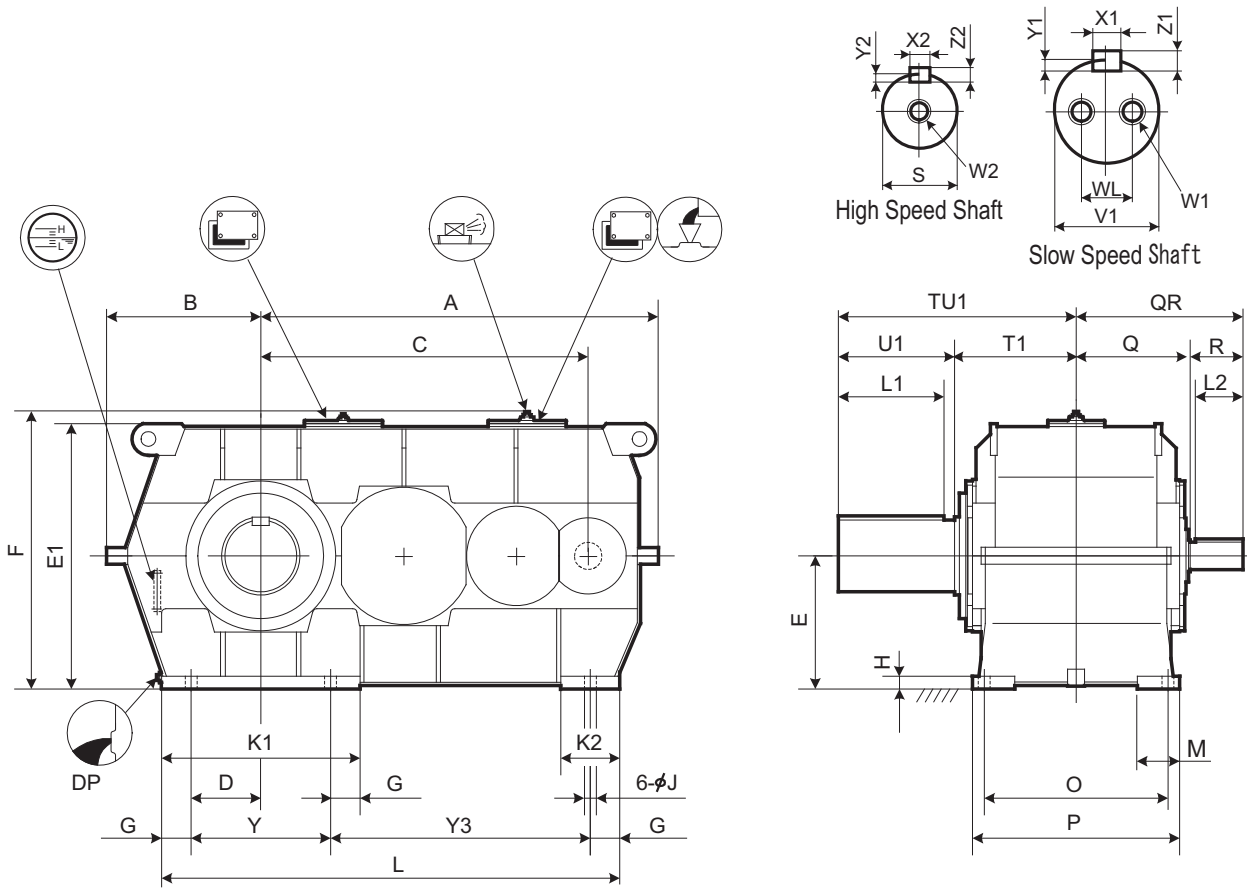
Nomenclature



Size	Nominal Reduction Ratio												
	22.4	25	28	31.5	35.5	40	45	50	56	63	71	80	90
9118		○		○	○	○	○	○	○	○	○	○	○
9121			○	○	○	○	○	○	○	○	○	○	○
9126			○	○	○	○	○	○	○	○	○	○	○

PARAMAX Horizontal Split Parallel Triple Reduction
 P H D 9118 9126 P 3





Speed Reducer
Selection Tables
Dimension Tables

Size	A	B	C	D	E	E1	F	G	H	J	K1	K2	L	M	O	P	Y	Y3
9128	1720	680	1413	330	600	1194	1241	140	55	66	940	280	1990	170	710	840	660	1050
9131	1882	730	1550	330	630	1256	1303	140	60	66	940	280	2170	200	850	980	660	1230
9136	1882	730	1550	330	630	1256	1303	140	60	66	940	280	2170	200	850	980	660	1230

Size	High Speed Shaft										DP	Wt. kg	Oil Qty. L
	Q	QR	R	S	W2/Depth	Key							
						X2	Y2	Z2	L2				
9128	470	680	210	100m6	M24/50	28	10	16	190	1 1/2"	7250	390	
9131	540	790	250	130m6	M24/50	32	11	18	225	1 1/2"	9550	550	
9136	540	790	250	130m6	M24/50	32	11	18	225	1 1/2"	9900	540	

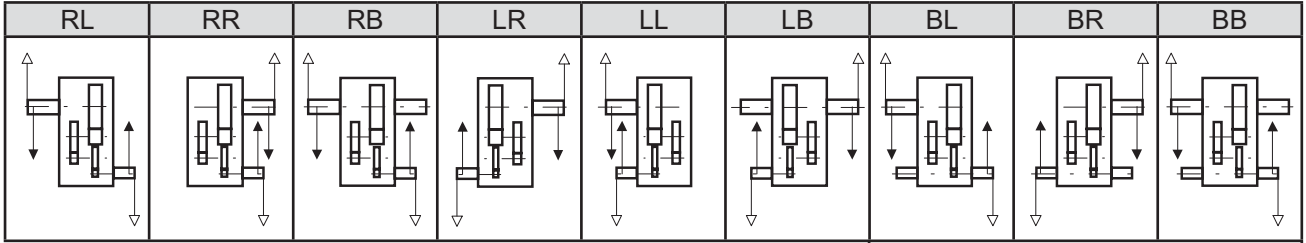
Size	Solid Shaft										
	TU1	T1	U1	V1	W1/Depth	WL	Key				
							X1	Y1	Z1	L1	
9128	950	480	470	320m6	M36/70	200	70	22	36	425	
9131	1100	550	550	340m6	M36/70	215	80	25	40	500	
9136	1110	560	550	360m6	M36/70	230	80	25	40	500	

Unit: mm

1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
3. Consult us for dimensions not shown in these drawings.

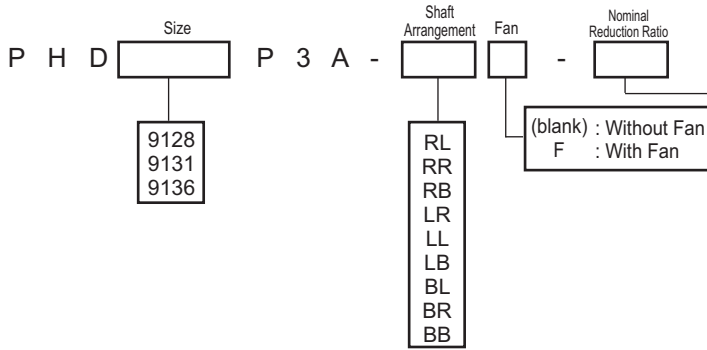
DIMENSIONS Parallel Shaft Triple Reduction Horizontal Mounting 9128 ▶ 9136

Standard Shaft Arrangement Configuration



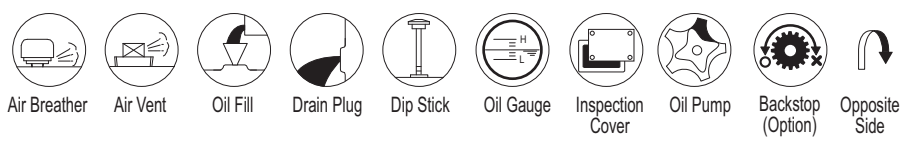
Consult us each time for delivery date of reducer type BL, BR, and BB (with double extended shaft) for size 9131 and 9136.

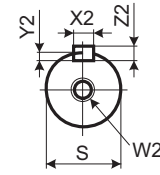
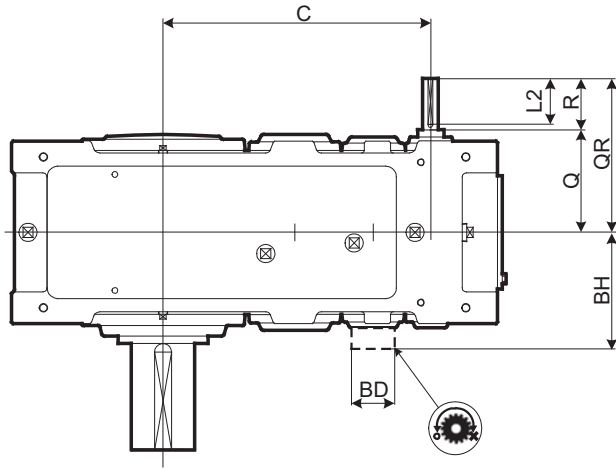
Nomenclature



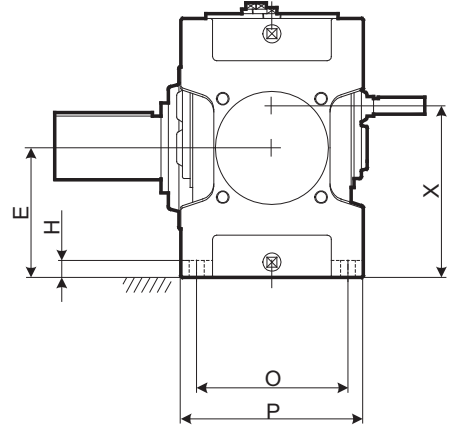
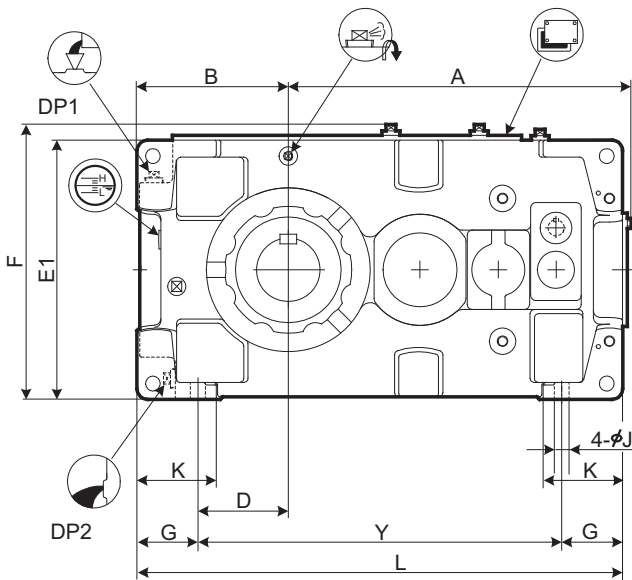
Size	Nominal Reduction Ratio												
	22.4	25	28	31.5	35.5	40	45	50	56	63	71	80	90
9128			○	○	○	○	○	○	○	○	○	○	○
9131	○	○	○	○	○	○	○	○	○	○	○		
9136	○	○	○	○	○	○	○	○	○	○	○		

PARAMAX Horizontal Split 9128 9136 Parallel Triple Reduction Steel Housing P H D 3 A





High Speed Shaft



Speed Reducer

Selection Tables
Dimension Tables

Size	A	B	C	D	E	E1	F	G	H	J	K	L	O	P	X	Y
9030	453	200	343	110	160	320	349	90	28	24	120	640	215	265	223	460
9035	484	219	374	129	185	370	399	90	28	24	120	690	215	265	248	510
9040	540	235	398	120	200	400	431	115	30	28	150	759	255	315	279	529
9045	577	256	437	141	220	440	471	115	30	28	150	819	255	315	299	589
9050	609	255	467	138.5	210	420	451	116.5	32	28	150	848	285	345	289	615
9055	648	286	506	171	245	490	521	115	32	28	150	918	285	345	324	688

Size	High Speed Shaft									Backstop		DP1	DP2	Wt. kg	Oil Qty. L
	Q	QR	R	S	W2/Depth	X2	Y2	Z2	L2	BD	BH				
9030	159	219	60	25k6	M10/22	8	4	7	50			3/4"	3/4"	210	14
9035	159	219	60	25k6	M10/22	8	4	7	50			3/4"	3/4"	230	17
9040	175	235	60	28k6	M10/22	8	4	7	50			1"	1"	310	25
9045	175	235	60	28k6	M10/22	8	4	7	50			1"	1"	380	28
9050	195	275	80	30k6	M10/22	8	4	7	70	150	263	1"	1"	450	32
9055	195	275	80	30k6	M10/22	8	4	7	70	150	263	1"	1"	510	40

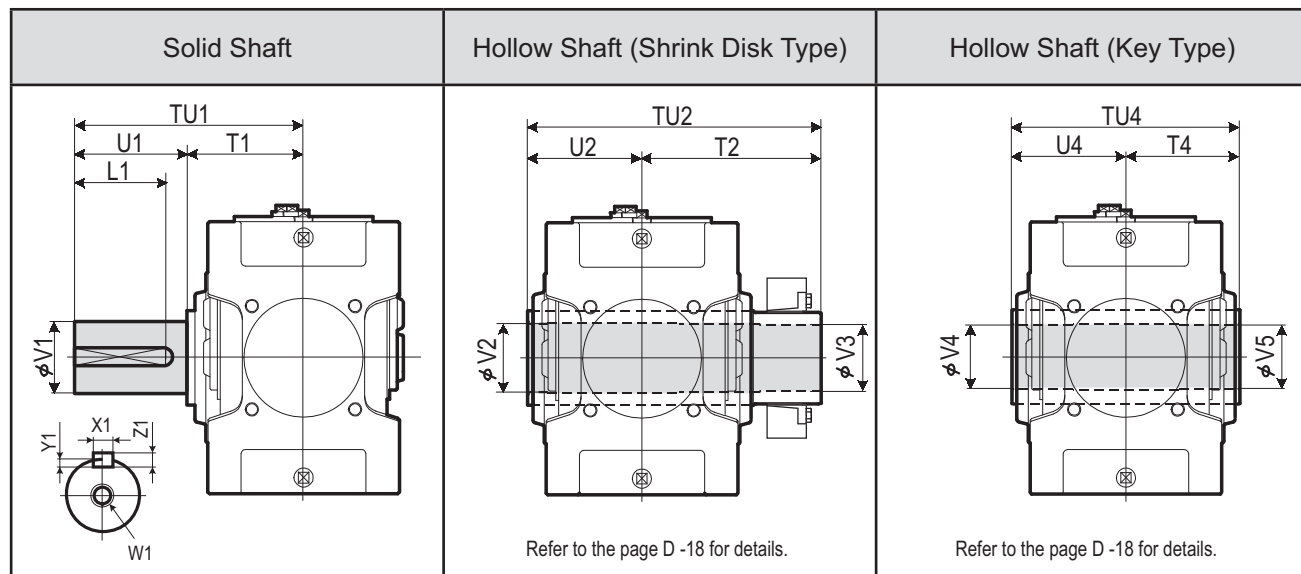
Unit: mm

1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
 2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
 3. Refer to the page D -13 for dimensions not shown in these drawings.

4. Refer to the page D -24 for the dimension of optional parts.

DIMENSIONS Parallel Shaft Quadruple Reduction Horizontal Mounting 9030 ▶ 9055

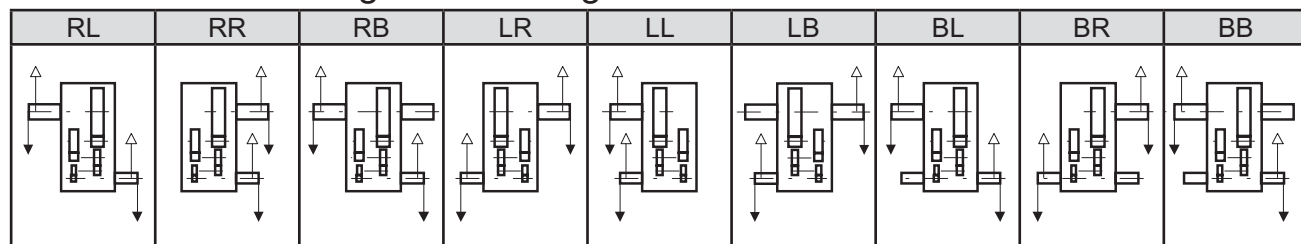
Slow Speed Shaft



Size	Solid Shaft										Hollow Shaft (Shrink Disk Type)					Hollow Shaft (Key Type)				
	TU1	T1	U1	V1	W1/Depth	Key				TU2	T2	U2	V2	V3	TU4	T4	U4	V4	V5	
						X1	Y1	Z1	L1											
9030	330	160	170	80m6	M20/42	22	9	14	150	393	233	160	83	80	330	165	165	75	75	
9035	330	160	170	90m6	M20/42	25	9	14	150	403	243	160	88	85	330	165	165	85	85	
9040	349	179	170	95m6	M24/50	25	9	14	150	448	268	180	98	95	360	180	180	90	90	
9045	391	181	210	105m6	M24/50	28	10	16	190	463	283	180	108	105	370	185	185	105	105	
9050	411	201	210	110m6	M24/50	28	10	16	190	503	303	200	108	105	410	205	205	105	105	
9055	411	201	210	120m6	M24/50	32	11	18	185	528	323	205	123	120	410	205	205	115	115	

Unit: mm

Standard Shaft Arrangement Configuration



Nomenclature

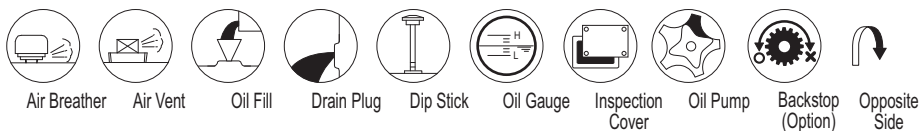


- 9030
- 9035
- 9040
- 9045
- 9050
- 9055

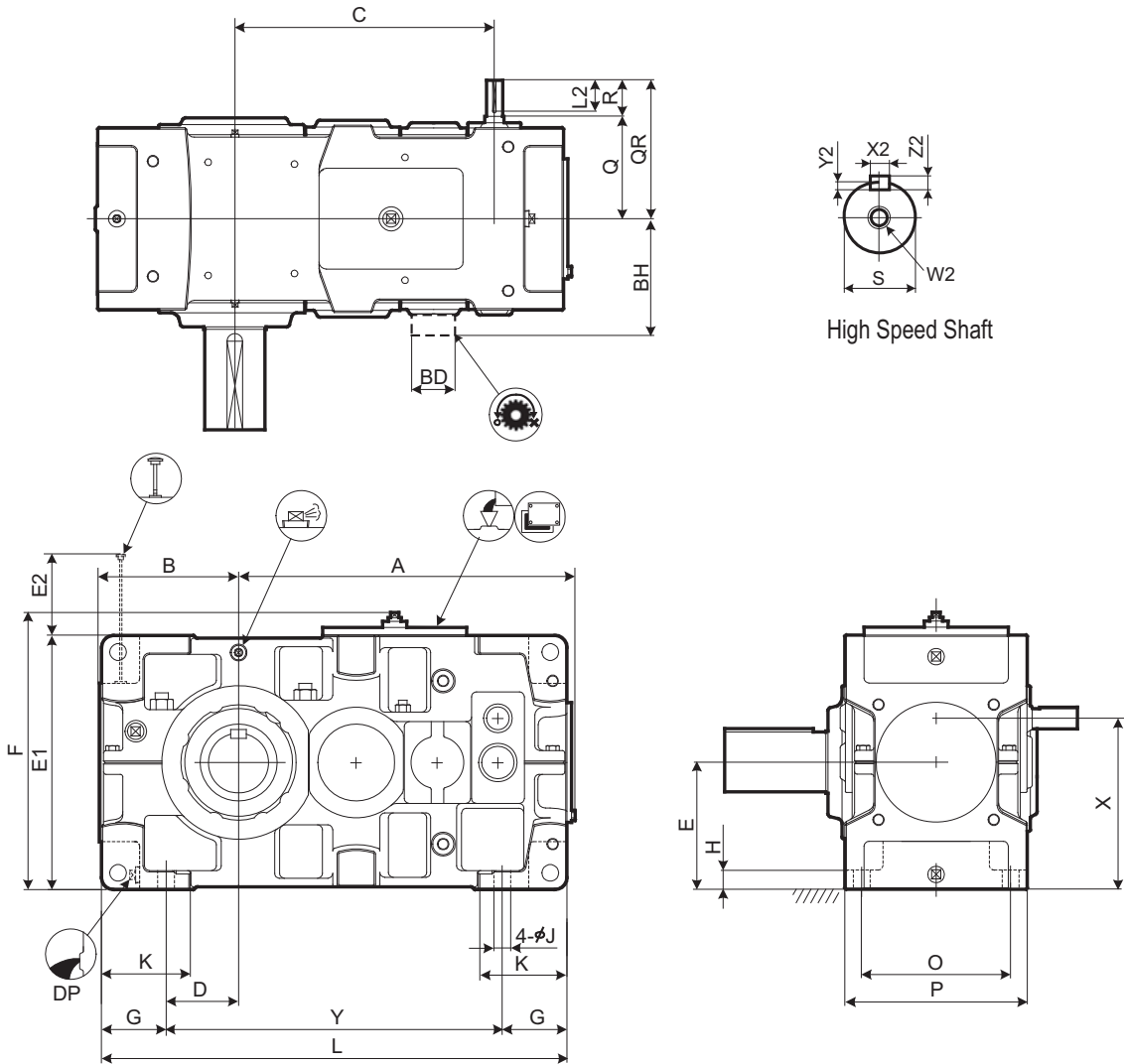
- RL
- RR
- RB
- LR
- LL
- LB
- BL
- BR
- BB

- (blank) : Without Option
- B : With Backstop
- (blank) : Solid Shaft
- T : Hollow Shaft (Shrink Disk type)
- K : Hollow Shaft (Key type)

Size	Nominal Reduction Ratio																
	80	90	100	112	125	140	160	180	200	224	250	280	315	355	400	450	500
9030	○	○	○	○	○	○	○	○	○	○							
9035			○	○	○	○	○	○	○	○	○						
9040			○	○	○	○	○	○	○	○	○	○					
9045	○	○	○	○	○	○	○	○	○	○	○	○	○				
9050	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
9055			○	○	○	○	○	○	○	○	○	○	○	○	○	○	○



PARAMAX Horizontal Monoblock 9030 9055 Parallel Quadruple Reduction 4



Speed Reducer

Selection Tables
Dimension Tables

Size	A	B	C	D	E	E1	E2	F	G	H	J	K	L	O	P	X	Y
9060	701	299	540	151	265	530	126	578	135	35	35	180	970	310	380	357	700
9065	747	338	586	190	300	600	91	648	135	35	35	180	1055	310	380	392	785
9070	809	336	630	163	300	600	144	648	160	40	42	215	1115	350	430	409	795
9075	862	383	683	210	335	670	109	718	160	52	42	220	1215	350	430	444	895
9080	932	378	725	205	335	670	167	718	160	52	42	220	1275	380	460	461	955
9085	988	422	781	249	375	750	127	798	160	52	42	220	1375	380	460	501	1055

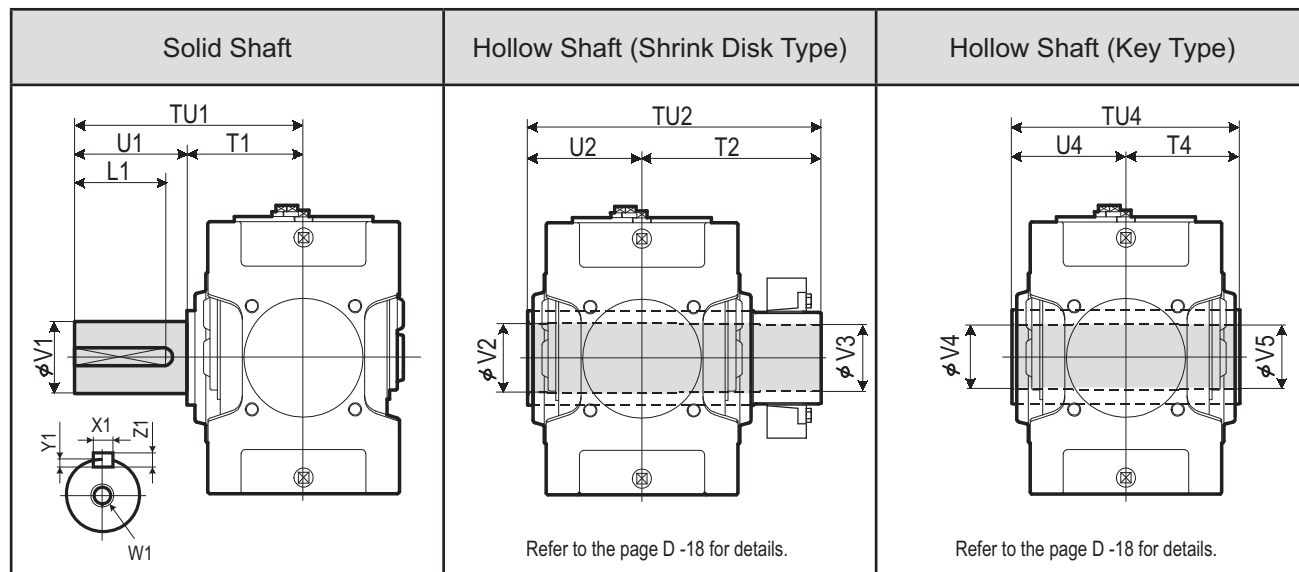
Size	High Speed Shaft										Backstop		DP	Wt. kg	Oil Qty. L
	Q	QR	R	S	W2/Depth	X2	Y2	Z2	L2	BD	BH				
9060	221	301	80	35k6	M12/28	10	5	8	70	175	308	1"	660	37	
9065	221	301	80	35k6	M12/28	10	5	8	70	175	308	1"	815	42	
9070	244	354	110	40k6	M16/36	12	5	8	95	190	330	1"	950	56	
9075	244	354	110	40k6	M16/36	12	5	8	95	190	330	1"	1170	67	
9080	264	374	110	45k6	M16/36	14	5.5	9	95	210	365	1"	1360	73	
9085	264	374	110	45k6	M16/36	14	5.5	9	95	210	365	1"	1620	90	

Unit: mm

1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
 2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
 3. Refer to the page D -15 for dimensions not shown in these drawings.
 4. Refer to the page D -27 for the dimension of optional parts.

DIMENSIONS Parallel Shaft Quadruple Reduction Horizontal Mounting 9060 ▶ 9085

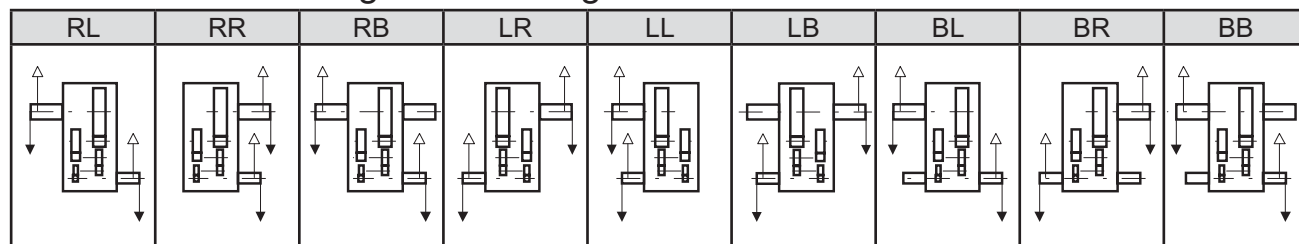
Slow Speed Shaft



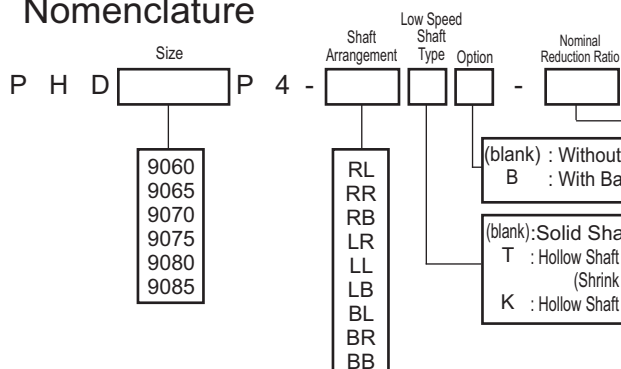
Size	Solid Shaft					Key				Hollow Shaft (Shrink Disk Type)					Hollow Shaft (Key Type)				
	TU1	T1	U1	V1	W1/Depth	X1	Y1	Z1	L1	TU2	T2	U2	V2	V3	TU4	T4	U4	V4	V5
9060	440	230	210	125m6	M24/50	32	11	18	185	583	353	230	128	125	470	235	235	125	123
9065	484	234	250	140m6	M30/60	36	12	20	225	594	359	235	143	140	480	240	240	145	143
9070	509	259	250	145m6	M30/60	36	12	20	225	644	384	260	148	145	530	265	265	145	143
9075	562	262	300	160m6	M30/60	40	13	22	275	651	386	265	158	155	530	265	265	150	148
9080	582	282	300	165m6	M30/60	40	13	22	275	714	429	285	173	170	570	285	285	165	163
9085	585	285	300	175m6	M30/60	45	15	25	270	714	429	285	183	180	570	285	285	175	173

Unit: mm

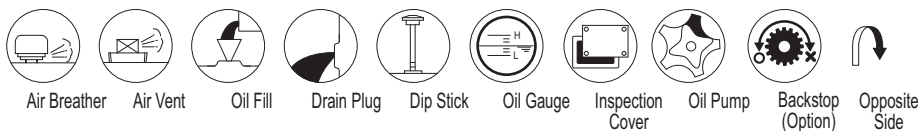
Standard Shaft Arrangement Configuration



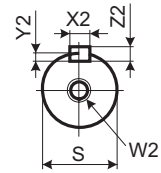
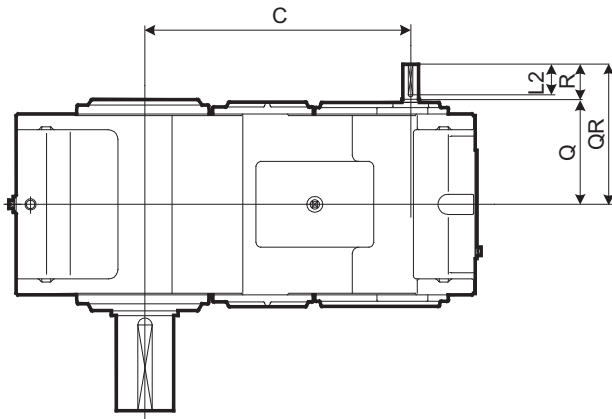
Nomenclature



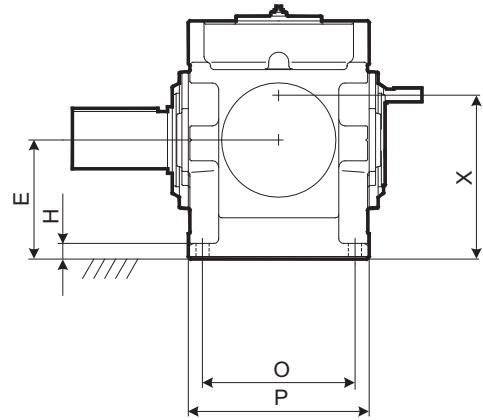
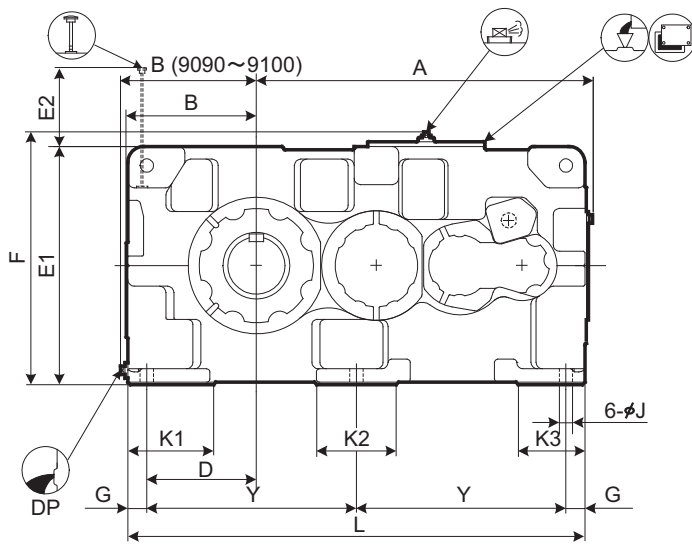
Size	Nominal Reduction Ratio																
	80	90	100	112	125	140	160	180	200	224	250	280	315	355	400	450	500
9060	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9065	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9070	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9075			○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9080	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9085			○	○	○	○	○	○	○	○	○	○	○	○	○	○	○



PARAMAX Horizontal Split 9060 9085 Parallel Quadruple Reduction P H D P 4



High Speed Shaft



Speed Reducer

Selection Tables

Dimension Tables

Size	A	B	C	D	E	E1	E2	F	G	H	J	K1	K2	K3	L	O	P	X	Y
9090	1060	428	795	345	375	750	194	797	60	50	42	270	250	210	1440	480	570	517	660
9095	1090	458	825	375	400	800	199	847	60	50	42	290	250	210	1500	480	570	542	690
9100	1194	468	901	375	425	850	208	897	70	55	48	300	280	240	1610	560	650	587	735
9105	1228	493	935	410	450	900	213	947	70	55	48	320	280	240	1680	560	650	612	770
9110	1344	508	1001	420	475	950	218	997	75	60	56	340	310	260	1810	610	710	637	830
9115	1393	558	1050	470	500	1000	217	1047	75	60	56	350	310	260	1910	610	710	662	880

Size	High Speed Shaft									DP	Wt. kg	Oil Qty. L
	Q	QR	R	S	W2/Depth	Key						
						X2	Y2	Z2	L2			
9090	330	440	110	50k6	M16/36	14	5.5	9	95	1 1/2"	2150	150
9095	330	440	110	50k6	M16/36	14	5.5	9	95	1 1/2"	2400	180
9100	375	515	140	60m6	M20/42	18	7	11	125	1 1/2"	2830	220
9105	375	515	140	60m6	M20/42	18	7	11	125	1 1/2"	3390	260
9110	405	545	140	60m6	M20/42	18	7	11	125	1 1/2"	4060	300
9115	405	545	140	60m6	M20/42	18	7	11	125	1 1/2"	4510	365

Unit: mm

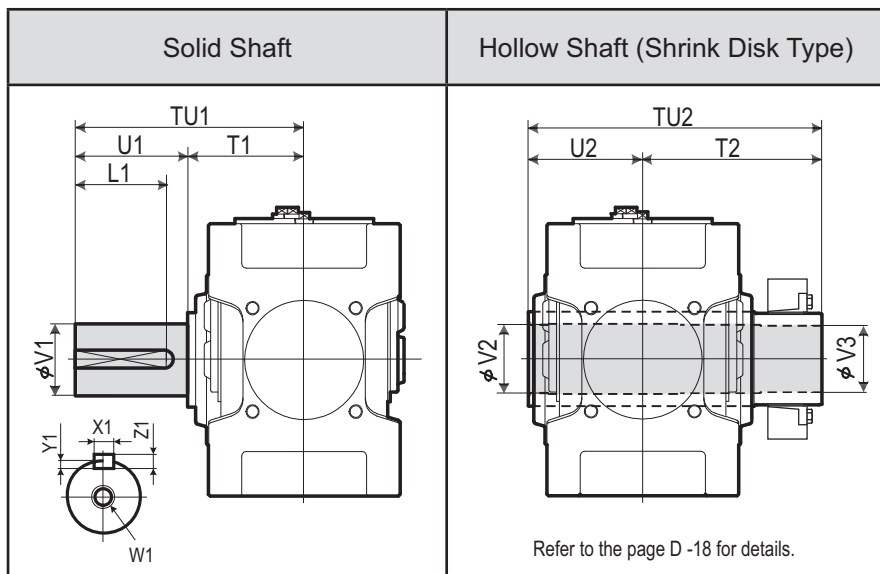
1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
 2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
 3. Refer to the page D-16 for dimensions not shown in these drawings.

4. Refer to the page D-30 for the dimension of optional parts.

DIMENSIONS Parallel Shaft Quadruple Reduction Horizontal Mounting 9090 ▶ 9115

PARAMAX Horizontal Split 9090 9115 Parallel Quadruple Reduction P H D P 4

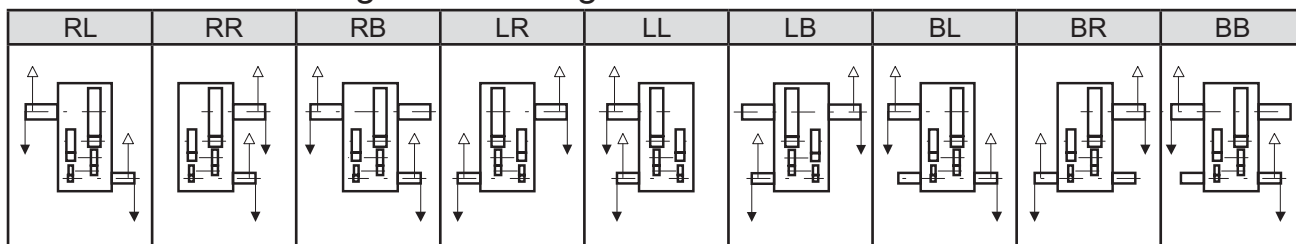
Slow Speed Shaft



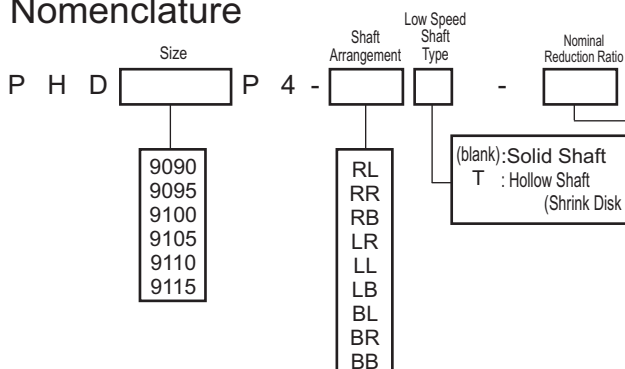
Size	Solid Shaft					Hollow Shaft (Shrink Disk Type)								
	TU1	T1	U1	V1	W1/Depth	Key				TU2	T2	U2	V2	V3
						X1	Y1	Z1	L1					
9090	650	350	300	180m6	M30/60	45	15	25	270	844	494	350	193	190
9095	700	350	350	190m6	M30/60	45	15	25	320	859	509	350	203	200
9100	740	390	350	200m6	M30/60	45	15	25	320	934	544	390	213	210
9105	740	390	350	220m6	M30/60	50	17	28	320	949	559	390	223	220
9110	770	420	350	220m6	M30/60	50	17	28	320	1030	610	420	243	240
9115	830	420	410	240m6	M30/60	56	20	32	375	1065	645	420	253	250

Unit: mm

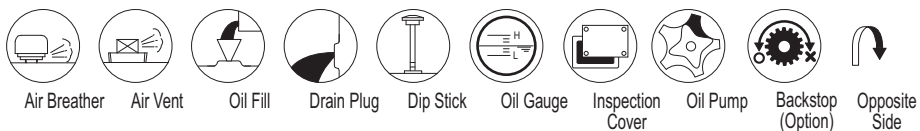
Standard Shaft Arrangement Configuration

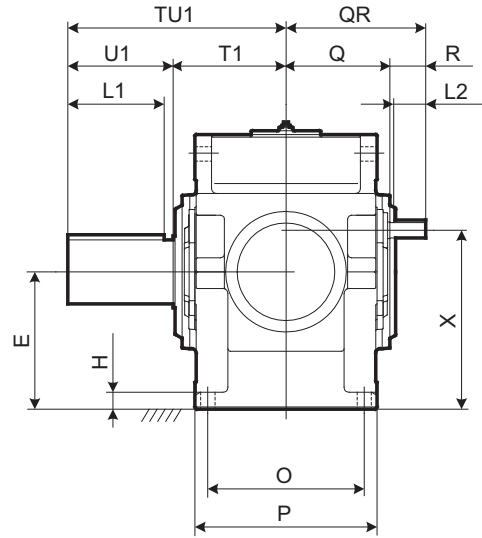
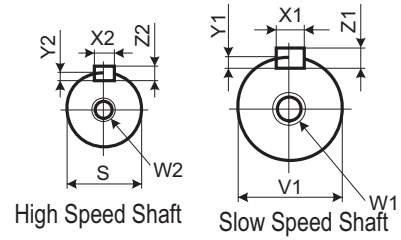
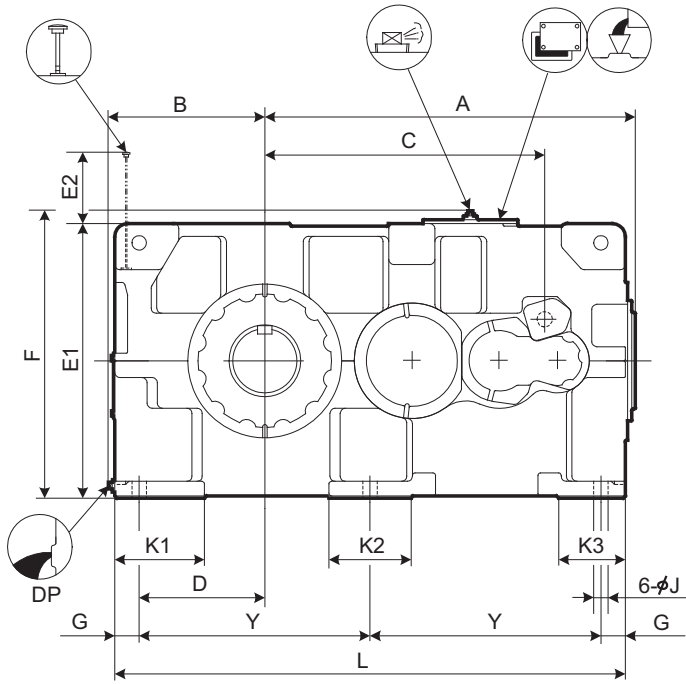


Nomenclature



Size	Nominal Reduction Ratio															
	90	100	112	125	140	160	180	200	224	250	280	315	355	400	450	500
9090	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9095																
9100	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9105																
9110	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9115																





Speed Reducer

Selection Tables
Dimension Tables

Size	A	B	C	D	E	E1	E2	F	G	H	J	K1	K2	K3	L	O	P	X	Y
9118	1434	608	1091	490	535	1070	278	1117	95	65	56	350	320	260	1990	610	710	697	900
9121	1585	663	1290	545	580	1160	277	1207	95	70	56	390	300	270	2180	680	780	777	995
9126	1585	663	1290	545	580	1160	277	1207	95	70	56	390	300	270	2180	680	780	777	995

Size	High Speed Shaft										DP	Wt. kg	Oil Qty. L
	Q	QR	R	S	W2/Depth	Key				L2			
9118	405	545	140	60m6	M20/42	X2	Y2	Z2	L2		1 1/2"	5050	390
9121	440	580	140	65m6	M20/42	18	7	11	125		1 1/2"	6100	530
9126	440	580	140	65m6	M20/42	18	7	11	125		1 1/2"	6350	520

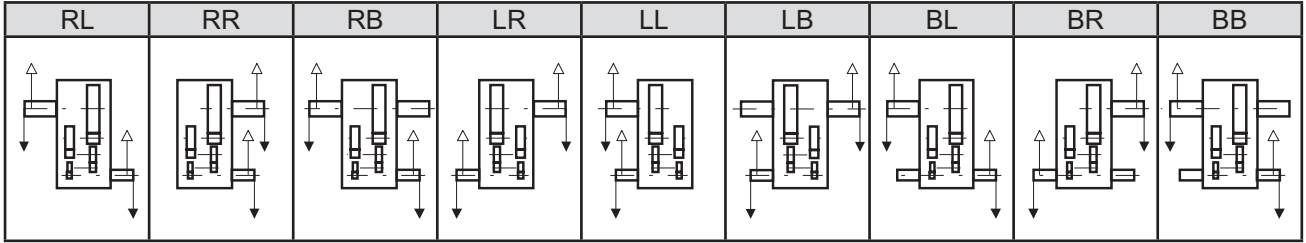
Size	Solid Shaft									
	TU1	T1	U1	V1	W1/Depth	Key				L1
9118	850	440	410	260m6	M36/70	X1	Y1	Z1	L1	
9121	935	465	470	280m6	M36/70	56	20	32	375	
9126	935	465	470	300m6	M36/70	63	20	32	425	

Unit: mm

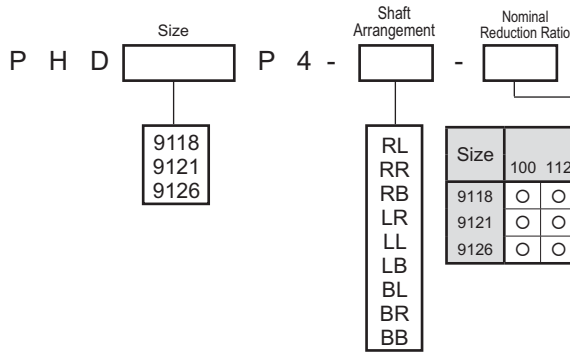
1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
3. Consult us for dimensions not shown in these drawings.

DIMENSIONS Parallel Shaft Quadruple Reduction Horizontal Mounting 9118 ▶ 9126

Standard Shaft Arrangement Configuration



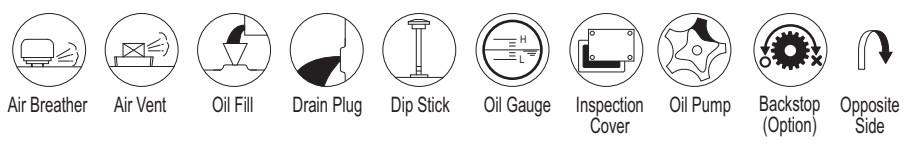
Nomenclature

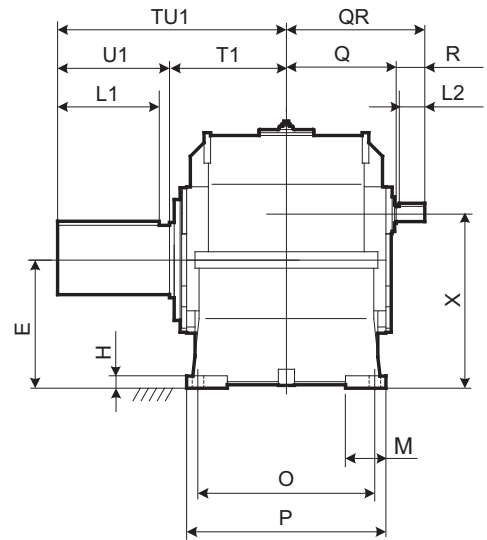
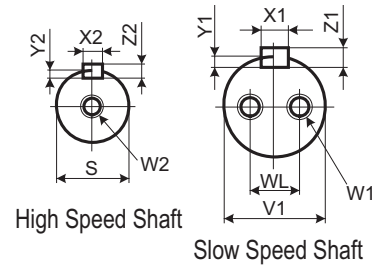
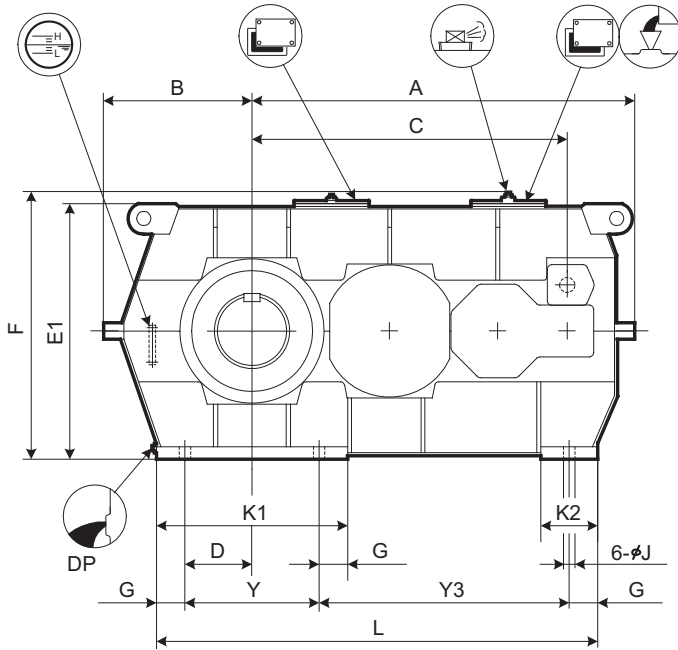


Size	Nominal Reduction Ratio													
	100	112	125	140	160	180	200	224	250	280	315	355	400	450
9118	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9121	○	○	○	○	○	○	○	○	○	○	○	○	○	
9126	○	○	○	○	○	○	○	○	○	○	○	○	○	

P
H
D
9118
9126
P
4

PARAMAX Horizontal Split Parallel Quadruple Reduction





Speed Reducer
Selection Tables
Dimension Tables

Size	A	B	C	D	E	E1	F	G	H	J	K1	K2	L	M	O	P	X	Y	Y3
9128	1720	680	1413	330	600	1194	1241	140	55	66	940	280	1990	170	710	840	826	660	1050
9131	1882	730	1550	330	630	1256	1303	140	60	66	940	280	2170	200	850	980	856	660	1230
9136	1882	730	1550	330	630	1256	1303	140	60	66	940	280	2170	200	850	980	856	660	1230

Size	High Speed Shaft										DP	Wt. kg	Oil Qty. L
	Q	QR	R	S	W2/Depth	X2	Y2	Z2	L2	Key			
9128	465	605	140	75m6	M20/42	20	7.5	12	125	1 1/2"	7400	450	
9131	540	680	140	75m6	M20/42	20	7.5	12	125	1 1/2"	9600	650	
9136	540	680	140	75m6	M20/42	20	7.5	12	125	1 1/2"	10000	640	

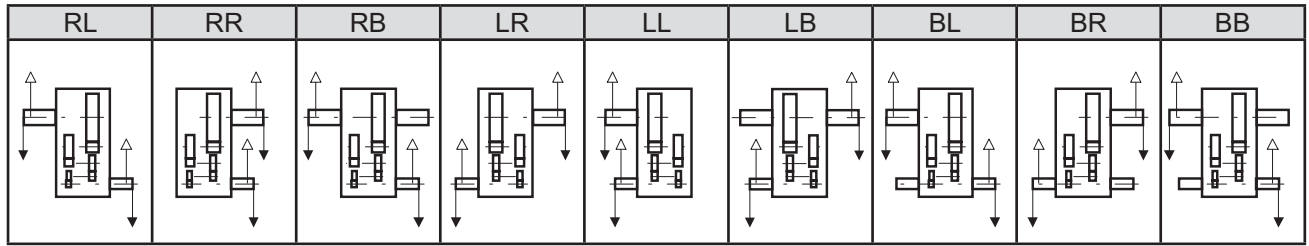
Size	Slow Speed Shaft (Solid)									
	TU1	T1	U1	V1	W1/Depth	WL	X1	Y1	Z1	L1
9128	950	480	470	320m6	M36/70	200	70	22	36	425
9131	1100	550	550	340m6	M36/70	215	80	25	40	500
9136	1110	560	550	360m6	M36/70	230	80	25	40	500

Unit: mm

1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
3. Consult us for dimensions not shown in these drawings.

DIMENSIONS Parallel Shaft Quadruple Reduction Horizontal Mounting 9128 ▶ 9136

Standard Shaft Arrangement Configuration



Nomenclature

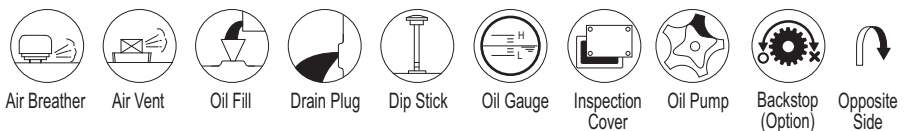
P H D Size P 4 A - Shaft Arrangement - Nominal Reduction Ratio

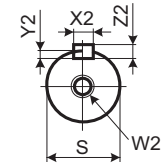
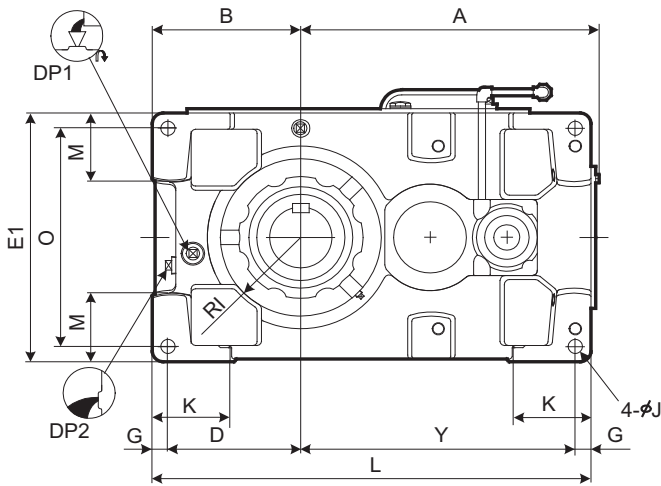
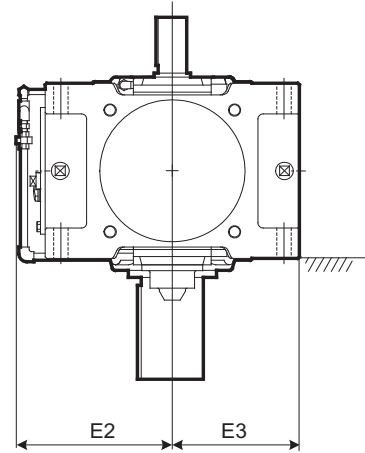
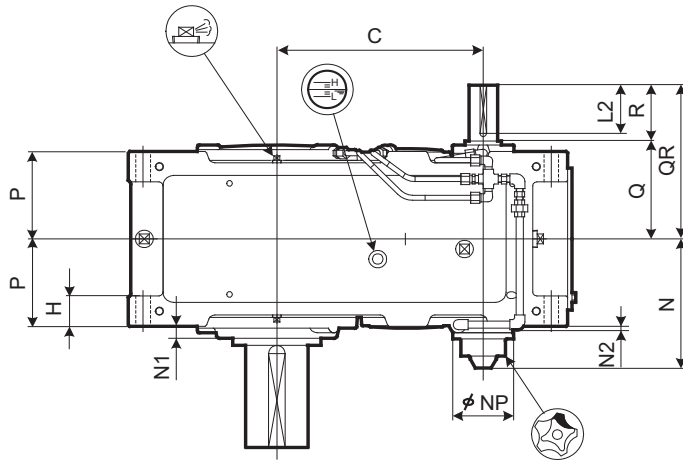
9128
9131
9136

RL
RR
RB
LR
LL
LB
BL
BR
BB

Size	Nominal Reduction Ratio														
	80	90	100	112	125	140	160	180	200	224	250	280	315	355	400
9128			○	○	○	○	○	○	○	○	○	○	○	○	○
9131	○	○	○	○	○	○	○	○	○	○	○	○	○		
9136	○	○	○	○	○	○	○	○	○	○	○	○	○		

PARAMAX Horizontal Split
 9128
 9136
 Parallel Reduction Housing
 P
 4
 A





High Speed Shaft

Speed Reducer

Selection Tables

Dimension Tables

Size	A	B	C	D	E1	E2	E3	G	H	RI	J	K	L	M	N	N1	N2	NP	O	P	Y
9015	295	160	194	140	270	195	135	20	35	80	15	95	440	70	186	25	14	100	230	102.5	260
9025	346	175	227	155	310	215	155	20	40	87.5	19	110	505	75	198.5	23	12	100	270	117.5	310
9030	406	200	264	175	320	220	160	25	50	105	24	120	590	85	211	22	9	100	270	132.5	365
9035	437	219	295	194	370	245	185	25	50	120	24	120	640	100	211	22	9	100	320	132.5	396
9040	467	235	306	205	400	246	200	30	60	120	28	150	685	100	237.5	15	2	117	340	157.5	420
9045	506	256	345	226	440	266	220	30	60	140	28	150	745	120	237.5	17.5	2	117	380	157.5	459
9050	537	255	358	225	420	270	210	30	60	140	28	150	775	110	257.5	23	7	117	360	172.5	490
9055	576	286	397	256	490	305	245	30	60	155	28	150	845	135	257.5	23	7	117	430	172.5	529

Size	High Speed Shaft										DP1	DP2	Wt. kg	Oil Qty. L
	Q	QR	R	S	W2/Depth	X2	Y2	Z2	L2	Key				
9015	131	211	80	30k6	M10/22	8	4	7	70	3/4"	3/4"	100	5	
9025	146	226	80	35k6	M12/28	10	5	8	70	3/4"	3/4"	140	7	
9030	159	269	110	40k6	M16/36	12	5	8	95	3/4"	3/4"	195	9	
9035	159	269	110	40k6	M16/36	12	5	8	95	3/4"	3/4"	215	12	
9040	174	284	110	50k6	M16/36	14	5.5	9	95	1"	1"	285	18	
9045	174	284	110	50k6	M16/36	14	5.5	9	95	1"	1"	345	22	
9050	193	303	110	55m6	M20/42	16	6	10	95	1"	1"	415	22	
9055	193	303	110	55m6	M20/42	16	6	10	95	1"	1"	472	31	

Unit: mm

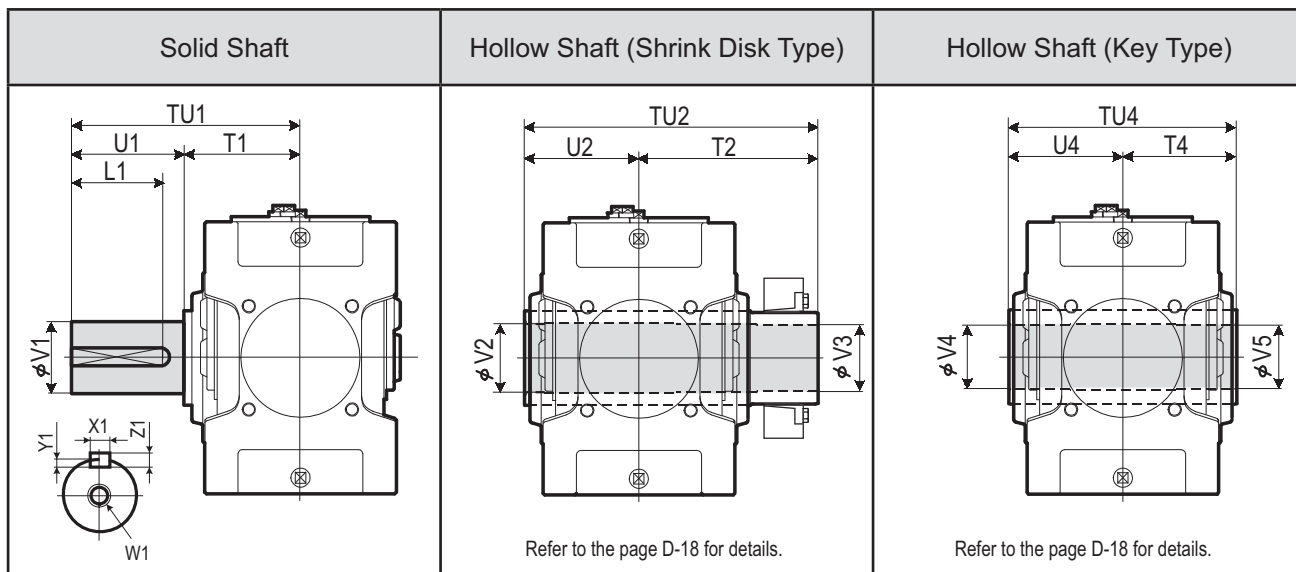
1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
3. Refer to the page D-12 for dimensions not shown in these drawings.

4. Refer to the page D-25 for the dimension of optional parts.

DIMENSIONS Parallel Shaft Double Reduction Vertical Mounting 9015 ▶ 9055

PARAMAX Vertical Monoblock 9015 9055 Parallel Double Reduction P 2

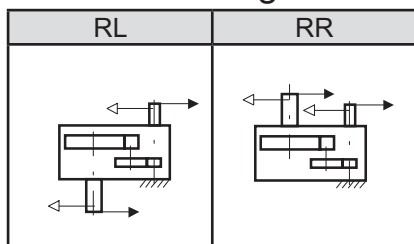
Slow Speed Shaft



Size	Solid Shaft									Hollow Shaft (Shrink Disk Type)					Hollow Shaft (Key Type)				
	TU1	T1	U1	V1	W1/Depth	Key				TU2	T2	U2	V2	V3	TU4	T4	U4	V4	V5
9015	245	135	110	58m6	M20/42	18	7	11	95	328	193	135	63	60	270	135	135	55	55
9025	285	145	140	70m6	M20/42	20	7.5	12	125	358	213	145	73	70	300	150	150	65	65
9030	330	160	170	80m6	M20/42	22	9	14	150	393	233	160	83	80	330	165	165	75	75
9035	330	160	170	90m6	M20/42	25	9	14	150	403	243	160	88	85	330	165	165	85	85
9040	349	179	170	95m6	M24/50	25	9	14	150	448	268	180	98	95	360	180	180	90	90
9045	391	181	210	105m6	M24/50	28	10	16	190	463	283	180	108	105	370	185	185	105	105
9050	411	201	210	110m6	M24/50	28	10	16	190	503	303	200	108	105	410	205	205	105	105
9055	411	201	210	120m6	M24/50	32	11	18	185	528	323	205	123	120	410	205	205	115	115

Unit: mm

Standard Arrangement Configuration



Nomenclature



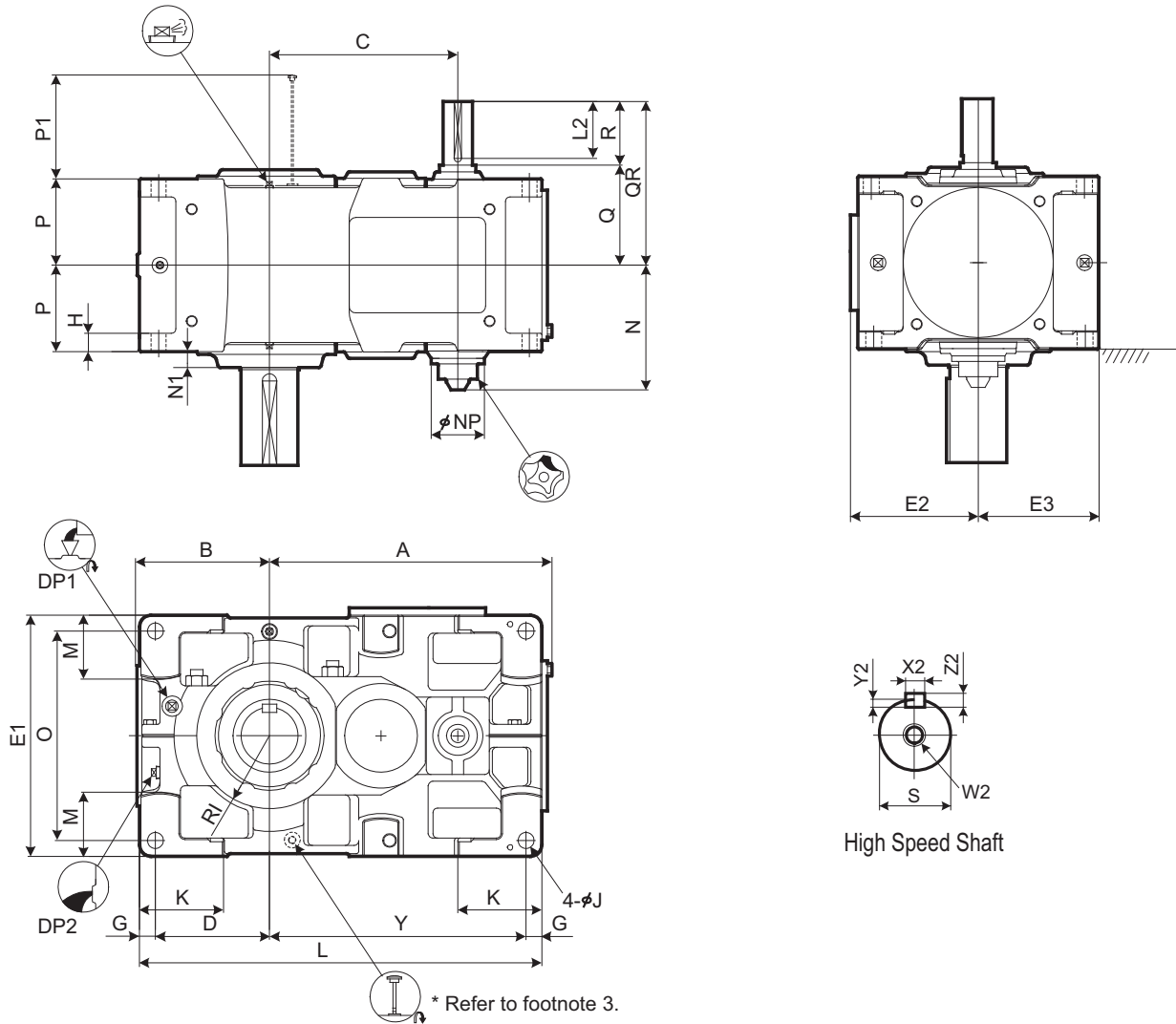
- 9015
- 9025
- 9030
- 9035
- 9040
- 9045
- 9050
- 9055

- RL
- RR
- (blank) : Solid Shaft
- T : Hollow Shaft (Shrink Disk type)
- K : Hollow Shaft (Key type)

Size	Nominal Reduction Ratio											
	6.3	7.1	8	9	10	11.2	12.5	14	16	18	20	22.4
9015	○	○	○	○	○	○	○	○	○	○		
9025	○	○	○	○	○	○	○	○	○	○		
9030	○	○	○	○	○	○	○	○	○	○		
9035			○	○	○	○	○	○	○	○	○	○
9040	○	○	○	○	○	○	○	○	○	○		
9045			○	○	○	○	○	○	○	○	○	○
9050	○	○	○	○	○	○	○	○	○	○		
9055			○	○	○	○	○	○	○	○	○	○

- Air Breather
- Air Vent
- Oil Fill
- Drain Plug
- Dip Stick
- Oil Gauge
- Inspection Cover
- Oil Pump
- Backstop (Option)
- Opposite Side

DIMENSIONS Parallel Shaft Double Reduction Vertical Mounting 9060 ▶ 9085



Speed Reducer

Selection Tables

Dimension Tables

Size	A	B	C	D	E1	E2	E3	G	H	RI	J	K	L	M	N	N1	NP	O	P	P1	Y
9060	621	299	414	251	530	282	265	35	35	160	35	180	885	140	277.5	35	117	460	190	223	564
9065	667	338	460	290	600	317	300	35	35	175	35	180	970	175	277.5	38	117	530	190	223	610
9070	719	336	482	283	600	317	300	40	40	175	42	215	1020	155	302.5	38	117	520	215	253	657
9075	772	383	535	330	670	352	335	40	52	190	42	220	1120	195	302.5	40	117	590	215	253	710
9080	812	378	556	325	670	352	335	40	52	190	42	220	1155	170	322.5	45	117	590	230	283	750
9085	868	422	612	369	750	392	375	40	52	215	42	220	1255	210	322.5	40	117	670	230	283	806

Size	High Speed Shaft										DP1	DP2	Wt. kg	Oil Qty. L
	Q	QR	R	S	W2/Depth	X2	Y2	Z2	L2					
9060	220	360	140	65m6	M20/42	18	7	11	125	1"	1"	610	25	
9065	220	360	140	65m6	M20/42	18	7	11	125	1"	1"	735	32	
9070	245	385	140	75m6	M20/42	20	7.5	12	125	1"	1"	860	39	
9075	245	385	140	75m6	M20/42	20	7.5	12	125	1"	1"	1110	49	
9080	264	434	170	85m6	M20/42	22	9	14	150	1"	1"	1240	54	
9085	264	434	170	85m6	M20/42	22	9	14	150	1"	1"	1500	71	

Unit: mm

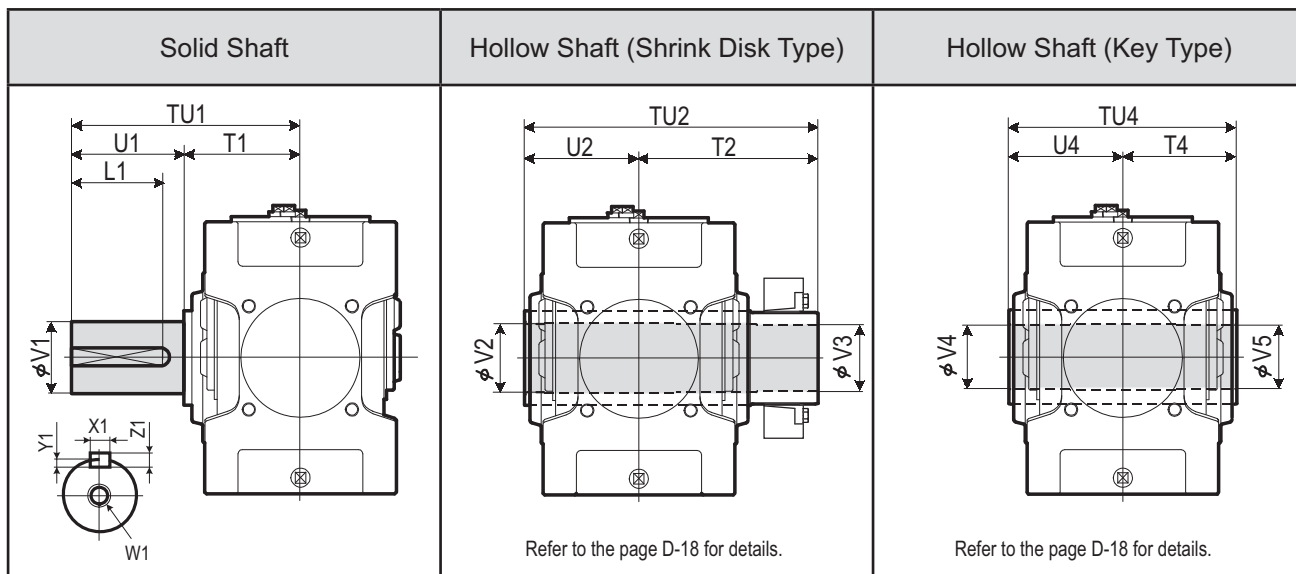
1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
 2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
 3. Shaft arrangement RR is equipped with visible gauge. Refer to page D-28.

4. Refer to the page D-14 for dimensions not shown in these drawings.
 5. Refer to the page D-28 for the dimension of optional parts.

DIMENSIONS Parallel Shaft Double Reduction Vertical Mounting 9060 ▶ 9085

PARAMAX Vertical Split 9060 9085 Parallel Double Reduction P V D P 2

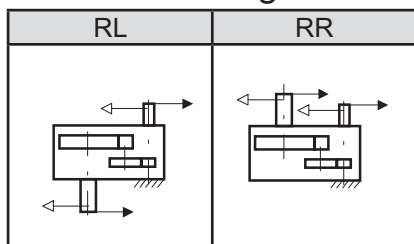
Slow Speed Shaft



Size	Solid Shaft					Key					Hollow Shaft (Shrink Disk Type)					Hollow Shaft (Key Type)				
	TU1	T1	U1	V1	W1/Depth	X1	Y1	Z1	L1	TU2	T2	U2	V2	V3	TU4	T4	U4	V4	V5	
9060	440	230	210	125m6	M24/50	32	11	18	185	583	353	230	128	125	470	235	235	125	123	
9065	484	234	250	140m6	M30/60	36	12	20	225	594	359	235	143	140	480	240	240	145	143	
9070	509	259	250	145m6	M30/60	36	12	20	225	644	384	260	148	145	530	265	265	145	143	
9075	562	262	300	160m6	M30/60	40	13	22	275	651	386	265	158	155	530	265	265	150	148	
9080	582	282	300	165m6	M30/60	40	13	22	275	714	429	285	173	170	570	285	285	165	163	
9085	585	285	300	175m6	M30/60	45	15	25	270	714	429	285	183	180	570	285	285	175	173	

Unit: mm

Standard Arrangement Configuration



Nomenclature



- 9060
- 9065
- 9070
- 9075
- 9080
- 9085

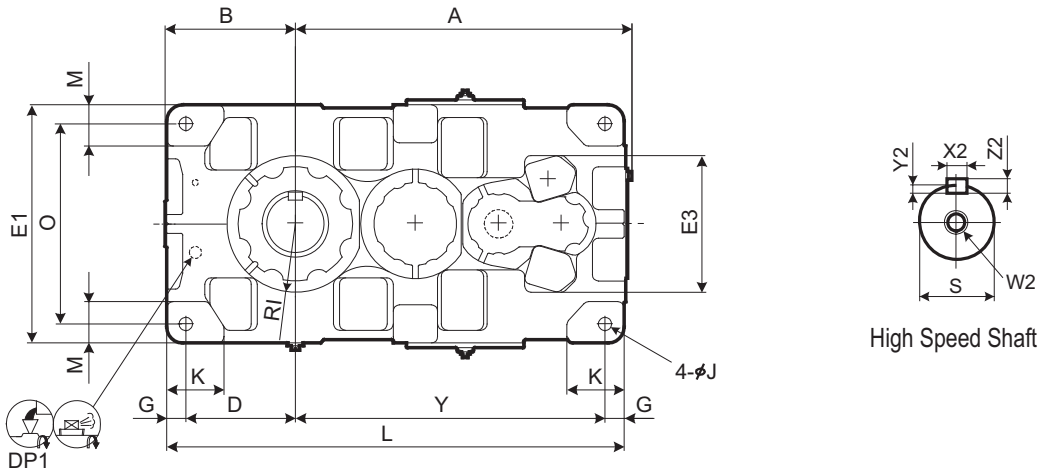
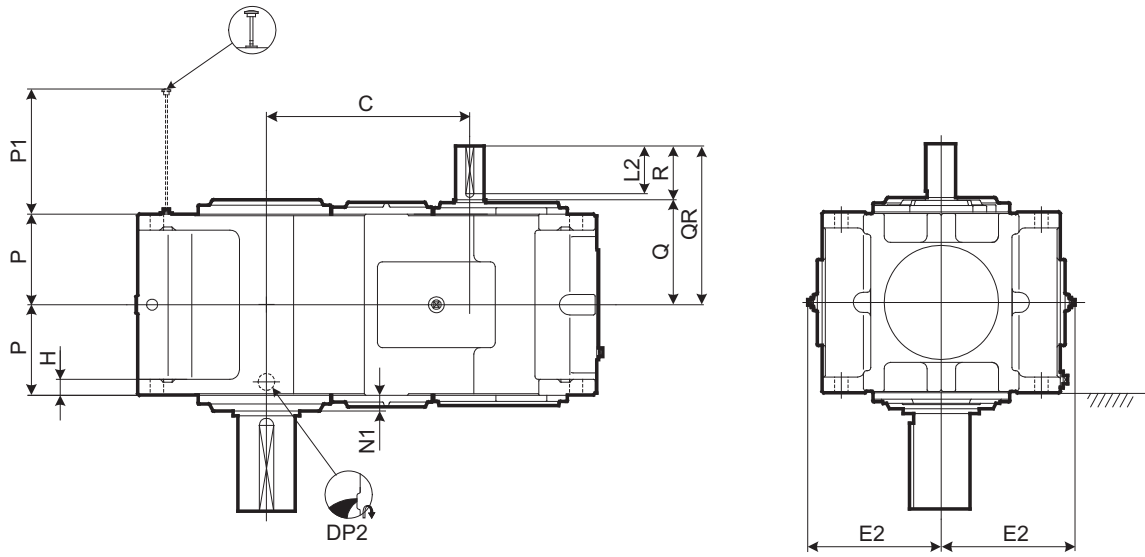
- RL
- RR

- (blank) : Solid Shaft
- T : Hollow Shaft (Shrink Disk type)
- K : Hollow Shaft (Key type)

Size	Nominal Reduction Ratio											
	6.3	7.1	8	9	10	11.2	12.5	14	16	18	20	22.4
9060	○	○	○	○	○	○	○	○	○	○	○	○
9065			○	○	○	○	○	○	○	○	○	○
9070	○	○	○	○	○	○	○	○	○	○	○	○
9075			○	○	○	○	○	○	○	○	○	○
9080	○	○	○	○	○	○	○	○	○	○	○	○
9085			○	○	○	○	○	○	○	○	○	○

- Air Breather
- Air Vent
- Oil Fill
- Drain Plug
- Dip Stick
- Oil Gauge
- Inspection Cover
- Oil Pump
- Backstop (Option)
- Opposite Side

DIMENSIONS Parallel Shaft Double Reduction Vertical Mounting 9090 ▶ 9115



Size	A	B	C	D	E1	E2	E3	G	H	RI	J	K	L	M	N1	O	P	P1	Y
9090	1060	410	640	345	750	421	430	60	50	215	42	180	1440	130	50	630	285	394	975
9095	1090	440	670	375	800	446	430	60	50	235	42	200	1500	140	50	680	285	394	1005
9100	1194	450	724	375	850	471	500	70	55	235	48	200	1610	150	60	710	325	443	1095
9105	1228	485	758	410	900	496	500	70	55	260	48	220	1680	160	60	760	325	443	1130
9110	1344	500	824	420	950	521	500	75	60	265	56	220	1810	170	55	800	355	475	1240
9115	1393	550	873	470	1000	546	500	75	60	280	56	250	1910	180	55	850	355	475	1290

Size	High Speed Shaft										DP1	DP2	Wt. kg	Oil Qty. L
	Q	QR	R	S	W2/Depth	Key								
						X2	Y2	Z2	L2					
9090	330	500	170	90m6	M24/50	25	9	14	150	1"	1 1/2"	2070	90	
9095	330	500	170	90m6	M24/50	25	9	14	150	1"	1 1/2"	2330	120	
9100	375	585	210	100m6	M24/50	28	10	16	190	1"	1 1/2"	2820	140	
9105	375	585	210	100m6	M24/50	28	10	16	190	1"	1 1/2"	3300	175	
9110	405	615	210	110m6	M24/50	28	10	16	190	1"	1 1/2"	3950	200	
9115	405	615	210	110m6	M24/50	28	10	16	190	1"	1 1/2"	4470	255	

※ 9090 ~ 9115 are equipped with motor driven pumps. For details consult us.

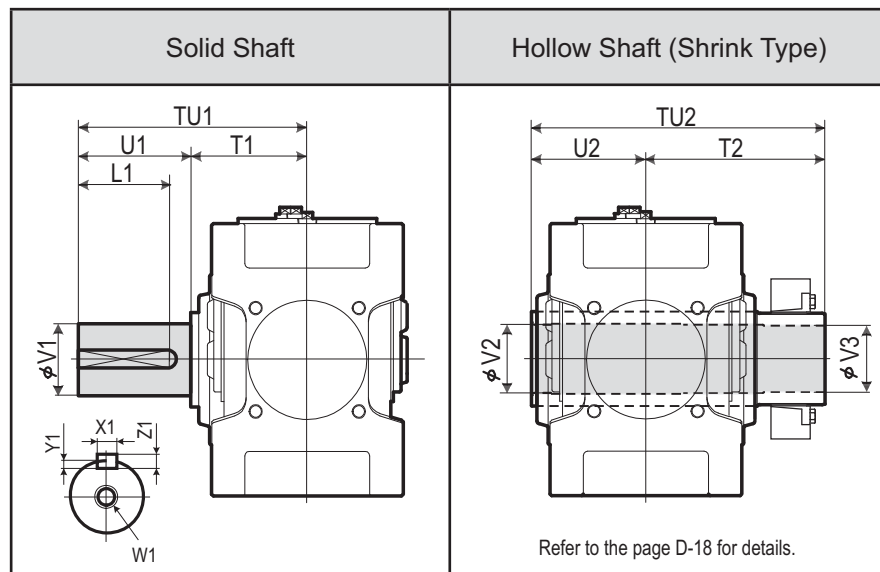
Unit: mm

1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
 2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
 3. Shaft arrangement RR is equipped with visible. Refer to page D-31.

4. Refer to the page D -16 for dimensions not shown in these drawings.
 5. Refer to the page D -31 for the dimension of optional parts.

DIMENSIONS Parallel Shaft Double Reduction Vertical Mounting 9090 ▶ 9115

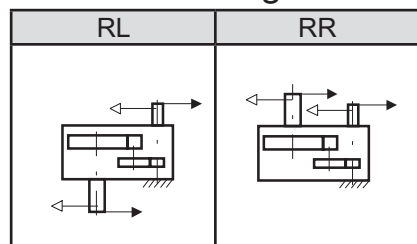
Slow Speed Shaft



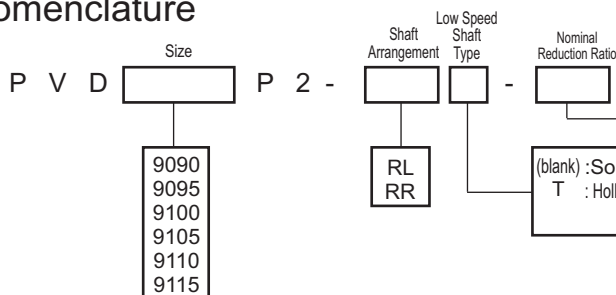
Size	Solid Shaft										Hollow Shaft (Shrink Disk Type)				
	TU1	T1	U1	V1	W1/Depth	Key				TU2	T2	U2	V2	V3	
						X1	Y1	Z1	L1						
9090	650	350	300	180m6	M30/60	45	15	25	270	844	494	350	193	190	
9095	700	350	350	190m6	M30/60	45	15	25	320	859	509	350	203	200	
9100	740	390	350	200m6	M30/60	45	15	25	320	934	544	390	213	210	
9105	740	390	350	220m6	M30/60	50	17	28	320	949	559	390	223	220	
9110	770	420	350	220m6	M30/60	50	17	28	320	1030	610	420	243	240	
9115	830	420	410	240m6	M30/60	56	20	32	375	1065	645	420	253	250	

Unit: mm

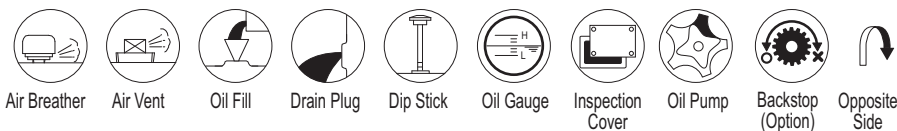
Standard Arrangement Configuration



Nomenclature

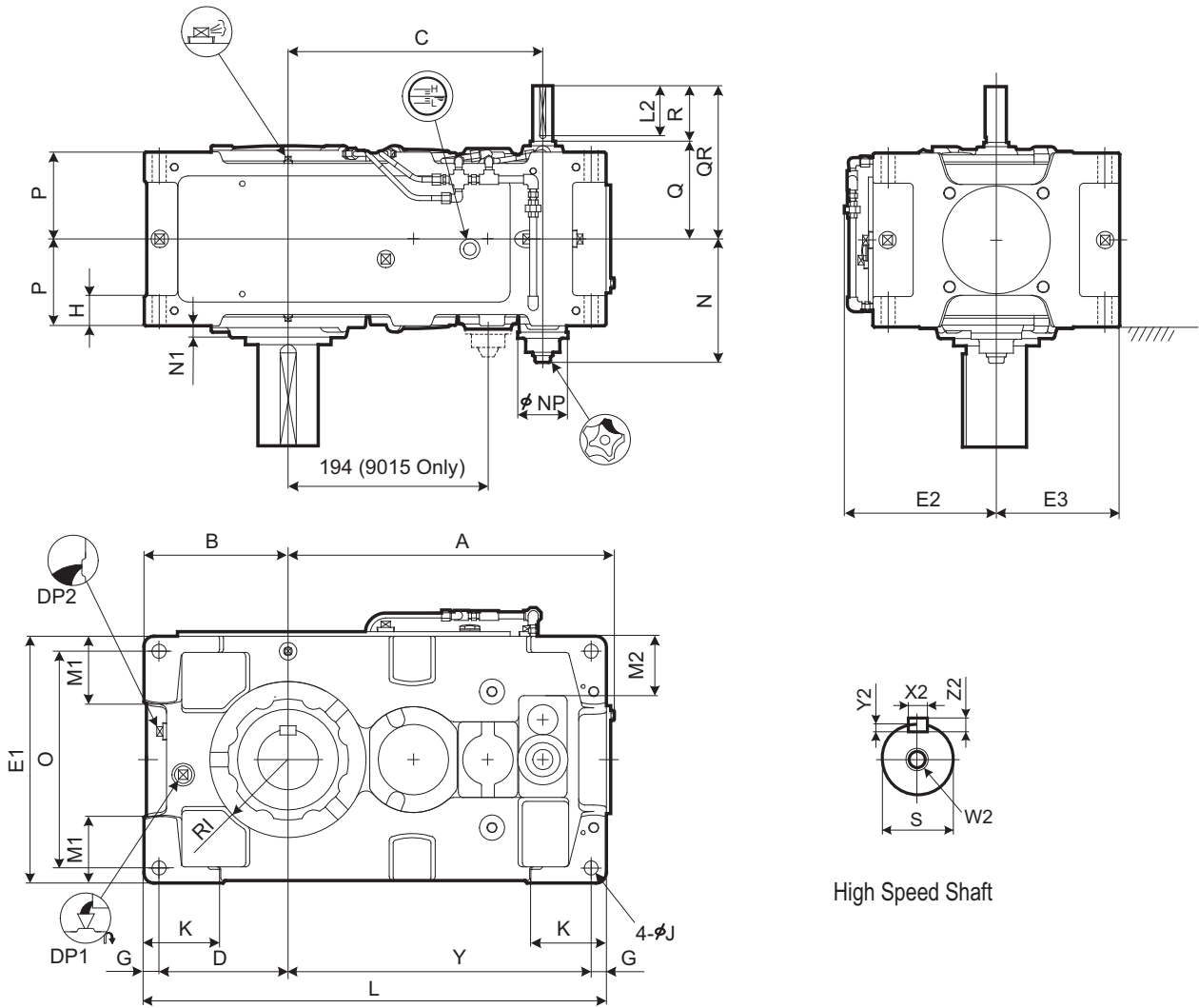


Size	Nominal Reduction Ratio										
	6.3	7.1	8	9	10	11.2	12.5	14	16	18	20
9090	○	○	○	○	○	○	○	○	○	○	
9095		○	○	○	○	○	○	○	○	○	○
9100	○	○	○	○	○	○	○	○	○	○	
9105		○	○	○	○	○	○	○	○	○	○
9110	○	○	○	○	○	○	○	○	○	○	
9115		○	○	○	○	○	○	○	○	○	○



PARAMAX Vertical Split 9090 9115 Parallel Double Reduction P 2

DIMENSIONS Parallel Shaft Triple Reduction Vertical Mounting 9015 ▶ 9055



Speed Reducer
Selection Tables
Dimension Tables

Size	A	B	C	D	E1	E2	E3	G	H	RI	J	K	L	M1	M2	N	N1	NP	O	P	Y
9015	338	160	257	140	270	195	135	20	35	80	15	95	485	70	80	186	25	100	230	102.5	305
9025	408	175	306	155	310	215	155	20	40	87.5	19	110	570	75	90	198.5	23	100	270	117.5	375
9030	453	200	343	175	320	220	160	25	50	105	24	120	640	85	50	211	22	100	270	132.5	415
9035	484	219	374	194	370	245	185	25	50	120	24	120	690	100	75	211	22	100	320	132.5	446
9040	540	235	398	205	400	260	200	30	60	120	28	150	759	100	70	228.5	15	100	340	157.5	494
9045	577	256	437	226	440	277	220	30	60	140	28	150	819	120	90	228.5	17.5	100	380	157.5	533
9050	609	255	467	225	420	270	210	30	60	140	28	150	848	110	83	248.5	23	100	360	172.5	563
9055	648	286	506	256	490	305	245	30	60	155	28	150	918	135	118	248.5	23	100	430	172.5	602

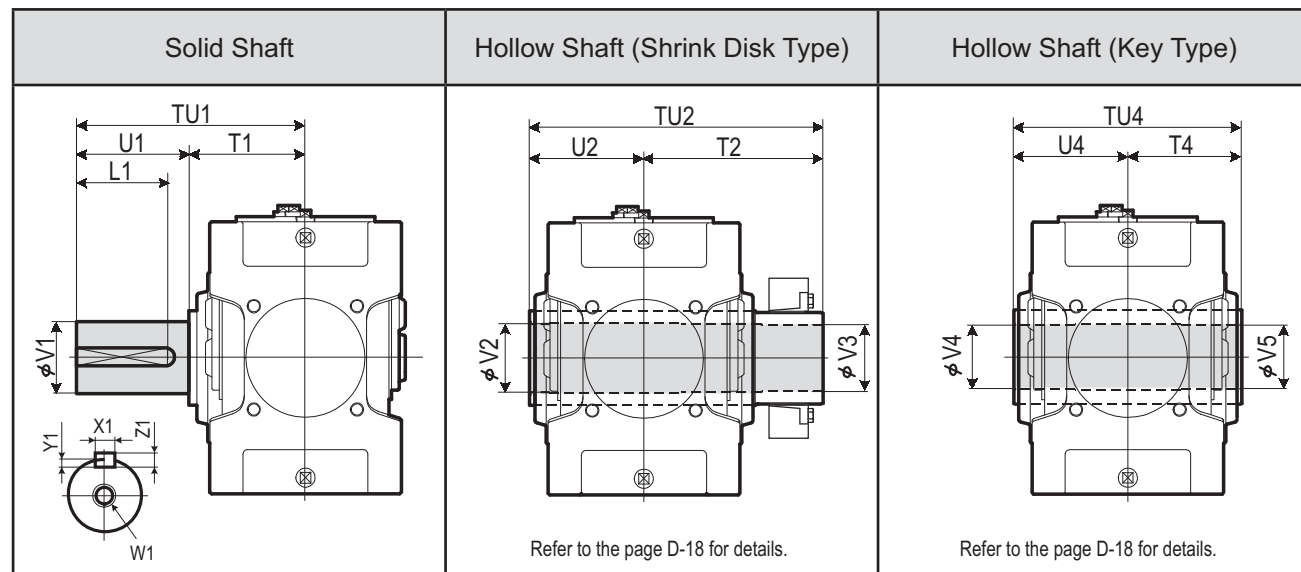
Size	High Speed Shaft										DP1	DP2	Wt. kg	Oil Qty. L
	Q	QR	R	S	W2/Depth	X2	Y2	Z2	L2	Key				
9015	130	190	60	25k6	M10/22	8	4	7	50	3/4"	3/4"	105	6	
9025	144	204	60	28k6	M10/22	8	4	7	50	3/4"	3/4"	150	8	
9030	161	241	80	30k6	M10/22	8	4	7	70	3/4"	3/4"	205	10	
9035	161	241	80	30k6	M10/22	8	4	7	70	3/4"	3/4"	225	14	
9040	176	256	80	35k6	M12/28	10	5	8	70	1"	1"	305	18	
9045	176	256	80	35k6	M12/28	10	5	8	70	1"	1"	375	22	
9050	194	304	110	40k6	M16/36	12	5	8	95	1"	1"	445	25	
9055	194	304	110	40k6	M16/36	12	5	8	95	1"	1"	505	35	

Unit: mm

1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
3. Refer to the page D-13 for dimensions not shown in these drawings.
4. Refer to the page D-25 for the dimension of optional parts.

DIMENSIONS Parallel Shaft Triple Reduction Vertical Mounting 9015 ▶ 9055

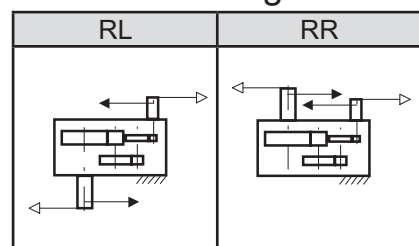
Slow Speed Shaft



Size	Solid Shaft					Key					Hollow Shaft (Shrink Disk Type)					Hollow Shaft (Key Type)				
	TU1	T1	U1	V1	W1/Depth	X1	Y1	Z1	L1	TU2	T2	U2	V2	V3	TU4	T4	U4	V4	V5	
9015	245	135	110	58m6	M20/42	18	7	11	95	328	193	135	63	60	270	135	135	55	55	
9025	285	145	140	70m6	M20/42	20	7.5	12	125	358	213	145	73	70	300	150	150	65	65	
9030	330	160	170	80m6	M20/42	22	9	14	150	393	233	160	83	80	330	165	165	75	75	
9035	330	160	170	90m6	M20/42	25	9	14	150	403	243	160	88	85	330	165	165	85	85	
9040	349	179	170	95m6	M24/50	25	9	14	150	448	268	180	98	95	360	180	180	90	90	
9045	391	181	210	105m6	M24/50	28	10	16	190	463	283	180	108	105	370	185	185	105	105	
9050	411	201	210	110m6	M24/50	28	10	16	190	503	303	200	108	105	410	205	205	105	105	
9055	411	201	210	120m6	M24/50	32	11	18	185	528	323	205	123	120	410	205	205	115	115	

Unit: mm

Standard Arrangement Configuration



Nomenclature



- 9015
- 9025
- 9030
- 9035
- 9040
- 9045
- 9050
- 9055

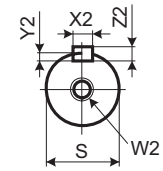
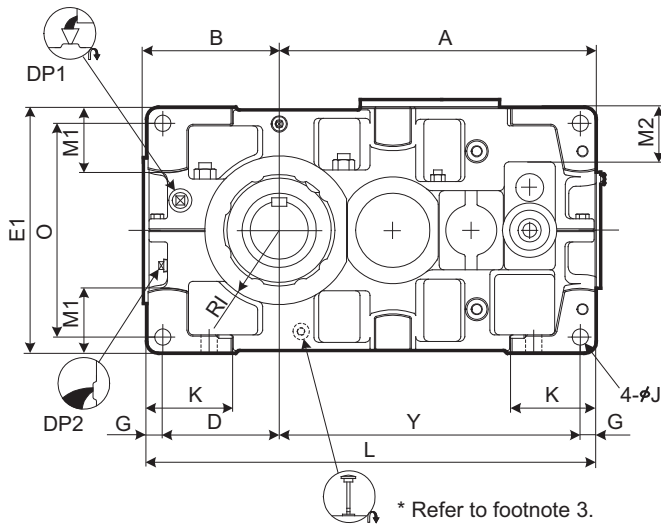
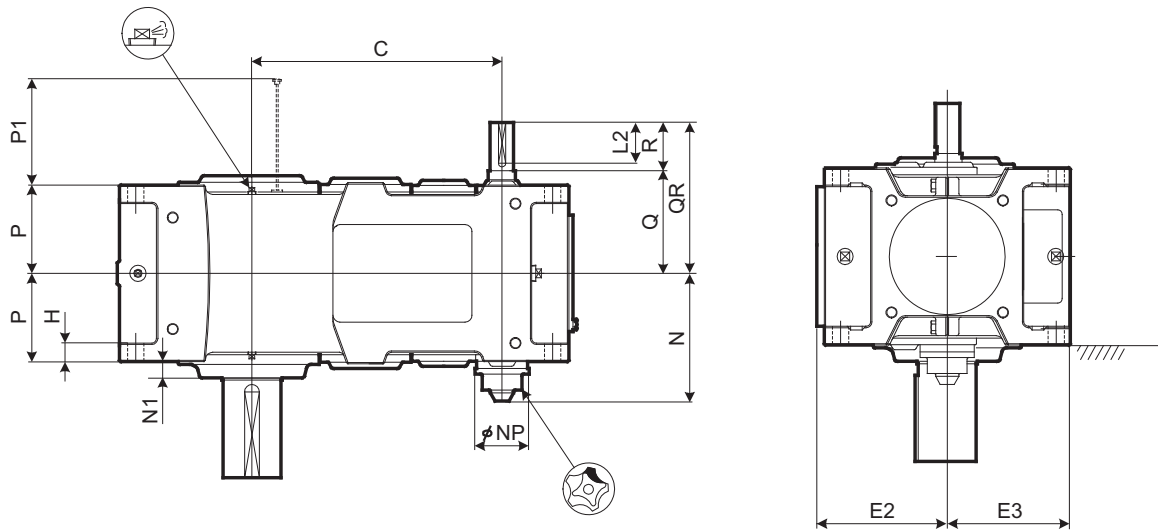
- RL
- RR
- (blank) : Solid Shaft
- T : Hollow Shaft (Shrink Disk type)
- K : Hollow Shaft (Key type)

Size	Nominal Reduction Ratio													
	20	22.4	25	28	31.5	35.5	40	45	50	56	63	71	80	90
9015	○	○	○	○	○	○	○	○						
9025	○	○	○	○	○	○	○	○						
9030	○	○	○	○	○	○	○	○						
9035			○	○	○	○	○	○	○	○	○	○	○	○
9040	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9045			○	○	○	○	○	○	○	○	○	○	○	○
9050	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9055	○	○	○	○	○	○	○	○	○	○	○	○	○	○

- Air Breather
- Air Vent
- Oil Fill
- Drain Plug
- Dip Stick
- Oil Gauge
- Inspection Cover
- Oil Pump
- Backstop (Option)
- Opposite Side

PARAMAX Vertical Monoblock 9015 9055 Parallel Triple Reduction P V A 3

DIMENSIONS Parallel Shaft Triple Reduction Vertical Mounting 9060 ▶ 9085



High Speed Shaft

* Refer to footnote 3.

Speed Reducer

Selection Tables

Dimension Tables

Size	A	B	C	D	E1	E2	E3	G	H	RI	J	K	L	M1	M2	N	N1	NP	O	P	P1	Y
9060	701	299	540	251	530	282	265	35	35	160	35	180	970	140	118	277.5	35	117	460	190	223	649
9065	747	338	586	290	600	317	300	35	35	175	35	180	1055	175	153	277.5	38	117	530	190	223	695
9070	809	336	630	283	600	317	300	40	40	175	42	215	1115	155	128	302.5	38	117	520	215	253	752
9075	862	383	683	330	670	352	335	40	52	190	42	220	1215	195	163	302.5	40	117	590	215	253	805
9080	932	378	725	325	670	352	335	40	52	190	42	220	1275	170	140	322.5	45	117	590	230	283	870
9085	988	422	781	369	750	392	375	40	52	215	42	220	1375	210	180	322.5	40	117	670	230	283	926

Size	High Speed Shaft										DP1	DP2	Wt. kg	Oil Qty. L
	Q	QR	R	S	W2/Depth	X2	Y2	Z2	L2					
9060	219	329	110	50k6	M16/36	14	5.5	9	95	1"	1"	660	28	
9065	219	329	110	50k6	M16/36	14	5.5	9	95	1"	1"	815	35	
9070	244	354	110	55m6	M20/42	16	6	10	95	1"	1"	940	44	
9075	244	354	110	55m6	M20/42	16	6	10	95	1"	1"	1160	56	
9080	265	405	140	65m6	M20/42	18	7	11	125	1"	1"	1350	57	
9085	265	405	140	65m6	M20/42	18	7	11	125	1"	1"	1610	79	

Unit: mm

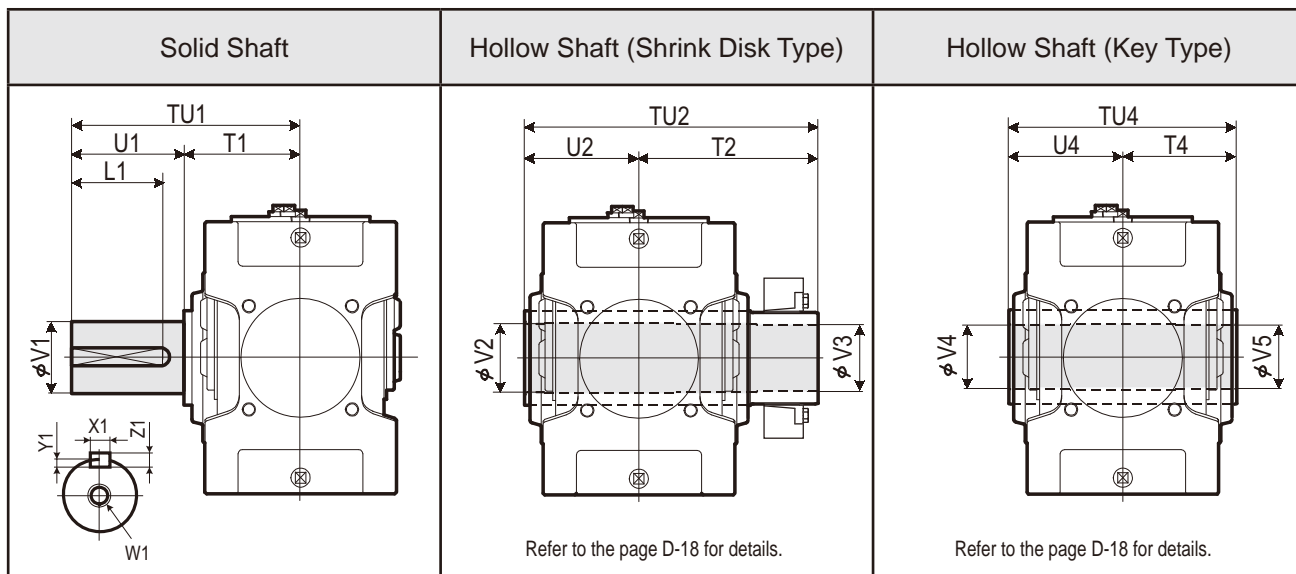
1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
 2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
 3. Shaft arrangement RR is equipped with visible gauge. Refer to page D-28.

4. Refer to the page D-15 for dimensions not shown in these drawings.
 5. Refer to the page D-28 for the dimension of optional parts.

DIMENSIONS Parallel Shaft Triple Reduction Vertical Mounting 9060 ▶ 9085

PARAMAX Vertical Split 9060 9085 Parallel Triple Reduction P V D P 3

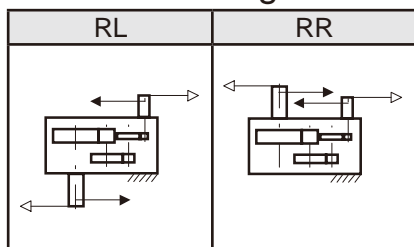
Slow Speed Shaft



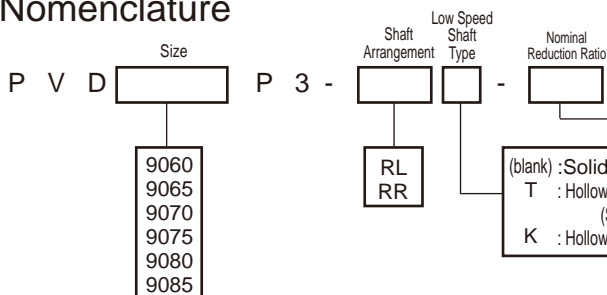
Size	Solid Shaft					Key					Hollow Shaft (Shrink Disk Type)					Hollow Shaft (Key Type)				
	TU1	T1	U1	V1	W1/Depth	X1	Y1	Z1	L1	TU2	T2	U2	V2	V3	TU4	T4	U4	V4	V5	
9060	440	230	210	125m6	M24/50	32	11	18	185	583	353	230	128	125	470	235	235	125	123	
9065	484	234	250	140m6	M30/60	36	12	20	225	594	359	235	143	140	480	240	240	145	143	
9070	509	259	250	145m6	M30/60	36	12	20	225	644	384	260	148	145	530	265	265	145	143	
9075	562	262	300	160m6	M30/60	40	13	22	275	651	386	265	158	155	530	265	265	150	148	
9080	582	282	300	165m6	M30/60	40	13	22	275	714	429	285	173	170	570	285	285	165	163	
9085	585	285	300	175m6	M30/60	45	15	25	270	714	429	285	183	180	570	285	285	175	173	

Unit: mm

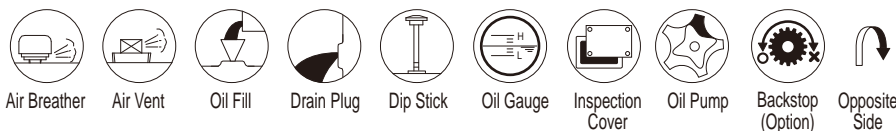
Standard Arrangement Configuration

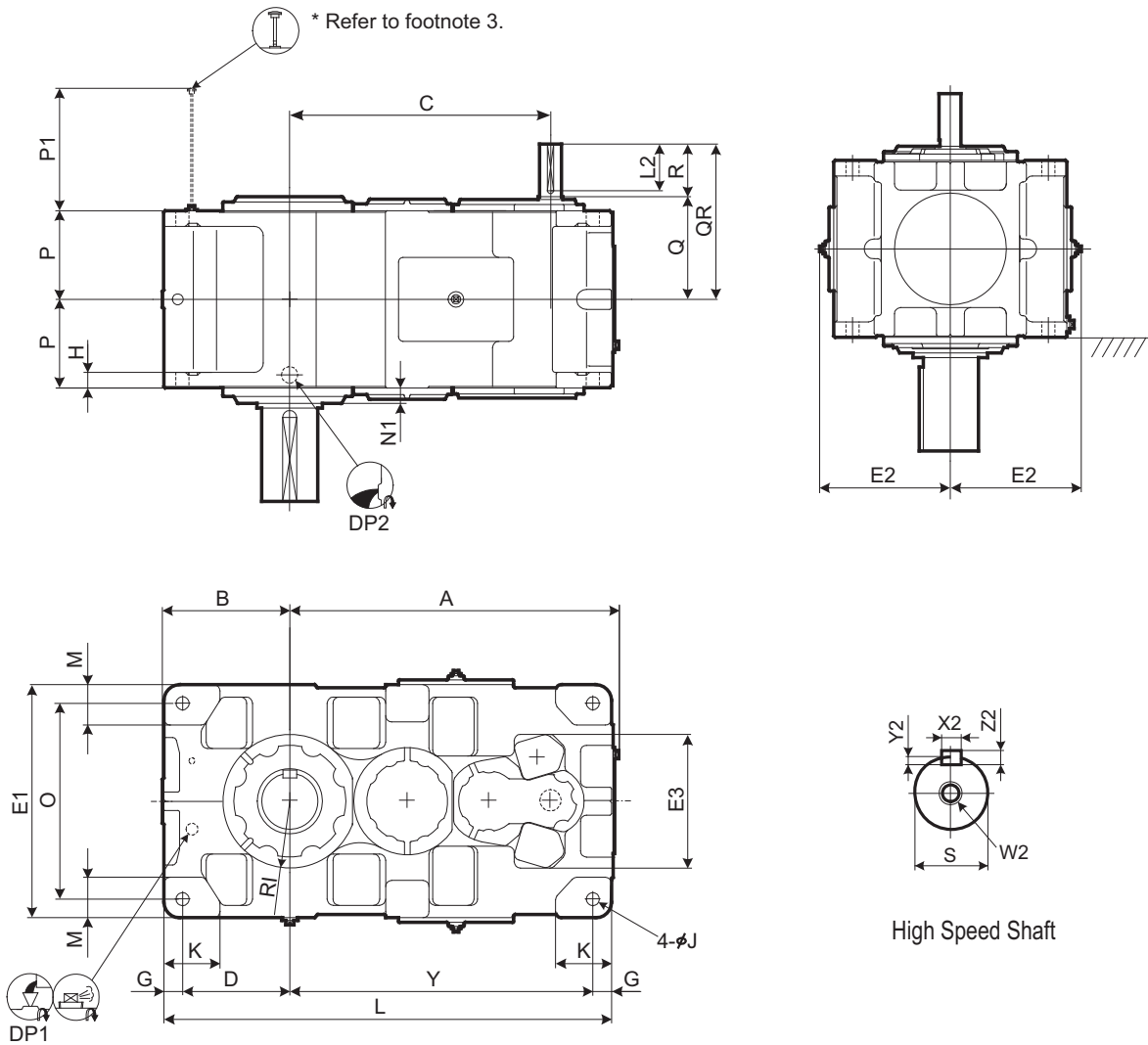


Nomenclature



Size	Nominal Reduction Ratio													
	20	22.4	25	28	31.5	35.5	40	45	50	56	63	71	80	90
9060	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9065			○	○	○	○	○	○	○	○	○	○	○	○
9070	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9075			○	○	○	○	○	○	○	○	○	○	○	○
9080	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9085			○	○	○	○	○	○	○	○	○	○	○	○





Speed Reducer
Selection Tables
Dimension Tables

Size	A	B	C	D	E1	E2	E3	G	H	RI	J	K	L	M	N1	O	P	P1	Y
9090	1060	410	837	345	750	421	430	60	50	215	42	180	1440	130	50	630	285	394	975
9095	1090	440	867	375	800	446	430	60	50	235	42	200	1500	140	50	680	285	394	1005
9100	1194	450	950	375	850	471	500	70	55	235	48	200	1610	150	60	710	325	443	1095
9105	1228	485	984	410	900	496	500	70	55	260	48	220	1680	160	60	760	325	443	1130
9110	1344	500	1050	420	950	521	500	75	60	265	56	220	1810	170	55	800	355	475	1240
9115	1393	550	1099	470	1000	546	500	75	60	280	56	250	1910	180	55	850	355	475	1290

Size	High Speed Shaft										DP1	DP2	Wt. kg	Oil Qty. L
	Q	QR	R	S	W2/Depth	Key				L2				
						X2	Y2	Z2	L2					
9090	330	470	140	65m6	M20/42	18	7	11	125	1"	1 1/2"	2120	90	
9095	330	470	140	65m6	M20/42	18	7	11	125	1"	1 1/2"	2380	120	
9100	375	515	140	75m6	M20/42	20	7.5	12	125	1"	1 1/2"	2870	140	
9105	375	515	140	75m6	M20/42	20	7.5	12	125	1"	1 1/2"	3350	175	
9110	405	575	170	80m6	M20/42	22	9	14	150	1"	1 1/2"	4000	200	
9115	405	575	170	80m6	M20/42	22	9	14	150	1"	1 1/2"	4520	255	

※ 9090 ~ 9115 are equipped with motor driven pumps. For details consult us.

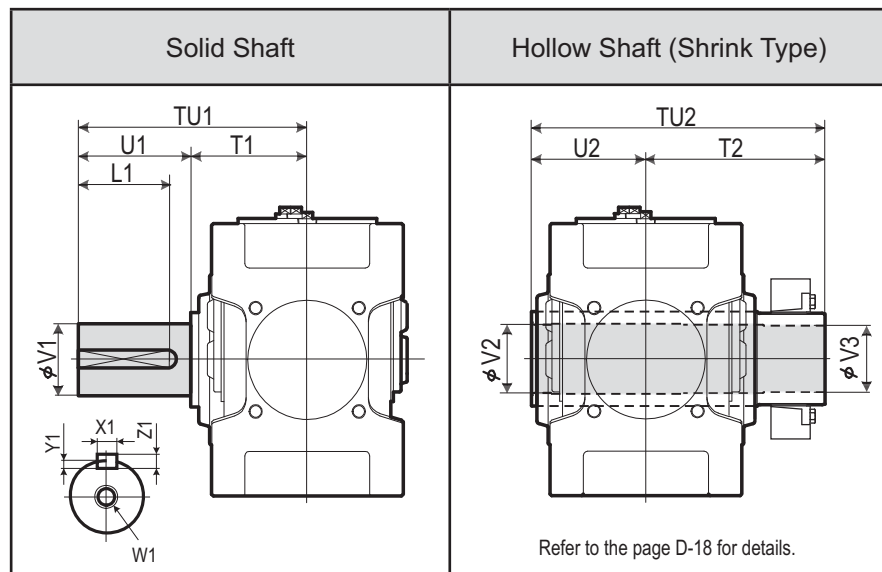
Unit: mm

1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
 2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
 3. Shaft arrangement RR is equipped with oil gauge. Refer to the page D-31.

4. Refer to the page D -16 for dimensions not shown in these drawings.
 5. Refer to the page D -31 for the dimension of optional parts.

DIMENSIONS Parallel Shaft Triple Reduction Vertical Mounting 9090 ▶ 9115

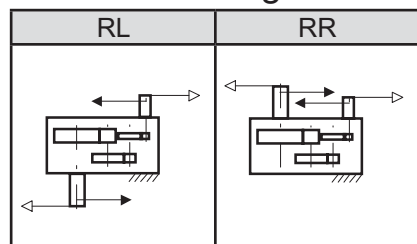
Slow Speed Shaft



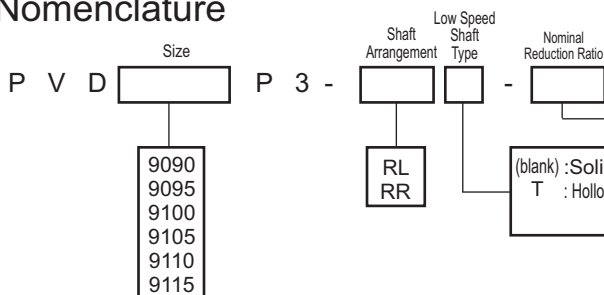
Size	Solid Shaft										Hollow Shaft (Shrink Disk Type)				
	TU1	T1	U1	V1	W1/Depth	Key				TU2	T2	U2	V2	V3	
						X1	Y1	Z1	L1						
9090	650	350	300	180m6	M30/60	45	15	25	270	844	494	350	193	190	
9095	700	350	350	190m6	M30/60	45	15	25	320	859	509	350	203	200	
9100	740	390	350	200m6	M30/60	45	15	25	320	934	544	390	213	210	
9105	740	390	350	220m6	M30/60	50	17	28	320	949	559	390	223	220	
9110	770	420	350	220m6	M30/60	50	17	28	320	1030	610	420	243	240	
9115	830	420	410	240m6	M30/60	56	20	32	375	1065	645	420	253	250	

Unit: mm

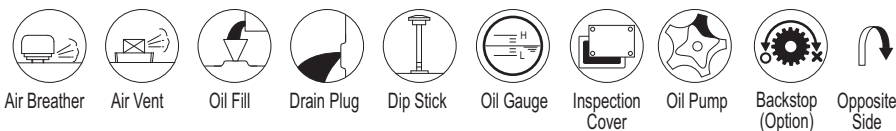
Standard Arrangement Configuration



Nomenclature

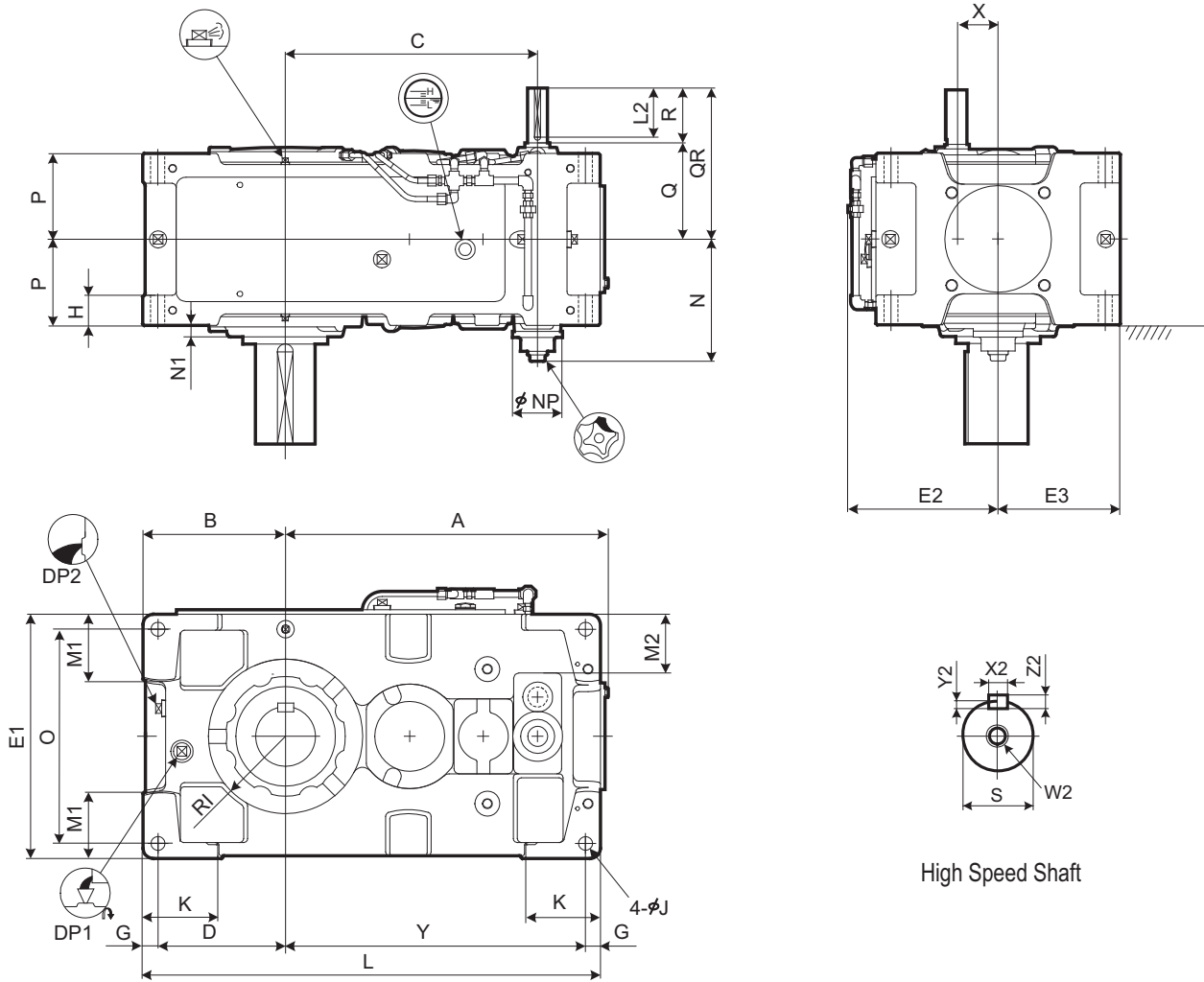


Size	Nominal Reduction Ratio													
	20	22.4	25	28	31.5	35.5	40	45	50	56	63	71	80	90
9090	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9095		○	○	○	○	○	○	○	○	○	○	○	○	○
9100	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9105		○	○	○	○	○	○	○	○	○	○	○	○	○
9110	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9115		○	○	○	○	○	○	○	○	○	○	○	○	○



PARAMAX Vertical Split 9090 9115 Parallel Triple Reduction P 3

DIMENSIONS Parallel Shaft Quadruple Reduction Vertical Mounting 9030 ▶ 9055



High Speed Shaft

Speed Reducer
Selection Tables
Dimension Tables

Size	A	B	C	D	E1	E2	E3	G	H	RI	J	K	L	M1	M2	N	N1	NP	O	P	X	Y
9030	453	200	343	175	320	220	160	25	50	105	24	120	640	85	50	211	22	100	270	132.5	63	415
9035	484	219	374	194	370	245	185	25	50	120	24	120	690	100	75	211	22	100	320	132.5	63	446
9040	540	235	398	205	400	260	200	30	60	120	28	150	759	100	70	228.5	15	100	340	157.5	79	494
9045	577	256	437	226	440	277	220	30	60	140	28	150	819	120	90	228.5	17.5	100	380	157.5	79	533
9050	609	255	467	225	420	270	210	30	60	140	28	150	848	110	83	248.5	23	100	360	172.5	79	563
9055	648	286	506	256	490	305	245	30	60	155	28	150	918	135	118	248.5	23	100	430	172.5	79	602

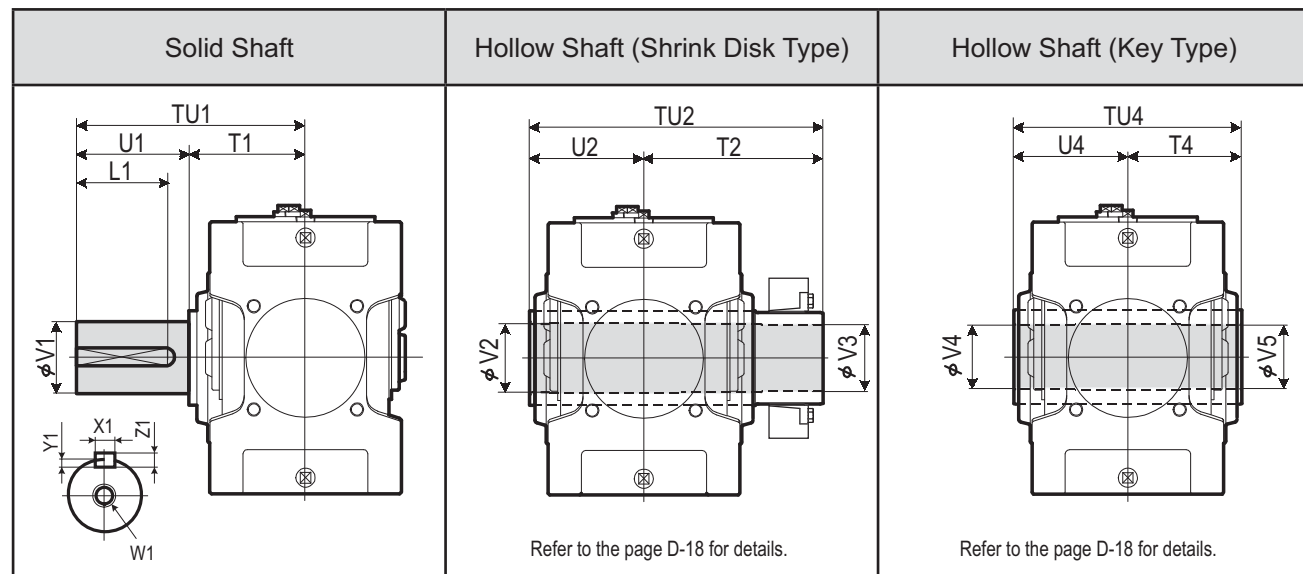
Size	High Speed Shaft										DP1	DP2	Wt. kg	Oil Qty. L
	Q	QR	R	S	W2/Depth	Key				L2				
						X2	Y2	Z2	L2					
9030	159	219	60	25k6	M10/22	8	4	7	50	3/4"	3/4"	210	10	
9035	159	219	60	25k6	M10/22	8	4	7	50	3/4"	3/4"	230	14	
9040	175	235	60	28k6	M10/22	8	4	7	50	1"	1"	310	17	
9045	175	235	60	28k6	M10/22	8	4	7	50	1"	1"	380	21	
9050	195	275	80	30k6	M10/22	8	4	7	70	1"	1"	450	23	
9055	195	275	80	30k6	M10/22	8	4	7	70	1"	1"	510	33	

Unit: mm

1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
3. Refer to the page D-13 for dimensions not shown in these drawings.
4. Refer to the page D-25 for the dimension of optional parts.

DIMENSIONS Parallel Shaft Quadruple Reduction Vertical Mounting 9030 ▶ 9055

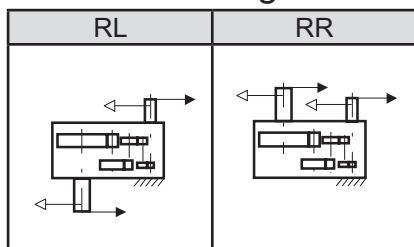
Slow Speed Shaft



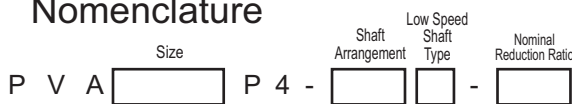
Size	Solid Shaft										Hollow Shaft (Shrink Disk Type)					Hollow Shaft (Key Type)				
	TU1	T1	U1	V1	W1/Depth	X1	Y1	Z1	L1	TU2	T2	U2	V2	V3	TU4	T4	U4	V4	V5	
9030	330	160	170	80m6	M20/42	22	9	14	150	393	233	160	83	80	330	165	165	75	75	
9035	330	160	170	90m6	M20/42	25	9	14	150	403	243	160	88	85	330	165	165	85	85	
9040	349	179	170	95m6	M24/50	25	9	14	150	448	268	180	98	95	360	180	180	90	90	
9045	391	181	210	105m6	M24/50	28	10	16	190	463	283	180	108	105	370	185	185	105	105	
9050	411	201	210	110m6	M24/50	28	10	16	190	503	303	200	108	105	410	205	205	105	105	
9055	411	201	210	120m6	M24/50	32	11	18	185	528	323	205	123	120	410	205	205	115	115	

Unit: mm

Standard Arrangement Configuration



Nomenclature



- 9030
- 9035
- 9040
- 9045
- 9050
- 9055

- RL
- RR

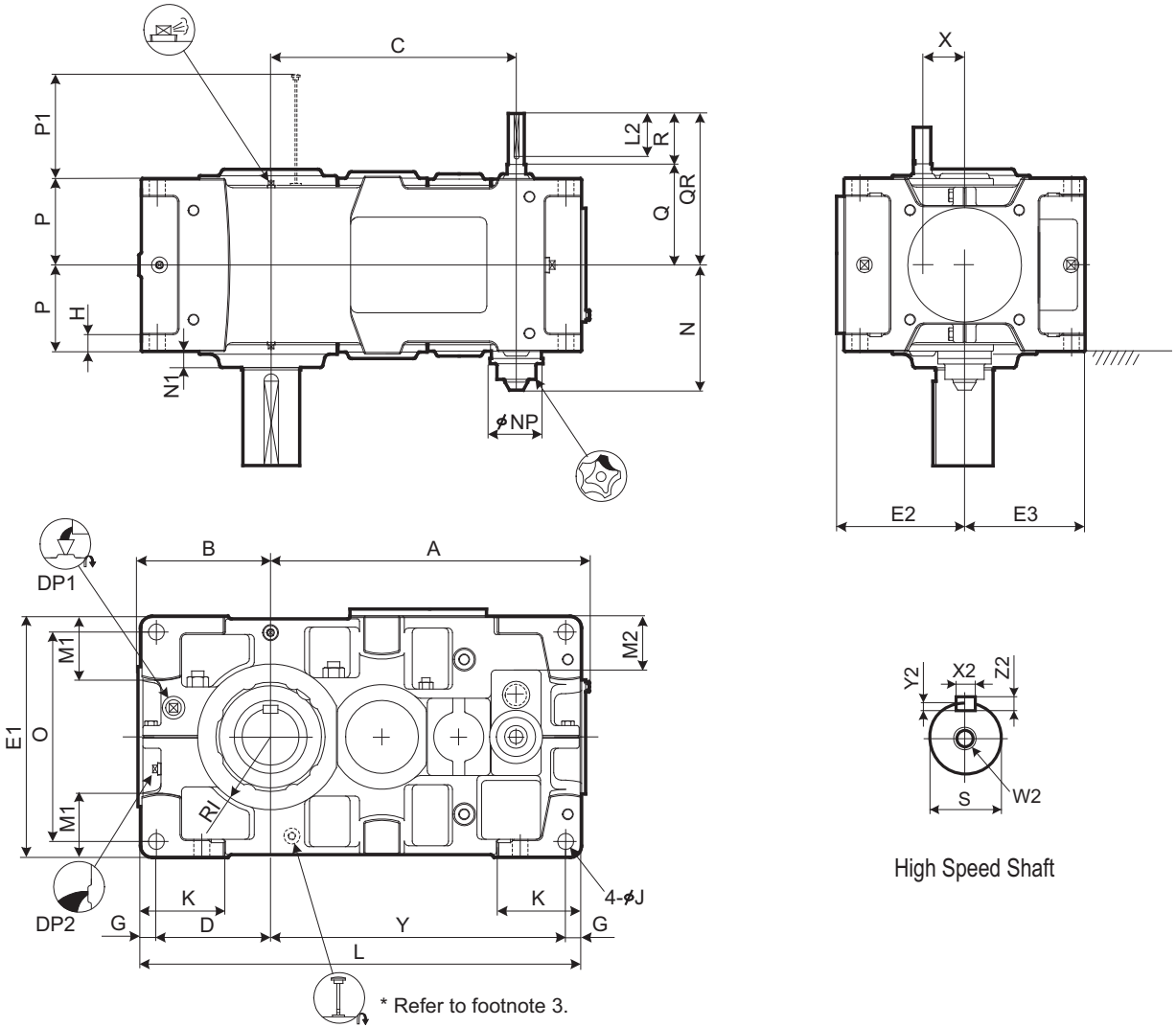
- (blank) : Solid Shaft
- T : Hollow Shaft (Shrink Disk type)
- K : Hollow Shaft (Key type)

Size	Nominal Reduction Ratio																
	80	90	100	112	125	140	160	180	200	224	250	280	315	355	400	450	500
9030	○	○	○	○	○	○	○	○	○	○							
9035			○	○	○	○	○	○	○	○	○						
9040		○	○	○	○	○	○	○	○	○	○						
9045		○	○	○	○	○	○	○	○	○	○	○					
9050		○	○	○	○	○	○	○	○	○	○	○	○				
9055			○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

- Air Breather
- Air Vent
- Oil Fill
- Drain Plug
- Dip Stick
- Oil Gauge
- Inspection Cover
- Oil Pump
- Backstop (Option)
- Opposite Side

PARAMAX Vertical Monoblock 9030 9055 Parallel Quadruple Reduction P V A P 4

DIMENSIONS Parallel Shaft Quadruple Reduction Vertical Mounting 9060 ▶ 9085



Speed Reducer
Selection Tables
Dimension Tables

Size	A	B	C	D	E1	E2	E3	G	H	RI	J	K	L	M1	M2	N	N1	NP	O	P	P1	X	Y
9060	701	299	540	251	530	282	265	35	35	160	35	180	970	140	118	277.5	35	117	460	190	213	92	649
9065	747	338	586	290	600	317	300	35	35	175	35	180	1055	175	153	277.5	38	117	530	190	213	92	695
9070	809	336	630	283	600	317	300	40	40	175	42	215	1115	155	128	302.5	38	117	520	215	233	109	752
9075	862	383	683	330	670	352	335	40	52	190	42	220	1215	195	163	302.5	40	117	590	215	233	109	805
9080	932	378	725	325	670	352	335	40	52	190	42	220	1275	170	140	322.5	45	117	590	230	268	126	870
9085	988	422	781	369	750	392	375	40	52	215	42	220	1375	210	180	322.5	40	117	670	230	268	126	926

Size	High Speed Shaft										DP1	DP2	Wt. kg	Oil Qty. L
	Q	QR	R	S	W2/Depth	X2	Y2	Z2	L2					
9060	221	301	80	35k6	M12/28	10	5	8	70		1"	1"	660	32
9065	221	301	80	35k6	M12/28	10	5	8	70		1"	1"	815	40
9070	244	354	110	40k6	M16/36	12	5	8	95		1"	1"	950	53
9075	244	354	110	40k6	M16/36	12	5	8	95		1"	1"	1170	67
9080	264	374	110	45k6	M16/36	14	5.5	9	95		1"	1"	1360	65
9085	264	374	110	45k6	M16/36	14	5.5	9	95		1"	1"	1620	89

Unit: mm

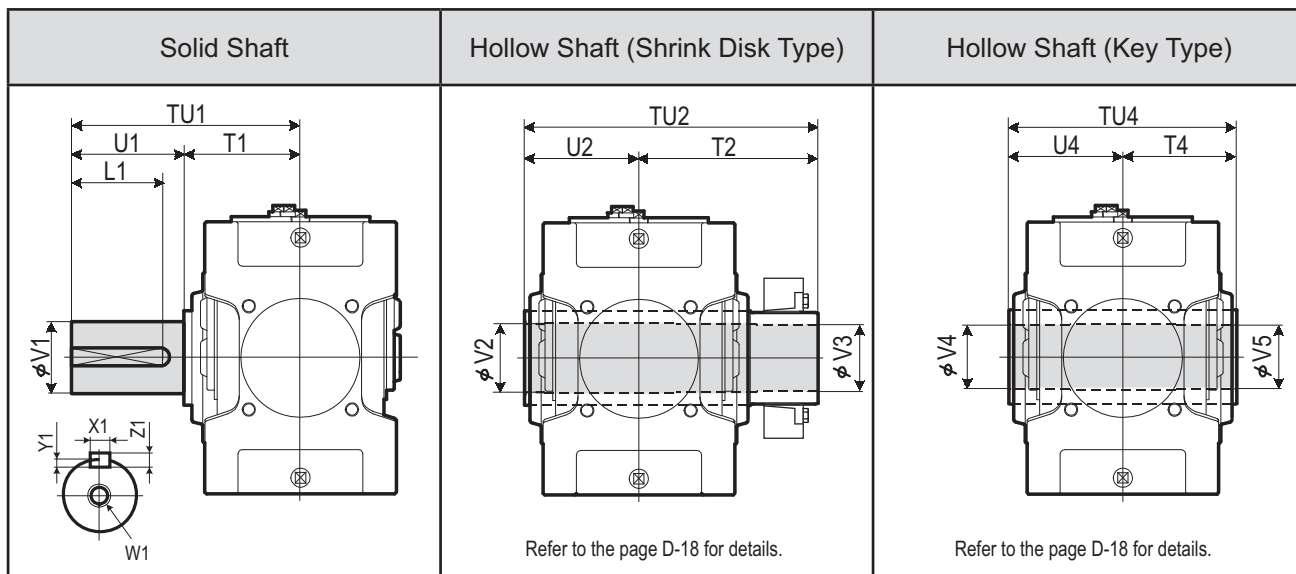
1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
 2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
 3. Shaft arrangement RR is equipped with visible gauge. Refer to page D-28.

4. Refer to the page D-15 for dimensions not shown in these drawings.
 5. Refer to the page D-28 for the dimension of optional parts.

DIMENSIONS Parallel Shaft Quadruple Reduction Vertical Mounting 9060 ▶ 9085

PARAMAX Vertical Split 9060 9085 Parallel Quadruple Reduction P V D P 4

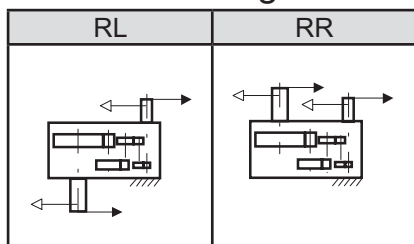
Slow Speed Shaft



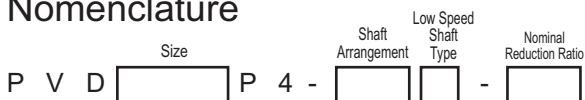
Size	Solid Shaft					Key					Hollow Shaft (Shrink Disk Type)					Hollow Shaft (Key Type)				
	TU1	T1	U1	V1	W1/Depth	X1	Y1	Z1	L1	TU2	T2	U2	V2	V3	TU4	T4	U4	V4	V5	
9060	440	230	210	125m6	M24/50	32	11	18	185	583	353	230	128	125	470	235	235	125	123	
9065	484	234	250	140m6	M30/60	36	12	20	225	594	359	235	143	140	480	240	240	145	143	
9070	509	259	250	145m6	M30/60	36	12	20	225	644	384	260	148	145	530	265	265	145	143	
9075	562	262	300	160m6	M30/60	40	13	22	275	651	386	265	158	155	530	265	265	150	148	
9080	582	282	300	165m6	M30/60	40	13	22	275	714	429	285	173	170	570	285	285	165	163	
9085	585	285	300	175m6	M30/60	45	15	25	270	714	429	285	183	180	570	285	285	175	173	

Unit: mm

Standard Arrangement Configuration



Nomenclature



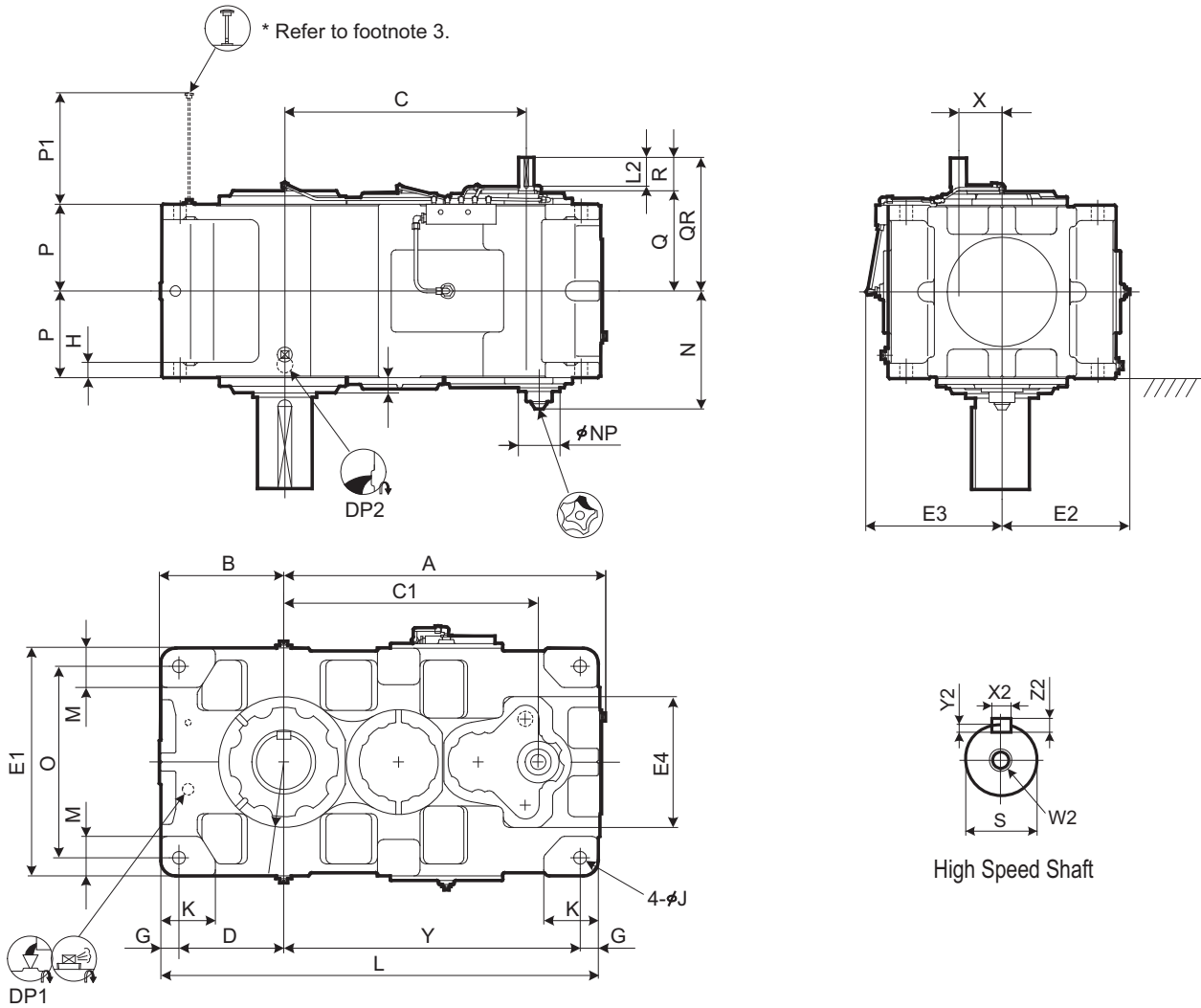
- 9060
- 9065
- 9070
- 9075
- 9080
- 9085

- RL
- RR
- (blank) : Solid Shaft
- T : Hollow Shaft (Shrink Disk type)
- K : Hollow Shaft (Key type)

Size	Nominal Reduction Ratio																
	80	90	100	112	125	140	160	180	200	224	250	280	315	355	400	450	500
9060	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9065	○	○		○	○	○	○	○	○	○	○	○	○	○	○	○	○
9070		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9075			○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9080	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9085			○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

- Air Breather
- Air Vent
- Oil Fill
- Drain Plug
- Dip Stick
- Oil Gauge
- Inspection Cover
- Oil Pump
- Backstop (Option)
- Opposite Side

DIMENSIONS Parallel Shaft Quadruple Reduction Vertical Mounting 9090 ▶ 9115



Size	A	B	C	C1	D	E1	E2	E3	E4	G	H	RI	J	K	L	M	N	NP	N1	O	P	P1	X	Y
9090	1060	410	795	837	345	750	421	449	430	60	50	215	42	180	1440	130	381	137	50	630	285	367	142	975
9095	1090	440	825	867	375	800	446	474	430	60	50	235	42	200	1500	140	381	137	50	680	285	367	142	1005
9100	1194	450	901	950	375	850	471	499	500	70	55	235	48	200	1610	150	421	137	60	710	325	409	162	1095
9105	1228	485	935	984	410	900	496	524	500	70	55	260	48	220	1680	160	421	137	60	760	325	409	162	1130
9110	1344	500	1001	1050	420	950	521		500	75	60	265	56	220	1810	170			55	800	355	442	162	1240
9115	1393	550	1050	1099	470	1000	546		500	75	60	280	56	250	1910	180			55	850	355	442	162	1290

Size	High Speed Shaft									DP1	DP2	Wt. kg	Oil Qty. L
	Q	QR	R	S	W2/Depth	X2	Y2	Z2	L2				
9090	330	440	110	50k6	M16/36	14	5.5	9	95	1"	1 1/2"	2170	110
9095	330	440	110	50k6	M16/36	14	5.5	9	95	1"	1 1/2"	2430	140
9100	375	515	140	60m6	M20/42	18	7	11	125	1"	1 1/2"	2920	170
9105	375	515	140	60m6	M20/42	18	7	11	125	1"	1 1/2"	3400	210
9110	405	545	140	60m6	M20/42	18	7	11	125	1"	1 1/2"	4050	240
9115	405	545	140	60m6	M20/42	18	7	11	125	1"	1 1/2"	4570	295

※ 9110 ~ 9115 are equipped with motor driven pumps. For details consult us.

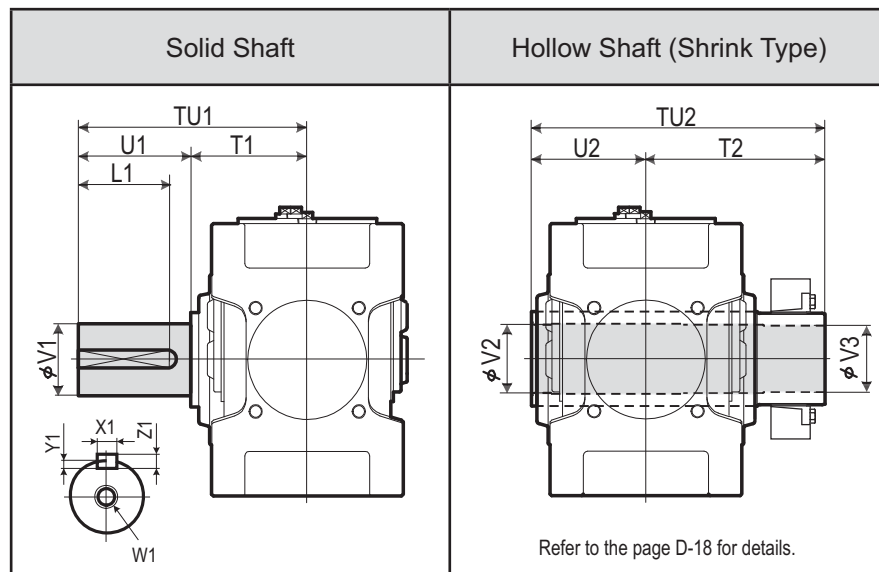
Unit: mm

1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
 2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
 3. Shaft arrangement RR is equipped with oil gauge. Refer to the page D-31.

4. Refer to the page D-16 for dimensions not shown in these drawings.
 5. Refer to the page D-31 for the dimension of optional parts.

DIMENSIONS Parallel Shaft Quadruple Reduction Vertical Mounting 9090 ▶ 9115

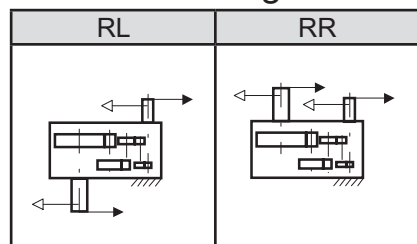
Slow Speed Shaft



Size	Solid Shaft					Hollow Shaft (Shrink Disk Type)								
	TU1	T1	U1	V1	W1/Depth	Key				TU2	T2	U2	V2	V3
						X1	Y1	Z1	L1					
9090	650	350	300	180m6	M30/60	45	15	25	270	844	494	350	193	190
9095	700	350	350	190m6	M30/60	45	15	25	320	859	509	350	203	200
9100	740	390	350	200m6	M30/60	45	15	25	320	934	544	390	213	210
9105	740	390	350	220m6	M30/60	50	17	28	320	949	559	390	223	220
9110	770	420	350	220m6	M30/60	50	17	28	320	1030	610	420	243	240
9115	830	420	410	240m6	M30/60	56	20	32	375	1065	645	420	253	250

Unit: mm

Standard Arrangement Configuration

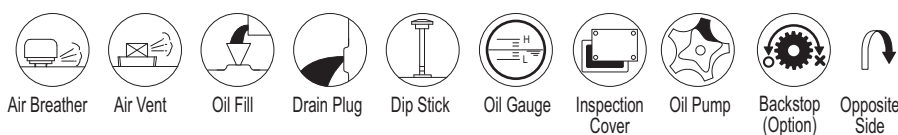


Nomenclature

P V D Size P 4 - Shaft Arrangement Low Speed Shaft Type - Nominal Reduction Ratio

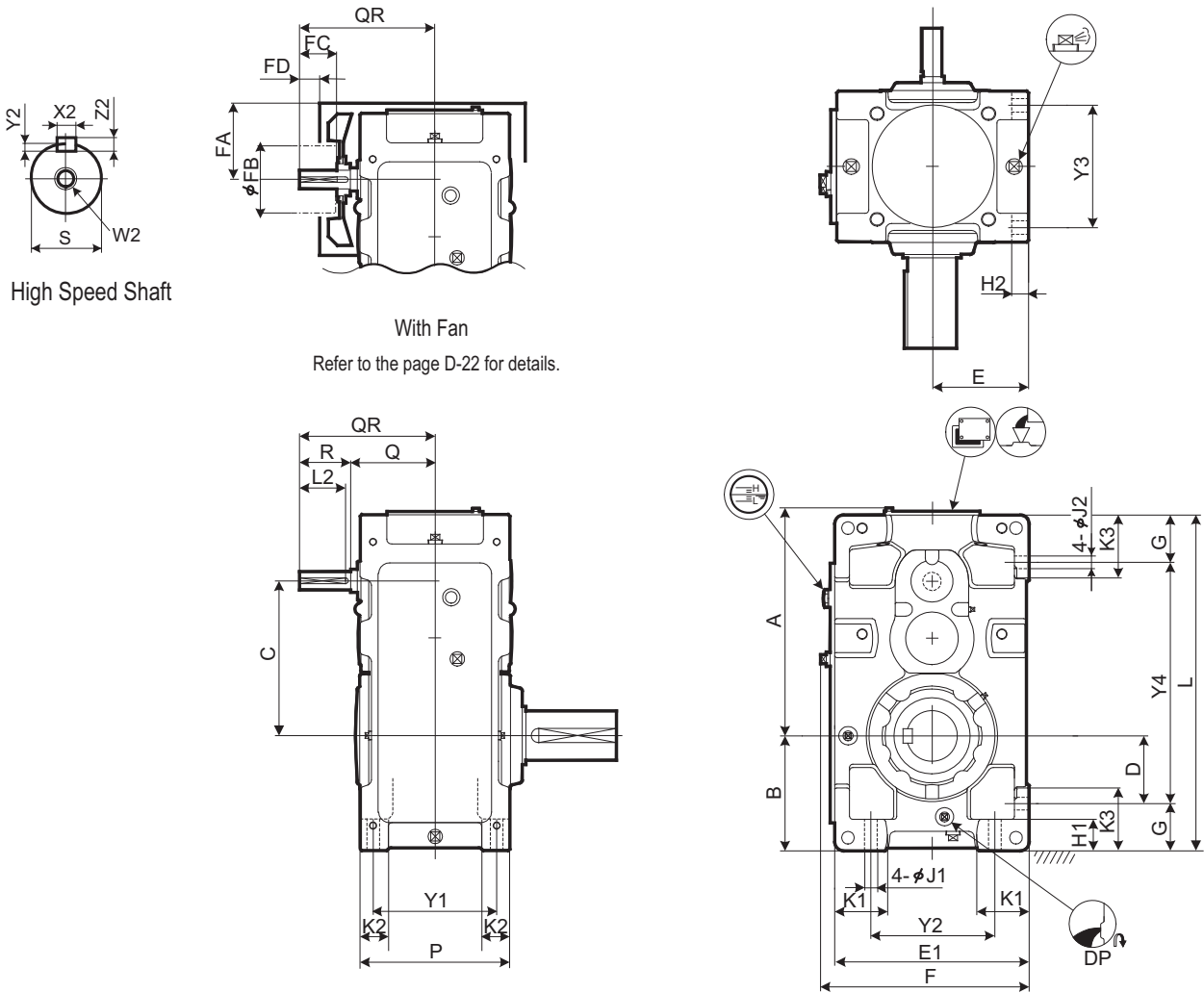
Size: 9090, 9095, 9100, 9105, 9110, 9115
 Shaft Arrangement: RL, RR
 Shaft Type: (blank) : Solid Shaft, T : Hollow Shaft (Shrink Disk type)

Size	Nominal Reduction Ratio														
	90	100	112	125	140	160	180	200	224	250	280	315	355	400	450
9090	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9095		○	○	○	○	○	○	○	○	○	○	○	○	○	○
9100	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9105		○	○	○	○	○	○	○	○	○	○	○	○	○	○
9110	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9115		○	○	○	○	○	○	○	○	○	○	○	○	○	○



PARAMAX Vertical Split 9090 9115 Parallel Quadruple Reduction P 4

DIMENSIONS Parallel Shaft Double Reduction Upright Mounting 9015 ▶ 9055



With Fan
Refer to the page D-22 for details.

Speed Reducer

Selection Tables

Dimension Tables

Size	A	B	C	D	E	E1	F	G	H1	H2	J1	J2	K1	K2	K3	L	P	Y1	Y2	Y3	Y4
9015	296	160	194	90	135	270	298	70	50	22	15	15	70	35	95	440	205	170	180	170	300
9025	347	175	227	95	155	310	338	80	55	25	19	19	75	40	110	505	235	195	210	195	345
9030	407	200	264	110	160	320	348	90	60	28	24	24	85	50	120	590	265	215	200	215	410
9035	438	219	295	129	185	370	398	90	60	28	24	24	100	50	120	640	265	215	250	215	460
9040	468	235	306	120	200	400	430	115	75	30	28	28	100	60	150	685	315	255	260	255	455
9045	507	256	345	141	220	440	470	115	75	30	28	28	120	60	150	745	315	255	300	255	515
9050	538	255	358	138.5	210	420	450	116.5	75	32	28	28	110	60	150	775	345	285	280	285	542
9055	577	286	397	171	245	490	520	115	75	32	28	28	135	60	150	845	345	285	350	285	615

Size	High Speed Shaft									Fan				DP	Wt. kg	Oil Qty. L
	Q	QR	R	S	W2/Depth	X2	Y2	Z2	L2	FA	FB	FC	FD			
9015	131	211	80	30k6	M10/22	8	4	7	70	129	125	50	30	3/4"	100	9
9025	146	226	80	35k6	M12/28	10	5	8	70	143	140	50	30	3/4"	140	13
9030	159	269	110	40k6	M16/36	12	5	8	95	169	140	80	52	3/4"	195	16
9035	159	269	110	40k6	M16/36	12	5	8	95	169	140	80	52	3/4"	215	22
9040	174	284	110	50k6	M16/36	14	5.5	9	95	188	160	80	52	1"	285	29
9045	174	284	110	50k6	M16/36	14	5.5	9	95	188	160	80	52	1"	345	36
9050	193	303	110	55m6	M20/42	16	6	10	95	208	160	80	52	1"	415	36
9055	193	303	110	55m6	M20/42	16	6	10	95	208	160	80	52	1"	475	47

Unit: mm

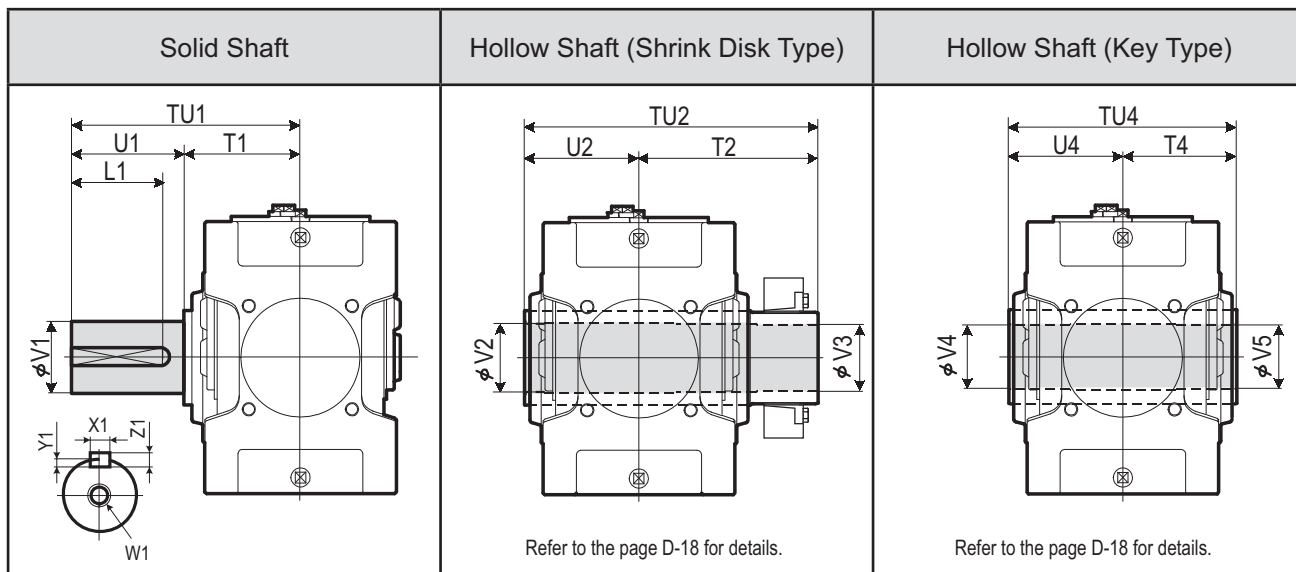
1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
3. Always remove fan hood when tightening mounting bolt.

4. Refer to the page D-12 for dimensions not shown in these drawings.
5. Refer to the page D-26 for the dimension of optional parts.

DIMENSIONS Parallel Shaft Double Reduction Upright Mounting 9015 ▶ 9055

PARAMAX Upright Monoblock 9015 9055 Parallel Double Reduction P W A P 2

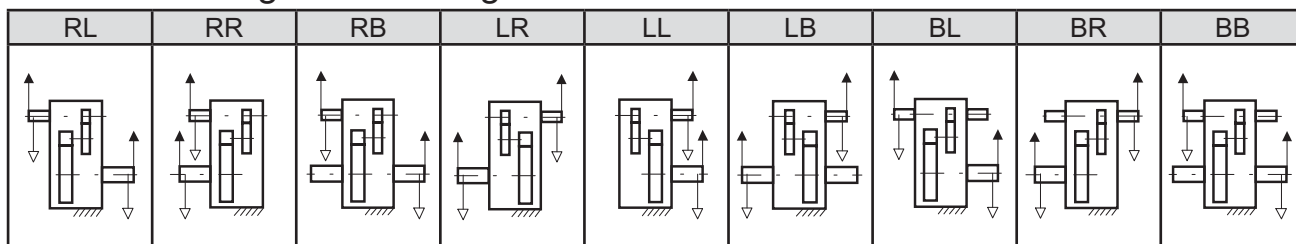
Slow Speed Shaft



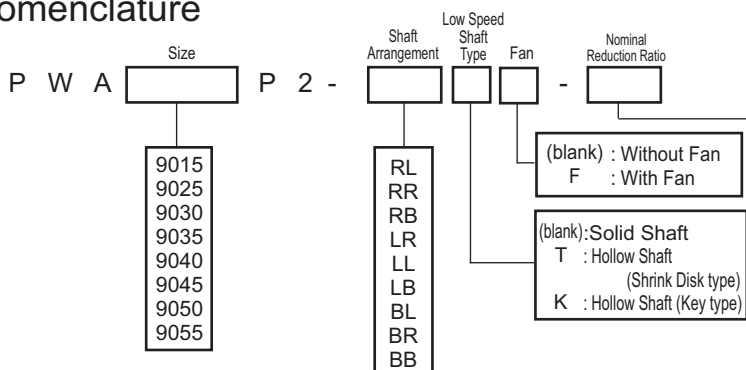
Size	Solid Shaft									Hollow Shaft (Shrink Disk Type)					Hollow Shaft (Key Type)				
	TU1	T1	U1	V1	W1/Depth	Key				TU2	T2	U2	V2	V3	TU4	T4	U4	V4	V5
9015	245	135	110	58m6	M20/42	18	7	11	95	328	193	135	63	60	270	135	135	55	55
9025	285	145	140	70m6	M20/42	20	7.5	12	125	358	213	145	73	70	300	150	150	65	65
9030	330	160	170	80m6	M20/42	22	9	14	150	393	233	160	83	80	330	165	165	75	75
9035	330	160	170	90m6	M20/42	25	9	14	150	403	243	160	88	85	330	165	165	85	85
9040	349	179	170	95m6	M24/50	25	9	14	150	448	268	180	98	95	360	180	180	90	90
9045	391	181	210	105m6	M24/50	28	10	16	190	463	283	180	108	105	370	185	185	105	105
9050	411	201	210	110m6	M24/50	28	10	16	190	503	303	200	108	105	410	205	205	105	105
9055	411	201	210	120m6	M24/50	32	11	18	185	528	323	205	123	120	410	205	205	115	115

Unit: mm

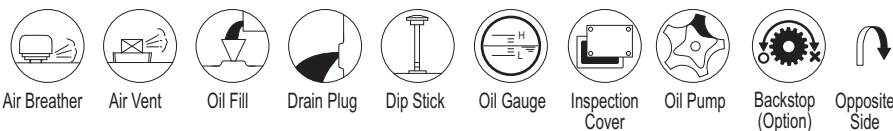
Standard Arrangement Configuration

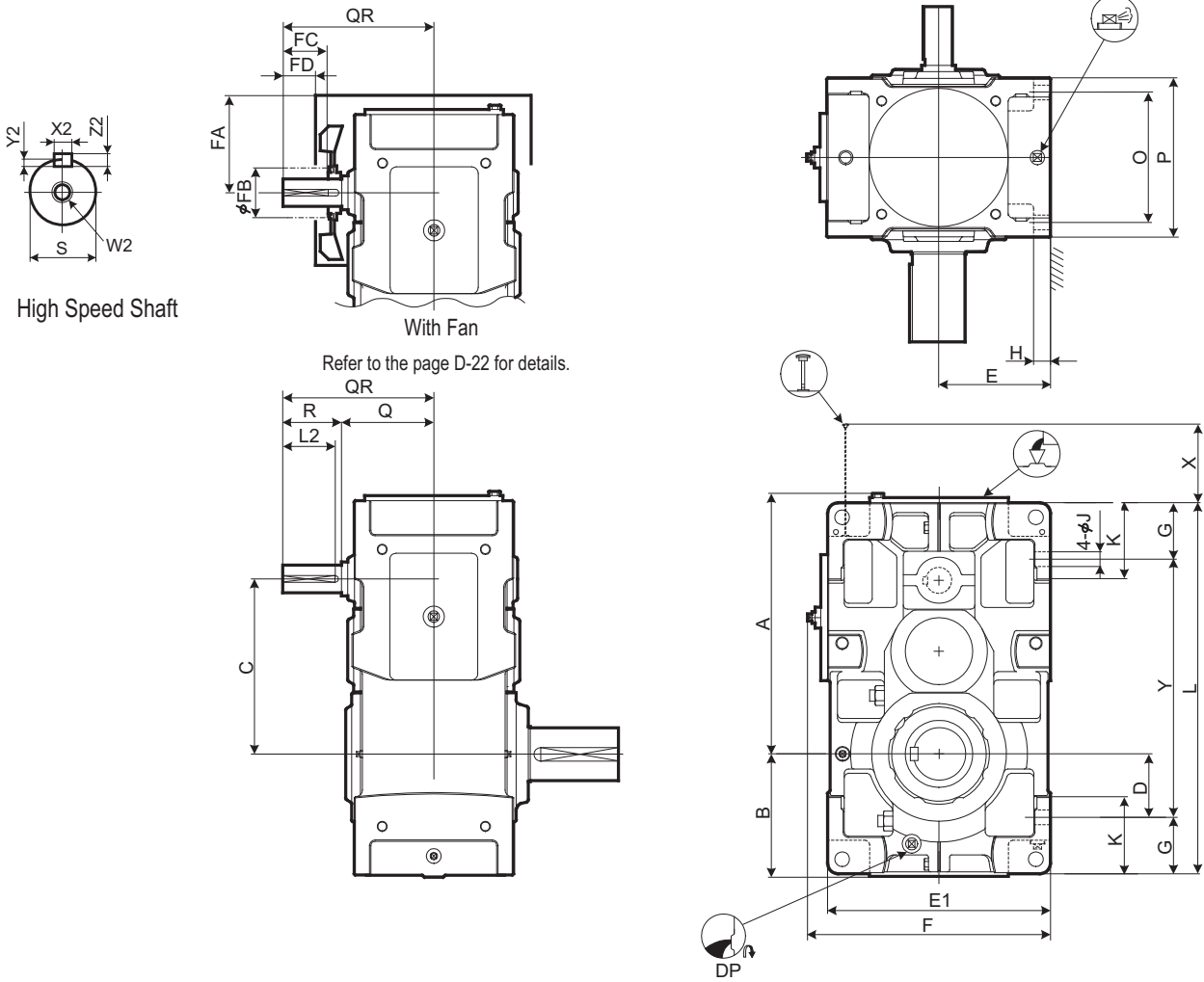


Nomenclature



Size	Nominal Reduction Ratio											
	6.3	7.1	8	9	10	11.2	12.5	14	16	18	20	22.4
9015	○	○	○	○	○	○	○	○	○	○		
9025	○	○	○	○	○	○	○	○	○	○		
9030	○	○	○	○	○	○	○	○	○	○		
9035			○	○	○	○	○	○	○	○	○	○
9040	○	○	○	○	○	○	○	○	○	○		
9045			○	○	○	○	○	○	○	○	○	○
9050	○	○	○	○	○	○	○	○	○	○		
9055			○	○	○	○	○	○	○	○	○	○





Speed Reducer

Selection Tables

Dimension Tables

Size	A	B	C	D	E	E1	F	G	H	J	K	L	O	P	X	Y
9060	622	299	414	151	265	530	577	135	35	35	180	885	310	380	133	615
9065	668	338	460	190	300	600	647	135	35	35	180	970	310	380	133	700
9070	720	336	482	163	300	600	647	160	40	42	215	1020	350	430	138	700
9075	773	383	535	210	335	670	717	160	52	42	220	1120	350	430	138	800
9080	813	378	556	205	335	670	717	160	52	42	220	1155	380	460	169	835
9085	869	422	612	249	375	750	797	160	52	42	220	1255	380	460	169	935

Size	High Speed Shaft										Fan				DP	Wt. kg	Oil Qty. L
	Q	QR	R	S	W2/Depth	X2	Y2	Z2	L2	FA	FB	FC	FD				
9060	220	360	140	65m6	M20/42	18	7	11	125	240	200	105	65	1"	610	53	
9065	220	360	140	65m6	M20/42	18	7	11	125	240	200	105	65	1"	735	67	
9070	245	385	140	75m6	M20/42	20	7.5	12	125	274	225	105	65	1"	860	84	
9075	245	385	140	75m6	M20/42	20	7.5	12	125	274	225	105	65	1"	1110	100	
9080	264	434	170	85m6	M20/42	22	9	14	150	296	225	135	95	1"	1240	109	
9085	264	434	170	85m6	M20/42	22	9	14	150	296	225	135	95	1"	1500	137	

Unit: mm

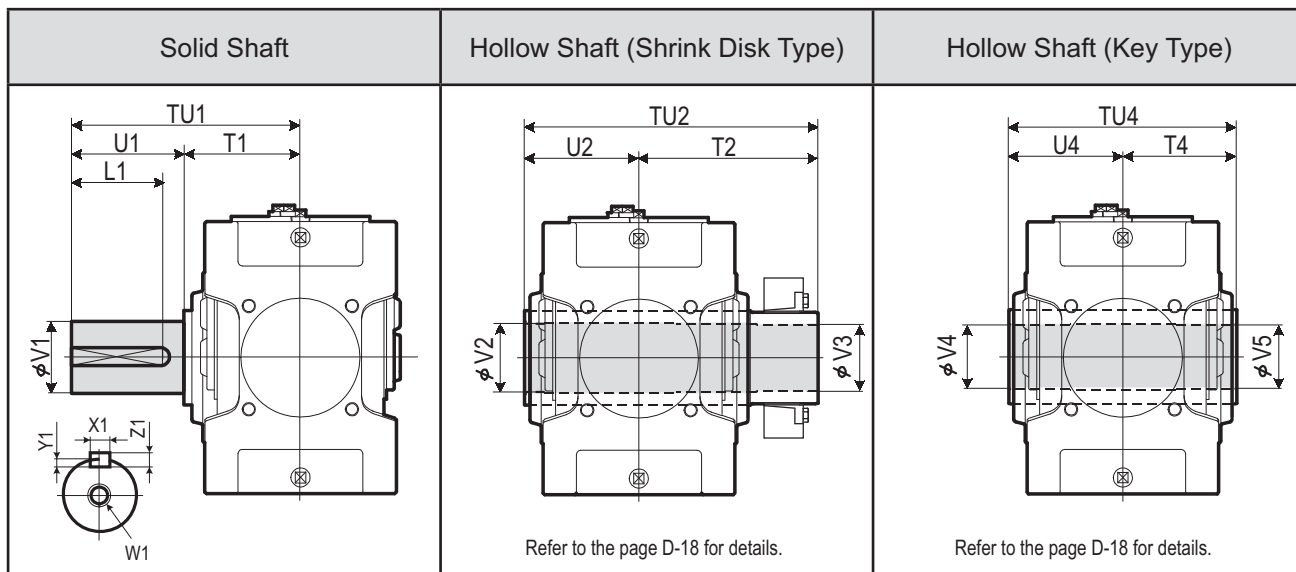
1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
 2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
 3. Always remove fan hood when tightening mounting bolt.

4. Refer to the page D-14 for dimensions not shown in these drawings.
 5. Refer to the page D-29 for the dimension of optional parts.

DIMENSIONS Parallel Shaft Double Reduction Upright Mounting 9060 ▶ 9085

PARAMAX Upright Split 9060 9085 Parallel Double Reduction Wall Mount P W D 9060 9085 P 2 W

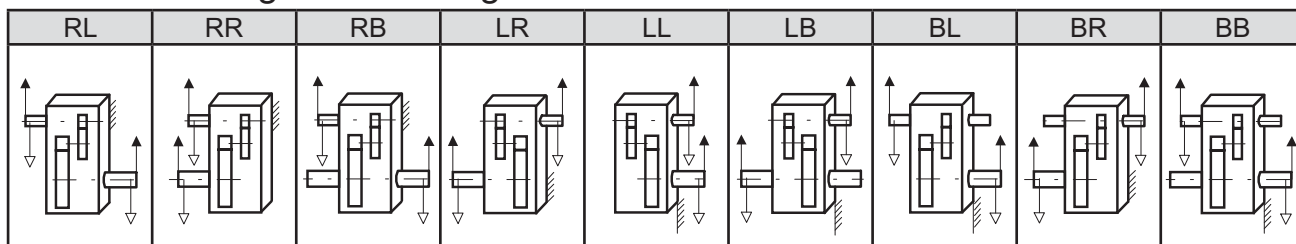
Slow Speed Shaft



Size	Solid Shaft					Hollow Shaft (Shrink Disk Type)					Hollow Shaft (Key Type)								
	TU1	T1	U1	V1	W1/Depth	X1	Y1	Z1	L1	TU2	T2	U2	V2	V3	TU4	T4	U4	V4	V5
9060	440	230	210	125m6	M24/50	32	11	18	185	583	353	230	128	125	470	235	235	125	123
9065	484	234	250	140m6	M30/60	36	12	20	225	594	359	235	143	140	480	240	240	145	143
9070	509	259	250	145m6	M30/60	36	12	20	225	644	384	260	148	145	530	265	265	145	143
9075	562	262	300	160m6	M30/60	40	13	22	275	651	386	265	158	155	530	265	265	150	148
9080	582	282	300	165m6	M30/60	40	13	22	275	714	429	285	173	170	570	285	285	165	163
9085	585	285	300	175m6	M30/60	45	15	25	270	714	429	285	183	180	570	285	285	175	173

Unit: mm

Standard Arrangement Configuration



Nomenclature

Shaft Arrangement: P W D P 2 W - -

Low Speed Shaft Type:

Fan:

Nominal Reduction Ratio:

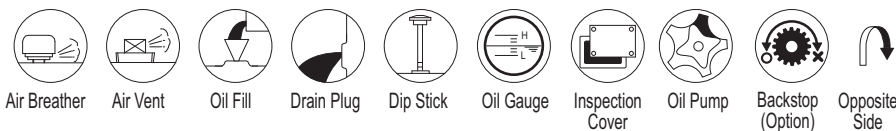
Size: 9060, 9065, 9070, 9075, 9080, 9085

Shaft Arrangement: RL, RR, RB, LR, LL, LB, BL, BR, BB

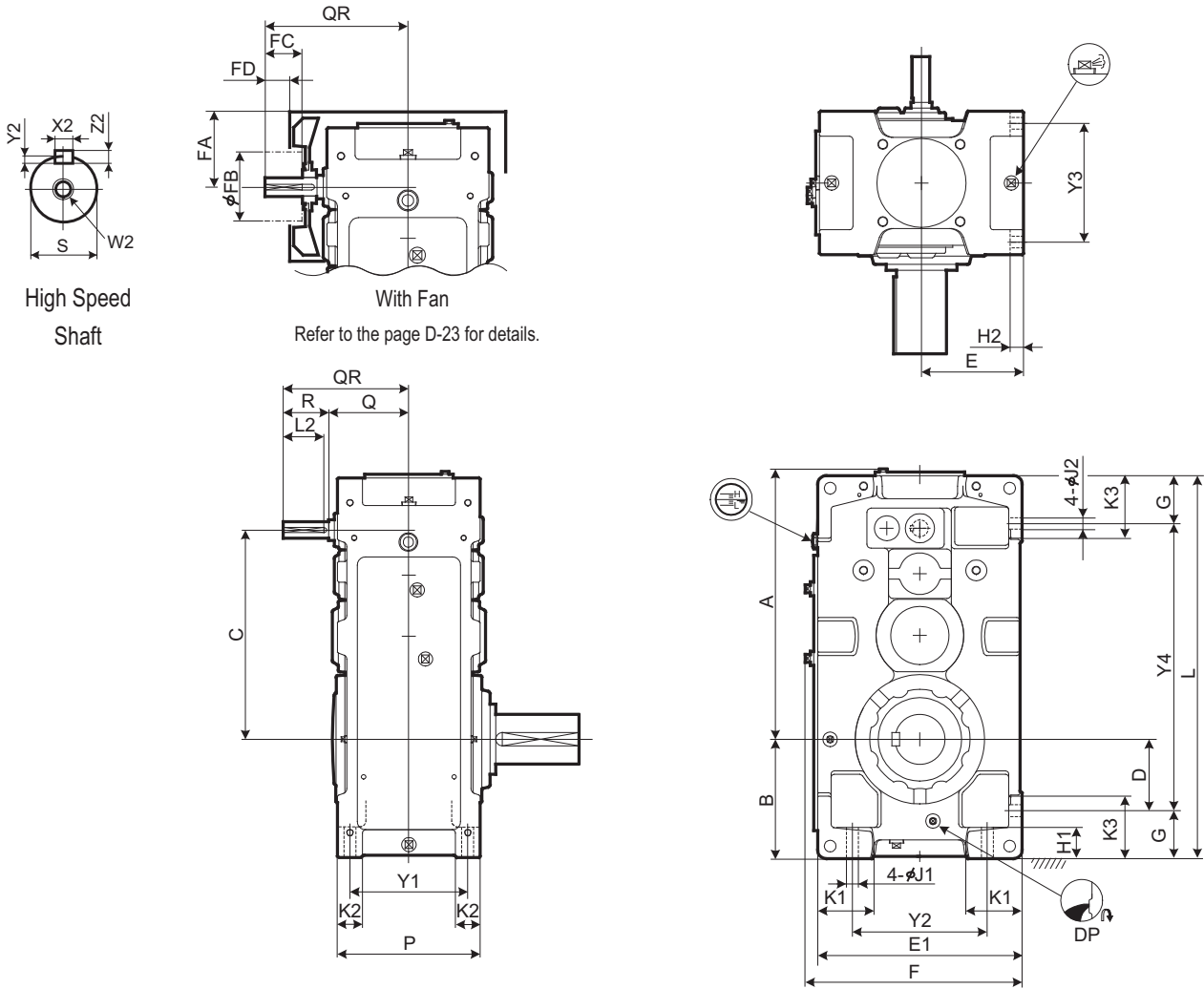
Low Speed Shaft Type: (blank): Without Fan, F: With Fan

Low Speed Shaft Type: (blank): Solid Shaft, T: Hollow Shaft (Shrink Disk type), K: Hollow Shaft (Key type)

Size	Nominal Reduction Ratio											
	6.3	7.1	8	9	10	11.2	12.5	14	16	18	20	22.4
9060	○	○	○	○	○	○	○	○	○	○		
9065			○	○	○	○	○	○	○	○	○	○
9070	○	○	○	○	○	○	○	○	○	○		
9075			○	○	○	○	○	○	○	○	○	○
9080	○	○	○	○	○	○	○	○	○	○	○	○
9085			○	○	○	○	○	○	○	○	○	○



DIMENSIONS Parallel Shaft Triple Reduction Upright Mounting 9015 ▶ 9055



Speed Reducer

Selection Tables

Dimension Tables

Size	A	B	C	D	E	E1	F	G	H1	H2	J1	J2	K1	K2	K3	L	P	Y1	Y2	Y3	Y4
9015	339	160	257	90	135	270	298	70	50	22	15	15	70	35	95	485	205	170	180	170	345
9025	409	175	306	95	155	310	338	80	55	25	19	19	75	40	110	570	235	195	210	195	410
9030	454	200	343	110	160	320	348	90	60	28	24	24	85	50	120	640	265	215	200	215	460
9035	485	219	374	129	185	370	398	90	60	28	24	24	100	50	120	690	265	215	250	215	510
9040	541	235	398	120	200	400	430	115	75	30	28	28	100	60	150	759	315	255	260	255	529
9045	577	256	437	141	220	440	470	115	75	30	28	28	120	60	150	819	315	255	300	255	589
9050	610	255	467	138.5	210	420	450	116.5	75	32	28	28	110	60	150	848	345	285	280	285	615
9055	649	286	506	171	245	490	520	115	75	32	28	28	135	60	150	918	345	285	350	285	688

Size	High Speed Shaft								Fan				DP	Wt. kg	Oil Qty. L	
	Q	QR	R	S	W2/Depth	X2	Y2	Z2	L2	FA	FB	FC				FD
9015	130	190	60	25k6	M10/22	8	4	7	50	111	125	30	10	3/4"	105	11
9025	144	204	60	28k6	M10/22	8	4	7	50	129	125	30	10	3/4"	150	15
9030	161	241	80	30k6	M10/22	8	4	7	70	140	125	50	30	3/4"	205	20
9035	161	241	80	30k6	M10/22	8	4	7	70	150	140	50	22	3/4"	225	25
9040	176	256	80	35k6	M12/28	10	5	8	70	170	140	50	22	1"	305	35
9045	176	256	80	35k6	M12/28	10	5	8	70	170	140	50	22	1"	375	43
9050	194	304	110	40k6	M16/36	12	5	8	95	172	140	80	52	1"	445	45
9055	194	304	110	40k6	M16/36	12	5	8	95	172	140	80	52	1"	505	59

Unit: mm

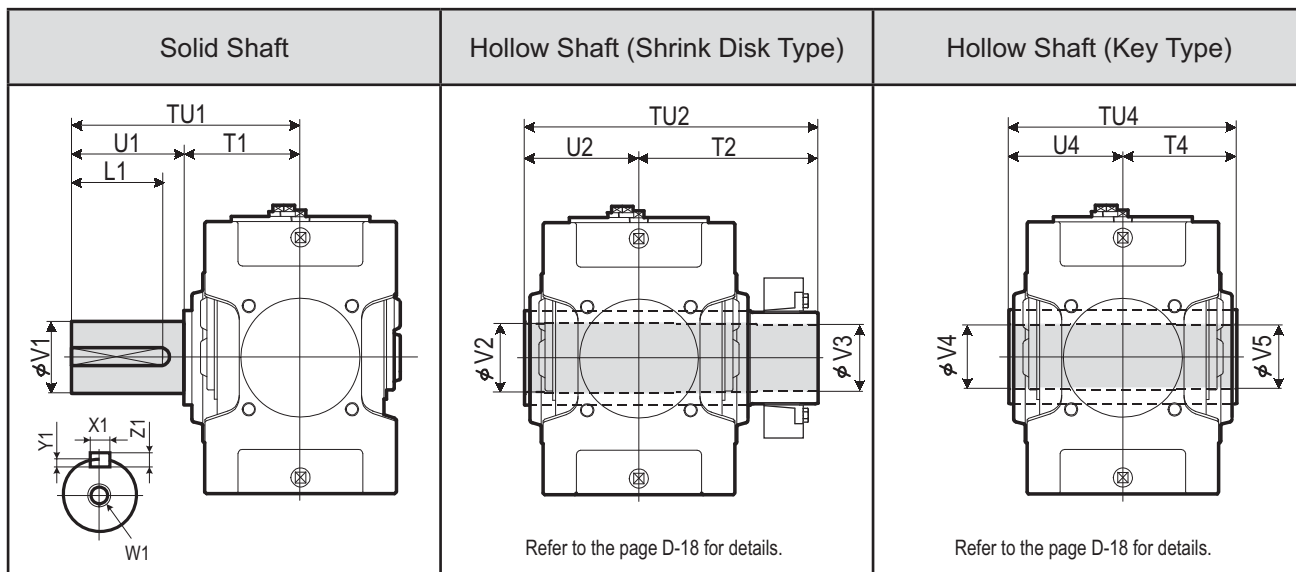
1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
3. Always remove fan hood when tightening mounting bolt.

4. Refer to the page D-13 for dimensions not shown in these drawings.
5. Refer to the page D-26 for the dimension of optional parts.

DIMENSIONS Parallel Shaft Triple Reduction Upright Mounting 9015 ▶ 9055

PARAMAX Upright Monoblock 9015 9055 Parallel Triple Reduction P W A P 3

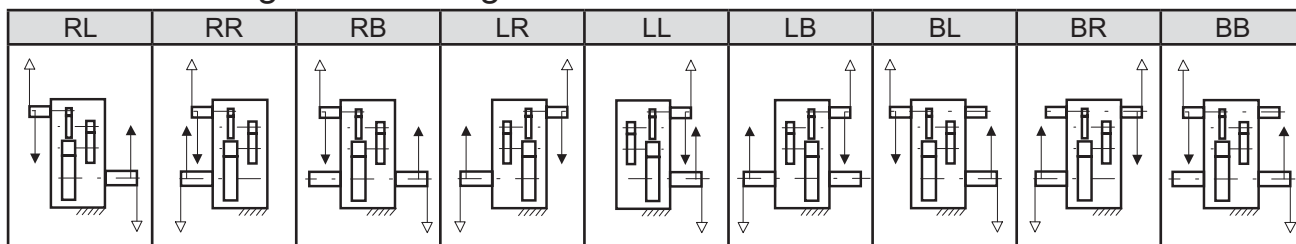
Slow Speed Shaft



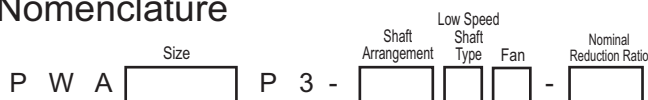
Size	Solid Shaft					Key					Hollow Shaft (Shrink Disk Type)					Hollow Shaft (Key Type)				
	TU1	T1	U1	V1	W1/Depth	X1	Y1	Z1	L1	TU2	T2	U2	V2	V3	TU4	T4	U4	V4	V5	
9015	245	135	110	58m6	M20/42	18	7	11	95	328	193	135	63	60	270	135	135	55	55	
9025	285	145	140	70m6	M20/42	20	7.5	12	125	358	213	145	73	70	300	150	150	65	65	
9030	330	160	170	80m6	M20/42	22	9	14	150	393	233	160	83	80	330	165	165	75	75	
9035	330	160	170	90m6	M20/42	25	9	14	150	403	243	160	88	85	330	165	165	85	85	
9040	349	179	170	95m6	M24/50	25	9	14	150	448	268	180	98	95	360	180	180	90	90	
9045	391	181	210	105m6	M24/50	28	10	16	190	463	283	180	108	105	370	185	185	105	105	
9050	411	201	210	110m6	M24/50	28	10	16	190	503	303	200	108	105	410	205	205	105	105	
9055	411	201	210	120m6	M24/50	32	11	18	185	528	323	205	123	120	410	205	205	115	115	

Unit: mm

Standard Arrangement Configuration



Nomenclature

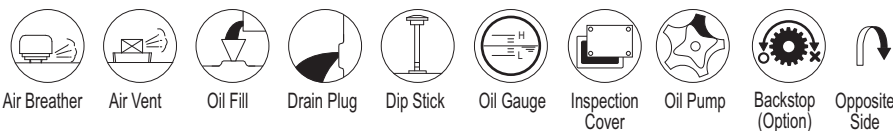


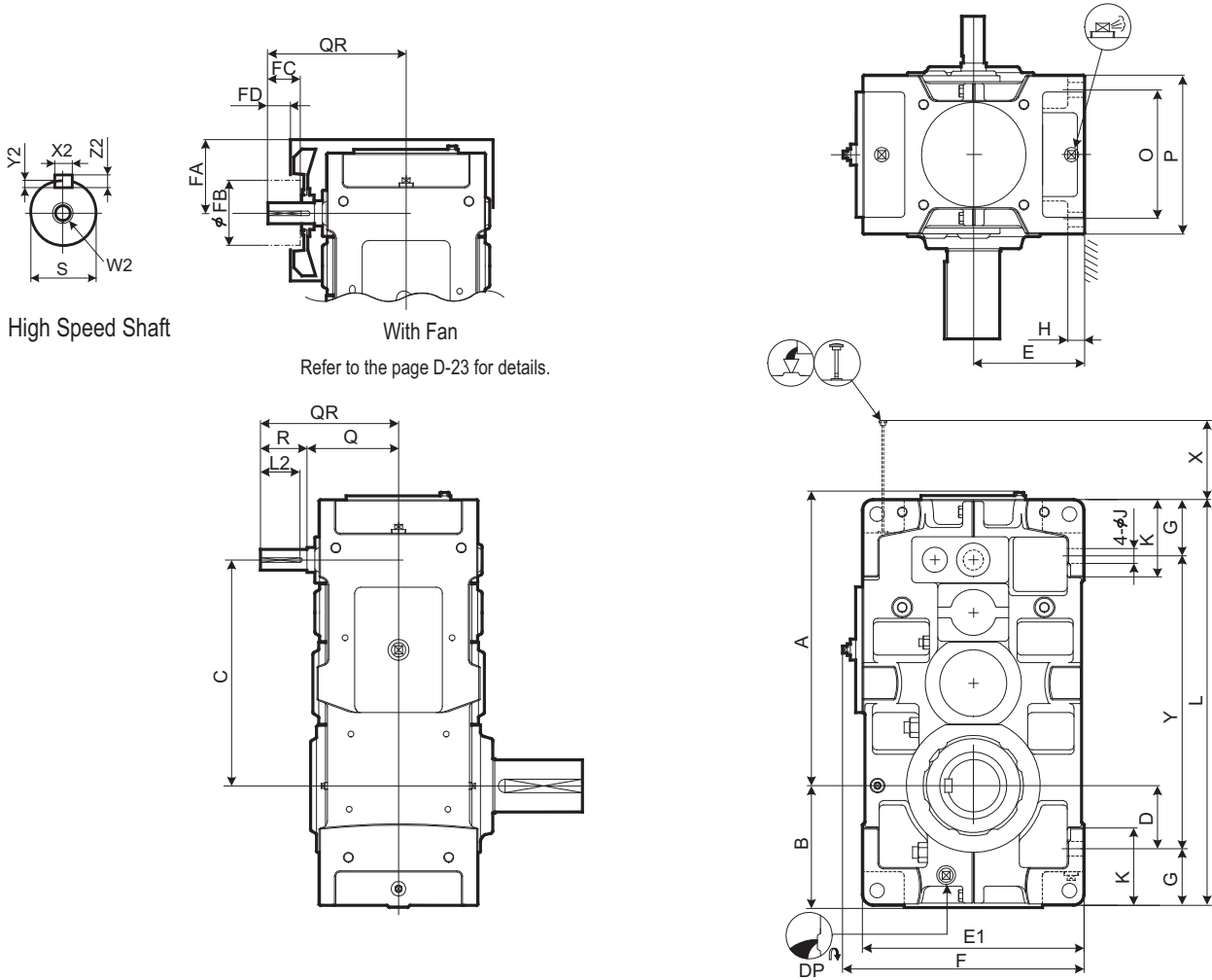
- 9015
- 9025
- 9030
- 9035
- 9040
- 9045
- 9050
- 9055

- RL
- RR
- RB
- LR
- LL
- LB
- BL
- BR
- BB

(blank): Without Fan
 F : With Fan
 (blank): Solid Shaft
 T : Hollow Shaft (Shrink Disk type)
 K : Hollow Shaft (Key type)

Size	Nominal Reduction Ratio													
	20	22.4	25	28	31.5	35.5	40	45	50	56	63	71	80	90
9015	○	○	○	○	○	○	○	○						
9025	○	○	○	○	○	○	○	○						
9030	○	○	○	○	○	○	○	○	○	○	○			
9035			○	○	○	○	○	○	○	○	○	○	○	○
9040	○	○	○	○	○	○	○	○	○	○	○	○	○	
9045			○	○	○	○	○	○	○	○	○	○	○	○
9050	○	○	○	○	○	○	○	○	○	○	○	○	○	
9055			○	○	○	○	○	○	○	○	○	○	○	○





High Speed Shaft

With Fan

Refer to the page D-23 for details.

Speed Reducer

Selection Tables

Dimension Tables

Size	A	B	C	D	E	E1	F	G	H	J	K	L	O	P	X	Y
9060	702	299	540	151	265	530	577	135	35	35	180	970	310	380	216	700
9065	748	338	586	190	300	600	647	135	35	35	180	1055	310	380	216	785
9070	810	336	630	163	300	600	647	160	40	42	215	1115	350	430	233	795
9075	863	383	683	210	335	670	717	160	52	42	220	1215	350	430	233	895
9080	933	378	725	205	335	670	717	160	52	42	220	1275	380	460	285	955
9085	989	422	781	249	375	750	797	160	52	42	220	1375	380	460	285	1055

Size	High Speed Shaft					Fan				DP	Wt. kg	Oil Qty. L				
	Q	QR	R	S	W2/Depth	FA	FB	FC	FD							
9060	219	329	110	50k6	M16/36	14	5.5	9	95	199	160	80	52	1"	660	68
9065	219	329	110	50k6	M16/36	14	5.5	9	95	199	160	80	52	1"	815	85
9070	244	354	110	55m6	M20/42	16	6	10	95	221	160	80	52	1"	940	106
9075	244	354	110	55m6	M20/42	16	6	10	95	221	160	80	52	1"	1160	120
9080	265	405	140	65m6	M20/42	18	7	11	125	247	200	105	65	1"	1350	130
9085	265	405	140	65m6	M20/42	18	7	11	125	247	200	105	65	1"	1610	176

Unit: mm

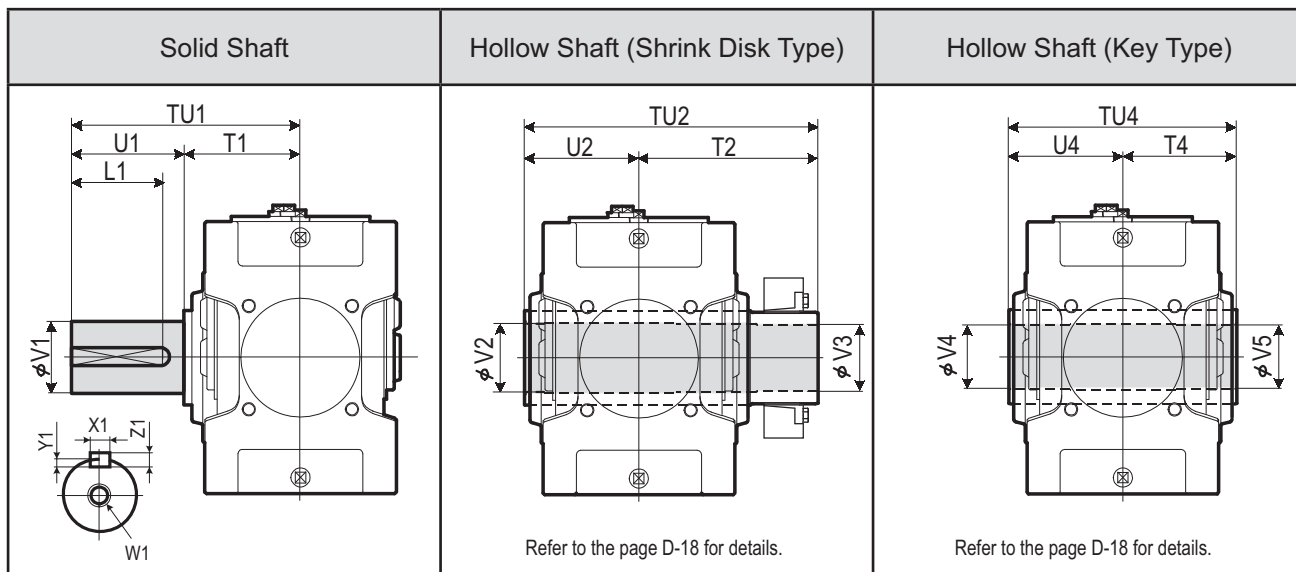
1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
 2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
 3. Always remove fan hood when tightening mounting bolt.

4. Refer to the page D-15 for dimensions not shown in these drawings.
 5. Refer to the page D-29 for the dimension of optional parts.

DIMENSIONS Parallel Shaft Triple Reduction Upright Mounting 9060 ▶ 9085

PARAMAX P
Upright W
Split D
9060
9085
Parallel P
Triple Reduction 3
Wall Mount W

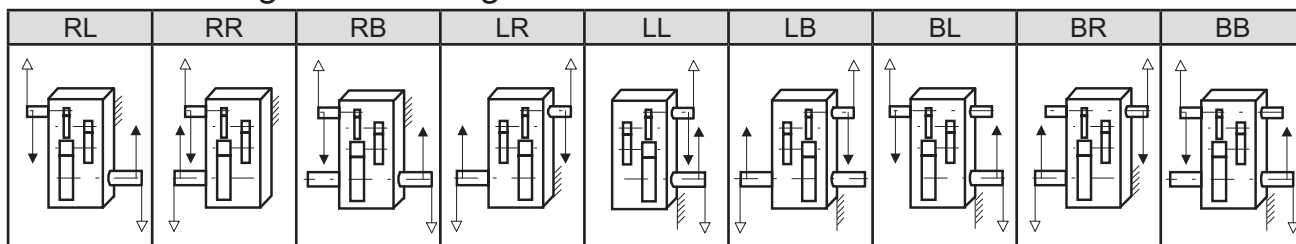
Slow Speed Shaft



Size	Solid Shaft					Hollow Shaft (Shrink Disk Type)					Hollow Shaft (Key Type)								
	TU1	T1	U1	V1	W1/Depth	X1	Y1	Z1	L1	TU2	T2	U2	V2	V3	TU4	T4	U4	V4	V5
9060	440	230	210	125m6	M24/50	32	11	18	185	583	353	230	128	125	470	235	235	125	123
9065	484	234	250	140m6	M30/60	36	12	20	225	594	359	235	143	140	480	240	240	145	143
9070	509	259	250	145m6	M30/60	36	12	20	225	644	384	260	148	145	530	265	265	145	143
9075	562	262	300	160m6	M30/60	40	13	22	275	651	386	265	158	155	530	265	265	150	148
9080	582	282	300	165m6	M30/60	40	13	22	275	714	429	285	173	170	570	285	285	165	163
9085	585	285	300	175m6	M30/60	45	15	25	270	714	429	285	183	180	570	285	285	175	173

Unit: mm

Standard Arrangement Configuration



Nomenclature

Low Speed Shaft Fan Nominal Reduction Ratio

Shaft Arrangement: P W D

Shaft Type: P 3 W

Low Speed Shaft Type: []

Fan: []

Nominal Reduction Ratio: []

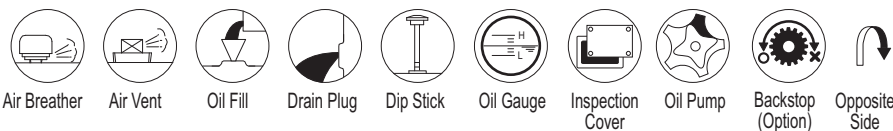
Size: 9060, 9065, 9070, 9075, 9080, 9085

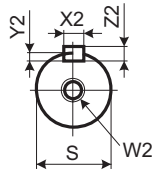
Shaft Arrangement: RL, RR, RB, LR, LL, LB, BL, BR, BB

Low Speed Shaft Type: (blank) : Without Fan, F : With Fan

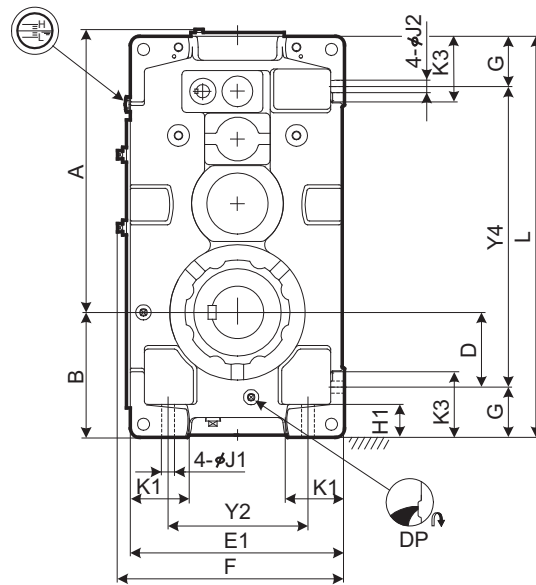
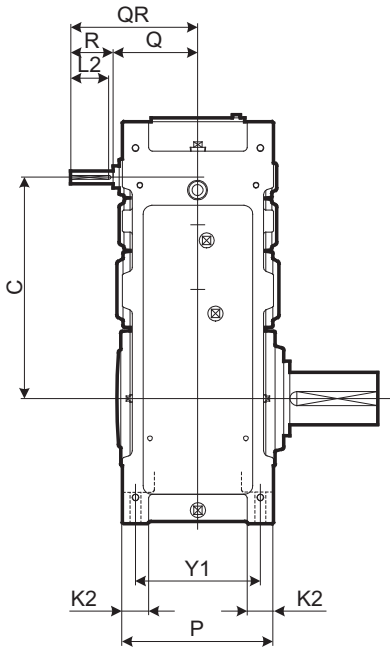
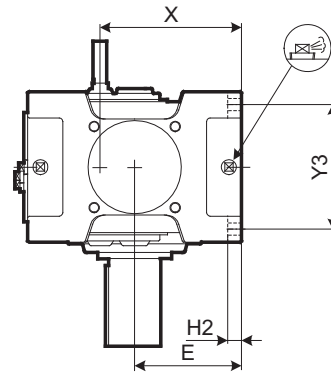
Shaft Type: (blank) : Solid Shaft, T : Hollow Shaft (Shrink Disk type), K : Hollow Shaft (Key type)

Size	Nominal Reduction Ratio													
	20	22.4	25	28	31.5	35.5	40	45	50	56	63	71	80	90
9060	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9065														
9070	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9075														
9080	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9085														





High Speed Shaft



Speed Reducer

Selection Tables

Dimension Tables

Size	A	B	C	D	E	E1	F	G	H1	H2	J1	J2	K1	K2	K3	L	P	X	Y1	Y2	Y3	Y4
9030	454	200	343	110	160	320	348	90	60	28	24	24	85	50	120	640	265	223	215	200	215	460
9035	485	219	374	129	185	370	398	90	60	28	24	24	100	50	120	690	265	248	215	250	215	510
9040	541	235	398	120	200	400	430	115	75	30	28	28	100	60	150	759	315	279	255	260	255	529
9045	577	256	437	141	220	440	470	115	75	30	28	28	120	60	150	819	315	299	255	300	255	589
9050	610	255	467	138.5	210	420	450	116.5	75	32	28	28	110	60	150	848	345	289	285	280	285	615
9055	649	286	506	171	245	490	520	115	75	32	28	28	135	60	150	918	345	324	285	350	285	688

Size	High Speed Shaft										DP	Wt. kg	Oil Qty. L	
	Q	QR	R	S	W2/Depth	Key				L2				
						X2	Y2	Z2						
9030	159	219	60	25k6	M10/22	8	4	7	50	3/4"	210	20		
9035	159	219	60	25k6	M10/22	8	4	7	50	3/4"	230	25		
9040	175	135	60	28k6	M10/22	8	4	7	50	1"	310	35		
9045	175	235	60	28k6	M10/22	8	4	7	50	1"	380	43		
9050	195	275	80	30k6	M10/22	8	4	7	70	1"	450	46		
9055	195	275	80	30k6	M10/22	8	4	7	70	1"	510	59		

Unit: mm

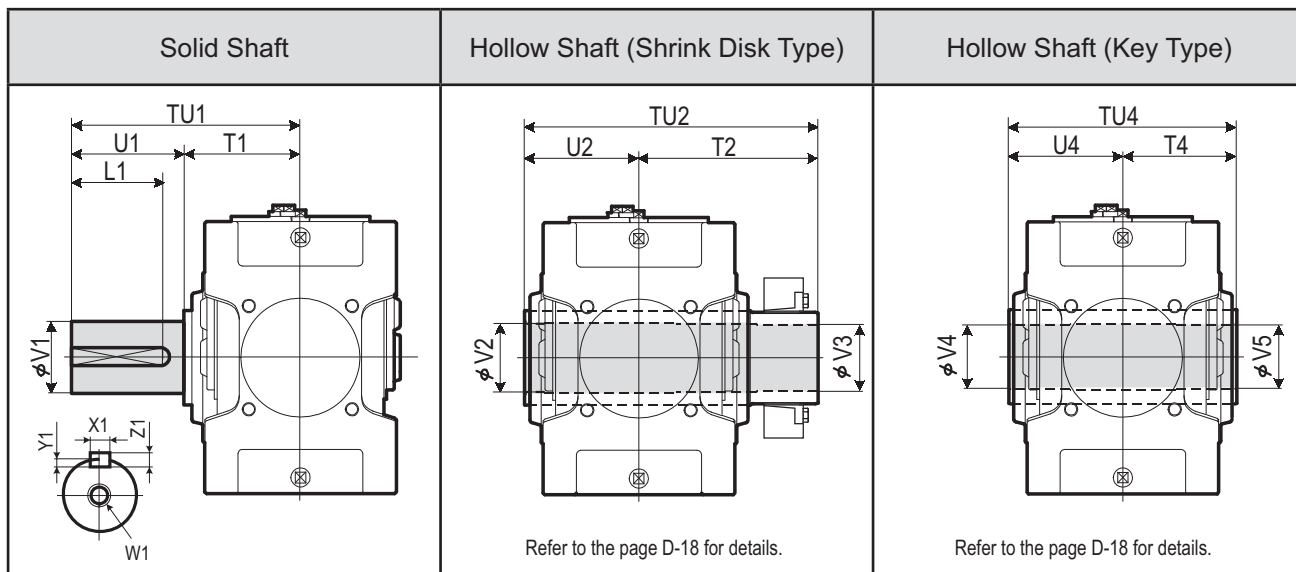
1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
 2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
 3. Refer to the page D-13 for dimensions not shown in these drawings.

4. Refer to the page D-26 for the dimension of optional parts.

DIMENSIONS Parallel Shaft Quadruple Reduction Upright Mounting 9030 ▶ 9055

PARAMAX Upright Monoblock 9030 9055 Parallel Quadruple Reduction

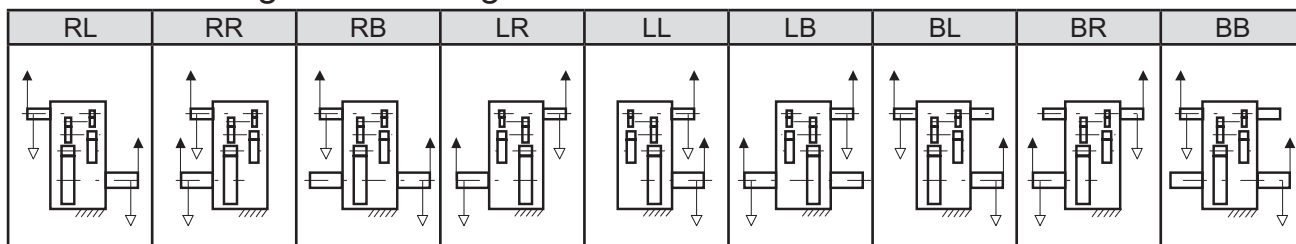
Slow Speed Shaft



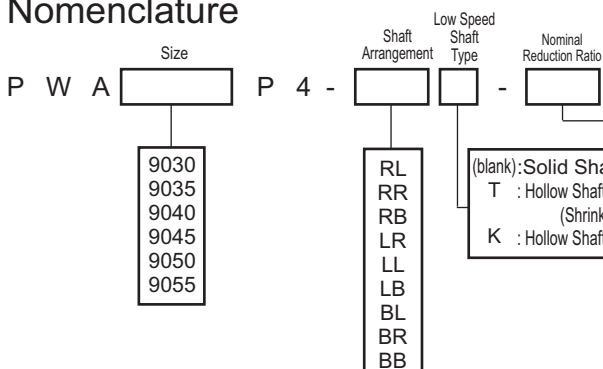
Size	Solid Shaft										Hollow Shaft (Shrink Disk Type)					Hollow Shaft (Key Type)				
	TU1	T1	U1	V1	W1/Depth	X1	Y1	Z1	L1	TU2	T2	U2	V2	V3	TU4	T4	U4	V4	V5	
9030	330	160	170	80m6	M20/42	22	9	14	150	393	233	160	83	80	330	165	165	75	75	
9035	330	160	170	90m6	M20/42	25	9	14	150	403	243	160	88	85	330	165	165	85	85	
9040	349	179	170	95m6	M24/50	25	9	14	150	448	268	180	98	95	360	180	180	90	90	
9045	391	181	210	105m6	M24/50	28	10	16	190	463	283	180	108	105	370	185	185	105	105	
9050	411	201	210	110m6	M24/50	28	10	16	190	503	303	200	108	105	410	205	205	105	105	
9055	411	201	210	120m6	M24/50	32	11	18	185	528	323	205	123	120	410	205	205	115	115	

Unit: mm

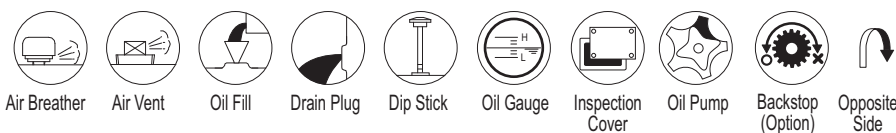
Standard Arrangement Configuration

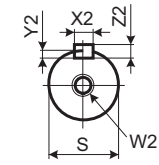


Nomenclature

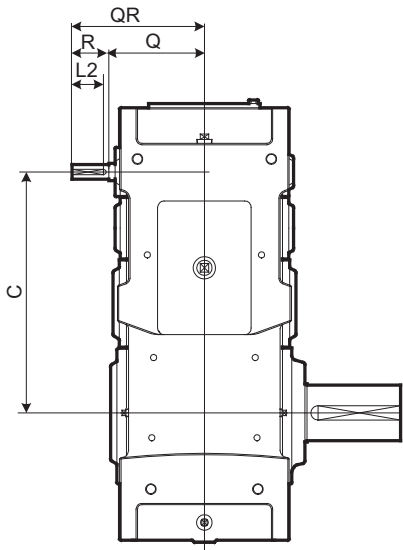
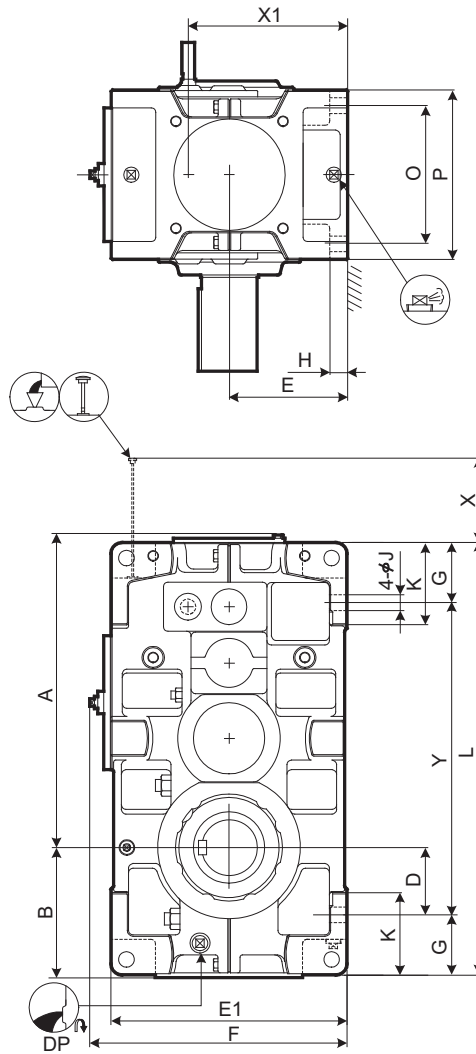


Size	Nominal Reduction Ratio																
	80	90	100	112	125	140	160	180	200	224	250	280	315	355	400	450	500
9030	○	○	○	○	○	○	○	○	○	○							
9035			○	○	○	○	○	○	○	○	○						
9040			○	○	○	○	○	○	○	○	○						
9045	○	○	○	○	○	○	○	○	○	○	○	○					
9050	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○		
9055			○	○	○	○	○	○	○	○	○	○	○	○	○	○	○





High Speed Shaft



Speed Reducer

Selection Tables

Dimension Tables

Size	A	B	C	D	E	E1	F	G	H	J	K	L	O	P	X	X1	Y
9060	702	299	540	151	265	530	577	135	35	35	180	970	310	380	73	357	700
9065	748	338	586	190	300	600	647	135	35	35	180	1055	310	380	73	392	785
9070	810	336	630	163	300	600	647	160	40	42	215	1115	350	430	67	409	795
9075	863	383	683	210	335	670	717	160	52	42	220	1215	350	430	67	444	895
9080	933	378	725	205	335	670	717	160	52	42	220	1275	380	460	93	461	955
9085	989	422	781	249	375	750	797	160	52	42	220	1375	380	460	93	501	1055

Size	High Speed Shaft									DP	Wt. kg	Oil Qty. L
	Q	QR	R	S	W2/Depth	X2	Y2	Z2	L2			
9060	221	301	80	35k6	M12/28	10	5	8	70	1"	660	69
9065	221	301	80	35k6	M12/28	10	5	8	70	1"	815	86
9070	244	354	110	40k6	M16/36	12	5	8	95	1"	950	108
9075	244	354	110	40k6	M16/36	12	5	8	95	1"	1170	122
9080	264	374	110	45k6	M16/36	14	5.5	9	95	1"	1360	130
9085	264	374	110	45k6	M16/36	14	5.5	9	95	1"	1620	175

Unit: mm

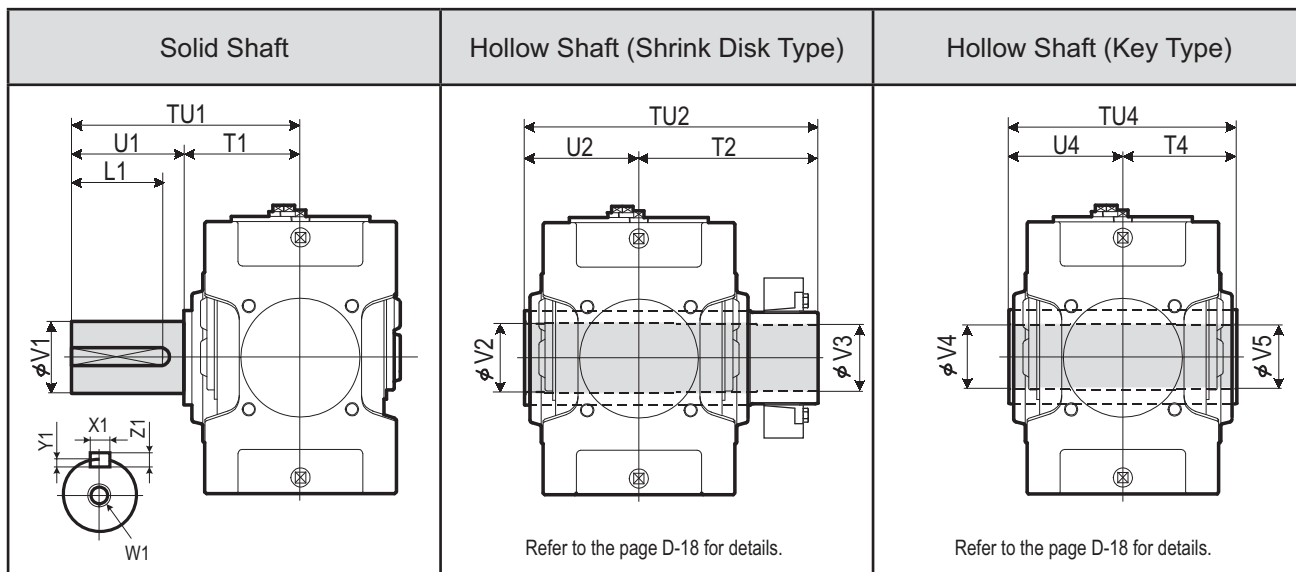
1. Key and keyways are based on ISO R773-1969 Close keys (JIS B1301-1996 Parallel key in fastening type)
 2. The oil quantity is approximate. Oil shall be supplied within the range shown on the oil gauge.
 3. Refer to the page D-15 for dimensions not shown in these drawings.

4. Refer to the page D-29 for the dimension of optional parts.

DIMENSIONS Parallel Shaft Quadruple Reduction Upright Mounting 9060 ▶ 9085

PARAMAX P
Upright W
Split D
9085 9060
Parallel P
Quadruple 4
Reduction
Wall Mount W

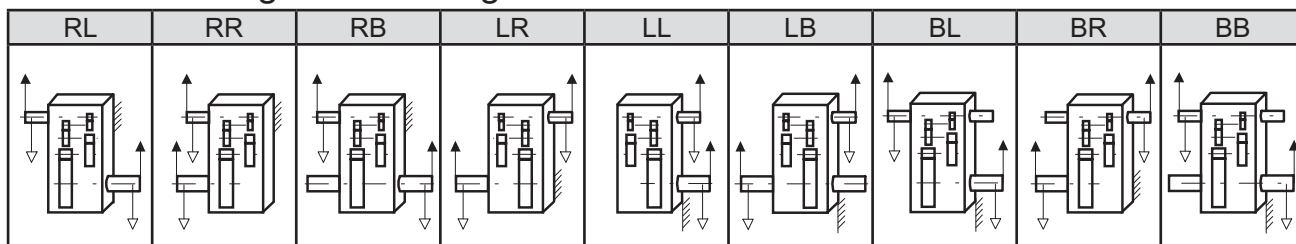
Slow Speed Shaft



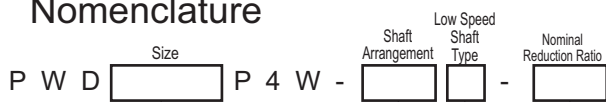
Size	Solid Shaft					Key				Hollow Shaft (Shrink Disk Type)					Hollow Shaft (Key Type)				
	TU1	T1	U1	V1	W1/Depth	X1	Y1	Z1	L1	TU2	T2	U2	V2	V3	TU4	T4	U4	V4	V5
9060	440	230	210	125m6	M24/50	32	11	18	185	583	353	230	128	125	470	235	235	125	123
9065	484	234	250	140m6	M30/60	36	12	20	225	594	359	235	143	140	480	240	240	145	143
9070	509	259	250	145m6	M30/60	36	12	20	225	644	384	260	148	145	530	265	265	145	143
9075	562	262	300	160m6	M30/60	40	13	22	275	651	386	265	158	155	530	265	265	150	148
9080	582	282	300	165m6	M30/60	40	13	22	275	714	429	285	173	170	570	285	285	165	163
9085	585	285	300	175m6	M30/60	45	15	25	270	714	429	285	183	180	570	285	285	175	173

Unit: mm

Standard Arrangement Configuration



Nomenclature

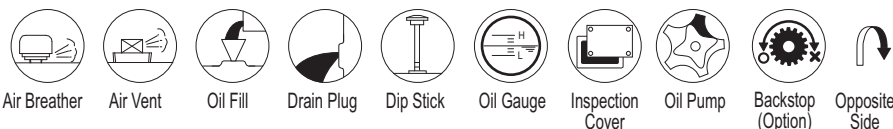


- 9060
- 9065
- 9070
- 9075
- 9080
- 9085

- RL
- RR
- RB
- LR
- LL
- LB
- BL
- BR
- BB

(blank): Solid Shaft
T : Hollow Shaft (Shrink Disk type)
K : Hollow Shaft (Key type)

Size	Nominal Reduction Ratio																
	80	90	100	112	125	140	160	180	200	224	250	280	315	355	400	450	500
9060	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9065	○	○		○	○	○	○	○	○	○	○	○	○	○	○	○	○
9070	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9075		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9080	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9085			○	○	○	○	○	○	○	○	○	○	○	○	○	○	○





D

TECHNICAL DATA

Lubricant and Installation	··· D- 2
Painting Specifications and Rust Proof Standard	··· D- 3
Moment of Inertia of Right Angle Shaft	··· D- 4
GD ² of Right Angle Shaft	··· D- 6
Moment of Inertia of Parallel Shaft	··· D- 8
GD ² of Parallel Shaft	··· D-10
Supplementary Dimension Drawing	··· D-12
Supplementary Matters to Hollow Shaft	··· D-17
Hollow Shaft Related Dimensions	··· D-18
Cooling Fan Dimension	··· D-20
Option Dimension	··· D-24
Motor Terminal Box	··· D-32
Motor Flange Dimension	··· D-34
Formula of Drive System	··· D-36

TECHNICAL DATA Lubricant, Installation

Lubricant

Operation Condition / Application	Output Speed		Ambient Temperature °C		
			-10 to 15	0 to 30	10 to 50
Continuous Operation	Over 100r/min	ISO* AGMA	VG68 2EP	VG150 4EP	VG220 5EP
	Under 100r/min	ISO* AGMA	VG100 3EP	VG220 5EP	VG320 6EP
Intermittent Operation (ex. Crane Drive)	All	ISO* AGMA	VG68 2EP	VG150 4EP	VG220 5EP

* Kinetic Viscosity (mm²/s) at ISO 40°C

PARAMAX DRIVE is shipped without lubrication oil.

Supply oil within the range shown on the dip stick before operation.

The table on the right shows appropriate viscosity of oil based on ISO and AGMA for respective ambient temperatures and slow speed shaft r/min.

When the ambient temperature is lower than -10 deg or higher than +50 deg, a heating or cooling unit is necessary, in general.

Recommended Lubricants

Brand	BP	CASTROL			CHEVRON TEXACO		EXXON MOBIL		SHELL	TOTAL	
Gear Oil	ISO VG68 AGMA 2EP	ENERGOL GR-XP-68	ALPHA SP68	OPTIGEAR BM68	TRIBOL 1100/68	GEAR COMPOUNDS EP68	MEROPA WM68	SPARTAN EP68	MOBIL- GEAR 626	OMALA 68	CARTER EP68
	ISO VG100 AGMA 3EP	ENERGOL GR-XP-100	ALPHA SP100	OPTIGEAR BM100	TRIBOL 1100/100	GEAR COMPOUNDS EP100	MEROPA WM100	SPARTAN EP100	MOBIL- GEAR 627	OMALA 100	CARTER EP100
	ISO VG150 AGMA 4EP	ENERGOL GR-XP-150	ALPHA SP150	OPTIGEAR BM150	TRIBOL 1100/150	GEAR COMPOUNDS EP150	MEROPA WM150	SPARTAN EP150	MOBIL- GEAR 629	OMALA 150	CARTER EP150
	ISO VG220 AGMA 5EP	ENERGOL GR-XP-220	ALPHA SP220	OPTIGEAR BM220	TRIBOL 1100/220	GEAR COMPOUNDS EP220	MEROPA WM220	SPARTAN EP220	MOBIL- GEAR 630	OMALA 220	CARTER EP220
	ISO VG320 AGMA 6EP	ENERGOL GR-XP-320	ALPHA SP320	OPTIGEAR BM320	TRIBOL 1100/320	GEAR COMPOUNDS EP320	MEROPA WM320	SPARTAN EP320	MOBIL- GEAR 632	OMALA 320	CARTER EP320
Bearing grease	ENER- GREASE LS EP2	SPHEEROL AP3	Olista Long- time 3EP	TRIBOL 3020/ 1000-2	DURALITH GREASE 68	MULTI- FAK EP2	BEACON EP2	MOBIL- PLEX 48	ALVANIA EP2	MULTIS EP2	

Technical

Common

Installation

- Consult us when PARAMAX DRIVE is to be installed on an inclined surface or on a ceiling.
Additional lubrication system may be necessary.
- Install PARAMAX DRIVE horizontally on a sufficiently rigid base.
When the unit is made for inclined installation according to your specification,
do not install it at any other angle other than the specified angle.
- Installation bolts for PARAMAX DRIVE shall be equivalent to JIS strength classification 10.9.
Consult us when the force that pushes up PARAMAX DRIVE is to be applied.
- Refer to the maintenance manual attached to the unit for other installation notes.

TECHNICAL DATA Painting Specifications, Rust Proof Standard

Painting Specifications

Painting Area	Surface Conditioning	Kind of Painting		Painting Specification of				Application
		Class	Painting of Finish Coat	Type	Coating	Thickness μ	Type of Coating	
Outside Painting	Cast Iron Class 1	Standard painting	Acrylic modified phthalic	Under	1	20 ~ 40	Modified alkyd resin	Standard under coat
				Finish	1	15 ~ 30	Acrylic modified alkyd resin	Standard finish coat
		Standard export painting	Acrylic modified phthalic	Under	2	40 ~ 80	Modified alkyd resin	Export standard
				Finish	1	15 ~ 30	Acrylic modified alkyd resin	
		Special painting (Including rust-proof and heat resisting painting) One layer of Unigrand PTC Primer as the first primer	Acrylic modified phthalic	Under	2	40 ~ 80	Modified alkyd resin	Moderate corrosive atmosphere, seaside, outdoor humid atmosphere, chemical plant area, ... etc.
				Finish	2	30 ~ 60	Acrylic modified alkyd resin	
			Long of oil phthalic	Under	2	40 ~ 80	Modified alkyd resin	Ocean-going vessel & boat, bridge, seaside, outdoor humid atmosphere, ... etc.
				Finish	2	30 ~ 60	Synthetics resin paint	
			Chloride rubber	Under	2	40 ~ 80	Modified alkyd resin	Ocean-going vessel & boat, bridge, seaside, outdoor humid atmosphere, ... etc.
				Second	1	20 ~ 40	Phenol M.I.O paint	
		Phenol	Under	2	40 ~ 80	Modified alkyd resin	In-and-outdoor of acid treating plant and chemical plant etc...	
			Finish	2	30 ~ 60	Phenol resin enamel		
	Heat-proof silver	Under	1	20 ~ 40	Modified alkyd resin	Heating furnace (120 deg), ... etc.		
		Finish	1	15 ~ 30	Aluminum paint			
	Steel Plate Class 2	Extra rust-proof painting	Epoxy	Under	2	40 ~ 80	Special permeability epoxy aluminium paint	Indoor anti-corrosion area, Chemical plant
				Finish	3	120 ~ 240	Polyamide epoxy	
Polyurethane		Under	2	40 ~ 80	Special permeability epoxy aluminium paint	Outdoor anti-corrosion area, Chemical plant		
		Finish	3	45 ~ 90	Polyisocyanate urethane resin paint			
Extra rust-proof painting (Sand blast under coating)	Thick film epoxy		5	250 ~ 350	Thick film type modified epoxy resin paint	Submersible equipment, marine structure, ... etc.		
Inside Painting	Cast Iron Class 1 Steel Plate Class 3	Standard painting			1	20 ~ 40	Modified alkyd resin	Standard inside painting

Note : SUMITOMO standard color is Donau Blue (equivalent Munsell color: 6.5PB 3.6 / 8.2)

Rust Proof Standard

Rust proofing treatment has been conducted on all completely assembled models, prior to shipment.

1. Standard rust proofing specifications

(1) Outside rust proofing

Rust proofing oil has been applied to products before shipment.

Check the rust proofing conditions every 6 months after shipment, and conduct rust proofing treatment, as necessary.

Rust proofing period	6 months
Storage condition	Generally to be stored inside the shop or warehouse, relatively free of humidity, dust, extreme temperature fluctuation, corrosive gas, and similar atmosphere. After shipment, the product shall be operated 5-10 minutes every 2-3 months with recommended lubricants.

2. Export rust proofing specifications

Consult us for export rust proofing when export specifications or severe specifications are required.

TECHNICAL DATA Moment of Inertia Right Angle Shaft

Right Angle Shaft Double Reduction

Moment of Inertia at high speed shaft

Nominal reduction ratio	Size of Reducer													
	9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085
6.3	0.00423	0.00805	0.0157		0.0333		0.0662		0.146		0.301		0.502	
7.1	0.00400	0.00750	0.0153		0.0313		0.0621		0.135		0.281		0.475	
8	0.00288	0.00508	0.0137	0.0181	0.0283	0.0374	0.0603	0.0745	0.130	0.166	0.253	0.337	0.480	0.562
9	0.00275	0.00475	0.0134	0.0175	0.0269	0.0346	0.0577	0.0681	0.124	0.149	0.242	0.311	0.464	0.524
10	0.00218	0.00488	0.0111	0.0152	0.0201	0.0311	0.0492	0.0653	0.0981	0.1426	0.203	0.274	0.398	0.516
11.2	0.00210	0.00468	0.0109	0.0149	0.0193	0.0292	0.0475	0.0614	0.0939	0.1319	0.196	0.259	0.387	0.493
12.5	0.00188	0.00390	0.00843	0.0120	0.0138	0.0217	0.0357	0.0525	0.0691	0.1056	0.139	0.216	0.268	0.422
14	0.00183	0.00375	0.00830	0.0118	0.0133	0.0206	0.0345	0.0499	0.0664	0.0990	0.135	0.207	0.261	0.407
16	0.00133	0.00258	0.00583	0.00908	0.0107	0.0149	0.0243	0.0379	0.0514	0.0739	0.102	0.147	0.194	0.282
18	0.00130	0.00250	0.00575	0.00890	0.0104	0.0142	0.0237	0.0362	0.0497	0.0697	0.0987	0.141	0.190	0.273
20				0.00620		0.0114		0.0257		0.0546		0.107		0.203
22.4				0.00610		0.0109		0.0246		0.0518		0.103		0.198

Right Angle Shaft Triple Reduction

Moment of Inertia at high speed shaft

Nominal reduction ratio	Size of Reducer													
	9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085
20			0.00378		0.00693		0.0140		0.0289		0.0590		0.121	
22.4			0.00373		0.00670		0.0136		0.0278		0.0571		0.118	
25			0.00338	0.00403	0.00608	0.00735	0.0115	0.0149	0.0237	0.0310	0.0515	0.0624	0.106	0.126
28			0.00333	0.00395	0.00595	0.00705	0.0112	0.0142	0.0230	0.0292	0.0503	0.0600	0.104	0.123
31.5			0.00193	0.00353	0.00433	0.00635	0.00835	0.0120	0.0183	0.0248	0.0359	0.0537	0.0700	0.110
35.5			0.00190	0.00350	0.00425	0.00618	0.00818	0.0116	0.0178	0.0238	0.0351	0.0521	0.0689	0.108
40			0.00178	0.00203	0.00403	0.00450	0.00738	0.00868	0.0161	0.0191	0.0328	0.0373	0.0644	0.0722
45			0.00175	0.00200	0.00398	0.00440	0.00730	0.00843	0.0159	0.0184	0.0323	0.0363	0.0636	0.0708
50			0.00118	0.00183	0.00233	0.00413	0.00555	0.00758	0.0120	0.0166	0.0239	0.0337	0.0484	0.0659
56			0.00115	0.00183	0.00230	0.00405	0.00550	0.00743	0.0118	0.0162	0.0236	0.0331	0.0479	0.0649
63			0.00110	0.00120	0.00220	0.00240	0.00423	0.00568	0.00893	0.01230	0.0173	0.0245	0.0349	0.0493
71			0.00110	0.00120	0.00218	0.00235	0.00418	0.00558	0.00883	0.01203	0.0171	0.0241	0.0346	0.0487
80				0.00113		0.00225		0.00430		0.00910		0.0176		0.0355
90				0.00113		0.00223		0.00423		0.00895		0.0174		0.0351
100														

Right Angle Shaft Quadruple Reduction

Moment of Inertia at high speed shaft

Nominal reduction ratio	Size of Reducer													
	9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085
63														
71														
80					0.00295		0.00283		0.00553		0.0113		0.0229	
90					0.00293		0.00280		0.00548		0.0112		0.0227	
100					0.00215	0.00298	0.00268	0.00288	0.00523	0.00565	0.0108	0.0115	0.0219	0.0233
112					0.00215	0.00295	0.00265	0.00283	0.00518	0.00555	0.0107	0.0114	0.0218	0.0230
125					0.00203	0.00218	0.00243	0.00270	0.00473	0.00530	0.00923	0.0110	0.0188	0.0222
140					0.00203	0.00215	0.00243	0.00268	0.00470	0.00523	0.00918	0.0109	0.0188	0.0220
160						0.00205	0.00120	0.00245	0.00243	0.00475	0.00480	0.00930	0.00993	0.0190
180						0.00203	0.00120	0.00243	0.00240	0.00473	0.00478	0.00925	0.00990	0.0189
200							0.00118	0.00123	0.00235	0.00245	0.00468		0.00970	0.0100
224							0.00118	0.00120	0.00233	0.00243	0.00465	0.00483	0.00968	0.0100
250							0.00110	0.00118	0.00223	0.00235	0.00428	0.00473	0.00893	0.00978
280							0.00110	0.00118	0.00220	0.00235	0.00425	0.00470	0.00893	0.00973
315							0.00110	0.00113	0.00220	0.00223	0.00420	0.00430	0.00885	0.00898
355							0.00108	0.00110	0.00215	0.00223	0.00418	0.00428	0.00868	0.00895
400								0.00110		0.00220		0.00423		0.00885
450								0.00108		0.00218		0.00418		0.00868
500														

Technical
Common

TECHNICAL DATA Moment of Inertia Right Angle Shaft

Unit: kg·m²

Size of Reducer											Nominal reduction ratio	
9090	9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136	
												6.3
												7.1
												8
	1.18		2.23		4.16							9
	1.16		2.20		3.98							10
	0.871		1.68		3.10							11.2
	0.858		1.65		2.99							12.5
	0.638		1.22		2.28							14
	0.630		1.20		2.21							16
	0.464		0.894		1.68							18
	0.459		0.884		1.63							20
												22.4

Unit: kg·m²

Size of Reducer											Nominal reduction ratio	
9090	9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136	
0.240		0.460		0.889								20
0.237	0.249	0.453	0.476	0.866	0.926							22.4
0.212	0.245	0.401	0.470	0.774	0.896	0.959						25
0.210	0.218	0.397	0.412	0.759	0.798		2.18	2.21		4.48	4.53	28
0.141	0.215	0.264	0.408	0.454	0.779	0.701	2.12	2.15		4.24	4.28	31.5
0.140	0.144	0.262	0.271	0.445	0.468	0.731	1.29	1.31	2.39	3.31	3.34	35.5
0.129	0.143	0.241	0.268	0.409	0.456	0.615	1.25	1.27	2.33	3.16	3.18	40
0.129	0.132	0.239	0.245	0.403	0.418	0.559	0.939	0.952	1.78	2.41	2.43	45
0.0931	0.131	0.175	0.244	0.311	0.411	0.443	0.917	0.928	1.74	2.32	2.33	50
0.0927	0.0945	0.174	0.178	0.307	0.317	0.408	0.683	0.691	1.28	1.76	1.77	56
0.0664	0.0940	0.127	0.177	0.225	0.312	0.322	0.668	0.675	1.26	1.70	1.71	63
0.0661	0.0673	0.126	0.129	0.223	0.229	0.300	0.509	0.515	0.934			71
0.0642	0.0669	0.121	0.128	0.211	0.226	0.232	0.500	0.505	0.919			80
	0.0648		0.123		0.214	0.218						90
												100

Unit: kg·m²

Size of Reducer											Nominal reduction ratio	
9090	9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136	
										0.979	0.987	63
										0.819	0.825	71
												80
0.0467		0.0962		0.108			0.235	0.238	0.502	0.713	0.718	90
0.0452	0.0472	0.0930	0.0972	0.102	0.110	0.139	0.230	0.233	0.492	0.688	0.692	100
0.0451	0.0455	0.0927	0.0937	0.101	0.104	0.123	0.199	0.201	0.429	0.505	0.508	112
0.0409	0.0454	0.0846	0.0934	0.0908	0.102	0.105	0.196	0.198	0.423	0.489	0.492	125
0.0408	0.0411	0.0844	0.0850	0.0902	0.0918	0.100	0.152	0.154	0.281	0.448	0.450	140
0.0243	0.0410	0.0493	0.0849	0.0527	0.0910	0.0927	0.150	0.151	0.277	0.438	0.439	160
0.0242	0.0244	0.0492	0.0496	0.0523	0.0533	0.0890	0.137	0.138	0.252	0.326	0.327	180
0.0183	0.0244	0.0370	0.0495	0.0393	0.0528	0.0693	0.136	0.136	0.250	0.319	0.320	200
0.0183	0.0184	0.0369	0.0371	0.0391	0.0397	0.0544	0.0978	0.0983	0.143	0.234	0.235	224
0.0172	0.0183	0.0349	0.0371	0.0364	0.0394	0.0516	0.0969	0.0974	0.141	0.230	0.231	250
0.0172	0.0172	0.0348	0.0350	0.0363	0.0367	0.0501	0.0693	0.0696	0.131	0.217	0.217	280
0.0171	0.0172	0.0345	0.0350	0.0355	0.0365	0.0477	0.0688	0.0690	0.130			315
0.0163	0.0171	0.0334	0.0346	0.0341	0.0357	0.0360	0.0664	0.0667	0.125			355
	0.0164		0.0334		0.0343	0.0345						400
												450
												500

TECHNICAL DATA GD² Right Angle Shaft

Right Angle Shaft Double Reduction

GD² at high speed shaft

Nominal reduction ratio	Size of Reducer													
	9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085
6.3	0.0169	0.0322	0.0629		0.133		0.265		0.584		1.20		2.01	
7.1	0.0160	0.0300	0.0610		0.125		0.248		0.541		1.13		1.90	
8	0.0115	0.0203	0.0548	0.0723	0.113	0.150	0.241	0.298	0.522	0.663	1.01	1.35	1.92	2.25
9	0.0110	0.0190	0.0536	0.0699	0.108	0.138	0.231	0.272	0.495	0.594	0.968	1.24	1.86	2.10
10	0.0087	0.0195	0.0443	0.0609	0.0805	0.1242	0.197	0.261	0.392	0.570	0.812	1.10	1.59	2.06
11.2	0.0084	0.0187	0.0436	0.0594	0.0772	0.1167	0.190	0.246	0.376	0.528	0.783	1.04	1.55	1.97
12.5	0.0075	0.0156	0.0337	0.0481	0.0553	0.0869	0.143	0.210	0.276	0.423	0.556	0.865	1.07	1.69
14	0.0073	0.0150	0.0332	0.0472	0.0532	0.0825	0.138	0.200	0.266	0.396	0.538	0.827	1.04	1.63
16	0.0053	0.0103	0.0233	0.0363	0.0428	0.0594	0.0972	0.152	0.206	0.296	0.407	0.590	0.777	1.13
18	0.0052	0.0100	0.0230	0.0356	0.0414	0.0566	0.0946	0.145	0.199	0.279	0.395	0.566	0.759	1.09
20				0.0248		0.0455		0.103		0.218		0.429		0.814
22.4				0.0244		0.0437		0.0985		0.207		0.413		0.790

Right Angle Shaft Triple Reduction

GD² at high speed shaft

Nominal reduction ratio	Size of Reducer													
	9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085
20			0.0151		0.0277		0.0559		0.116		0.236		0.482	
22.4			0.0149		0.0268		0.0542		0.111		0.229		0.471	
25			0.0135	0.0161	0.0243	0.0294	0.0459	0.0594	0.0946	0.1238	0.206	0.250	0.425	0.505
28			0.0133	0.0158	0.0238	0.0282	0.0449	0.0567	0.0919	0.1167	0.201	0.240	0.418	0.491
31.5			0.0077	0.0141	0.0173	0.0254	0.0334	0.0479	0.0730	0.0993	0.144	0.215	0.280	0.440
35.5			0.0076	0.0140	0.0170	0.0247	0.0327	0.0464	0.0712	0.0952	0.141	0.208	0.276	0.431
40			0.0071	0.0081	0.0161	0.0180	0.0295	0.0347	0.0645	0.0764	0.131	0.149	0.257	0.289
45			0.0070	0.0080	0.0159	0.0176	0.0292	0.0337	0.0635	0.0735	0.129	0.145	0.255	0.283
50			0.0047	0.0073	0.0093	0.0165	0.0222	0.0303	0.0480	0.0665	0.0957	0.135	0.193	0.264
56			0.0046	0.0073	0.0092	0.0162	0.0220	0.0297	0.0473	0.0648	0.0945	0.132	0.192	0.260
63			0.0044	0.0048	0.0088	0.0096	0.0169	0.0227	0.0357	0.0492	0.0690	0.0979	0.140	0.197
71			0.0044	0.0048	0.0087	0.0094	0.0167	0.0223	0.0353	0.0481	0.0682	0.0963	0.139	0.195
80				0.0045		0.0090		0.0172		0.0364		0.0704		0.142
90				0.0045		0.0089		0.0169		0.0358		0.0694		0.141
100														

Right Angle Shaft Quadruple Reduction

GD² at high speed shaft

Nominal reduction ratio	Size of Reducer													
	9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085
63														
71														
80					0.0118		0.0113		0.0221		0.0452		0.0914	
90					0.0117		0.0112		0.0219		0.0447		0.0907	
100					0.0086	0.0119	0.0107	0.0115	0.0209	0.0226	0.0432	0.0461	0.0877	0.0930
112					0.0086	0.0118	0.0106	0.0113	0.0207	0.0222	0.0429	0.0455	0.0872	0.0920
125					0.0081	0.0087	0.0097	0.0108	0.0189	0.0212	0.0369	0.0438	0.0753	0.0887
140					0.0081	0.0086	0.0097	0.0107	0.0188	0.0209	0.0367	0.0434	0.0751	0.0881
160						0.0082	0.0048	0.0098	0.0097	0.0190	0.0192	0.0372	0.0397	0.0759
180						0.0081	0.0048	0.0097	0.0096	0.0189	0.0191	0.0370	0.0396	0.0756
200							0.0047	0.0049	0.0094	0.0098	0.0187	0.0195	0.0388	0.0401
224							0.0047	0.0048	0.0093	0.0097	0.0186	0.0193	0.0387	0.0399
250							0.0044	0.0047	0.0089	0.0094	0.0171	0.0189	0.0357	0.0391
280							0.0044	0.0047	0.0088	0.0094	0.0170	0.0188	0.0357	0.0389
315							0.0044	0.0045	0.0088	0.0089	0.0168	0.0172	0.0354	0.0359
355							0.0043	0.0044	0.0086	0.0089	0.0167	0.0171	0.0347	0.0358
400								0.0044		0.0088		0.0169		0.0354
450								0.0043		0.0087		0.0167		0.0347
500														

Technical
Common

TECHNICAL DATA GD² Right Angle ShaftUnit: kgf-m²

Size of Reducer											Nominal reduction ratio	
9090	9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136	
												6.3
												7.1
												8
	4.72		8.94		16.6							9
	4.63		8.78		15.9							10
	3.48		6.70		12.4							11.2
	3.43		6.61		12.0							12.5
	2.55		4.88		9.14							14
	2.52		4.82		8.85							16
	1.86		3.57		6.71							18
	1.84		3.54		6.53							20
												22.4

Unit: kgf-m²

Size of Reducer											Nominal reduction ratio	
9090	9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136	
0.960		1.84		3.56								20
0.949	0.994	1.81	1.91	3.47	3.70							22.4
0.848	0.981	1.60	1.88	3.10	3.59	3.84						25
0.842	0.870	1.59	1.65	3.04	3.19		8.71	8.84		17.9	18.1	28
0.563	0.862	1.06	1.63	1.81	3.12	2.80	8.48	8.59		17.0	17.1	31.5
0.559	0.578	1.05	1.08	1.78	1.87	2.92	5.16	5.24	9.58	13.2	13.4	35.5
0.518	0.572	0.964	1.07	1.64	1.83	2.46	5.01	5.08	9.34	12.6	12.7	40
0.515	0.527	0.958	0.982	1.61	1.67	2.24	3.76	3.81	7.10	9.65	9.73	45
0.372	0.523	0.699	0.975	1.24	1.64	1.77	3.67	3.71	6.95	9.27	9.33	50
0.371	0.378	0.695	0.710	1.23	1.27	1.63	2.73	2.76	5.13	7.04	7.09	56
0.266	0.760	0.507	0.706	0.900	1.25	1.29	2.67	2.70	5.03	6.79	6.83	63
0.265	0.269	0.505	0.514	0.890	0.915	1.20	2.04	2.06	3.73			71
0.257	0.268	0.485	0.512	0.845	0.903	0.928	2.00	2.02	3.67			80
	0.259		0.491		0.854	0.872						90
												100

Unit: kgf-m²

Size of Reducer											Nominal reduction ratio	
9090	9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136	
										3.91	3.95	63
										3.28	3.30	71
0.187		0.385		0.431			0.941	0.954	2.01	2.85	2.87	80
0.181	0.189	0.372	0.389	0.409	0.439	0.554	0.920	0.930	1.97	2.75	2.77	90
0.180	0.182	0.371	0.375	0.405	0.415	0.490	0.797	0.805	1.72	2.02	2.03	100
0.163	0.182	0.338	0.374	0.363	0.410	0.420	0.784	0.790	1.69	1.96	1.97	112
0.163	0.164	0.338	0.340	0.361	0.367	0.398	0.609	0.614	1.12	1.79	1.80	125
0.0970	0.164	0.197	0.339	0.211	0.364	0.371	0.600	0.605	1.11	1.75	1.76	140
0.0969	0.0976	0.197	0.198	0.209	0.213	0.356	0.548	0.552	1.01	1.30	1.31	160
0.0731	0.0974	0.148	0.198	0.157	0.211	0.277	0.542	0.545	0.998	1.28	1.28	180
0.0730	0.0734	0.148	0.149	0.156	0.159	0.217	0.391	0.393	0.571	0.936	0.940	200
0.0687	0.0733	0.140	0.148	0.146	0.157	0.206	0.388	0.389	0.565	0.920	0.923	224
0.0687	0.0689	0.139	0.140	0.145	0.147	0.200	0.277	0.279	0.525	0.867	0.868	250
0.0682	0.0689	0.138	0.140	0.142	0.146	0.191	0.275	0.276	0.521			280
0.0653	0.0683	0.133	0.138	0.137	0.143	0.144	0.266	0.267	0.498			315
	0.0654		0.134		0.137	0.138						355
												400
												450
												500

TECHNICAL DATA Moment of Inertia Parallel shaft

Parallel Shaft Double Reduction

Moment of Inertia at high speed shaft

Nominal reduction ratio	Size of Reducer													
	9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085
6.3	0.00238	0.00508	0.0110		0.0211		0.0416		0.109		0.226		0.447	
7.1	0.00215	0.00455	0.0105		0.0188		0.0376		0.0977		0.207		0.420	
8	0.00185	0.00433	0.00913	0.0135	0.0158	0.0257	0.0336	0.0496	0.0787	0.128	0.167	0.262	0.326	0.502
9	0.00170	0.00398	0.00880	0.0129	0.0144	0.0226	0.0309	0.0434	0.0721	0.111	0.155	0.236	0.309	0.466
10	0.00133	0.00305	0.00718	0.0107	0.0136	0.0186	0.0267	0.0389	0.0619	0.0909	0.132	0.188	0.256	0.360
11.2	0.00125	0.00283	0.00698	0.0103	0.0126	0.0167	0.0251	0.0348	0.0576	0.0803	0.124	0.173	0.245	0.337
12.5	0.00100	0.00218	0.00463	0.00820	0.00933	0.0154	0.0210	0.0300	0.0443	0.0699	0.0898	0.147	0.165	0.279
14	0.00095	0.00205	0.00450	0.00795	0.00878	0.0142	0.0200	0.0275	0.0415	0.0629	0.0851	0.136	0.158	0.264
16	0.00078	0.00173	0.00365	0.00523	0.00725	0.0104	0.0149	0.0232	0.0312	0.0493	0.0708	0.0984	0.129	0.179
18	0.00073	0.00163	0.00355	0.00508	0.00690	0.00965	0.0142	0.0215	0.0296	0.0449	0.0678	0.0922	0.124	0.169
20				0.00403		0.00795		0.0161		0.0342		0.0764		0.138
22.4				0.00393		0.00748		0.0151		0.0316		0.0724		0.132

Parallel Shaft Triple Reduction

Moment of Inertia at high speed shaft

Nominal reduction ratio	Size of Reducer													
	9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085
20	0.00085	0.00210	0.00288		0.00558		0.0135		0.0303		0.0588		0.121	
22.4	0.00083	0.00205	0.00280		0.00538		0.0131		0.0291		0.0570		0.118	
25	0.00073	0.00190	0.00248	0.00310	0.00478	0.00600	0.0109	0.0144	0.0249	0.0324	0.0514	0.0622	0.106	0.127
28	0.00073	0.00188	0.00245	0.00305	0.00463	0.00573	0.0107	0.0137	0.0242	0.0306	0.0502	0.0598	0.104	0.123
31.5	0.00048	0.00115	0.00153	0.00263	0.00335	0.00505	0.00763	0.0115	0.0164	0.0261	0.0317	0.0536	0.0690	0.110
35.5	0.00048	0.00115	0.00153	0.00260	0.00328	0.00485	0.00743	0.0111	0.0159	0.0251	0.0309	0.0520	0.0679	0.108
40	0.00043	0.00108	0.00138	0.00163	0.00303	0.00353	0.00658	0.00798	0.0142	0.0172	0.0287	0.0331	0.0632	0.0714
45	0.00043	0.00108	0.00138	0.00160	0.00298	0.00343	0.00648	0.00770	0.0140	0.0165	0.0282	0.0321	0.0624	0.0699
50			0.00090	0.00145	0.00190	0.00315	0.00433	0.00680	0.00868	0.0147	0.0175	0.0296	0.0347	0.0648
56			0.00088	0.00143	0.00188	0.00308	0.00425	0.00663	0.00850	0.0143	0.0172	0.0289	0.0343	0.0637
63			0.00083	0.00093	0.00178	0.00198	0.00393	0.00448	0.00788	0.00900	0.0164	0.0180	0.0325	0.0356
71			0.00083	0.00093	0.00175	0.00193	0.00390	0.00435	0.00778	0.00873	0.0162	0.0177	0.0323	0.0350
80				0.00085		0.00183		0.00400		0.00805		0.0167		0.0331
90				0.00085		0.00180		0.00395		0.00790		0.0165		0.0328

Parallel Shaft Quadruple Reduction

Moment of Inertia at high speed shaft

Nominal reduction ratio	Size of Reducer													
	9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085
63														
71														
80			0.00078		0.00200		0.00278		0.00618		0.0124		0.0248	
90			0.00078		0.00200		0.00275		0.00610		0.0123		0.0246	
100			0.00075	0.00080	0.00195	0.00203	0.00263	0.00283	0.00585	0.00630	0.0119	0.0126	0.0238	0.0252
112			0.00075	0.00078	0.00195	0.00200	0.00260	0.00278	0.00580	0.00620	0.0118	0.0125	0.0237	0.0249
125			0.00068	0.00075	0.00183	0.00198	0.00238	0.00265	0.00533	0.00593	0.0103	0.0121	0.0207	0.0241
140			0.00068	0.00075	0.00183	0.00195	0.00238	0.00263	0.00530	0.00585	0.0103	0.0120	0.0207	0.0239
160			0.00043	0.00068	0.00110	0.00185	0.00103	0.00240	0.00220	0.00538	0.00493	0.0104	0.00883	0.0209
180			0.00043	0.00068	0.00110	0.00183	0.00103	0.00238	0.00218	0.00533	0.00490	0.0104	0.00878	0.0208
200			0.00040	0.00043	0.00105	0.00110	0.00098	0.00105	0.00213	0.00223	0.00480	0.00498	0.00860	0.00893
224			0.00040	0.00043	0.00105	0.00110	0.00098	0.00103	0.00210	0.00220	0.00478	0.00495	0.00858	0.00888
250				0.00040		0.00105	0.00093	0.00100	0.00200	0.00213	0.00440	0.00483	0.00783	0.00865
280				0.00040		0.00105	0.00093	0.00100	0.00198	0.00213	0.00438	0.00480	0.00780	0.00863
315							0.00093	0.00093	0.00198	0.00200	0.00433	0.00440	0.00773	0.00785
355							0.00088	0.00093	0.00193	0.00200	0.00430	0.00440	0.00755	0.00783
400							0.00080	0.00093	0.00163	0.00198	0.00353	0.00435	0.00685	0.00775
450								0.00090		0.00193		0.00430		0.00758
500								0.00080		0.00165		0.00353		0.00685

Technical
Common

TECHNICAL DATA Moment of Inertia Parallel shaft

Unit: kg-m²

Size of Reducer											Nominal reduction ratio	
9090	9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136	
0.865		1.78		3.33								6.3
0.840	0.950	1.72	1.95	3.10	3.70							7.1
0.693	0.918	1.32	1.89	2.48	3.40							8
0.675	0.748	1.28	1.42	2.34	2.70							9
0.490	0.725	1.02	1.39	1.91	2.53							10
0.480	0.523	0.990	1.09	1.81	2.05							11.2
0.323	0.510	0.658	1.06	1.29	1.94							12.5
0.318	0.345	0.640	0.700	1.23	1.38							14
0.253	0.338	0.510	0.683	1.01	1.31							16
0.250	0.268	0.500	0.538	0.968	1.06							18
	0.263		0.528		1.02							20
												22.4

Unit: kg-m²

Size of Reducer											Nominal reduction ratio	
9090	9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136	
0.239		0.508		0.720								20
0.237	0.248	0.500	0.523	0.698	0.755					4.58	4.66	22.4
0.212	0.245	0.450	0.518	0.610	0.728	0.787				4.19	4.25	25
0.210	0.217	0.445	0.460	0.595	0.633		1.20	1.23	2.34	3.36	3.41	28
0.139	0.215	0.300	0.458	0.398	0.615	0.654	1.15	1.17	2.24	3.13	3.16	31.5
0.138	0.143	0.298	0.308	0.388	0.413	0.567	0.941	0.962	1.72	2.32	2.35	35.5
0.128	0.142	0.275	0.305	0.350	0.400	0.426	0.906	0.923	1.65	2.16	2.18	40
0.127	0.130	0.275	0.280	0.345	0.360	0.418	0.630	0.643	1.14	1.73	1.75	45
0.0695	0.129	0.138	0.278	0.178	0.353	0.370	0.609	0.619	1.10	1.63	1.65	50
0.0693	0.0710	0.137	0.141	0.174	0.184	0.333	0.486	0.494	0.810	1.34	1.36	56
0.0653	0.0705	0.128	0.140	0.159	0.179	0.216	0.473	0.479	0.786	1.28	1.29	63
0.0650	0.0660	0.127	0.130	0.157	0.163	0.194	0.367	0.372	0.626	1.02	1.03	71
0.0630	0.0658	0.122	0.129	0.145	0.160	0.166	0.358	0.362	0.610			80
	0.0638		0.124		0.147	0.152	0.309	0.312	0.491			90

Unit: kg-m²

Size of Reducer											Nominal reduction ratio	
9090	9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136	
												63
												71
										0.713	0.719	80
0.0675		0.108		0.123						0.611	0.616	90
0.0658	0.0680	0.105	0.109	0.118	0.125	0.147	0.250	0.253	0.517	0.588	0.592	100
0.0658	0.0663	0.105	0.106	0.117	0.119	0.138	0.221	0.223	0.447	0.525	0.528	112
0.0613	0.0660	0.0963	0.105	0.106	0.118	0.121	0.218	0.219	0.441	0.469	0.471	125
0.0613	0.0615	0.0963	0.0968	0.106	0.107	0.115	0.199	0.200	0.291	0.368	0.371	140
0.0193	0.0615	0.0398	0.0965	0.0678	0.107	0.108	0.189	0.190	0.287	0.331	0.332	160
0.0193	0.0194	0.0395	0.0400	0.0673	0.0683	0.105	0.164	0.165	0.261	0.260	0.261	180
0.0189	0.0194	0.0388	0.0398	0.0425	0.0678	0.0688	0.158	0.159	0.258	0.237	0.238	200
0.0189	0.0190	0.0388	0.0390	0.0423	0.0428	0.0665	0.113	0.114	0.158	0.232	0.233	224
0.0178	0.0189	0.0368	0.0390	0.0398	0.0425	0.0431	0.110	0.110	0.156	0.171	0.172	250
0.0178	0.0179	0.0368	0.0370	0.0395	0.0400	0.0621	0.0830	0.0833	0.146	0.168	0.169	280
0.0177	0.0179	0.0365	0.0368	0.0388	0.0398	0.0597	0.0805	0.0808	0.145	0.141	0.141	315
0.0170	0.0177	0.0353	0.0365	0.0375	0.0390	0.0392	0.0801	0.0803	0.112			355
0.0156	0.0170	0.0295	0.0355	0.0313	0.0375	0.0378	0.0626	0.0628	0.111			400
	0.0156		0.0295		0.0313	0.0315						450
												500

TECHNICAL DATA GD² Parallel shaft

Parallel Shaft Double Reduction

GD² at high speed shaft

Nominal reduction ratio	Size of Reducer													
	9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085
6.3	0.0095	0.0203	0.0440		0.0845		0.166		0.434		0.906		1.79	
7.1	0.0086	0.0182	0.0419		0.0753		0.150		0.391		0.830		1.68	
8	0.0074	0.0173	0.0365	0.0541	0.0633	0.1027	0.134	0.199	0.315	0.513	0.666	1.05	1.30	2.01
9	0.0068	0.0159	0.0352	0.0515	0.0577	0.0903	0.124	0.174	0.288	0.444	0.620	0.946	1.24	1.86
10	0.0053	0.0122	0.0287	0.0426	0.0542	0.0743	0.107	0.156	0.248	0.364	0.529	0.751	1.02	1.44
11.2	0.0050	0.0113	0.0279	0.0410	0.0505	0.0668	0.100	0.139	0.230	0.321	0.497	0.690	0.978	1.35
12.5	0.0040	0.0087	0.0185	0.0328	0.0373	0.0616	0.0841	0.120	0.177	0.280	0.359	0.587	0.658	1.12
14	0.0038	0.0082	0.0180	0.0318	0.0351	0.0566	0.0798	0.110	0.166	0.252	0.340	0.545	0.631	1.06
16	0.0031	0.0069	0.0146	0.0209	0.0290	0.0415	0.0594	0.0926	0.125	0.197	0.283	0.394	0.514	0.714
18	0.0029	0.0065	0.0142	0.0203	0.0276	0.0386	0.0569	0.0860	0.119	0.180	0.271	0.369	0.496	0.678
20				0.0161		0.0318		0.0643		0.137		0.305		0.552
22.4				0.0157		0.0299		0.0605		0.126		0.290		0.527

Parallel Shaft Triple Reduction

GD² at high speed shaft

Nominal reduction ratio	Size of Reducer													
	9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085
20	0.0034	0.0084	0.0115		0.0223		0.0539		0.121		0.235		0.483	
22.4	0.0033	0.0082	0.0112		0.0215		0.0522		0.117		0.228		0.472	
25	0.0029	0.0076	0.0099	0.0124	0.0191	0.0240	0.0437	0.0574	0.0996	0.130	0.206	0.249	0.425	0.507
28	0.0029	0.0075	0.0098	0.0122	0.0185	0.0229	0.0427	0.0547	0.0969	0.122	0.201	0.239	0.418	0.492
31.5	0.0019	0.0046	0.0061	0.0105	0.0134	0.0202	0.0305	0.0458	0.0655	0.105	0.127	0.214	0.276	0.441
35.5	0.0019	0.0046	0.0061	0.0104	0.0131	0.0194	0.0297	0.0442	0.0637	0.100	0.124	0.208	0.272	0.431
40	0.0017	0.0043	0.0055	0.0065	0.0121	0.0141	0.0263	0.0319	0.0568	0.0689	0.115	0.132	0.253	0.285
45	0.0017	0.0043	0.0055	0.0064	0.0119	0.0137	0.0259	0.0308	0.0558	0.0659	0.113	0.128	0.250	0.279
50			0.0036	0.0058	0.0076	0.0126	0.0173	0.0272	0.0347	0.0588	0.0700	0.118	0.139	0.259
56			0.0035	0.0057	0.0075	0.0123	0.0170	0.0265	0.0340	0.0571	0.0689	0.116	0.137	0.255
63			0.0033	0.0037	0.0071	0.0079	0.0157	0.0179	0.0315	0.0360	0.0655	0.0721	0.130	0.142
71			0.0033	0.0037	0.0070	0.0077	0.0156	0.0174	0.0311	0.0349	0.0647	0.0706	0.129	0.140
80				0.0034		0.0073		0.0160		0.0322		0.0668		0.133
90				0.0034		0.0072		0.0158		0.0316		0.0659		0.131

Parallel Shaft Quadruple Reduction

GD² at high speed shaft

Nominal reduction ratio	Size of Reducer													
	9015	9025	9030	9035	9040	9045	9050	9055	9060	9065	9070	9075	9080	9085
63														
71														
80			0.0031		0.0080		0.0111		0.0247		0.0496		0.0990	
90			0.0031		0.0080		0.0110		0.0244		0.0491		0.0983	
100			0.0030	0.0032	0.0078	0.0081	0.0105	0.0113	0.0234	0.0252	0.0476	0.0505	0.0953	0.101
112			0.0030	0.0031	0.0078	0.0080	0.0104	0.0111	0.0232	0.0248	0.0473	0.0499	0.0948	0.0996
125			0.0027	0.0030	0.0073	0.0079	0.0095	0.0106	0.0213	0.0237	0.0413	0.0482	0.0829	0.0963
140			0.0027	0.0030	0.0073	0.0078	0.0095	0.0105	0.0212	0.0234	0.0411	0.0478	0.0827	0.0957
160			0.0017	0.0027	0.0044	0.0074	0.0041	0.0096	0.0088	0.0215	0.0197	0.0416	0.0353	0.0835
180			0.0017	0.0027	0.0044	0.0073	0.0041	0.0095	0.0087	0.0213	0.0196	0.0414	0.0351	0.0832
200			0.0016	0.0017	0.0042	0.0044	0.0039	0.0042	0.0085	0.0089	0.0192	0.0199	0.0344	0.0357
224			0.0016	0.0017	0.0042	0.0044	0.0039	0.0041	0.0084	0.0088	0.0191	0.0198	0.0343	0.0355
250				0.0016		0.0042	0.0037	0.0040	0.0080	0.0085	0.0176	0.0193	0.0313	0.0346
280				0.0016		0.0042	0.0037	0.0040	0.0079	0.0085	0.0175	0.0192	0.0312	0.0345
315						0.0037	0.0037	0.0079	0.0080	0.0173	0.0176	0.0309	0.0314	
355						0.0035	0.0037	0.0077	0.0080	0.0172	0.0176	0.0302	0.0313	
400						0.0032	0.0037	0.0065	0.0079	0.0141	0.0174	0.0274	0.0310	
450							0.0036		0.0077		0.0172		0.0303	
500							0.0032		0.0066		0.0141		0.0274	

Technical
Common

TECHNICAL DATA GD² Parallel shaftUnit: kgf-m²

Size of Reducer											Nominal reduction ratio	
9090	9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136	
3.46		7.10		13.3								6.3
3.36	3.80	6.86	7.79	12.4	14.8							7.1
2.77	3.67	5.28	7.54	9.91	13.6							8
2.70	2.99	5.12	5.69	9.37	10.8							9
1.96	2.90	4.06	5.54	7.62	10.1							10
1.92	2.09	3.96	4.34	7.25	8.21							11.2
1.29	2.04	2.63	4.24	5.16	7.74							12.5
1.27	1.38	2.56	2.80	4.93	5.52							14
1.01	1.35	2.04	2.73	4.02	5.23							16
0.998	1.07	2.00	2.15	3.87	4.25							18
	1.05		2.11		4.06							20
												22.4

Unit: kgf-m²

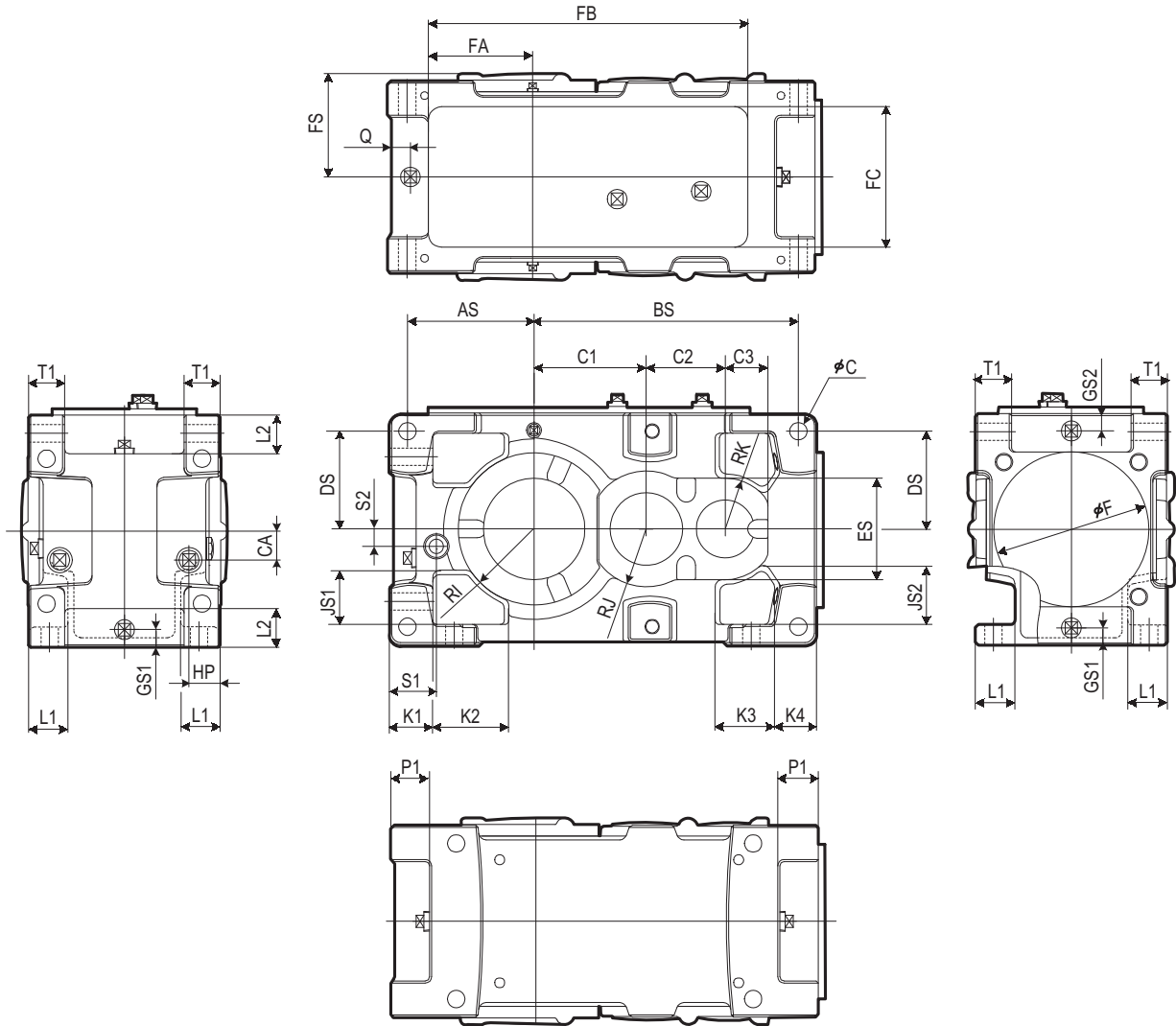
Size of Reducer											Nominal reduction ratio	
9090	9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136	
0.957		2.03		2.88								20
0.946	0.991	2.00	2.09	2.79	3.02					18.3	18.7	22.4
0.846	0.978	1.80	2.07	2.44	2.91	3.15				16.7	17.0	25
0.839	0.868	1.78	1.84	2.38	2.53		4.80	4.92	9.35	13.4	13.6	28
0.557	0.859	1.20	1.83	1.59	2.46	2.62	4.58	4.69	8.96	12.5	12.7	31.5
0.553	0.571	1.19	1.23	1.55	1.65	2.27	3.77	3.85	6.86	9.26	9.40	35.5
0.510	0.566	1.10	1.22	1.40	1.60	1.70	3.62	3.69	6.62	8.63	8.73	40
0.508	0.520	1.10	1.12	1.38	1.44	1.67	2.52	2.57	4.57	6.93	7.01	45
0.278	0.516	0.551	1.11	0.711	1.41	1.48	2.43	2.48	4.41	6.54	6.60	50
0.277	0.284	0.547	0.562	0.696	0.735	1.33	1.95	1.98	3.24	5.37	5.42	56
0.261	0.282	0.512	0.558	0.636	0.716	0.863	1.89	1.92	3.14	5.11	5.15	63
0.260	0.264	0.509	0.519	0.626	0.651	0.776	1.47	1.49	2.51	4.08	4.11	71
0.252	0.263	0.489	0.517	0.578	0.639	0.666	1.43	1.45	2.44			80
	0.255		0.495		0.587	0.607	1.24	1.25	1.96			90

Unit: kgf-m²

Size of Reducer											Nominal reduction ratio	
9090	9095	9100	9105	9110	9115	9118	9121	9126	9128	9131	9136	
												63
												71
										2.85	2.88	80
0.270		0.432		0.493						2.45	2.47	90
0.263	0.272	0.419	0.436	0.471	0.501	0.589	1.00	1.01	2.07	2.35	2.37	100
0.263	0.265	0.418	0.422	0.467	0.477	0.552	0.884	0.892	1.79	2.10	2.11	112
0.245	0.264	0.385	0.421	0.425	0.472	0.482	0.871	0.878	1.77	1.88	1.88	125
0.245	0.246	0.385	0.387	0.423	0.429	0.460	0.795	0.800	1.16	1.47	1.48	140
0.0771	0.246	0.159	0.386	0.271	0.426	0.433	0.758	0.762	1.15	1.32	1.33	160
0.0770	0.0777	0.158	0.160	0.269	0.273	0.418	0.657	0.661	1.04	1.04	1.04	180
0.0755	0.0775	0.155	0.159	0.170	0.271	0.275	0.632	0.634	1.03	0.948	0.952	200
0.0754	0.0758	0.155	0.156	0.169	0.171	0.266	0.454	0.455	0.631	0.930	0.933	224
0.0713	0.0757	0.147	0.156	0.159	0.170	0.173	0.438	0.440	0.625	0.685	0.688	250
0.0712	0.0715	0.147	0.148	0.158	0.160	0.249	0.332	0.333	0.583	0.673	0.675	280
0.0707	0.0714	0.146	0.147	0.155	0.159	0.239	0.322	0.323	0.579	0.562	0.564	315
0.0680	0.0709	0.141	0.146	0.150	0.156	0.157	0.320	0.321	0.448			355
0.0622	0.0681	0.118	0.142	0.125	0.150	0.151	0.251	0.251	0.445			400
	0.0623		0.118		0.125	0.126						450
												500

TECHNICAL DATA Supplementary Dimension Drawing

9015 ▶ 9055 / Right Angle Double, Triple / Parallel double
/ Horizontal, Vertical, Upright



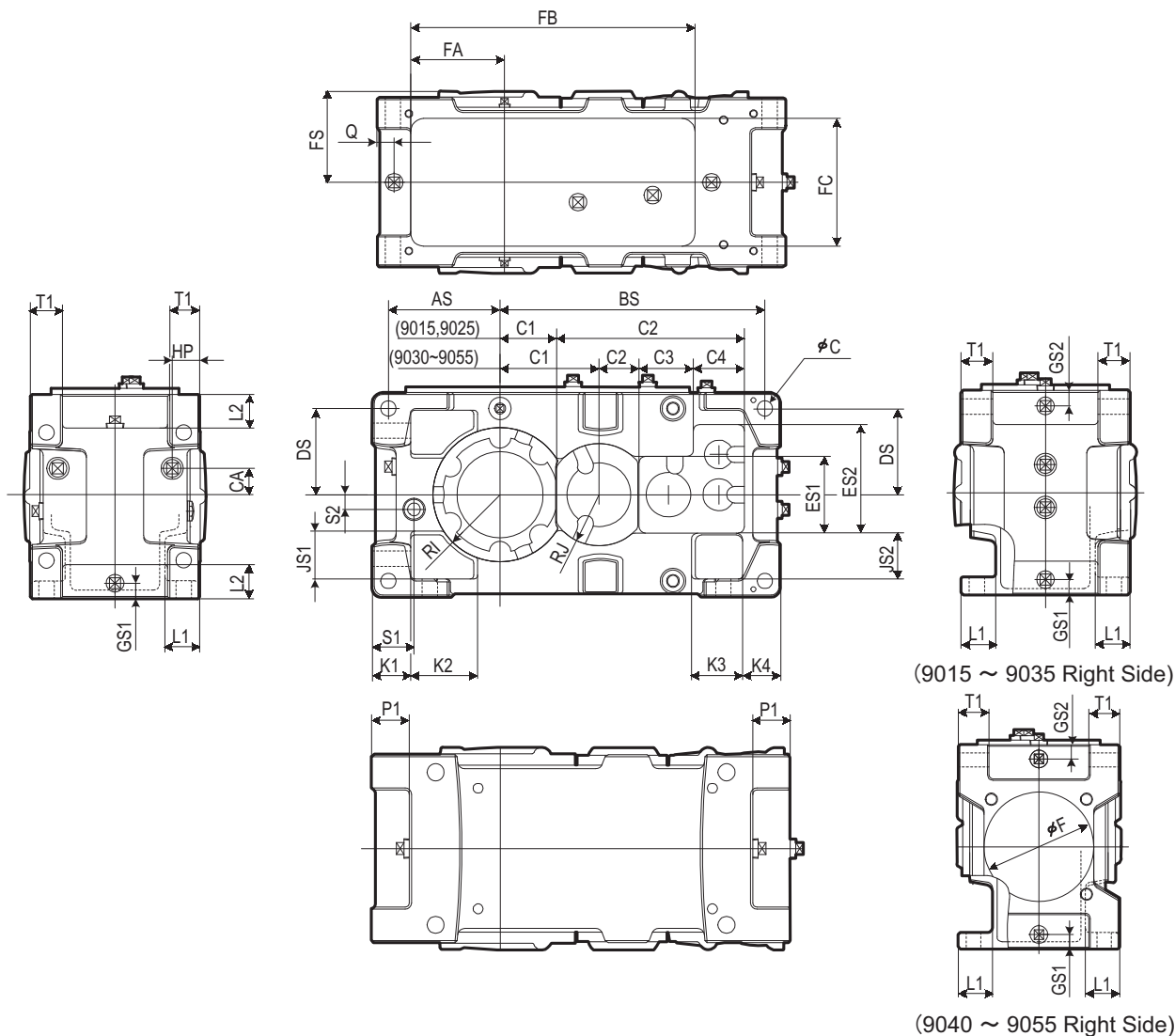
Size	FS	FA	FB	FC	AS	BS	C	CA	HP	DS	GS1	GS2	JS1	JS2	K1	K2	K3	K4
9015	118	110	325	175	140	260	15	25	38	115	23	23	60	58	50	75	85	50
9025	130	125	385	190	155	310	19	30	41	135	24	24	70	65	55	90	110	55
9030	143	147	445	200	175	365	24	40	43	135	24	24	75	81	60	105	80	60
9035	143	166	495	200	194	396	24	40	43	160	24	24	90	106	60	105	80	60
9040	165	168	510	240	205	420	28	48	55	170	28	28	95	107	75	125	100	75
9045	165	189	570	240	226	459	28	48	55	190	28	28	115	127	75	125	100	75
9050	185	188	590	250	225	490	28	55	50	180	29	29	95	103	75	135	100	75
9055	185	219	660	250	256	529	28	55	50	215	29	29	120	138	75	135	100	75

Size	L1	L2	P1	Q	T1	S1	S2	RI	RJ	RK	F	C1	C2	C3	ES
9015	38	47	50	25	35	53	23	80	65		175	115	79	55	110
9025	45	50	50	26	40	58	26	87.5	75		200	135	92	60	130
9030	54	53	53	27	50	65	24	105	80	70	214	155	109	59	140
9035	54	60	53	27	50	65	24	120	80	70	214	186	109	59	140
9040	66	67	67	30	60	70	28	120	90	72.5	250	180	126	72.5	145
9045	66	87	67	30	60	70	28	140	90	72.5	250	219	126	72.5	145
9050	68	67	67	31	60	78	32	140	105		280	210	148	59	150
9055	68	80	67	31	60	78	32	155	105		280	249	148	59	150

Common Technical

TECHNICAL DATA Supplementary Dimension Drawing

9015 ▶ 9055 / Right Angle Quadruple / Parallel Triple, Quadruple / Horizontal, Vertical, Upright

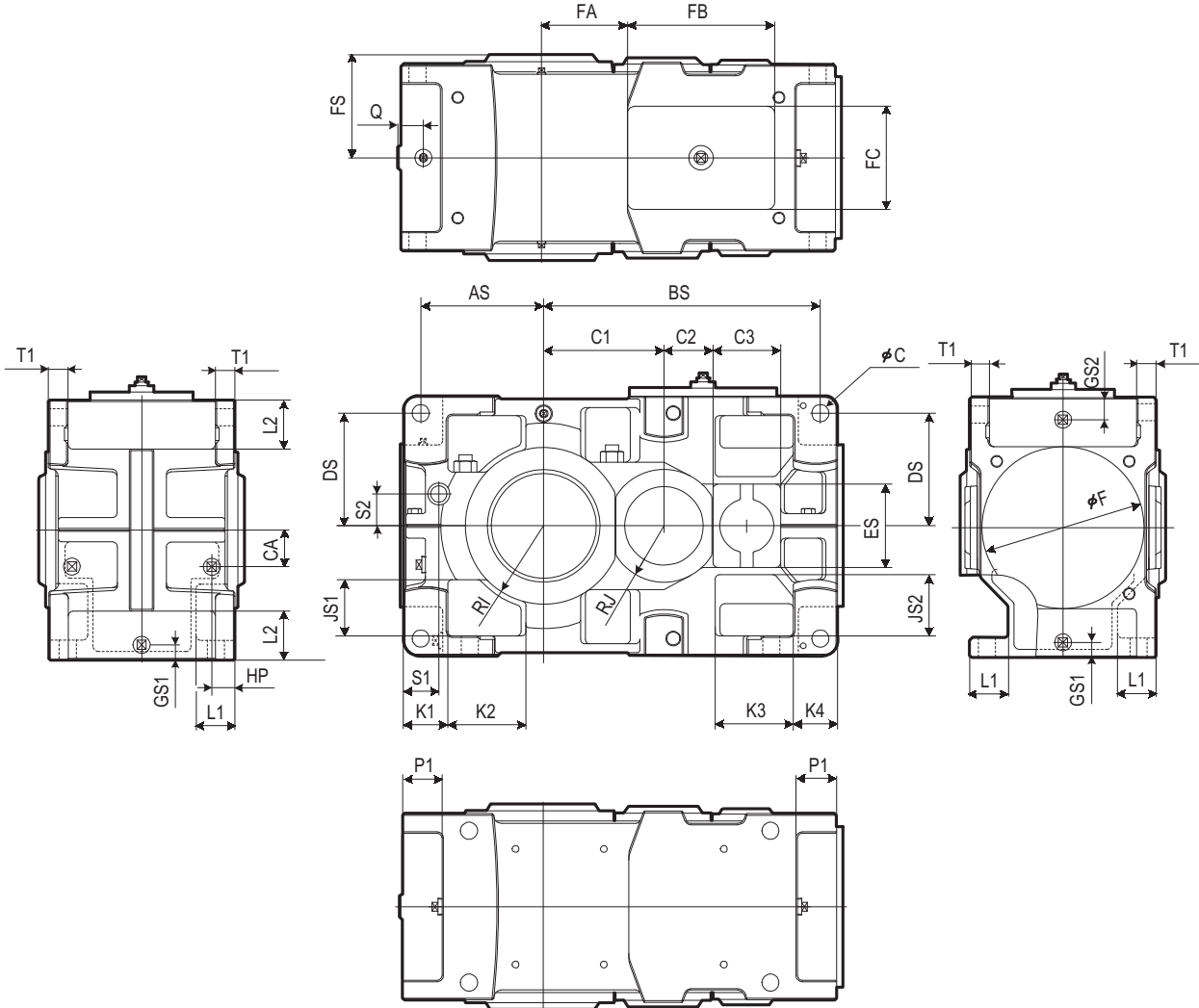


Size	FS	FA	FB	FC	AS	BS	C	CA	HP	DS	GS1	GS2	JS1	JS2	K1	K2	K3	K4
9015	118	110	325	175	140	305	15	25	38	115	23	23	60	58	50	75	65	50
9025	130	125	385	190	155	375	19	23	41	135	24	24	70	65	55	90	85	55
9030	143	147	445	200	175	415	24	44	43	135	24	24	75	72	60	105	80	60
9035	143	166	495	200	194	446	24	44	43	160	24	24	90	97	60	105	80	60
9040	165	168	510	240	205	494	28	56	55	170	28	28	95	100	75	125	100	75
9045	165	189	570	240	226	533	28	56	55	190	28	28	115	120	75	125	100	75
9050	185	188	590	250	225	563	28	56	50	180	29	29	95	103	75	135	100	75
9055	185	219	660	250	256	602	28	56	50	215	29	29	120	138	75	135	100	75

Size	L1	L2	P1	Q	T1	S1	S2	RI	RJ	F	C1	C2	C3	C4	ES1	ES2
9015	38	47	50	25	35	53	19	80			70	20			110	
9025	45	50	50	26	40	58	23	87.5			82.5	281			130	
9030	54	53	53	27	50	65	23	105	80		155	63	85	80	120	170
9035	54	60	53	27	50	65	23	120	80		186	63	85	80	120	170
9040	66	67	67	30	60	70	24	120	90	214	180	74	99	90	140	200
9045	66	87	67	30	60	70	24	140	90	170	219	74	99	90	140	200
9050	68	67	67	31	60	78	24	140	105	214	210	89	118	96	150	202
9055	68	80	67	31	60	78	24	155	105	214	249	89	118	96	150	202

TECHNICAL DATA Supplementary Dimension Drawing

9060 ▶ 9085 / Right Angle Double, Triple / Parallel Double
/ Horizontal, Vertical, Upright



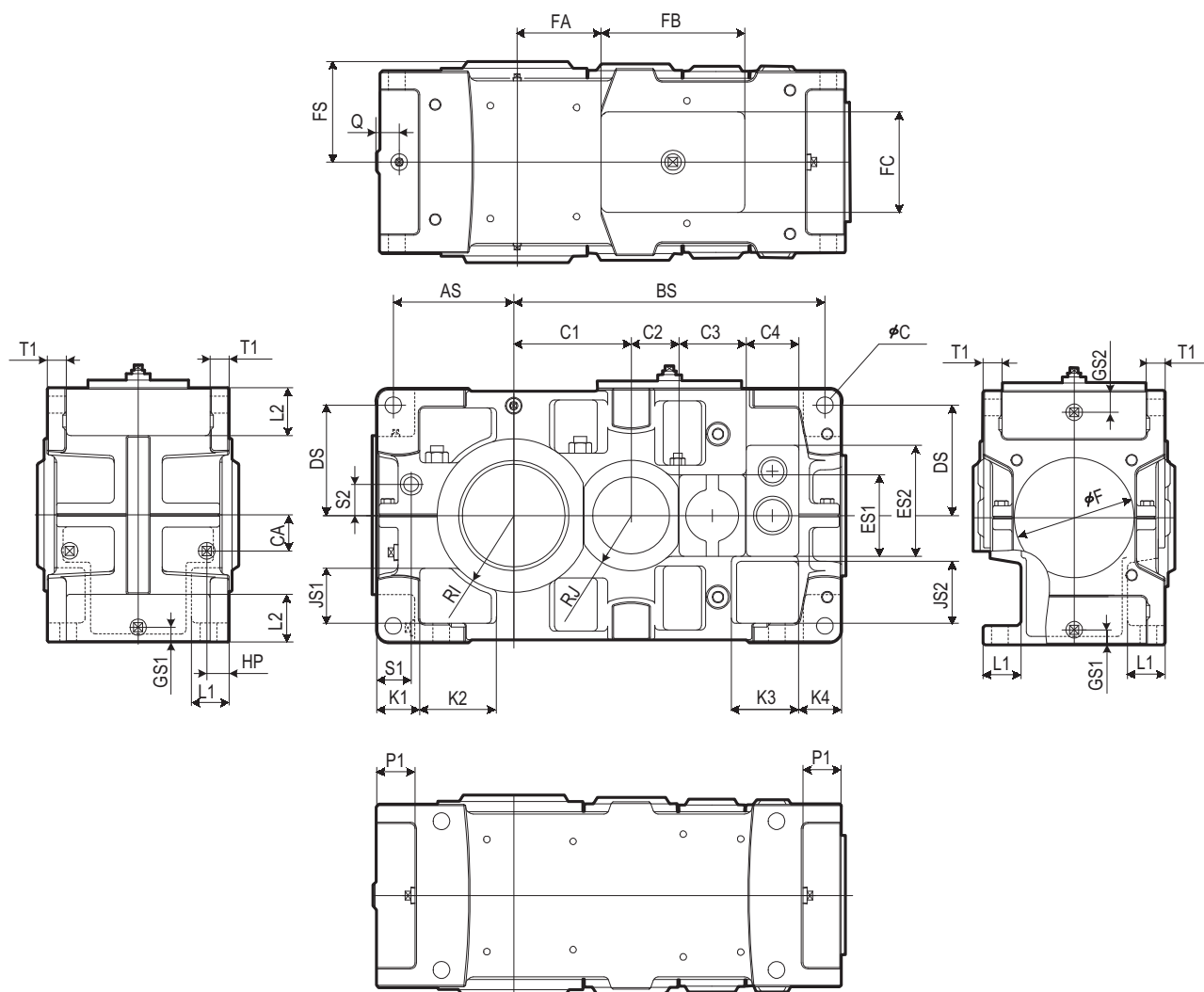
Size	FS	FA	FB	FC	AS	BS	C	CA	HP	DS	GS1	GS2	JS1	JS2	K1	K2	K3	K4
9060	210	175	300	210	251	564	35	75	47	230	31	45	105	120	90	160	160	90
9065	210	221	300	210	290	610	35	75	47	265	31	45	140	155	90	160	160	90
9070	235	185	370	270	283	657	42	85	47	260	33	45	125	135	105	190	190	105
9075	235	238	370	270	330	710	42	85	47	295	33	45	148	158	105	190	190	105
9080	255	275	370	270	325	750	42	100	47	295	34	45	138	148	105	190	190	105
9085	265	331	370	270	369	806	42	100	47	335	34	45	168	188	105	190	190	105

Size	L1	L2	P1	Q	T1	S1	S2	RI	RJ	F	C1	C2	C3	ES
9060	79	100	80	40	35	72	65	160	115	330	245	100	138	170
9065	79	135	80	40	35	72	65	175	115	330	291	100	138	170
9070	94	110	95	40	40	72	75	175	138	380	285	94.5	203	200
9075	94	145	95	40	52	72	75	190	138	380	338	94.5	203	200
9080	96	120	95	45	52	82	85	190	160	420	330	132	188	220
9085	96	160	95	45	52	82	85	215	160	420	386	132	188	220

Common Technical

TECHNICAL DATA Supplementary Dimension Drawing

9060 ▶ 9085 / Right Angle Quadruple / Parallel Triple, Quadruple
/ Horizontal, Vertical, Upright

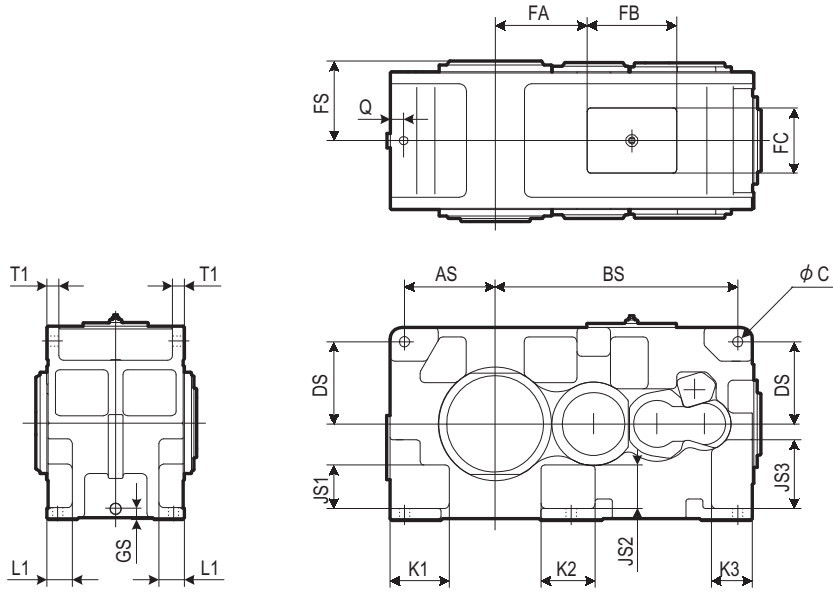


Size	FS	FA	FB	FC	AS	BS	C	CA	HP	DS	GS1	GS2	JS1	JS2	K1	K2	K3	K4
9060	210	175	300	210	251	649	35	75	47	230	31	45	105	145	90	160	140	90
9065	210	221	300	210	290	695	35	75	47	265	31	45	140	180	90	160	140	90
9070	235	185	370	270	283	752	42	85	47	260	33	45	125	165	105	190	165	105
9075	235	238	370	270	330	805	42	85	47	295	33	45	148	188	105	190	165	105
9080	255	275	370	270	325	870	42	100	47	295	34	45	138	173	105	190	190	105
9085	265	331	370	270	369	926	42	100	47	335	34	45	168	213	105	190	190	105

Size	L1	L2	P1	Q	T1	S1	S2	RI	RJ	F	C1	C2	C3	C4	ES1	ES2
9060	79	100	80	40	35	72	65	160	115	250	245	100	138	110	170	232
9065	79	135	80	40	35	72	65	175	115	250	291	100	138	110	170	232
9070	94	110	95	40	40	72	75	175	138	280	285	94.5	203	120	200	267
9075	94	145	95	40	52	72	75	190	138	280	338	94.5	203	120	200	267
9080	96	120	95	45	52	82	85	190	160	330	330	132	188	146	220	305
9085	96	160	95	45	52	82	85	215	160	330	386	132	188	146	220	305

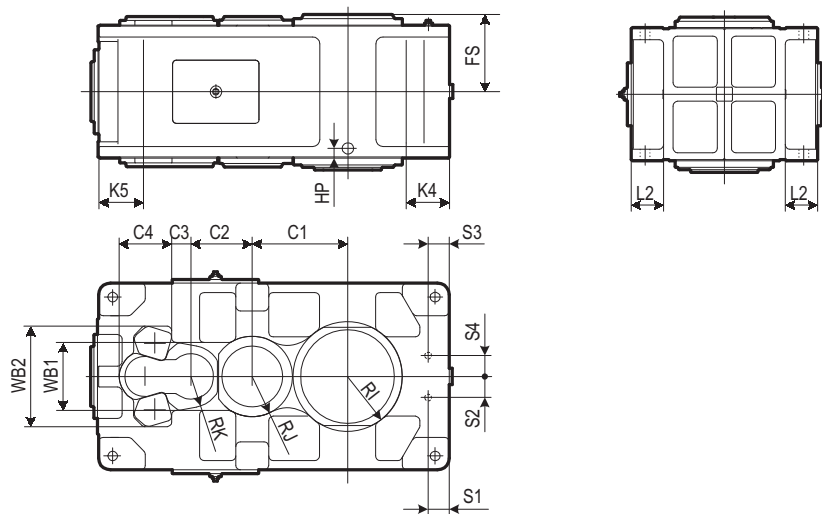
TECHNICAL DATA Supplementary Dimension Drawing

9090 ▶ 9115/ Parallel Double, Triple, Quadruple / Horizontal
 / Right Angle Double, Triple, Quadruple / Horizontal



Size	FS	FA	FB	FC	AS	BS	C	DS	GS	JS1	JS2	JS3	K1	K2	K3	L1	Q	T1
9090	330	350	370	270	345	975	42	315	45	155	152	260	230	240	170	96	45	50
9095	330	380	370	270	375	1005	42	340	45	180	177	285	245	225	170	106	45	50
9100	375	435	370	270	375	1095	48	355	46	185	170	305	265	290	190	110	45	55
9105	375	470	370	270	410	1130	48	380	46	210	195	330	270	260	190	120	45	55
9110	407	525	370	270	420	1240	56	400	48	230	202	350	285	325	310	119	45	60
9115	407	575	370	270	470	1290	56	425	48	255	227	375	315	305	310	129	45	60

9090 ▶ 9115/ Parallel Double, Triple, Quadruple / Vertical
 / Right Angle Double, Triple, Quadruple/Vertical



Size	FS	HP	K4	K5	L2	RI	RJ	RK	S1	S2	S3	S4	C1	C2	C3	C4	WB1	WB2
9090	330	42	170	190	130	215	173	133	90	130	90	90	378	262	82	225	290	430
9095	330	42	185	215	140	235	173	133	80	140	90	90	408	262	82	225	290	430
9100	375	43	190	220	150	235	200	145	85	145	90	100	425	299	91	260	370	500
9105	375	43	215	240	160	260	200	145	80	155	90	100	459	299	91	260	370	500
9110	407	44	210	240	170	265	213	160	90	150	105	100	483	341	90	261	370	500
9115	407	44	235	270	180	280	213	160	85	150	105	100	532	341	90	261	370	500

Technical
 Common

TECHNICAL DATA Supplementary Matters to Hollow Shaft

Feature and Benefits

PARAMAX DRIVE units have a number of outstanding features compared to conventional solid shaft speed reducers.

1. There is no necessity for a large sized coupling, permitting substantial cost reduction.
2. It can be directly mounted onto the driven shaft, eliminating the necessity for foundation working for speed reducer installation and alignment operation.
3. Any unit is designed for compactness and ease of operation.

How to Install Unit

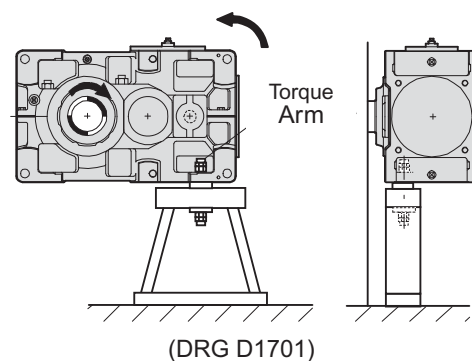
a. Torque Arm (Option)

The hollow shaft type PARAMAX DRIVE is secured with the torque arm to prevent it from being turned by the counter force.

A torque arm is subjected to a compression or tensile load depending upon the direction of rotation of the slow speed shaft, and it must have a sufficient strength against shock loading at the start and during operation. Being prepared as an optional accessory, the torque arm is designed in consideration of such loading conditions.

Please order us, if it is necessary.

The construction and strength of the torque arm mounting legs must be determined in consideration of impact load.



(DRG D1701)

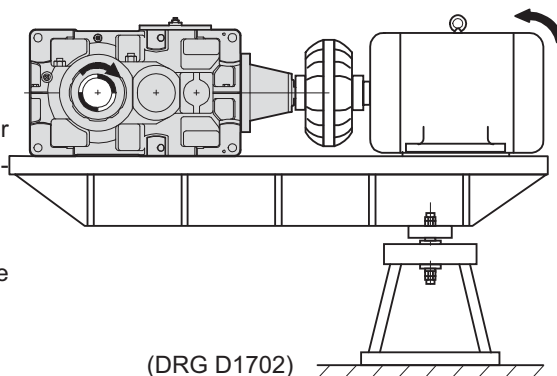
b. How to Use Torque Arm

- (1) When the torque arm is used with the speed reducer housing

The torque arm must be mounted in an installation hole closer to the application machine. (For torque arm mounting dimensions, refer to the dimension drawing.)

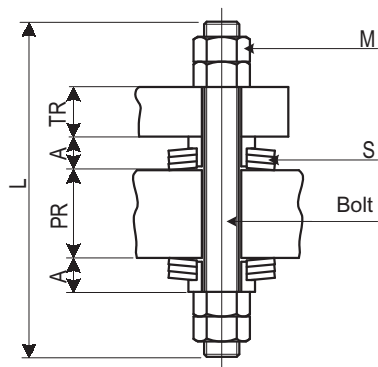
- (2) When the torque arm is used with the common base plate

The torque arm must be mounted in a position as far from the low speed shaft as possible.



(DRG D1702)

Torque Arm Dimensions



(DRG D1703)

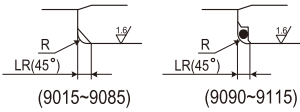
Use bolt and nut classified as JIS strength class 8.8

Size	A	L	M (nut)	PR max	TR	S (belleville spring)	
						DIN2093(nom.)	Qty
9015	13.1	140	M12	35	22	A50	2X2
9025	16.1	170	M16	40	25	A50	2X3
9030	18.9	200	M20	50	28	A63	2X3
9035	18.9	200	M20	50	28	A63	2X3
9040	21.7	240	M24	60	30	A80	2X2
9045	21.7	240	M24	60	30	A80	2X2
9050	21.7	240	M24	60	32	A80	2X2
9055	21.7	240	M24	60	32	A80	2X2
9060	32.2	310	M30	85	35	A100	2X3
9065	32.2	310	M30	85	35	A100	2X3
9070	38.2	370	M36	95	40	A100	2X4
9075	38.2	370	M36	95	52	A100	2X4
9080	38.2	370	M36	95	52	A100	2X4
9085	38.2	370	M36	95	52	A100	2X4
9090	38.6	370	M36	95	50	A125	2X3
9095	38.6	370	M36	95	50	A125	2X3
9100	47.6	420	M42	100	55	A125	2X4
9105	47.6	420	M42	100	55	A125	2X4
9110	48.5	460	M48	110	60	A160	2X3
9115	48.5	460	M48	110	60	A160	2X3

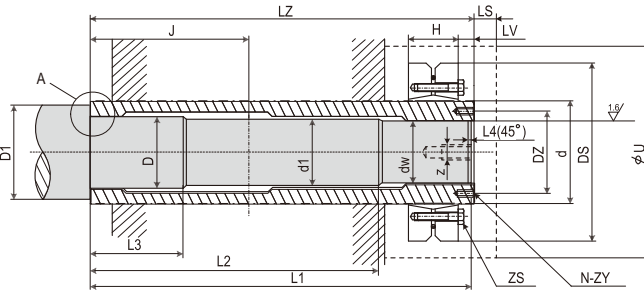
TECHNICAL DATA Hollow Shaft Related Dimensions

1. Hollow Shaft Dimensions

Shrink Disk Coupling



Detail A
(DRG D1801)

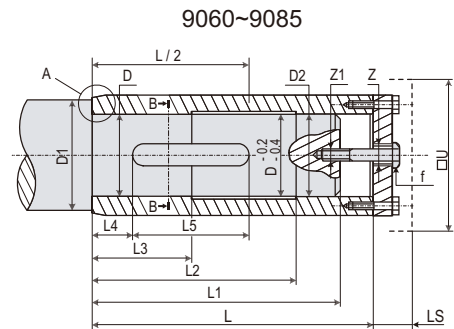
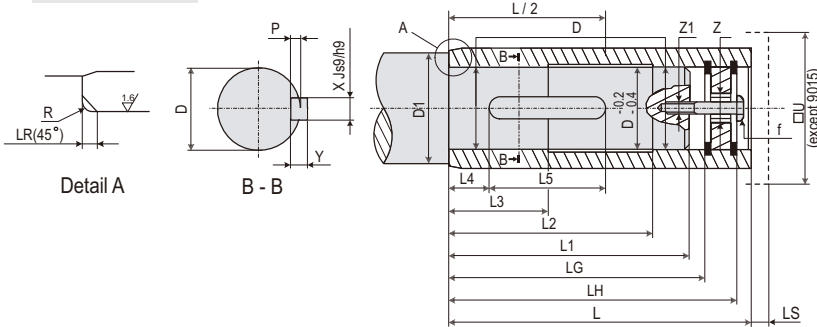


Unit: mm

Size	Shrink Disk						Hollow Shaft										Driven Shaft									
	MODEL (note 1)	d	Ds	H	ZS	TA N · m	J	LZ	LR	LV	N-ZY	DZ	LS	U	dw	d1	D h7	D1 min	L1	L2	L3	L4	R	Z (Deep)		
9015	TAS3091.4-080	80	145	38	M8	35	135	328	3	14	4-M6	70	15	161	60h6	61	63	78	325	240	80	3	2.5	M20(30)		
9025	TAS3081.-090	90	155	39	M8	35	145	358	3	14	4-M6	80	17	176	70h6	71	73	88	355	270	80	3	2.5	M20(30)		
9030	TAS3091.1-100	100	170	54	M10	59	160	393	3	14	4-M6	90	20	209	80h6	81	83	98	390	295	90	3	2.5	M20(30)		
9035	TAS3093.-110	110	185	60	M10	70	160	403	3	14	4-M6	97	20	244	85h6	86	88	103	390	295	90	3	2.5	M24(35)		
9040	TAS3081.-125	125	215	54	M10	70	180	448	3	20	4-M8	110	17	244	95h6	96	98	113	445	335	110	3	2.5	M24(35)		
9045	TAS3093.-140	140	230	74	M12	120	180	463	3	20	4-M10	124	17	277	105h6	106	108	123	460	355	110	3	2.5	M24(35)		
9050	TAS3093.-140	140	230	74	M12	120	200	503	3	22	4-M10	124	17	277	105h6	106	108	123	500	380	110	3	2.5	M24(35)		
9055	TAS3091.-165	165	290	88	M16	250	205	528	3	27	4-M12	146	17	314	120h6	121	123	138	525	385	120	3	2.5	M24(35)		
9060	TAS3091.-165	165	290	88	M16	250	230	583	4.5	27	4-M12	146	12	322	125h6	126	128	143	580	435	130	3	3	M24(35)		
9065	TAS3091.-175	175	300	88	M16	250	235	594	4.5	26	4-M12	157.5	21	349	140h6	141	143	158	589	450	130	5	3	M30(45)		
9070	TAS3081.-185	185	330	86	M16	290	260	644	4.5	26	4-M12	167	21	349	145h6	146	148	163	640	475	160	5	3	M30(45)		
9075	TAS3081.-200	200	350	86	M16	290	265	651	4.5	26	4-M12	177	21	379	155h6	156	158	173	646	475	160	5	3	M30(45)		
9080	TAS3081.-220	220	370	104	M16	290	285	714	4.5	26	4-M12	195	21	401	170g6	171	173	188	709	520	190	5	3	M30(45)		
9085	TAS3081.-240	240	405	109	M20	570	285	714	4.5	27	4-M12	210	21	456	180g6	181	183	198	709	520	190	5	3	M30(45)		
9090	TAS3081.-240	240	405	109	M20	570	350	844	6	27	6-M12	215	21	451	190g6	191	193	212	840	635	200	5	4.5	M36(55)		
9095	TAS3081.1-260	260	440	120	M20	535	350	859	6	27	6-M12	230	14	450	200g6	201	203	222	855	640	205	5	4.5	M36(55)		
9100	TAS3081.1-260	260	440	120	M20	535	390	934	6	27	6-M12	235	21	491	210g6	211	213	234	930	705	215	5	4.5	M36(55)		
9105	TAS3081.1-280	280	460	134	M20	535	390	949	6	27	6-M12	250	19	480	220g6	221	223	244	945	715	225	5	4.5	M36(55)		
9110	TAS3081.1-300	300	485	142	M20	535	420	1030	6	32	6-M16	270	15	551	240g6	241	243	263	1025	770	245	5	4.5	M36(55)		
9115	TAS3091.-320	320	520	184	M20	490	420	1065	6	32	6-M16	285	15	550	250g6	251	253	273	1060	785	245	5	4.5	M36(55)		

Note: 1 Shrink disk (made by SCHÄFER) type No.
2 For vertical types, thrust washer is necessary to prevent the reducer move when loosening the locking bolt ZS.

Key Coupling



(DRG D1802)

Unit: mm

Size	Hollow Shaft							Driven Shaft																Locking Screw Thread Size X Body Length DRG D1802(f)	Locking Distance Ring O.D. X W DRG D1906,1910(h)
	L	LG	LH	LR	Z	LS	U	D j6	D1 min	D2 j6	L1	L2	L3	L4	L5 min	X	Y	P	R	Z1 (Deep)					
9015	270	240	258	3	M24	7.5	φ161	55	70		235	200	70	30	115	16	10	6	2.5	M20(30)	M20X50	φ 55X5			
9025	300	265	286	3	M24	10	190	65	80		260	220	80	35	125	18	11	7	2.5	M20(30)	M20X50	φ 65X5			
9030	330	290	314	3	M24	9.5	230	75	90		285	240	90	35	145	22	14	9	2.5	M20(30)	M20X55	φ 75X5			
9035	330	290	315	3	M24	10	260	85	100		285	240	90	35	160	22	14	9	2.5	M20(30)	M20X55	φ 85X5			
9040	360	314	340	3	M30	10	260	90	105		310	260	100	40	180	25	14	9	2.5	M24(35)	M24X60	φ 90X4			
9045	370	316	348	3	M30	10	300	105	120		310	260	100	40	180	28	16	10	2.5	M24(35)	M24X65	φ 105X6			
9050	410	356	388	3	M30	10	300	105	120		350	300	110	45	220	28	16	10	2.5	M24(35)	M24X65	φ 105X6			
9055	410	356	388	3	M30	10	330	115	130		350	300	110	45	220	32	18	11	2.5	M24(35)	M24X65	φ 115X6			
9060	470			4.5	M30	47	340	125	140	123	445	395	90	5	260	32	18	11	3	M24(35)	M24X80	φ 125X25			
9065	480			4.5	M36	54	350	145	160	143	455	405	100	5	265	36	20	12	3	M30(45)	M30X100	φ 145X30			
9070	530			4.5	M36	54	370	145	160	143	500	445	120	5	310	36	20	12	3	M30(45)	M30X100	φ 145X30			
9075	530			4.5	M36	54	400	150	165	148	500	445	120	5	365	40	22	13	3	M30(45)	M30X100	φ 150X30			
9080	570			4.5	M36	54	400	165	180	163	540	480	125	5	370	40	22	13	3	M30(45)	M30X100	φ 165X30			
9085	570			4.5	M36	54	450	175	190	173	540	480	125	5	385	45	25	15	3	M30(45)	M30X100	φ 175X30			

Note: 1 The key and keyway conform to JIS B 1301-1996(ISO) "Sunk keys and keyways" parallel keys (regular class)
2 The locking screw and distance ring will not be supplied. Please prepare, if they are necessary.
3 Dimension from center of housing to shaft end is L/2.

Technical

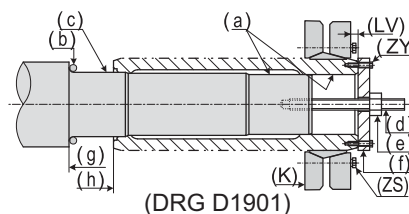
Common

TECHNICAL DATA Hollow Shaft Related Dimensions

2. Shrink Disk Coupling / Mounting & Removal Procedure

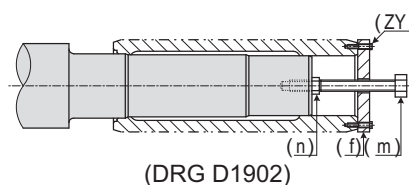
Mounting Procedure (DRG D1901)

- (1) Clean and degrease contact surface (a) and (c).
- (2) Smear surface (c) with "Molykote 321" or its equivalent.
However, keep surface (a) as clean as possible (no grease).
- (3) Slide O-ring (b) onto the shaft.(Size 9090 to 9115)
- (4) Mount the reducer on the driven shaft and screw nuts (e) until faces (g) and (h) make contact.
- (5) Set the shrink disk (k) at dimensions (LV). Tighten locking bolt (ZS) at specified torque (TA) (using a torque wrench).



Removal Procedure (DRG D1902)

- (1) Loosen locking bolt (ZS) and remove shrink disk (k).
 - (2) Set thrust washer (f) and hexagon head bolt (n).
Remove the reducer from the driven shaft using bolt (m).
- Note: Parts (d), (e), (f), (ZY), (m) and (n) are optional.
Order these as required.

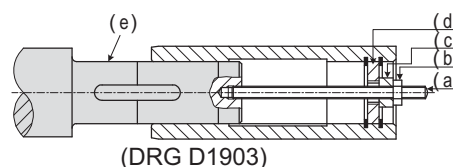


3.Key Coupling / Mounting & Removal Procedure

Size 9015 to 9055

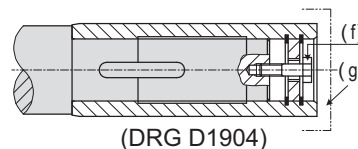
Mounting Procedure (DRG D1903)

- The Hollow shaft bore is provided with retaining ring (d).
Ring (d) is the essential component for mounting, securing, and removing the unit.
- (1) Smear surface of the shaft (e) with "molykote 321" or its equivalent.
 - (2) Turn nut (b) and slide the reducer over the driven shaft.
Use plain washer (c), if they are necessary.



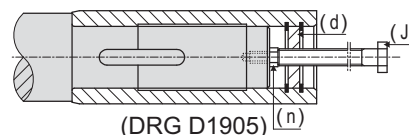
Securing (DRG D1904)

- (1) After mounting the reducer on the driven shaft, fix bolt (f). (Bolt (f) is not supplied with the unit.)
- (2) The bore should be protected by cover (g).



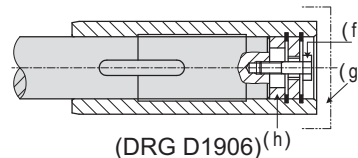
Removal Procedure (DRG D1905)

- (1) Remove ring (d), mount bolt (n), and reset ring (d).
Attach bolt (J) to ring (d), and turn bolt (J) to disconnect the hollow shaft from the driven shaft.
Screw size, refer to the lower table (Z) of the page D-18.



Special Cases (DRG D1906)

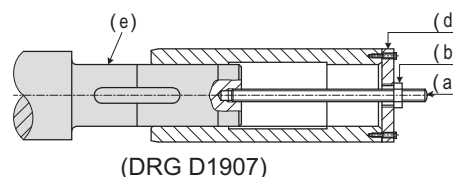
- (1) If the driven shaft has no shoulder (DRG D1906) when mounting, provide a distance ring (h) for fixing in place. (Ring (h) is not supplied with the unit).



Size 9060 to 9085

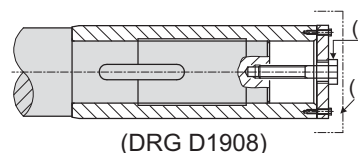
Mounting Procedure (DRG D1907)

- The Hollow shaft end is provided with thrust washer (d).
Thrust washer (d) is the essential component for mounting, securing, and removing the unit.
- (1) Smear surface of the shaft (e) with "molykote 321" or its equivalent.
 - (2) Turn nut (b) and slide the reducer over the driven shaft.



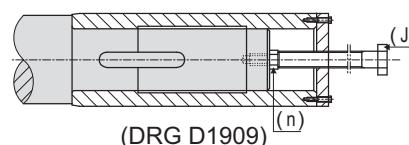
Securing (DRG D1908)

- (1) After mounting the reducer on the driven shaft, fix bolt (f). Bolt (f) is not supplied with the unit.)
- (2) The bore should be protected by cover (g)



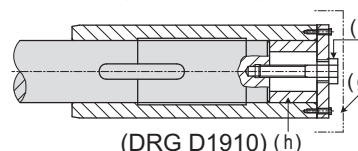
Removal Procedure (DRG D1909)

- (1) Remove thrust washer (d), mount bolt (n), and reset thrust washer (d).
Attach bolt (J) to thrust washer (d), and turn bolt (J) to disconnect the hollow shaft from the driven shaft.
Screw size, refer to the lower table (Z) of the page D-18.



Special Cased (DRG D1910)

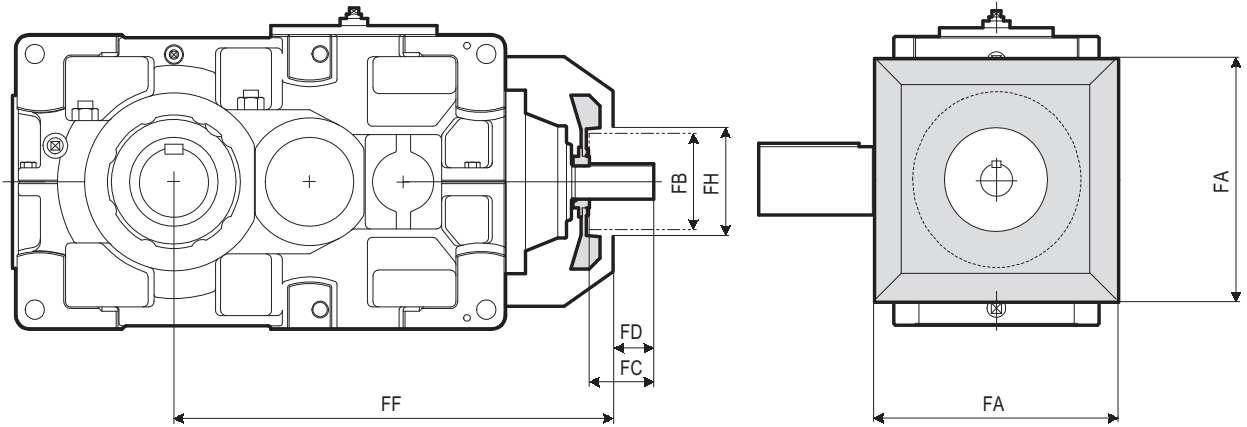
- (1) If the driven shaft has no shoulder (DRG D1906) when mounting, provide a distance ring (h) for fixing in place.(Ring (h) is not supplied with the unit.)
Distance ring dimension, refer to the lower table of the page D-18.



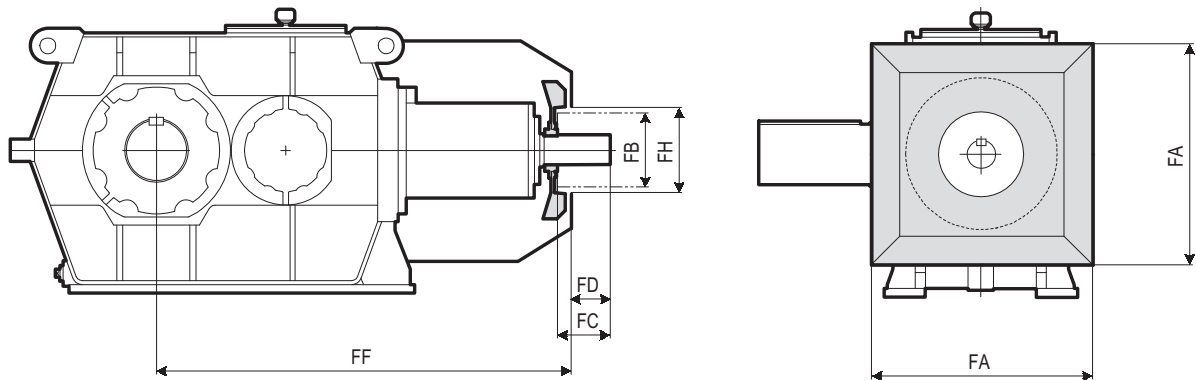
Note : Parts (a),(b),(c),(n) and (J) are optional. Order these as required.

TECHNICAL DATA Cooling Fan Dimension

9015 ▶ 9085 Right Angle Double Reduction



9090 ▶ 9115 Right Angle Double Reduction



Size	FA	FB	FC	FD	FF	FH
9015	250	125	50	30	477	145
9025	270	140	50	30	515	160
9030	300	140	80	52	593	160
9035	300	140	80	52	624	160
9040	340	160	80	52	653	180
9045	340	160	80	52	692	180
9050	380	160	80	52	703	180
9055	380	160	80	52	742	180
9060	440	160	105	65	800	180
9065	440	160	105	65	846	180
9070	490	200	105	65	900	220
9075	490	200	105	65	953	220
9080	540	225	105	60	1020	245
9085	540	225	105	60	1076	245

Size	FA	FB	FC	FD	FF	FH
9095	680	250	135	90	1303	270
9105	760	250	175	130	1459	270
9115	820	250	175	130	1672	270

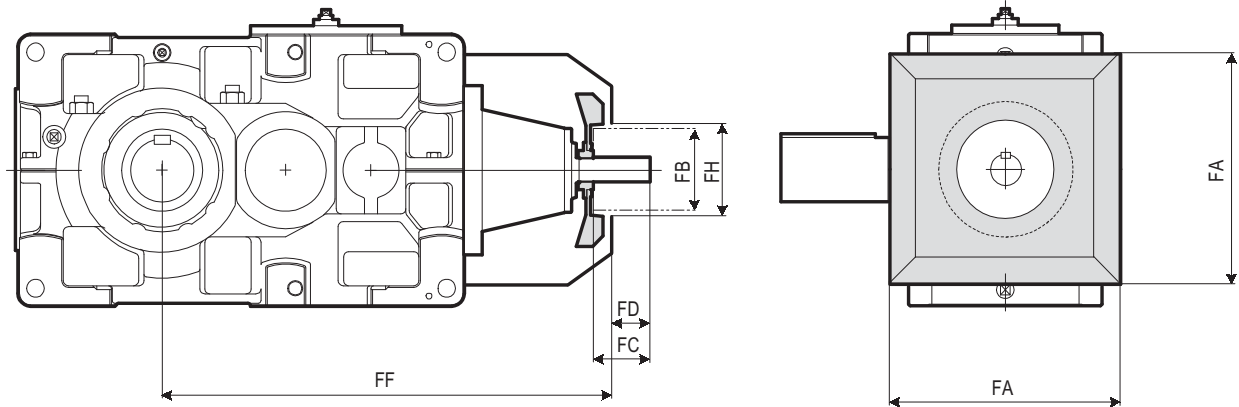
- Sufficient space must be allowed for air intake when mounting the safety guards for the coupling or other component.
- The split fan hood is prepared as an optional accessory for conducting maintenance work on a large coupling. 【Refer to the "PARAMAX 9000 Series Option Catalog No.G2052E".】

Technical

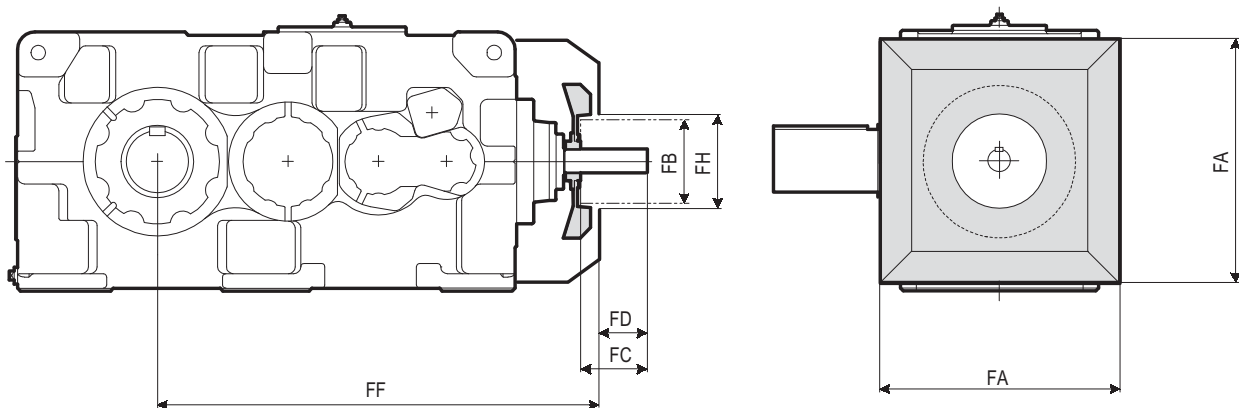
Common

TECHNICAL DATA Cooling Fan Dimension

9015 ▶ 9085 Right Angle Triple Reduction



9090 ▶ 9115 Right Angle Triple Reduction



Size	FA	FB	FC	FD	FF	FH
9030	300	125	50	30	626	145
9035	300	125	50	30	657	145
9040	340	125	50	30	686	145
9045	340	125	50	30	725	145
9050	380	140	50	22	786	160
9055	380	140	50	22	825	160
9060	440	160	80	52	887	180
9065	440	160	80	52	933	180
9070	490	160	80	52	975	180
9075	490	160	80	52	1028	180
9080	540	160	105	65	1111	180
9085	540	160	105	65	1167	180

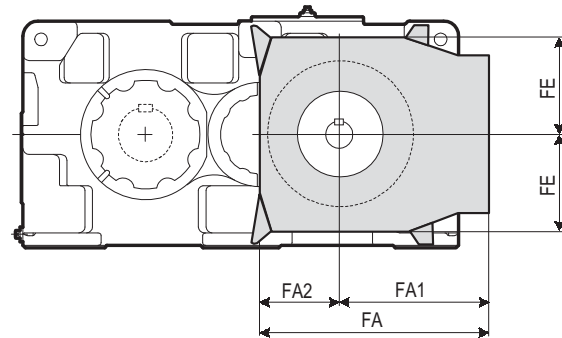
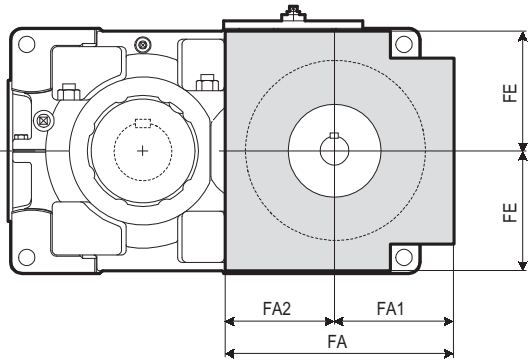
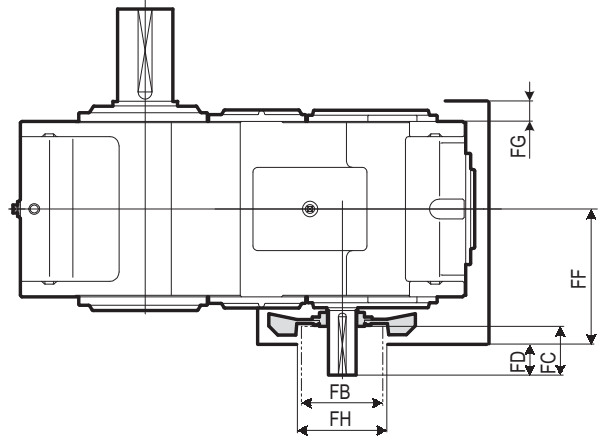
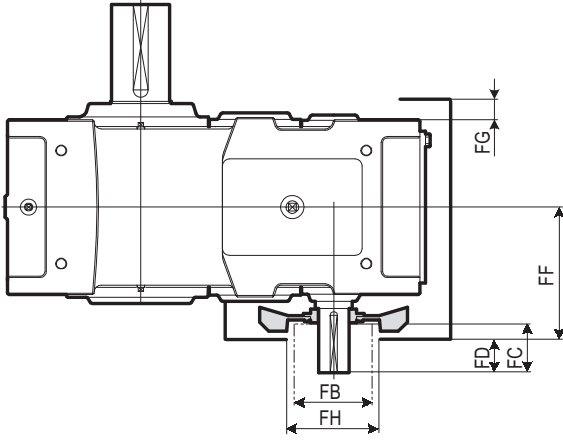
Size	FA	FB	FC	FD	FF	FH
9090	680	200	105	65	1255	220
9095	680	200	105	65	1285	220
9100	760	225	105	60	1414	245
9105	760	225	105	60	1448	245
9110	820	225	135	90	1594	245
9115	820	225	135	90	1643	245

Note) Consult us for cooling fan dimension of size 9118 and 9136.

TECHNICAL DATA Cooling Fan Dimension

9015 ▶ 9085 Parallel Double Reduction

9090 ▶ 9115 Parallel Double Reduction



※ When tightening installation bolt, remove fan hood.

Size	FA1	FA2	FA	FB	FC	FD	FE	FF	FG	FH
9015	129	129	258	125	50	30	130	181	32.5	145
9025	143	143	286	140	50	30	150	196	27.5	160
9030	169	169	338	140	80	52	155	217	27.5	160
9035	169	169	338	140	80	52	180	217	27.5	160
9040	188	188	376	160	80	52	195	232	21.5	180
9045	188	188	376	160	80	52	215	232	21.5	180
9050	208	208	416	160	80	52	205	251	28.5	180
9055	208	208	416	160	80	52	240	251	28.5	180
9060	240	240	480	200	105	65	260	295	40	220
9065	240	240	480	200	105	65	295	295	40	220
9070	274	274	548	225	105	65	295	320	44	245
9075	274	274	548	225	105	65	330	320	44	245
9080	296	296	592	225	135	95	330	339	52	245
9085	296	296	592	225	135	95	370	339	52	245

Size	FA1	FA2	FA	FB	FC	FD	FE	FF	FG	FH
9090	465	277	742	250	135	90	345	410	65	270
9095	465	277	742	250	135	90	345	410	65	270
9100	515	314	829	250	175	130	395	455	65	270
9105	515	314	829	250	175	130	395	455	65	270
9110	565	356	921	250	175	130	445	485	65	270
9115	565	356	921	250	175	130	445	485	65	270

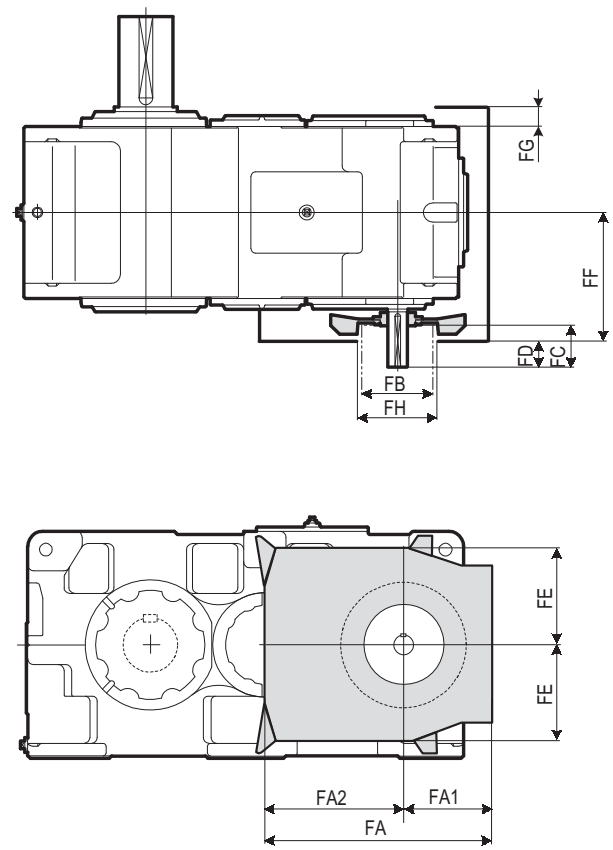
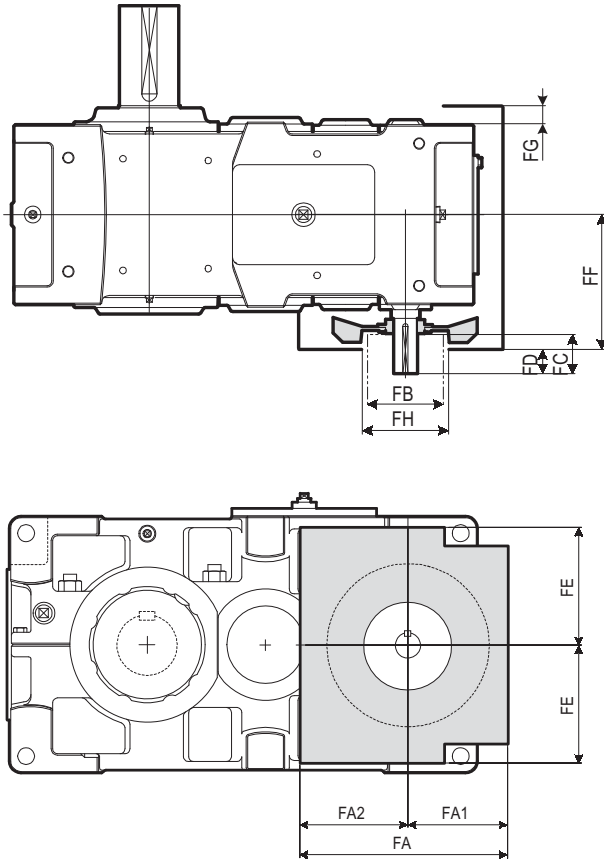
- Sufficient space must be allowed for air intake when mounting the safety guards for the coupling or other component.
- The split fan hood is prepared as a optional accessory for conducting maintenance work on a large coupling. 【Refer to the "PARAMAX 9000 Series Option Catalog No.G2052E".】

Common Technical

TECHNICAL DATA Cooling Fan Dimension

9015 ▶ 9085 Parallel Triple Reduction

9090 ▶ 9115 Parallel Triple Reduction



※ When tightening installation bolt,
remove fan hood.

Size	FA1	FA2	FA	FB	FC	FD	FE	FF	FG	FH
9015	111	111	222	125	30	10	105	180	32.5	145
9025	129	129	258	125	30	10	125	194	27.5	145
9030	140	140	280	125	50	30	125	211	27.5	145
9035	150	150	300	140	50	22	150	219	27.5	160
9040	170	170	340	140	50	22	165	234	21.5	160
9045	170	170	340	140	50	22	185	234	21.5	160
9050	172	172	344	140	80	52	170	252	28.5	160
9055	172	172	344	140	80	52	205	252	28.5	160
9060	199	199	398	160	80	52	220	277	40	180
9065	199	199	398	160	80	52	255	277	40	180
9070	221	221	442	160	80	52	250	302	44	180
9075	221	221	442	160	80	52	285	302	44	180
9080	247	247	494	200	105	65	280	340	52	220
9085	247	247	494	200	105	65	320	340	52	220

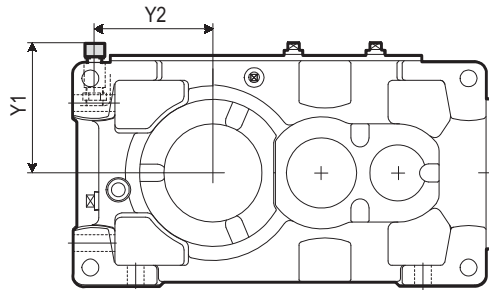
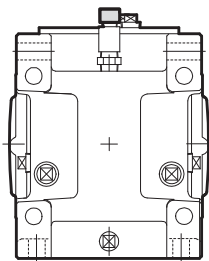
Size	FA1	FA2	FA	FB	FC	FD	FE	FF	FG	FH
9090	268	474	742	200	105	65	345	405	65	220
9095	268	474	742	200	105	65	345	405	65	220
9100	289	540	829	225	105	65	395	450	65	245
9105	289	540	829	225	105	65	395	450	65	245
9110	339	582	921	225	135	95	445	480	65	245
9115	339	582	921	225	135	95	445	480	65	245

Note) Consult us for cooling fan dimension of size 9118 and 9136.

TECHNICAL DATA Option Dimension

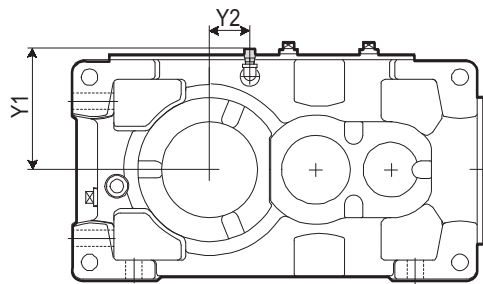
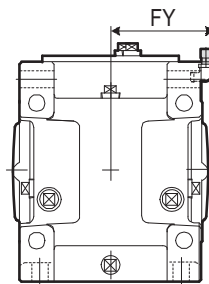
9015 ▶ 9055 Right Angle Double, Triple, Quadruple / Parallel Double, Triple, Quadruple

Air Breather



Size	Y1	Y2
9015	216	135
9025	233	149
9030	235	173

[9015~9030 Reduction Ratio 6.3~7.1]



Size	Y1	Y2	FY
9015	162	35	129
9025	182	25	141
9030	187	0	154
9035	212	0	154
9040	227	30	171
9045	247	*30	171
9050	232	25	191
9055	267	0	191

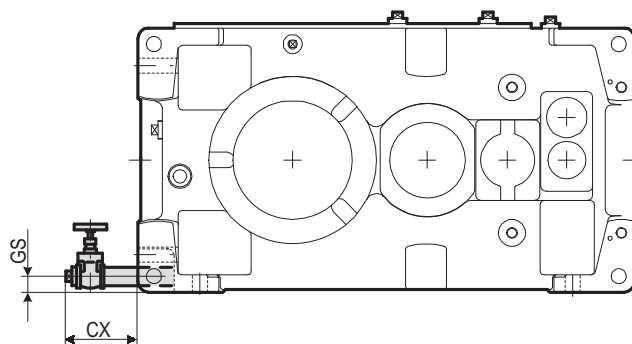
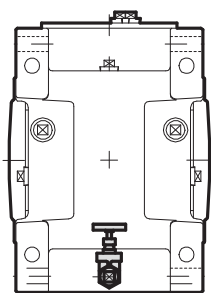
[9015~9030 Reduction Ratio 6.3~7.1
9035~9055 Reduction Ratio All]

* Double and triple reduction right angle, and double reduction parallel is 29mm.

Technical

Common

Drain Valve

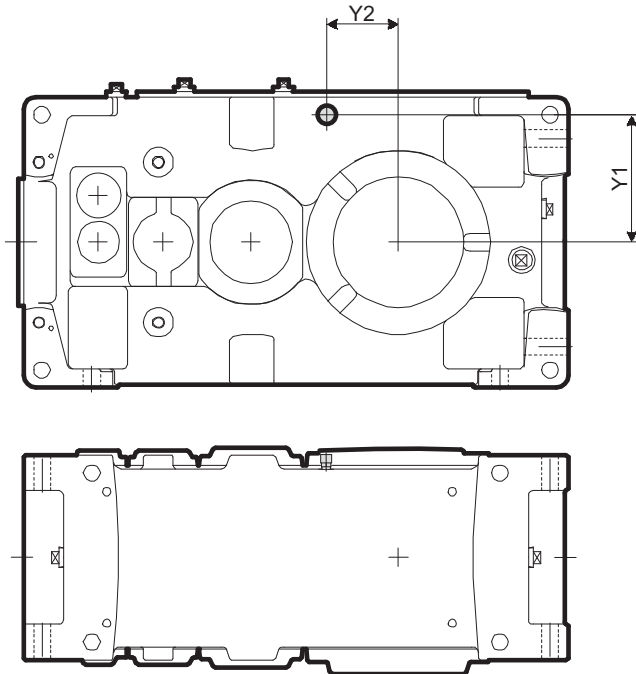


Size	CX	GS
9015	122	23
9025	122	24
9030	119	24
9035	119	24
9040	133	28
9045	133	28
9050	133	29
9055	133	29

TECHNICAL DATA Option Dimension

9015 ▶ 9055 Right Angle Double, Triple, Quadruple / Parallel Double, Triple, Quadruple

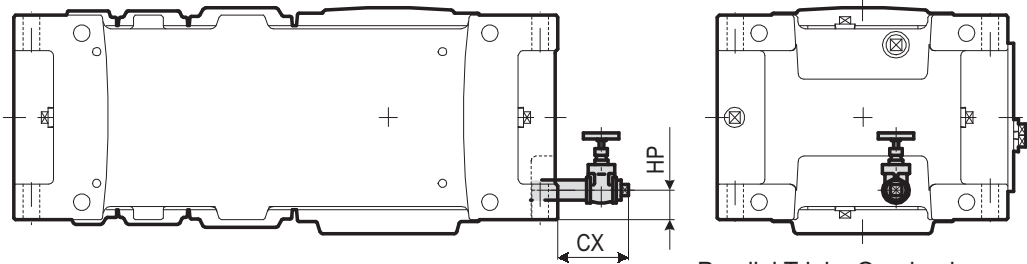
Air Breather



Size	Y1	Y2
9015	110	35
9025	130	25
9030	135	0
9035	160	0
9040	175	30
9045	195	*30
9050	180	25
9055	215	0

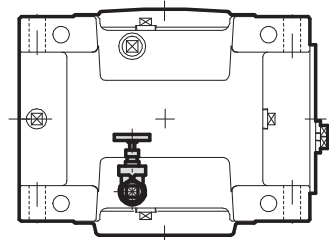
* Double and triple reduction right angle, and double reduction parallel is 29mm.

Drain Valve



Size	CX	HP
9015	122	38
9025	117	41
9030	109	43
9035	109	43
9040	127	55
9045	127	55
9050	119	50
9055	119	50

Parallel Triple, Quadruple
Right Angle Quadruple



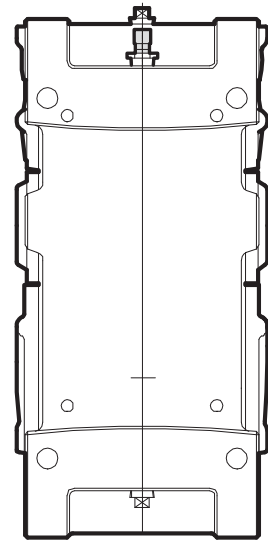
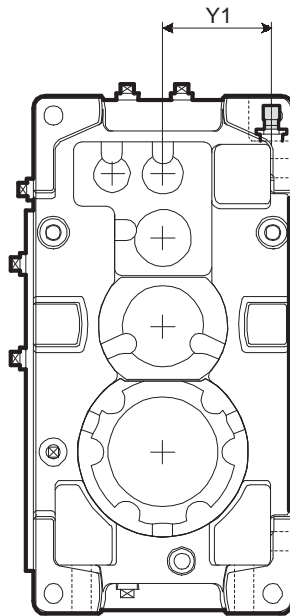
Parallel Double
Right Angle Double, Triple

TECHNICAL DATA Option Dimension

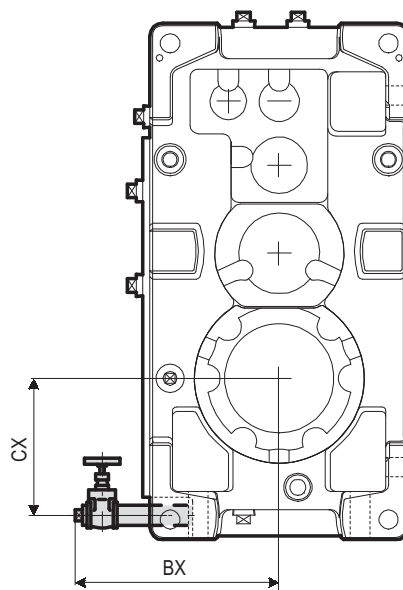
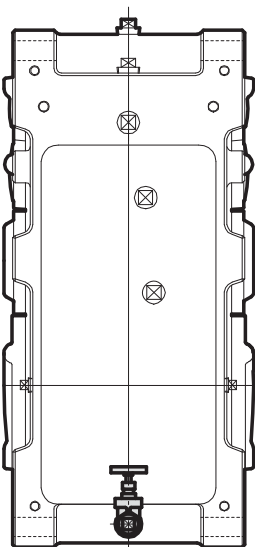
9015 ▶ 9055 Right Angle Double, Triple, Quadruple
/Parallel Double, Triple, Quadruple

Air Breather

Size	Y1
9015	112
9025	131
9030	136
9035	161
9040	172
9045	192
9050	181
9055	216



Drain Valve



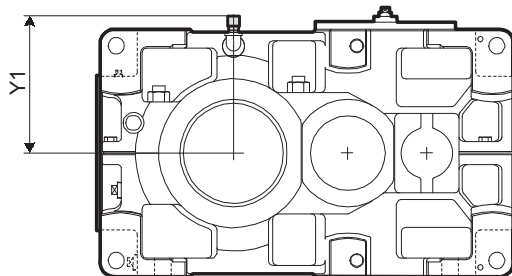
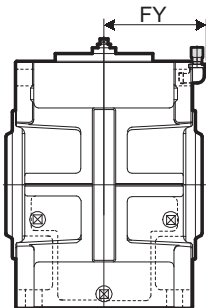
Size	BX	CX
9015	260	135
9025	277	149
9030	279	173
9035	297	192
9040	333	205
9045	353	226
9050	343	224
9055	365	255

Technical
Common

TECHNICAL DATA Option Dimension

9060 ▶ 9085 Right Angle Double, Triple, Quadruple
/Parallel Double, Triple, Quadruple

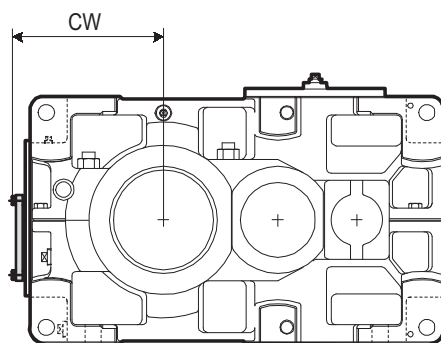
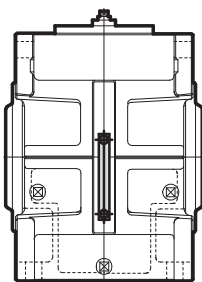
Air Breather



Size	Y1	FY
9060	281	211
9065	316	211
9070	315	236
9075	350	236
9080	350	256
9085	390	256

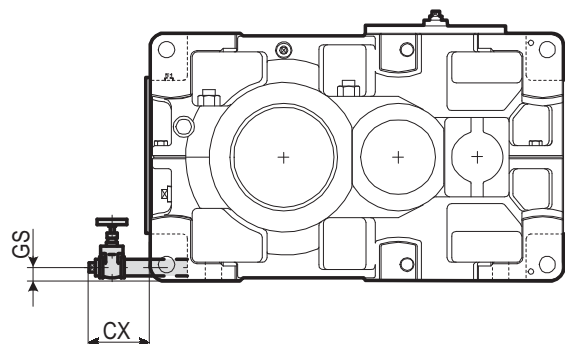
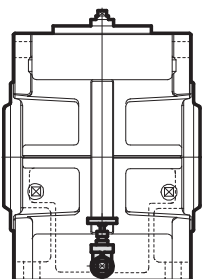
[9060~9085 Double reduction right angle and
double reduction parallel]

Oil Level Gauge



Size	CW
9060	318
9065	357
9070	355
9075	402
9080	397
9085	441

Drain Valve

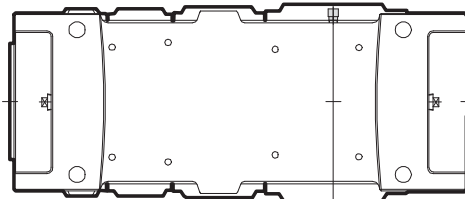
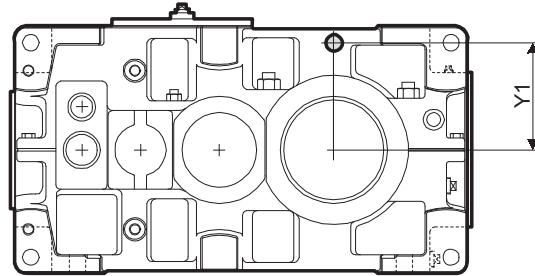


Size	CX	GS
9060	170	31
9065	170	31
9070	155	33
9075	155	33
9080	155	34
9085	157	34

TECHNICAL DATA Option Dimension

9060 ▶ 9085 Right Angle Double, Triple, Quadruple /Parallel Double, Triple, Quadruple

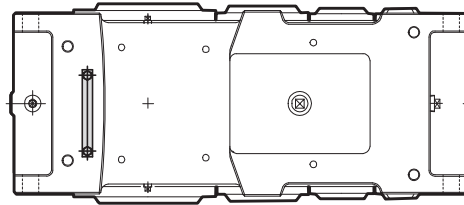
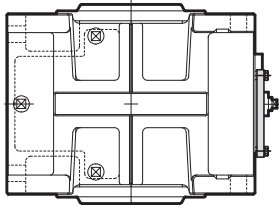
Air Breather



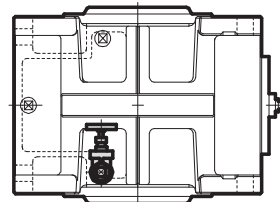
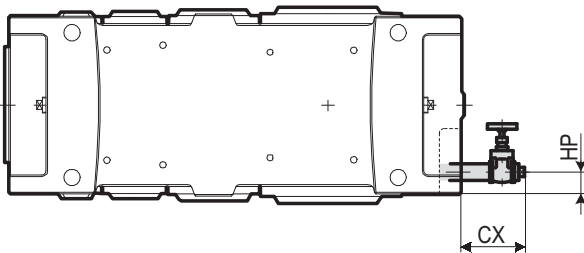
Size	Y1
9060	229
9065	264
9070	263
9075	298
9080	298
9085	338

Oil Level Gauge

Note) Oil level gauge is not max dimension.



Drain Valve



Size	CX	HP
9060	120	47
9065	120	47
9070	120	47
9075	120	47
9080	110	47
9085	110	47

Technical

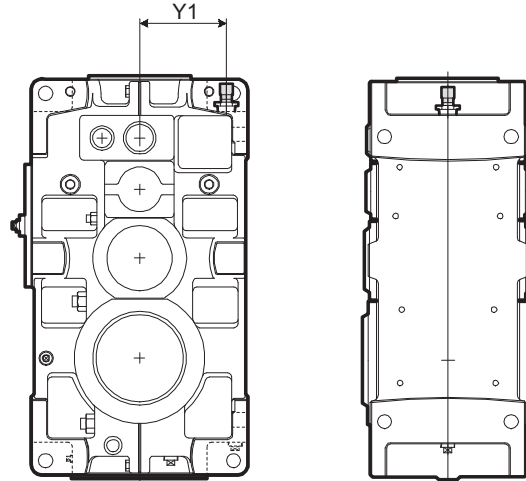
Common

TECHNICAL DATA Option Dimension

9060 ▶ 9085 Right Angle Double, Triple, Quadruple / Parallel Double, Triple, Quadruple

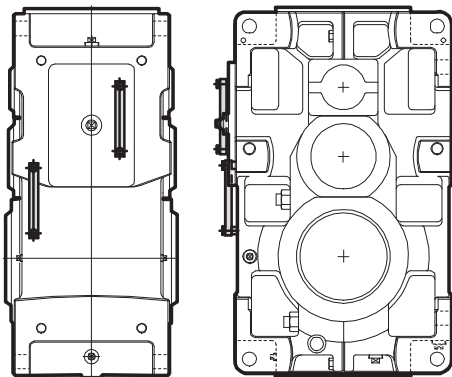
Air Breather

Size	Y1
9060	234
9065	264
9070	267
9075	302
9080	301
9085	341

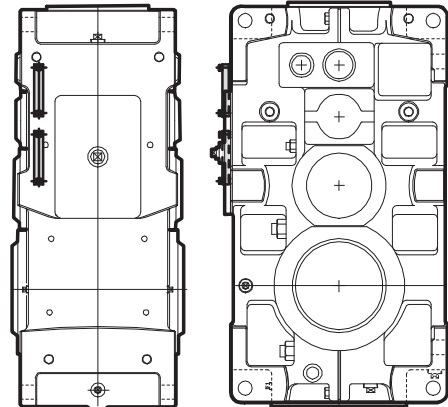


Oil Level Gauge

Note) Oil level gauge is not max dimension.

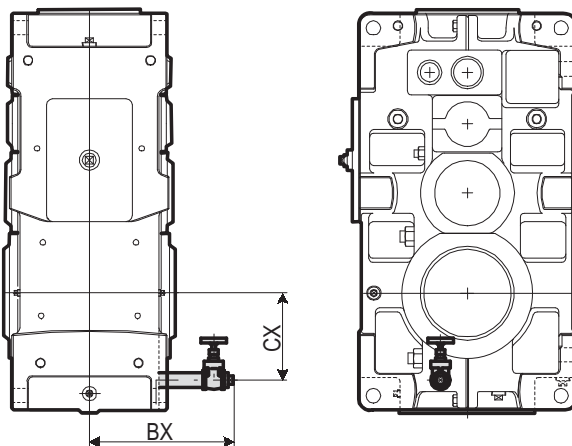


Right Angle Double, Triple / Parallel Double



Right Angle Quadruple / Parallel Triple, Quadruple

Drain Valve

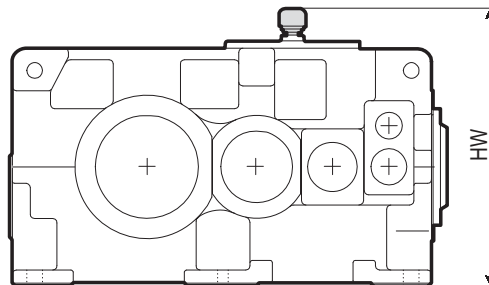


Size	BX	CY
9060	335	214
9065	335	253
9070	360	251
9075	360	298
9080	380	283
9085	380	327

TECHNICAL DATA Option Dimension

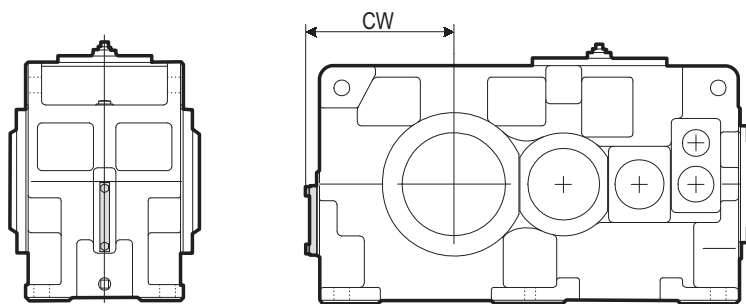
9090 ▶ 9115 Right Angle Double, Triple, Quadruple
/Parallel Double, Triple, Quadruple

Air Breather



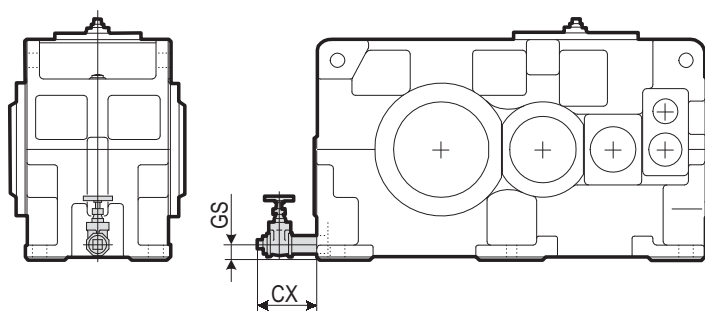
Size	HW
9090	839
9095	889
9100	939
9105	989
9110	1039
9115	1089

Oil Level Gauge

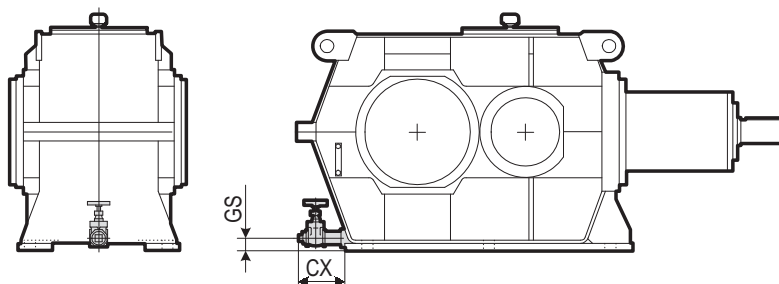


Size	CW
9090	435
9095	465
9100	475
9105	510
9110	525
9115	575

Drain Valve



Size	CX	GS
9090	162	45
9095	162	45
9100	162	46
9105	162	46
9110	162	48
9115	162	48



Size	CX	GS
9095R2	172	62
9105R2	172	62
9115R2	172	69

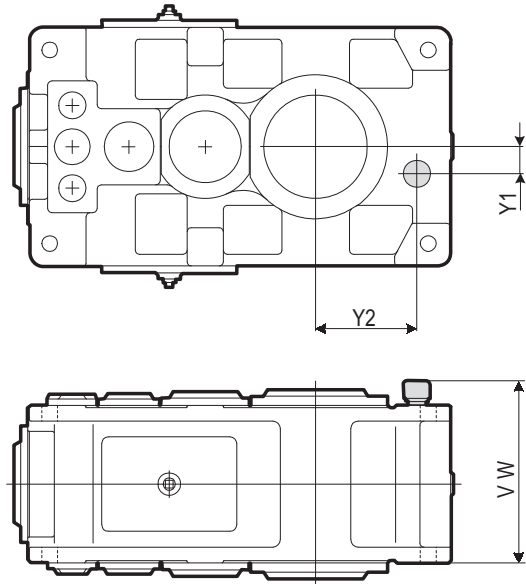
Technical

Common

TECHNICAL DATA Option Dimension

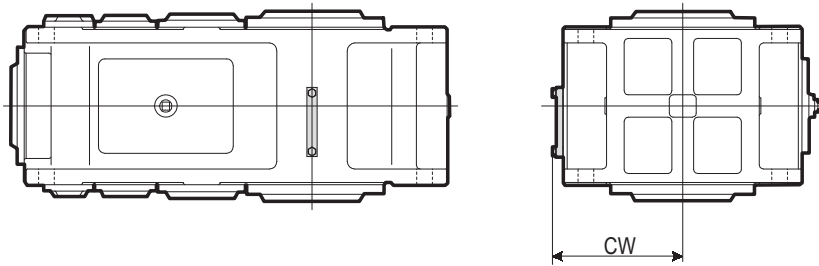
9090 ▶ 9115 Right Angle Double, Triple, Quadruple
/ Parallel Double, Triple, Quadruple

Air Breather



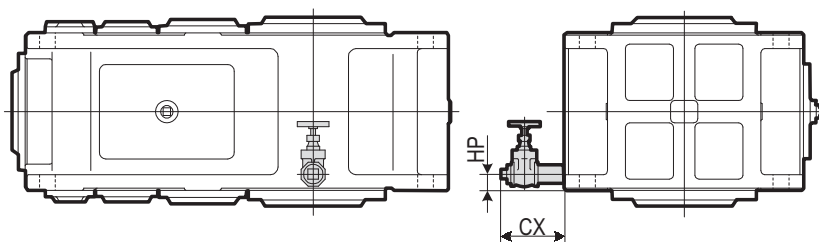
Size	V W	Y1	Y2
9090	626	90	315
9095	626	90	345
9100	706	100	355
9105	706	100	390
9110	766	100	405
9115	766	100	440

Oil Level Gauge



Size	CW
9090	405
9095	430
9100	455
9105	480
9110	505
9115	530

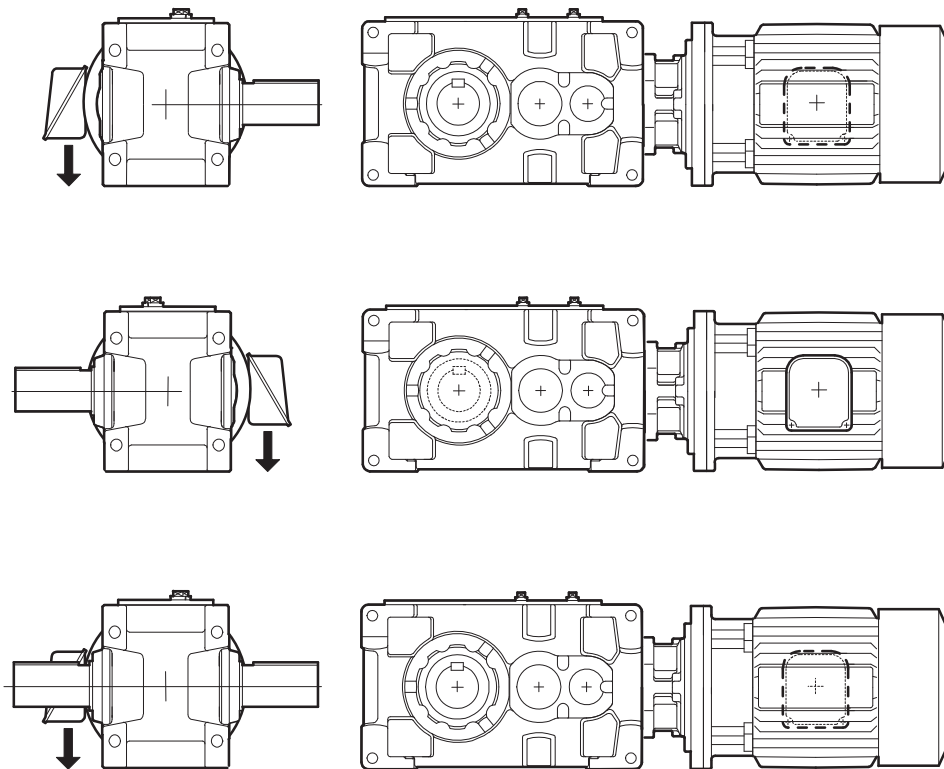
Drain Valve



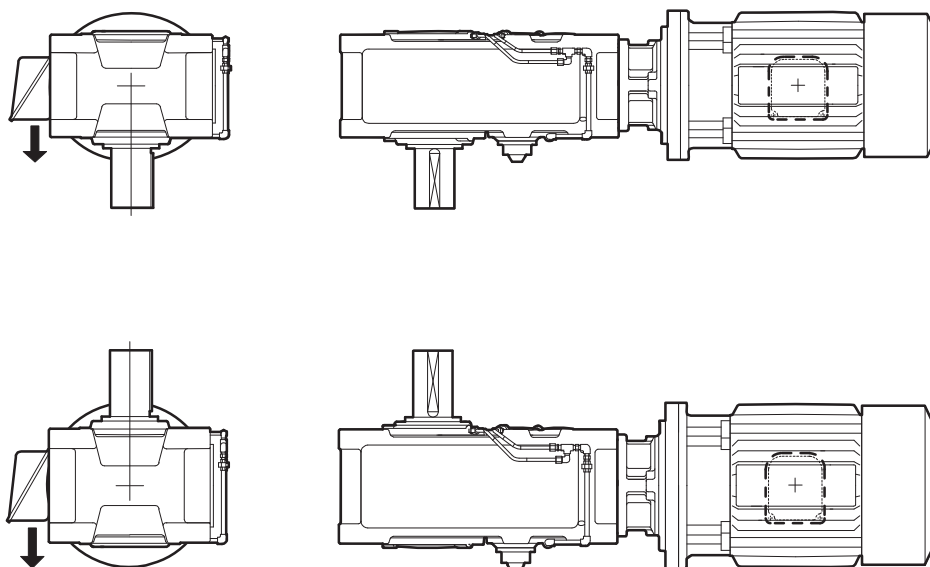
Size	CX	HP
9090	162	42
9095	162	42
9100	162	43
9105	162	43
9110	162	44
9115	162	44

TECHNICAL DATA Motor Terminal Box Drive Unit

Right Angle Shaft Horizontal Mounting



Right Angle Shaft Vertical Mounting



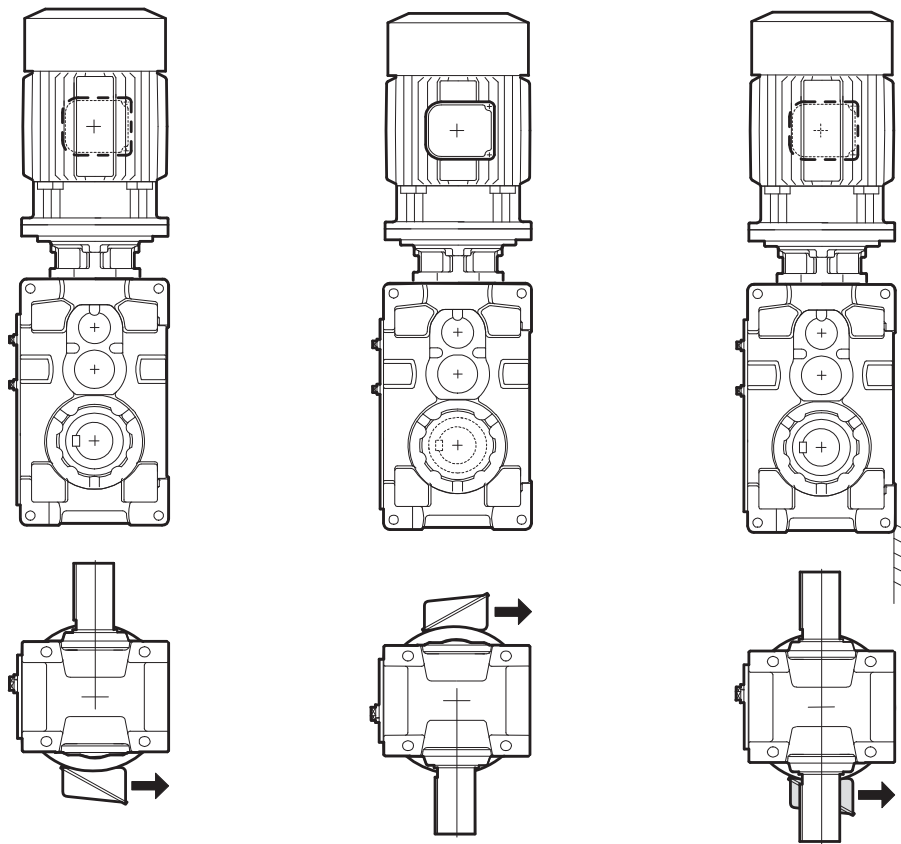
Technical

Common

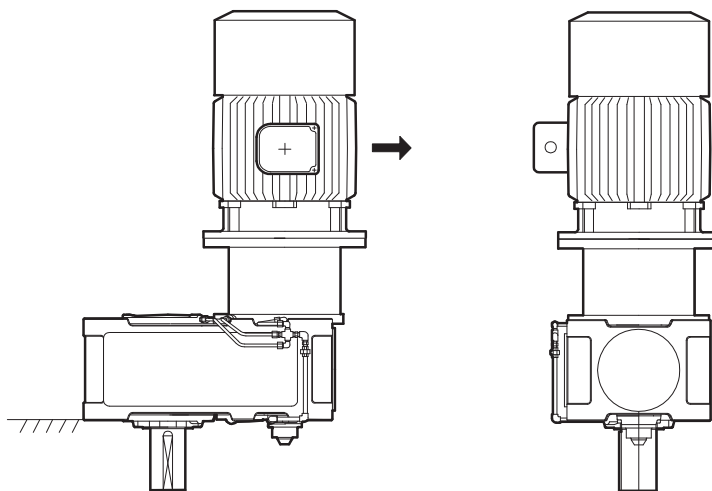
1. Direction shows lead wire outside of terminal box.
2. The terminal box mounting direction can be changed in units of 90 degree in our factory. Please specify the direction when placing an order.

TECHNICAL DATA Motor Terminal Box Drive Unit

Right Angle Shaft Upright Mounting

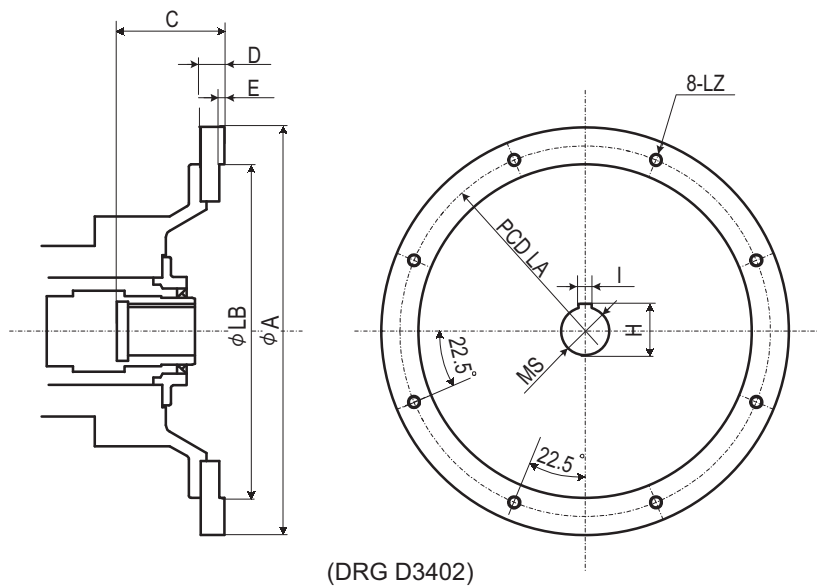
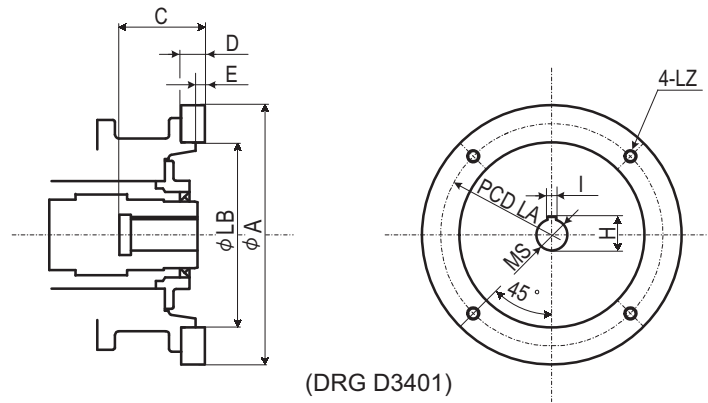


Parallel Shaft Vertical Mounting



1. Direction shows lead wire outside of terminal box.
2. The terminal box mounting direction can be changed in units of 90 degree in our factory. Please specify the direction when placing an order.

TECHNICAL DATA Motor Flange Dimension IEC, JEM Standard



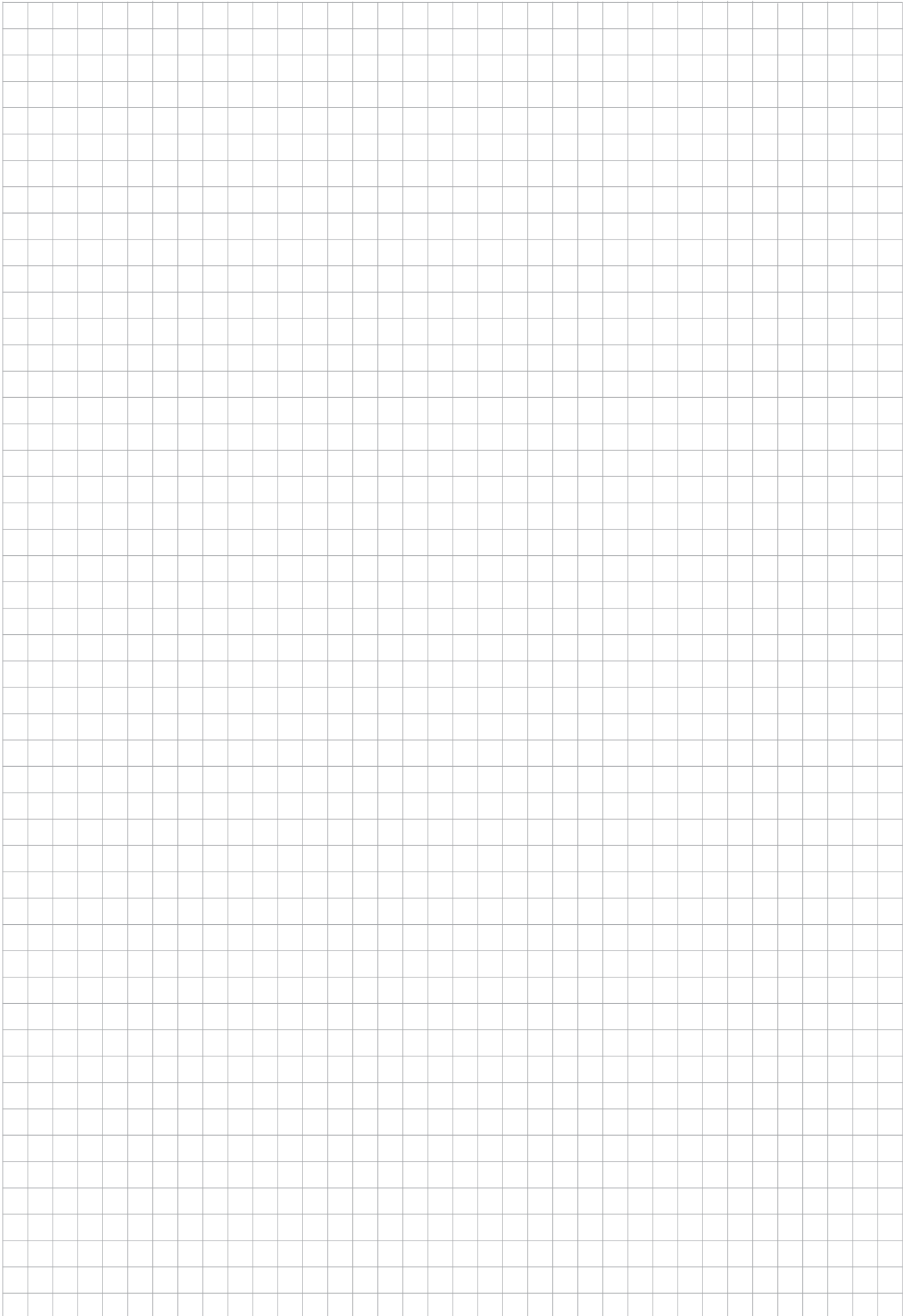
(JEM Standard)

kWxP	Motor Flame	A	LB	C	D	E	φ MS	H	I	LA	LZ	Thread Length	Fig.
5.5 × 4P	132S	315	230	84	48	7	38	41.3	10	265	4-M12	22	D3401
7.5 × 4P	132M	315	230	84	48	7	38	41.3	10	265	4-M12	22	D3401
11 × 4P	160M	350	250	114	32	7	42	45.3	12	300	4-M16	32	D3401
15 × 4P	160L	350	250	114	32	7	42	45.3	12	300	4-M16	32	D3401
18.5 × 4P	180M	400	300	144	62	7	48	51.8	14	350	4-M16	62	D3401
22 × 4P	180M	400	300	144	62	7	48	51.8	14	350	4-M16	62	D3401
30 × 4P	180L	400	300	144	62	7	55	59.3	16	350	4-M16	62	D3401
37 × 4P	200L	450	350	144	48	7	60	64.4	18	400	8-M16	32	D3402
45 × 4P	200L	450	350	144	48	7	60	64.4	18	400	8-M16	32	D3402
55 × 4P	225S	550	450	144	32	7	65	69.4	18	500	8-M16	32	D3402

(IEC Standard)

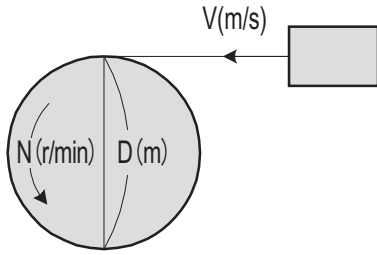
kWxP	Motor Flame	A	LB	C	D	E	φ MS	H	I	LA	LZ	Thread Length	Fig.
5.5 × 4P	132S	315	230	84	48	7	38	41.3	10	265	4-M12	22	D3401
7.5 × 4P	132M	315	230	84	48	7	38	41.3	10	265	4-M12	22	D3401
11 × 4P	160M	350	250	114	32	7	42	45.3	12	300	4-M16	32	D3401
15 × 4P	160L	350	250	114	32	7	42	45.3	12	300	4-M16	32	D3401
18.5 × 4P	180M	350	250	144	62	7	48	51.8	14	300	4-M16	62	D3401
22 × 4P	180L	350	250	144	62	7	48	51.8	14	300	4-M16	62	D3401
30 × 4P	200L	400	300	144	62	7	55	59.3	16	350	4-M16	62	D3401
37 × 4P	225S	450	350	144	48	7	60	64.4	18	400	8-M16	32	D3402
45 × 4P	225M	450	350	144	48	7	60	64.4	18	400	8-M16	32	D3402
55 × 4P	250M	550	450	144	32	7	65	69.4	18	500	8-M16	32	D3402

If no specification is made, production will follow JEM Standard.



TECHNICAL DATA Formula of Drive System SI Units

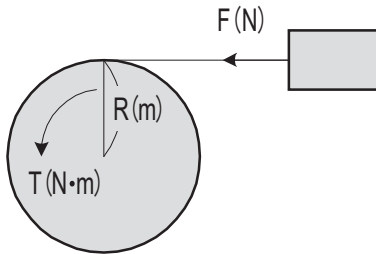
1. Revolving Speed N(r/min), Velocity V(m/s)



$$V = \pi \cdot D \cdot \frac{N}{60} \quad (\text{m/s})$$

D : Wheel Diameter (m)
 ($\pi \cong 3.14$)

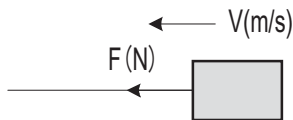
2. Torque T (Nm)



$$T = F \cdot R \quad (\text{N} \cdot \text{m})$$

F : Load (N)
 R : Wheel Radius (m)

3. Power P(kW)



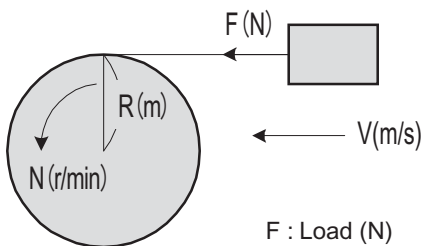
$$P = \frac{F \cdot V}{1000} \quad (\text{kW})$$

F : Load (N)
 V : Velocity (m/s)

4. Power P(kW), Torque T(Nm), Revolving Speed N(r/min)

$$P = \frac{N \cdot T}{9550} \quad (\text{kW}), \quad T = \frac{9550 \cdot P}{N} \quad (\text{N} \cdot \text{m})$$

$$P = \frac{F \cdot V}{1000} \quad (\text{kW}), \quad V = \pi \cdot 2 \cdot R \cdot \frac{N}{60} \quad (\text{m/s})$$



$$\therefore P = \frac{F \cdot \pi \cdot 2 \cdot R \cdot \frac{N}{60}}{1000} = \frac{2 \cdot \pi}{1000 \times 60} \cdot N \cdot F \cdot R \quad (\text{kW})$$

Since $T = F \cdot R$

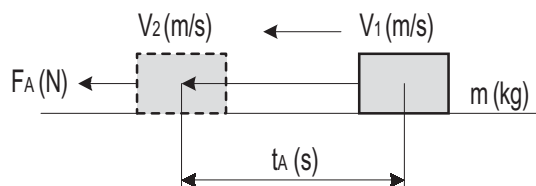
$$P = \frac{2 \cdot \pi}{1000 \times 60} \cdot N \cdot T = \frac{N \cdot T}{9550} \quad (\text{kW})$$

Technical

Common

TECHNICAL DATA Formula of Drive System SI Units

5. Acceleration Force F_A (N)



$$F_A = m \cdot \alpha = m \cdot \frac{V_2 - V_1}{t_A} \text{ (N)}$$

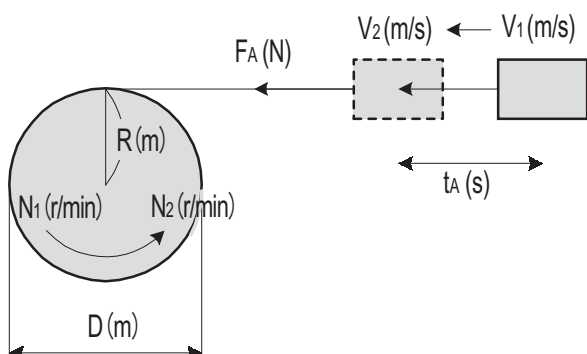
$$\alpha = m \cdot \frac{V_2 - V_1}{t_A}$$

m : Weight (kg)

α : Acceleration (m/s^2)

t_A : Acceleration Time (s)

6. Acceleration Torque T_A (Nm)



$$T_A = F_A \cdot R, \quad F_A = m \cdot \frac{V_2 - V_1}{t_A}$$

$$V_2 = \pi \cdot D \cdot \frac{N_2}{60}, \quad V_1 = \pi \cdot D \cdot \frac{N_1}{60},$$

$$D = 2 \cdot R$$

$$\therefore T_A = m \cdot \frac{\frac{\pi \cdot 2 \cdot R}{60} (N_2 - N_1)}{t_A} \cdot R$$

$$= \frac{2 \pi \cdot m \cdot R}{60} \cdot \frac{N_2 - N_1}{t_A} \cdot R$$

$$= \frac{m \cdot R^2}{9.55} \cdot \frac{N_2 - N_1}{t_A} \text{ (N} \cdot \text{m)}$$

Since $m \cdot R^2$ is J (Moment of Inertia : $\text{kg} \cdot \text{m}^2$)

$$T_A = \frac{J}{9.55} \cdot \frac{N_2 - N_1}{t_A} \text{ (N} \cdot \text{m)}$$

7. Synchronized Revolving Speed of AC Motor N_0 (r/min)

$$N_0 = \frac{120 \cdot f}{P} \text{ (r/min)}$$

f : Power Supply Frequency (Hz)

P : No. of Motor Poles

8. Rated Revolving Speed of AC Motor N (r/min)

$$N = N_0(1 - S) \text{ (r/min)}$$

N_0 : Synchronized Revolving Speed (r/min)

S : Slippage

Warranty

Warranty Period	The warranty period for the Products shall be 18 months after the commencement of delivery or 18 months after the shipment of the Products from the seller's works or 12 months from the Products coming into operation, whichever comes first.
Warranty Condition	<p>In Case that any problems, troubles or damages on the Products arise due to the defects in the Products during the above "Warranty Period" , although the Products are appropriately and properly installed in, connected or combined to the equipment or machines, or maintained in accordance with the maintenance manual and are properly operated under the conditions as described in the catalogue or otherwise as agreed upon in writing between the Seller and the Buyer or its customers, the Seller will provide, at its sole discretion, appropriate repair or replacement on the Products free of charge, except as stipulated in the "Exception for Warranty" as described below.</p> <p>However, in the event that the Products is installed in, connected or combined to or integrated into the equipment or machines, the Seller shall not reimburse the costs for removal or re-installation of the Products or other incidental costs related thereto and any lost opportunity, loss of profit or any other incidental or consequential losses or damages incurred by the Buyer or its customers.</p>
Exception for Warranty	<p>Notwithstanding the above warranty, the warranty as set forth herein shall not be applied to the problems, troubles or damages on the Products which are caused by:</p> <ol style="list-style-type: none"> 1. installations, connections, combinations or integration of the Products in or to the other equipment or machines, which are rendered by any person or entity other than the Seller, 2. the insufficient maintenance or improper operation by the Buyer or its customers, such that the Product is not appropriately maintained in accordance with the maintenance manual provided or designated by the Seller, 3. the improper use or operation of the Products by the Buyer or its customers which are not informed to the Seller, including, without limitation, the Buyer's or its customers' operation of the Products not in conformity with the specifications, or use of the lubrication oil in the Products which is not recommended by the Seller, 4. troubles, problems or damages on any equipment or machines in or to which the Products are installed, connected or combined or installed, or any specifications particular to the Buyer or its customers.



SAFETY PRECAUTIONS

- Strictly observe the safety rules for the installation place and the equipment to use.
(Industrial Safety and Health Law, Technical Standard for Electric Facilities, Extension Rules, Plant Explosion Guidelines, Building Standards Law, etc.)
- Carefully read the maintenance manual before use. If the maintenance manual is not on hand, make a request for one to the distributor at which you purchased the product or to our sales department. The maintenance manual should be sent to the actual user.
- Select an appropriate product that matches the operating environment and usage.
- Install a protective equipment on the machine side when the machine is used for transportation of passengers or for elevators, escalators, and dumbwaiters.
- When the machine is used for food processing equipment and others that are susceptible to oil, install an oil pan or other damage preventive devices in case of oil leakage due to failure or termination of service life.