SEISA

COMPOWER®

Planetary Gear Drive

DP1000 Series

TOUGH

COMPACT & SIMPLE

SEISA Gear, Ltd.
Affiliated Company of Sumitomo Heavy Industries, Ltd.

CAT_No.5513-07.03-1,000.ANNEX

SEISA

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CONTENTS

A

Features

■Features

“TOUGH, COMPACT & SIMPLE”

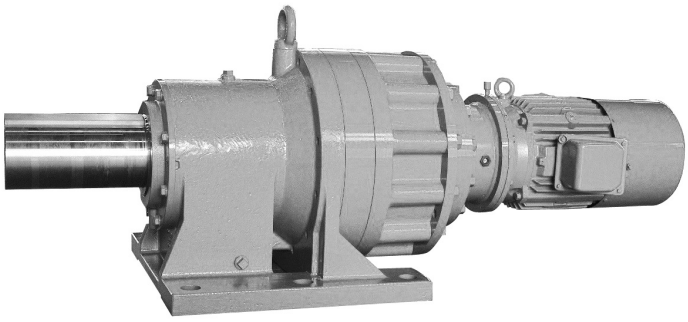
1 Wide Variation of Lineup

Applicable to various specifications with less number of parts by adopting modular design.
Wide selection of Planetary Gear Reducer DP1000 Series for better choice of customer’s requests.
①Availability of Output Torque from 0.46kNm to 736kNm and Power Range from 0.2kW to 1200kW.
②Applicable to Reduction Ratio from 1/16 to 1/1400.
③Applicable to foot mounting, flange mounting and shaft mounting(option).

Reduction ratio	Size of Reducer／torque （kNm）																				
	1010	1020	1030	1040	1050	1060	1070	1080	1090	1100	1110	1120	1130	1140	1150	1160	1170	1180	1190	1200	1210	1220
	0.46	0.69	1	1.6	3.2	5.5	8.6	13.6	15.9	22.6	29.4	39.2	53	72.6	95.2	128	157	186	275	402	549	736
5	■	■	■	■	■	■	■															
9	■	■	■	■	■	■	■															
16	■	■	■	■	■	■	■	■	■	■	■	■	■	■								
18				■	■	■	■	■	■	■	■	■	■	■								
20				■	■	■	■	■	■	■	■	■	■	■								
22.4	■	■	■	■	■	■	■	■	■	■	■	■	■	■								
25						■	■	■	■	■	■	■	■	■								
28						■	■	■	■	■	■	■	■	■								
31.5	■	■	■	■	■	■	■	■	■	■	■	■	■	■								
35.5				■	■	■	■	■	■	■	■	■	■	■								
40	■	■	■	■	■	■	■	■	■	■	■	■	■	■								
45						■	■	■	■	■	■	■	■	■								
50	■	■	■	■	■	■	■	■	■													
56					■	■	■	■	■													
63					■	■	■	■	■													
71	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■						
80					■	■	■	■	■	■	■	■	■	■	■	■	■	■	■			■
90	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
100					■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
112					■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
125	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
140					■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
160					■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
180	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
200					■	■	■	■	■		■		■	■	■	■	■	■	■	■	■	■
224	■	■	■	■	■	■	■	■	■								■	■			■	■
250						■		■		■	■	■	■									
280										■	■	■	■									
315	■	■	■	■	■	■		■	■	■	■	■	■									
355								■	■	■	■	■	■		■	■	■			■		
400	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
450								■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
500								■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
560	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
630								■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
710								■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
800	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
900								■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
1000	■	■	■	■	■	■	■	■	■	■	■	■	■	■			■	■		■	■	■
1120	■	■	■	■	■	■	■	■	■	■	■	■	■	■			■	■		■	■	■
1250								■	■													
1400								■	■													

2 Drive Unit

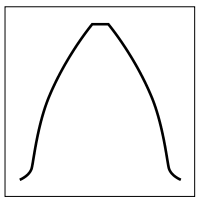
Prepared full lineup of direct motor mount type drive units.
Simple layout of models can be made due to the unified combination of reducer and basic motor.
Eliminate the necessity for foundation working for installation and alignment operation.



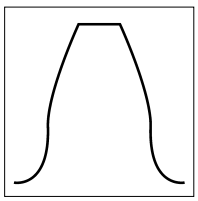
3 High strength and rigidity of Planetary Gear system.

①Equal distribution of Planetary Gear system.
Optimum distribution of load to each gear is secured by Planetary Gear system and structure.
Slimmer diameter can produce bigger transmission power of torque.

②High pressure angle gear.
27-degree pressure angle provides higher tooth strength, which is good for shock loads.



27° Pressure Angle



20° Pressure Angle

■Available Combination

Reducer

Size \ Ratio	5	9	16	18	20	22.4	25	28	31.5	35.5	40	45	50	56	63	71	80	90	100	112	125
1010	●	●	●			●			●		●		●			●		●			●
1020	●	●	●			●			●		●		●			●		●			●
1030	●	●	●			●			●		●		●			●		●			●
1040	●	●	●	○	○	●			●	○	●		●			●		●			●
1050	●	●	●	○	○	●			●	○	●		●	○	○	●	○	●	○	○	●
1060	●	●	●	○	○	●	○	○	●	○	●		●	○	○	●	○	●	○	○	●
1070	●	●	●	○	○	●	○	○	●	○	●	○	●	○	○	●	○	●	○	○	●
1080			●	○	○	●	○	○	●	○	●	○	●	○	○	●	○	●	○	○	●
1090			●	○	○	●	○	○	●	○	○	○	●	○	○	●	○	●	○	○	●
1100			○	○	●	●	●	●	●	●	●	●				●	○	○	●	○	○
1110			○	○	●	●	●	●	●	●	●	●				●	○	○	●	○	○
1120			○	○	●	●	●	●	●	●	●	●				●	○	○	●	○	○
1130			○	○	●	●	●	●	●	●	●	●				●	○	○	●	○	○
1140			○	○	●	●	●	●	●	●	●	●				○	○	●	●	●	●
1150																●	●	●	●	●	●
1160																●	●	●	●	●	●
1170																	●	●	●	●	●
1180																	●	●	●	●	●
1190																	●	●	●	●	●
1200																		●	●	●	●
1210																		●	●	●	●
1220																	●	●	●	●	●

● : Standard Models ○ : Manufactured Models (Option)

Remark: This table is applicable only to shaft inline type in the catalogue.

Drive Unit

	Ratio	5	9	16	18	20	22.4	25	28	31.5	35.5	40	45	50	56	63	71	80	90	100	112	125
O/P speed	60Hz	360	200	113	100	90	80	72	64	57	51	45	40	36	32	29	25	23	20	18	16	14
r/min	50Hz	300	167	94	83	75	67	60	54	48	42	38	33	30	27	24	21	19	17	15	13	12
Motor (kW × P)	0.2×4																●		●			●
	0.4×4																●		●			●
	0.75×4									●		●		●			●		●			●
	1.5×4		●	●			●			●		●		●			●		●			●
	2.2×4	●	●	●			●			●		●		●			●		●			●
	3.7×4	●	●	●			●			●		●		●			●		●			●
	5.5×4	●	●	●			●			●		●		●			●		●			●
	7.5×4	●	●	●			●			●		●		●			●		●			●
	11×4	●	●	●			●			●		●		●			●		●			●
	15×4	●	●	●			●			●		●		●			●		●			●
	18.5×4																●			●		
	22×4	●	●	●			●			●		●		●			●		●	●		●
	30×4	●	●	●			●			●		●		●			●					
	37×4	●	●	●			●			●	●	●	●	●			●					
	45×4			●			●			●	●	●	●	●								
	55×4			●			●			●	●	●	●									

Remark: This table is applicable only for shaft inline type in the catalogue.

140	160	180	200	224	250	280	315	355	400	450	500	560	630	710	800	900	1000	1120	1250	1400	Ratio	
		●		●			●		●			●			●			●		●	1010	
		●		●			●		●			●			●			●		●	1020	
		●		●			●		●			●			●			●		●	1030	
		●		●			●		●			●			●			●		●	1040	
○	○	●	○	●			●		●			●			●			●		●	1050	
○	○	●	○	●			●		●			●			●			●		●	1060	
○	○	●	○	●			●		●			●			●			●		●	1070	
○	○	●	○	●			●	○	●	○	○	●	○	○	●	○	○	●	○	●	1080	
○	○	●	○	●			●	○	●	○	○	●	○	○	●	○	○	●	○	●	1090	
●	○	●			●	○	●	○	○	●	○	○	●	○	●	●	○	●			1100	
●	○	●	○		●	○	●	○	○	●	○	○	●	○	●	●	○	●			1110	Size
●	○	●	○		●	○	●	○	○	●	○	○	●	○	●	●	○	●			1120	
●	○	○	○		●	○	●	○	○	●	○	○	●	○	○	●	○	○			1130	
●	●	●	●						●	○	○	●	○	○	●	○	○				1140	
●	●	●	●					●	●	●	●	●	●	●	●	●	●				1150	
●	●	●	●					●	●	●	●	●	●	●	●	●	●				1160	
●	●	●	●					●	●	●	●	●	●	●	●	●	●				1170	
●	●	●	●	●					●	●	●	●	●	●	●	●	●	●			1180	
●	●	●	●	●					●	●	●	●	●	●	●	●	●	●			1190	
●	●	●	●					●	●	●	●	●	●	●	●	●	●				1200	
●	●	●	●	●					●	●	●	●	●	●	●	●	●	●			1210	
●	●	●	●	●					●	●	●	●	●	●	●	●	●	●			1220	

140	160	180	200	224	250	280	315	355	400	450	500	560	630	710	800	900	1000	1120	1250	1400	Ratio	
13	11	10	9.0	8.0	7.2	6.4	5.7	5.1	4.5	4.0	3.6	3.2	2.9	2.5	2.3	2.0	1.8	1.6	1.4	1.3	60Hz	O/P speed
11	9.4	8.3	7.5	6.7	6.0	5.4	4.8	4.2	3.8	3.3	3.0	2.7	2.4	2.1	1.9	1.7	1.5	1.3	1.2	1.1	50Hz	r/min
		●		●			●		●			●			●			●		●	0.2×4	
		●		●			●		●			●			●			●		●	0.4×4	
		●		●			●		●			●			●			●		●	0.75×4	
		●		●			●		●			●			●	●		●		●	1.5×4	
		●		●			●		●			●	●		●	●		●			2.2×4	
		●		●			●		●	●		●	●		●	●		●			3.7×4	
		●		●	●		●		●	●			●			●					5.5×4	
		●		●	●		●			●			●		●	●					7.5×4	Motor
		●		●	●					●			●		●	●					11×4	(kW × P)
●		●								●			●		●						15×4	
●							●		●	●		●			●						18.5×4	
●		●			●		●		●	●		●									22×4	
									●												30×4	
																					37×4	
																					45×4	
																					55×4	

Basic Motor

3-Phase Induction Motors

4 Pole ●Standard Insulation ○Manufactured Models

Capacity kW	Indoor Type	Outdoor Type	Corrosion-proof Class2	Insulation Class E	B	F	H	Inverter Motors (Constant Torque) Indoor Type	Outdoor Type
0.2	○	○	○	●	○	○	○	○	○
0.25	○	○	○	●	○	○	○		
0.4	○	○	○	●	○	○	○	○	○
0.55	○	○	○		●	○	○		
0.75	○	○	○		●	○	○	○	○
1.1	○	○	○		●	○	○		
1.5	○	○	○		●	○	○	○	○
2.2	○	○	○		●	○	○	○	○
3.0	○	○	○		●	○	○		
3.7	○	○	○		●	○	○	○	○
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)
Provided that the base frequency for driving an inverter is 60Hz.

3-Phase Induction Motors with Built-in Brakes

4 Pole ●Standard Insulation ○Manufactured Models

Capacity kW	Indoor Type	Outdoor Type	Corrosion-proof Class2	Insulation Class E	B	F	H	Inverter Motors (Constant Torque) Indoor Type	Outdoor Type
0.2	○	○	○	●	○	○	○	○	○
0.25	○	○	○	●	○	○	○		
0.4	○	○	○	●	○	○	○	○	○
0.55	○	○	○		●	○	○		
0.75	○	○	○		●	○	○	○	○
1.1	○	○	○		●	○	○		
1.5	○	○	○		●	○	○	○	○
2.2	○	○	○		●	○	○	○	○
3.0	○	○	○		●	○	○		
3.7	○	○	○		●	○	○	○	○
5.5	○	○	○		●	○	○	○	○
7.5	○	○	○		●	○	○	○	○
11	○	○	○		●	○	○	○	○
15	○	○	○		●	○	○	○	○
18.5	○	○	○		●	○	○	○	○
22	○	○	○		●	○	○	○	○
30	○	○	○			●	○		
37						●			

Remarks: Continuous Rating: 55kW and under. Applicable Voltage: 200V 50/60Hz (400V 50/60Hz, 440V 60Hz)
Provided that the base frequency for driving an inverter is 60Hz.
Brake Insulation: B type

Note: 1. Motors with output kW specifications other than as listed in Tables 1-4 are also manufactured. Please send us your inquiry.
Examples: Special voltage, dust-proof, humidity-proof, tropical treatment, high temperature, ship use, dual shaft-round & square, CSA standard, NEMA standard, etc.
2. For inverter drive use, refer to ambient temperature, input r/min, mounting method, load characteristics.

Safety Increased Explosion-proof (eG3) 3-Phase Induction Motor

4 pole ●Standard Insulation ○Manufactured Models

Capacity kW	Indoor Type	Outdoor Type	Corrosion-proo Class 2	Insulation Class B	Insulation Class F
0.2	○	○	○	●	○
0.4	○	○	○	●	○
0.75	○	○	○	●	○
1.5	○	○	○	●	○
2.2	○	○	○	●	○
3.7	○	○	○	●	○
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

Pressure-tight Explosion-proof (d2G4) 3-Phase Motor

4 pole ●Standard Insulation ○Manufactured Models

Capacity kW	Indoor Type	Outdoor Type	Corrosion-proof Class 2	Insulation Class B	Insulation Class F
0.2	○	○	○	○	○
0.4	○	○	○	○	○
0.75	○	○	○	●	○
1.5	○	○	○	●	○
2.2	○	○	○	●	○
3.7	○	○	○	●	○
5.5	○	○	○	●	○
7.5	○	○	○	●	○
11	○	○	○	●	○
15	○	○	○	●	○
22	○	○	○	●	○
30	○	○	○	●	○
37	○	○	○		○

Remarks: Continuous Rating
Applicable Voltage: 200V, 220V, 350V, 380V, 400V, 440V, 50/60Hz
(Inverter Motors): 200V 60Hz, 220V 60Hz, 400V 60Hz
Applicable Inverter: Applicable only to Sumitomo Inverters. (Refer to Inverter catalogue.)

Safety Precautions
For inverter drive use of Explosion-proof type, the combination of motor and inverter is defined by authorization. Always use the defined inverter specified.
As inverter itself is not explosion-proof construction, please always set the inverter at the place where any explosive gas is not available.

B

Reducer

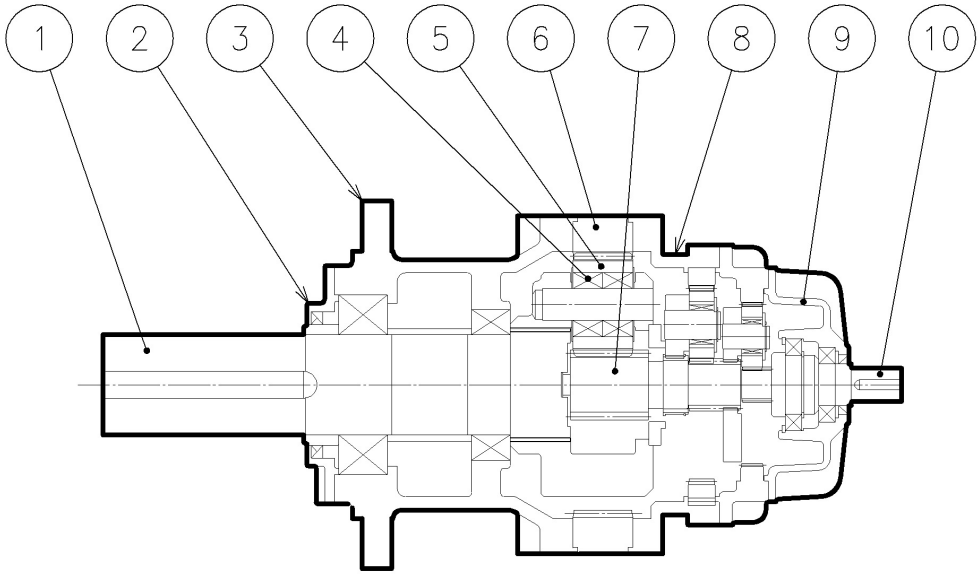
Reducer

■Reducer Standard Specifications

Item		Standard Specification
Reducer	Lubrication Method	Oil bath lubrication (Some of the upper bearing are lubricated with grease)
	Lubricant	Refer to the page E-2
	Reduction Method	Involute Planetary Gear
	Shaft Direction	Rotation direction of high speed shaft is the same as output shaft
Ambient Conditions	Installation Location	Indoor (Minimal dust and humidity)
	Ambient Temperature	－10℃～40℃
	Ambient Humidity	Under 85%
	Elevation	Under 1,000 meters
	Atmosphere	Well-ventilated location, free of corrosive gas, explosive gas, vapors and dust.
Installation		Horizontal installation Refer to the page E-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 prime coating, UNI GROUND PTC primer is sprayed once. For final coating, SUPIKA#3000 is sprayed once. Painting color: MUNSELL 2.5G 6/3. Refer to the page E-3.

Note1: A heating or cooling system is necessary in case the ambient temperature is lower than －10℃ or higher than +40℃.

■Construction Drawing

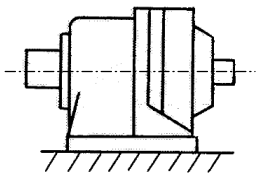
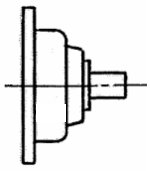
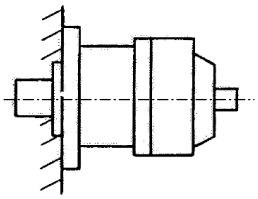
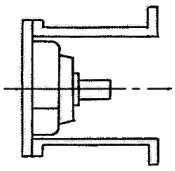
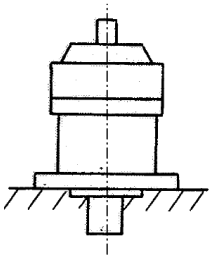
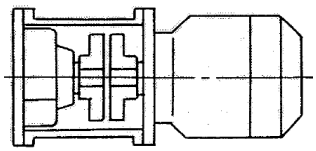
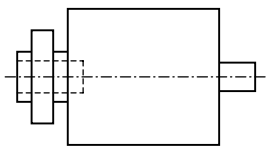


DHF (flange type)

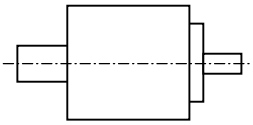
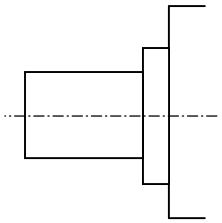
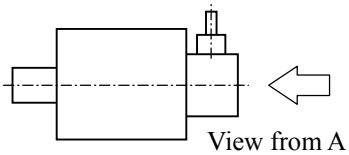
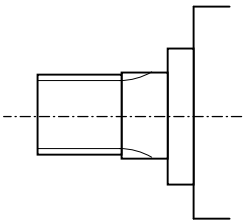
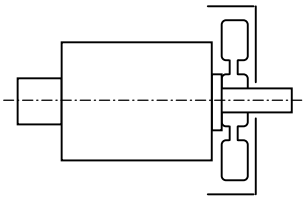
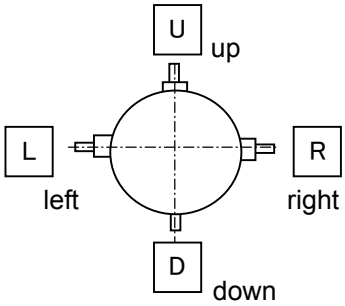
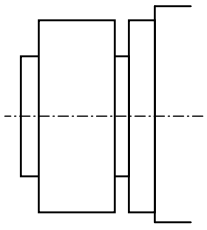
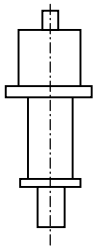
No.	Part Name	No.	Part Name
1	Low Speed Shaft	6	Internal Gear
2	Seal Cover	7	Sun Gear
3	Case	8	Inter Mediate Cover
4	Bearing	9	High Speed Shaft Cover
5	Planetary Gear	10	High Speed Shaft

■Nomenclature

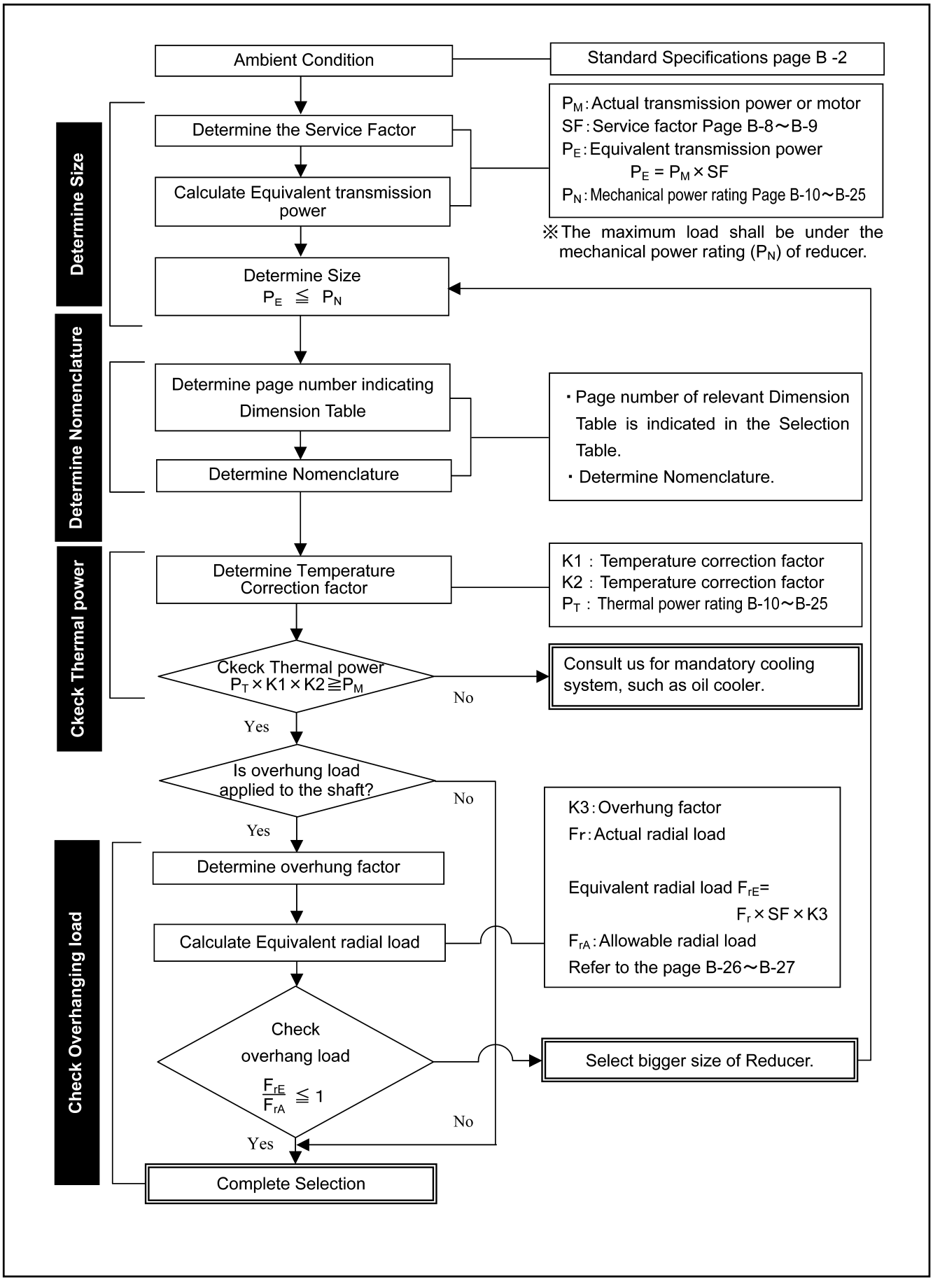
D	HG		–	1090

Series	Shaft Direction and Mounting Style	Connection for Motor	Size	
				Torque kNm
D DP 1000 Series Planetary Gear Drive	HG Horizontal 	(Blank) Solid Shaft 	1010	0. 46
			1020	0. 69
			1030	1. 0
			1040	1. 6
			1050	3. 2
			1060	5. 5
			1070	8. 6
			1080	13. 6
			1090	15. 9
			1100	22. 6
	HF Horizontal Flange 	J Motor Adaptor 	1110	29. 4
			1120	39. 2
			1130	53. 0
			1140	72. 6
			1150	95. 2
			1160	128
			1170	157
			1180	186
			1190	275
			1200	402
	VF Vertical Flange 	JM Motor Adaptor + Motor 	1210	549
			1220	736
	HY Shaft mounting (Option) 		Remarks: Above figures of Torque show the transmission power of low speed shaft.	

[ ] [ ] [ ] – 90

Direction of High Speed Shaft	Low Speed Shaft	Option	Nominal Ratio
(Blank) Inline 	(Blank) Solid Shaft Key type 	(Blank) Standard Specification	5 9 16 18 20 22.4 25 28 31.5 35.5
G※ Right angle (Option)  View from A	P Spline (Option) 	F Cooling Fan (Option) 	40 45 50 56 63 71 80 90 100 112
※Following Direction code will be added. Direction code (View from A)  ※"GR" will apply to VF type in spite of Direction code.	T Hollow Shaft Shrink Disk type (Option) 	R Radial Case (Option) 	125 140 160 180 200 224 250 280 315 355 400 450 500 560 630 710 800 900 1000 1120 1250 1400

■Reducer Selection



■Reducer Selection Example

Conditions and final selections	○：Conditions ■：Selected item	Reference page No.
○ Ambient Condition	：indoor, Ambient temperature 25℃	B-2：Standard Specification
■ Check ambient condition	→OK	
○ Motor power	：22kW（Code：30）	
○ High speed shaft speed	：1500r/min	
○ Shaft and mounting positions	：Right Angle Shaft, Horizontal Mounting	
Load condition		
○ Type of load, operating hours, usage	：Uniform load: 14 hours/day, conveyor	
■ Determine Service Factor	→SF＝1.25	B-8：Service Factor
■ Calculate equivalent transmission power	→P_E=22×1.25=27.5kW	
○ Low speed shaft speed	：20r/min	
■ Reduction ratio	→1500/20＝75	
Select nominal reduction ratio	→75→71	B-4～B-5：Nomenclature
■ Determine size	→ Size 1090 Nominal reduction ratio 71	B-16：Selection Tables
■ Determine reducer size, type, reduction ratio	Mechanical power rating P_N=34.2kW $P_E \leqq P_N$ → OK	
■ Check dimension		B-32*1：Dimension Tables
■ Check nomenclature	→DHG-1090-71	Code in Dimension Tables
○ Ambient Temperature	：20℃	
■ Temperature correction factor K1	→K1=1.0	B-9：Selection Tables
■ Temperature correction factor K2	→K2=1.0	B-9：Selection Tables
■ Thermal power rating P_T	→P_T=32.0kW →P_T×K1×K2=32.0>22=P_M→OK	B-14：Selection Tables
Check overhang load		
○ Overhang member	：Sprocket (Single row）	
■ Overhang factor K3	→K3=1.0	B-28：Allowable Radial Load
○ Radial load position	：Center of shaft	
○ Radial load Fr	：60kN	
■ Equivalent radial load F_{rE}	→F_{rE}=60×1.25×1.0=75kN	
■ Allowable radial load	→100kN	B-28：Allowable Radial Load
$\frac{75}{100}$= 0.75 ＜ 1	→OK	
○ Completion of selection		
■ Model selected	→DHG-1090-71	
		*1 page number of the relevant Dimension Table is indicated in the Selection Table.

■Service Factorer SF

Service Factor Table for Driven Machines

Driven Machine	Operating Hours（hours/day） 3 hrs	10 hrs	24 hrs
CRANES			
Classification of crane / Hoisting / Ttaverse Motion / Travel Motion / Slewing Motion / Boom Hoisting			
Group Ⅰ: 1.00 / 1.50 / 1.25 / 1.00			
GroupⅡ: 1.25 / 1.50 / 1.00			
GroupⅢ: 1.50 / 1.75 / 1.25			
GroupⅣ: 1.75 / 2.00 / 1.50			
The crane classification is based on JIS. 「Calculation standard for the structure of crane」			
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・main drive	1.50	1.50	1.50
Runout table			
Non reversing			
Group drives	1.50	1.50	1.50
Individual drives	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
MATAL 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	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、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、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
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 -2smooth rolls	1.50	1.50	1.75
Batch drop mill -2smooth rolls	1.50	1.50	1.50
Cracker warmer			
-2roll：1 corrugated roll	1.75	1.75	1.75
-2roll：1 corrugated roll	2.00	2.00	2.00
Holding,feed & blend mill			
-2rolls	1.25	1.25	1.25
Refiner -2 rolls	1.50	1.50	1.50
Calenders	1.50	1.50	1.50
PAPER MILL			
Alltypes incl.Paper making machine	2.00	2.00	2.00
AGITATORS			
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	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
Idustrial、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	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	1.75	1.75	1.75

Notes

(1) Values in the above table are based on AGMA standard and SEISA'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) ※：Consult us.

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 then 3 hours/day or when an internal combustion engine (single cylinder) is used.

Temperature correction factor K1

Load ratio per hour	K1 Ambient temperature(℃)				
	Under 10	20	30	40	50
100%	1.15	1.00	0.85	0.70	0.55
80%	1.35	1.20	1.00	0.80	0.65
60%	1.55	1.40	1.15	0.95	0.75
40%	1.75	1.60	1.35	1.10	0.90
20%	1.95	1.80	1.50	1.20	1.00

Note: Use 100% in case the operating hours will be more than two hours.

Temperature correction factor K2

Location	Wind	K2
Indoor/closed	≧0.5m／s	0.7
Indoor/open (Factory in general)	≧1.4m／s	1.0
Outdoor/without direct sunlight	≧3.7m／s	1.4

Overhang factor K3

Overhang Member	K3
Sprocket （single row）	1
Sprocket （double row）	1.25
Gear	1.25
V-belt	1.5
Flat belt	2.5

■Selection Table Reducer

Reduction ratio	5・9

Mechanical Power Rating P_N

Nominal Reduction Ratio	H. Speed Shaft Speed n_1 r/min	L. Speed Shaft Speedn_2 r/min	Size of Reducer 1010	1020	1030	1040	1050	1060	1070	1080	1090
5	Exact Reduction Ratio		5.053	5.053	5.053	5.053	5.053	5.053	5.053		
	1800	360	4.39	7.65	11.7	11.7	23.5	43.0	86.9		
	1500	300	3.67	6.33	9.80	10.1	19.6	35.8	72.4		
	1200	240	2.86	5.10	7.86	8.06	15.7	28.7	58.0		
	1000	200	2.45	4.18	6.53	6.73	13.1	23.9	48.3		
	900	180	2.14	3.78	5.92	6.12	11.7	21.5	43.5		
	750	150	1.84	3.16	4.90	5.10	9.80	18.0	36.2		
9	Exact Reduction Ratio		8.700	8.700	8.700	8.700	8.700	8.700	8.700		
	1800	200	2.65	3.98	7.86	9.29	18.0	36.8	48.2		
	1500	167	2.24	3.88	6.53	7.76	15.3	30.6	45.9		
	1200	133	1.84	3.06	5.20	6.22	12.2	24.5	36.7		
	1000	111	1.53	2.55	4.39	5.10	10.2	20.4	30.6		
	900	100	1.33	2.35	3.88	4.59	9.18	18.4	27.6		
	750	83	1.12	1.94	3.27	3.88	7.65	15.3	23.0		
Dimension Tables	Horizontal		B-30	B-30	B-30	B-30	B-30	B-30	B-30		
	Flange, Horizontal		B-36	B-36	B-36	B-36	B-36	B-36	B-36		
Thermal Power Rating P_T			12.1	12.1	17.6	23.4	34.7	49.6	67.2		

Notes:

1. The high speed shaft speed shall be under 1800 r/min. Consult us when it will be over 1800r/min.
2. When the high speed shaft speed is not shown in the table, find it by the interpolation method.
3. When the high speed shaft speed (n_1) id lower than 750 r/min, find the mechanical power rating (P_N) according to the following formula.

$$P_N = P750 \times \frac{N}{750}$$

4. Shown in the table are the ratings for the high speed shaft of reducer.
5. The thermal power ratings (P_T) are applicable to continuous operation at ambient temperatures of 20℃ or less.

Unit: kW

Size of Reducer												
1100	1110	1120	1130	1140	1150	1160	1170	1180	1190	1200	1210	1220

■Selection Table Reducer

Reduction ratio	16～28

Mechanical Power Rating P_N

Nominal Reduction Ratio	H. Speed Shaft Speedn_1 r/min	L. Speed Shaft Speedn_2 r/min	Size of Reducer 1010	1020	1030	1040	1050	1060	1070	1080	1090
16	Exact Reduction Ratio		16.17	16.17	16.17	16.17	16.17	16.17	16.17	16.17	16.17
	1800	113	3.13	4.75	7.50	9.68	22.5	38.0	65.5	104	130
	1500	94	2.96	4.49	7.10	9.17	21.3	36.0	62.0	98.0	120
	1200	75	2.77	4.20	6.64	8.57	18.0	31.8	50.0	75.5	94.3
	1000	63	2.62	3.82	6.10	7.19	15.0	26.5	41.7	62.9	78.6
	900	56	2.42	3.44	5.49	6.47	13.5	23.9	37.5	56.6	70.7
	750	47	2.02	2.87	4.57	5.40	11.3	19.9	31.3	47.2	59.0
18	Exact Reduction Ratio					※18.29	※18.29	※18.29	※18.29	※18.29	※18.29
	1800	100				9.14	21.6	35.2	61.7	96.5	126
	1500	83				8.66	20.4	33.3	58.4	91.4	111
	1200	67				7.84	18.0	31.1	50.0	74.5	88.8
	1000	56				6.53	15.0	26.5	41.7	62.1	74.0
	900	50				5.88	13.5	23.9	37.5	55.9	66.6
	750	42				4.90	11.3	19.9	31.3	46.5	55.5
20	Exact Reduction Ratio					※19.68	※19.68	※19.68	※19.68	※19.68	※19.68
	1800	90				8.69	20.4	33.4	58.6	91.7	109
	1500	75				8.02	19.3	31.6	55.5	86.8	90.9
	1200	60				6.42	15.9	29.6	48.1	71.0	72.7
	1000	50				5.35	13.2	25.5	40.1	59.2	60.6
	900	45				4.81	11.9	22.9	36.1	53.3	54.5
	750	38				4.01	9.93	19.1	30.0	44.4	45.4
22.4	Exact Reduction Ratio		21.40	21.40	21.40	21.40	21.40	21.40	21.40	21.40	21.40
	1800	80	2.57	4.03	6.17	8.68	18.5	31.2	55.5	86.9	110
	1500	67	2.43	3.88	5.84	8.22	17.5	31.3	52.6	75.3	90.6
	1200	54	2.28	3.11	5.46	6.22	16.4	27.7	44.2	60.2	60.2
	1000	45	2.06	2.59	4.66	5.19	13.7	23.4	36.8	50.2	50.2
	900	40	1.85	2.33	4.20	4.67	12.3	21.1	33.2	45.2	45.2
	750	33	1.54	1.94	3.50	3.89	10.3	17.6	27.6	37.6	37.6
25	Exact Reduction Ratio							※24.90	※24.90	※24.90	※23.58
	1800	72						28.3	49.7	77.8	90.3
	1500	60						26.8	47.0	70.1	75.3
	1200	48						22.4	38.0	56.1	60.2
	1000	40						18.7	31.7	46.8	50.2
	900	36						16.8	28.5	42.1	45.2
	750	30						14.0	23.7	35.1	37.6
28	Exact Reduction Ratio							※27.28	※27.28	※27.28	※26.43
	1800	64						26.6	46.6	73.0	90.3
	1500	54						25.2	43.9	64.8	75.3
	1200	43						22.3	35.1	51.8	60.2
	1000	36						18.6	29.3	43.2	50.2
	900	32						16.8	26.3	38.9	45.2
	750	27						14.0	21.9	32.4	37.6
Dimension Tables	Horizontal		B-31	B-31	B-31	B-31	B-31	B-31	B-31	B-31	B-31
	Flange, Horizontal		B-37	B-37	B-37	B-37	B-37	B-37	B-37	B-37	B-37
Thermal Power Rating P_T			6.0	6.0	8.8	11.7	17.3	24.8	33.6	40.9	48.0

Notes:

1. The high speed shaft speed shall be under 1800 r/min. Consult us when it will be over 1800r/min.
2. When the high speed shaft speed is not shown in the table, find it by the interpolation method.
3. When the high speed shaft speed (n_1) id lower than 750 r/min, find the mechanical power rating (P_N) according to the following formula.
4. Shown in the table are the ratings for the high speed shaft of reducer.
5. The thermal power ratings (P_T) are applicable to continuous operation at ambient temperatures of 20℃ or less.

Unit: kW

Size of Reducer												
1100	1110	1120	1130	1140	1150	1160	1170	1180	1190	1200	1210	1220
※16.17	※16.17	※16.17	※16.17	※16.17								
174	245	310	421	459								
146	215	273	370	404								
117	184	234	317	345								
97.3	161	206	279	304								
87.5	145	191	259	282								
73	121	161	224	249								
※18.29	※18.29	※18.29	※18.29	※18.29								
155	225	285	386	421								
129	198	251	340	371								
103	169	214	291	317								
86.0	142	189	256	279								
77.4	128	171	238	259								
64.5	107	143	199	228								
19.68	19.68	20.07	20.07	20.07								
144	213	267	339	394								
120	188	235	299	347								
95.9	158	201	255	297								
79.9	132	173	225	261								
71.9	119	156	209	243								
59.9	99.9	130	181	214								
22.98	22.98	22.98	22.98	22.98								
136	191	243	303	359								
120	168	214	267	316								
102	136	181	228	270								
87.6	114	152	201	238								
79.0	103	137	187	221								
66.0	85.7	114	159	194								
24.90	24.90	24.90	24.90	24.90								
129	181	229	284	339								
113	157	202	250	299								
96.8	126	168	214	255								
81.0	105	140	188	225								
73.0	94.8	126	175	209								
61.0	79.2	106	147	184								
27.28	27.28	27.28	27.28	27.28								
121	170	215	263	318								
106	143	189	232	280								
88.6	115	153	198	240								
74.0	96.1	128	174	211								
66.7	86.6	115	160	196								
55.8	72.4	96.5	134	172								
B-31	B-31	B-31	B-31	B-31								
B-37	B-37	B-37	B-37	B-37								
48.5	57.6	70.5	84.1	101								

※Those reduction ratios will be available as option. We, however, recommend standard reduction ratio considering extra cost and delivery date.

■Selection Table Reducer

Reduction ratio	31.5～45

Mechanical Power Rating P_N

Nominal Reduction Ratio	H. Speed Shaft Speed n_1 r/min	L. Speed Shaft Speed n_2 r/min	Size of Reducer 1010	1020	1030	1040	1050	1060	1070	1080	1090
31.5	Exact Reduction Ratio		30.32	30.32	30.32	30.32	30.32	30.32	30.32	30.32	30.32
	1800	57	2.01	3.16	4.83	6.80	14.5	24.5	41.7	65.2	87.0
	1500	48	1.91	2.99	4.57	6.44	13.7	23.2	39.5	58.3	73.0
	1200	38	1.76	2.37	4.00	6.02	11.8	20.1	31.6	46.6	58.4
	1000	32	1.47	1.97	3.33	5.07	9.80	16.8	26.3	38.9	48.7
	900	29	1.32	1.78	3.00	4.56	8.82	15.1	23.7	35.0	43.8
	750	24	1.10	1.48	2.50	3.80	7.35	12.6	19.7	29.2	36.5
35.5	Exact Reduction Ratio					※34.31	※34.31	※34.31	※34.31	※34.31	※34.31
	1800	51				5.89	13.5	22.6	39.7	62.1	78.3
	1500	42				5.57	12.8	20.9	35.3	52.1	65.3
	1200	34				4.69	10.5	16.7	28.2	41.7	52.2
	1000	28				3.91	8.76	13.9	23.5	34.8	43.5
	900	25				3.52	7.88	12.5	21.2	31.3	39.2
	750	21				2.93	6.57	10.4	17.7	26.1	32.6
40	Exact Reduction Ratio		39.79	39.79	39.79	39.79	39.79	39.79	39.79	39.79	※39.79
	1800	45	1.66	2.61	3.99	7.03	12.0	18.8	33.6	52.5	52.5
	1500	38	1.58	2.47	3.85	5.73	11.3	15.7	30.4	45.0	49.7
	1200	30	1.36	2.02	3.08	4.69	9.06	12.5	24.4	36.0	45.0
	1000	25	1.13	1.68	2.57	3.91	7.55	10.4	20.3	30.0	37.5
	900	23	1.02	1.51	2.31	3.52	6.80	9.39	18.3	27.0	33.8
	750	19	0.85	1.26	1.93	2.93	5.66	7.83	15.2	22.5	28.1
45	Exact Reduction Ratio								※47.81	※47.81	※47.81
	1800	40							25.3	45.4	45.4
	1500	33							21.1	37.9	42.0
	1200	27							16.9	30.3	33.6
	1000	22							14.1	25.2	28.0
	900	20							12.7	22.7	25.2
	750	17							10.6	18.9	21.0
Dimension Tables	Horizontal		B-31	B-31	B-31	B-31	B-31	B-31	B-31	B-31	B-31
	Flange, Horizontal		B-37	B-37	B-37	B-37	B-37	B-37	B-37	B-37	B-37
Thermal Power Rating P_T			6.0	6.0	8.8	11.7	17.3	24.8	33.6	40.9	48.0

Notes:

1. The high speed shaft speed shall be under 1800 r/min. Consult us when it will be over 1800r/min.
2. When the high speed shaft speed is not shown in the table, find it by the interpolation method.
3. When the high speed shaft speed (n_1) id lower than 750 r/min, find the mechanical power rating (P_N) according to the following formula.
4. Shown in the table are the ratings for the high speed shaft of reducer.
5. The thermal power ratings (P_T) are applicable to continuous operation at ambient temperatures of 20℃ or less.

Unit: kW

Size of Reducer												
1100	1110	1120	1130	1140	1150	1160	1170	1180	1190	1200	1210	1220
30.32	30.32	30.32	30.32	30.32								
112	154	200	241	296								
98.6	129	172	212	260								
79.8	104	138	182	222								
66.7	86.6	115	160	196								
60.2	78.1	104	145	182								
50.3	65.3	87.0	121	159								
34.31	34.31	34.31	34.31	34.31								
103	137	182	219	271								
88.0	114	152	192	239								
70.7	91.8	122	165	204								
59.1	76.7	102	142	180								
53.3	69.2	92.2	128	167								
44.5	57.8	77.0	107	141								
39.79	39.79	39.79	39.79	39.79								
91.0	118	157	194	244								
76.1	98.8	132	171	215								
61.1	79.3	106	146	184								
51.1	66.3	88.4	123	162								
46.1	59.8	79.7	111	146								
38.5	50.0	66.6	92.5	122								
47.81	47.81	47.81	47.81	47.81								
73.6	87.5	131	171	213								
61.5	73.1	110	151	178								
49.4	58.7	88.3	123	143								
41.3	49.1	73.8	102	119								
37.2	44.2	66.5	92.4	108								
31.1	37.0	55.6	77.2	90.0								
B-31	B-31	B-31	B-31	B-31								
B-37	B-37	B-37	B-37	B-37								
48.5	57.6	70.5	84.1	101								

※Those reduction ratios will be available as option. We, however, recommend standard reduction ratio considering extra cost and delivery date.

■Selection Table Reducer

Reduction ratio	50～90

Mechanical Power Rating P_N

Nominal Reduction Ratio	H. Speed Shaft Speed n_1 r/min	L. Speed Shaft Speed n_2 r/min	Size of Reducer 1010	1020	1030	1040	1050	1060	1070	1080	1090
50	Exact Reduction Ratio		51.74	51.74	51.74	51.74	51.74	51.74	51.74	51.74	51.74
	1800	36	1.41	2.15	3.39	4.88	9.68	17.2	29.0	42.9	53.7
	1500	30	1.34	2.01	3.06	4.15	8.60	15.3	24.2	35.7	44.7
	1200	24	1.08	1.60	2.45	3.25	6.88	12.2	19.4	28.6	35.8
	1000	20	0.90	1.34	2.04	2.71	5.73	10.2	16.1	23.8	29.8
	900	18	0.81	1.20	1.84	2.44	5.16	9.18	14.5	21.4	26.8
	750	15	0.68	1.00	1.53	2.03	4.30	7.65	12.1	17.9	22.4
56	Exact Reduction Ratio						※58.51	※58.51	※58.51	※58.51	※58.51
	1800	32					9.22	15.9	25.7	37.9	47.5
	1500	27					7.81	13.5	21.4	31.6	39.6
	1200	21					6.25	10.8	17.1	25.3	31.6
	1000	18					5.21	9.00	14.3	21.1	26.4
	900	16					4.69	8.10	12.8	19.0	23.7
	750	13					3.91	6.75	10.7	15.8	19.8
63	Exact Reduction Ratio						※62.97	※62.97	※62.97	※62.97	※62.97
	1800	29					8.72	15.1	24.1	35.6	44.6
	1500	24					7.48	12.8	20.1	29.7	37.2
	1200	19					5.99	10.2	16.1	23.8	29.7
	1000	16					4.99	8.53	13.4	19.8	24.8
	900	14					4.49	7.68	12.1	17.8	22.3
	750	12					3.74	6.40	10.1	14.8	18.6
71	Exact Reduction Ratio		68.48	68.48	68.48	68.48	68.48	68.48	68.48	68.48	68.48
	1800	25	1.16	1.82	2.79	4.28	8.26	14.1	22.2	32.8	41.0
	1500	21	1.03	1.53	2.34	3.72	6.88	11.8	18.5	30.8	34.2
	1200	17	0.83	1.23	1.87	2.85	5.50	9.41	14.8	21.8	27.3
	1000	14	0.69	1.02	1.56	2.37	4.59	7.84	12.3	18.2	22.8
	900	13	0.62	0.92	1.40	2.14	4.13	7.06	11.1	16.4	20.5
	750	11	0.52	0.77	1.17	1.78	3.44	5.88	9.24	13.7	17.1
80	Exact Reduction Ratio						※83.34	※83.34	※83.34	※83.34	※83.34
	1800	23					6.86	9.53	18.4	27.2	34.1
	1500	19					5.72	7.94	15.4	22.7	28.4
	1200	15					4.58	6.35	12.3	18.2	22.7
	1000	13					3.81	5.30	10.2	15.1	18.9
	900	11					3.43	4.77	9.22	13.6	17.0
	750	9.4					2.86	3.97	7.68	11.3	14.2
90	Exact Reduction Ratio		90.63	90.63	90.63	90.63	90.63	90.63	90.63	90.63	90.63
	1800	20	0.95	1.41	2.15	3.27	6.31	9.53	17.0	25.0	31.4
	1500	17	0.79	1.17	1.79	2.72	5.26	7.94	14.1	20.9	26.1
	1200	13	0.63	0.94	1.43	2.18	4.21	6.35	11.3	16.7	20.9
	1000	11	0.53	0.78	1.19	1.81	3.51	5.30	9.42	13.9	17.4
	900	10	0.47	0.70	1.07	1.63	3.16	4.77	8.48	12.5	15.7
	750	8.3	0.39	0.59	0.89	1.36	2.63	3.97	7.07	10.4	13.1
Dimension Tables	Horizontal		B-32	B-32	B-32	B-32	B-32	B-32	B-32	B-32	B-32
	Flange, Horizontal		B-38	B-38	B-38	B-38	B-38	B-38	B-38	B-38	B-38
Thermal Power Rating P_T			4.1	4.1	5.9	7.7	11.5	16.5	22.4	27.2	32.0

Notes:

1. The high speed shaft speed shall be under 1800 r/min. Consult us when it will be over 1800r/min.
2. When the high speed shaft speed is not shown in the table, find it by the interpolation method.
3. When the high speed shaft speed (n_1) id lower than 750 r/min, find the mechanical power rating (P_N) according to the following formula.

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

4. Shown in the table are the ratings for the high speed shaft of reducer.
5. The thermal power ratings (P_T) are applicable to continuous operation at ambient temperatures of 20℃ or less.

Unit: kW

Size of Reducer												
1100	1110	1120	1130	1140	1150	1160	1170	1180	1190	1200	1210	1220
81.69	76.99	76.99	76.99	※76.99	73.49	73.49						
45.9	73.5	102	137	171	222	299						
39.0	61.2	84.9	114	143	195	263						
31.2	49.0	67.9	91.7	114	167	222						
26.0	40.8	56.6	76.4	95.0	140	186						
23.4	36.7	51.0	68.8	85.7	127	167						
19.5	30.6	42.5	57.3	71.4	106	140						
※92.39	※87.07	※87.07	※87.07	※87.07	83.12	83.12	82.88	79.37	79.37			85.58
42.4	67.6	90.1	115	152	204	274	300	421	459			1586
37.7	56.3	75.1	101	126	179	241	264	370	404			1396
31.2	45.1	60.1	81.1	101	149	197	226	313	345			1147
26.0	37.5	50.1	67.6	84.2	124	164	199	261	304			956
23.4	33.8	45.1	60.8	75.8	112	148	185	235	282			860
19.5	28.2	37.5	50.7	63.1	93.7	124	158	196	249			717
※99.43	※93.71	※93.71	※93.71	93.71	89.45	91.25	92.28	89.77	89.77	86.28	92.47	99.41
40.3	62.8	83.7	107	141	194	257	275	386	421	798	1147	1428
35.9	52.3	69.8	89.0	117	170	223	242	340	371	702	989	1234
30.0	41.9	55.8	71.2	94.0	138	179	207	277	317	601	792	987
25.0	34.9	46.5	59.4	78.2	116	150	182	231	279	518	660	823
22.5	31.4	41.9	53.4	70.4	104	135	170	208	259	466	594	740
18.7	26.2	34.9	44.5	58.7	87.1	113	142	173	228	389	495	617
B-33	B-33	B-33	B-33	B-33								
B-39	B-39	B-39	B-39	B-39	B-39	B-39	B-39	B-39	B-39	B-39	B-39	B-39
32.2	36.3	43.5	52.4	64.4	74.8	91.8	103	114	145	181	221	275

※Those reduction ratios will be available as option. We, however, recommend standard reduction ratio considering extra cost and delivery date.

■Selection Table Reducer

Reduction ratio	100～180

Mechanical Power Rating P_N

Nominal Reduction Ratio	H. Speed Shaft Speedn_1 r/min	L. Speed Shaft Speedn_2 r/min	Size of Reducer 1010	1020	1030	1040	1050	1060	1070	1080	1090
100	Exact Reduction Ratio						※97.01	※97.01	※97.01	※97.01	※97.01
	1800	18					4.77	9.53	15.8	23.4	29.3
	1500	15					3.97	7.94	13.2	19.5	24.4
	1200	12					3.18	6.35	10.6	15.6	19.5
	1000	10					2.65	5.30	8.80	13.0	16.3
	900	9.0					2.38	4.77	7.92	11.7	14.6
	750	7.5					1.99	3.97	6.60	9.75	12.2
112	Exact Reduction Ratio						※109.7	※109.7	※109.7	※109.7	※109.7
	1800	16					4.77	9.02	14.2	20.9	26.2
	1500	13					3.97	7.51	11.8	17.4	21.8
	1200	11					3.18	6.01	9.45	13.9	17.5
	1000	8.9					2.65	5.01	7.87	11.6	14.6
	900	8.0					2.38	4.51	7.08	10.5	13.1
	750	6.7					1.99	3.76	5.90	8.72	10.9
125	Exact Reduction Ratio		128.4	128.4	128.4	128.4	128.4	128.4	128.4	128.4	128.4
	1800	14	0.68	1.00	1.53	2.33	4.51	7.70	12.1	17.9	22.4
	1500	12	0.56	0.84	1.28	1.94	3.75	6.42	10.1	14.9	18.7
	1200	9.6	0.45	0.67	1.02	1.55	3.00	5.14	8.07	11.9	14.9
	1000	8.0	0.38	0.56	0.85	1.29	2.50	4.28	6.72	9.93	12.4
	900	7.2	0.34	0.50	0.77	1.17	2.25	3.85	6.05	8.94	11.2
	750	6.0	0.28	0.42	0.64	0.97	1.88	3.21	5.04	7.45	9.33
140	Exact Reduction Ratio						※145.3	※145.3	※145.3	※145.3	※145.3
	1800	13					3.63	6.88	9.53	16.0	20.0
	1500	11					3.02	5.74	7.94	13.3	16.7
	1200	8.6					2.42	4.59	6.35	10.6	13.3
	1000	7.1					2.02	3.82	5.30	8.87	11.1
	900	6.4					1.81	3.44	4.77	7.99	10.0
	750	5.4					1.51	2.87	3.97	6.66	8.33
160	Exact Reduction Ratio						※168.5	※168.5	※168.5	※168.5	※168.5
	1800	11					3.47	5.94	9.33	13.8	17.2
	1500	9.4					2.89	4.95	7.77	11.5	14.4
	1200	7.5					2.31	3.96	6.22	9.18	11.5
	1000	6.3					1.93	3.30	5.18	7.65	9.58
	900	5.6					1.74	2.97	4.66	6.89	8.62
	750	4.7					1.45	2.47	3.89	5.74	7.19
180	Exact Reduction Ratio		181.9	181.9	181.9	181.9	181.9	181.9	181.9	181.9	181.9
	1800	10	0.48	0.72	1.09	1.66	3.22	5.50	8.64	12.8	16.0
	1500	8.3	0.40	0.60	0.91	1.39	2.68	4.58	7.20	10.6	13.3
	1200	6.7	0.32	0.48	0.73	1.11	2.14	3.67	5.76	8.51	10.7
	1000	5.6	0.27	0.40	0.61	0.92	1.79	3.06	4.80	7.09	8.88
	900	5.0	0.24	0.36	0.55	0.83	1.61	2.75	4.32	6.38	7.99
	750	4.2	0.20	0.30	0.46	0.69	1.34	2.29	3.60	5.32	6.66
Dimension Tables	Horizontal		B-32	B-32	B-32	B-32	B-32	B-32	B-32	B-32	B-32
	Flange, Horizontal		B-38	B-38	B-38	B-38	B-38	B-38	B-38	B-38	B-38
Thermal Power Rating P_T			4.1	4.1	5.9	7.7	11.5	16.5	22.4	27.2	32.0

Notes:

1. The high speed shaft speed shall be under 1800 r/min. Consult us when it will be over 1800r/min.
2. When the high speed shaft speed is not shown in the table, find it by the interpolation method.
3. When the high speed shaft speed (n_1) id lower than 750 r/min, find the mechanical power rating (P_N) according to the following formula.

$$P_N = P750 \times \frac{N}{750}$$

4. Shown in the table are the ratings for the high speed shaft of reducer.
5. The thermal power ratings (P_T) are applicable to continuous operation at ambient temperatures of 20℃ or less.

Unit: kW

Size of Reducer												
1100	1110	1120	1130	1140	1150	1160	1170	1180	1190	1200	1210	1220
108.1	101.9	101.9	101.9	109.4	104.5	104.5	105.2	98.54	98.54	96.12	103.6	105.5
37.7	57.7	77.0	88.5	133	174	234	291	339	394	740	1058	1370
33.8	48.1	64.2	73.7	111	148	196	249	299	347	651	884	1162
27.6	38.5	51.3	59.0	88.5	119	157	199	252	297	557	707	930
23.0	32.1	42.8	49.2	73.7	99.3	131	166	210	261	465	590	775
20.7	28.9	38.5	44.2	66.4	89.5	118	149	189	243	419	531	697
17.2	24.1	32.1	36.9	55.3	74.8	98.8	124	158	214	349	442	581
※125.8	※118.6	※118.6	※112.3	118.6	113.2	113.2	113.7	112.8	112.8	109.5	110.6	121.3
32.9	49.6	66.2	93.4	122	164	216	273	303	359	675	992	1214
26.7	41.4	55.1	77.9	102	137	181	230	267	316	594	828	1011
22.0	33.1	44.1	62.3	81.6	110	145	184	220	270	490	663	809
18.3	27.6	36.8	51.9	68.0	91.7	121	153	184	238	408	552	674
16.5	24.8	33.1	46.7	61.2	82.7	109	138	165	221	367	497	607
13.7	20.7	27.6	38.9	51.0	69.1	91.3	115	138	194	306	414	506
※137.9	※129.9	※129.9	※125.9	129.9	124.0	124.0	124.1	122.2	122.2	118.3	118.9	131.7
32.0	45.3	60.4	84.2	112	150	198	253	284	339	640	924	1118
27.3	37.7	50.3	70.1	93.1	125	165	211	250	299	563	770	931
21.8	30.2	40.3	56.1	74.5	100	133	169	203	255	454	616	745
18.2	25.2	33.5	46.8	62.1	83.8	111	141	169	225	378	513	621
16.4	22.6	30.2	42.1	55.9	75.5	99.9	127	153	209	340	462	559
13.6	18.9	25.2	35.1	46.6	63.1	83.4	105	127	184	283	385	466
153.2	144.4	144.4	144.4	144.4	137.8	137.8	137.2	133.9	133.9	142.3	141.7	144.6
29.5	40.8	54.4	73.4	101	135	178	229	263	318	562	776	1018
24.5	34.0	45.3	61.1	83.8	113	149	191	232	280	471	646	848
19.6	27.2	36.2	48.9	67.1	90.4	120	153	186	240	377	517	679
16.4	22.6	30.2	40.8	55.9	75.5	99.9	127	155	211	314	431	566
14.7	20.4	27.2	36.7	50.3	68.1	90.0	114	139	196	283	388	509
12.3	17.0	22.6	30.6	41.9	56.9	75.2	95.4	116	171	236	323	424
※173.3	※163.4	※163.4	※163.4	163.4	155.9	155.9	154.3	148.8	148.8	159.4	157.7	161.0
24.6	36.0	48.0	64.8	88.9	119	158	204	241	296	505	697	914
20.5	30.0	40.0	54.0	74.1	99.8	132	170	209	260	421	581	762
16.4	24.0	32.0	43.2	59.3	80.1	106	136	167	222	337	464	609
13.6	20.0	26.7	36.0	49.4	66.9	88.4	113	139	196	280	387	508
12.3	18.0	24.0	32.4	44.5	60.3	79.7	102	125	182	252	348	457
10.2	15.0	20.0	27.0	37.0	50.3	66.5	84.8	104	154	210	290	381
201.0	189.5	189.5	※189.5	189.5	180.9	180.9	177.4	168.4	168.4	182.2	178.8	182.6
18.4	31.1	41.4	55.9	76.6	103	136	177	219	271	442	615	806
15.3	25.9	34.5	46.6	63.9	86.2	114	148	185	239	368	512	672
12.3	20.7	27.6	37.3	51.1	69.2	91.4	118	148	204	294	410	537
10.2	17.3	23.0	31.1	42.6	57.8	76.3	98.3	123	180	245	341	448
9.20	15.5	20.7	28.0	38.3	52.0	68.8	88.5	111	163	221	307	403
7.67	12.9	17.3	23.3	31.9	43.5	57.5	73.8	92.3	136	184	256	336
B-33	B-33	B-33	B-33	B-33								
B-39	B-39	B-39	B-39	B-39	B-39	B-39	B-39	B-39	B-39	B-39	B-39	B-39
32.2	36.3	43.5	52.4	64.4	74.8	91.8	103	114	145	181	221	275

※Those reduction ratios will be available as option. We, however, recommend standard reduction ratio considering extra cost and delivery date.

■Selection Table Reducer

Reduction ratio	200～224

Mechanical Power Rating P_N

Nominal Reduction Ratio	H. Speed Shaft Speed n_1 r/min	L. Speed Shaft Speed n_2 r/min	Size of Reducer 1010	1020	1030	1040	1050	1060	1070	1080	1090
200	Exact Reduction Ratio						※205.8	※205.8	※205.8	※205.8	※205.8
	1800	9.0					2.87	4.91	7.18	11.4	14.1
	1500	7.5					2.39	4.10	5.98	9.50	11.8
	1200	6.0					1.92	3.28	4.79	7.60	9.43
	1000	5.0					1.60	2.73	3.99	6.34	7.86
	900	4.5					1.44	2.46	3.59	5.70	7.07
	750	3.8					1.20	2.05	2.99	4.75	5.90
224	Exact Reduction Ratio		238.7	238.7	238.7	238.7	238.7	238.7	238.7	238.7	238.7
	1800	8.0	0.37	0.55	0.84	1.28	2.48	4.24	6.66	9.83	12.3
	1500	6.7	0.31	0.46	0.70	1.07	2.06	3.53	5.85	8.19	10.3
	1200	5.4	0.25	0.37	0.56	0.85	1.65	2.82	4.44	6.55	8.21
	1000	4.5	0.21	0.31	0.47	0.71	1.38	2.35	3.70	5.46	6.84
	900	4.0	0.19	0.28	0.42	0.64	1.24	2.12	3.33	4.92	6.16
	750	3.3	0.15	0.23	0.35	0.53	1.03	1.77	2.77	4.10	5.13
Dimension Tables	Horizontal		B-32	B-32	B-32	B-32	B-32	B-32	B-32	B-32	B-32
	Flange, Horizontal		B-38	B-38	B-38	B-38	B-38	B-38	B-38	B-38	B-38
Thermal Power Rating P_T			4.1	4.1	5.9	7.7	11.5	16.5	22.4	27.2	32.0

Notes:

1. The high speed shaft speed shall be under 1800 r/min. Consult us when it will be over 1800r/min.
2. When the high speed shaft speed is not shown in the table, find it by the interpolation method.
3. When the high speed shaft speed (n_1) id lower than 750 r/min, find the mechanical power rating (P_N) according to the following formula.

$$P_N = P750 \times \frac{N}{750}$$

4. Shown in the table are the ratings for the high speed shaft of reducer.
5. The thermal power ratings (P_T) are applicable to continuous operation at ambient temperatures of 20℃ or less.

Unit: kW

Size of Reducer												
1100	1110	1120	1130	1140	1150	1160	1170	1180	1190	1200	1210	1220
	※227.7	※227.7	※227.7	227.7	217.3	217.3	210.4	195.3	195.3	214.2	207.9	212.4
	24.8	34.5	40.6	63.8	86.1	114	149	191	244	376	529	693
	20.7	28.7	33.8	53.2	71.9	95.0	124	159	215	313	441	578
	16.6	23.0	27.0	42.5	57.7	76.3	99.5	127	184	250	352	462
	13.8	19.1	22.5	35.4	48.2	63.7	82.9	106	156	209	294	385
	12.4	17.2	20.2	31.9	43.4	57.4	74.6	95.4	141	188	264	347
	10.3	14.4	16.8	26.6	36.2	47.9	62.2	79.5	117	157	220	289
								234.7	234.7		250.3	255.8
								159	215		439	575
								132	185		366	479
								106	148		293	384
								88.3	124		244	320
								79.4	111		220	288
								66.2	92.7		183	240
B-33	B-33	B-33	B-33									
B-39	B-39	B-39	B-39	B-39	B-39	B-39	B-39	B-39	B-39	B-39	B-39	B-39
32.2	36.3	43.5	52.4	64.4	74.8	91.8	103	114	145	181	221	275

※Those reduction ratios will be available as option. We, however, recommend standard reduction ratio considering extra cost and delivery date.

■Selection Table Reducer

Reduction ratio	250～450

Mechanical Power Rating P_N

Nominal Reduction Ratio	H. Speed Shaft Speed n_1 r/min	L. Speed Shaft Speed n_2 r/min	Size of Reducer 1010	1020	1030	1040	1050	1060	1070	1080	1090
250	Exact Reduction Ratio										
	1800	7.2									
	1500	6.0									
	1200	4.8									
	1000	4.0									
	900	3.6									
	750	3.0									
280	Exact Reduction Ratio										
	1800	6.4									
	1500	5.4									
	1200	4.3									
	1000	3.6									
	900	3.2									
	750	2.7									
315	Exact Reduction Ratio		310.4	310.4	310.4	310.4	310.4	310.4	310.4	310.4	310.4
	1800	5.7	0.30	0.44	0.67	1.02	1.97	3.37	5.27	7.81	9.68
	1500	4.8	0.25	0.37	0.56	0.85	1.64	2.80	4.41	6.51	8.15
	1200	3.8	0.20	0.29	0.45	0.68	1.31	2.24	3.53	5.21	6.52
	1000	3.2	0.16	0.24	0.37	0.57	1.09	1.87	2.94	4.34	5.43
	900	2.9	0.15	0.22	0.33	0.51	0.98	1.68	2.64	3.91	4.89
	750	2.4	0.12	0.18	0.28	0.42	0.82	1.40	2.20	3.25	4.07
355	Exact Reduction Ratio									※351.1	※351.1
	1800	5.1								6.98	8.74
	1500	4.2								5.82	7.28
	1200	3.4								4.65	5.83
	1000	2.8								3.88	4.86
	900	2.5								3.49	4.37
	750	2.1								2.91	3.64
400	Exact Reduction Ratio		410.9	410.9	410.9	410.9	410.9	410.9	410.9	410.9	410.9
	1800	4.5	0.22	0.33	0.51	0.77	1.49	2.56	4.02	5.93	7.43
	1500	3.8	0.19	0.28	0.42	0.64	1.25	2.13	3.35	4.94	6.19
	1200	3.0	0.15	0.22	0.34	0.52	1.00	1.70	2.68	3.95	4.95
	1000	2.5	0.12	0.19	0.28	0.43	0.83	1.42	2.23	3.30	4.13
	900	2.3	0.11	0.17	0.25	0.39	0.75	1.28	2.01	2.97	3.71
	750	1.9	0.09	0.14	0.21	0.32	0.62	1.07	1.67	2.47	3.09
450	Exact Reduction Ratio									※464.7	※464.7
	1800	4.0								4.87	6.67
	1500	3.3								4.06	5.56
	1200	2.7								3.25	4.45
	1000	2.2								2.71	3.71
	900	2.0								2.43	3.34
	750	1.7								2.03	2.78
Dimension Tables	Horizontal		B-34	B-34	B-34	B-34	B-34	B-34	B-34	B-34	B-34
	Flange, Horizontal		B-40	B-40	B-40	B-40	B-40	B-40	B-40	B-40	B-40
Thermal Power Rating P_T			3.0	3.0	4.3	5.8	8.7	12.3	16.8	20.4	24.4

Notes:

1. The high speed shaft speed shall be under 1800 r/min. Consult us when it will be over 1800r/min.
2. When the high speed shaft speed is not shown in the table, find it by the interpolation method.
3. When the high speed shaft speed (n_1) id lower than 750 r/min, find the mechanical power rating (P_N) according to the following formula.

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

4. Shown in the table are the ratings for the high speed shaft of reducer.
5. The thermal power ratings (P_T) are applicable to continuous operation at ambient temperatures of 20℃ or less.

Unit: kW

Size of Reducer												
1100	1110	1120	1130	1140	1150	1160	1170	1180	1190	1200	1210	1220
261.4	246.4	246.4	246.4									
14.9	24.4	32.5	43.9									
12.4	20.3	27.1	36.6									
9.90	16.3	21.7	29.3									
8.30	13.6	18.1	24.4									
7.50	12.2	16.3	22.0									
6.20	10.2	13.6	18.3									
※295.7	※278.6	※278.6	※278.6									
13.1	21.6	28.8	38.8									
11.0	18.0	24.0	32.4									
8.80	14.4	19.2	25.9									
7.30	12.0	16.0	21.6									
6.60	10.8	14.4	19.4									
5.50	9.00	12.0	16.2									
346.0	326.1	326.1	326.1									
11.3	18.4	24.6	33.2									
9.40	15.4	20.5	27.7									
7.50	12.3	16.4	22.1									
6.30	10.2	13.7	18.4									
5.70	9.20	12.3	16.6									
4.70	7.70	10.2	13.8									
※391.3	※368.8	※368.8	※368.8		371.3	371.3	378.0			360.8		
9.30	16.3	21.7	29.4		51.8	68.5	83.5			228.0		
7.80	13.6	18.1	24.5		43.3	57.2	69.7			190.0		
6.20	10.9	14.5	19.6		34.7	45.9	55.9			151.9		
5.20	9.10	12.1	16.3		29.0	38.3	46.7			126.6		
4.70	8.20	10.9	14.7		26.1	34.5	42.0			113.9		
3.90	6.80	9.10	12.2		21.8	28.8	35.1			94.9		
※421.1	※396.9	※396.9	※396.9	389.0	420.0	420.0	427.5	401.0	401.0	408.0	389.6	389.6
9.30	15.2	20.2	27.3	38.1	45.9	60.6	73.9	95.0	140.0	201.0	288.0	386.0
7.70	12.6	16.8	22.7	31.8	38.3	50.6	61.7	79.1	117.0	168.0	240.0	322.0
6.20	10.1	13.5	18.2	25.4	30.7	40.6	49.5	63.3	93.3	134.3	192.1	257.2
5.20	8.40	11.2	15.2	21.2	25.6	33.9	41.3	52.8	77.8	111.9	160.1	214.4
4.70	7.60	10.1	13.6	19.1	23.1	30.5	37.2	47.5	70.0	100.7	144.1	192.9
3.90	6.30	8.40	11.4	15.9	19.3	25.5	31.1	39.6	58.3	83.9	120	160.8
457.9	462.0	462.0	462.0	※440.0	452.0	452.0	460.0	453.6	453.6	447.9	440.7	440.7
8.50	13.0	17.4	23.4	33.7	42.7	56.4	68.7	84.0	124.0	183.0	255.0	341.0
7.10	10.8	14.5	19.5	28.1	35.6	47.1	57.4	70.0	103.0	152.9	212.0	284.0
5.70	8.70	11.6	15.6	22.5	28.6	37.8	46.0	56.0	82.5	122.3	169.8	227.5
4.80	7.20	9.60	13.0	18.7	23.8	31.5	38.4	46.7	68.8	101.9	141.5	189.5
4.30	6.50	8.70	11.7	16.9	21.5	28.4	34.6	42.0	61.9	91.7	127.4	170.6
3.60	5.40	7.20	9.80	14.0	17.9	23.7	28.9	35.0	51.6	76.5	106.1	142.2
B-35	B-35	B-35	B-35									
B-41	B-41	B-41	B-41	B-41	B-41	B-41	B-41	B-41	B-42	B-42	B-42	B-42
24.7	28.3	34.4	41.3	49.3	59.7	71.4	77.5	87.2	113	143	173	212

※Those reduction ratios will be available as option. We, however, recommend standard reduction ratio considering extra cost and delivery date.

■Selection Table Reducer

Reduction ratio	500～900

Mechanical Power Rating P_N

Nominal Reduction Ratio	H. Speed Shaft Speed n_1 r/min	L. Speed Shaft Speed n_2 r/min	Size of Reducer 1010	1020	1030	1040	1050	1060	1070	1080	1090
500	Exact Reduction Ratio									※500.1	※500.1
	1800	3.6								4.87	6.20
	1500	3.0								4.06	5.17
	1200	2.4								3.25	4.13
	1000	2.0								2.71	3.45
	900	1.8								2.43	3.10
	750	1.5								2.03	2.58
560	Exact Reduction Ratio		543.8	543.8	543.8	543.8	543.8	543.8	543.8	543.8	543.8
	1800	3.2	0.17	0.26	0.39	0.59	1.15	1.96	3.08	4.56	5.70
	1500	2.7	0.14	0.21	0.33	0.49	0.96	1.64	2.57	3.80	4.75
	1200	2.1	0.11	0.17	0.26	0.40	0.77	1.31	2.06	3.04	3.80
	1000	1.8	0.10	0.14	0.22	0.33	0.64	1.09	1.71	2.53	3.17
	900	1.6	0.09	0.13	0.20	0.30	0.57	0.98	1.54	2.28	2.85
	750	1.3	0.07	0.11	0.16	0.25	0.48	0.82	1.29	1.90	2.38
630	Exact Reduction Ratio									※658.3	※658.3
	1800	2.9								3.80	4.76
	1500	2.4								3.17	3.97
	1200	1.9								2.54	3.17
	1000	1.6								2.11	2.65
	900	1.4								1.90	2.38
	750	1.2								1.58	1.98
710	Exact Reduction Ratio									※708.4	※708.4
	1800	2.5								3.53	4.42
	1500	2.1								2.94	3.69
	1200	1.7								2.36	2.95
	1000	1.4								1.96	2.46
	900	1.3								1.77	2.21
	750	1.1								1.47	1.84
800	Exact Reduction Ratio		770.4	770.4	770.4	770.4	770.4	770.4	770.4	770.4	770.4
	1800	2.3	0.12	0.18	0.28	0.43	0.82	1.41	2.21	3.27	4.09
	1500	1.9	0.10	0.15	0.23	0.35	0.69	1.17	1.84	2.72	3.41
	1200	1.5	0.08	0.12	0.19	0.28	0.55	0.94	1.47	2.18	2.73
	1000	1.3	0.07	0.10	0.16	0.24	0.46	0.78	1.23	1.81	2.27
	900	1.1	0.06	0.09	0.14	0.21	0.41	0.70	1.11	1.63	2.04
	750	0.9	0.05	0.08	0.12	0.18	0.34	0.59	0.92	1.36	1.70
900	Exact Reduction Ratio									※871.7	※871.7
	1800	2.0								2.90	3.63
	1500	1.7								2.42	3.03
	1200	1.3								1.93	2.42
	1000	1.1								1.61	2.02
	900	1.0								1.45	1.82
	750	0.8								1.21	1.51
Dimension Tables	Horizontal		B-34	B-34	B-34	B-34	B-34	B-34	B-34	B-34	B-34
	Flange, Horizontal		B-40	B-40	B-40	B-40	B-40	B-40	B-40	B-40	B-40
Thermal Power Rating P_T			3.0	3.0	4.3	5.8	8.7	12.3	16.8	20.4	24.4

Notes:

1. The high speed shaft speed shall be under 1800 r/min. Consult us when it will be over 1800r/min.
2. When the high speed shaft speed is not shown in the table, find it by the interpolation method.
3. When the high speed shaft speed (n_1) id lower than 750 r/min, find the mechanical power rating (P_N) according to the following formula.

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

4. Shown in the table are the ratings for the high speed shaft of reducer.
5. The thermal power ratings (P_T) are applicable to continuous operation at ambient temperatures of 20℃ or less.

Unit: kW

Size of Reducer												
1100	1110	1120	1130	1140	1150	1160	1170	1180	1190	1200	1210	1220
※554.3	※522.4	※522.4	※522.4	※473.5	491.5	491.5	500.2	488.1	488.1	512.8	483.8	483.8
7.10	11.5	15.3	20.7	31.3	39.3	51.9	63.3	78.0	115.0	160.3	232.0	311.0
5.90	9.60	12.8	17.3	26.1	32.8	43.3	52.8	65.0	95.8	133.6	193.4	259.0
4.70	7.70	10.2	13.8	20.9	26.3	34.7	42.4	52.0	76.7	106.8	154.7	207.2
3.90	6.40	8.50	11.5	17.4	21.9	29.0	35.4	43.4	63.9	89.0	128.9	172.7
3.50	5.80	7.70	10.4	15.7	19.8	26.1	31.9	39.0	57.5	80.1	116.0	155.4
3.00	4.80	6.40	8.60	13.1	16.5	21.8	26.6	32.5	47.9	66.8	96.7	129.5
※596.6	※562.2	※562.2	※562.2	514.9	571.9	571.9	551.2	530.8	570.0	555.7	553.8	553.8
6.60	10.7	14.3	19.3	28.8	33.8	44.7	57.5	71.8	98.5	147.9	202.7	271.5
5.50	8.90	11.9	16.0	24.0	28.2	37.3	48.0	59.8	82.1	123.3	168.9	226.2
4.40	7.10	9.50	12.8	19.2	22.6	29.9	38.5	47.8	65.6	98.6	135.1	181.0
3.70	5.90	7.90	10.7	16.0	18.9	25.0	32.1	39.9	54.7	82.2	112.6	150.8
3.30	5.30	7.10	9.60	14.4	17.0	22.5	28.9	35.9	49.2	74.0	101.3	135.7
2.80	4.50	5.90	8.00	12.0	14.2	18.8	24.1	29.9	41.0	61.6	84.5	113.1
648.7	611.4	611.4	611.4	※599.2	626.6	626.6	617.8	584.8	617.7	608.8	600.1	600.1
6.00	9.80	13.1	17.7	24.8	30.9	40.8	51.3	65.1	90.9	135.0	187.1	250.5
5.00	8.20	10.9	14.8	20.6	25.8	34.1	42.9	54.3	75.7	112.5	155.9	208.8
4.00	6.60	8.70	11.8	16.5	20.7	27.3	34.4	43.4	60.6	90.0	124.7	167.0
3.40	5.50	7.30	9.80	13.8	17.2	22.8	28.7	36.2	50.5	75.0	103.9	139.2
3.00	4.90	6.60	8.90	12.4	15.5	20.5	25.8	32.6	45.4	67.5	93.5	125.3
2.50	4.10	5.50	7.40	10.3	12.9	17.1	21.6	27.1	37.9	56.2	77.9	104.4
※734.1	※691.9	※691.9	※691.9	※656.5	696.2	696.2	708.7	655.5	676.8	676.5	657.5	657.5
5.30	8.70	11.6	15.6	22.6	27.8	36.8	44.8	58.1	82.9	121.5	170.7	228.7
4.50	7.20	9.70	13.0	18.8	23.2	30.7	37.4	48.4	69.1	101.2	142.3	190.5
3.60	5.80	7.70	10.4	15.1	18.6	24.6	30.0	38.7	55.3	81.0	113.8	152.4
3.00	4.80	6.40	8.70	12.6	15.5	20.5	25.0	32.3	46.1	67.5	94.8	127.0
2.70	4.30	5.80	7.80	11.3	14.0	18.5	22.5	29.1	41.5	60.7	85.4	114.3
2.20	3.60	4.80	6.50	9.40	11.6	15.4	18.8	24.2	34.6	50.6	71.1	95.3
851.5	802.5	802.5	※802.5	729.4	787.9	787.9	801.9	751.9	751.9	765.5	730.6	730.6
4.60	7.50	10.0	13.5	20.3	24.6	32.5	39.7	50.7	74.6	107.4	153.7	205.8
3.80	6.20	8.30	11.2	16.9	20.5	27.2	33.1	42.2	62.2	89.5	128.0	171.5
3.10	5.00	6.70	9.00	13.6	16.5	21.8	26.5	33.8	49.8	71.6	102.4	137.2
2.60	4.20	5.60	7.50	11.3	13.7	18.2	22.1	28.1	41.5	59.7	85.4	114.3
2.30	3.70	5.00	6.70	10.2	12.3	16.4	19.9	25.3	37.3	53.7	76.8	102.9
1.90	3.10	4.20	5.60	8.50	10.3	13.6	16.6	21.1	31.1	44.7	64.0	85.7
919.0	866.2	866.2	866.2	※825.4	913.8	913.8	930.1	850.9	850.9	887.9	826.7	826.7
4.30	6.90	9.30	12.5	18.0	21.2	28.1	34.2	44.8	66.0	92.6	135.8	181.9
3.60	5.80	7.70	10.4	15.0	17.7	23.4	28.6	37.3	55.0	77.1	113.2	151.6
2.80	4.60	6.20	8.30	12.0	14.2	18.8	22.9	29.8	44.0	61.7	90.5	121.2
2.40	3.90	5.10	6.90	10.0	11.8	15.7	19.1	24.9	36.6	51.4	75.4	101.0
2.10	3.50	4.60	6.20	9.00	10.6	14.1	17.2	22.4	33.0	46.3	67.9	90.9
1.80	2.90	3.90	5.20	7.50	8.90	11.8	14.4	18.7	27.5	38.6	56.6	75.8
B-35	B-35	B-35	B-35									
B-41	B-41	B-41	B-41	B-41	B-41	B-41	B-41	B-41	B-42	B-42	B-42	B-42
24.7	28.3	34.4	41.3	49.3	59.7	71.4	77.5	87.2	113	143	173	212

※Those reduction ratios will be available as option. We, however, recommend standard reduction ratio considering extra cost and delivery date.

■Selection Table Reducer

Reduction ratio	1000～1400

Mechanical Power Rating P_N

Nominal Reduction Ratio	H. Speed Shaft Speedn_1 r/min	L. Speed Shaft Speedn_2 r/min	Size of Reducer 1010	1020	1030	1040	1050	1060	1070	1080	1090
1000	Exact Reduction Ratio									※1011	※1011
	1800	1.8								2.50	3.13
	1500	1.5								2.09	2.61
	1200	1.2								1.67	2.09
	1000	1.0								1.39	1.74
	900	0.9								1.25	1.57
	750	0.8								1.04	1.31
1120	Exact Reduction Ratio		1091	1091	1091	1091	1091	1091	1091	1091	1091
	1800	1.6	0.09	0.13	0.20	0.31	0.59	1.01	1.59	2.34	2.93
	1500	1.3	0.07	0.11	0.17	0.25	0.49	0.84	1.32	1.95	2.44
	1200	1.1	0.06	0.09	0.13	0.20	0.39	0.67	1.06	1.56	1.96
	1000	0.9	0.05	0.07	0.11	0.17	0.33	0.56	0.88	1.30	1.63
	900	0.8	0.04	0.06	0.10	0.15	0.30	0.50	0.79	1.17	1.47
	750	0.7	0.04	0.05	0.08	0.13	0.25	0.42	0.66	0.98	1.22
1250	Exact Reduction Ratio									※1235	※1235
	1800	1.4								2.09	2.62
	1500	1.2								1.74	2.18
	1200	1.0								1.39	1.75
	1000	0.8								1.16	1.45
	900	0.7								1.05	1.31
	750	0.6								0.87	1.09
1400	Exact Reduction Ratio		1432	1432	1432	1432	1432	1432	1432	1432	1432
	1800	1.3	0.07	0.10	0.15	0.23	0.46	0.82	1.23	1.82	2.28
	1500	1.1	0.05	0.08	0.13	0.20	0.38	0.65	1.03	1.52	1.90
	1200	0.9	0.04	0.07	0.10	0.16	0.31	0.52	0.82	1.21	1.52
	1000	0.7	0.04	0.05	0.08	0.13	0.25	0.44	0.69	1.01	1.27
	900	0.6	0.03	0.05	0.08	0.12	0.23	0.39	0.62	0.91	1.14
	750	0.5	0.03	0.04	0.06	0.10	0.19	0.33	0.51	0.76	0.95
Dimension Tables	Horizontal		B-34	B-34	B-34	B-34	B-34	B-34	B-34	B-34	B-34
	Flange, Horizontal		B-40	B-40	B-40	B-40	B-40	B-40	B-40	B-40	B-40
Thermal Power Rating P_T			3.0	3.0	4.3	5.8	8.7	12.3	16.8	20.4	24.4

Notes:

1. The high speed shaft speed shall be under 1800 r/min. Consult us when it will be over 1800r/min.

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

3. When the high speed shaft speed (n_1) id lower than 750 r/min, find the mechanical power rating (P_N) according to the following formula.

$$P_N = P750 \times \frac{N}{750}$$

4. Shown in the table are the ratings for the high speed shaft of reducer.

5. The thermal power ratings (P_T) are applicable to continuous operation at ambient temperatures of 20℃ or less.

Unit: kW

Size of Reducer												
1100	1110	1120	1130	1140	1150	1160	1170	1180	1190	1200	1210	1220
※1040	※980.1	※980.1	※980.1	※957.3	1098	1098	1118	987	986.9	1067	958.9	958.9
3.80	6.10	8.20	11.0	15.5	17.7	23.4	28.5	38.6	56.9	77.0	117.1	156.8
3.10	5.10	6.80	9.20	12.9	14.8	19.5	23.8	32.2	47.4	64.2	97.6	130.7
2.50	4.10	5.50	7.40	10.3	11.8	15.7	19.1	25.7	37.9	51.4	78.0	104.5
2.10	3.40	4.50	6.10	8.60	9.80	13.1	15.9	21.4	31.6	42.8	65.0	87.1
1.90	3.10	4.10	5.50	7.70	8.90	11.8	14.3	19.3	28.4	38.5	58.5	78.4
1.60	2.60	3.40	4.60	6.50	7.40	9.80	12.0	16.1	23.7	32.1	48.8	65.3
1206	1137	1137	※1137					1186	1186		1152	1152
3.30	5.30	7.10	9.50					32.1	47.3		97.4	130.5
2.70	4.40	5.90	7.90					26.8	39.4		81.2	108.8
2.20	3.50	4.70	6.30					21.4	31.6		65.0	87.0
1.80	2.90	3.90	5.30					17.8	26.3		54.1	72.5
1.60	2.60	3.50	4.80					16.1	23.7		48.7	65.3
1.40	2.20	2.90	4.00					13.4	19.7		40.6	54.4
B-35	B-35	B-35	B-35									
B-41	B-41	B-41	B-41	B-41	B-41	B-41	B-41	B-41	B-42	B-42	B-42	B-42
24.7	28.3	34.4	41.3	49.3	59.7	71.4	77.5	87.2	113	143	173	212

※Those reduction ratios will be available as option. We, however, recommend standard reduction ratio considering extra cost and delivery date.

■Allowable Radial Loads on Low Speed Shaft

Allowable Radial Load F_{rA} [kN]

Reduction Ratio	5～45

Shaft Speed (r/min)	Size of Reducer													
	1010	1020	1030	1040	1050	1060	1070	1080	1090	1100	1110	1120	1130	1140
100	5.0	5.4	6.7	8.9	11.7	18.0	23.6	47.5	48.5	92.6	112	132	148	184
60	5.9	6.4	7.9	10.5	13.9	21.3	28.0	56.2	69.4	108	131	154	173	214
40	6.8	7.3	9.0	12.0	16.0	24.4	32.1	64.4	79.4	122	148	174	195	242
20	8.4	9.2	11.3	15.2	21.1	30.8	40.4	80.6	100	150	182	215	240	298
10	8.4	10.9	13.8	19.1	25.4	38.8	50.9	80.6	116	178	224	264	296	366
5	8.4	10.9	13.8	19.4	26.7	42.1	59.8	80.6	116	178	225	269	306	393

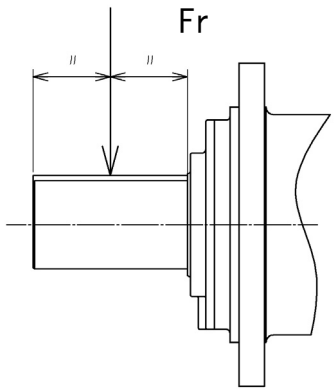
Allowable Radial Load F_{rA} [kN]

Reduction Ratio	50～1400

Shaft Speed (r/min)	Size of Reducer															
	1010	1020	1030	1040	1050	1060	1070	1080	1090	1100	1110	1120	1130	1140	1150	1160
100	5.0	5.4	6.7	8.9	11.7	18.0	23.6	47.5	48.5	92.6	117	132	167	227	235	378
60	5.9	6.4	7.9	10.5	13.9	21.3	28.0	56.2	69.4	108	136	154	195	264	274	441
40	6.8	7.3	9.0	12.0	16.0	24.4	32.1	64.4	79.4	122	153	174	220	298	310	498
20	8.4	9.2	11.3	15.2	21.1	30.8	40.4	80.6	100	150	189	215	271	367	381	602
10	8.4	10.9	13.8	19.1	25.4	38.8	50.9	80.6	116	178	233	264	333	452	469	602
5	8.4	10.9	13.8	19.4	26.7	42.1	59.8	80.6	116	178	248	269	396	461	498	602

Overhang Factor K3

Overhang Member	Overhang Factor
Sprocket (Single Row)	1
Sprocket (Double Row)	1.25
Gears	1.25
V-belt	1.5
Flat belt	2.5



Note: The value shown in the above table is allowable radial load when it is applied to the center of the shaft.
Consult us when a load is not in the center.

■Allowable Radial Loads on High Speed Shaft

Allowable Radial Load F_{rA} [kN]

Reduction Ratio	5～45

Shaft Speed (r/min)	Size of Reducer													
	1010	1020	1030	1040	1050	1060	1070	1080	1090	1100	1110	1120	1130	1140
1800	1.1	1.1	1.3	1.3	1.7	1.8	3.0	3.1	3.1	2.7	2.9	3.4	4.2	5.5
1500	1.1	1.1	1.4	1.4	1.8	1.9	3.2	3.3	3.3	2.8	3.1	3.6	4.5	5.8
1200	1.2	1.2	1.5	1.5	1.9	2.0	3.4	3.6	3.6	3.1	3.3	3.9	4.9	6.3
1000	1.3	1.3	1.6	1.6	2.1	2.1	3.6	3.6	3.6	3.3	3.6	4.1	5.2	6.7
900	1.3	1.3	1.6	1.6	2.1	2.1	3.6	3.8	3.8	3.4	3.7	4.2	5.4	6.9
750	1.3	1.3	1.6	1.6	2.1	2.1	3.6	3.8	3.8	3.4	3.7	4.3	5.4	7.0

Allowable Radial Load F_{rA} [kN]

Reduction Ratio	50～224

Shaft Speed (r/min)	Size of Reducer (The bottom is shafting)																								
	1010	1020	1030	1040	1050	1060		1070		1080		1090		1100	1110	1120	1130	1140	1150	1160	1170	1180	1190	1200	1210	1220
						φ30	φ35	φ35	φ40	φ40	φ50	φ40	φ50													
1800	1.1	1.1	1.1	1.1	1.3	1.3	1.7	1.7	1.8	1.8	3.0	1.8	3.0	1.8	3.0	3.1	3.1	2.8	3.0	3.1	4.6	5.1	6.3	7.8	8.5	8.6
1500	1.1	1.1	1.1	1.1	1.4	1.4	1.8	1.8	1.9	1.9	3.2	1.9	3.2	1.9	3.2	3.3	3.3	3.0	3.2	3.3	4.8	5.4	6.7	8.3	9.0	9.2
1200	1.2	1.2	1.2	1.2	1.5	1.5	1.9	1.9	2.0	2.0	3.4	2.0	3.4	2.0	3.4	3.6	3.6	3.2	3.5	3.6	5.2	5.9	7.2	9.0	9.7	9.9
1000	1.3	1.3	1.3	1.3	1.6	1.6	2.1	2.1	2.1	2.1	3.6	2.1	3.6	2.1	3.6	3.8	3.8	3.4	3.7	3.8	5.5	6.2	7.7	9.5	10.3	10.5
900	1.3	1.3	1.3	1.3	1.6	1.6	2.1	2.1	2.1	2.1	3.6	2.1	3.6	2.1	3.6	3.8	3.8	3.5	3.8	3.9	5.7	6.5	7.9	9.9	10.7	10.9
750	1.3	1.3	1.3	1.3	1.6	1.6	2.1	2.1	2.1	2.1	3.6	2.1	3.6	2.1	3.6	3.8	3.8	3.5	3.9	4.0	5.7	6.5	8.0	9.9	10.8	11.0

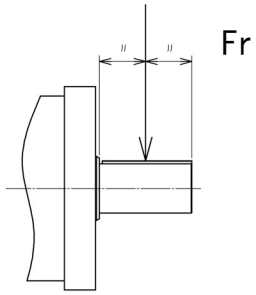
Allowable Radial Load F_{rA} [kN]

Reduction Ratio	250～1400

Shaft Speed (r/min)	Size of Reducer (The bottom is shafting)																								
	1010	1020	1030	1040	1050	1060	1070	1080	1090	1100		1110		1120		1130		1140	1150	1160	1170	1180	1190	1200	1210	1220
										φ30	φ35	φ35	φ40	φ40	φ50	φ40	φ50									
1800	1.1	1.1	1.1	1.1	1.1	1.3	1.1	1.3	1.3	1.3	1.7	1.7	1.8	1.8	3.0	1.8	3.0	1.8	3.0	3.1	3.1	3.1	2.7	3.4	4.2	5.5
1500	1.1	1.1	1.1	1.1	1.1	1.4	1.1	1.4	1.4	1.4	1.8	1.8	1.9	1.9	3.2	1.9	3.2	1.9	3.2	3.3	3.3	3.3	2.8	3.6	4.5	5.8
1200	1.2	1.2	1.2	1.2	1.2	1.5	1.2	1.5	1.5	1.5	1.9	1.9	2.0	2.0	3.4	2.0	3.4	2.0	3.4	3.6	3.6	3.6	3.1	3.9	4.9	6.3
1000	1.3	1.3	1.3	1.3	1.3	1.6	1.3	1.6	1.6	1.6	2.1	2.1	2.1	2.1	3.6	2.1	3.6	2.1	3.6	3.8	3.8	3.8	3.3	4.1	5.2	6.7
900	1.3	1.3	1.3	1.3	1.3	1.6	1.3	1.6	1.6	1.6	2.1	2.1	2.1	2.1	3.6	2.1	3.6	2.1	3.6	3.8	3.8	3.8	3.4	4.2	5.4	6.9
750	1.3	1.3	1.3	1.3	1.3	1.6	1.3	1.6	1.6	1.6	2.1	2.1	2.1	2.1	3.6	2.1	3.6	2.1	3.6	3.8	3.8	3.8	3.4	4.3	5.4	7.0

Overhang Factor K3

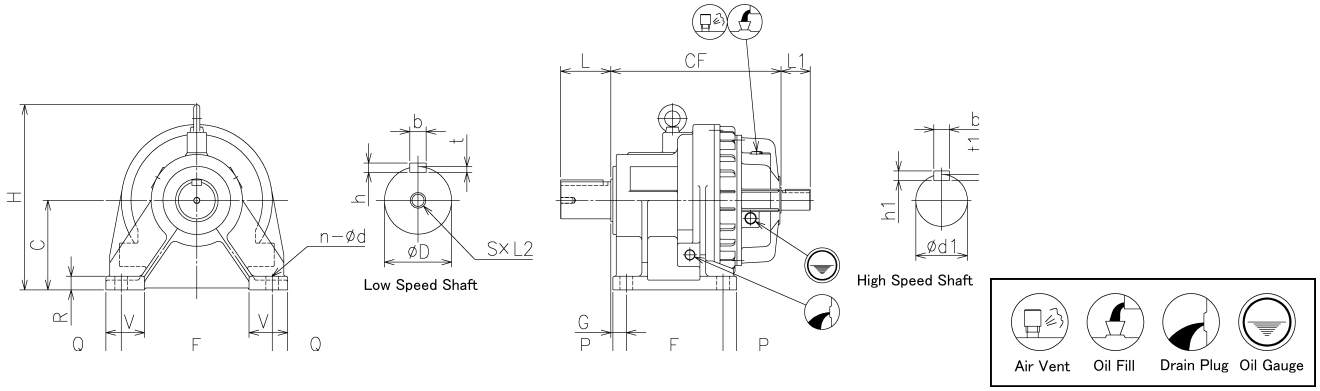
Overhang Member	Overhang Factor
Sprocket (Single Row)	1
Sprocket (Double Row)	1.25
Gears	1.25
V-belt	1.5
Flat belt	2.5



Note: The value shown in the above table is allowable radial load when it is applied to the center of the shaft.
Consult us when a load is not in the center.

■Dimension Table

DHG TYPE（Horizontal, Inline）	Nominal Reduction Ratio	5・9



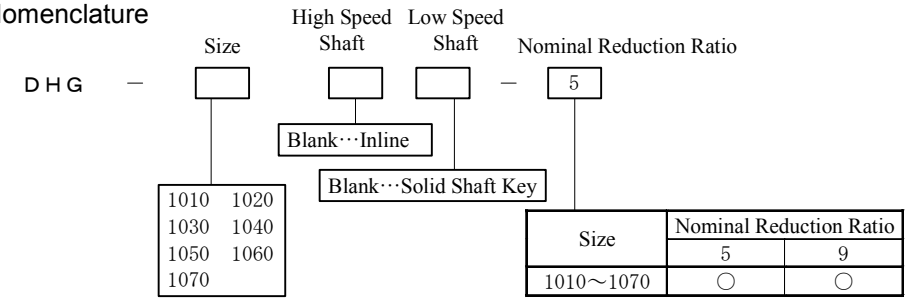
Unit：mm

Size	CF	C	E	F	G	M	N	P	Q	R	V	n	d	H	Weight kg	Oil Qty ℓ
1010	208	105	125	170	20	155	200	15	15	15	45	4	11	212	16	0.3
1020	219	130	140	200	20	170	235	15	17.5	18	52.5	4	14	250	21	0.4
1030	245	155	155	230	25	195	270	20	20	20	60	4	18	284	33	0.5
1040	273	155	165	250	30	215	300	25	25	25	70	4	22	309	48	0.7
1050	312	180	200	300	30	250	350	25	25	30	75	4	22	351	76	0.9
1060	355	205	220	340	35	280	400	30	30	35	100	4	26	415	121	2.0
1070	385	230	250	390	40	320	470	35	40	35	100	4	33	476	168	3.5

Size	Low Speed Shaft							High Speed Shaft				
	D	b	h	t	S	L2	L	d1	b1	h1	t1	L1
1010	40h6	12	8	5	M10	20	55	25h6	8	7	4	35
1020	45h6	14	9	5.5	M12	25	65	25h6	8	7	4	35
1030	50h6	14	9	5.5	M12	25	70	30h6	8	7	4	45
1040	60h6	18	11	7	M12	25	85	35h6	10	8	5	50
1050	70h6	20	12	7.5	M12	25	100	40h6	12	8	5	60
1060	85h6	22	14	9	M16	30	120	50h6	14	9	5.5	75
1070	95h6	25	14	9	M16	30	130	60h6	18	11	7	90

- ●Appearance may be different from above drawing by size.
- ● Key is in compliance with parallel key of JIS B1301-1996(ISO).
- ●Above dimensions and specifications may change without notice.

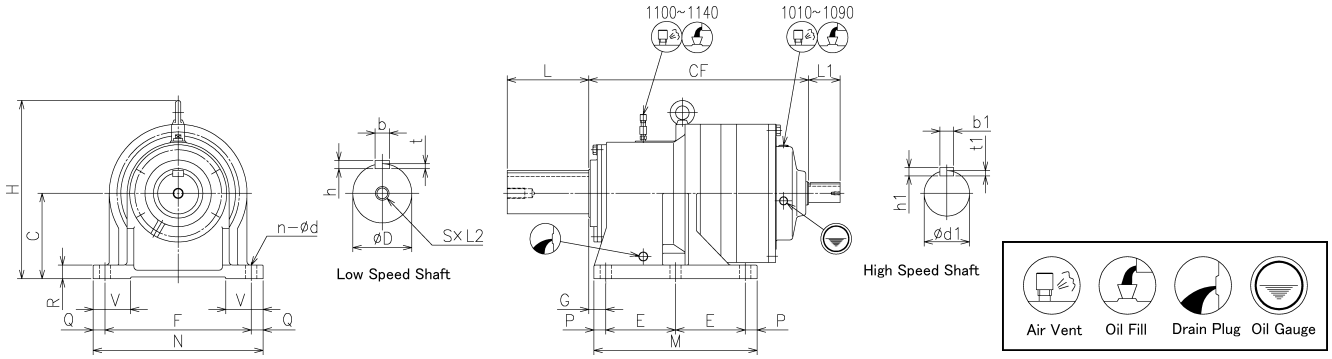
Nomenclature



Size	Nominal Reduction Ratio	
	5	9
1010～1070	○	○

■Dimension Table

DHG TYPE（Horizontal, Inline）	Nominal Reduction Ratio	16～45



Unit：mm

Size	CF	C	E	F	G	M	N	P	Q	R	V	n	d	H	Weight kg	Oil Qty ℓ
1010	240	105	125	170	20	155	200	15	15	15	45	4	11	212	20	0.4
1020	251	130	140	200	20	170	235	15	17.5	18	52.5	4	14	250	24	0.4
1030	284	155	155	230	25	195	270	20	20	20	60	4	18	284	40	0.6
1040	302	155	165	250	30	215	300	25	25	25	70	4	22	309	51	0.8
1050	354	180	200	300	30	250	350	25	25	30	75	4	22	351	83	1.1
1060	399	205	220	340	35	280	400	30	30	35	100	4	26	415	130	2.2
1070	440	230	250	390	40	320	470	35	40	35	100	4	33	476	189	3.8
1080	497	250	280	450	45	360	540	40	45	35	115	4	33	517	259	4.8
1090	512	250	300	510	55	400	600	50	45	38	135	4	39	557	306	5.9
1100	652	250	205	430	50	480	500	35	35	40	110	6	33	522	372	11.0
1110	700	265	215	460	65	520	550	45	45	45	120	6	39	578	500	14.0
1120	776	280	245	520	65	580	610	45	45	45	135	6	39	618	689	20.0
1130	846	315	265	560	70	630	660	50	50	50	145	6	45	698	900	21.0
1140	940	355	295	620	70	690	720	50	50	50	160	6	45	763	1261	33.0

Size	Low Speed Shaft							High Speed Shaft				
	D	b	h	t	S	L2	L	d1	b1	h1	t1	L1
1010	40h6	12	8	5	M10	20	55	25h6	8	7	4	35
1020	45h6	14	9	5.5	M12	25	65	25h6	8	7	4	35
1030	50h6	14	9	5.5	M12	25	70	30h6	8	7	4	45
1040	60h6	18	11	7	M12	25	85	30h6	8	7	4	45
1050	70h6	20	12	7.5	M12	25	100	35h6	10	8	5	50
1060	85h6	22	14	9	M16	30	120	40h6	12	8	5	60
1070	95h6	25	14	9	M16	30	130	50h6	14	9	5.5	75
1080	105h6	28	16	10	M16	30	145	60h6	18	11	7	90
1090	115h6	32	18	11	M16	30	160	60h6	18	11	7	90
1100	120m6	32	18	11	M30	52	180	60h6	18	11	7	90
1110	130m6	32	18	11	M30	52	200	60h6	18	11	7	90
1120	150m6	36	20	12	M30	52	210	65h6	18	11	7	105
1130	160m6	40	22	13	M36	62	240	70h6	20	12	7.5	120
1140	180m6	45	25	15	M36	62	250	75h6	20	12	7.5	140

- ●Appearance may be different from above drawing by size.
- ●Key is in compliance with parallel key of JIS B1301-1996(ISO).
- ●Above dimensions and specifications may change without notice.

Nomenclature

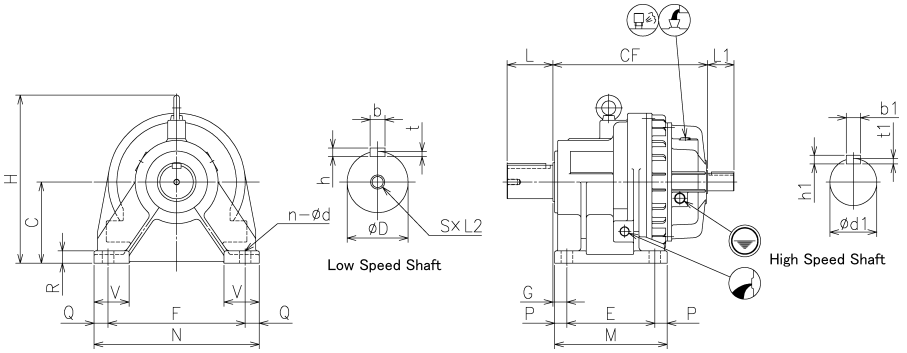
DHG – □ (Size) □ (High Speed Shaft) □ (Low Speed Shaft) – 16 (Nominal Reduction Ratio)

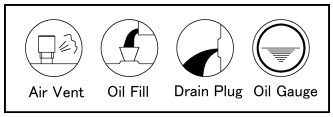
- Size: 1010 1020 1030 / 1040 1050 1060 / 1070 1080 1090 / 1100 1110 1120 / 1130 1140
- High Speed Shaft: Blank…Inline
- Low Speed Shaft: Blank…Solid Shaft Key

Size	Nominal Reduction Ratio									
	16	18	20	22.4	25	28	31.5	35.5	40	45
1010～1030	○			○			○		○	
1040・1050	○	○	○	○			○	○	○	
1060	○	○	○	○	○	○	○	○	○	
1070～1140	○	○	○	○	○	○	○	○	○	○

■Dimension Table

DHG TYPE（Horizontal, Inline）	Nominal Reduction Ratio	50～224





Unit：mm

Size	Nominal Reduction Ratio	CF	C	E	F	G	M	N	P	Q	R	V	n	d	H	Weight kg	Oil Qty ℓ
1010	—	272	105	125	170	20	155	200	15	15	15	45	4	11	212	23	0.4
1020	—	283	130	140	200	20	170	235	15	17.5	18	52.5	4	14	250	28	0.5
1030	—	309	155	155	230	25	195	270	20	20	20	60	4	18	284	41	0.6
1040	—	327	155	165	250	30	215	300	25	25	25	70	4	22	309	53	0.8
1050	—	383	180	200	300	30	250	350	25	25	30	75	4	22	351	86	1.3
1060	50～90	441	205	220	340	35	280	400	30	30	35	100	4	26	415	137	2.5
	100～224	421														129	2.5
1070	50～63	484	230	250	390	40	320	470	35	40	35	100	4	33	476	195	4.5
	71～224	467														183	4.5
1080	50～63	552	250	280	450	45	360	540	40	45	35	115	4	33	517	275	5.7
	71～224	537														263	5.7
1090	50～80	567	250	300	510	55	400	600	50	45	38	135	4	39	557	324	7.0
	90～224	552														310	7.0

Size	Nominal Reduction Ratio	Low Speed Shaft							High Speed Shaft				
		D	b	h	t	S	L2	L	d1	b1	h1	t1	L1
1010	—	40h6	12	8	5	M10	20	55	25h6	8	7	4	35
1020	—	45h6	14	9	5.5	M12	25	65	25h6	8	7	4	35
1030	—	50h6	14	9	5.5	M12	25	70	25h6	8	7	4	35
1040	—	60h6	18	11	7	M12	25	85	25h6	8	7	4	35
1050	—	70h6	20	12	7.5	M12	25	100	30h6	8	7	4	45
1060	50～90	85h6	22	14	9	M16	30	120	35h6	10	8	5	50
	100～224								30h6	8	7	4	45
1070	50～63	95h6	25	14	9	M16	30	130	40h6	12	8	5	60
	71～224								35h6	10	8	5	50
1080	50～63	105h6	28	16	10	M16	30	145	50h6	14	9	5.5	75
	71～224								40h6	12	8	5	60
1090	50～80	115h6	32	18	11	M16	30	160	50h6	14	9	5.5	75
	90～224								40h6	12	8	5	60

- ●Appearance may be different from above drawing by size.
- ● Key is in compliance with parallel key of JIS B1301-1996(ISO).
- ● Above dimensions and specifications may change without notice.

Nomenclature

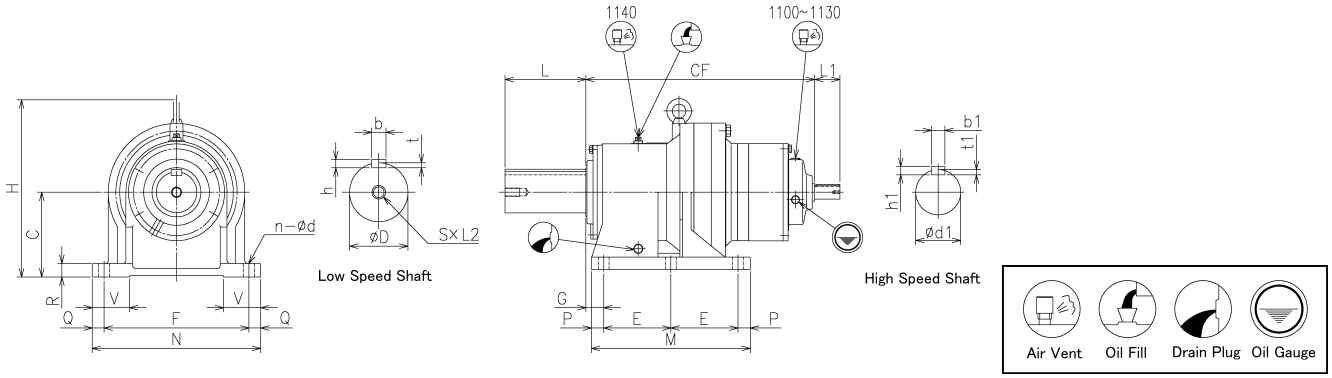
DHG — [Size] [High Speed Shaft] [Low Speed Shaft] — [Nominal Reduction Ratio]

- Size: 1010 1020 1030 1040 1050 1060 1070 1080 1090
- High Speed Shaft: Blank…Inline
- Low Speed Shaft: Blank…Solid Shaft Key
- Nominal Reduction Ratio: 50

Size	Nominal Reduction Ratio													
	50	56	63	71	80	90	100	112	125	140	160	180	200	224
1010～1040	○			○		○			○			○		○
1050～1090	○	○	○	○	○	○	○	○	○	○	○	○	○	○

■Dimension Table

DHG TYPE（Horizontal, Inline）	Nominal Reduction Ratio	71～200



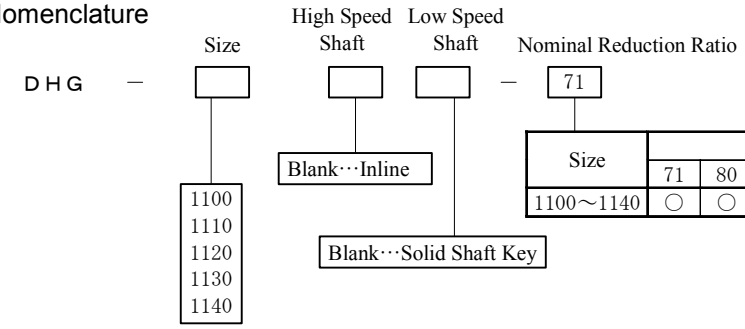
Unit：mm

Size	CF	C	E	F	G	M	N	P	Q	R	V	n	d	H	Weight kg	Oil Qty ℓ
1100	668	250	205	430	50	480	500	35	35	40	110	6	33	522	360	12.0
1110	717	265	215	460	65	520	550	45	45	45	120	6	39	558	470	13.0
1120	795	280	245	520	65	580	610	45	45	45	135	6	39	598	640	16.0
1130	846	315	265	560	70	630	660	50	50	50	145	6	45	677	820	22.0
1140	968	355	295	620	70	690	720	50	50	50	160	6	45	742	1200	34.0

Size	Low Speed Shaft							High Speed Shaft				
	D	b	h	t	S	L2	L	d1	b1	h1	t1	L1
1100	120m6	32	18	11	M30	52	180	40h6	12	8	5	60
1110	130m6	32	18	11	M30	52	200	50h6	14	9	5.5	75
1120	150m6	36	20	12	M30	52	210	60h6	18	11	7	90
1130	160m6	40	22	13	M36	62	240	60h6	18	11	7	90
1140	180m6	45	25	15	M36	62	250	60h6	18	11	7	90

- Appearance may be different from above drawing by size.
- Key is in compliance with parallel key of JIS B1301-1996(ISO).
- Above dimensions and specifications may change without notice.

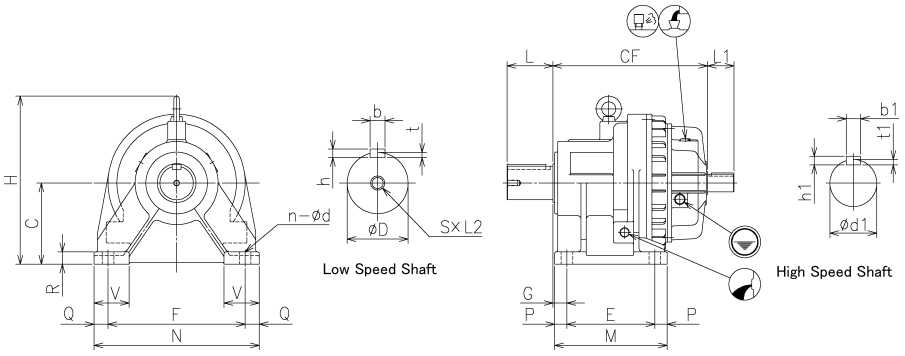
Nomenclature

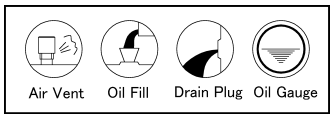


Size	Nominal Reduction Ratio									
	71	80	90	100	112	125	140	160	180	200
1100～1140	○	○	○	○	○	○	○	○	○	○

■Dimension Table

DHG TYPE（Horizontal, Inline）	Nominal Reduction Ratio	315～1400





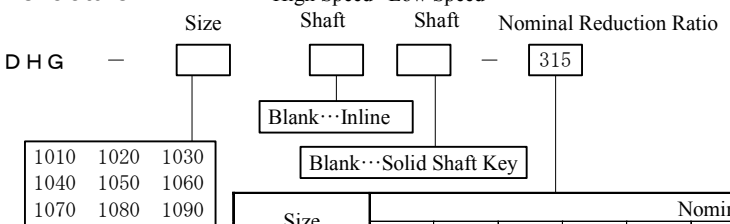
Unit：mm

Size	CF	C	E	F	G	M	N	P	Q	R	V	n	d	H	Weight kg	Oil Qty ℓ
1010	304	105	125	170	20	155	200	15	15	15	45	4	11	212	26	0.4
1020	315	130	140	200	20	170	235	15	17.5	18	52.5	4	14	250	31	0.5
1030	341	155	155	230	25	195	270	20	20	20	60	4	18	284	44	0.7
1040	359	155	165	250	30	215	300	25	25	25	70	4	22	309	56	0.9
1050	401	180	200	300	30	250	350	25	25	30	75	4	22	351	85	1.4
1060	446	205	220	340	35	280	400	30	30	35	100	4	26	415	131	2.7
1070	482	230	250	390	40	320	470	35	40	35	100	4	33	476	182	4.9
1080	559	250	280	450	45	360	540	40	45	35	115	4	33	517	258	6.8
1090	574	250	300	510	55	400	600	50	45	38	135	4	39	557	306	8.0

Size	Low Speed Shaft							High Speed Shaft				
	D	b	h	t	S	L2	L	D1	b1	h1	t1	L1
1010	40h6	12	8	5	M10	20	55	25h6	8	7	4	35
1020	45h6	14	9	5.5	M12	25	65	25h6	8	7	4	35
1030	50h6	14	9	5.5	M12	25	70	25h6	8	7	4	35
1040	60h6	18	11	7	M12	25	85	25h6	8	7	4	35
1050	70h6	20	12	7.5	M12	25	100	25h6	8	7	4	35
1060	85h6	22	14	9	M16	30	120	25h6	8	7	4	35
1070	95h6	25	14	9	M16	30	130	25h6	8	7	4	35
1080	105h6	28	16	10	M16	30	145	30h6	8	7	4	45
1090	115h6	32	18	11	M16	30	160	30h6	8	7	4	45

- Appearance may be different from above drawing by size.
- Key is in compliance with parallel key of JIS B1301-1996(ISO).
- Above dimensions and specifications may change without notice.

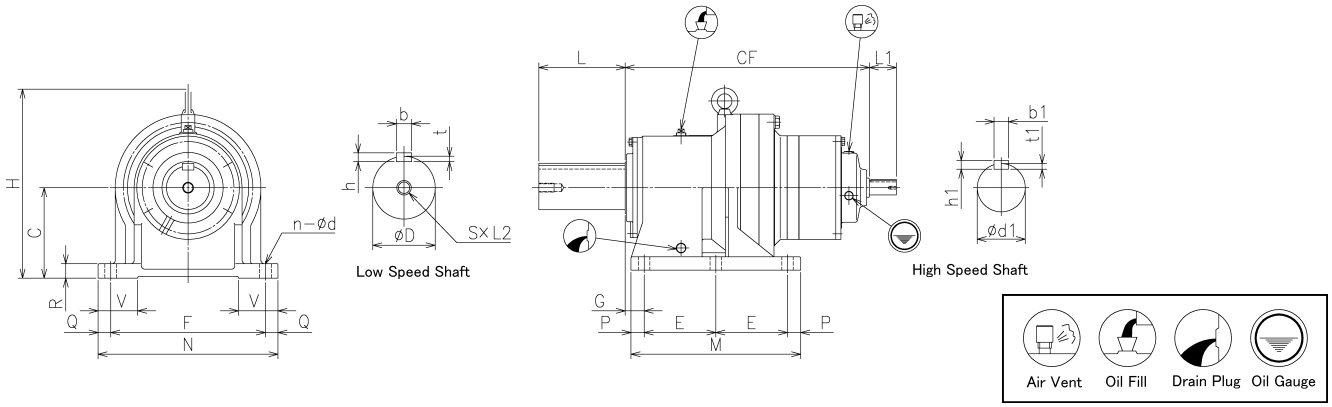
Nomenclature



Size	Nominal Reduction Ratio												
	315	355	400	450	500	560	630	710	900	1000	1120	1250	1400
1010～1070	○		○			○			○		○		○
1080・1090	○	○	○	○	○	○	○	○	○	○	○	○	○

■Dimension Table

DHG TYPE（Horizontal, Inline）	Nominal Reduction Ratio	250～1120



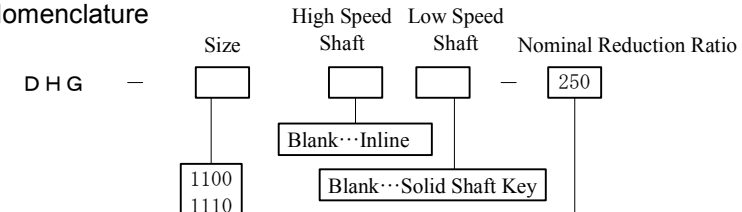
Unit：mm

Size	Nominal Reduction Ratio	CF	C	E	F	G	M	N	P	Q	R	V	n	d	H	Weight kg	Oil Qty ℓ
1100	250～450 500～1120	710 690	250	205	430	50	480	500	35	35	40	110	6	33	522	370	13.0
1110	250・280 315～1120	761 744	265	215	460	65	520	550	45	45	45	120	6	39	558	480	14.0
1120	250・280 315～1120	850 835	280	245	520	65	580	610	45	45	45	135	6	39	598	650	17.0
1130	250～400 450～1120	901 886	315	265	560	70	630	660	50	50	50	145	6	45	677	825	23.0
1140	—	984	355	295	620	70	690	720	50	50	50	160	6	45	742	1210	34.5

Size	Nominal Reduction Ratio	Low Speed Shaft							High Speed Shaft				
		D	b	h	t	S	L2	L	d1	b1	h1	t1	L1
1100	250～450	120m6	32	18	11	M30	52	180	35h6	10	8	5	50
	500～1120								30h6	8	7	4	45
1110	250・280	130m6	32	18	11	M30	52	200	40h6	12	8	5	60
	315～1120								35h6	10	8	5	50
1120	250・280	150m6	36	20	12	M30	52	210	50h6	14	9	5.5	75
	315～1120								40h6	12	8	5	60
1130	250～400	160m6	40	22	13	M36	62	240	50h6	14	9	5.5	75
	450～1120								40h6	12	8	5	60
1140	—	180m6	45	25	15	M36	62	250	40h6	12	8	5	60

- Appearance may be different from above drawing by size.
- Key is in compliance with parallel key of JIS B1301-1996(ISO).
- Above dimensions and specifications may change without notice.

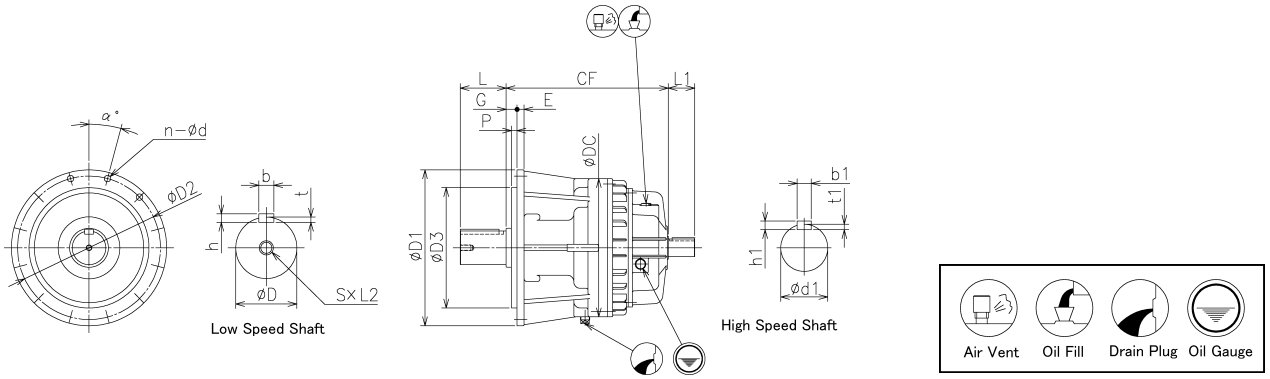
Nomenclature



Size	Nominal Reduction Ratio													
	250	280	315	355	400	450	500	560	630	710	800	900	1000	1120
1100～1130	○	○	○	○	○	○	○	○	○	○	○	○	○	○
1140					○	○	○	○	○	○	○	○	○	

■Dimension Table

DHF TYPE（Horizontal Flange, Inline）	Nominal Reduction Ratio	5・9

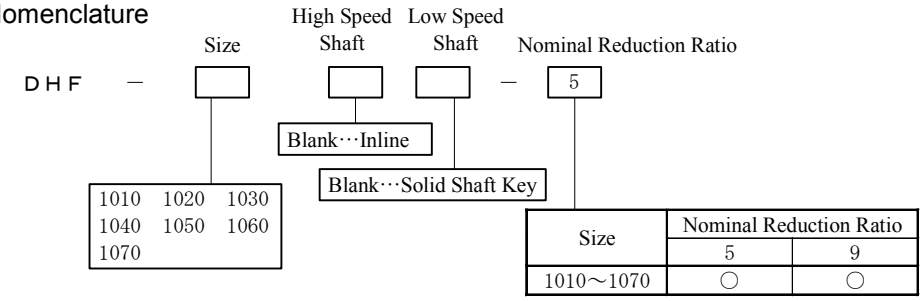


Unit：mm

Size	CF	D1	D2	D3	E	G	P	n	d	α	DC	Weight kg	Oil Qty ℓ
1010	208	200	175	130h7	12	10	5	6	12	30	166	15	0.3
1020	219	220	195	150h7	12	10	5	6	12	30	166	18	0.4
1030	245	245	215	170h7	16	10	5	6	14	30	200	28	0.5
1040	273	275	245	200h7	16	10	5	6	14	30	230	42	0.7
1050	312	315	285	240h7	16	10	5	6	14	30	280	64	0.9
1060	355	390	355	290h7	20	11	6	6	18	30	335	112	2.0
1070	385	440	405	340h7	20	11	6	8	18	22.5	390	165	3.5

Size	Low Speed Shaft							High Speed Shaft				
	D	b	h	t	S	L2	L	d1	b1	h1	t1	L1
1010	40h6	12	8	5	M10	20	55	25h6	8	7	4	35
1020	45h6	14	9	5.5	M12	25	65	25h6	8	7	4	35
1030	50h6	14	9	5.5	M12	25	70	30h6	8	7	4	45
1040	60h6	18	11	7	M12	25	85	35h6	10	8	5	50
1050	70h6	20	12	7.5	M12	25	100	40h6	12	8	5	60
1060	85h6	22	14	9	M16	30	120	50h6	14	9	5.5	75
1070	95h6	25	14	9	M16	30	130	60h6	18	11	7	90

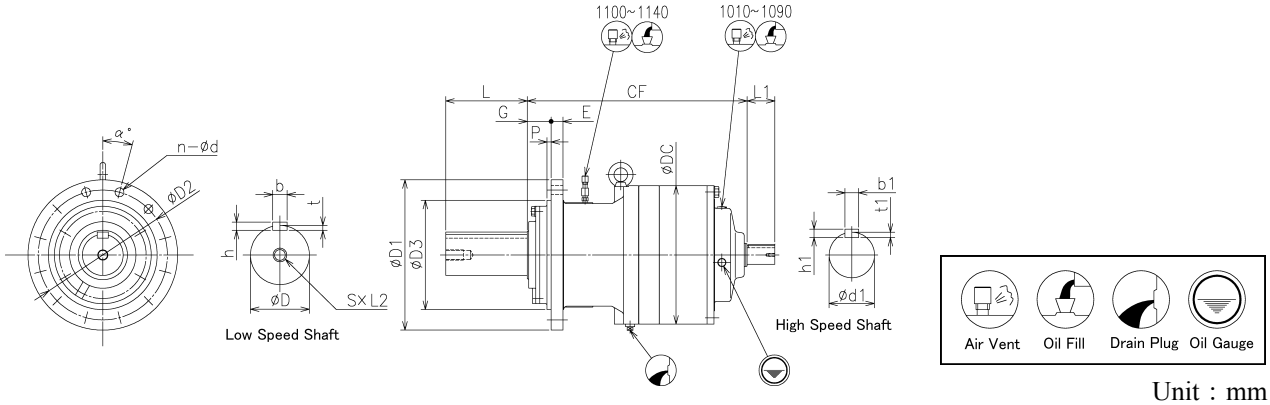
Nomenclature



Size	Nominal Reduction Ratio	
	5	9
1010～1070	○	○

■Dimension Table

DHF TYPE（Horizontal Flange, Inline）	Nominal Reduction Ratio	16～45



Unit：mm

Size	CF	D1	D2	D3	E	G	P	n	d	α	DC	Weight kg	Oil Qty ℓ
1010	240	200	175	130h7	12	10	5	6	12	30	166	19	0.4
1020	251	220	195	150h7	12	10	5	6	12	30	166	21	0.4
1030	284	245	215	170h7	16	10	5	6	14	30	200	35	0.6
1040	302	275	245	200h7	16	10	5	6	14	30	230	45	0.8
1050	354	315	285	240h7	16	10	5	6	14	30	280	72	1.1
1060	399	390	355	290h7	20	11	6	6	18	30	335	120	2.2
1070	440	440	405	340h7	20	11	6	8	18	22.5	390	186	3.8
1080	497	505	460	390h7	25	13	8	8	22	22.5	430	269	4.8
1090	512	545	500	430h7	25	13	8	8	22	22.5	470	293	5.9
1100	652	440	380	320f8	35	70	12	12	26	15	405	332	8.3
1110	700	480	420	360f8	35	70	13	12	26	15	450	452	10
1120	776	530	460	390f8	40	80	13	12	33	15	500	637	15
1130	846	580	510	440f8	40	90	14	12	33	15	550	761	15
1140	940	650	560	470f8	45	90	14	12	39	15	600	1020	22

Size	Low Speed Shaft							High Speed Shaft				
	D	b	h	t	S	L2	L	d1	b1	h1	t1	L1
1010	40h6	12	8	5	M10	20	55	25h6	8	7	4	35
1020	45h6	14	9	5.5	M12	25	65	25h6	8	7	4	35
1030	50h6	14	9	5.5	M12	25	70	30h6	8	7	4	45
1040	60h6	18	11	7	M12	25	85	30h6	8	7	4	45
1050	70h6	20	12	7.5	M12	25	100	35h6	10	8	5	50
1060	85h6	22	14	9	M16	30	120	40h6	12	8	5	60
1070	95h6	25	14	9	M16	30	130	50h6	14	9	5.5	75
1080	105h6	28	16	10	M16	30	145	60h6	18	11	7	90
1090	115h6	32	18	11	M16	30	160	60h6	18	11	7	90
1100	120m6	32	18	11	M30	52	180	60h6	18	11	7	90
1110	130m6	32	18	11	M30	52	200	60h6	18	11	7	90
1120	150m6	36	20	12	M30	52	210	65h6	18	11	7	105
1130	160m6	40	22	13	M36	62	240	70h6	20	12	7.5	120
1140	180m6	45	25	15	M36	62	250	75h6	20	12	7.5	140

- ●Appearance may be different from above drawing by size.
- ● Key is in compliance with parallel key of JIS B1301-1996(ISO).
- ● Above dimensions and specifications may change without notice.

Nomenclature

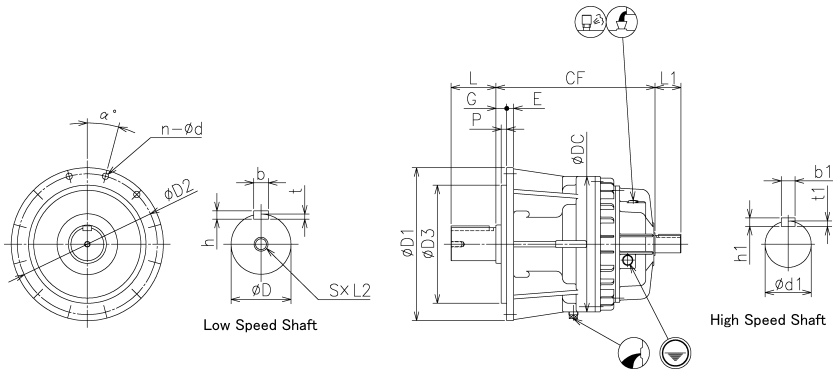
DHF − □ (Size) □ (High Speed Shaft) □ (Low Speed Shaft) − 16 (Nominal Reduction Ratio)

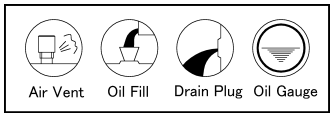
- Size: 1010 1020 1030 / 1040 1050 1060 / 1070 1080 1090 / 1100 1110 1120 / 1130 1140
- High Speed Shaft: Blank…Inline
- Low Speed Shaft: Blank…Solid Shaft Key

Size	Nominal Reduction Ratio									
	16	18	20	22.4	25	28	31.5	35.5	40	45
1010～1030	○			○			○		○	
1040・1050	○	○	○	○			○	○	○	
1060	○	○	○	○	○	○	○	○	○	
1070～1140	○	○	○	○	○	○	○	○	○	○

■Dimension Table

DHF TYPE（Horizontal Flange, Inline）	Nominal Reduction Ratio	50～224





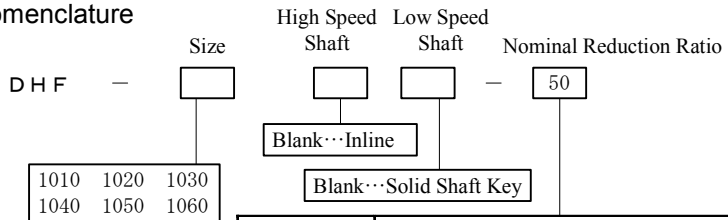
Unit：mm

Size	Nominal Reduction Ratio	CF	D1	D2	D3	E	G	P	n	d	α	DC	Weight kg	Oil Qty ℓ
1010	—	272	200	175	130h7	12	10	5	6	12	30	166	22	0.4
1020	—	283	220	195	150h7	12	10	5	6	12	30	166	25	0.5
1030	—	309	245	215	170h7	16	10	5	6	14	30	200	36	0.6
1040	—	327	275	245	200h7	16	10	5	6	14	30	230	46	0.8
1050	—	383	315	285	240h7	16	10	5	6	14	30	280	74	1.3
1060	50～90	441	390	355	290h7	20	11	6	6	18	30	335	127	2.5
	100～224	421											120	2.5
1070	50～63	484	440	405	340h7	20	11	6	8	18	22.5	390	192	4.5
	71～224	467											180	4.5
1080	50～63	552	505	460	390h7	25	13	8	8	22	22.5	430	286	5.7
	71～224	537											269	5.7
1090	50～80	567	545	500	430h7	25	13	8	8	22	22.5	470	310	7.0
	90～224	552											297	7.0

Size	Nominal Reduction Ratio	Low Speed Shaft							High Speed Shaft				
		D	b	h	t	S	L2	L	d1	b1	h1	t1	L1
1010	—	40h6	12	8	5	M10	20	55	25h6	8	7	4	35
1020	—	45h6	14	9	5.5	M12	25	65	25h6	8	7	4	35
1030	—	50h6	14	9	5.5	M12	25	70	25h6	8	7	4	35
1040	—	60h6	18	11	7	M12	25	85	25h6	8	7	4	35
1050	—	70h6	20	12	7.5	M12	25	100	30h6	8	7	4	45
1060	50～90	85h6	22	14	9	M16	30	120	35h6	10	8	5	50
	100～224								30h6	8	7	4	45
1070	50～63	95h6	25	14	9	M16	30	130	40h6	12	8	5	60
	71～224								35h6	10	8	5	50
1080	50～63	105h6	28	16	10	M16	30	145	50h6	14	9	5.5	75
	71～224								40h6	12	8	5	60
1090	50～80	115h6	32	18	11	M16	30	160	50h6	14	9	5.5	75
	90～224								40h6	12	8	5	60

- Appearance may be different from above drawing by size.
- Key is in compliance with parallel key of JIS B1301-1996 (ISO).
- Above dimensions and specifications may change without notice.

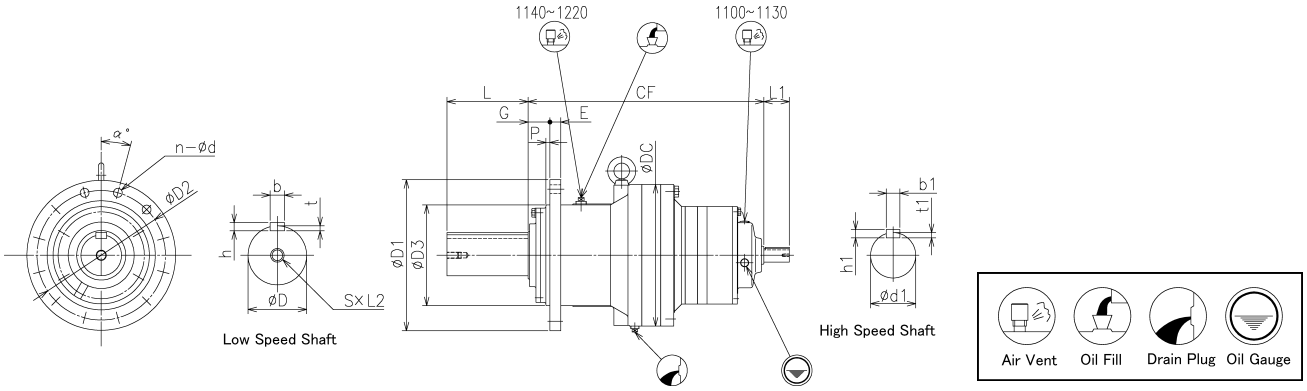
Nomenclature



Size	Nominal Reduction Ratio													
	50	56	63	71	80	90	100	112	125	140	160	180	200	224
1010～1040	○			○		○			○			○		○
1050～1090	○	○	○	○	○	○	○	○	○	○	○	○	○	○

■Dimension Table

DHF TYPE（Horizontal Flange, Inline）	Nominal Reduction Ratio	71～224



Unit：mm

Size	CF	D1	D2	D3	E	G	P	n	d	α	DC	Weight kg	Oil Qty ℓ
1100	668	440	380	320f8	35	70	12	12	26	15	405	320	9
1110	717	540	480	420f8	35	75	15	12	26	15	410	422	9.5
1120	795	570	510	450f8	40	80	15	16	26	11.25	460	610	11
1130	846	625	555	485f8	40	90	15	16	33	11.25	510	690	16
1140	968	675	605	535f8	45	100	15	20	33	9	560	880	15
1150	1050	760	670	580f8	45	110	20	16	39	11.25	600	1185	18
1160	1189	810	720	630f8	50	120	20	20	39	9	650	1380	22
1170	1254	870	780	680f8	55	120	20	24	39	7.5	680	1800	25
1180	1315	930	840	730f8	55	120	20	24	39	7.5	730	2100	28
1190	1470	1050	950	830f8	60	125	20	24	45	7.5	835	3000	40
1200	1604	1180	1070	940f8	65	130	20	24	52	7.5	940	4100	52
1210	1810	1300	1190	1050f8	70	145	20	24	52	7.5	1030	5500	63
1220	2010	1450	1340	1200f8	75	150	25	30	52	6	1130	7400	77

Size	Low Speed Shaft							High Speed Shaft				
	D	b	h	t	S	L2	L	d1	b1	h1	t1	L1
1100	120m6	32	18	11	M30	52	180	40h6	12	8	5	60
1110	130m6	32	18	11	M30	52	200	50h6	14	9	5.5	75
1120	150m6	36	20	12	M30	52	210	60h6	18	11	7	90
1130	160m6	40	22	13	M36	62	240	60h6	18	11	7	90
1140	180m6	45	25	15	M36	62	250	60h6	18	11	7	90
1150	200m6	45	25	15	M36	62	280	60h6	18	11	7	90
1160	220m6	50	28	17	M36	62	300	65h6	18	11	7	105
1170	240m6	56	32	20	M36	62	360	70h6	20	12	7.5	120
1180	260m6	56	32	20	M36	62	390	70h6	20	12	7.5	120
1190	280m6	63	32	20	M36	62	450	75h6	20	12	7.5	140
1200	320m6	70	36	22	M42	73	510	95h6	25	14	9	150
1210	360m6	80	40	25	M42	73	570	120h6	32	18	11	170
1220	400m6	90	45	28	M48	80	630	130h6	32	18	11	190

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- Above dimensions and specifications may change without notice.

Nomenclature

DHF — □ (Size) □ (High Speed Shaft) □ (Low Speed Shaft) — 71 (Nominal Reduction Ratio)

Size: 1100 1110 1120 1130 1140 1150 1160 1170 1180 1190 1200 1210 1220

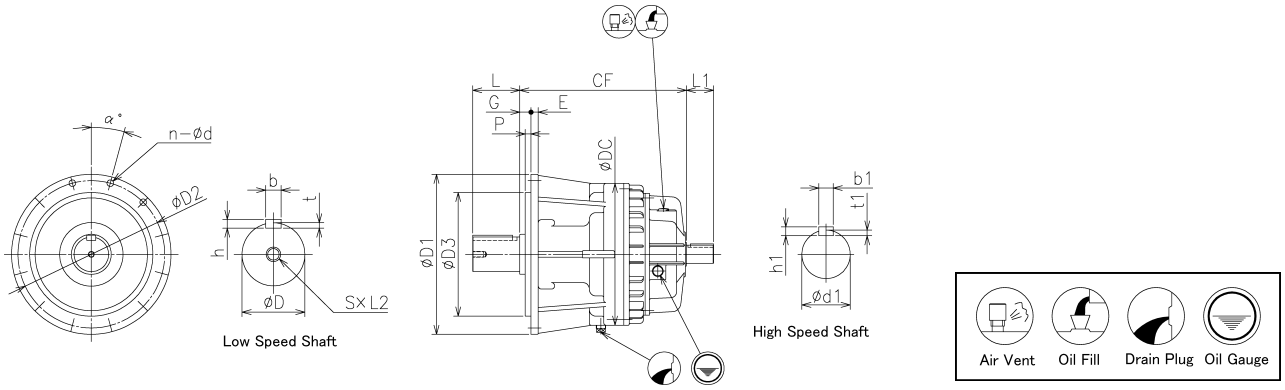
High Speed Shaft: Blank…Inline

Low Speed Shaft: Blank…Solid Shaft Key

Size	Nominal Reduction Ratio										
	71	80	90	100	112	125	140	160	180	200	224
1100～1160	○	○	○	○	○	○	○	○	○	○	
1170		○	○	○	○	○	○	○	○	○	
1180・1190		○	○	○	○	○	○	○	○	○	○
1200			○	○	○	○	○	○	○	○	
1210			○	○	○	○	○	○	○	○	○
1220		○	○	○	○	○	○	○	○	○	○

■Dimension Table

DHF TYPE（Horizontal Flange, Inline）	Nominal Reduction Ratio	315～1400



Unit：mm

Size	CF	D1	D2	D3	E	G	P	n	d	α	DC	Weight kg	Oil Qty ℓ
1010	304	200	175	130h7	12	10	5	6	12	30	166	26	0.4
1020	315	220	195	150h7	12	10	5	6	12	30	166	28	0.5
1030	341	245	215	170h7	16	10	5	6	14	30	200	39	0.7
1040	359	275	245	200h7	16	10	5	6	14	30	230	50	0.9
1050	401	315	285	240h7	16	10	5	6	14	30	280	74	1.4
1060	446	390	355	290h7	20	11	6	6	18	30	335	121	2.7
1070	482	440	405	340h7	20	11	6	8	18	22.5	390	179	4.9
1080	559	505	460	390h7	25	13	8	8	22	22.5	430	268	6.8
1090	574	545	500	430h7	25	13	8	8	22	22.5	470	292	8.0

Size	Low Speed Shaft							High Speed Shaft				
	D	b	h	t	S	L2	L	d1	b1	h1	t1	L1
1010	40h6	12	8	5	M10	20	55	25h6	8	7	4	35
1020	45h6	14	9	5.5	M12	25	65	25h6	8	7	4	35
1030	50h6	14	9	5.5	M12	25	70	25h6	8	7	4	35
1040	60h6	18	11	7	M12	25	85	25h6	8	7	4	35
1050	70h6	20	12	7.5	M12	25	100	25h6	8	7	4	35
1060	85h6	22	14	9	M16	30	120	25h6	8	7	4	35
1070	95h6	25	14	9	M16	30	130	25h6	8	7	4	35
1080	105h6	28	16	10	M16	30	145	30h6	8	7	4	45
1090	115h6	32	18	11	M16	30	160	30h6	8	7	4	45

- Appearance may be different from above drawing by size.
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- Above dimensions and specifications may change without notice.

Nomenclature

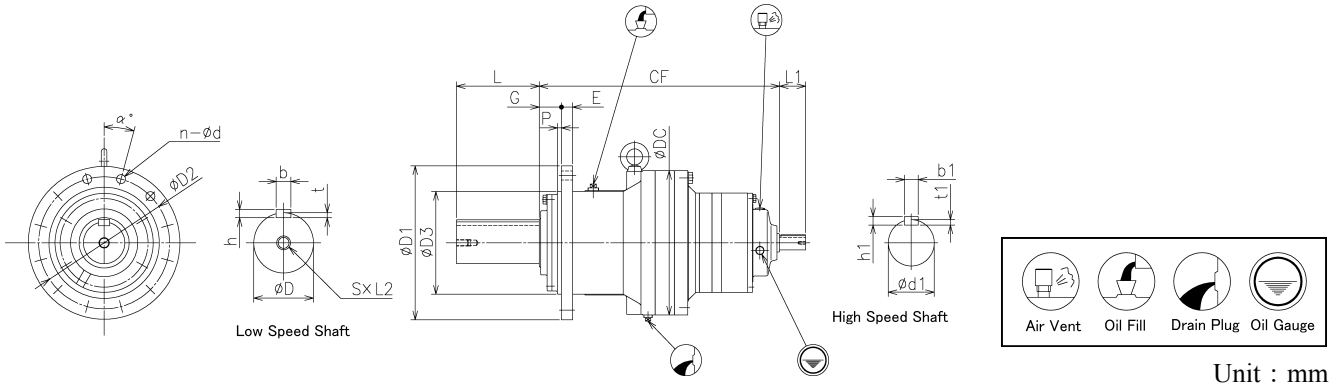
DHF − □ (Size) □ (High Speed Shaft) □ (Low Speed Shaft) − 315 (Nominal Reduction Ratio)

- Size: 1010 1020 1030 / 1040 1050 1060 / 1070 1080 1090
- High Speed Shaft: Blank…Inline
- Low Speed Shaft: Blank…Solid Shaft Key

Size	Nominal Reduction Ratio												
	315	355	400	450	500	560	630	710	900	1000	1120	1250	1400
1010～1070	○		○			○			○		○		○
1080・1090	○	○	○	○	○	○	○	○	○	○	○	○	○

■Dimension Table

DHF TYPE（Horizontal Flange, Inline）	Nominal Reduction Ratio	250～1120

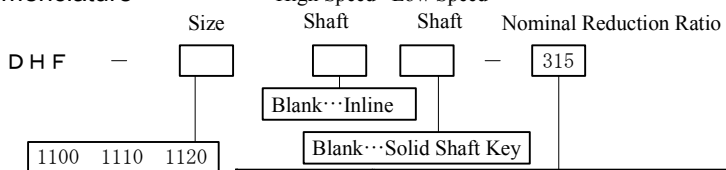


Unit：mm

Size	Nominal Reduction Ratio	CF	D1	D2	D3	E	G	P	n	d	α	DC	Weight kg	Oil Qty ℓ
1100	250～450	710	440	380	320f8	35	70	12	12	26	15	405	330	10.5
	500～1120	690												
1110	250～280	761	540	480	420f8	35	75	15	12	26	15	410	435	11
	315～1120	744												
1120	250・280	850	570	510	450f8	40	80	15	16	26	11.25	460	580	12.5
	315～1120	835												
1130	250～400	901	625	555	485f8	40	90	15	16	33	11.25	510	690	15.5
	450～1120	886												
1140	—	984	675	605	535f8	45	100	15	20	33	9	560	850	16
1150	—	1088	760	670	580f8	45	110	20	16	39	11.25	600	1090	17
1160	—	1230	810	720	630f8	50	120	20	20	39	9	650	1330	20.5
1170	—	1262	870	780	680f8	55	120	20	24	39	7.5	680	1720	24
1180	—	1321	930	840	730f8	55	120	20	24	39	7.5	730	2050	26

Size	Nominal Reduction Ratio	Low Speed Shaft							High Speed Shaft				
		D	b	h	t	S	L2	L	d1	b1	h1	t1	L1
1100	250～450	120m6	32	18	11	M30	52	180	35h6	10	8	5	50
	500～1120								30h6	8	7	4	45
1110	250～280	130m6	32	18	11	M30	52	200	40h6	12	8	5	60
	315～1120								35h6	10	8	5	50
1120	250・280	150m6	36	20	12	M30	52	210	50h6	14	9	5.5	75
	315～1120								40h6	12	8	5	60
1130	250～400	160m6	40	22	13	M36	62	240	50h6	14	9	5.5	75
	450～1120								40h6	12	8	5	60
1140	–	180m6	45	25	15	M36	62	250	40h6	12	8	5	60
1150	–	200m6	45	25	15	M36	62	280	50h6	14	9	5.5	75
1160	–	220m6	50	28	17	M36	62	300	60h6	18	11	7	90
1170	–	240m6	56	32	20	M36	62	360	60h6	18	11	7	90
1180	–	260m6	56	32	20	M36	62	390	60h6	18	11	7	90

Nomenclature

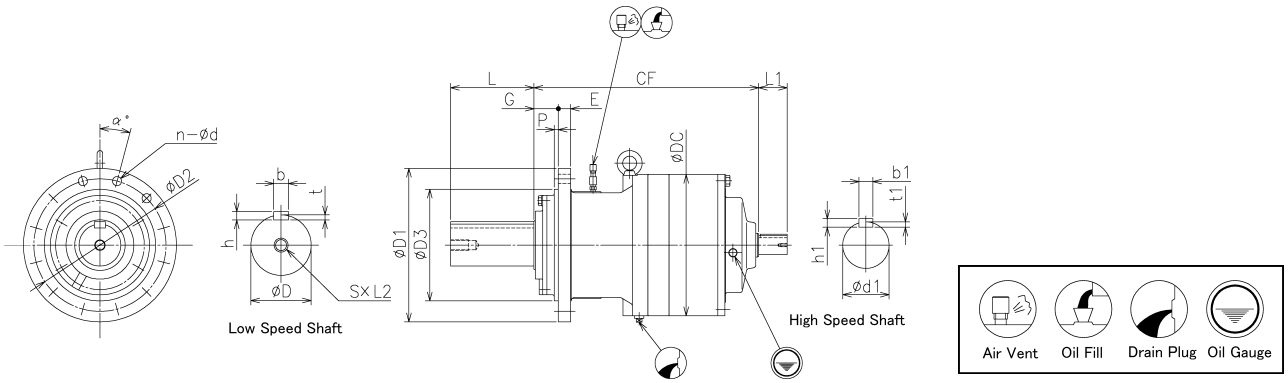


- Appearance may be different from above drawing by size.
- Key is in compliance with parallel key of JIS B1301-1996(ISO).
- Above dimensions and specifications may change without notice.

Size	Nominal Reduction Ratio													
	250	280	315	355	400	450	500	560	630	710	800	900	1000	1120
1100～1130	○	○	○	○	○	○	○	○	○	○	○	○	○	○
1140					○	○	○	○	○	○	○	○	○	
1150～1170				○	○	○	○	○	○	○	○	○		
1180					○	○	○	○	○	○	○	○	○	○

■Dimension Table

DHF TYPE（Horizontal Flange, Inline）	Nominal Reduction Ratio	355～1120



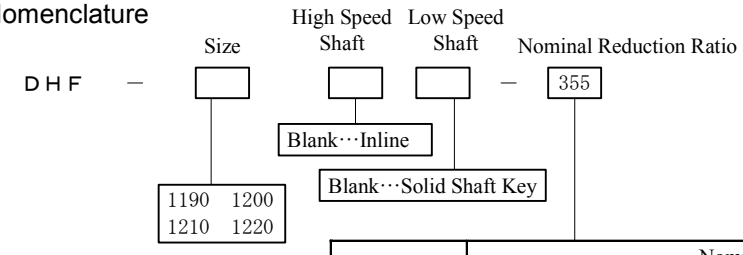
Unit：mm

Size	CF	D1	D2	D3	E	G	P	n	d	α	DC	Weight kg	Oil Qty ℓ
1190	1526	1050	950	830f8	60	125	20	24	45	7.5	835	2900	36
1200	1685	1180	1070	940f8	65	130	20	24	52	7.5	940	4000	47
1210	1885	1300	1190	1050f8	70	145	20	24	52	7.5	1030	5300	57
1220	2099	1450	1340	1200f8	75	150	25	30	52	6	1130	7200	70

Size	Low Speed Shaft							High Speed Shaft				
	D	b	h	t	S	L2	L	d1	b1	h1	t1	L1
1190	280m6	63	32	20	M36	62	450	60h6	18	11	7	90
1200	320m6	70	36	22	M42	73	510	65h6	18	11	7	105
1210	360m6	80	40	25	M42	73	570	70h6	20	12	7.5	120
1220	400m6	90	45	28	M48	80	630	75h6	20	12	7.5	140

- Appearance may be different from above drawing by size.
- Key is in compliance with parallel key of JIS B1301-1996(ISO).
- Above dimensions and specifications may change without notice.

Nomenclature



Size	Nominal Reduction Ratio										
	355	400	450	500	560	630	710	800	900	1000	1120
1190		○	○	○	○	○	○	○	○	○	○
1200	○	○	○	○	○	○	○	○	○	○	
1210・1220		○	○	○	○	○	○	○	○	○	○

C

Drive Unit

Drive Unit

■Drive Unit Standard Specifications

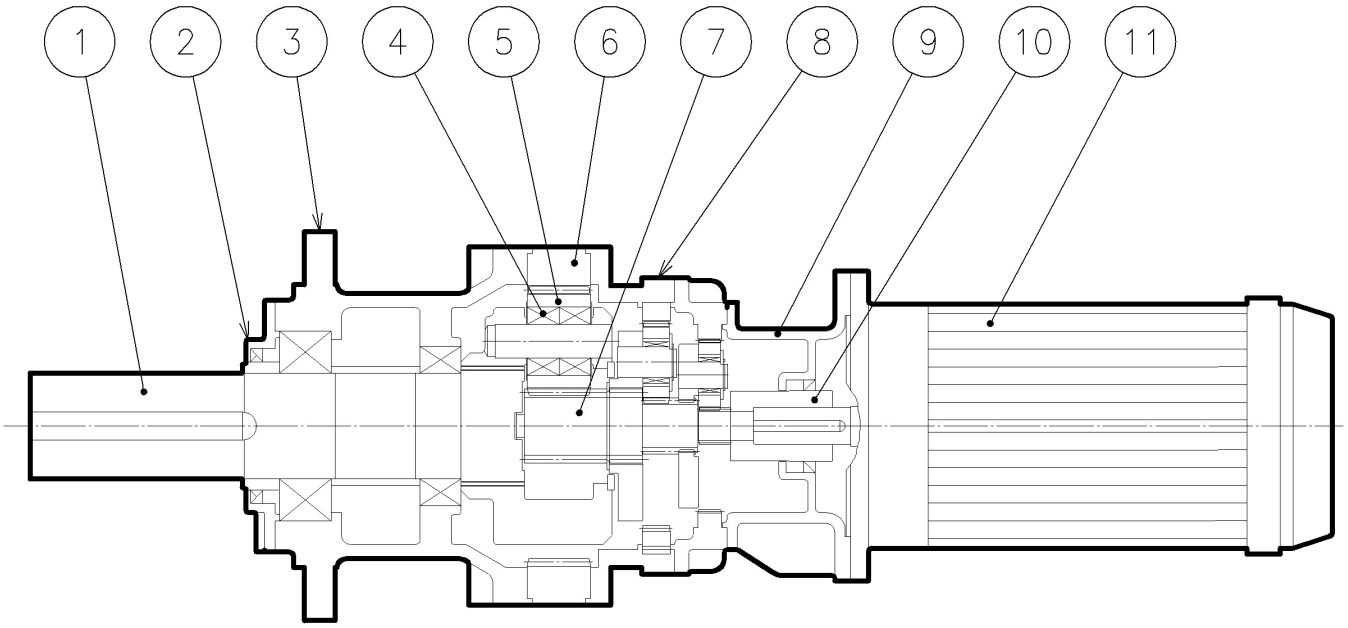
Item		Standard Specification		Standard Specification with Built-in Brake	
Motor	Capacity Range	0.2kW×4P～55kW×4P		0.2kWX4P～30kWX4PFB Brake (Non Asbestos) 37kWX4P ESB Brake	
	Enclosure	Totally enclosed fan cooled type		Totally enclosed fan cooled type	
	Power Source	55kW and smaller 200V 50/60Hz、220V 60Hz		37kW and smaller 200V 50/60Hz、220V 60Hz	
	Insulation	Pole / Insulation	4P	Pole / Insulation	4P
		Class E	0.2～0.4kW	Class E	0.2～0.4kW
		Class B	0.75～22kW	Class B	0.75～22kW
		Class F	30～55kW	Class F	30～55kW
	Time Rating	Continuous rating		Continuous rating	
	Lead Wiring (Lug Type)	Pole / Lead wiring	4P	Pole / Lead wiring	4P
		3	0.2～7.5kW (Direct starting)	5	0.2～7.5kW (Direct starting)
		6	Note1 11～55kW (人-Δ starting available)	8	Note1 11～37kW (人-Δ starting available)
	Standard	According to JIS			

Note 1:人-Δ start is also available. Please consult us

Item		Standard Specification
Reducer	Lubrication Method	Oil bath lubrication (Some of the upper bearings are lubricated with grease)
	Lubricant	Refer to the page E-2
	Reduction Method	Planetary Gear System of Involutes Gear
	Shaft Direction	Rotation direction of high speed shaft is the same as output shaft.
Ambient Conditions	Installation Location	Indoor (Minimal dust and humidity)
	Ambient Temperature	－10℃～40℃
	Ambient Humidity	Under 85%
	Altitude	Under 1,000 meters
	Atmosphere	Well-ventilated location, free of corrosive gas, explosive gas, vapors and dust.
Installation		Horizontal installation Refer to the page E-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 prime coating, UNI GROUND PTC primer is sprayed once. For final coating, SUPIKA#3000 is sprayed once. Painting color: MUNSELL 2.5G 6/3. Refer to the page E-3.

Note1: A heating or cooling system is necessary in case the ambient temperature is lower than －10℃ or higher than +40℃.

■Construction Drawing



DHFM (flange type)

No.	Part Name	No.	Part Name
1	Low Speed Shaft	7	Sun Gear
2	Seal Cover	8	Inter mediate Cover
3	Case	9	Motor Adapter
4	Bearing	10	Coupling
5	Planetary Gear	11	Motor
6	Internal Gear		

■Nomenclature

D | HG | M | 40 | – | 1080

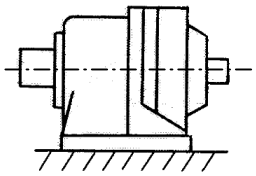
Series

D

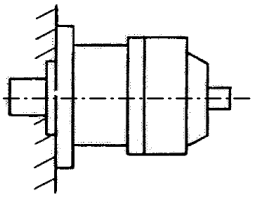
DP 1000 Series Planetary Gear Drive

Shaft Direction and Mounting Style

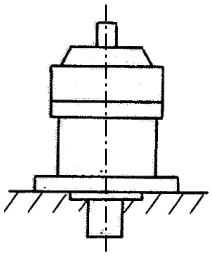
HG Horizontal



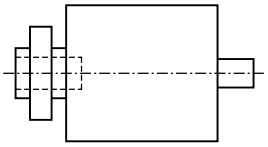
HF Horizontal Flange Mounting



VF Vertical flange Mounting

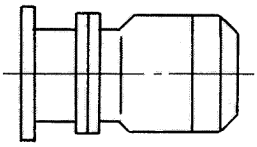


HY Shaft Mounting (Option)



Connection for Motor

M Direct Motor Mounting



Motor Capacity

Pole	
Code	kW(HP)
02	0.2(1/4)
05	0.4(1/2)
1	0.75(1)
2	1.5(2)
3	2.2(3)
4	3.0(4)
5	3.7(5)
8	5.5(7.5)
10	7.5(10)
15	11(15)
20	15(20)
25	18.5(25)
30	22(30)
40	30(40)
50	37(50)
60	45(60)
75	55(75)

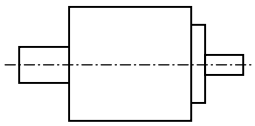
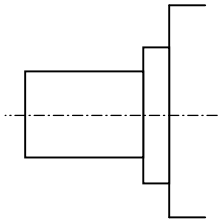
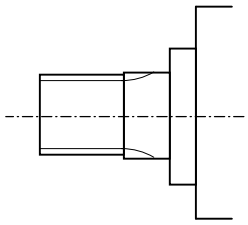
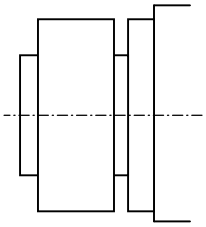
Note:
In case the motor is provided by the customer, the proper Motor Capacity code shall be selected based on the Dimensions of Motor Adapter on the page, E-7. The motor may not be mounted if the code is selected only

Size

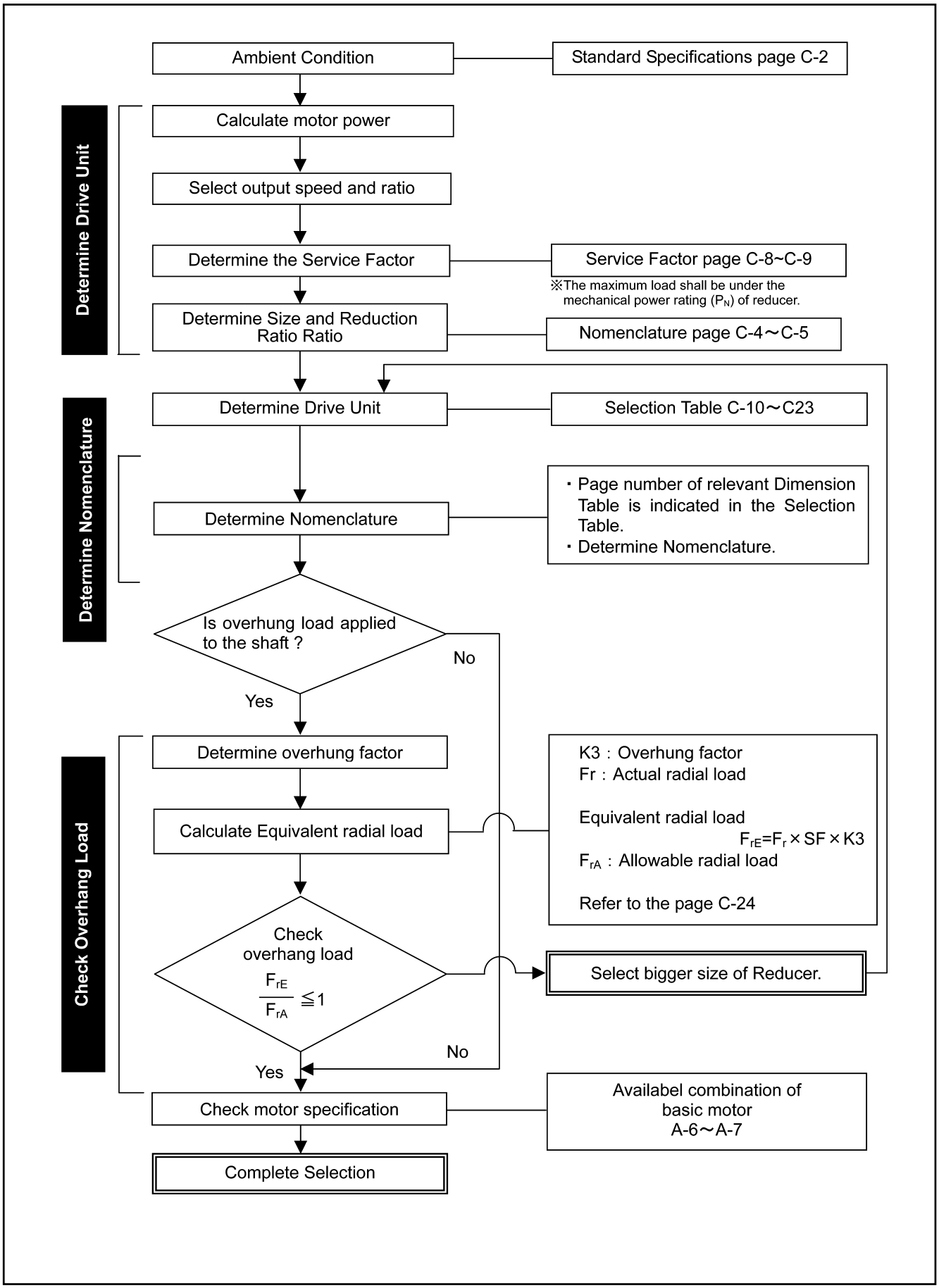
	Torque kNm
1010	0.46
1020	0.69
1030	1.0
1040	1.6
1050	3.2
1060	5.5
1070	8.6
1080	13.6
1090	15.9
1100	22.6
1110	29.4
1120	39.2
1130	53.0
1140	72.6

Remarks:
Above figures of Torque show the transmission power of low speed shaft.

[ ] [ ] [ ] – 50

Direction of High Speed Shaft	Low Speed Shaft	Option	Nominal Ratio
(Blank) Inline 	(Blank) Solid Shaft Key type 	(Blank) Standard Specification	5
			9
			16
			22.4
			31.5
			35.5
			40
			45
			50
			71
			90
	P Spline shaft (Option) 		100
			125
			140
			180
			224
			250
			315
			400
			450
			560
	T Hollow Shaft Shrink Disk type (Option) 		630
			800
			900
			1120
			1400

■Drive Unit Selection



■Drive Unit Selection Example

Conditions and final selections	○：Conditions ■：Selected item	Reference page No.
○ Ambient Condition	：indoor, Ambient temperature 25℃	
■ Check ambient condition	→OK	C-2 Standard Specification
○ Load power P	:P=20kW	
■ Determine Motor power	→22kW （Code：30）	
○ Electric source	：200V 50Hz	
○ Slow speed shaft speed	：10.4r/min	
Load condition		
○ Type of load, operating hours, application	：Uniform load: 14 hours/day, conveyor	
■ Determine Service Factor	→1.25	C-8：Service Factor
○ Motor Capacity, Service Factor	：Capacity 22kW SF≧1.25	C-4～5：Nomenclature
■Determine size/reduction ratio of reducer	→Size 1110 Reduction Ratio 140	C-21：Selection Table
■ Check dimension	：Flange, Horizontal	C-44～45*1 ：Dimension Table
■ Check nomenclature	→DHFM30-1110-140	Nomenclature
Check overhang load		
○ Overhang member	：Sprocket (Single row)	
■ Overhang factor K3	→K3=1.0	C-24：Allowable Radial load
○ Radial load position	：Center of solid shaft	
○ Radial load F_r	：100kN	
■ Equivalent radial load F_rE	→F_{rE}=100×1.25×1.0＝125kN	
■ Allowable radial load	→225kN	C-24：Allowable Radial load
$\frac{125}{225}$=0.56 ＜ 1	→OK	
○ Motor specification		
■ Check motor specification	：200V 50Hz without brake, indoor →OK	A-6：Available Combination
○ Completion of selection		
■ Model selected	→DHFM30-1110-140 ：200V 50Hz without brake, indoor	

*1 page number of the relevant Dimension Table is indicated in the Selection Table.

■Service Factorer SF

Service Factor Table for Driven Machines

Driven Machine	Operating Hours (hours/day) 3 hrs	10 hrs	24 hrs
CRANES			
Classification of crane / Hoisting / Ttaverse Motion / Travel Motion / Slewing Motion / Boom Hoisting			
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			
The crane classification is based on JIS. 「Calculation standard for the structure of crane」			
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・main drive	1.50	1.50	1.50
Runout table			
Non reversing			
Group drives	1.50	1.50	1.50
Individual drives	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
MATAL 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	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、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、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
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 -2smooth rolls	1.50	1.50	1.75
Batch drop mill -2smooth rolls	1.50	1.50	1.50
Cracker warmer			
-2roll：1 corrugated roll	1.75	1.75	1.75
Cracker 2 corrugated rolls	2.00	2.00	2.00
Holding,feed & blend mill			
-2rolls	1.25	1.25	1.25
Refiner -2 rolls	1.50	1.50	1.50
Calenders	1.50	1.50	1.50
PAPER MILL			
Alltypes incl.Paper making machine	2.00	2.00	2.00
AGITATORS			
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	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
Idustrial、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	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	1.75	1.75	1.75

Notes

(1) Values in the above table are based on AGMA standard and SEISA'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) ※ : Consult us.

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 then 3 hours/day or when an internal combustion engine (single cylinder) is used.

Overhang factor K3

Overhang Member	K3
Sprocket (single row)	1
Sprocket (double row)	1.25
Gear	1.25
V-belt	1.5
Flat belt	2.5

■Selection Table Drive Unit

0.2kW	Frequency	Hz	50Hz	60Hz
	Pole	P	4	4
	Speed n_1	r/min	1500	1800

50Hz Output Speed r/min	50Hz Output Torque Nm	SF	60Hz Output Speed r/min	60Hz Output Torque Nm	SF	Size	Reduction Ratio	Page of Dimension Sheet: Foot mounting Horizontal	Flange Horizontal	Flange Vertical
21	87	5.15	25	73	5.80	1010	71	C-30	C-42	C-54
17	116	3.95	20	96	4.75	1010	90	C-30	C-42	C-54
12	164	2.81	14	136	3.37	1010	125	C-30	C-42	C-54
8.3	232	2.00	10	193	2.41	1010	180	C-30	C-42	C-54
6.7	304	1.54	8.0	254	1.85	1010	224	C-30	C-42	C-54
		2.29			2.75	1020	224	C-30	C-42	C-54
4.8	396	1.23	5.7	330	1.47	1010	315	C-34	C-46	C-58
		1.82			2.19	1020	315	C-34	C-46	C-58
		2.78			3.34	1030	315	C-34	C-46	C-58
3.8	524	0.93	4.5	437	1.12	1010	400	C-34	C-46	C-58
		1.38			1.66	1020	400	C-34	C-46	C-58
		2.11			2.54	1030	400	C-34	C-46	C-58
2.7	694	1.06	3.2	578	1.27	1020	560	C-34	C-46	C-58
		1.62			1.95	1030	560	C-34	C-46	C-58
		2.47			2.96	1040	560	C-34	C-46	C-58
1.9	982	1.16	2.3	819	1.40	1030	800	C-34	C-46	C-58
		1.77			2.12	1040	800	C-34	C-46	C-58
1.3	1391	1.27	1.6	1159	1.52	1040	1120	C-34	C-46	C-58
		2.46			2.95	1050	1120	C-34	C-46	C-58
1.1	1826	0.97	1.3	1522	1.17	1040	1400	C-34	C-46	C-58
		1.90			2.28	1050	1400	C-34	C-46	C-58

※Figures of Output Speed are approximate. As to the Exact Reduction Ratio, please refer to B10-27.

■Selection Table Drive Unit

0.4kW	Frequency	Hz	50Hz	60Hz
	Pole	P	4	4
	Speed n_1	r/min	1500	1800

50Hz Output Speed r/min	50Hz Output Torque Nm	SF	60Hz Output Speed r/min	60Hz Output Torque Nm	SF	Size	Reduction Ratio	Page of Dimension Sheet: Foot mounting Horizontal	Flange Horizontal	Flange Vertical
21	175	2.58	25	146	2.90	1010	71	C-30	C-42	C-54
17	231	1.97	20	193	2.36	1010	90	C-30	C-42	C-54
		2.92			3.51	1020	90	C-30	C-42	C-54
12	327	1.40	14	273	1.68	1010	125	C-30	C-42	C-54
		2.09			2.50	1020	125	C-30	C-42	C-54
8.3	464	1.00	10	387	1.20	1010	180	C-30	C-42	C-54
		1.49			1.79	1020	180	C-30	C-42	C-54
		2.27			2.73	1030	180	C-30	C-42	C-54
6.7	609	1.14	8.0	507	1.37	1020	224	C-30	C-42	C-54
		1.75			2.10	1030	224	C-30	C-42	C-54
		2.67			3.20	1040	224	C-30	C-42	C-54
4.8	792	0.91	5.7	660	1.09	1020	315	C-34	C-46	C-58
		1.39			1.67	1030	315	C-34	C-46	C-58
		2.12			2.54	1040	315	C-34	C-46	C-58
3.8	1048	1.05	4.5	873	1.27	1030	400	C-34	C-46	C-58
		1.61			1.93	1040	400	C-34	C-46	C-58
		2.86			3.43	1050	400	C-34	C-46	C-58
2.7	1387	1.23	3.2	1156	1.48	1040	560	C-34	C-46	C-58
		2.39			2.86	1050	560	C-34	C-46	C-58
1.9	1965	0.88	2.3	1637	1.06	1040	800	C-34	C-46	C-58
		1.71			2.05	1050	800	C-34	C-46	C-58
		2.93			3.51	1060	800	C-34	C-46	C-58
1.3	2783	1.23	1.6	2319	1.47	1050	1120	C-34	C-46	C-58
		2.10			2.52	1060	1120	C-34	C-46	C-58
1.1	3652	0.95	1.3	3044	1.14	1050	1400	C-34	C-46	C-58
		1.63			2.03	1060	1400	C-34	C-46	C-58
		2.56			3.08	1070	1400	C-34	C-46	C-58

※Figures of Output Speed are approximate. As to the Exact Reduction Ratio, please refer to B10-27.

■Selection Table Drive Unit

0.75kW	Frequency	Hz	50Hz	60Hz
	Pole	P	4	4
	Speed n_1	r/min	1500	1800

50Hz Output Speed r/min	50Hz Output Torque Nm	SF	60Hz Output Speed r/min	60Hz Output Torque Nm	SF	Size	Reduction Ratio	Page of Dimension Sheet: Foot mounting Horizontal	Flange Horizontal	Flange Vertical
48	145	2.54	57	121	2.68	1010	31.5	C-28	C-40	C-52
38	190	2.10	45	159	2.21	1010	40	C-28	C-40	C-52
30	247	1.78	36	206	1.88	1010	50	C-30	C-42	C-54
		2.67			2.86	1020	50	C-30	C-42	C-54
21	327	1.37	25	273	1.54	1010	71	C-30	C-42	C-54
		2.04			2.43	1020	71	C-30	C-42	C-54
		3.12			3.72	1030	71	C-30	C-42	C-54
17	433	1.05	20	361	1.26	1010	90	C-30	C-42	C-54
		1.56			1.87	1020	90	C-30	C-42	C-54
		2.38			2.86	1030	90	C-30	C-42	C-54
12	614	1.11	14	512	1.33	1020	125	C-30	C-42	C-54
		1.70			2.04	1030	125	C-30	C-42	C-54
		2.58			3.10	1040	125	C-30	C-42	C-54
8.3	870	1.21	10	725	1.45	1030	180	C-30	C-42	C-54
		1.84			2.21	1040	180	C-30	C-42	C-54
6.7	1142	0.93	8.0	951	1.12	1030	224	C-30	C-42	C-54
		1.42			1.70	1040	224	C-30	C-42	C-54
		2.75			3.30	1050	224	C-30	C-42	C-54
4.8	1484	1.13	5.7	1237	1.35	1040	315	C-34	C-46	C-58
		2.18			2.62	1050	315	C-34	C-46	C-58
3.8	1965	1.66	4.5	1638	1.99	1050	400	C-34	C-46	C-58
		2.84			3.40	1060	400	C-34	C-46	C-58
2.7	2601	1.27	3.2	2167	1.53	1050	560	C-34	C-46	C-58
		2.18			2.61	1060	560	C-34	C-46	C-58
1.9	3684	0.91	2.3	3070	1.09	1050	800	C-34	C-46	C-58
		1.56			1.87	1060	800	C-34	C-46	C-58
		2.45			2.94	1070	800	C-34	C-46	C-58
1.3	5218	1.12	1.6	4348	1.34	1060	1120	C-34	C-46	C-58
		1.76			2.11	1070	1120	C-34	C-46	C-58
		2.60			3.12	1080	1120	C-34	C-46	C-58
1.1	6848	0.87	1.3	5707	1.08	1060	1400	C-34	C-46	C-58
		1.37			1.64	1070	1400	C-34	C-46	C-58
		2.02			2.42	1080	1400	C-34	C-46	C-58

※Figures of Output Speed are approximate. As to the Exact Reduction Ratio, please refer to B10-27.

■Selection Table Drive Unit

1.5kW	Frequency	Hz	50Hz	60Hz
	Pole	P	4	4
	Speed n_1	r/min	1500	1800

50Hz Output Speed r/min	50Hz Output Torque Nm	SF	60Hz Output Speed r/min	60Hz Output Torque Nm	SF	Size	Reduction Ratio	Page of Dimension Sheet Foot mounting Horizontal	Flange Horizontal	Flange Vertical
167	81	1.49	200	68	1.76	1010	9	C-26	C-38	C-50
		2.58			2.65	1020	9	C-26	C-38	C-50
94	155	1.97	113	129	2.08	1010	16	C-26	C-36	C-52
		2.99			3.16	1020	16	C-26	C-36	C-52
67	205	1.62	80	171	1.71	1010	22.4	C-26	C-36	C-52
		2.58			2.68	1020	22.4	C-26	C-36	C-52
48	290	1.27	57	242	1.34	1010	31.5	C-26	C-36	C-52
		1.99			2.10	1020	31.5	C-26	C-36	C-52
38	381	1.05	45	317	1.10	1010	40	C-26	C-36	C-52
		1.64			1.74	1020	40	C-26	C-36	C-52
30	495	1.33	36	412	1.43	1020	50	C-30	C-42	C-54
		2.04			2.26	1030	50	C-30	C-42	C-54
		2.76			3.25	1040	50	C-30	C-42	C-54
21	655	1.02	25	546	1.21	1020	71	C-30	C-42	C-54
		1.56			1.85	1030	71	C-30	C-42	C-54
		2.48			2.85	1040	71	C-30	C-42	C-54
17	867	1.19	20	722	1.43	1030	90	C-30	C-42	C-54
		1.81			2.17	1040	90	C-30	C-42	C-54
12	1228	1.29	14	1023	1.55	1040	125	C-30	C-42	C-54
		2.50			3.00	1050	125	C-30	C-42	C-54
8.3	1740	0.92	10	1450	1.10	1040	180	C-30	C-42	C-54
		1.78			2.14	1050	180	C-30	C-42	C-54
6.7	2283	1.37	8.0	1903	1.65	1050	224	C-30	C-42	C-54
		2.35			2.82	1060	224	C-30	C-42	C-54
4.8	2969	1.09	5.7	2474	1.31	1050	315	C-34	C-46	C-58
		1.86			2.24	1060	315	C-34	C-46	C-58
3.8	3930	1.42	4.5	3275	1.70	1060	400	C-34	C-46	C-58
		2.23			2.67	1070	400	C-34	C-46	C-58
2.7	5201	1.09	3.2	4334	1.30	1060	560	C-34	C-46	C-58
		1.71			2.05	1070	560	C-34	C-46	C-58
		2.53			3.03	1080	560	C-34	C-46	C-58
1.9	7369	1.22	2.3	6141	1.47	1070	800	C-34	C-46	C-58
		1.81			2.17	1080	800	C-34	C-46	C-58
		2.27			2.72	1090	800	C-34	C-46	C-58
1.7	8790	2.32	2.0	7325	2.78	1100	900	C-34	C-46	C-58
1.3	10435	1.30	1.6	8696	1.56	1080	1120	C-34	C-46	C-58
		1.62			1.95	1090	1120	C-34	C-46	C-58
1.1	13697	1.01	1.3	11414	1.21	1080	1400	C-34	C-46	C-58
		1.26			1.52	1090	1400	C-34	C-46	C-58

※Figures of Output Speed are approximate. As to the Exact Reduction Ratio, please refer to B10-27.

■Selection Table Drive Unit

2.2kW	Frequency	Hz	50Hz	60Hz
	Pole	P	4	4
	Speed n_1	r/min	1500	1800

50Hz Output Speed r/min	50Hz Output Torque Nm	SF	60Hz Output Speed r/min	60Hz Output Torque Nm	SF	Size	Reduction Ratio	Page of Dimension Sheet: Foot mounting Horizontal	Flange Horizontal	Flange Vertical
300	69	2.87	360	59	3.47	1020	5	C-26	C-38	C-50
167	119	1.76	200	100	1.80	1020	9	C-26	C-38	C-50
		2.96			3.57	1030	9	C-26	C-38	C-50
94	227	2.04	113	189	2.15	1020	16	C-28	C-40	C-52
67	300	1.76	80	250	1.83	1020	22.4	C-28	C-40	C-52
		2.65			2.80	1030	22.4	C-28	C-40	C-52
		1.35			1.43	1020	31.5	C-28	C-40	C-52
48	425	2.07	57	354	2.19	1030	31.5	C-28	C-40	C-52
		2.92			3.09	1040	31.5	C-28	C-40	C-52
		1.12			1.18	1020	40	C-28	C-40	C-52
38	558	1.75	45	465	1.81	1030	40	C-28	C-40	C-52
		2.60			3.19	1040	40	C-28	C-40	C-52
30	726	1.39	36	605	1.54	1030	50	C-30	C-42	C-54
		1.88			2.21	1040	50	C-30	C-42	C-54
21	961	1.06	25	801	1.26	1030	71	C-30	C-42	C-54
		1.69			1.94	1040	71	C-30	C-42	C-54
17	1271	1.23	20	1059	1.48	1040	90	C-30	C-42	C-54
		2.39			2.86	1050	90	C-30	C-42	C-54
		0.88			1.06	1040	125	C-30	C-42	C-54
12	1801	1.70	14	1501	2.04	1050	125	C-30	C-42	C-54
		2.91			3.50	1060	125	C-30	C-42	C-54
8.3	2552	1.21	10	2126	1.46	1050	180	C-30	C-42	C-54
		2.08			2.49	1060	180	C-30	C-42	C-54
6.7	3349	0.93	8.0	2790	1.12	1050	224	C-30	C-42	C-54
		1.60			1.92	1060	224	C-30	C-42	C-54
4.8	4354	1.27	5.7	3629	1.52	1060	315	C-34	C-46	C-58
		2.00			2.39	1070	315	C-34	C-46	C-58
		0.96			1.16	1060	400	C-34	C-46	C-58
3.8	5764	1.52	4.5	4804	1.82	1070	400	C-34	C-46	C-58
		2.24			2.69	1080	400	C-34	C-46	C-58
		1.16			1.40	1070	560	C-34	C-46	C-58
2.7	7629	1.72	3.2	6357	2.07	1080	560	C-34	C-46	C-58
		2.16			2.59	1090	560	C-34	C-46	C-58
2.4	9100	2.24	2.9	7583	2.68	1100	630	C-36	C-48	C-60
		0.83			1.00	1070	800	C-34	C-46	C-58
1.9	10807	1.23	2.3	9006	1.48	1080	800	C-34	C-46	C-58
		1.54			1.85	1090	800	C-34	C-46	C-58
1.7	12892	1.58	2.0	10743	1.90	1100	900	C-36	C-48	C-60
	12151	2.57		10126	3.09	1110	900	C-36	C-48	C-60
	15305	0.89		12754	1.06	1080	1120	C-34	C-46	C-58
1.3		1.11	1.6		1.33	1090	1120	C-34	C-46	C-58
	16922	1.2		14101	1.45	1100	1120	C-36	C-48	C-60
	15950	1.96		13292	2.35	1110	1120	C-36	C-48	C-60
1.1	18452	0.86	1.3	15377	1.03	1090	1400	C-36	C-48	C-60

※Figures of Output Speed are approximate. As to the Exact Reduction Ratio, please refer to B10-27.

■Selection Table Drive Unit

3.7kW	Frequency	Hz	50Hz	60Hz
	Pole	P	4	4
	Speed n_1	r/min	1500	1800

50Hz Output Speed r/min	50Hz Output Torque Nm	SF	60Hz Output Speed r/min	60Hz Output Torque Nm	SF	Size	Reduction Ratio	Page of Dimension Sheet: Foot mounting Horizontal	Flange Horizontal	Flange Vertical
300	117	2.64	360	97	3.16	1030	5	C-26	C-38	C-50
		1.04			1.07	1020	9	C-26	C-38	C-50
167	201	1.76	200	167	2.12	1030	9	C-26	C-38	C-50
		2.09			2.51	1040	9	C-26	C-38	C-50
		1.21			1.28	1020	16	C-28	C-40	C-52
94	381	1.91	113	318	2.02	1030	16	C-28	C-40	C-52
		2.47			2.61	1040	16	C-28	C-40	C-52
		1.04			1.08	1020	22.4	C-28	C-40	C-52
67	505	1.57	80	421	1.66	1030	22.4	C-28	C-40	C-52
		2.22			2.34	1040	22.4	C-28	C-40	C-52
48	715	1.23	57	596	1.30	1030	31.5	C-28	C-40	C-52
		1.74			1.83	1040	31.5	C-28	C-40	C-52
		1.04			1.07	1030	40	C-28	C-40	C-52
38	939	1.54	45	782	1.90	1040	40	C-28	C-40	C-52
		3.05			3.24	1050	40	C-28	C-40	C-52
30	1221	1.12	36	1017	1.31	1040	50	C-30	C-42	C-54
		2.32			2.61	1050	50	C-30	C-42	C-54
21	1616	1.00	25	1346	1.15	1040	71	C-30	C-42	C-54
		1.85			2.23	1050	71	C-30	C-42	C-54
17	2138	1.42	20	1782	1.70	1050	90	C-30	C-42	C-54
		2.41			2.57	1060	90	C-30	C-42	C-54
12	3029	1.01	14	2524	1.21	1050	125	C-30	C-42	C-54
		1.73			2.08	1060	125	C-30	C-42	C-54
8.3	4292	1.23	10	3576	1.48	1060	180	C-30	C-42	C-54
		1.94			2.33	1070	180	C-30	C-42	C-54
6.7	5632	0.95	8.0	4693	1.14	1060	224	C-30	C-42	C-54
		1.58			1.79	1070	224	C-30	C-42	C-54
4.8	7323	1.19	5.7	6103	1.42	1070	315	C-34	C-46	C-58
		1.75			2.11	1080	315	C-34	C-46	C-58
		0.91			1.09	1070	400	C-34	C-46	C-58
3.8	9694	1.33	4.5	8079	1.60	1080	400	C-34	C-46	C-58
		1.67			2.00	1090	400	C-34	C-46	C-58
3.3	10803	1.88	4.0	9003	2.25	1100	450	C-36	C-48	C-60
2.7	12830	1.02	3.2	10692	1.23	1080	560	C-34	C-46	C-58
		1.28			1.54	1090	560	C-34	C-46	C-58
2.4	15305	1.33	2.9	12754	1.59	1100	630	C-36	C-48	C-60
1.9	18176	0.92	2.3	15147	1.10	1090	800	C-34	C-46	C-58
1.7	21682	0.94	2.0	18068	1.13	1100	900	C-36	C-48	C-60
	20436	1.53		17030	1.83	1110	900	C-36	C-48	C-60
1.3	26825	1.16	1.6	22354	1.40	1110	1120	C-36	C-48	C-60

※Figures of Output Speed are approximate. As to the Exact Reduction Ratio, please refer to B10-27.

■Selection Table Drive Unit

5.5kW	Frequency	Hz	50Hz	60Hz
	Pole	P	4	4
	Speed n_1	r/min	1500	1800

50Hz Output Speed r/min	50Hz Output Torque Nm	SF	60Hz Output Speed r/min	60Hz Output Torque Nm	SF	Size	Reduction Ratio	Page of Dimension Sheet: Foot mounting Horizontal	Flange Horizontal	Flange Vertical
360	173	1.78	360	145	2.12	1030	5	C-26	C-38	
167	299	1.18	200	249	1.42	1030	9	C-26	C-38	
		1.41			1.68	1040	9	C-26	C-38	
		2.78			3.27	1050	9	C-26	C-38	
94	567	1.29	113	473	1.36	1030	16	C-28	C-40	
		1.66			1.76	1040	16	C-28	C-40	
67	751	1.06	80	625	1.12	1030	22.4	C-28	C-40	C-54
		1.49			1.57	1040	22.4	C-28	C-40	C-54
		3.18			3.36	1050	22.4	C-28	C-40	C-54
48	1063	1.17	57	886	1.23	1040	31.5	C-28	C-40	C-54
		2.49			2.63	1050	31.5	C-28	C-40	C-54
38	1395	1.04	45	1163	1.27	1040	40	C-28	C-40	C-54
		2.05			2.17	1050	40	C-28	C-40	C-54
30	1815	1.56	36	1512	1.76	1050	50	C-30	C-42	C-54
21	2402	1.25	25	2001	1.50	1050	71	C-30	C-42	C-54
		2.13			2.56	1060	71	C-30	C-42	C-54
17	3178	0.95	20	2649	1.14	1050	90	C-30	C-42	C-54
		1.62			1.73	1060	90	C-30	C-42	C-54
		2.56			3.08	1070	90	C-30	C-42	C-54
12	4503	1.16	14	3753	1.40	1060	125	C-30	C-42	C-54
		1.83			2.20	1070	125	C-30	C-42	C-54
8.3	6379	0.83	10	5316	1.00	1060	180	C-30	C-42	C-54
		1.30			1.57	1070	180	C-30	C-42	C-54
		1.93			2.32	1080	180	C-30	C-42	C-54
6.7	8371	1.06	8.0	6976	1.21	1070	224	C-30	C-42	C-54
		1.49			1.78	1080	224	C-30	C-42	C-54
		1.87			2.24	1090	224	C-30	C-42	C-54
6.0	9167	2.20	7.2	7640	2.64	1100	250	C-36	C-48	C-60
4.8	10886	1.18	5.7	9072	1.42	1080	315	C-34	C-46	C-58
		1.48			1.76	1090	315	C-34	C-46	C-58
	12134	1.67		10112	2.00	1100	315	C-36	C-48	C-60
	11437	2.73		9530	3.28	1110	315	C-36	C-48	C-60
3.8	14411	0.90	4.5	12009	1.08	1080	400	C-34	C-46	C-58
		1.12			1.35	1090	400	C-34	C-46	C-58
3.3	16059	1.26	4.0	13382	1.51	1100	450	C-36	C-48	C-60
	16203	1.93		13502	2.31	1110	450	C-36	C-48	C-60
2.7	17518	0.86	3.2	14598	1.03	1090	560	C-34	C-46	C-58
2.4	22750	0.89	2.9	18959	1.07	1100	630	C-36	C-48	C-60
		1.46			1.75	1110	630	C-36	C-48	C-60
	21442	1.94		17869	2.33	1120	630	C-36	C-48	C-60
		2.62			3.15	1130	630	C-36	C-48	C-60
1.7	30378	1.03	2.0	25315	1.23	1110	900	C-36	C-48	C-60
		1.37			1.64	1120	900	C-36	C-48	C-60
		1.85			2.22	1130	900	C-36	C-48	C-60

※Figures of Output Speed are approximate. As to the Exact Reduction Ratio, please refer to B10-27.

■Selection Table Drive Unit

7.5kW	Frequency	Hz	50Hz	60Hz
	Pole	P	4	4
	Speed n_1	r/min	1500	1800

50Hz Output Speed r/min	50Hz Output Torque Nm	SF	60Hz Output Speed r/min	60Hz Output Torque Nm	SF	Size	Reduction Ratio	Page of Dimension Sheet: Foot mounting Horizontal	Flange Horizontal	Flange Vertical
300	236	1.34	360	197	1.56	1040	5	C-26	C-38	C-50
		2.61			3.13	1050	5	C-26	C-38	C-50
167	407	1.03	200	339	1.23	1040	9	C-26	C-38	C-50
		2.04			2.40	1050	9	C-26	C-38	C-50
94	773	1.22	113	644	1.29	1040	16	C-28	C-40	C-52
		2.84			3.00	1050	16	C-28	C-40	C-52
67	1023	1.09	80	853	1.15	1040	22.4	C-28	C-40	C-52
		2.33			2.46	1050	22.4	C-28	C-40	C-52
48	1450	1.82	57	1208	1.93	1050	31.5	C-28	C-40	C-52
38	1903	1.51	45	1586	1.59	1050	40	C-28	C-40	C-52
		2.08			2.50	1060	40	C-28	C-40	C-52
30	2474	1.14	36	2062	1.29	1050	50	C-30	C-42	C-54
		2.04			2.29	1060	50	C-30	C-42	C-54
		0.91			1.10	1050	71	C-30	C-42	C-54
21	3275	1.56	25	2729	1.88	1060	71	C-30	C-42	C-54
		2.46			2.95	1070	71	C-30	C-42	C-54
17	4334	1.19	20	3612	1.27	1060	90	C-30	C-42	C-54
		1.88			2.26	1070	90	C-30	C-42	C-54
		0.86			1.03	1060	125	C-30	C-42	C-54
12	6141	1.34	14	5117	1.61	1070	125	C-30	C-42	C-54
		1.98			2.38	1080	125	C-30	C-42	C-54
		0.96			1.15	1070	180	C-30	C-42	C-54
8.3	8699	1.41	10	7249	1.70	1080	180	C-30	C-42	C-54
		1.77			2.13	1090	180	C-30	C-42	C-54
6.7	11416	1.09	8.0	9513	1.31	1080	224	C-30	C-42	C-54
		1.36			1.64	1090	224	C-30	C-42	C-54
6.0	12501	1.62	7.2	10418	1.94	1100	250	C-36	C-48	C-60
4.8	14844	0.87	5.7	12370	1.04	1080	315	C-34	C-46	C-58
		1.08			1.29	1090	315	C-34	C-46	C-58
	16547	1.22		13789	1.47	1100	315	C-36	C-48	C-60
	15595	2.00		12996	2.40	1110	315	C-36	C-48	C-60
3.8	18050	0.83	4.5	15042	0.99	1090	400	C-34	C-46	C-58
3.3	21898	0.93	4.0	18249	1.11	1100	450	C-36	C-48	C-60
	22095	1.41		18412	1.70	1110	450	C-36	C-48	C-60
		1.07			1.28	1110	630	C-36	C-48	C-60
2.4	29239	1.42	2.9	24366	1.71	1120	630	C-36	C-48	C-60
		1.92			2.31	1130	630	C-36	C-48	C-60
1.9	34883	2.21	2.3	29069	2.65	1140	800	C-36	C-48	C-60
1.7	41425	1.00	2.0	34521	1.20	1120	900	C-36	C-48	C-60
		1.36			1.63	1130	900	C-36	C-48	C-60

※Figures of Output Speed are approximate. As to the Exact Reduction Ratio, please refer to B10-27.

■Selection Table Drive Unit

11kW	Frequency	Hz	50Hz	60Hz
	Pole	P	4	4
	Speed n_1	r/min	1500	1800

50Hz Output Speed r/min	50Hz Output Torque Nm	SF	60Hz Output Speed r/min	60Hz Output Torque Nm	SF	Size	Reduction Ratio	Page of Dimension Sheet: Foot mounting Horizontal	Flange Horizontal	Flange Vertical
300	347	1.78	360	289	2.13	1050	5	C-26	C-38	C-50
167	597	1.39	200	498	1.63	1050	9	C-26	C-38	C-50
94	1134	1.93	113	945	2.04	1050	16	C-28	C-40	C-52
67	1501	1.59	80	1251	1.68	1050	22.4	C-28	C-40	C-52
48	2127	1.24	57	1772	1.31	1050	31.5	C-28	C-40	C-52
		2.10			2.22	1060	31.5	C-28	C-40	C-52
38	2791	1.02	45	2326	1.08	1050	40	C-28	C-40	C-52
		1.42			1.70	1060	40	C-28	C-40	C-52
30	3629	1.39	36	3024	1.56	1060	50	C-30	C-42	C-54
21	4803	1.06	25	4003	1.28	1060	71	C-30	C-42	C-54
		1.68			2.01	1070	71	C-30	C-42	C-54
17	6357	1.28	20	5297	1.54	1070	90	C-30	C-42	C-54
		1.89			2.27	1080	90	C-30	C-42	C-54
12	9006	0.91	14	7505	1.10	1070	125	C-30	C-42	C-54
		1.35			1.62	1080	125	C-30	C-42	C-54
		1.69			2.03	1090	125	C-30	C-42	C-54
8.3	12759	0.96	10	10632	1.16	1080	180	C-30	C-42	C-54
		1.21			1.45	1090	180	C-30	C-42	C-54
	14101	1.39		11751	1.67	1100	180	C-32	C-44	C-56
6.7	16743	0.93	8.0	13952	1.11	1090	224	C-30	C-42	C-54
6.0	18335	1.10	7.2	15279	1.32	1100	250	C-36	C-48	C-60
4.8	24268	0.83	5.7	20224	1.00	1100	315	C-36	C-48	C-60
	22873	1.36		19061	1.64	1110	315	C-36	C-48	C-60
3.3	32405	0.96	4.0	27004	1.15	1110	450	C-36	C-48	C-60
2.4	42885	0.97	2.9	35737	1.16	1120	630	C-36	C-48	C-60
		1.31			1.57	1130	630	C-36	C-48	C-60
1.9	51161	1.50	2.3	42634	1.81	1140	800	C-36	C-48	C-60
1.7	60757	0.92	2.0	50630	1.11	1130	900	C-36	C-48	C-60

※Figures of Output Speed are approximate. As to the Exact Reduction Ratio, please refer to B10-27.

■Selection Table Drive Unit

15kW	Frequency	Hz	50Hz	60Hz
	Pole	P	4	4
	Speed n_1	r/min	1500	1800

50Hz Output Speed r/min	50Hz Output Torque Nm	SF	60Hz Output Speed r/min	60Hz Output Torque Nm	SF	Size	Reduction Ratio	Page of Dimension Sheet Foot mounting Horizontal	Flange Horizontal	Flange Vertical
300	473	1.30	360	394	1.56	1050	5	C-26	C-36	C-50
167	814	1.02	200	679	1.20	1050	9	C-26	C-38	C-50
94	1547	1.42	113	1289	1.50	1050	16	C-28	C-40	C-52
67	2047	1.16	80	1706	1.23	1050	22.4	C-28	C-40	C-52
		2.08			2.08	1060	22.4	C-28	C-40	C-52
48	2900	1.54	57	2417	1.63	1060	31.5	C-28	C-40	C-52
38	3806	1.04	45	3172	1.25	1060	40	C-28	C-40	C-52
30	4949	1.02	36	4124	1.14	1060	50	C-30	C-42	C-54
21	6550	1.23	25	5458	1.47	1070	71	C-30	C-42	C-54
17	8669	0.94	20	7224	1.13	1070	90	C-30	C-42	C-54
		1.39			1.66	1080	90	C-30	C-42	C-54
		1.74			2.09	1090	90	C-30	C-42	C-54
12	12281	0.99	14	10234	1.19	1080	125	C-30	C-42	C-54
		1.24			1.49	1090	125	C-30	C-42	C-54
11	14653	1.63	13	12211	1.96	1100	140	C-32	C-44	C-56
8.3	17398	0.88	10	14499	1.06	1090	180	C-30	C-42	C-54
	19229	1.02		16024	1.22	1100	180	C-32	C-44	C-56
4.8	31191	1.00	5.7	25992	1.20	1110	315	C-36	C-48	C-60
2.4	58479	0.96	2.9	48732	1.15	1130	630	C-36	C-48	C-60
1.9	69765	1.10	2.3	58138	1.32	1140	800	C-36	C-48	C-60

※Figures of Output Speed are approximate. As to the Exact Reduction Ratio, please refer to B10-27.

■Selection Table Drive Unit

18.5kW	Frequency	Hz	50Hz	60Hz
	Pole	P	4	4
	Speed n_1	r/min	1500	1800

50Hz Output Speed r/min	50Hz Output Torque Nm	SF	60Hz Output Speed r/min	60Hz Output Torque Nm	SF	Size	Reduction Ratio	Page of Dimension Sheet Foot mounting Horizontal	Flange Horizontal	Flange Vertical
21	9637	2.10	25	8030	2.47	1100	71	C-32	C-44	C-56
15	12754	1.82	18	10629	2.03	1100	100	C-32	C-44	C-56
11	18072	1.32	13	15060	1.59	1100	140	C-32	C-44	C-56
4.8	38468	1.08	5.7	32057	1.30	1120	315	C-36	C-46	C-60
3.8	45890	1.68	4.5	38241	2.02	1140	400	C-36	C-46	C-60
3.3	54500	1.03	4.0	45417	1.24	1130	450	C-36	C-46	C-60
2.7	60740	1.27	3.2	50617	1.52	1140	560	C-36	C-46	C-60
1.9	86044	0.89	2.3	71703	1.07	1140	800	C-36	C-46	C-60

※Figures of Output Speed are approximate. As to the Exact Reduction Ratio, please refer to B10-27.

■Selection Table Drive Unit

22kW	Frequency	Hz	50Hz	60Hz
	Pole	P	4	4
	Speed n_1	r/min	1500	1800

50Hz Output Speed r/min	50Hz Output Torque Nm	SF	60Hz Output Speed r/min	60Hz Output Torque Nm	SF	Size	Reduction Ratio	Page of Dimension Sheet: Foot mounting Horizontal	Flange Horizontal	Flange Vertical
300	694	1.62	360	578	1.95	1060	5	C-26	C-38	C-50
167	1194	1.39	200	995	1.67	1060	9	C-26	C-38	C-50
94	2268	1.63	113	1890	1.72	1060	16	C-28	C-40	C-52
67	3002	1.42	80	2502	1.42	1060	22.4	C-28	C-40	C-52
		2.39			2.52	1070	22.4	C-28	C-40	C-52
48	4253	1.05	57	3544	1.11	1060	31.5	C-28	C-40	C-52
		1.79			1.89	1070	31.5	C-28	C-40	C-52
38	5582	1.38	45	4652	1.52	1070	40	C-28	C-40	C-52
30	7258	1.09	36	6049	1.31	1070	50	C-30	C-42	C-54
21	9607	1.40	25	8005	1.48	1080	71	C-30	C-42	C-54
	11460	1.77		9550	2.08	1100	71	C-32	C-44	C-56
17	12714	0.94	20	10595	1.13	1080	90	C-30	C-42	C-54
		1.18			1.42	1090	90	C-30	C-42	C-54
15	15167	1.53	18	12639	1.71	1100	100	C-32	C-44	C-56
	14295	2.18		11912	2.62	1110	100	C-32	C-44	C-56
12	16905	0.85	14	14087	1.02	1090	125	C-30	C-42	C-54
11	21491	1.11	13	17909	1.33	1100	140	C-32	C-44	C-56
	20257	1.54		16881	1.85	1110	140	C-32	C-44	C-56
8.3	26579	1.17	10	22150	1.41	1110	180	C-32	C-44	C-56
4.8	45746	0.91	5.7	38122	1.09	1120	315	C-36	C-48	C-60
3.8	54571	1.41	4.5	45476	1.69	1140	400	C-36	C-48	C-60
3.3	64811	0.86	4.0	54009	1.04	1130	450	C-36	C-48	C-60
2.7	72232	1.06	3.2	60193	1.28	1140	560	C-36	C-48	C-60

※Figures of Output Speed are approximate. As to the Exact Reduction Ratio, please refer to B10-27.

■Selection Table Drive Unit

30kW	Frequency	Hz	50Hz	60Hz
	Pole	P	4	4
	Speed n_1	r/min	1500	1800

Output Speed r/min	50Hz Output Torque Nm	SF	Output Speed r/min	60Hz Output Torque Nm	SF	Size	Reduction Ratio	Page of Dimension Sheet Foot mounting Horizontal	Flange Horizontal	Flange Vertical
300	946	1.19	360	788	1.43	1060	5	C-26	C-38	C-50
167	1628	1.02	200	1357	1.22	1060	9	C-26	C-38	C-50
94	3093	1.19	113	2578	1.26	1060	16	C-28	C-40	C-52
67	4094	1.04	80	3411	1.04	1060	22.4	C-28	C-40	C-52
		1.75			1.85	1070	22.4	C-28	C-40	C-52
48	5800	1.31	57	4833	1.38	1070	31.5	C-28	C-40	C-52
38	7612	1.01	45	6343	1.11	1070	40	C-28	C-40	C-52
21	13100	1.02	25	10917	1.09	1080	71	C-30	C-42	C-54
3.8	74416	1.03	4.5	62013	1.24	1140	400	C-36	C-47	C-60

※Figures of Output Speed are approximate. As to the Exact Reduction Ratio, please refer to B10-27.

37kW	Frequency	Hz	50Hz	60Hz
	Pole	P	4	4
	Speed n_1	r/min	1500	1800

Output Speed r/min	50Hz Output Torque Nm	SF	Output Speed r/min	60Hz Output Torque Nm	SF	Size	Reduction Ratio	Page of Dimension Sheet Foot mounting Horizontal	Flange Horizontal	Flange Vertical
300	1167	1.95	360	972	2.34	1070	5	C-26	C-38	C-50
167	2008	1.24	200	1674	1.30	1070	9	C-26	C-38	C-50
94	3815	1.67	113	3179	1.77	1070	16	C-28	C-40	C-52
		2.64			2.80	1080	16	C-28	C-40	C-52
67	5049	1.42	80	4207	1.50	1070	22.4	C-28	C-40	C-52
		2.03			2.34	1080	22.4	C-28	C-40	C-52
		2.44			2.98	1090	22.4	C-28	C-40	C-52
48	7153	1.06	57	5961	1.12	1070	31.5	C-28	C-40	C-52
		1.57			1.76	1080	31.5	C-28	C-40	C-52
		1.97			2.35	1090	31.5	C-28	C-40	C-52
		2.66			3.02	• 1100	31.5	C-28	C-40	C-52
42	8095	2.37	51	6746	2.77	• 1100	35.5	C-28	C-40	C-52
38	9388	1.21	45	7823	1.41	1080	40	C-28	C-40	C-52
		2.05			2.46	• 1100	40	C-28	C-40	C-52
33	11280	1.66	40	9400	1.99	• 1100	45	C-28	C-40	C-52
		1.97			2.36	• 1110	45	C-28	C-40	C-52
		2.97			3.55	• 1120	45	C-28	C-40	C-52
30	12207	0.96	36	10173	1.15	1080	50	C-30	C-42	C-54
		1.20			1.45	1090	50	C-30	C-42	C-54
21	16157	0.92	25	13464	1.10	1090	71	C-30	C-42	C-54

※Figures of Output Speed are approximate. As to the Exact Reduction Ratio, please refer to B10-27.

• : Cyclo Flange Motor is standard.

■Selection Table Drive Unit

45kW	Frequency	Hz	50Hz	60Hz
	Pole	P	4	4
	Speed n_1	r/min	1500	1800

Output Speed r/min	50Hz Output Torque Nm	SF	Output Speed r/min	60Hz Output Torque Nm	SF	Size	Reduction Ratio	Page of Dimension Sheet Foot mounting Horizontal	Flange Horizontal	Flange Vertical
94	4640	1.37	113	3867	1.45	1070	16	C-28	C-40	C-52
		2.17			2.30	1080	16	C-28	C-40	C-52
67	6141	1.16	80	5117	1.23	1070	22.4	C-28	C-40	C-52
		1.67			1.93	1080	22.4	C-28	C-40	C-52
		2.01			2.45	1090	22.4	C-28	C-40	C-52
48	8700	1.29	57	7250	1.44	1080	31.5	C-28	C-40	C-52
		1.62			1.93	1090	31.5	C-28	C-40	C-52
		2.86			3.43	• 1110	31.5	C-28	C-40	C-52
42	9845	2.54	51	8204	3.03	• 1110	35.5	C-28	C-40	C-52
38	11417	0.99	45	9515	1.16	1080	40	C-28	C-40	C-52
		2.19			2.62	• 1110	40	C-28	C-40	C-52
33	13719	1.62	40	11432	1.94	• 1110	45	C-28	C-40	C-52
		2.44			2.92	• 1120	45	C-28	C-40	C-52
30	14846	0.99	36	12372	1.19	1090	50	C-30	C-42	C-54

※Figures of Output Speed are approximate. As to the Exact Reduction Ratio, please refer to B10-27.

• : Cyclo Flange Motor is standard.

55kW	Frequency	Hz	50Hz	60Hz
	Pole	P	4	4
	Speed n_1	r/min	1500	1800

Output Speed r/min	50Hz Output Torque Nm	SF	Output Speed r/min	60Hz Output Torque Nm	SF	Size	Reduction Ratio	Page of Dimension Sheet Foot mounting Horizontal	Flange Horizontal	Flange Vertical
94	5671	1.78	113	4726	1.88	1080	16	C-28	C-40	C-52
		2.17			2.35	1090	16	C-28	C-40	C-52
67	7505	1.36	80	6254	1.57	1080	22.4	C-28	C-40	C-52
		1.64			2.00	1090	22.4	C-28	C-40	C-52
48	10633	1.06	57	8861	1.18	1080	31.5	C-28	C-40	C-52
		1.32			1.58	1090	31.5	C-28	C-40	C-52
42	12033	2.76	51	10027	3.31	• 1120	35.5	C-28	C-40	C-52
38	13955	2.39	45	11629	2.86	• 1120	40	C-28	C-40	C-52
33	16767	1.99	40	13973	2.39	• 1120	45	C-28	C-40	C-52
		2.73			3.11	• 1130	45	C-28	C-40	C-52

※Figures of Output Speed are approximate. As to the Exact Reduction Ratio, please refer to B10-27.

• : Cyclo Flange Motor is standard.

■Allowable Radial Loads on Low Speed Shaft

Allowable Radial Loads on Low Speed Shaft F_{rA} [kN]

Reduction Ratio	5～45

Shaft Speed (r/min)	Size of Reducer													
	1010	1020	1030	1040	1050	1060	1070	1080	1090	1100	1110	1120	1130	1140
100	5.0	5.4	6.7	8.9	11.7	18.0	23.6	47.5	48.5	92.6	112	132	148	184
60	5.9	6.4	7.9	10.5	13.9	21.3	28.0	56.2	69.4	108	131	154	173	214
40	6.8	7.3	9.0	12.0	16.0	24.4	32.1	64.4	79.4	122	148	174	195	242
20	8.4	9.2	11.3	15.2	21.1	30.8	40.4	80.6	100	150	182	215	240	298
10	8.4	10.9	13.8	19.1	25.4	38.8	50.9	80.6	116	178	224	264	296	366
5	8.4	10.9	13.8	19.4	26.7	42.1	59.8	80.6	116	178	225	269	306	393

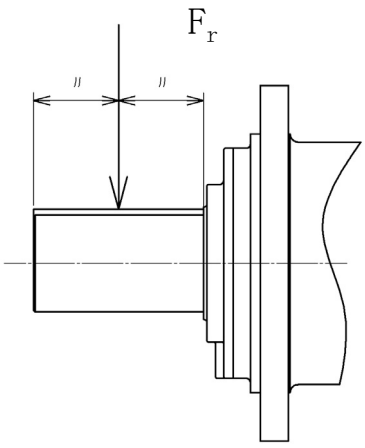
Allowable Radial Loads on Low Speed Shaft F_{rA} [kN]

Reduction Ratio	50～1400

Shaft Speed (r/min)	Size of Reducer															
	1010	1020	1030	1040	1050	1060	1070	1080	1090	1100	1110	1120	1130	1140	1150	1160
100	5.0	5.4	6.7	8.9	11.7	18.0	23.6	47.5	48.5	92.6	117	132	167	227	235	378
60	5.9	6.4	7.9	10.5	13.9	21.3	28.0	56.2	69.4	108	136	154	195	264	274	441
40	6.8	7.3	9.0	12.0	16.0	24.4	32.1	64.4	79.4	122	153	174	220	298	310	498
20	8.4	9.2	11.3	15.2	21.1	30.8	40.4	80.6	100	150	189	215	271	367	381	602
10	8.4	10.9	13.8	19.1	25.4	38.8	50.9	80.6	116	178	233	264	333	452	469	602
5	8.4	10.9	13.8	19.4	26.7	42.1	59.8	80.6	116	178	248	269	396	461	498	602

Overhang Factor K3

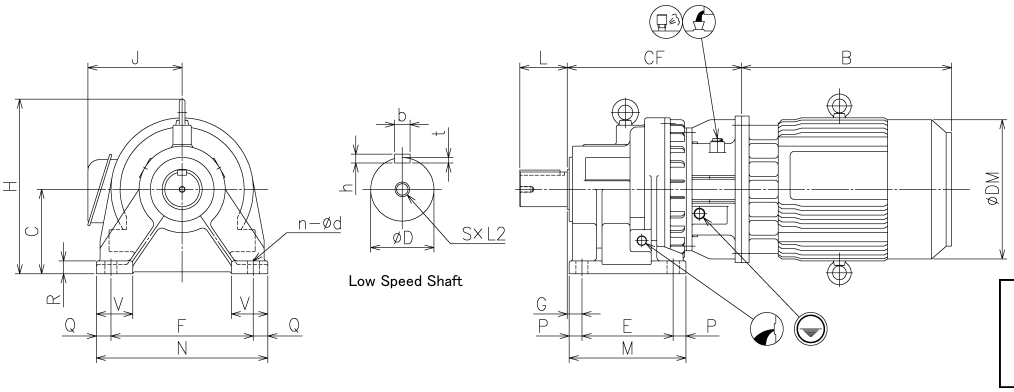
Overhang Member	Overhang Factor
Sprocket (Single Row)	1
Sprocket (Double Row)	1.25
Gears	1.25
V-belt	1.5
Flat belt	2.5



Note: The value shown in the above table is allowable radial load when it is applied to the center of the shaft. Consult us when a load is not in the center.

■Dimension Table

DHGM type (Horizontal Foot mounting, Direct Motor mounting)	Reduction Ratio	5・9



Unit : mm

Size	CF	C	E	F	G	M	N	P	Q	R	V	n	d	H	Weight kg	Oil Qty ℓ
1010	See right table	105	125	170	20	155	200	15	15	15	45	4	11	212	17	0.3
1020		130	140	200	20	170	235	15	17.5	18	52.5	4	14	250	25	0.4
1030		155	155	230	25	195	270	20	20	20	60	4	18	284	41	0.5
1040		155	165	250	30	215	300	25	25	25	70	4	22	309	54	0.7
1050		180	200	300	30	250	350	25	25	30	75	4	22	351	88	0.9
1060		205	220	340	35	280	400	30	30	35	100	4	26	415	131	2.0
1070		230	250	390	40	320	470	35	40	35	100	4	33	476	188	3.5

Size	Dimension of Low Speed Shaft						
	D	b	h	t	S	L2	L
1010	40h6	12	8	5	M10	20	55
1020	45h6	14	9	5.5	M12	25	65
1030	50h6	14	9	5.5	M12	25	70
1040	60h6	18	11	7	M12	25	85
1050	70h6	20	12	7.5	M12	25	100
1060	85h6	22	14	9	M16	30	120
1070	95h6	25	14	9	M16	30	130

Nomenclature

DHGM □ − □ □ □ − 5

(Capacity Symbol) (Size) (High Speed Shaft) (Low Speed Shaft) (Nominal Reduction Ratio)

Capacity Symbol	kW
2	1.5
3	2.2
5	3.7
8	5.5
10	7.5
15	11
20	15
30	22
40	30
50	37
60	45

1010 1020 1030 1040 1050 1060 1070

Blank…Inline

Blank…Solid Shaft Key

Size	Nominal Reduction Ratio	
	5	9
1010		○
1020～1070	○	○

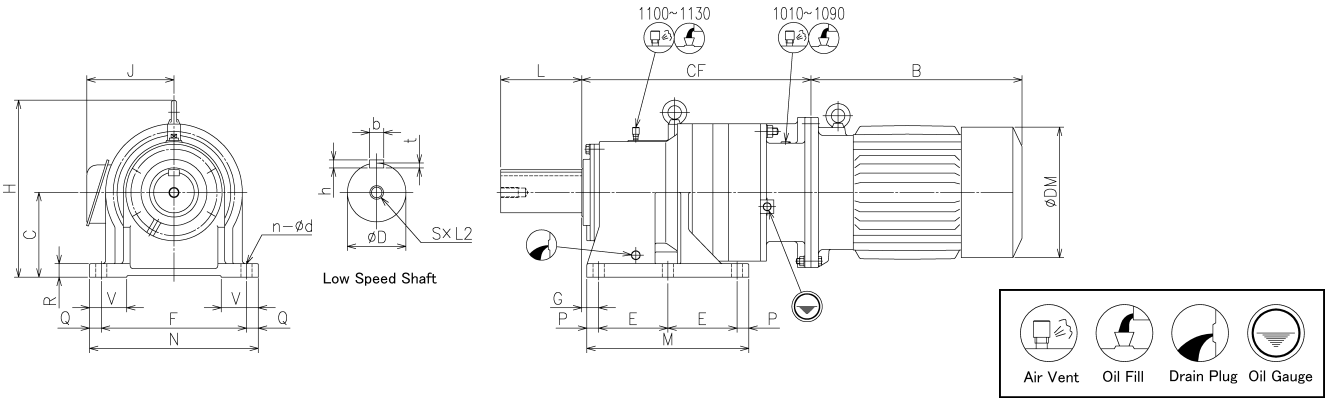
- Motor・・・・・3-Phase Induction Motor
  200V 50/60Hz 220V 60Hz 4P
  Continuous Rating, Insulation Class B/F
  (Below 22kW-B, above 30kW-F)・
- Appearance may be different from above drawing by size.
- Key is in compliance with parallel key of JIS B1301-1996(ISO).
- Above dimensions and specifications may change without notice.

Unit : mm

Size	Motor Capacity kW	CF Reduction Ratio 5	CF Reduction Ratio 9	Motor Size B	Motor Size DM	Motor Size J Indoor	Motor Size J Outdoor	Weight kg Indoor	Weight kg Outdoor
1010	1.5		200	285	160	117	132	16	16
1020	1.5		215	285	160	117	132	16	16
	2.2	225	225	305	173	126	148	22	22
	3.7		225	338	212	144	171	31	32
1030	2.2		252	305	173	126	148	22	22
	3.7	252	252	338	212	144	171	31	32
	5.5	268	268	382	212	144	171	43	44
1040	3.7		270	338	212	144	171	31	32
	5.5		287	382	212	144	171	43	44
	7.5	287	287	415	251	185	205	57	58
1050	5.5		335	382	212	144	171	43	44
	7.5	335	353	415	251	185	205	57	58
	11	353	353	480	251	188	222	76	77
	15	353	353	545	324	232	270	131	133
1060	22	393	393	625	394	297	355	213	221
	30	393	393	625	394	297	355	224	232
1070	37	462	462	715.5	394	297	355	259	267
	45	462	462	715.5	394	297	355	276	284

■Dimension Table

DHGM type (Horizontal Foot mounting, Direct Motor mounting)	Reduction Ratio	16～45

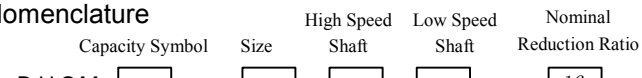


Unit : mm

Size	CF	C	E	F	G	M	N	P	Q	R	V	n	d	H	Weight kg	Oil Qty ℓ
1010	See right table	105	125	170	20	155	200	15	15	15	45	4	11	212	21	0.4
1020		130	140	200	20	170	235	15	17.5	18	52.5	4	14	250	29	0.4
1030		155	155	230	25	195	270	20	20	20	60	4	18	284	47	0.6
1040		155	165	250	30	215	300	25	25	25	70	4	22	309	59	0.8
1050		180	200	300	30	250	350	25	25	30	75	4	22	351	98	1.1
1060		205	220	340	35	280	400	30	30	35	100	4	26	415	150	2.2
1070		230	250	390	40	320	470	35	40	35	100	4	33	476	214	3.8
1080		250	280	450	45	360	540	40	45	35	115	4	33	517	296	4.8
1090		250	300	510	55	400	600	50	45	38	135	4	39	557	344	5.9
1100		250	205	430	50	480	500	35	35	40	110	6	33	522	395	11.0
1110		265	215	460	65	520	550	45	45	45	120	6	39	578	519	14.0
1120		280	245	520	65	580	610	45	45	45	135	6	39	618	722	20.0
1130		315	265	560	70	630	660	50	50	50	145	6	45	698	957	21.0

Size	Dimension of Low Speed Shaft						
	D	b	h	t	S	L2	L
1010	40h6	12	8	5	M10	20	55
1020	45h6	14	9	5.5	M12	25	65
1030	50h6	14	9	5.5	M12	25	70
1040	60h6	18	11	7	M12	25	85
1050	70h6	20	12	7.5	M12	25	100
1060	85h6	22	14	9	M16	30	120
1070	95h6	25	14	9	M16	30	130
1080	105h6	28	16	10	M16	30	145
1090	115h6	32	18	11	M16	30	160
1100	120m6	32	18	11	M30	52	180
1110	130m6	32	18	11	M30	52	200
1120	150m6	36	20	12	M30	52	210
1130	160m6	40	22	13	M36	62	240

Nomenclature



Capacity Symbol	k W
1	0.75
2	1.5
3	2.2
5	3.7
8	5.5
10	7.5
15	11
20	15
30	22
40	30
50	37
60	45
75	55

Blank…Solid Shaft Key

Blank…Inline

1010 1020 1030 1040 1050
1060 1070 1080 1090 1100
1110 1120 1130

Size	Nominal Reduction Ratio					
	16	22.4	31.5	35.5	40	45
1010～1080	○	○	○		○	
1090	○	○	○			
1100・1110			○	○	○	○
1120				○	○	○
1130						○

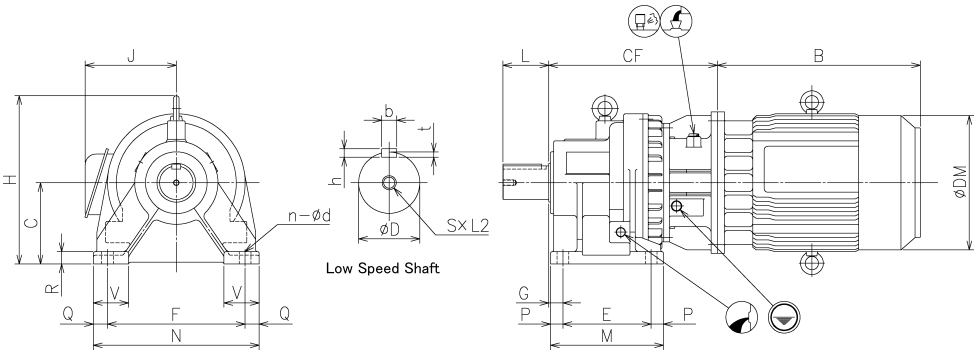
- Motor・・・・・3-Phase Induction Motor
  200V 50/60Hz 220V 60Hz 4P
  Continuous Rating, Insulation Class B/F (Below 22kW-B, above 30kW-F)
- Appearance may be different from above drawing by size.
- Key is in compliance with parallel key of JIS B1301-1996(ISO).
- Above dimensions and specifications may change without notice.

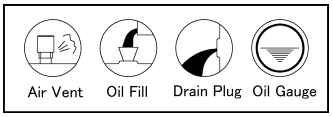
Unit：mm

Size	Motor Capacity kW	CF Reduction Ratio 16	22.4	31.5	35.5	40	45	Motor Size B	DM	J Indoor	J Outdoor	Weight kg Indoor	Weight kg Outdoor
1010	0.75			232		232		232	148	114	136	11	11
	1.5	232	232	232		232		285	160	117	132	16	16
1020	1.5	243	243	243		243		285	160	117	132	16	16
	2.2	257	257	257		257		305	173	126	148	22	22
	3.7	257	257					338	212	144	171	31	32
1030	2.2		283	283		283		305	173	126	148	22	22
	3.7	291	283	283		283		338	212	144	171	31	32
	5.5	307	307					382	212	144	171	43	44
1040	2.2			301		301		305	173	126	148	22	22
	3.7	309	301	301		301		338	212	144	171	31	32
	5.5	325	325	325		325		382	212	144	171	43	44
	7.5	325	325					415	251	185	205	57	58
1050	3.7					351		338	212	144	171	31	32
	5.5		384	368		368		382	212	144	171	43	44
	7.5	384	384	368		368		415	251	185	205	57	58
	11	402	402	402		402		480	251	188	222	76	77
	15	402	402					545	324	232	270	131	133
1060	7.5					422		415	251	185	205	57	58
	11			440		440		480	251	188	222	76	77
	15		440	440		440		545	324	232	270	131	133
	22	452	452	452				625	394	297	355	213	221
	30	452	452					625	394	297	355	224	232
1070	22		478	478		478		625	394	297	355	213	221
	30		478	478		478		625	394	297	355	224	232
	37	521	521	521				715.5	394	297	355	259	267
	45	521	521					715.5	394	297	355	276	284
1080	37	574	574	574		574		715.5	394	297	355	259	267
	45	574	574	574		574		715.5	394	297	355	276	284
	55	574	574	574				769.5	484	412	485	386	408
1090	37		589	589				715.5	394	297	355	259	267
	45		589	589				715.5	394	297	355	276	284
	55	589	589	589				769.5	484	412	485	386	408
1100	37			629	629	629	629	740	394	297	355	268	278
1110	37						671	740	394	297	355	268	278
	45			671	671	671	671	740	394	297	355	268	278
1120	37						775	740	394	297	355	293	303
	45						775	740	394	297	355	293	303
	55				775	775	775	795	484	412	485	392	414
1130	55						813	795	484	412	485	392	414

■Dimension Table

DHGM type (Horizontal Foot mounting, Direct Motor mounting)	Reduction Ratio	50～224



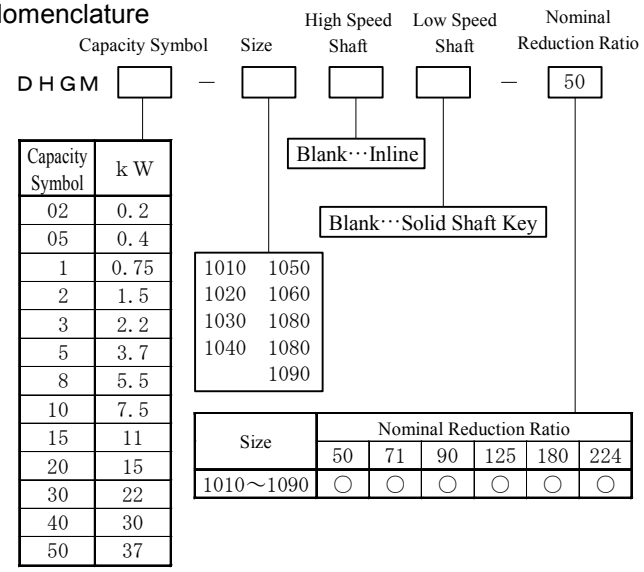


Unit：mm

Size	CF	C	E	F	G	M	N	P	Q	R	V	n	d	H	Weight kg	Oil Qty ℓ
1010	See right table	105	125	170	20	155	200	15	15	15	45	4	11	212	25	0.4
1020		130	140	200	20	170	235	15	17.5	18	52.5	4	14	250	30	0.5
1030		155	155	230	25	195	270	20	20	20	60	4	18	284	45	0.6
1040		155	165	250	30	215	300	25	25	25	70	4	22	309	57	0.8
1050		180	200	300	30	250	350	25	25	30	75	4	22	351	93	1.3
1060		205	220	340	35	280	400	30	30	35	100	4	26	415	150	2.5
1070		230	250	390	40	320	470	35	40	35	100	4	33	476	215	4.5
1080		250	280	450	45	360	540	40	45	35	115	4	33	517	300	5.7
1090		250	300	510	55	400	600	50	45	38	135	4	39	557	348	7.0

Size	Dimension of Low Speed Shaft						
	D	b	h	t	S	L2	L
1010	40h6	12	8	5	M10	20	55
1020	45h6	14	9	5.5	M12	25	65
1030	50h6	14	9	5.5	M12	25	70
1040	60h6	18	11	7	M12	25	85
1050	70h6	20	12	7.5	M12	25	100
1060	85h6	22	14	9	M16	30	120
1070	95h6	25	14	9	M16	30	130
1080	105h6	28	16	10	M16	30	145
1090	115h6	32	18	11	M16	30	160

Nomenclature



Capacity Symbol	k W
02	0.2
05	0.4
1	0.75
2	1.5
3	2.2
5	3.7
8	5.5
10	7.5
15	11
20	15
30	22
40	30
50	37

Size	Nominal Reduction Ratio					
	50	71	90	125	180	224
1010～1090	○	○	○	○	○	○

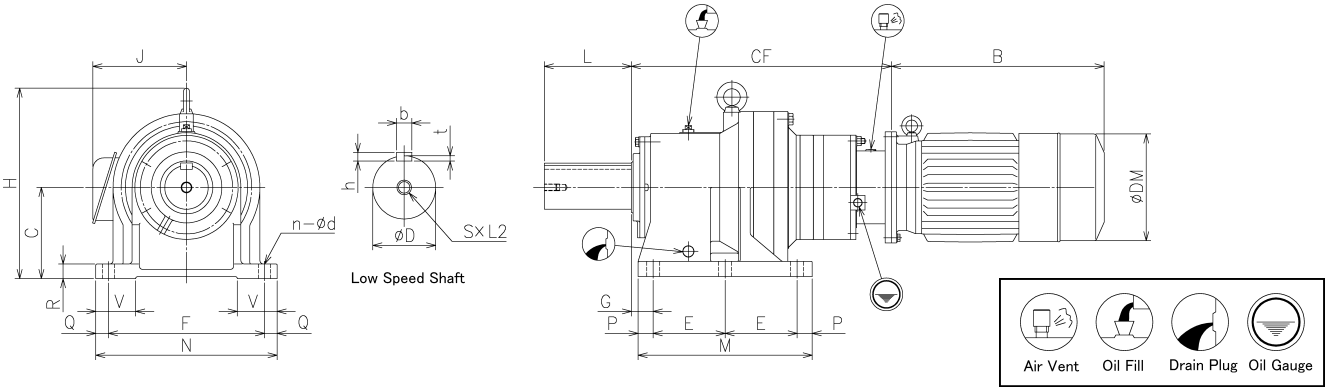
- Motor・・・・・3-Phase Induction Motor
  200V 50/60Hz 220V 60Hz 4P
  Continuous Rating, Insulation Class
  B/F (Below 22kW-B, above 30kW-F)・
- Appearance may be different from above drawing by size.
- Key is in compliance with parallel key of JIS B1301-1996(ISO).
- Above dimensions and specifications may change without notice

Unit：mm

Size	Motor Capacity kW	CF Reduction Ratio 50	71	90	125	180	224	Motor Size B	DM	J Indoor	J Outdoor	Weight kg Indoor	Weight kg Outdoor
1010	0.2		264	264	264	264	264	178	124	85	105	4.7	4.9
	0.4		264	264	264	264		198	124	85	105	5.9	6.1
	0.75	264	264	264				232	148	114	136	11	11
1020	0.2						275	178	124	85	105	4.7	4.9
	0.4			275	275	275	275	198	124	85	105	5.9	6.1
	0.75	275	275	275	275			232	148	114	136	11	11
	1.5	275	275					285	160	117	132	16	16
1030	0.4					301	301	198	124	85	105	5.9	6.1
	0.75		301	301	301	301	301	232	148	114	136	11	11
	1.5	301	301	301				285	160	117	132	16	16
	2.2	315	315					305	173	126	148	22	22
1040	0.4						319	198	124	85	105	5.9	6.1
	0.75				319	319	319	232	148	114	136	11	11
	1.5	319	319	319	319	319		285	160	117	132	16	16
	2.2	333	333	333	333			305	173	126	148	22	22
	3.7	333	333					338	212	144	171	31	32
1050	0.75						372	232	148	114	136	11	11
	1.5				372	372	372	285	160	117	132	16	16
	2.2			382	382	382	382	305	173	126	148	22	22
	3.7	390	390	382	382			338	212	144	171	31	32
	5.5	406	406	406				382	212	144	171	43	44
	7.5	406	406					415	251	185	205	57	58
1060	1.5						410	285	160	117	132	16	16
	2.2				420	420	420	305	173	126	148	22	22
	3.7			438	420	420	420	338	212	144	171	31	32
	5.5		471	471	444	444		382	212	144	171	43	44
	7.5	471	471	471	444			415	251	185	205	57	58
	11	489	489					480	251	188	222	76	77
	15	489						545	324	232	270	131	133
1070	3.7					464	464	338	212	144	171	31	32
	5.5			497	497	481	481	382	212	144	171	43	44
	7.5		497	497	497	481		415	251	185	205	57	58
	11		515	515	515			480	251	188	222	76	77
	15		515	515				545	324	232	270	131	133
	22	537						625	394	297	355	213	221
1080	5.5					560	560	382	212	144	171	43	44
	7.5				560	560	560	415	251	185	205	57	58
	11			578	578	578		480	251	188	222	76	77
	15			578	578			545	324	232	270	131	133
	22	590	590	590				625	394	297	355	213	221
	30	590	590					625	394	297	355	224	232
	37	633						715.5	394	297	355	259	267
1090	5.5						575	382	212	144	171	43	44
	7.5					575	575	415	251	185	205	57	58
	11				593	593	593	480	251	188	222	76	77
	15			593	593	593		545	324	232	270	131	133
	22			605	605			625	394	297	355	213	221
	37	648	648					715.5	394	297	355	259	267

■Dimension Table

DHGM type (Horizontal Foot mounting, Direct Motor mounting)	Reduction Ratio	71～180



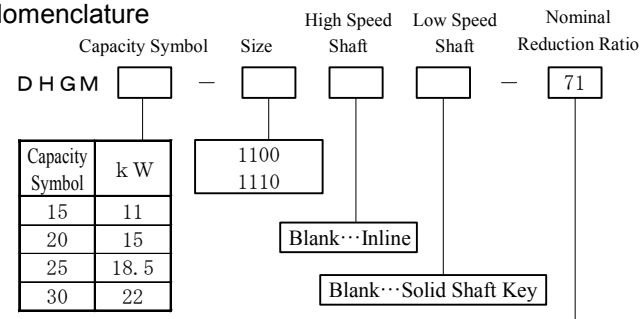
Unit : mm

Size	CF	C	E	F	G	M	N	P	Q	R	V	n	d	H	Weight kg	Oil Qty ℓ
1100	See right table	250	205	430	50	480	500	35	35	40	110	6	33	522	380	12
1110		265	215	460	65	520	550	45	45	45	120	6	39	558	460	13.5

Size	Dimension of Low Speed Shaft						
	D	b	h	t	S	L2	L
1100	120m6	32	18	11	M30	52	180
1110	130m6	32	18	11	M30	52	200

- Motor・・・・・3-Phase Induction Motor
  200V 50/60Hz 220V 60Hz 4P
  Continuous Rating, Insulation Class
  B/F (Below 22kW-B, above 30kW-F)
- Appearance may be different from above drawing by size.
- Key is in compliance with parallel key of JIS B1301-1996(ISO).
- Above dimensions and specifications may change without notice.

Nomenclature



Capacity Symbol	k W
15	11
20	15
25	18.5
30	22

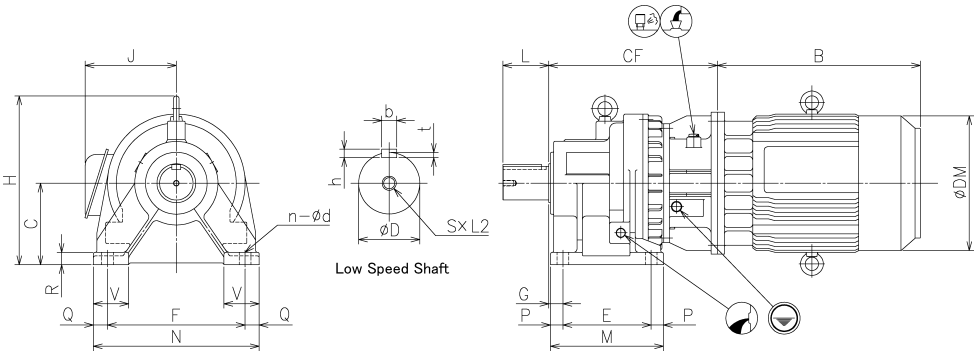
Size	Nominal Reduction Ratio			
	71	100	140	180
1100	○	○	○	○
1110		○	○	○

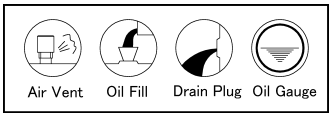
Unit : mm

Size	Motor Capacity kW	CF Reduction Ratio 71	100	140	180	Motor Size B	DM	J Indoor	J Outdoor	Weight kg Indoor	Weight kg Outdoor
1100	11				709	480	251	188	222	76	77
	15			709	709	545	324	232	270	131	133
	18.5	721	721	721		625	394	297	355	213	221
	22	721	721	721		625	394	297	355	213	221
1110	22		755	755	755	625	394	297	355	213	221

■Dimension Table

DHGM type (Horizontal Foot mounting, Direct Motor mounting)	Reduction Ratio	315～1400



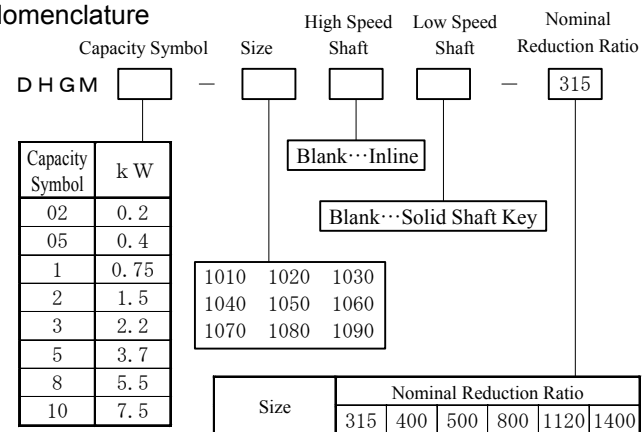


Unit : mm

Size	CF	C	E	F	G	M	N	P	Q	R	V	n	d	H	Weight kg	Oil Qty ℓ
1010	See right table	105	125	170	20	155	200	15	15	15	45	4	11	212	27	0.4
1020		130	140	200	20	170	235	15	17.5	18	52.5	4	14	250	32	0.5
1030		155	155	230	25	195	270	20	20	20	60	4	18	284	45	0.7
1040		155	165	250	30	215	300	25	25	25	70	4	22	309	57	0.9
1050		180	200	300	30	250	350	25	25	30	75	4	22	351	87	1.4
1060		205	220	340	35	280	400	30	30	35	100	4	26	415	133	2.7
1070		230	250	390	40	320	470	35	40	35	100	4	33	476	186	4.9
1080		250	280	450	45	360	540	40	45	35	115	4	33	517	263	6.8
1090		250	300	510	55	400	600	50	45	38	135	4	39	557	313	8.0

Size	Dimension of Low Speed Shaft						
	D	b	h	t	S	L2	L
1010	40h6	12	8	5	M10	20	55
1020	45h6	14	9	5.5	M12	25	65
1030	50h6	14	9	5.5	M12	25	70
1040	60h6	18	11	7	M12	25	85
1050	70h6	20	12	7.5	M12	25	100
1060	85h6	22	14	9	M16	30	120
1070	95h6	25	14	9	M16	30	130
1080	105h6	28	16	10	M16	30	145
1090	115h6	32	18	11	M16	30	160

Nomenclature



Capacity Symbol	k W
02	0.2
05	0.4
1	0.75
2	1.5
3	2.2
5	3.7
8	5.5
10	7.5

Size	Nominal Reduction Ratio					
	315	400	500	800	1120	1400
1010	○	○				
1020	○	○	○			
1030	○	○	○	○		
1040～1090	○	○	○	○	○	○

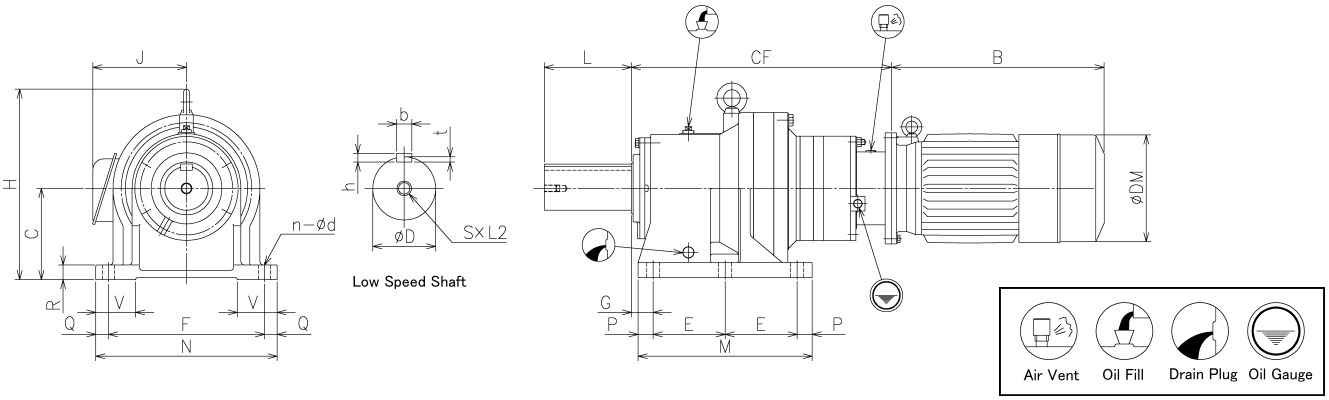
- Motor・・・・・3-Phase Induction Motor
  200V 50/60Hz 220V 60Hz 4P
  Continuous Rating, Insulation Class B/F
  (Below 22kW-B, above 30kW-F)
- Appearance may be different from above drawing by size.
- Key is in compliance with parallel key of JIS B1301-1996(ISO).
- Above dimensions and specifications may change without notice.

Unit : mm

Size	Motor Capacity kW	CF Reduction Ratio 315	400	560	800	1120	1400	B	DM	Motor Size J Indoor	Outdoor	Weight kg Indoor	Outdoor
1010	0.2	296	296					178	124	85	105	4.7	4.9
1020	0.2	307	307	307				178	124	85	105	4.7	4.9
	0.4	307						198	124	85	105	5.9	6.1
1030	0.2	333	333	333	333			178	124	85	105	4.7	4.9
	0.4	333	333					198	124	85	105	5.9	6.1
1040	0.2			351	351	351	351	178	124	85	105	4.7	4.9
	0.4	351	351	351	351			198	124	85	105	5.9	6.1
	0.75	351						232	148	114	136	11	11
1050	0.2					393	393	178	124	85	105	4.7	4.9
	0.4		393	393	393	393	393	198	124	85	105	5.9	6.1
	0.75	393	393	393	393			232	148	114	136	11	11
	1.5	393						285	160	117	132	16	16
1060	0.4				438	438	438	198	124	85	105	5.9	6.1
	0.75		438	438	438	438	438	232	148	114	136	11	11
	1.5	438	438	438				285	160	117	132	16	16
	2.2	452	452					305	173	126	148	22	22
1070	0.4						474	198	124	85	105	5.9	6.1
	0.75				474	474	474	232	148	114	136	11	11
	1.5		474	474	474			285	160	117	132	16	16
	2.2	488	488	488	488			305	173	126	148	22	22
	3.7	488	488					338	212	144	171	31	32
1080	0.75					548	548	232	148	114	136	11	11
	1.5			548	548	548	548	285	160	117	132	16	16
	2.2		566	558	558	558		305	173	126	148	22	22
	3.7	566	566	558				338	212	144	171	31	32
	5.5	582	582					382	212	144	171	43	44
	7.5	582						415	251	185	205	57	58
1090	1.5				563	563	563	285	160	117	132	16	16
	2.2			573	573	573	573	305	173	126	148	22	22
	3.7		581	573	573			338	212	144	171	31	32
	5.5	597	597	597				382	212	144	171	43	44
	7.5	597	597					415	251	185	205	57	58

■Dimension Table

DHGM type (Horizontal Foot mounting, Direct Motor mounting)	Reduction Ratio	250～1120



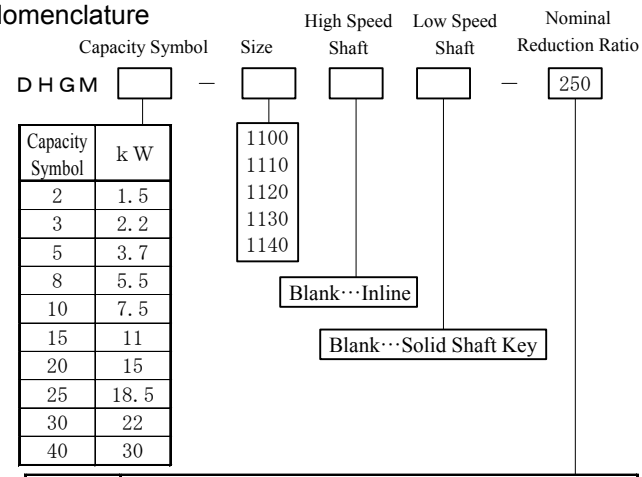
Unit：mm

Size	CF	C	E	F	G	M	N	P	Q	R	V	n	d	H	Weight kg	Oil Qty ℓ
1100	See right table	250	205	430	50	480	500	35	35	40	110	6	33	522	390	12
1110		265	215	460	65	520	550	45	45	45	120	6	39	558	470	14
1120		280	245	520	65	580	610	45	45	45	135	6	39	598	665	16.5
1130		315	265	560	70	630	660	50	50	50	145	6	45	677	810	22.5
1140		355	295	620	70	690	720	50	50	50	160	6	45	742	1100	35

Size	Dimension of Low Speed Shaft						
	D	b	h	t	S	L2	L
1100	120m6	32	18	11	M30	52	180
1110	130m6	32	18	11	M30	52	200
1120	150m6	36	20	12	M30	52	210
1130	160m6	40	22	13	M36	62	240
1140	180m6	45	25	15	M36	62	250

- Motor・・・・・3-Phase Induction Motor
  200V 50/60Hz 220V 60Hz 4P
  Continuous Rating, Insulation Class B/F
  (Below 22kW-B, above 30kW-F)
- Appearance may be different from above drawing by size.
- Key is in compliance with parallel key of JIS B1301-1996(ISO).
- Above dimensions and specifications may change without notice.

Nomenclature



Capacity Symbol	k W
2	1.5
3	2.2
5	3.7
8	5.5
10	7.5
15	11
20	15
25	18.5
30	22
40	30

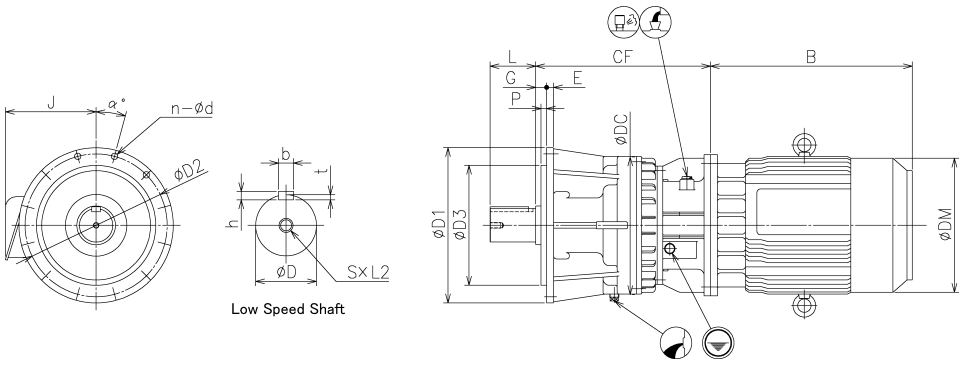
Size	Nominal Reduction Ratio								
	250	315	400	450	560	630	800	900	1120
1100	○	○		○		○		○	○
1110		○		○		○		○	○
1120	○	○		○		○		○	
1130		○		○		○		○	
1140			○		○		○		

Unit : mm

Size	Motor Capacity kW	CF Reduction Ratio									Motor Size B	DM	J		Weight kg	
		250	315	400	450	560	630	800	900	1120			Indoor	Outdoor	Indoor	Outdoor
1100	1.5								679		285	160	117	132	16	16
	2.2						689		689	689	305	173	126	148	22	22
	3.7				707		689		689		338	212	144	171	31	32
	5.5	740	740		740		713				382	212	144	171	43	44
	7.5	740	740		740						415	251	185	205	57	58
	11	758	758								480	251	188	222	76	77
1110	2.2								741	741	305	173	126	148	22	22
	3.7								741	741	338	212	144	171	31	32
	5.5		774		774		774		758		382	212	144	171	43	44
	7.5		774		774		774				415	251	185	205	57	58
	11		792		792						480	251	188	222	76	77
	15		792								545	324	232	270	131	133
1120	5.5				858		858		858		382	212	144	171	43	44
	7.5		858		858		858		858		415	251	185	205	57	58
	11		876		876		876				480	251	188	222	76	77
	15		876		876						545	324	232	270	131	133
	18.5		888								625	394	297	355	213	221
	22	888	888								625	394	297	355	213	221
1130	5.5						909		909		382	212	144	171	43	44
	7.5				909		909		909		415	251	185	205	57	58
	11				927		927		927		480	251	188	222	76	77
	15				927		927				545	324	232	270	131	133
	18.5		939		939						625	394	297	355	213	221
	22		939		939						625	394	297	355	213	221
1140	7.5							1007			415	251	185	205	57	58
	11							1025			480	251	188	222	76	77
	15							1025			545	324	232	270	131	133
	18.5			1037		1037		1037			625	394	297	355	213	221
	22			1037		1037					625	394	297	355	213	221
	30			1037							625	394	297	355	224	232

■Dimension Table

DHFM type (Horizontal Flange mounting, Direct Motor mounting)	Reduction Ratio	5・9



Unit : mm

Size	CF	D1	D2	D3	E	G	P	n	d	α	DC	Weight kg	Oil Qty ℓ
1010	See right table	200	175	130h7	12	10	5	6	12	30	166	16	0.3
1020		220	195	150h7	12	10	5	6	12	30	166	22	0.4
1030		245	215	170h7	16	10	5	6	14	30	200	36	0.5
1040		275	245	200h7	16	10	5	6	14	30	230	47	0.7
1050		315	285	240h7	16	10	5	6	14	30	280	76	0.9
1060		390	355	290h7	20	11	6	6	18	30	335	122	2.0
1070		440	405	340h7	20	11	6	8	18	22.5	390	185	3.5

Size	Dimension of Low Speed Shaft						
	D	b	h	t	S	L2	L
1010	40h6	12	8	5	M10	20	55
1020	45h6	14	9	5.5	M12	25	65
1030	50h6	14	9	5.5	M12	25	70
1040	60h6	18	11	7	M12	25	85
1050	70h6	20	12	7.5	M12	25	100
1060	85h6	22	14	9	M16	30	120
1070	95h6	25	14	9	M16	30	130

Nomenclature

DHFM □ − □ □ □ − 5

Capacity Symbol / Size / High Speed Shaft / Low Speed Shaft / Nominal Reduction Ratio

Capacity Symbol	k W
2	1.5
3	2.2
5	3.7
8	5.5
10	7.5
15	11
20	15
30	22
40	30
50	37
60	45

Size: 1010 1020 1030 1040 1050 1060 1070

High Speed Shaft: Blank…Inline

Low Speed Shaft: Blank…Solid Shaft Key

Size	Nominal Reduction Ratio	
	5	9
1010	○	○
1020～1070		○

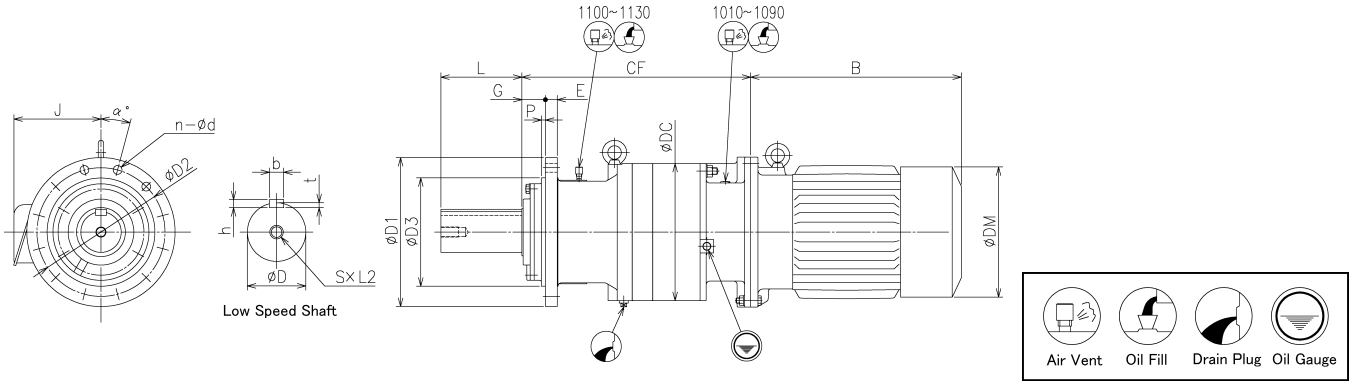
- Motor・・・・・3-Phase Induction Motor
  200V 50/60Hz 220V 60Hz 4P
  Continuous Rating, Insulation Class B/F
  (Below 22kW-B, above 30kW-F)
- Appearance may be different from above drawing by size.
- Key is in compliance with parallel key of JIS B1301-1996(ISO).
- Above dimensions and specifications may change without notice.

Unit : mm

Size	Motor Capacity kW	CF Reduction Ratio 5	CF Reduction Ratio 9	Motor Size B	Motor Size DM	Motor Size J Indoor	Motor Size J Outdoor	Weight kg Indoor	Weight kg Outdoor
1010	1.5		200	285	160	117	132	16	16
1020	1.5		215	285	160	117	132	16	16
	2.2	225	225	305	173	126	148	22	22
	3.7		225	338	212	144	171	31	32
1030	2.2		252	305	173	126	148	22	22
	3.7	252	252	338	212	144	171	31	32
	5.5	268	268	382	212	144	171	43	44
1040	3.7		270	338	212	144	171	31	32
	5.5		287	382	212	144	171	43	44
	7.5	287	287	415	251	185	205	57	58
1050	5.5		335	382	212	144	171	43	44
	7.5	335	335	415	251	185	205	57	58
	11	353	353	480	251	188	222	76	77
	15	353	353	545	324	232	270	131	133
1060	22	393	393	625	394	297	355	213	221
	30	393	393	625	394	297	355	224	232
1070	37	462	462	715.5	394	297	355	259	267
	45	462	462	715.5	394	297	355	276	284

■Dimension Table

DHFM type (Horizontal Flange mounting, Direct Motor mounting)	Reduction Ratio	16～45

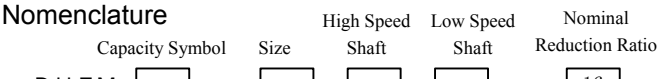


Unit : mm

Size	CF	D1	D2	D3	E	G	P	n	d	α	DC	Weight kg	Oil Qty ℓ
1010	See right table	200	175	130h7	12	10	5	6	12	30	166	21	0.4
1020		220	195	150h7	12	10	5	6	12	30	166	26	0.4
1030		245	215	170h7	16	10	5	6	14	30	200	42	0.6
1040		275	245	200h7	16	10	5	6	14	30	230	52	0.8
1050		315	285	240h7	16	10	5	6	14	30	280	86	1.1
1060		390	355	290h7	20	11	6	6	18	30	335	133	2.2
1070		440	405	340h7	20	11	6	8	18	22.5	390	211	3.8
1080		505	460	390h7	25	13	8	8	22	22.5	430	307	4.8
1090		545	500	430h7	25	13	8	8	22	22.5	470	330	5.9
1100		440	380	320f8	35	70	12	12	26	15	405	355	8.3
1110		480	420	360f8	35	70	13	12	26	15	450	471	10
1120		530	460	390f8	40	80	13	12	33	15	500	665	15
1130		580	510	440f8	40	90	14	12	33	15	550	818	15

Size	Dimension of Low Speed Shaft						
	D	b	h	t	S	L2	L
1010	40h6	12	8	5	M10	20	55
1020	45h6	14	9	5.5	M12	25	65
1030	50h6	14	9	5.5	M12	25	70
1040	60h6	18	11	7	M12	25	85
1050	70h6	20	12	7.5	M12	25	100
1060	85h6	22	14	9	M16	30	120
1070	95h6	25	14	9	M16	30	130
1080	105h6	28	16	10	M16	30	145
1090	115h6	32	18	11	M16	30	160
1100	120m6	32	18	11	M30	52	180
1110	130m6	32	18	11	M30	52	200
1120	150m6	36	20	12	M30	52	210
1130	160m6	40	22	13	M36	62	240

Nomenclature



Capacity Symbol	k W
1	0.75
2	1.5
3	2.2
5	3.7
8	5.5
10	7.5
15	11
20	15
30	22
40	30
50	37
60	45
75	55

Size	Nominal Reduction Ratio					
	16	22.4	31.5	35.5	40	45
1010～1080	○	○	○		○	
1090	○	○	○			
1100・1110			○	○	○	○
1120				○	○	○
1130						○

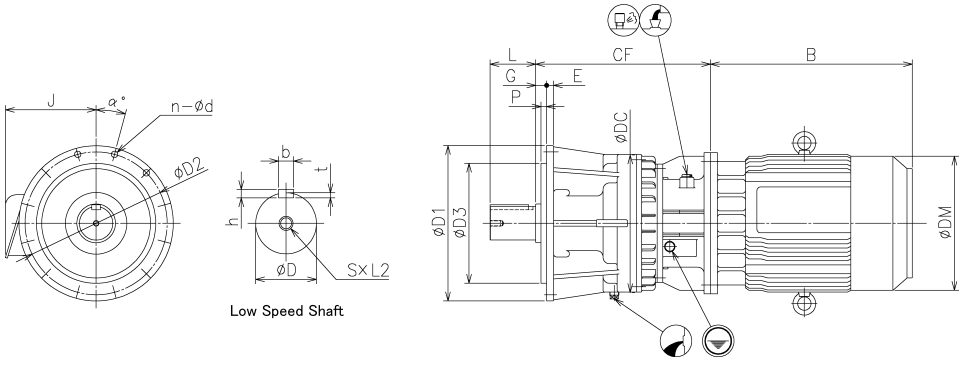
- Motor・・・・・3-Phase Induction Motor
  200V 50/60Hz 220V 60Hz 4P
  Continuous Rating, Insulation Class B/F (Below 22kW-B, above 30kW-F)
- Appearance may be different from above drawing by size.
- Key is in compliance with parallel key of JIS B1301-1996(ISO).
- Above dimensions and specifications may change without notice.

Unit：mm

Size	Motor Capacity kW	CF Reduction Ratio 16	22.4	31.5	35.5	40	45	Motor Size B	DM	J Indoor	J Outdoor	Weight kg Indoor	Weight kg Outdoor
1010	0.75			232		232		232	148	114	136	11	11
	1.5	232	232	232		232		285	160	117	132	16	16
1020	1.5	243	243	243		243		285	160	117	132	16	16
	2.2	257	257	257		257		305	173	126	148	22	22
	3.7	257	257					338	212	144	171	31	32
1030	2.2		283	283		283		305	173	126	148	22	22
	3.7	291	283	283		283		338	212	144	171	31	32
	5.5	307	307					382	212	144	171	43	44
1040	2.2			301		301		305	173	126	148	22	22
	3.7	309	301	301		301		338	212	144	171	31	32
	5.5	325	325	325		325		382	212	144	171	43	44
	7.5	325	325					415	251	185	205	57	58
1050	3.7					351		338	212	144	171	31	32
	5.5		384	368		368		382	212	144	171	43	44
	7.5	384	384	368		368		415	251	185	205	57	58
	11	402	402	402		402		480	251	188	222	76	77
	15	402	402					545	324	232	270	131	133
1060	7.5					422		415	251	185	205	57	58
	11			440		440		480	251	188	222	76	77
	15		440	440		440		545	324	232	270	131	133
	22	452	452	452				625	394	297	355	213	221
	30	452	452					625	394	297	355	224	232
1070	22		478	478		478		625	394	297	355	213	221
	30		478	478		478		625	394	297	355	224	232
	37	521	521	521				715.5	394	297	355	259	267
	45	521	521					715.5	394	297	355	276	284
1080	37	574	574	574		574		715.5	394	297	355	259	267
	45	574	574	574		574		715.5	394	297	355	276	284
	55	574	574	574				769.5	484	412	485	386	408
1090	37		589	589				715.5	394	297	355	259	267
	45		589	589				715.5	394	297	355	276	284
	55	589	589	589				769.5	484	412	485	386	408
1100	37			629	629	629	629	740	394	297	355	268	278
1110	37						671	740	394	297	355	268	278
	45			671	671	671	671	740	394	297	355	268	278
1120	37						775	740	394	297	355	268	278
	45						775	740	394	297	355	268	278
	55				775	775	775	795	484	412	485	392	414
1130	55						813	795	484	412	485	392	414

■Dimension Table

DHFM type (Horizontal Flange mounting, Direct Motor mounting)	Reduction Ratio	50～224

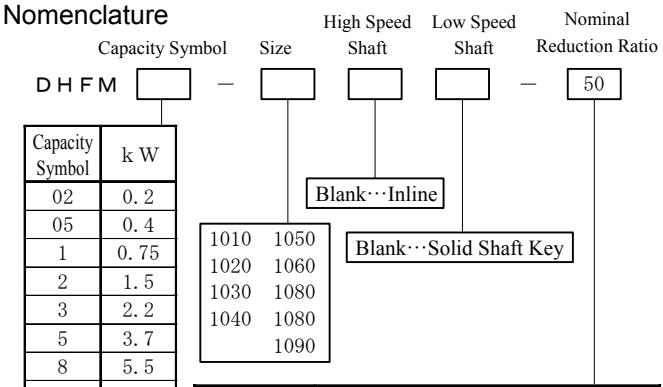


Unit：mm

Size	CF	D1	D2	D3	E	G	P	n	d	α	DC	Weight kg	Oil Qty ℓ
1010	See right table	200	175	130h7	12	10	5	6	12	30	166	24	0.4
1020		220	195	150h7	12	10	5	6	12	30	166	27	0.5
1030		245	215	170h7	16	10	5	6	14	30	200	40	0.6
1040		275	245	200h7	16	10	5	6	14	30	230	50	0.8
1050		315	285	240h7	16	10	5	6	14	30	280	81	1.3
1060		390	355	290h7	20	11	6	6	18	30	335	141	2.5
1070		440	405	340h7	20	11	6	8	18	22.5	390	205	4.5
1080		505	460	390h7	25	13	8	8	22	22.5	430	310	5.7
1090		545	500	430h7	25	13	8	8	22	22.5	470	334	7.0

Size	Dimension of Low Speed Shaft						
	D	b	h	t	S	L2	L
1010	40h6	12	8	5	M10	20	55
1020	45h6	14	9	5.5	M12	25	65
1030	50h6	14	9	5.5	M12	25	70
1040	60h6	18	11	7	M12	25	85
1050	70h6	20	12	7.5	M12	25	100
1060	85h6	22	14	9	M16	30	120
1070	95h6	25	14	9	M16	30	130
1080	105h6	28	16	10	M16	30	145
1090	115h6	32	18	11	M16	30	160

Nomenclature



Capacity Symbol	k W
02	0.2
05	0.4
1	0.75
2	1.5
3	2.2
5	3.7
8	5.5
10	7.5
15	11
20	15
30	22
40	30
50	37

Size	Nominal Reduction Ratio					
	50	71	90	125	180	224
1010～1090	○	○	○	○	○	○

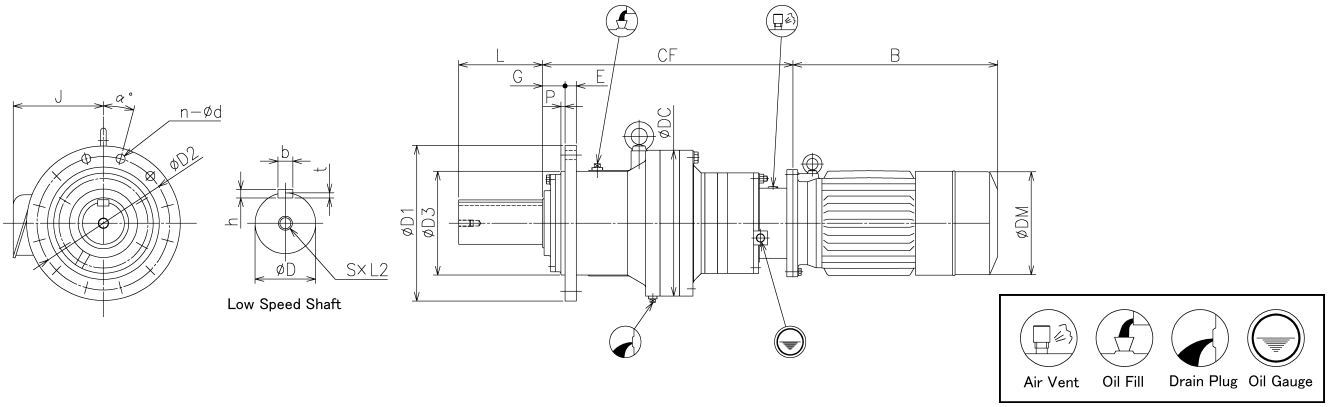
- Motor・・・・・3-Phase Induction Motor
  200V 50/60Hz 220V 60Hz 4P
  Continuous Rating, Insulation Class B/F
  (Below 22kW-B, above 30kW-F)
- Appearance may be different from above drawing by size.
- Key is in compliance with parallel key of JIS B1301-1996(ISO).
- Above dimensions and specifications may change without notice.

Unit：mm

Size	Motor Capacity kW	CF Reduction Ratio 50	71	90	125	180	224	Motor Size B	DM	J Indoor	J Outdoor	Weight kg Indoor	Weight kg Outdoor
1010	0.2		264	264	264	264	264	178	124	85	105	4.7	4.9
	0.4		264	264	264	264		198	124	85	105	5.9	6.1
	0.75	264	264	264				232	148	114	136	11	11
1020	0.2						275	178	124	85	105	4.7	4.9
	0.4			275	275	275	275	198	124	85	105	5.9	6.1
	0.75	275	275	275	275			232	148	114	136	11	11
	1.5	275	275					285	160	117	132	16	16
1030	0.4					301	301	198	124	85	105	5.9	6.1
	0.75		301	301	301	301	301	232	148	114	136	11	11
	1.5	301	301	301				285	160	117	132	16	16
	2.2	315	315					305	173	126	148	22	22
1040	0.4						319	198	124	85	105	5.9	6.1
	0.75				319	319	319	232	148	114	136	11	11
	1.5	319	319	319	319	319		285	160	117	132	16	16
	2.2	333	333	333	333			305	173	126	148	22	22
	3.7	333	333					338	212	144	171	31	32
1050	0.75						372	232	148	114	136	11	11
	1.5				372	372	372	285	160	117	132	16	16
	2.2			382	382	382	382	305	173	126	148	22	22
	3.7	390	390	382	382			338	212	144	171	31	32
	5.5	406	406	406				382	212	144	171	43	44
	7.5	406	406					415	251	185	205	57	58
1060	1.5						410	285	160	117	132	16	16
	2.2				420	420	420	305	173	126	148	22	22
	3.7			438	420	420	420	338	212	144	171	31	32
	5.5		471	471	444	444		382	212	144	171	43	44
	7.5	471	471	471	444			415	251	185	205	57	58
	11	489	489					480	251	188	222	76	77
	15	489						545	324	232	270	131	133
1070	3.7					464	464	338	212	144	171	31	32
	5.5			497	497	481	481	382	212	144	171	43	44
	7.5		497	497	497	481		415	251	185	205	57	58
	11		515	515	515			480	251	188	222	76	77
	15		515	515				545	324	232	270	131	133
	22	537						625	394	297	355	213	221
1080	5.5					560	560	382	212	144	171	43	44
	7.5				560	560	560	415	251	185	205	57	58
	11			578	578	578		480	251	188	222	76	77
	15			578	578			545	324	232	270	131	133
	22	590	590	590				625	394	297	355	213	221
	30	590	590					625	394	297	355	224	232
	37	633						715.5	394	297	355	259	267
1090	5.5						575	382	212	144	171	43	44
	7.5					575	575	415	251	185	205	57	58
	11				593	593	593	480	251	188	222	76	77
	15			593	593	593		545	324	232	270	131	133
	22			605	605			625	394	297	355	213	221
	37	648	648					715.5	394	297	355	259	267

■Dimension Table

DHFM TYPE (HORIZONTAL FLANGE MOUNTING, DIRECT MOTOR MOUNTING)	Nominal Reduction Ratio	71～180



Unit : mm

Size	CF	D1	D2	D3	E	G	P	n	d	α	DC	Weight kg	Oil Qty ℓ
1100	See right table	440	380	320f8	35	70	12	12	26	15	405	340	9
1110		540	480	420f8	35	75	15	12	26	15	410	412	9.5

Size	Dimension of Low Speed shaft						
	D	b	h	t	S	L2	L
1100	120m6	32	18	11	M30	52	180
1110	130m6	32	18	11	M30	52	200

- Motor.....3-Phase Induction Motor、
  200V 50/60Hz 220V 60Hz 4P
  Continuous Rating, Insulation Class B/F
  (Below 22kW-B, above 30kW-F)
- Appearance may be different from above drawing by size.
- Key is in compliance with parallel key of JIS B1301-1996(ISO).
- Above dimensions and specifications may change without notice.

Nomenclature

DHFM □ − □ □ □ − 71

(Capacity Symbol) (Size) (High Speed Shaft) (Low Speed Shaft) (Nominal Reduction Ratio)

Capacity Symbol	k W
15	11
20	15
25	18.5
30	22

Size: 1100, 1110

High Speed Shaft: Blank…Inline

Low Speed Shaft: Blank…Solid Shaft Key

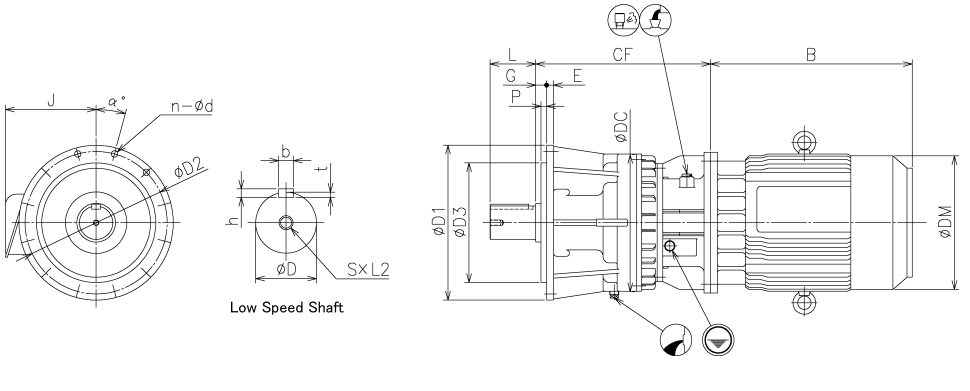
Size	Nominal Reduction Ratio			
	71	100	140	180
1100	○	○	○	○
1110		○	○	○

Unit : mm

Size	Motor Capacity kW	CF Nominal Reduction Ratio				Motor Size B	DM	J		Weight kg	
		71	100	140	180			Indoor	Outdoor	Indoor	Outdoor
1100	11				709	480	251	188	222	76	77
	15			709	709	545	324	232	270	131	133
	18.5	721	721	721		625	394	297	355	213	221
	22	721	721	721		625	394	297	355	213	221
1110	22		755	755	755	625	394	297	355	213	221

■Dimension Table

DHFM TYPE (HORIZONTAL FLANGE MOUNTING, DIRECT MOTOR MOUNTING)	Nominal Reduction Ratio	315～1400



Unit：mm

Size	CF	D1	D2	D3	E	G	P	n	d	α	DC	Weight kg	Oil Qty ℓ
1010	See right table	200	175	130h7	12	10	5	6	12	30	166	26	0.4
1020		220	195	150h7	12	10	5	6	12	30	166	29	0.5
1030		245	215	170h7	16	10	5	6	14	30	200	40	0.7
1040		275	245	200h7	16	10	5	6	14	30	230	50	0.9
1050		315	285	240h7	16	10	5	6	14	30	280	75	1.4
1060		390	355	290h7	20	11	6	6	18	30	335	124	2.7
1070		440	405	340h7	20	11	6	8	18	22.5	390	183	4.9
1080		505	460	390h7	25	13	8	8	22	22.5	430	273	6.8
1090		545	500	430h7	25	13	8	8	22	22.5	470	299	8.0

サイズ	Dimension of Low Speed shaft						
	D	b	h	t	S	L2	L
1010	40h6	12	8	5	M10	20	55
1020	45h6	14	9	5.5	M12	25	65
1030	50h6	14	9	5.5	M12	25	70
1040	60h6	18	11	7	M12	25	85
1050	70h6	20	12	7.5	M12	25	100
1060	85h6	22	14	9	M16	30	120
1070	95h6	25	14	9	M16	30	130
1080	105h6	28	16	10	M16	30	145
1090	115h6	32	18	11	M16	30	160

Nomenclature

DHFM □ − □ □ □ − 315

Capacity Symbol　Size　High Speed Shaft　Low Speed Shaft　Nominal Reduction Ratio

Capacity Symbol	k W
02	0.2
05	0.4
1	0.75
2	1.5
3	2.2
5	3.7
8	5.5
10	7.5

Blank…Inline

Blank…Solid Shaft Key

1010　1020　1030
1040　1050　1060
1070　1080　1090

Size	Nominal Reduction Ratio					
	315	400	550	800	1120	1400
1010	○	○				
1020	○	○	○			
1030	○	○	○	○		
1040～1090	○	○	○	○	○	○

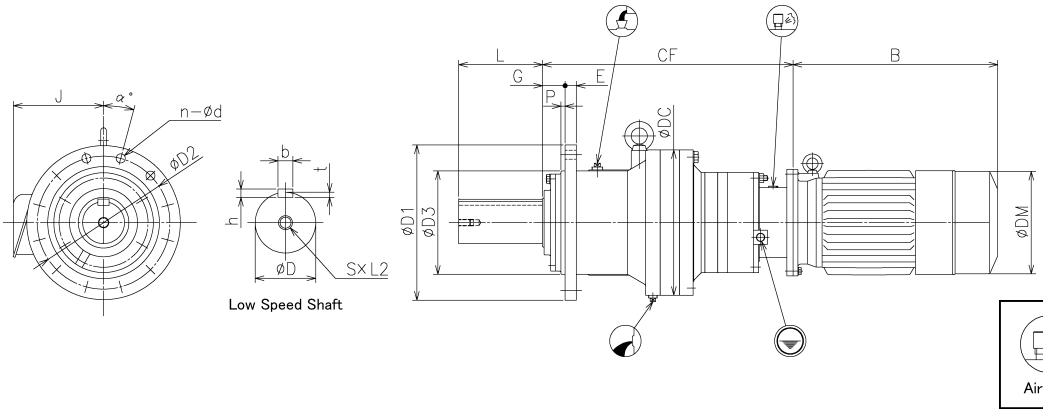
- Motor.....3-Phase Induction Motor、
  200V 50/60Hz 220V 60Hz 4P
  Continuous Rating, Insulation Class B/F
  (Below 22kW-B, above 30kW-F)
- Appearance may be different from above drawing by size.
- Key is in compliance with parallel key of JIS B1301-1996(ISO).
- Above dimensions and specifications may change without notice.

Unit : mm

Size	Motor Capacity kW	CF Nominal Reduction Ratio 315	400	560	800	1120	1400	Motor Size B	DM	J Indoor	J Outdoor	Weight kg Indoor	Weight kg Outdoor
1010	0. 2	296	296					178	124	85	105	4. 7	4. 9
1020	0. 2	307	307	307				178	124	85	105	4. 7	4. 9
	0. 4	307						198	124	85	105	5. 9	6. 1
1030	0. 2	333	333	333	333			178	124	85	105	4. 7	4. 9
	0. 4	333	333					198	124	85	105	5. 9	6. 1
1040	0. 2			351	351	351	351	178	124	85	105	4. 7	4. 9
	0. 4	351	351	351	351			198	124	85	105	5. 9	6. 1
	0. 75	351						232	148	114	136	11	11
1050	0. 2					393	393	178	124	85	105	4. 7	4. 9
	0. 4		393	393	393	393	393	198	124	85	105	5. 9	6. 1
	0. 75	393	393	393	393			232	148	114	136	11	11
	1. 5	393						285	160	117	132	16	16
1060	0. 4				438	438	438	198	124	85	105	5. 9	6. 1
	0. 75		438	438	438	438	438	232	148	114	136	11	11
	1. 5	438	438	438				285	160	117	132	16	16
	2. 2	452	452					305	173	126	148	22	22
1070	0. 4						474	198	124	85	105	5. 9	6. 1
	0. 75				474	474	474	232	148	114	136	11	11
	1. 5		474	474	474			285	160	117	132	16	16
	2. 2	488	488	488	488			305	173	126	148	22	22
	3. 7	488	488					338	212	144	171	31	32
1080	0. 75					548	548	232	148	114	136	11	11
	1. 5			548	548	548	548	285	160	117	132	16	16
	2. 2		566	558	558	558		305	173	126	148	22	22
	3. 7	566	566	558				338	212	144	171	31	32
	5. 5	582	582					382	212	144	171	43	44
	7. 5	582						415	251	185	205	57	58
1090	1. 5				563	563	563	285	160	117	132	16	16
	2. 2			573	573	573	573	305	173	126	148	22	22
	3. 7		581	573	573			338	212	144	171	31	32
	5. 5	597	597	597				382	212	144	171	43	44
	7. 5	597	597					415	251	185	205	57	58

■Dimension Table

DHFM TYPE (HORIZONTAL FLANGE MOUNTING, DIRECT MOTOR MOUNTING)	Nominal Reduction Ratio	250～1120



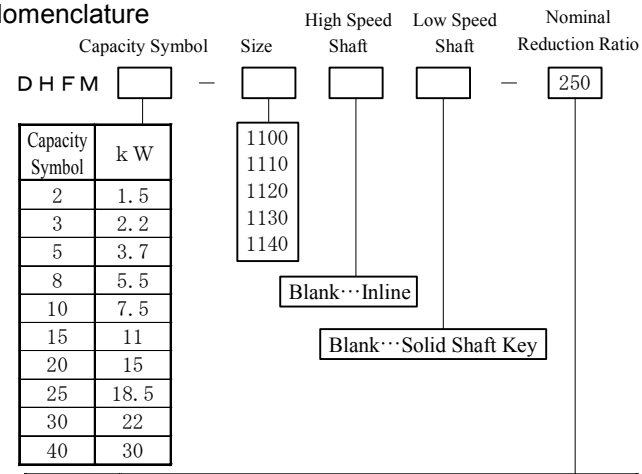
Unit : mm

Size	CF	D1	D2	D3	E	G	P	n	d	α	DC	Weight kg	Oil Qty ℓ
1100	See right table	440	380	320f8	35	70	12	12	26	15	405	350	9.3
1110		540	480	420f8	35	75	15	12	26	15	410	420	9.7
1120		570	510	450f8	40	80	15	16	26	11.25	460	605	11.5
1130		625	555	485f8	40	90	15	16	33	11.25	510	670	16.2
1140		675	605	535f8	45	100	15	20	33	9	560	880	17

Size	Dimension of Low Speed shaft						
	D	b	h	t	S	L2	L
1100	120m6	32	18	11	M30	52	180
1110	130m6	32	18	11	M30	52	200
1120	150m6	36	20	12	M30	52	210
1130	160m6	40	22	13	M36	62	240
1140	180m6	45	25	15	M36	62	250

- Motor.....3-Phase Induction Motor、
  200V 50/60Hz 220V 60Hz 4P
  Continuous Rating, Insulation Class B/F
  (Below 22kW-B, above 30kW-F)
- Appearance may be different from above drawing by size.
- Key is in compliance with parallel key of JIS B1301-1996(ISO).
- Above dimensions and specifications may change without notice.

Nomenclature



Capacity Symbol	k W
2	1.5
3	2.2
5	3.7
8	5.5
10	7.5
15	11
20	15
25	18.5
30	22
40	30

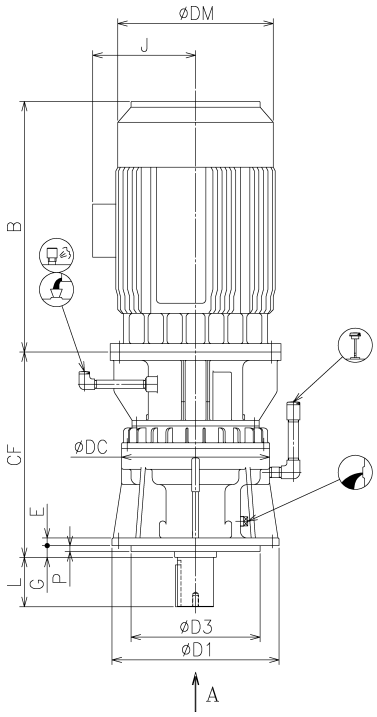
Size	Nominal Reduction Ratio								
	250	315	400	450	560	630	800	900	1120
1100	○	○		○		○		○	○
1110		○		○		○		○	○
1120	○	○		○		○		○	
1130		○		○		○		○	
1140			○		○		○		

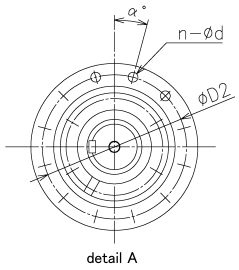
Unit : mm

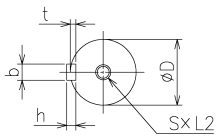
Size	Motor Capacity kW	CF Nominal Reduction Ratio 250	315	400	450	560	630	800	900	1120	Motor Size B	DM	J Indoor	J Outdoor	Weight kg Indoor	Weight kg Outdoor
1100	1.5								679		285	160	117	132	16	16
	2.2						689		689	689	305	173	126	148	22	22
	3.7				707		689		689		338	212	144	171	31	32
	5.5	740	740		740		713				382	212	144	171	43	44
	7.5	740	740		740						415	251	185	205	57	58
	11	758	758								480	251	188	222	76	77
1110	2.2								741	741	305	173	126	148	22	22
	3.7								741	741	338	212	144	171	31	32
	5.5		774		774		774		758		382	212	144	171	43	44
	7.5		774		774		774				415	251	185	205	57	58
	11		792		792						480	251	188	222	76	77
	15		792								545	324	232	270	131	133
1120	5.5				858		858		858		382	212	144	171	43	44
	7.5		858		858		858		858		415	251	185	205	57	58
	11		876		876		876				480	251	188	222	76	77
	15		876		876						545	324	232	270	131	133
	18.5		888								625	394	297	355	213	221
	22	888	888								625	394	297	355	213	221
1130	5.5						909		909		382	212	144	171	43	44
	7.5				909		909		909		415	251	185	205	57	58
	11				927		927		927		480	251	188	222	76	77
	15				927		927				545	324	232	270	131	133
	18.5		939		939						625	394	297	355	213	221
	22		939		939						625	394	297	355	213	221
1140	7.5							1007			415	251	185	205	57	58
	11							1025			480	251	188	222	76	77
	15							1025			545	324	232	270	131	133
	18.5			1037		1037		1037			625	394	297	355	213	221
	22			1037		1037					625	394	297	355	213	221
	30			1037							625	394	297	355	224	232

■Dimension Table

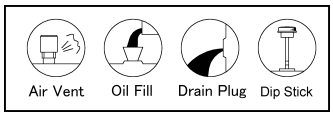
DVFM TYPE (VERTICAL FLANGE MOUNTING, DIRECT MOTOR MOUNTING)	Nominal Reduction Ratio	5・9







Low Speed Shaft

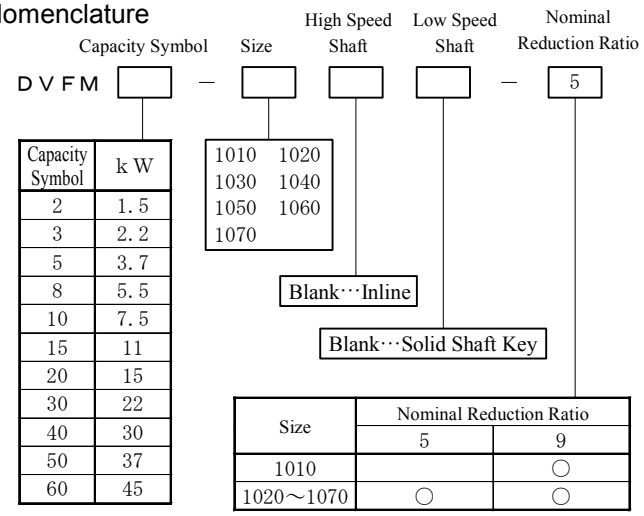


Unit : mm

Size	CF	D1	D2	D3	E	G	P	n	d	α	DC	Weight kg	Oil Qty ℓ
1010	See right table	200	175	130h7	12	10	5	6	12	0	166	16	0.4
1020		220	195	150h7	12	10	5	6	12	0	166	22	0.6
1030		245	215	170h7	16	10	5	6	14	0	200	36	0.7
1040		275	245	200h7	16	10	5	6	14	0	230	47	1.1
1050		315	285	240h7	16	10	5	6	14	0	280	76	2.2
1060		390	355	290h7	20	11	6	6	18	0	335	122	4.1
1070		440	405	340h7	20	11	6	8	18	22.5	390	185	5.2

Size	Dimension of Low Speed shaft						
	D	b	h	t	S	L2	L
1010	40h6	12	8	5	M10	20	55
1020	45h6	14	9	5.5	M12	25	65
1030	50h6	14	9	5.5	M12	25	70
1040	60h6	18	11	7	M12	25	85
1050	70h6	20	12	7.5	M12	25	100
1060	85h6	22	14	9	M16	30	120
1070	95h6	25	14	9	M16	30	130

Nomenclature



Size	Nominal Reduction Ratio	
	5	9
1010		○
1020～1070	○	○

- Motor.....3-Phase Induction Motor、
  200V 50/60Hz 220V 60Hz 4P
  Continuous Rating, Insulation Class
  B/F (Below 22kW-B, above 30kW-F)
- Appearance may be different from above drawing by size.
- Key is in compliance with parallel key of JIS B1301-1996(ISO).
- Above dimensions and specifications may change without notice.

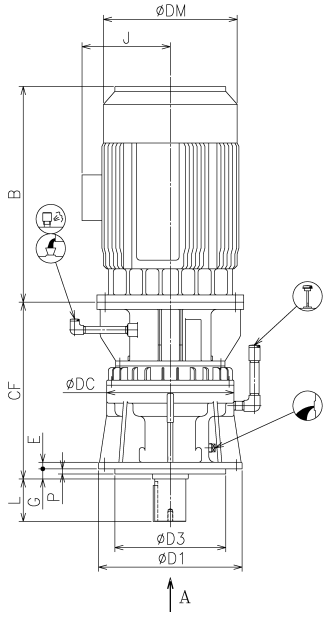
Unit：mm

Size	Motor Capacity kW	CF Nominal Reduction Ratio 5	CF Nominal Reduction Ratio 9	Motor Size B	Motor Size DM	Motor Size J Indoor	Motor Size J Outdoor	Weight kg Indoor	Weight kg Outdoor
1010	1.5		200	285	160	117	132	16	16
1020	1.5		215	285	160	117	132	16	16
	2.2	225	225	305	173	126	148	22	22
	3.7		225	338	212	144	171	31	32
1030	2.2		252	305	173	126	148	22	22
	3.7	252	252	338	212	144	171	31	32
	5.5	268	268	382	212	144	171	43	44
1040	3.7		270	338	212	144	171	31	32
	5.5		287	382	212	144	171	43	44
	7.5	287	287	415	251	185	205	57	58
1050	5.5		335	382	212	144	171	43	44
	7.5	335	335	415	251	185	205	57	58
	11	353	353	480	251	188	222	76	77
	15	353	353	545	324	232	270	131	133
1060	22	393	393	625	394	297	355	213	221
	30	393	393	625	394	297	355	224	232
1070	37	462	462	715.5	394	297	355	259	267
	45	462	462	715.5	394	297	355	276	284

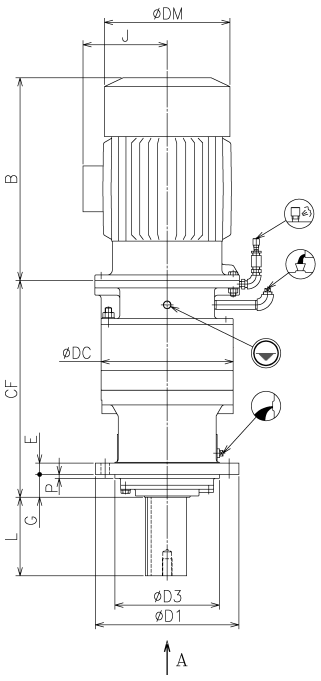
■Dimension Table

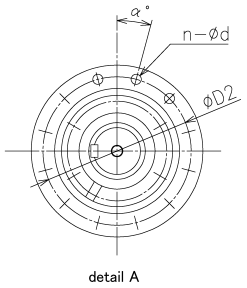
DVFM TYPE (VERTICAL FLANGE MOUNTING, DIRECT MOTOR MOUNTING)	Nominal Reduction Ratio	16～45

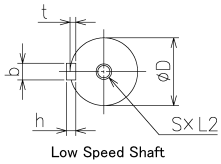
1010～1090

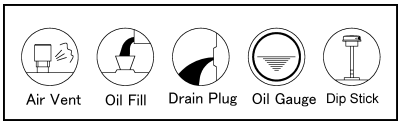


1100～1130







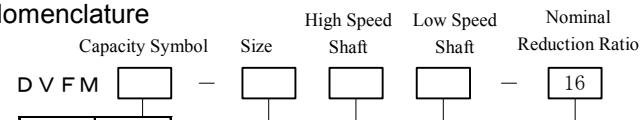


Unit : mm

Size	CF	D1	D2	D3	E	G	P	n	d	α	DC	Weight kg	Oil Qty ℓ
1010	See right table	200	175	130h7	12	10	5	6	12	0	166	21	0.6
1020		220	195	150h7	12	10	5	6	12	0	166	26	0.7
1030		245	215	170h7	16	10	5	6	14	0	200	42	1.0
1040		275	245	200h7	16	10	5	6	14	0	230	52	1.4
1050		315	285	240h7	16	10	5	6	14	0	280	86	2.6
1060		390	355	290h7	20	11	6	6	18	0	335	133	4.8
1070		440	405	340h7	20	11	6	8	18	22.5	390	211	6.7
1080		505	460	390h7	25	13	8	8	22	22.5	430	307	8.3
1090		545	500	430h7	25	13	8	8	22	22.5	470	330	9.0
1100		440	380	320f8	35	70	12	12	26	15	405	355	15
1110		480	420	360f8	35	70	13	12	26	15	450	471	18
1120		530	460	390f8	40	80	13	12	33	15	500	665	28
1130		580	510	440f8	40	90	14	12	33	15	550	818	28

Size	Dimension of Low Speed shaft						
	D	b	h	t	S	L2	L
1010	40h6	12	8	5	M10	20	55
1020	45h6	14	9	5.5	M12	25	65
1030	50h6	14	9	5.5	M12	25	70
1040	60h6	18	11	7	M12	25	85
1050	70h6	20	12	7.5	M12	25	100
1060	85h6	22	14	9	M16	30	120
1070	95h6	25	14	9	M16	30	130
1080	105h6	28	16	10	M16	30	145
1090	115h6	32	18	11	M16	30	160
1100	120m6	32	18	11	M30	52	180
1110	130m6	32	18	11	M30	52	200
1120	150m6	36	20	12	M30	52	210
1130	160m6	40	22	13	M36	62	240

Nomenclature



Capacity Symbol	k W
1	0.75
2	1.5
3	2.2
5	3.7
8	5.5
10	7.5
15	11
20	15
30	22
40	30
50	37
60	45
75	55

Size	Nominal Reduction Ratio					
	16	22.4	31.5	35.5	40	45
1010～1080	○	○	○		○	
1090	○	○	○			
1100・1110			○	○	○	○
1120				○	○	○
1130						○

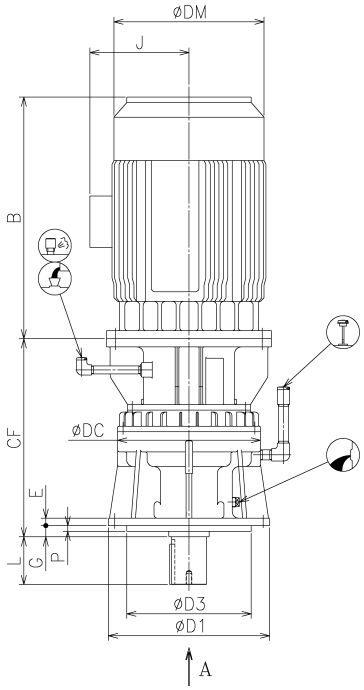
Unit：mm

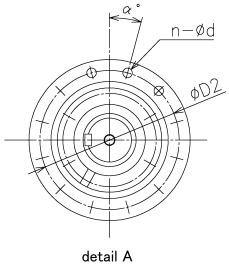
Size	Motor Capacity kW	CF Nominal Reduction Ratio 16	22.4	31.5	35.5	40	45	Motor Size B	DM	J Indoor	J Outdoor	Weight kg Indoor	Weight kg Outdoor
1010	0.75			232		232		232	148	114	136	11	11
	1.5	232	232	232		232		285	160	117	132	16	16
1020	1.5	243	243	243		243		285	160	117	132	16	16
	2.2	257	257	257		257		305	173	126	148	22	22
	3.7	257	257					338	212	144	171	31	32
1030	2.2		283	283		283		305	173	126	148	22	22
	3.7	291	283	283		283		338	212	144	171	31	32
	5.5	307	307					382	212	144	171	43	44
1040	2.2			301		301		305	173	126	148	22	22
	3.7	309	301	301		301		338	212	144	171	31	32
	5.5	325	325	325		325		382	212	144	171	43	44
	7.5	325	325					415	251	185	205	57	58
1050	3.7					351		338	212	144	171	31	32
	5.5		384	368		368		382	212	144	171	43	44
	7.5	384	384	368		368		415	251	185	205	57	58
	11	402	402	402		402		480	251	188	222	76	77
	15	402	402					545	324	232	270	131	133
1060	7.5					422		415	251	185	205	57	58
	11			440		440		480	251	188	222	76	77
	15		440	440		440		545	324	232	270	131	133
	22	452	452	452				625	394	297	355	213	221
	30	452	452					625	394	297	355	224	232
1070	22		478	478		478		625	394	297	355	213	221
	30		478	478		478		625	394	297	355	224	232
	37	521	521	521				715.5	394	297	355	259	267
	45	521	521					715.5	394	297	355	276	284
1080	37	574	574	574		574		715.5	394	297	355	259	267
	45	574	574	574		574		715.5	394	297	355	276	284
	55	574	574	574				769.5	484	412	485	386	408
1090	37		589	589				715.5	394	297	355	259	267
	45		589	589				715.5	394	297	355	276	284
	55	589	589	589				769.5	484	412	485	386	408
1100	37			629	629	629	629	740	394	297	355	268	278
1110	37						671	740	394	297	355	268	278
	45			671	671	671	671	740	394	297	355	268	278
1120	37						775	740	394	297	355	268	278
	45						775	740	394	297	355	268	278
	55				775	775	775	795	484	412	485	392	414
1130	55						813	795	484	412	485	392	414

- Motor ..... 3-Phase Induction Motor、
  200V 50/60Hz 220V 60Hz 4P
  Continuous Rating, Insulation Class B/F (Below 22kW-B, above 30kW-F)
- Appearance may be different from above drawing by size.
- Key is in compliance with parallel key of JIS B1301-1996(ISO).
- Above dimensions and specifications may change without notice.

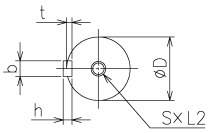
■Dimension Table

DVFM TYPE (VERTICAL FLANGE MOUNTING, DIRECT MOTOR MOUNTING)	Nominal Reduction Ratio	50～224

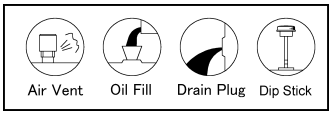




detail A



Low Speed Shaft

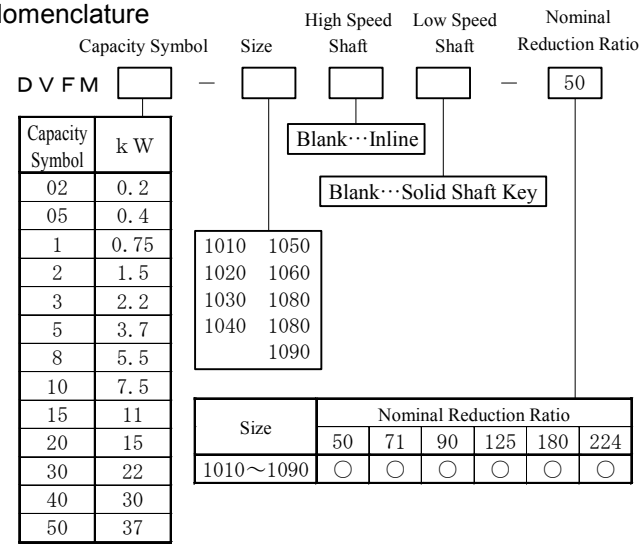


Unit : mm

Size	CF	D1	D2	D3	E	G	P	n	d	α	DC	Weight kg	Oil Qty ℓ
1010	See right table	200	175	130h7	12	10	5	6	12	0	166	24	0.9
1020		220	195	150h7	12	10	5	6	12	0	166	27	1.0
1030		245	215	170h7	16	10	5	6	14	0	200	40	1.2
1040		275	245	200h7	16	10	5	6	14	0	230	50	1.7
1050		315	285	240h7	16	10	5	6	14	0	280	81	2.9
1060		390	355	290h7	20	11	6	6	18	0	335	141	5.2
1070		440	405	340h7	20	11	6	8	18	22.5	390	205	7.2
1080		505	460	390h7	25	13	8	8	22	22.5	430	310	9.0
1090		545	500	430h7	25	13	8	8	22	22.5	470	334	9.9

Size	Dimension of Low Speed shaft						
	D	b	h	t	S	L2	L
1010	40h6	12	8	5	M10	20	55
1020	45h6	14	9	5.5	M12	25	65
1030	50h6	14	9	5.5	M12	25	70
1040	60h6	18	11	7	M12	25	85
1050	70h6	20	12	7.5	M12	25	100
1060	85h6	22	14	9	M16	30	120
1070	95h6	25	14	9	M16	30	130
1080	105h6	28	16	10	M16	30	145
1090	115h6	32	18	11	M16	30	160

Nomenclature



Capacity Symbol	kW
02	0.2
05	0.4
1	0.75
2	1.5
3	2.2
5	3.7
8	5.5
10	7.5
15	11
20	15
30	22
40	30
50	37

Size	Nominal Reduction Ratio					
	50	71	90	125	180	224
1010～1090	○	○	○	○	○	○

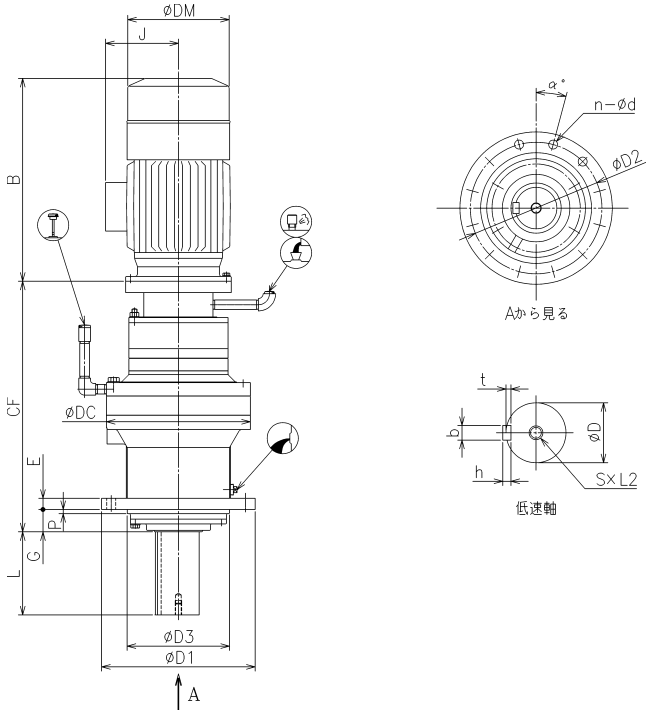
- Motor..... 3-Phase Induction Motor、
  200V 50/60Hz 220V 60Hz 4P
  Continuous Rating, Insulation Class
  B/F (Below 22kW-B, above 30kW-F)
- Appearance may be different from above drawing by size.
- Key is in compliance with parallel key of JIS B1301-1996(ISO).
- Above dimensions and specifications may change without notice.

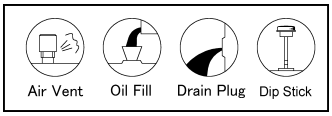
Unit：mm

Size	Motor Capacity kW	CF Nominal Reduction Ratio 50	71	90	125	180	224	B	DM	Motor Size J Indoor	Outdoor	Weight kg Indoor	Outdoor
1010	0.2		264	264	264	264	264	178	124	85	105	4.7	4.9
	0.4		264	264	264	264		198	124	85	105	5.9	6.1
	0.75	264	264	264				232	148	114	136	11	11
1020	0.2					275	275	178	124	85	105	4.7	4.9
	0.4				275	275	275	198	124	85	105	5.9	6.1
	0.75	275	275	275	275			232	148	114	136	11	11
	1.5	275	275					285	160	117	132	16	16
1030	0.4					301	301	198	124	85	105	5.9	6.1
	0.75		301	301	301	301	301	232	148	114	136	11	11
	1.5	301	301	301				285	160	117	132	16	16
	2.2	315	315					305	173	126	148	22	22
1040	0.4						319	198	124	85	105	5.9	6.1
	0.75				319	319	319	232	148	114	136	11	11
	1.5	319	319	319	319	319		285	160	117	132	16	16
	2.2	333	333	333	333			305	173	126	148	22	22
	3.7	333	333					338	212	144	171	31	32
1050	0.75						372	232	148	114	136	11	11
	1.5				372	372	372	285	160	117	132	16	16
	2.2			382	382	382	382	305	173	126	148	22	22
	3.7	390	390	382	382			338	212	144	171	31	32
	5.5	406	406	406				382	212	144	171	43	44
	7.5	406	406					415	251	185	205	57	58
1060	1.5						410	285	160	117	132	16	16
	2.2				420	420	420	305	173	126	148	22	22
	3.7			438	420	420	420	338	212	144	171	31	32
	5.5		471	471	444	444		382	212	144	171	43	44
	7.5	471	471	471	444			415	251	185	205	57	58
	11	489	489					480	251	188	222	76	77
	15	489						545	324	232	270	131	133
1070	3.7					464	464	338	212	144	171	31	32
	5.5			497	497	481	481	382	212	144	171	43	44
	7.5		497	497	497	481		415	251	185	205	57	58
	11		515	515	515			480	251	188	222	76	77
	15		515	515				545	324	232	270	131	133
	22	537						625	394	297	355	213	221
1080	5.5					560	560	382	212	144	171	43	44
	7.5				560	560	560	415	251	185	205	57	58
	11			578	578	578		480	251	188	222	76	77
	15			578	578			545	324	232	270	131	133
	22	590	590	590				625	394	297	355	213	221
	30	590	590					625	394	297	355	224	232
	37	633						715.5	394	297	355	259	267
1090	5.5						575	382	212	144	171	43	44
	7.5					575	575	415	251	185	205	57	58
	11				593	593	593	480	251	188	222	76	77
	15			593	593	593		545	324	232	270	131	133
	22			605	605			625	394	297	355	213	221
	37	648	648					715.5	394	297	355	259	267

■Dimension Table

DVFM TYPE (VERTICAL FLANGE MOUNTING, DIRECT MOTOR MOUNTING)	Nominal Reduction Ratio	71～180





Unit：mm

Size	CF	D1	D2	D3	E	G	P	n	d	α	DC	Weight kg	Oil Qty ℓ
1100	See right table	440	380	320f8	35	70	12	12	26	15	405	390	16
1110		540	480	420f8	35	75	15	12	26	15	410	520	20

Size	Dimension of Low Speed shaft						
	D	b	h	t	S	L2	L
1100	120m6	32	18	11	M30	52	180
1110	130m6	32	18	11	M30	52	200

- Motor.....3-Phase Induction Motor、
  200V 50/60Hz 220V 60Hz 4P
  Continuous Rating, Insulation Class
  B/F (Below 22kW-B, above 30kW-F)
- Appearance may be different from above drawing by size.
- Key is in compliance with parallel key of JIS B1301-1996(ISO).
- Above dimensions and specifications may change without notice.

Nomenclature

DVFM □ − □ □ □ − 71

(Capacity Symbol) (Size) (High Speed Shaft) (Low Speed Shaft) (Nominal Reduction Ratio)

Capacity Symbol	k W
15	11
20	15
25	18.5
30	22

Size: 1100, 1110

High Speed Shaft: Blank…Inline

Low Speed Shaft: Blank…Solid Shaft Key

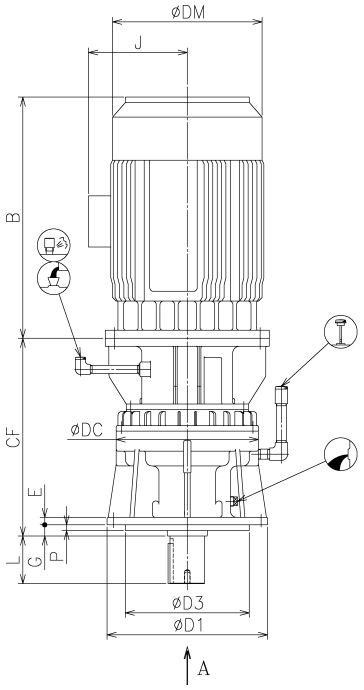
Size	Nominal Reduction Ratio			
	71	100	140	180
1100	○	○	○	○
1110		○	○	○

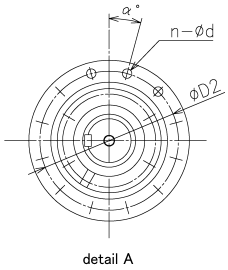
Unit : mm

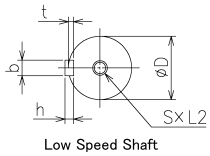
Size	Motor Capacity kW	CF Nominal Reduction Ratio 71	100	140	180	Motor Size B	DM	J Indoor	J Outdoor	Weight kg Indoor	Weight kg Outdoor
1100	11				709	480	251	188	222	76	77
	15			709	709	545	324	232	270	131	133
	18.5	721	721	721		625	394	297	355	213	221
	22	721	721	721		625	394	297	355	213	221
1110	22		755	755	755	625	394	297	355	213	221

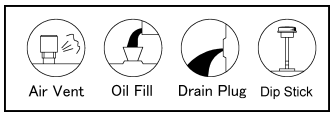
■Dimension Table

DVFM TYPE (VERTICAL FLANGE MOUNTING, DIRECT MOTOR MOUNTING)	Nominal Reduction Ratio	315～1400







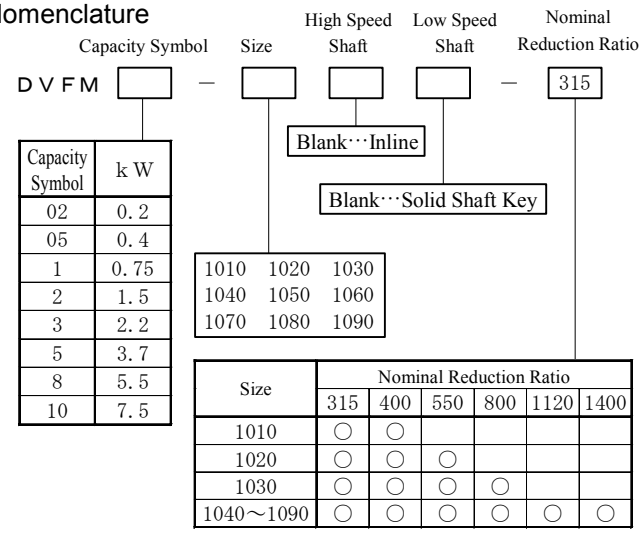


Unit : mm

Size	CF	D1	D2	D3	E	G	P	n	d	α	DC	Weight kg	Oil Qty ℓ
1010	See right table	200	175	130h7	12	10	5	6	12	0	166	26	1.1
1020		220	195	150h7	12	10	5	6	12	0	166	29	1.2
1030		245	215	170h7	16	10	5	6	14	0	200	40	1.4
1040		275	245	200h7	16	10	5	6	14	0	230	50	1.9
1050		315	285	240h7	16	10	5	6	14	0	280	75	3.1
1060		390	355	290h7	20	11	6	6	18	0	335	124	5.4
1070		440	405	340h7	20	11	6	8	18	22.5	390	183	7.5
1080		505	460	390h7	25	13	8	8	22	22.5	430	273	9.5
1090		545	500	430h7	25	13	8	8	22	22.5	470	299	10.5

Size	Dimension of Low Speed shaft						
	D	b	h	t	S	L2	L
1010	40h6	12	8	5	M10	20	55
1020	45h6	14	9	5.5	M12	25	65
1030	50h6	14	9	5.5	M12	25	70
1040	60h6	18	11	7	M12	25	85
1050	70h6	20	12	7.5	M12	25	100
1060	85h6	22	14	9	M16	30	120
1070	95h6	25	14	9	M16	30	130
1080	105h6	28	16	10	M16	30	145
1090	115h6	32	18	11	M16	30	160

Nomenclature



Capacity Symbol	kW
02	0.2
05	0.4
1	0.75
2	1.5
3	2.2
5	3.7
8	5.5
10	7.5

Size	Nominal Reduction Ratio					
	315	400	550	800	1120	1400
1010	○	○				
1020	○	○	○			
1030	○	○	○	○		
1040～1090	○	○	○	○	○	○

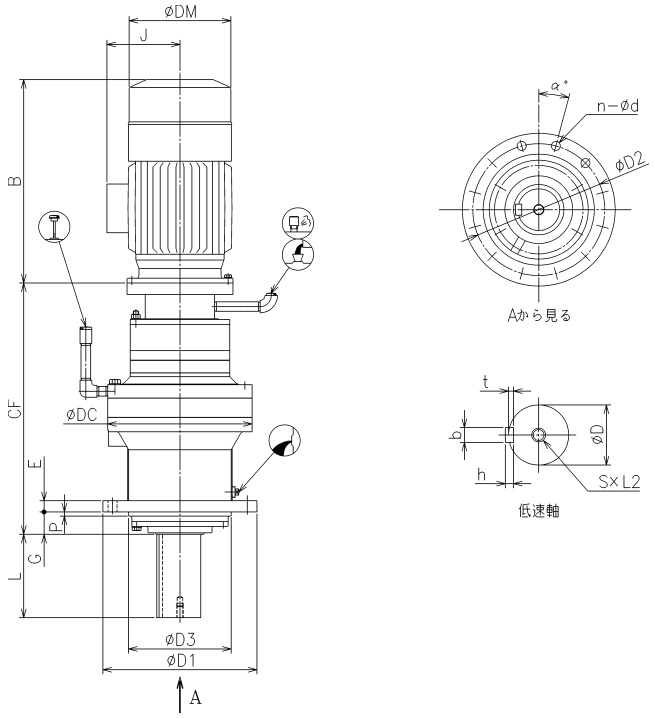
- Motor..... 3-Phase Induction Motor、
  200V 50/60Hz 220V 60Hz 4P
  Continuous Rating, Insulation Class
  B/F (Below 22kW-B, above 30kW-F)
- Appearance may be different from above drawing by size.
- Key is in compliance with parallel key of JIS B1301-1996(ISO).
- Above dimensions and specifications may change without notice.

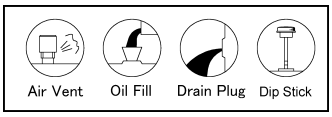
Unit : mm

Size	Motor Capacity kW	CF Nominal Reduction Ratio 315	400	560	800	1120	1400	Motor Size B	DM	J Indoor	J Outdoor	Weight kg Indoor	Weight kg Outdoor
1010	0. 2	296	296					178	124	85	105	4. 7	4. 9
1020	0. 2	307	307	307				178	124	85	105	4. 7	4. 9
	0. 4	307						198	124	85	105	5. 9	6. 1
1030	0. 2	333	333	333	333			178	124	85	105	4. 7	4. 9
	0. 4	333	333					198	124	85	105	5. 9	6. 1
1040	0. 2			351	351	351	351	178	124	85	105	4. 7	4. 9
	0. 4	351	351	351	351			198	124	85	105	5. 9	6. 1
	0. 75	351						232	148	114	136	11	11
1050	0. 2					393	393	178	124	85	105	4. 7	4. 9
	0. 4		393	393	393	393	393	198	124	85	105	5. 9	6. 1
	0. 75	393	393	393	393			232	148	114	136	11	11
	1. 5	393						285	160	117	132	16	16
1060	0. 4				438	438	438	198	124	85	105	5. 9	6. 1
	0. 75		438	438	438	438	438	232	148	114	136	11	11
	1. 5	438	438	438				285	160	117	132	16	16
	2. 2	452	452					305	173	126	148	22	22
1070	0. 4						474	198	124	85	105	5. 9	6. 1
	0. 75				474	474	474	232	148	114	136	11	11
	1. 5		474	474	474			285	160	117	132	16	16
	2. 2	488	488	488	488			305	173	126	148	22	22
	3. 7	488	488					338	212	144	171	31	32
1080	0. 75					548	548	232	148	114	136	11	11
	1. 5			548	548	548	548	285	160	117	132	16	16
	2. 2		566	558	558	558		305	173	126	148	22	22
	3. 7	566	566	558				338	212	144	171	31	32
	5. 5	582	582					382	212	144	171	43	44
	7. 5	582						415	251	185	205	57	58
1090	1. 5				563	563	563	285	160	117	132	16	16
	2. 2			573	573	573	573	305	173	126	148	22	22
	3. 7		581	573	573			338	212	144	171	31	32
	5. 5	597	597	597				382	212	144	171	43	44
	7. 5	597	597					415	251	185	205	57	58

■Dimension Table

DVFM TYPE (VERTICAL FLANGE MOUNTING, DIRECT MOTOR MOUNTING)	Nominal Reduction Ratio	250～1120





Unit：mm

Size	CF	D1	D2	D3	E	G	P	n	d	α	DC	Weight kg	Oil Qty ℓ
1100	See right table	440	380	320f8	35	70	12	12	26	15	405	410	17
1110		540	480	420f8	35	75	15	12	26	15	410	540	20
1120		570	510	450f8	40	80	15	16	26	11.25	460	760	31
1130		625	555	485f8	40	90	15	16	33	11.25	510	940	33
1140		675	605	535f8	45	100	15	20	33	9	560	880	17

Size	Dimension of Low Speed shaft						
	D	b	h	t	S	L2	L
1100	120m6	32	18	11	M30	52	180
1110	130m6	32	18	11	M30	52	200
1120	150m6	36	20	12	M30	52	210
1130	160m6	40	22	13	M36	62	240
1140	180m6	45	25	15	M36	62	250

- Motor.....3-Phase Induction Motor、
  200V 50/60Hz 220V 60Hz 4P
  Continuous Rating, Insulation Class
  B/F (Below 22kW-B, above 30kW-F)
- Appearance may be different from above drawing by size.
- Key is in compliance with parallel key of JIS B1301-1996(ISO).
- Above dimensions and specifications may change without notice.

Nomenclature

DVFM [Capacity Symbol] – [Size] [High Speed Shaft] [Low Speed Shaft] – [Nominal Reduction Ratio]

Capacity Symbol	k W
2	1.5
3	2.2
5	3.7
8	5.5
10	7.5
15	11
20	15
25	18.5
30	22
40	30

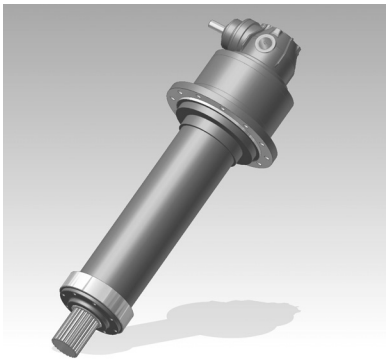
Size: 1100, 1110, 1120, 1130, 1140

High Speed Shaft / Low Speed Shaft: Blank…Inline / Blank…Solid Shaft Key

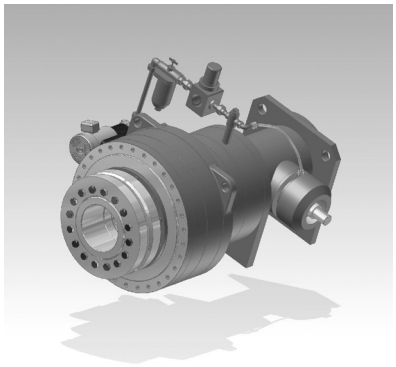
Size	Nominal Reduction Ratio								
	250	315	400	450	560	630	800	900	1120
1100	○	○		○		○		○	○
1110		○		○		○		○	○
1120	○	○		○		○		○	
1130		○		○		○		○	
1140			○		○		○		

Unit : mm

Size	Motor Capacity kW	CF Nominal Reduction Ratio 250	315	400	450	560	630	800	900	1120	Motor Size B	DM	J Indoor	J Outdoor	Weight kg Indoor	Weight kg Outdoor
1100	1.5								679		285	160	117	132	16	16
	2.2						689		689	689	305	173	126	148	22	22
	3.7				707		689		689		338	212	144	171	31	32
	5.5	740	740		740		713				382	212	144	171	43	44
	7.5	740	740		740						415	251	185	205	57	58
	11	758	758								480	251	188	222	76	77
1110	2.2								741	741	305	173	126	148	22	22
	3.7								741	741	338	212	144	171	31	32
	5.5		774		774		774		758		382	212	144	171	43	44
	7.5		774		774		774				415	251	185	205	57	58
	11		792		792						480	251	188	222	76	77
	15		792								545	324	232	270	131	133
1120	5.5				858		858		858		382	212	144	171	43	44
	7.5		858		858		858		858		415	251	185	205	57	58
	11		876		876		876				480	251	188	222	76	77
	15		876		876						545	324	232	270	131	133
	18.5		888								625	394	297	355	213	221
	22	888	888								625	394	297	355	213	221
1130	5.5						909		909		382	212	144	171	43	44
	7.5				909		909		909		415	251	185	205	57	58
	11				927		927		927		480	251	188	222	76	77
	15				927		927				545	324	232	270	131	133
	18.5		939		939						625	394	297	355	213	221
	22		939		939						625	394	297	355	213	221
1140	7.5							1007			415	251	185	205	57	58
	11							1025			480	251	188	222	76	77
	15							1025			545	324	232	270	131	133
	18.5			1037		1037		1037			625	394	297	355	213	221
	22			1037		1037					625	394	297	355	213	221
	30			1037							625	394	297	355	224	232



Reducer for Slewing Drive



Reducer for driving bucket wheel

D

Applications

Stacker / Reclaimer

Bucket wheel Drive

■Simple Selection Table

Input speed	Ambient temperature	Ambient condition
1500r/min	40℃	Outdoor, without direct sunlight

※The figure in the table is shown are Size of Reducer

Input power (kW)	SF	Nominal Reduction Ratio				
		160	180	200	224	250
37	1.5	1140	1140	1140	1150	1150
	1.8	1140	1140	1150	1150	1160
45	1.5	1140	1140	1150	1150	1160
	1.8	1150	1150	1150	1160	1160
55	1.5	1150	1150	1160	1160	1160
	1.8	1150	1160	1160	1170	1170
75	1.5	1170	1170	1170	1170	1180
	1.8	1170	1170	1170	1190	1190
90	1.5	1180	1180	1180	1190	1190
	1.8	1180	1180	1190	1190	1190
110	1.5	1190	1190	1190	1190	1190
	1.8	1190	1190	1190	1200	1200
132	1.5	1200	1200	1200	1200	1200
	1.8	1200	1200	1200	1200	1200

There is a possibility that the size of the reducer becomes small and inquire, please when the highest ambient temperature falls below 40℃.

Input speed	Ambient temperature	Ambient condition
1800r/min	40℃	Outdoor, without direct sunlight

※The figure in the table is shown are Size of Reducer

Input power (kW)	SF	Nominal Reduction Ratio				
		160	180	200	224	250
37	1.5	—	—	1140	1140	1140
	1.8	1140	1140	1140	1150	1150
45	1.5	1140	1140	1140	1150	1150
	1.8	1140	1140	1150	1150	1160
55	1.5	1140	1150	1150	1150	1160
	1.8	1150	1150	1160	1160	1160
75	1.5	1170	1170	1170	1170	1170
	1.8	1170	1170	1170	1170	1180
90	1.5	1180	1180	1180	1180	1180
	1.8	1180	1180	1180	1190	1190
110	1.5	1190	1190	1190	1190	1190
	1.8	1190	1190	1190	1190	1200
132	1.5	1200	1200	1200	1200	1200
	1.8	1200	1200	1200	1200	1200

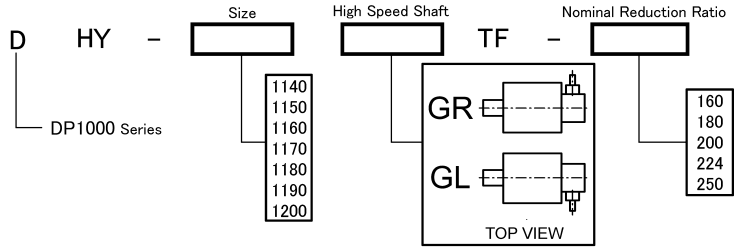
There is a possibility that the size of the reducer becomes small and inquire, please when the highest ambient temperature falls below 40℃.

■Exact reduction Ratio

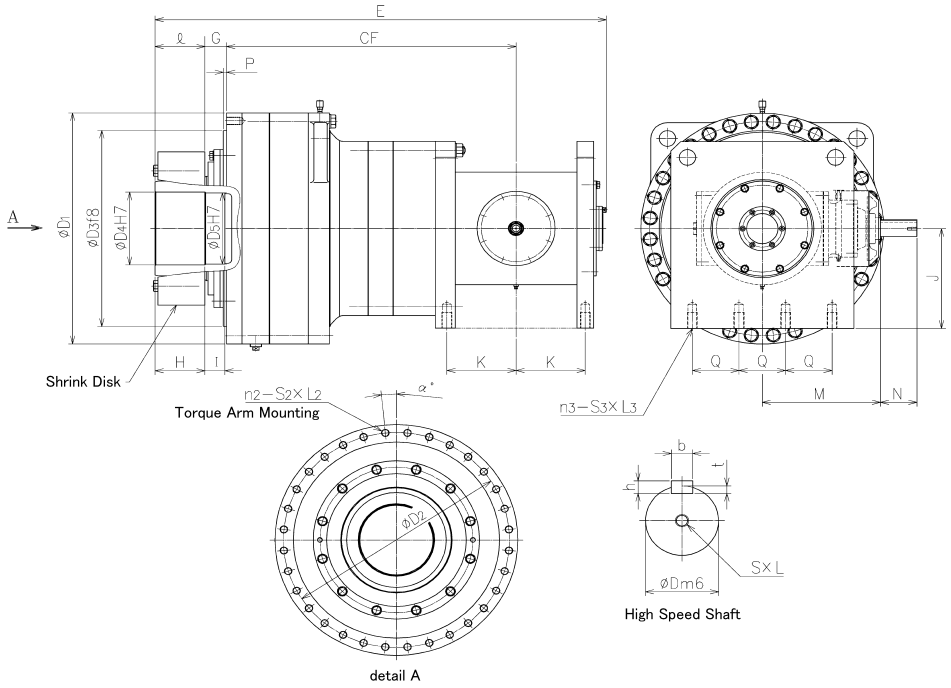
Size of Reducer	Nominal Reduction Ratio				
	160	180	200	224	250
1140	166.8	182.8	203.1	229.8	266.6
1150	159.3	174.5	193.9	219.4	254.5
1160	159.3	174.5	193.9	219.4	254.5
1170	159.9	174.6	193.1	217.1	249.6
1180	158.7	172.0	209.4	236.9	274.8
1190	158.7	172.0	209.4	236.9	274.8
1200	154.1	166.4	200.1	224.3	256.4

Bucket wheel Drive

■Nomenclature



■Dimension Table



Unit : mm

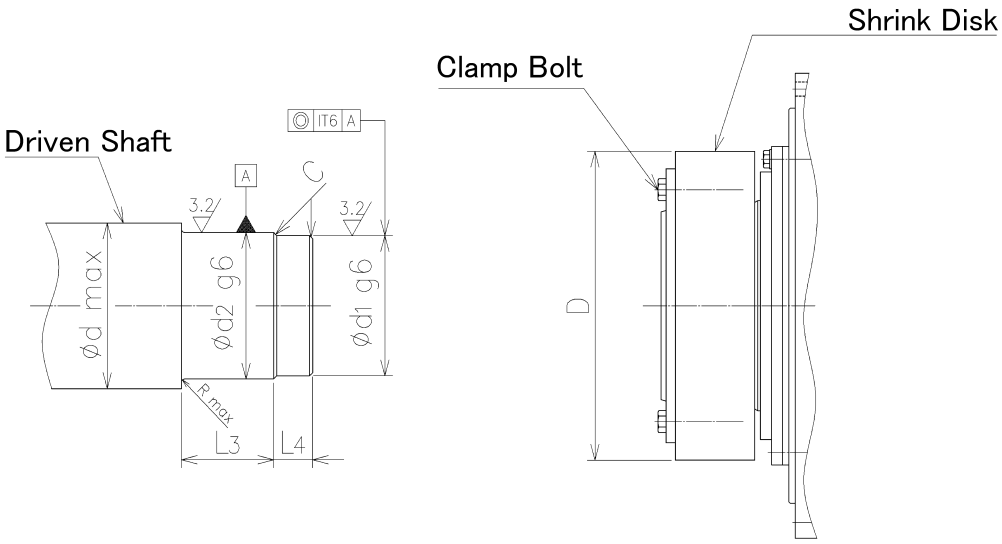
Size	CF	D_1	D_2	D_3	P	G	ℓ	E	n_2	S_2	L_2	α°	High Speed Shaft							
													D	b	h	t	S	L	N	M
1140	715	560	504	455	10	44	110	1187	24	M24	40	7.5	35	10	8	5	M10	17	50	270
1150	756	600	546	480	10	45	120	1244	24	M24	40	7.5	35	10	8	5	M10	17	50	270
1160	854	650	585	520	10	54	130	1386	24	M30	40	7.5	45	14	9	5.5	M10	17	70	315
1170	890	680	630	570	10	55	140	1442	30	M24	40	6	50	14	9	5.5	M10	17	70	355
1180	925	730	680	620	10	65	150	1501	32	M24	40	5.625	55	16	10	6	M10	17	70	355
1190	1025	835	777	725	10	70	170	1656	30	M30	50	6	60	18	11	7	M10	17	100	425
1200	1213	932	875	800	10	75	180	1896	30	M30	50	6	70	20	12	7.5	M10	17	100	540

Size	D_4	D_5	H	I	Dimension of Motor Base						Weightkg
					J	K	Q	n_3	S_3	L_3	kg
1140	170	165	110	40	250	170	110	8	M24	40	800
1150	180	175	120	40	265	175	130	8	M24	40	1000
1160	190	185	130	50	290	200	140	8	M24	40	1300
1170	220	215	140	50	315	209	140	8	M30	50	1600
1180	230	225	150	60	315	208	140	8	M30	50	1800
1190	280	275	170	65	355	243	150	8	M30	50	2800
1200	310	305	200	65	380	280	170	8	M36	70	3600

- ●Key is in compliance with parallel key of JIS B1301-1996(ISO).
- ● Above dimensions and specifications may change without notice.
- ● A exact reduction ratio is different depending on the size of the reducer. Please refer to the Exact Reduction Ratio table of D-2.
- ●Please refer to the size related to a hollow shaft of D-4 for the shrink disk.

Bucket wheel Drive

■Dimensions for Hollow Shaft



Unit : mm

Size	Driven Shaft							Shrink Disk					
	d_1	d_2	d_{max}	C	L_3	L_4	R_{max}	Code	Allowable transmission torque kN·m	D	Tie Bolt Bolt Size	Tie Bolt Tightening torque N・m	Weight kg
1140	165	170	220	2.5	110	40	2	TAS3171-170×220	117	370	M20	490	53
1150	175	180	240	2.5	120	40	2	TAS3171-180×240	140	405	M20	490	66
1160	185	190	260	2.5	130	50	2	TAS3171-190×260	184	430	M20	490	81
1170	215	220	280	2.5	140	50	2	TAS3171-220×280	240	460	M20	490	102
1180	225	230	300	2.5	150	60	2	TAS3171-230×300	300	485	M24	840	118
1190	275	280	360	2.5	170	65	2	TAS3171-280×360	539	590	M24	840	202
1200	305	310	390	2.5	200	65	2	TAS3171-310×390	744	650	M27	1250	250

●Code of Shrink Disk is of Sheaffer's product.
●Above dimensions and specifications may change without notice

Bucket wheel Drive

■Selection Table

Reduction ratio	160～250

Mechanical Power Rating P_N Unit：kW

Nominal Reduction Ratio	H. Speed Shaft Speed n_1 r/min	L. Speed Shaft Speed n_2 r/min	Size of Reducer 1140	1150	1160	1170	1180	1190	1200
160	Exact Reduction Ratio		166.8	159.3	159.3	159.9	158.70	158.70	154.10
	1800	11	88.9	119	158	200	240	288	533
	1500	9.4	74.0	99.7	132	167	200	254	444
	1200	7.5	In each case enquiry						
	1000	6.3							
	900	5.6							
	750	4.7							
180	Exact Reduction Ratio		182.8	174.5	174.5	174.6	172.0	172.0	166.4
	1800	10	81.1	109	144	184	221	273	494
	1500	8.3	67.5	91.1	120	153	184	240	411
	1200	6.7	In each case enquiry						
	1000	5.6							
	900	5.0							
	750	4.2							
200	Exact Reduction Ratio		203.1	193.9	193.9	193.1	209.4	209.4	200.1
	1800	9.0	73.0	98.3	130	166	182	238	410
	1500	7.5	60.8	82.1	109	138	151	209	342
	1200	6.0	In each case enquiry						
	1000	5.0							
	900	4.5							
	750	3.8							
224	Exact Reduction Ratio		229.8	219.4	219.4	217.1	236.9	236.9	224.3
	1800	8.0	64.5	87.1	115	148	161	218	366
	1500	6.7	53.7	72.7	96.1	123	134	192	305
	1200	5.4	In each case enquiry						
	1000	4.5							
	900	4.0							
	750	3.3							
250	Exact Reduction Ratio		266.6	254.5	254.5	249.6	274.8	274.8	256.4
	1800	7.2	55.6	75.2	99.4	128	139	196	320
	1500	6.0	46.3	62.8	83.0	107	115	170	267
	1200	4.8	In each case enquiry						
	1000	4.0							
	900	3.6							
	750	3.0							
Thermal Power Rating P_T			57.5	61.8	73.8	81.4	91.0	115	164

Note:

1. Please refer to the selection procedures of reducer on the page B-6.
2. Shown in the table are the ratings for the high speed shaft of reducer.
3. The thermal power ratings (P_T) are applicable to continuous operation at ambient temperatures of 20℃ or less

Slewing Drive

■Simple Selection Table

Input speed
750r/min

※The figure in the table is shown are Size of Reducer

Input Power (kW)	SF	Output speed (r/min)							
		1.2	1.1	0.9	0.8	0.7	0.7	0.6	0.5
		Nominal Reduction Ratio							
		630	710	800	900	1000	1120	1250	1400
7.5	1	1140	1140	1140	1140	1160	1160	1160	1160
	1.5	1150	1150	1160	1160	1170	1170	1180	1180
	1.8	1160	1160	1160	1170	1180	1180	1180	
11	1	1150	1150	1160	1160	1170	1170	1180	1180
	1.5	1160	1170	1170	1180				
	1.8	1170	1180	1180					
15	1	1160	1160	1170	1180	1180			
	1.5	1180	1180						
	1.8								
18.5	1	1170	1170	1180	1180				
	1.5								
	1.8								
22	1	1180	1180						
	1.5								
	1.8								

Input speed
900r/min

※The figure in the table is shown are Size of Reducer.

Input Power (kW)	SF	Output speed (r/min)							
		1.5	1.3	1.1	1.0	0.9	0.8	0.7	0.6
		Nominal Reduction Ratio							
		630	710	800	900	1000	1120	1250	1400
7.5	1	1140	1140	1140	1140	1140	1150	1160	1160
	1.5	1140	1140	1150	1160	1160	1160	1170	1170
	1.8	1150	1150	1160	1160	1170	1170	1180	1180
11	1	1140	1140	1150	1160	1160	1160	1170	1170
	1.5	1160	1160	1170	1170	1180	1180	1180	
	1.8	1160	1170	1170	1180				
15	1	1150	1160	1160	1170	1180	1180	1180	
	1.5	1170	1170	1180					
	1.8	1180	1180						
18.5	1	1160	1160	1170	1180	1180			
	1.5	1180	1180						
	1.8								
22	1	1170	1170	1180	1180				
	1.5								
	1.8								

Slewing Drive

■Simple Selection Table

Input speed
1000r/min

※The figure in the table is shown are Size of Reducer.

Input Power (kW)	SF	Output speed (r/min) Nominal Reduction Ratio							
		1.7	1.4	1.2	1.1	1.0	0.9	0.8	0.7
		630	710	800	900	1000	1120	1250	1400
7.5	1	1140	1140	1140	1140	1140	1140	1150	1150
	1.5	1140	1140	1140	1150	1160	1160	1160	1170
	1.8	1140	1150	1150	1160	1170	1170	1170	1180
11	1	1140	1140	1140	1150	1160	1160	1160	1170
	1.5	1150	1160	1160	1170	1180	1180	1180	
	1.8	1160	1160	1170	1180	1180	1180		
15	1	1150	1150	1160	1160	1170	1170	1180	1180
	1.5	1160	1170	1180	1180				
	1.8	1170	1180	1180					
18.5	1	1160	1160	1170	1170	1180	1180		
	1.5	1170	1180	1180					
	1.8	1180							
22	1	1160	1170	1170	1180				
	1.5	1180							
	1.8								

Input speed
1200r/min

※The figure in the table is shown are Size of Reducer.

Input Power (kW)	SF	Output speed (r/min) Nominal Reduction Ratio							
		2.0	1.7	1.5	1.3	1.2	1.1	1.0	0.9
		630	710	800	900	1000	1120	1250	1400
7.5	1	1140	1140	1140	1140	1140	1140	1140	1140
	1.5	1140	1140	1140	1140	1150	1160	1160	1160
	1.8	1140	1140	1140	1150	1160	1160	1160	1170
11	1	1140	1140	1140	1140	1150	1160	1160	1160
	1.5	1140	1150	1150	1160	1170	1170	1170	1180
	1.8	1150	1160	1160	1170	※1180	1180	1180	
15	1	1140	1140	1150	1160	1160	1160	1170	1170
	1.5	1160	1160	1170	1170	※1180	1180		
	1.8	1160	1170	※1180	※1180				
18.5	1	1150	1150	1160	1160	1170	1170	1180	1180
	1.5	1170	1170	※1180	※1180				
	1.8	1170	※1180	※1180					
22	1	1160	1160	1170	1170	※1180	1180		
	1.5	1170	※1180	※1180					
	1.8	※1180							

Slewing Drive

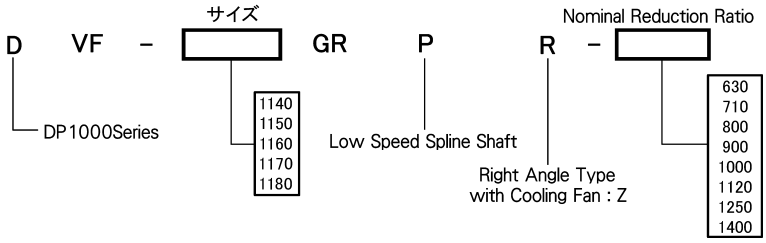
■Simple Selection Table

Input speed
1500r/min

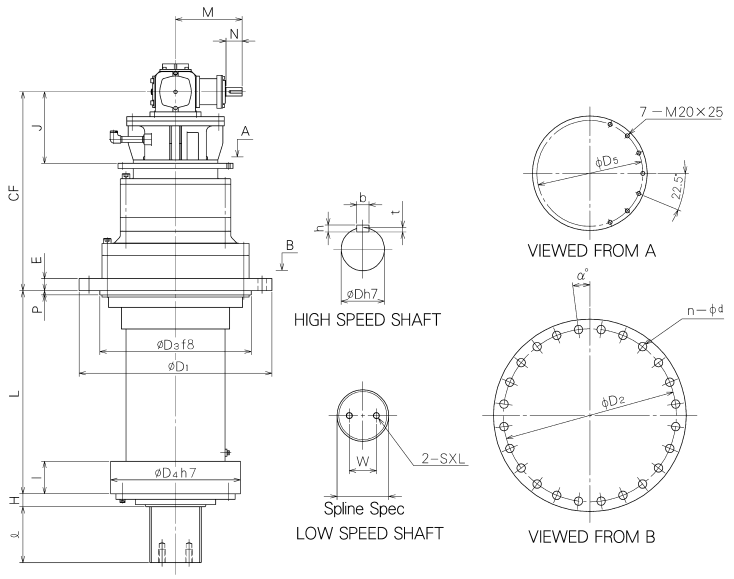
※The figure in the table is shown are Size of Reducer.

Input Power (kW)	SF	Output speed (r/min) Nominal Reduction Ratio							
		2.5	2.1	1.9	1.7	1.5	1.4	1.2	1.1
		630	710	800	900	1000	1120	1250	1400
7.5	1	1140	1140	1140	1140	1140	1140	1140	1140
	1.5	1140	1140	1140	1140	1140	1140	1150	1150
	1.8	1140	1140	1140	1140	※1150	1160	1160	1160
11	1	1140	1140	1140	1140	1140	1140	1150	1150
	1.5	1140	1140	1140	※1150	※1160	1160	1160	1170
	1.8	1140	※1150	※1150	※1160	※1170	1170	1170	1180
15	1	1140	1140	1140	1140	※1160	1160	1160	1160
	1.5	※1150	※1150	※1160	※1160	※1170	1170	1180	1180
	1.8	※1160	※1160	※1160	※1170	※1180	1180	1180	
18.5	1	1140	1140	※1150	※1160	※1160	1160	1170	1170
	1.5	※1160	※1160	※1170	※1170	※1180	1180		
	1.8	※1160	※1170	※1180	※1180				
22	1	※1150	※1150	※1160	※1160	※1170	1170	1180	1180
	1.5	※1160	※1170	※1170	※1180				
	1.8	※1170	※1180	※1180					

Slewing Drive
■Nomenclature



■Dimension Table



Unit : mm

Size	Reduction Ratio	CF	D_1	D_2	D_3	D_4	D_5	E	P	H	I	J	n	d	α
1140	630～1000 1120～1400	753 768	730	660	580	450	450	45	15	48	110	272 287	20	33	9
1150	630～1000 1120～1400	854 854	810	720	620	480	500	45	20	50	120	330 330	16	39	11.25
1160	630～1000 1120～1400	917 942	860	770	670	550	500	50	20	50	130	330 355	20	39	9
1170	630～1000 1120～1400	919 979	890	800	700	600	500	55	20	60	140	330 390	24	39	7.5
1180	630～1000 1120～1400	983 1018	940	850	750	650	500	55	20	63	150	355 390	24	39	7.5

Size	Reduction Ratio	High Speed Shaft						Low Speed Shaft					
		D	b	h	t	M	N	Spline Spec	D(max)	ℓ	W	S	L
1140	630～1000 1120～1400	32 40	10 12	8 8	5 5	265 308	62 75	W180×5×30×34×8m	179	150	100	M24	51
1150	630～1000 1120～1400	40 40	12 12	8 8	5 5	308 308	75 75	W200×5×30×38×8m	199	170	125	M30	64
1160	630～1000 1120～1400	40 45	12 14	8 9	5 5.5	308 360	75 90	W220×10×30×20×8m	218	190	125	M30	64
1170	630～1000 1120～1400	40 50	12 14	8 9	5 5.5	308 415	75 100	W240×10×30×22×8m	238	220	125	M30	64
1180	630～1000 1120～1400	45 50	14 14	9 9	5.5 5.5	360 415	90 100	W260×10×30×24×8m	258	240	160	M36	70

- ●Low speed spline shaft is in compliance with DIN 5480 involutes spline.
- ●Key is in compliance with parallel key of JIS B1301-1996(ISO).
- ●Please direct it dimension “L”.
- ●Possible to manufacture the center line off-set type. Please consult with sales.
  (Our standard center line off-set value : 3mm)
- ●Above dimensions and specifications may change without notice.

Slewing Drive
■Selection Table

Reduction ratio	630～1400

Mechanical Power Rating P_N

Nominal Reduction Ratio	H. Speed Shaft Speed n_1 r/min	Size of Reducer				
		1140	1150	1160	1170	1180
630	Exact Reduction Ratio	599.2	626.6	626.6	617.8	584.8
	1500	20.2	※25.8	※34.1	※42.0	※54.3
	1200	16.5	20.7	27.3	34.4	※43.4
	1000	13.8	17.2	22.8	28.7	36.2
	900	12.4	15.5	20.5	25.8	32.6
	750	10.3	12.9	17.1	21.6	27.1
710	Exact Reduction Ratio	656.5	696.2	696.2	708.7	655.5
	1500	18.8	※23.2	※30.7	※37.4	※48.4
	1200	15.1	18.6	24.6	30.0	※38.7
	1000	12.6	15.5	20.5	25.0	32.3
	900	11.3	14.0	18.5	22.5	29.1
	750	9.4	11.6	15.4	18.8	24.2
800	Exact Reduction Ratio	729.4	787.9	787.9	801.9	751.9
	1500	16.9	※20.5	※27.2	※33.1	※42.2
	1200	13.6	16.5	21.8	26.5	※33.8
	1000	11.3	13.7	18.2	22.1	28.1
	900	10.2	12.3	16.4	19.9	25.3
	750	8.5	10.3	13.6	16.6	21.1
900	Exact Reduction Ratio	825.4	913.8	913.8	930.1	850.9
	1500	15.0	※17.7	※23.4	※28.6	※37.3
	1200	12.0	14.2	18.8	22.9	※29.8
	1000	10.0	11.8	15.7	19.1	24.9
	900	9.0	10.6	14.1	17.2	22.4
	750	7.5	8.9	11.8	14.4	18.7
1000	Exact Reduction Ratio	957.3	1098	1098	1118	987.0
	1500	12.9	※14.8	※19.5	※23.8	※32.2
	1200	10.3	11.8	15.7	19.1	※25.7
	1000	8.6	9.8	13.1	15.9	21.4
	900	7.7	8.9	11.8	14.3	19.3
	750	6.5	7.4	9.8	12.0	16.1

Note

1. Please refer to the selection procedures of reducer on the page B-6.
2. The high speed shaft speed shall be under 1500 r/min. Consult us when it will be over 1500r/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_1) id lower than 750 r/min, find the mechanical power rating (P_N) according to the following formula. $P_N = P750 \times \frac{N}{750}$
5. Shown in the table are the ratings for the high speed shaft of reducer.
6. ※ These figures are for right angle type with cooling fan.

Unit：kW

Nominal Reduction Ratio	H. Speed Shaft Speed n_1 r/min	Size of Reducer				
		1140	1150	1160	1170	1180
1120	Exact Reduction Ratio	1030	1144	1144	1102	1062
	1500	12.0	13.0	18.8	24.1	29.9
	1200	9.6	10.5	15.0	19.3	23.9
	1000	8.0	8.9	12.5	16.1	19.9
	900	7.2	8.0	11.3	14.5	17.9
	750	6.0	6.8	9.4	12.1	14.9
1250	Exact Reduction Ratio	1198	1253	1253	1236	1170
	1500	10.3	12.9	17.1	21.6	27.1
	1200	8.3	10.3	13.7	17.3	21.7
	1000	6.9	8.6	11.5	14.4	18.1
	900	6.2	7.8	10.3	13.0	16.3
	750	5.2	6.5	8.6	10.8	13.6
1400	Exact Reduction Ratio	1313	1392	1392	1417	1311
	1500	9.4	11.6	15.4	18.8	24.2
	1200	7.5	9.3	12.4	15.1	19.4
	1000	6.3	7.8	10.3	12.6	16.1
	900	5.6	7.0	9.3	11.3	14.5
	750	4.7	5.8	7.7	9.4	12.1

E

Technical Data

■Lubrication

1. Standard Lubrication Method
   - Oil bath lubrication is applied to all models.
   - Grease lubrication for some right angle input shaft.

2. Recommended Lubricants

	Ambient Temperature	ISO AGMA	BP	CASTROL			CHEVRON TEXACO		EXXON MOBIL		SHELL	TOTAL
Gear Oil	-10 deg to +25 deg	VG150 4EP	ENERGOL GR-XP-150	ALPHA SP150	OPTIGEAR BM150	TRIBOL 1100/150	GEAR COMPOUNDS EP150	MEROPA WM150	SPARTAN EP150	MOBIL GEAR 600XP150	OMALA 150	CARTER EP150
	+10 deg to +40 deg	VG220 5EP	ENERGOL GR-XP-220	ALPHA SP220	OPTIGEAR BM220	TRIBOL 1100/220	GEAR COMPOUNDS EP220	MEROPA WM220	SPARTAN EP220	MOBIL GEAR 600XP220	OMALA 220	CARTER EP220
	+30 deg to +50 deg	VG320 6EP	ENERGOL GR-XP-320	ALPHA SP320	OPTIGEAR BM320	TRIBOL 1100/320	GEAR COMPOUNDS EP320	MEROPA WM320	SPARTAN EP320	MOBIL GEAR 600XP320	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

   - Because the lubrication part of grease fills grease when shipping it, it is used as it is and is excellent.

3. Time of replenishment and replacement.
   - Lubricant has been evacuated on shipment. Be sure to replenish lubricant up to the standard level of oil gauge. It is recommended to replace lubricant after 500 hours operation for the first time and in every 2500 hours or every half year, whichever comes first, after then.

4. Consult us when the ambient temperature is lower than -10℃ or higher than +40℃, when the standard input speed will be over 1800r/min or when irregular operating condition will be required.

■Installation

(1) Consult us when the product is to be installed on an inclined surface or on a ceiling. Additional lubrication system may be necessary.
(2) Install the product horizontally on a sufficiently rigid base. When the product is made for inclined installation according to your specification, do not install it at any other angle than the specified angle.
(3) Installation bolts for the reducer shall be equivalent to JIS(ISO) strength classification 10.9. Consult us when the force that pushes up reducer is to be applied.
(4) Refer to the maintenance manual attached to the product for other remarks regarding to installation and maintenance.

■Painting Specifications

Surface Condition	Kind of Painting		Days	Painting Specification			Application
	Class	Painting of Finish Coat		Type	Coating (Thickness:μm)	Type of Coating	
Cast Iron Class 1 Steel Plate Class 2	Standard painting	—	0	Under	1 (20～40)	Modified alkyd resin	Standard under coat
		Phallic acid		Finish	1 (15～30)	Alkyd resin paint	Standard finish coat
	Standard export panting	—	2	Under	2 (40～80)	Modified alkyd resin	Export standard
		Modified epoxy		Finish	1 (15～30)	Vinyl modified epoxy resin	
	Special painting (Including rust-proof and heat resisting painting) One layer of Modified alkyd resin Primer as the first prime	Modified epoxy	3	Under	1 (20～40)	Vinyl modified epoxy resin	Moderate corrosive atmosphere, seaside, outdoor humid atmosphere, etc.
				Finish	2 (30～60)	Vinyl modified epoxy resin	
		Long of oil phallic	7	Under	2 (40～70)	Lead rust preventive paint	Ocean-going vessels, bridge, seaside, outdoor humid atmosphere, etc.
				Finish	2 (30～60)	Synthetics resin paint	
		Chloride rubber	10	Under	2 (40～70)	Lead rust preventive paint	Ocean-going vessels, bridge, seaside, outdoor humid atmosphere, etc.
				Second	1 (20～40)	Phenol M.I.O. paint	
				Finish	2 (40～70)	Chloride rubber paint	
		Phenol	7	Under	2 (40～70)	Lead rust preventive paint	In-and-outdoor of acid treating plant and chemical plant, etc.
				Finish	2 (30～60)	Phenol resin enamel	
		Heat-proof silver	7	Under	1 (20～40)	Lead rust preventive paint	Heating furnace(120℃), etc.
				Finish	1 (15～30)	Aluminum paint	
	Extra rust-proof painting	Epoxy	10	Under	1 (50～60)	Special permeability epoxy aluminum paint	Nuclear power generation
				Finish	3 (120～240)	Polyamide epoxy	
		Polyurethane	10	Under	1 (50～60)	Special permeability epoxy aluminum paint	Nuclear power generation
				Finish	3 (45～90)	Polyisocyanate urethane resin paint	
	Extra rust-proof painting(Sand blast under coating)	Thick film epoxy	12		5 (250～350)	Thick film type modified epoxy resin paint	Submersible equipment, marine structure, etc.

Note: 1. Days mean extra days necessary for Special Painting in comparison with Standard Painting.

2. Our standard color is Munsell 2.5G 6/3.

■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 specifications

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, if necessary.

(2) Inside rust proofing specifications

Rust proofing period	6 months
Storage condition	Generally to be stored inside the 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 our recommended lubricants.

2. Export rust proofing specifications

Consult us for export rust proofing when export specifications or severe specifications are required.

■Moment of Inertia

Reducer Moment of Inertia [kg・m^2]

Nominal Reduction Ratio	Size of Reducer									
	1010	1020	1030	1040	1050	1060	1070	1080	1090	1100
5	0.00028	0.00033	0.00075	0.00153	0.00390	0.01040	0.02110			
9	0.00018	0.00018	0.00045	0.00098	0.00223	0.00643	0.01270			
16	0.00042	0.00043	0.00107	0.00111	0.00308	0.00713	0.01951	0.03635	0.03785	0.01998
18				0.00111	0.00211	0.00536	0.01900	0.03141	0.03141	0.01783
20				0.00100	0.00198	0.00491	0.01900	0.02827	0.02827	0.01855
22.4	0.00025	0.00025	0.00066	0.00068	0.00185	0.00408	0.01143	0.02202	0.02290	0.01544
25						0.00407	0.00950	0.02110	0.02261	0.01538
28						0.00370	0.00841	0.01970	0.02019	0.01398
31.5	0.00019	0.00019	0.00047	0.00048	0.00128	0.00275	0.00799	0.01543	0.01585	0.01039
35.5				0.00046	0.00127	0.00263	0.00755	0.01444	0.01592	0.00995
40	0.00016	0.00016	0.00041	0.00041	0.00106	0.00223	0.00663	0.01281	0.01285	0.00845
45						0.00248	0.00663	0.01256	0.01256	0.00937
50	0.00043	0.00043	0.00046	0.00046	0.00121	0.00328	0.00771	0.02061	0.02075	
56					0.00121	0.00328	0.00771	0.01997	0.02001	
63					0.00118	0.00320	0.00773	0.01255	0.01985	
71	0.00042	0.00042	0.00044	0.00044	0.00113	0.00309	0.00348	0.00781	0.01964	0.00715
80					0.00088	0.00153	0.00300	0.00707	0.00707	0.00538
90	0.00025	0.00025	0.00026	0.00026	0.00069	0.00184	0.00208	0.00447	0.00452	0.00492
100					0.00077	0.00127	0.00211	0.00423	0.00430	0.00409
112					0.00072	0.00115	0.00197	0.00420	0.00419	0.00408
125	0.00025	0.00025	0.00025	0.00025	0.00066	0.00070	0.00189	0.00410	0.00412	0.00371
140					0.00063	0.00065	0.00165	0.00404	0.00404	0.00275
160					0.00058	0.00060	0.00145	0.00353	0.00353	0.00304
180	0.00018	0.00018	0.00019	0.00019	0.00048	0.00050	0.00126	0.00270	0.00271	0.00224
200					0.00045	0.00047	0.00110	0.00240	0.00270	
224	0.00016	0.00016	0.00016	0.00016	0.00041	0.00042	0.00103	0.00220	0.00221	
250										0.00328
280										0.00328
315	0.00043	0.00025	0.00043	0.00043	0.00043	0.00047	0.00059	0.00139	0.00140	0.00309
355								0.00139	0.00140	0.00178
400	0.00042	0.00042	0.00042	0.00042	0.00042	0.00044	0.00051	0.00128	0.00128	0.00153
450								0.00126	0.00126	0.00184
500								0.00113	0.00113	0.00115
560	0.00025	0.00025	0.00025	0.00025	0.00025	0.00026	0.00031	0.00077	0.00077	0.00070
630								0.00080	0.00080	0.00070
710								0.00080	0.00080	0.00065
800	0.00025	0.00025	0.00025	0.00025	0.00025	0.00025	0.00027	0.00070	0.00070	0.00060
900								0.00063	0.00063	0.00050
1000								0.00057	0.00057	0.00047
1120	0.00018	0.00018	0.00018	0.00018	0.00018	0.00019	0.00020	0.00050	0.00050	0.00042
1250								0.00045	0.00045	
1400	0.00016	0.00016	0.00016	0.00016	0.00016	0.00016	0.00017	0.00042	0.00042	

Motor Moment of Inertia [kg・m^2]

kW / Pole	0.2	0.4	0.75	1.5	2.2	3.7	5.5	7.5	11	15
4P	0.0005	0.0007	0.0012	0.0021	0.0033	0.0085	0.0114	0.027	0.038	0.09
6P	0.0008	0.0017	0.0030	0.0053	0.0130	0.0190	0.0350	0.072	0.090	0.32

Note: 1. Moment of Inertia is worked out for direct motor mounting type.
Work out by adding moment of inertia of reducer and motor.
2. Above figures are for high speed shaft.

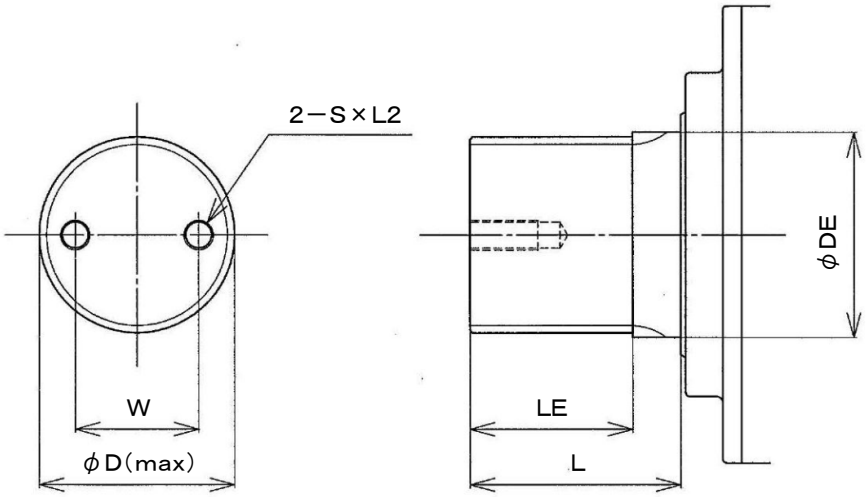
Size of Reducer											
1110	1120	1130	1140	1150	1160	1170	1180	1190	1200	1210	1220
0.03664	0.06364	0.09508	0.16096								
0.03234	0.05612	0.08380	0.14362								
0.03188	0.05516	0.08212	0.14927								
0.02653	0.04591	0.06834	0.12422								
0.02642	0.04571	0.06805	0.12370								
0.02402	0.04155	0.06186	0.11244								
0.01785	0.03088	0.04598	0.08357								
0.01709	0.02957	0.04402	0.08002								
0.01452	0.02512	0.03740	0.06798								
0.01611	0.02787	0.04149	0.07542								
0.01957	0.03646	0.03796	0.05113	0.08105	0.13407						
0.01905	0.03150	0.03150	0.03845	0.06095	0.10081	0.14266	0.19030	0.36994			1.97224
0.01905	0.02835	0.02835	0.03518	0.05577	0.09226	0.13055	0.17415	0.33854	0.64555	1.09652	1.80483
0.01147	0.02209	0.02297	0.02928	0.04642	0.07678	0.10865	0.14493	0.28174	0.53724	0.91255	1.50206
0.00950	0.02268	0.02268	0.02916	0.04622	0.07646	0.10819	0.14432	0.28056	0.53498	0.90872	1.49571
0.00839	0.02025	0.02025	0.02650	0.04201	0.06950	0.09834	0.13119	0.25503	0.48630	0.82602	1.35960
0.00801	0.01548	0.01590	0.01970	0.03123	0.05165	0.07309	0.09750	0.18954	0.36143	0.61393	1.01050
0.00757	0.01597	0.01597	0.02170	0.03441	0.05691	0.08053	0.10743	0.20884	0.39822	0.67642	1.11336
0.00665	0.01285	0.01285	0.01602	0.02540	0.04201	0.05945	0.07931	0.15417	0.29399	0.49936	0.82193
0.00665	0.01260	0.01260	0.01778	0.02818	0.04661	0.06596	0.08799	0.17104	0.32616	0.55401	0.91187
							0.07188	0.13973		0.45258	0.74493
0.00771	0.02061	0.02075									
0.00771	0.01997	0.02001									
0.00773	0.01255	0.01985									
0.00348	0.00781	0.01964		0.01957	0.03646	0.03646			0.13487		
0.00300	0.00707	0.00707	0.00715	0.01905	0.03150	0.03150	0.03796	0.06397	0.11653	0.19065	0.30292
0.00208	0.00447	0.00452	0.00538	0.01905	0.02835	0.02835	0.03150	0.05308	0.09669	0.15819	0.25135
0.00197	0.00505	0.00505	0.00492	0.01147	0.02209	0.02209	0.02835	0.04777	0.08702	0.14237	0.22621
0.00189	0.00410	0.00412	0.00409	0.00950	0.02268	0.02268	0.02297	0.03870	0.07050	0.11535	0.18328
0.00172	0.00410	0.00412	0.00408	0.00839	0.02025	0.02025	0.02266	0.03822	0.06962	0.11390	0.18097
0.00165	0.00404	0.00404	0.00371	0.00801	0.01548	0.01548	0.02025	0.03412	0.06216	0.10169	0.16158
0.00145	0.00353	0.00353	0.00275	0.00757	0.01597	0.01597	0.01590	0.02679	0.04880	0.07984	0.12685
0.00126	0.00270	0.00271	0.00304	0.00665	0.01285	0.01285	0.01597	0.02691	0.04903	0.08021	0.12744
0.00110	0.00283	0.00283	0.00224	0.00665	0.01260	0.01260	0.01285	0.02165	0.03945	0.06453	0.10254
0.00103	0.00220	0.00221	0.00249				0.01260	0.02123		0.06328	0.10054

Moment of Inertia [kg・m^2]

18.5	22	30	37	45	55
0.23	0.23	0.25	0.31	0.34	0.68
0.36	0.36	0.48	0.60	1.00	1.18

■Specifications/Dimensions for Spline Shaft

In case spline shaft is used for slow speed shaft, dimensions are as follows.

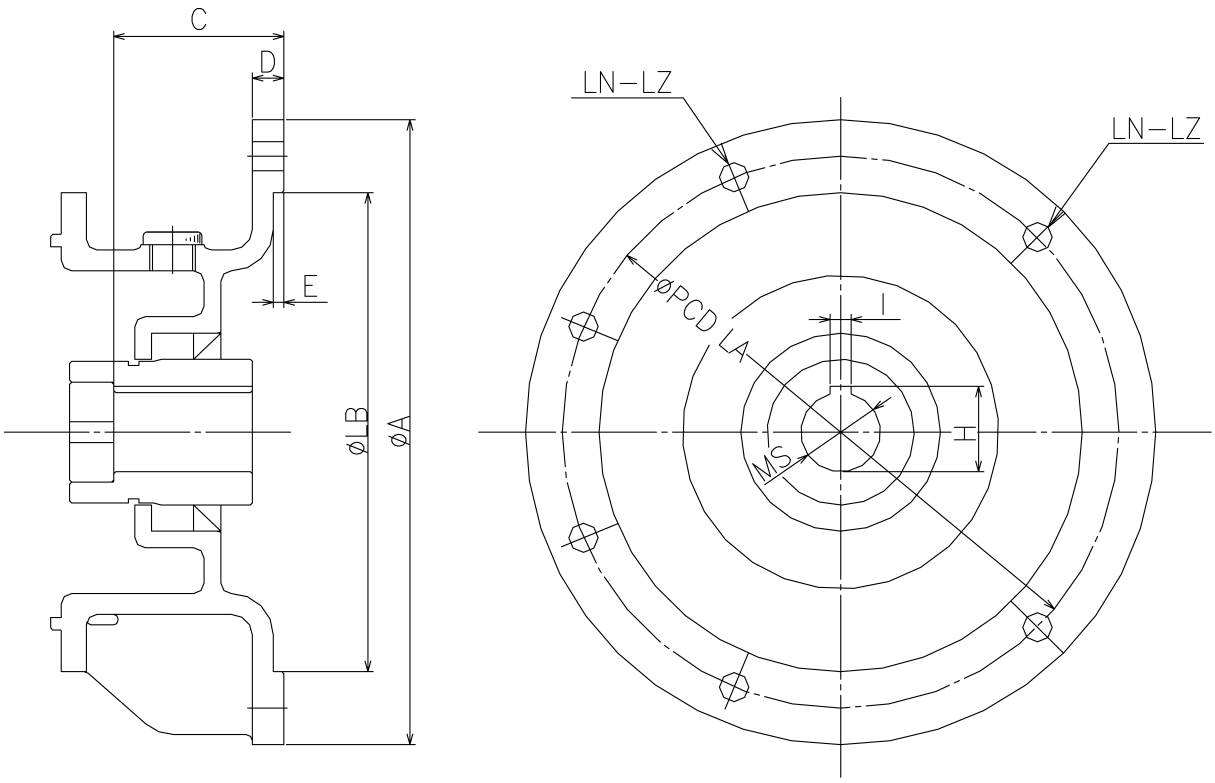


（Unit：mm）

Size	Spline spec.	φD(max)	φDE	L	LE	W	S	L2
1100	120×22×5	119	−	100	100	63	M16	32
1110	130×24×5	129	−	110	110	80	M20	45
1120	150×18×7.5	148.5	−	120	120	80	M20	45
1130	160×19×7.5	158.5	−	130	130	100	M24	51
1140	180×22×7.5	178.5	−	150	150	100	M24	51
1150	200×25×7.5	198.5	200p6	220	160	125	M30	64
1160	220×20×10	218	220p6	250	170	125	M30	64
1170	240×22×10	238	240p6	260	180	125	M30	64
1180	260×24×10	258	260p6	260	180	160	M36	70
1190	280×26×10	278	280p6	300	220	160	M36	70
1200	320×30×10	318	320r6	320	240	200	M36	70
1210	360×34×10	358	360r6	330	250	200	M36	70
1220	400×38×10	398	400r6	340	260	250	M36	70

Gear standard：In conformity with JIS B1603-1995 attachment “Involute Spline (standard pressure angle 20°)”.
(Same as old standard JIS D2001-1959”Involute Spline for automobiles”.)

■Dimensions of Motor Adapter JEM / IEC



Unit : mm

Motor Capcity code	JEM (Standard) kW×pole	JEM (Standard) Frame size	IEC kW×pole	IEC Frame size	A	LB	C	D	E	ϕMS	H	I	LA	LN	LZ
02	0.2×4P	63	−	63	160	110	23	13	4.5	11	−	−	130	4	10
05	0.4×4P	71	0.25×4P, 0.37×4P	71	160	110	30	13	4.5	14	16.3	5	130	4	10
1	0.75×4P	80	0.55×4P, 0.75×4P	80	200	130	40	13	4.5	19	21.8	6	165	4	12
2	1.5×4P	90L	1.1×4P, 1.5×4P, 1.85×4P	90L	200	130	50	13	4.5	24	27.3	8	165	4	12
3	2.2×4P	100L	2.2×4P, 3×4P	100L	250	180	60	13	5	28	31.3	8	215	4	15
5	3.7×4P	112M	4×4P	112M	250	180	60	13	5	28	31.3	8	215	4	15
8	5.5×4P	132S	5.5×4P	132S	300	230	80	15	5	38	41.3	10	265	4	15
10	7.5×4P	132M	7.5×4P	132M	300	230	80	15	5	38	41.3	10	265	4	15
15	11×4P	160M	11×4P	160M	350	250	110	18	6	42	45.3	12	300	4	19
20	15×4P	160L	15×4P	160L	350	250	110	18	6	42	45.3	12	300	4	19
25	18.5×4P	180M	−	−	400	300	110	18	6	48	51.8	14	350	4	19
—	−	−	18.5×4P	180M＊	350	250	110	18	6	42	45.3	12	300	4	19
30	22×4P	180M	−	−	400	300	110	18	6	48	51.8	14	350	4	19
—	−	−	22×4P	180L＊	350	250	110	18	6	42	45.3	12	300	4	19
40	30×4P	180L	30×4P	200L	400	300	110	18	6	55	59.3	16	350	4	19
50, 60	37×4P, 45×4P	200L	37×4P, 45×4P	225S	450	350	140	22	6	60	64.4	18	400	8	19
75	55×4P	225S	55×4P	250M	550	450	140	22	6	65	69.4	18	500	8	19

Note 1. Motor adapters with other dimensions than as listed in this table can be also manufactured. Please send us your inquiry.

Note 2. Special adapter may be necessary for these flanges with ＊ mark. Please consult us when you need them.

Note 3. As to these types of 37×4P, 45×4P, 55×4P, on which CYCLO Flange Motor is equipped (refer to C-22 & 23), flanges of JEM Standard will be specially applied.

■Recommended Couplings

Our couplings are highly recommended to use as a coupling joint of reducers.
GC coupling (Gear Coupling) is recommended for low speed shaft and DC coupling (Disk Coupling) is for high speed shaft.

GC coupling for low speed shaft

Dimensions（E-8 Page）

Size of Reducer	Coupling Code
1010	GCSSM-112
1020	GCSSM-125
1030	GCSSM-140
1040	GCSSM-160
1050	GCSSM-200
1060	GCSSM-224
1070	GCSSM-250
1080	GCSSM-280
1090	GCSSM-315
1100	GCSSM-315
1110	GCSSM-355
1120	GCSSM-400
1130	GCSSMH-400
1140	GCCCMH-450
1150	GCCCMH-450
1160	GCCCMH-500
1170	GCCCMH-560
1180	GCCCMH-560
1190	GCCCMH-630
1200	GCCCMH-710
1210	GCCCM-800
1220	GCCCM-800

DC coupling for high speed shaft

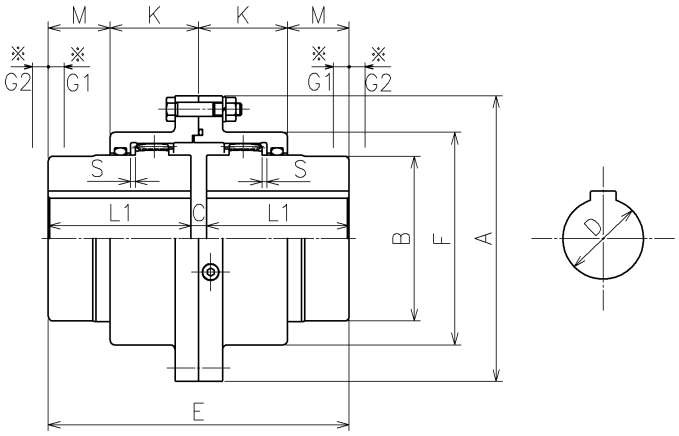
Dimensions（E-9 Page）

Shaft	Coupling Code *1
ϕ25	DCHS08M
ϕ30	DCHS09M
ϕ35	DCHS10M
ϕ40	DCHS12M
ϕ50	DCHS14M
ϕ55	DCHS19M
ϕ60	DCHS19M
ϕ65	DCHS21M
ϕ70	DCHS24M
ϕ75	DCHS24M
ϕ80	DCHS24M
ϕ95	GCSSM-250 ＊2
ϕ120	GCSSM-280 ＊2
ϕ130	GCSSM-315 ＊2

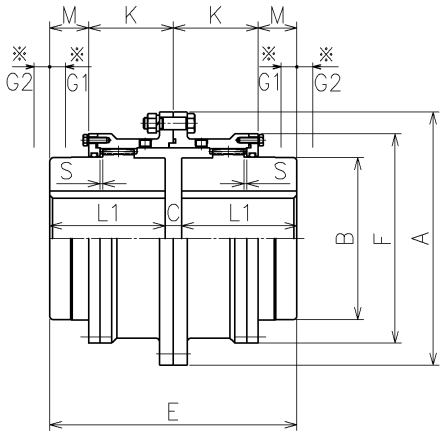
＊1. S type (with extension spacer) is available.
＊2. GC coupling is recommended.

Dimensions	GC coupling

GC-SSM type GC-SSMH type
(Parallel type)



GC-CCM type GC-CCMH type
(Side cover type)



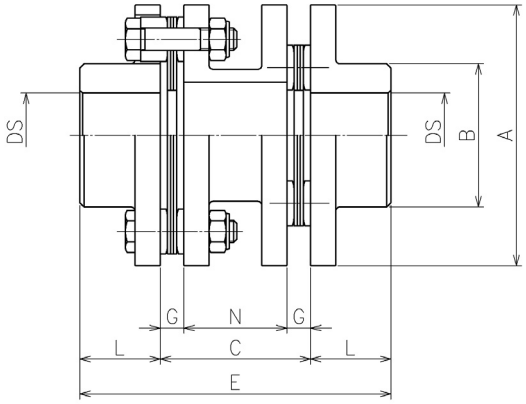
※G1: Coupling case position at centering.
※G2: Coupling case position at checkup of gear

Diameter (mm) A	Shaft Dia (mm) Max/Min D	Dimensions (mm) E	L1	C	B	F	K	M	S	G1	G2	Oil Qty (ℓ)	Weight (kg)	Moment of Inertia (kg·m²)
100	32/17	98	45	8	46	67	34	15	2	4	10	0.043	2.9	0.0028
112	40/17	108	50	8	58	79	40	14	2	1	14	0.055	4.3	0.0050
125	50/22	134	63	8	70	92	43	24	2.5	9	7	0.072	6.6	0.0088
140	56/22	150	71	8	80	107	47	28	2.5	11	7	0.11	9.3	0.0153
160	65/22	170	80	10	95	120	52	33	3	12	7	0.14	14	0.0283
180	75/32	190	90	10	105	134	56	39	3	15	5	0.18	19	0.0478
200	85/32	210	100	10	120	149	61	44	3	18	5	0.24	26	0.0788
224	100/42	236	112	12	145	174	65	53	4	25	1	0.36	39	0.150
250	115/42	262	125	12	165	200	74	57	4	28	1	0.53	55	0.270
280	135/42	294	140	14	190	224	82	65	4.5	28	1	0.69	81	0.515
315	160/100	356	170	16	225	260	98	80	5.5	33	1	1.1	129	1.06
355	180/125	396	190	16	250	288	108	90	5.5	34	1	1.3	177	1.78
400	200/140	418	200	18	285	329	114	95	6.5	39	0	2.0	242	3.13
450	205/140	418	200	18	290	372	151	58	5	−3	6	2.6	298	4.15
500	250/170	494	236	22	335	424	168	79	6	10	−5	3.8	446	9.23
560	280/190	552	265	22	385	472	187	89	6.5	7	−2	4.6	642	16.9
630	325/224	658	315	28	455	544	213	116	8	17	−10	6.7	1010	34.3
710	360/250	738	355	28	510	622	242	127	8.5	17	−10	9.4	1440	62.5
800	405/280	832	400	32	570	690	267	149	9.5	23	−15	13	2030	110

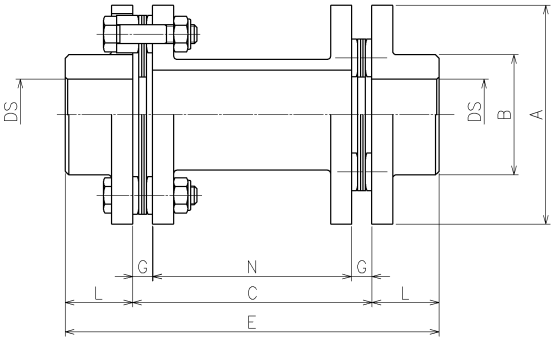
Note: Weight and moment of inertia are the values for solid shaft.

Dimension	DC coupling

DCHS□□M type
(standard hub/standard spacer/standard shaft)



DCHS□□S type
(standard hub/extension spacer/standard shaft)



Size	Shaft Dia (mm) Max/Min DS	Dimensions (mm) A	E	L	C	B	G	N	Qty of Bolts	Weight (kg)	Moment of Inertia (kg・m^2)	Allowable speed (r/min)
DCHS06M	23/0	67	100.4	25.4	49.6	33	6.1	37.4	4	1.1	0.00048	11,000
DCHS06S	23/0	67	139.7	25.4	88.9	33	6.1	76.7	4	1.2	0.0005	11,000
DCHS08M	32/0	81	101.0	25.4	50.2	46	6.6	37.0	4	1.7	0.0012	9,400
DCHS08S	32/0	81	139.7	25.4	88.9	46	6.6	75.7	4	1.9	0.0013	9,400
DCHS09M	35/0	93	111.0	28.7	53.6	51	8.4	36.8	4	2.6	0.0024	8,800
DCHS09S	35/0	93	159.0	28.7	101.6	51	8.4	84.8	4	2.8	0.0025	8,800
DCHS10M	42/0	104	126.6	33.5	59.6	61	11.2	37.2	4	3.7	0.0038	8,600
DCHS10S	42/0	104	194.0	33.5	127.0	61	11.2	104.6	4	4.1	0.0040	8,600
DCHS12M	50/0	126	143.0	41.1	60.8	71	11.7	37.4	4	6.5	0.0105	7,700
DCHS12S	50/0	126	209.2	41.1	127.0	71	11.7	103.6	4	6.8	0.0108	7,700
DCHS14M	58/0	143	166.2	47.8	70.6	84	11.7	47.2	4	10.2	0.0208	6,500
DCHS14S	58/0	143	222.6	47.8	127.0	84	11.7	103.6	4	10.5	0.0211	6,500
DCHS16M	74/0	168	195.0	57.2	80.6	106	16.8	47.0	4	16.0	0.0461	6,100
DCHS16S	74/0	168	241.4	57.2	127.0	106	16.8	93.4	4	16.5	0.0467	6,100
DCHS19M	83/0	194	216.6	63.5	89.6	119	17.0	55.6	4	23.7	0.0906	4,700
DCHS19S	83/0	194	266.7	63.5	139.7	119	17.0	105.7	4	24.4	0.0921	4,700
DCHS21M	95/38	214	251.0	76.2	98.6	137	21.6	55.4	4	31.7	0.1488	4,700
DCHS21S	95/38	214	304.8	76.2	152.4	137	21.6	109.2	4	32.5	0.1512	4,700
DCHS24M	109/50	246	289.8	88.9	112.0	157	23.9	64.2	4	48.2	0.2985	4,100
DCHS24S	109/50	246	355.6	88.9	177.8	157	23.9	130.0	4	49.2	0.3023	4,100
DCHS27M	118/63	276	338.6	101.6	135.4	170	27.2	81.0	4	74.3	0.5715	4,000
DCHS27S	118/63	276	381.0	101.6	177.8	170	27.2	123.4	4	75.2	0.5763	4,000

Note: Weight and moment of inertia are the values for solid shaft.

Guarantee standard

Warranty period	The warranty period of the product newly built shall be 12 months after the commencement of operation or 18 months after the date of shipment on Ex- Seller's factory basis. The above warranty period shall not be extended even for the part or the unit repaired or replaced under this warranty.
Warranty Condition	In case any defects are found in the product due to faulty material or poor workmanship during the above warranty period, even if the product is properly installed in, connected or combined to the equipment or machineries or maintained in accordance with the instruction manuals and also properly operated in accordance with the specifications or the conditions as described in the relevant catalogue or otherwise as agreed upon in writing between the parties, the Seller will provide, at its sole discretion, appropriate repair or replacement for the defective part or unit free of charge, except for the items to which the warranty shall not be applied (such non warranty items shall be as per warranty conditions described in the relevant catalogue or the instruction manuals which will be handed at the time of product delivery.) However, in the event that the product is installed in or connected or combined to or integrated into the equipment or machineries supplied by others, the Seller shall not be liable for any costs or charges for the removal of the product from the installation or the refitment of the product into the installation or any associated costs or charges, such as the site works and/ or transportation. The Seller shall in no case be liable for any indirect or consequential loss or damage including such as opportunity loss and/ or loss of profit incurred by the Buyer or its customer. Any and all liability of the Seller under this contract, regardless of cause of claims, shall be limited to the total contract price of the product.
Exception for Warranty	The warranty shall not be applied to the following items. 1. Troubles caused by the installation or the connection of the Product in or to the other equipment or machines. 2. Troubles caused by 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 by us. 3. Troubles caused by improper use or operation of the Products by the Buyer or its customers which are not informed to us, 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 us. 4. Troubles caused by the failure of the connected equipment or the irregular specifications arranged by the Buyer or its customers. 5. Troubles caused by the rebuilding or structural alteration made by the Buyer or its customers. 6. Troubles caused by the failure of the parts, which are supplied or specified by the Buyer or its customers. 7. Troubles caused by the force majeure such as earth quake, fire, flood, salt damage, gas damage, lightning damage, etc. 8. Warranty for those consumable parts like bearings and oil seals, which are consumed, worn out, or deteriorated ordinarily even under the proper usage by the Buyer or its customers. 9. Troubles caused by other items than above, for which we are not responsible.

SAFETY PRECAUTIONS

General

1. 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.)
2. Carefully read the maintenance manual before use. The maintenance manual should be sent to the actual user.
3. Strictly confirm the power source has been off before installation or removal of the product.
4. Install a protective cover on the coupling joint.

Selection

1. Select an appropriate product that matches the operating environment and usage.。
2. Consult us when the machine is used for transportation of passengers. Install a protective equipment on the machine side for safety sake.
3. Use the explosion-proof type motor when the using condition may be explosive.
4. When the machine is used for food processing and others that are susceptible to oil, install an oil pan or other damage preventive devices in case of oil leakage.

SEISA Gear, Ltd.

SEISA Gear, Ltd
International Operations Tel： +81-724-39-1151
International Operations Fax： +81-724-37-5170

Company Name: _____

Person in charge: _____

TEL _____

Atten. _____ FAX _____

This sheet is for our reference to make a model for your requirements.
Please fill in the sheet and send to our person in charge by fax.

SEISA COMPOWER Series Planetary Gear Drive inquiry & order sheet

1. Application

2. Quantity

3. Delivery date

4. Delivery place

5. Nomenclature
☐Foot Mount ☐Flange Mount
☐Horizontal ☐Vertical
☐Inline ☐Motor Direct Mount ☐Right Angle

6. Prime mover
☐Electoric motor ☐Engine ☐Hydraulic motor

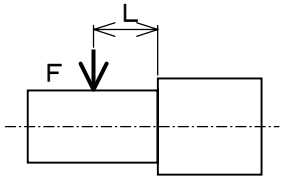
7. Reduction Ratio i ＝

8. Using Conditions
Input Speed _____ r/min
Normal torque of Low speed shaft _____ N・m
Max. torque of Low speed shaft _____ N・m
Transmission power _____ kW
Operating hours _____ hours/day
Operating duty _____ %／hour
Direction of Rotation ☐One way ☐Bidirectional

9. Service Factor

10. Bearing Life

11. Connection between motor and driven machine
High speed shaft
☐Coupling
☐Chain/V belt
☐Other（_____）
External Radial Load
F＝_____N L＝_____mm
Low speed shaft
☐Coupling
☐Gear
☐Other（_____）
External Radial Load
F＝_____N L＝_____mm



12. Ambient conditions
Location ☐Indoor-closed ☐Indoor-open ☐Outdoor
Ambient temperature MIN ℃ MAX ℃
Dust ☐Much ☐Less Wind m/sec

Remarks

Global Net-Work

Pleasa contact your local international sales office for detail information. The Global Net-Work of Sumitomo Heavy Industries is at your service for Seisa gears and other products.

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Tel:(44)-1482-788022 Fax:(44)-1482-713205

Sumitomo（SHI）Cyclo Drive Asia Pacific Pte,Ltd.（SCA）
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Tel:(65)-6863-2238 Fax:(65)-6863-4238

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