



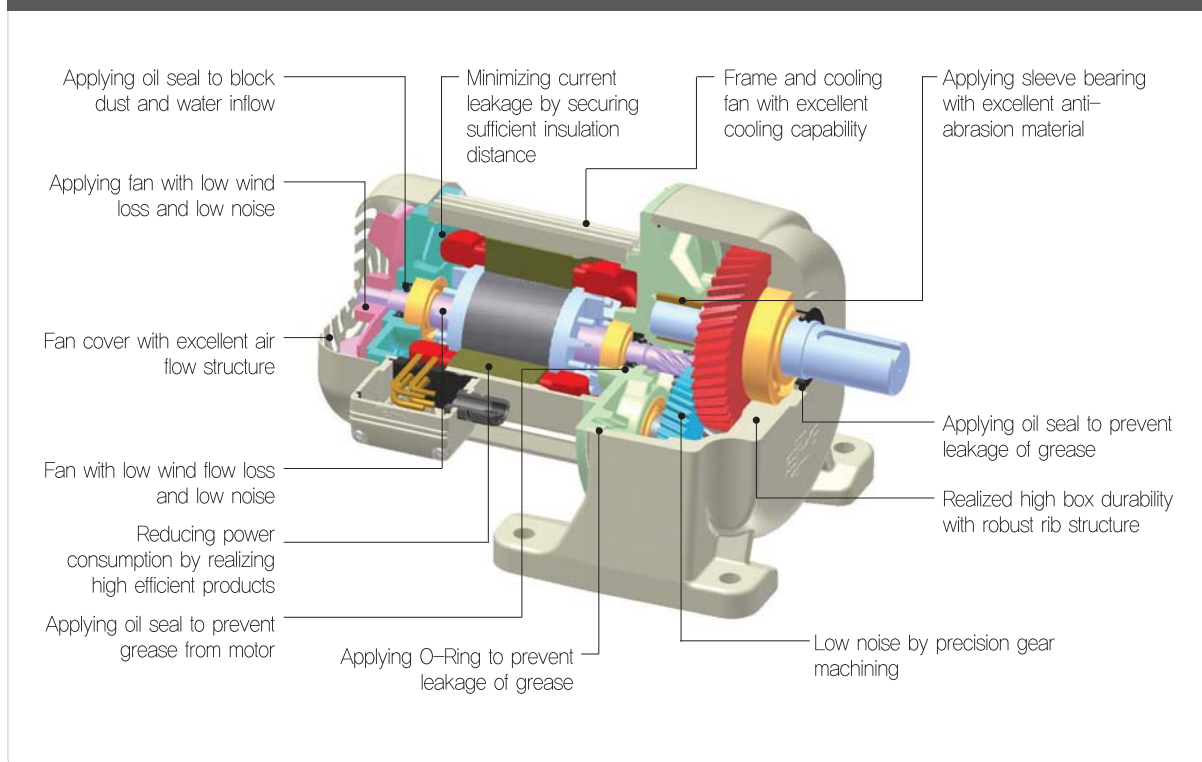
INDUSTRIAL GEARED MOTOR

PA Series

- ▶ Compact Size, Satisfying Minimum Efficiency System
- ▶ Maximum Allowable Torque 1,230 N,m
- ▶ High Reliability and Low Noise
- ▶ Waterproof and Anti-Vibration Grade : IP55(or IP40)
- ▶ Insulation Grade : F

PA Series GEARED MOTOR

■ Product Structure




■ Product feature

Motor Output	0.2kW, 0.4kW, 0.75kW, 1.5kW, 2.2kW
Rated Voltage and Frequency	3Ph 220/380V 60Hz, 200V 50Hz, 200/220V 60Hz, 380/400V 50Hz, 400/440V 60Hz
Outer Diameter for Output Shaft at Reducer	Ø18, Ø22, Ø28, Ø32, Ø40, Ø50
Motor Efficiency	71.5%, 74.1%, 82.8%, 85.0%, 88.8%
Reduction Gear Ratio	0.2~1.5kW : 1/5~200, 2.2kW : 1/5~100
Allowable Torque	30, 97, 234, 431, 764, 1230 N · m
Degrees of Protection	IP55 (BRAKE MODEL : IP40 & IP55)
Insulation Classification	Class F

INDUSTRIAL GEARED MOTOR

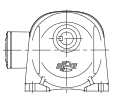
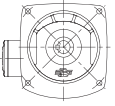


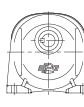


■ PA SERIES GEARED MOTOR CODING

SERIES	MOUNTING	FRAME NO	RATIO	EFFICIENCY	TYPE	OUTPUT	VOLTAGE	LOCATION
PA	L	22	30	M	A	020	R4	L

Series Name		Frame No		Motor Efficiency Grade		Motor Output		Rated Voltage and Frequency		
PA		18	Outer diameter for output shaft	M	Standard Efficiency	0.2kW	020	0.2kW	R4	3Ph, 220/380V 60Hz
		22			0.4kW	040	0.4kW			
		28		E	High Efficiency	0.75kW	075	0.75kW	W6	3Ph, 200V 50Hz 200/220V 60Hz
		32			1.5kW	150	1.5kW			
		40		2.2kW	220	2.2kW	X6	3Ph, 380/400V 50Hz 400/440V 60Hz		
50										

Motor Option		
A	Lead Box Type	IP55
B	Terminal Box Type	IP55
C	Terminal Box + Brake Type	IP40
D	Terminal Box + Brake closed Type	IP55

Installation Structure		EX) Reduction Gear Ratio	
L	Foot(Leg) Mount	5	1/5
		10	1/10
		30	1/30
		100	1/100
		200	1/200
F	Flange Mount		
K	Small Flange Mount		

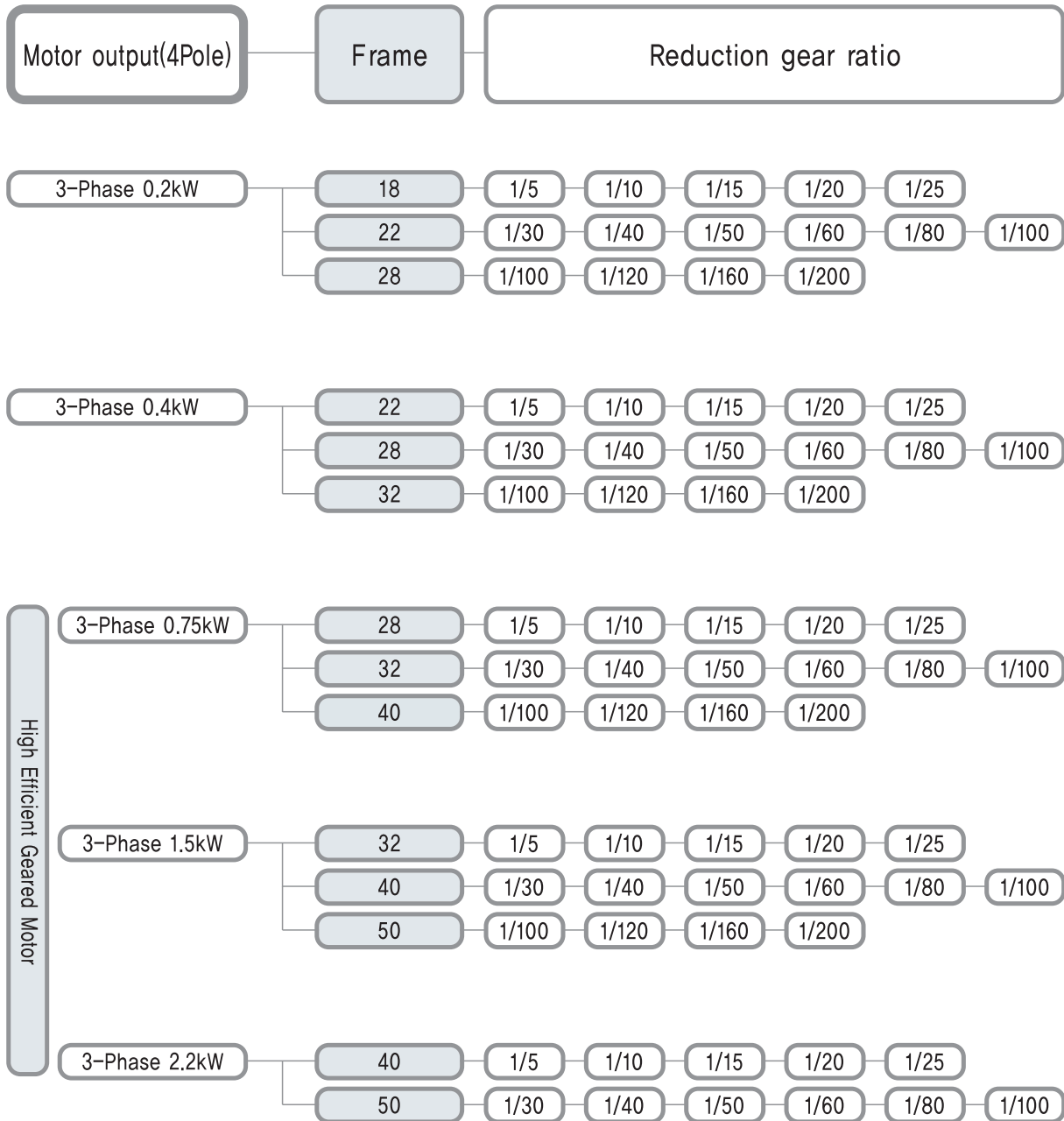
Direction of Terminal Box			
Type		Foot (Leg)	Flange
L	Direction of 9 o'clock		
		Standard	Standard
T	Direction of 12 o'clock		
R	Direction of 3 o'clock		
B	Direction of 6 o'clock	Non-exist	

※ Some of the above product codes are subject to change depending on continuous release of new products and/or new features.

※ The output of single phased motor is limited from 0.2kW to 0.4kW.

PA Series GEARED MOTOR

PA SERIES MODEL LINEUP



PA Series

BASIC MODEL

GEARED MOTOR

PA
Series



	Basic Model	Brake Model
Foot Mount PAL Type ▶ Output range : 3phase 0.2~2.2kW ▶ Rated reduction gear ratio : 1/5~1/200	 P.37	 P.37
Flange Mount PAF Type ▶ Output range : 3phase 0.2~2.2kW ▶ Rated reduction gear ratio : 1/5~1/200	 P.49	 P.49
Small Flange PAK Type ▶ Output range : 3phase 0.2~2.2kW ▶ Rated reduction gear ratio : 1/5~1/200	 P.61	 P.61

PA Series GEARED MOTOR

Product Coding

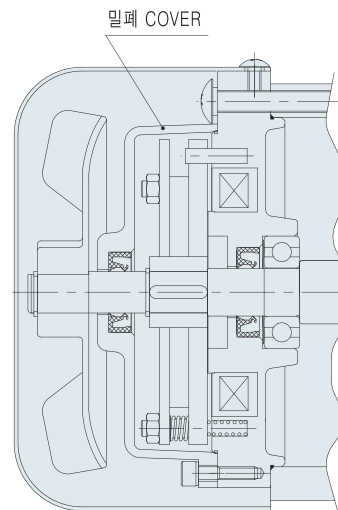
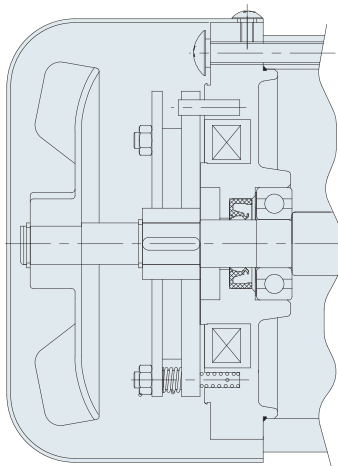
SERIES	MOUNTING	FRAME NO	RATIO	EFFICIENCY	TYPE	OUTPUT	VOLTAGE	LOCATION
PA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	A&B C&D	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Motor Option

BASIC MODEL		Motor Option	Image
BASIC MODEL	A	Lead wire Box Type - Basic model without additional devices attached. Lead wires in the lead box to protect contact points. - Connect the lead wires provided on the motor to the power supply - Protection grade : IP55	
	B	Terminal Box Type - Basic model without additional devices attached. A model with a built-in terminal strip in the lead box. - Connect power supply to the terminals to start operation - Protection grade : IP55	

BRAKE Attached MODEL

C	D
Terminal Box + Brake Type - Brake attached model with terminal box - Enables immediate stop the motor and accurately hold the load - Protection grade : IP40	Terminal Box + Brake Closed Type - Brake attached model with terminal box - Enables immediate stop the motor and accurately hold the load - Brake cover is added - Protection grade : IP55



BASIC MODEL INDUSTRIAL GEARED MOTOR

PAL Series

FOOT(LEG) MOUNTED TYPE

Basic Model & Brake Model

PAL TYPE

- ▶ Output range : 3phase 0,2~2,2kW
- ▶ Rated reduction gear ratio : 1/5~1/200



Product Coding

SERIES	MOUNTING	FRAME NO	RATIO	EFFICIENCY	TYPE	OUTPUT	VOLTAGE	LOCATION
PA	L	<input type="checkbox"/>	— <input type="checkbox"/>	— <input type="checkbox"/>	A&B C&D	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- ▶ The output of brake type geared motor ranges from 0,2 to 2,2kw



PAL Series 3-Phase

0.2kW

■ SPECIFICATION

■ MOTOR

Output (kW)	Model Name	Poles	Voltage (V)	Freq. (Hz)	Rated Load			Duty	Degrees of protection	Insulation Classification	Protective Cooling System
					Current (A)	Speed (r/min)	Efficiency (%)				
0.2	PAL□-□-M□020R4□	4	220/380	60	1,10/0,60	1715	71,5	CONT.	IP55	F	Totally Enclosed Fan-Cooled
	PAL□-□-M□020W6□	4	200	50	1,10	1415	71,7				
			200/220	60	1,00/1,00	1690/1715	72,8/73,2				
	PAL□-□-M□020X6□	4	380/400	50	0,60/0,60	1410/1420	71,0/67,2				
			400/440	60	0,50/0,50	1700/1720	70,8/73,4				

- The Brake Geared Motor is divided into 2 models: one is a non-water proof product with IP40 while the other is a waterproof product with IP55.
- The Models with IP40 and IP55 have the same electric characteristics.

■ GEARED MOTOR – 50Hz

Frame No.	18					22					28					
Reduction gear ratio	5	10	15	20	25	30	40	50	60	80	100	100	120	160	200	
Rotation speed (r/min)	300	150	100	75	60	50	37,5	30	25	18,8	15	15	12,5	9,4	7,5	
Allowable torque	kgf · m	0,62	1,2	1,9	2,5	3,1	3,7	4,8	6	7,2	9,6	9,9	11,9	14,3	19,1	23,9
	N · m	6,1	11,8	18,6	24,5	30,4	36,3	47	58,8	70,6	94,1	97	117	140	187	234
Allowable O.H.L	kgf	60	90	100	120	130	180	190	200	220	250	250	290	340	350	350
	N	588	882	980	1180	1270	1760	1860	1960	2160	2450	2450	2840	3330	3430	3430

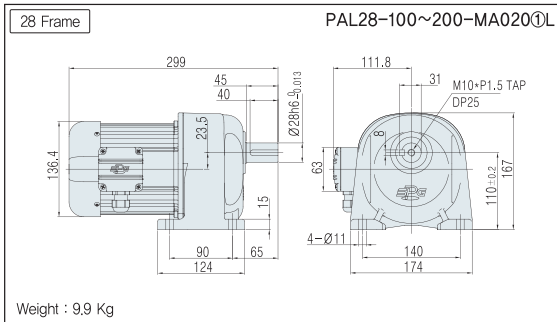
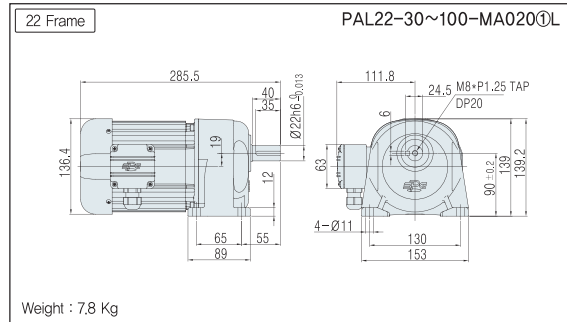
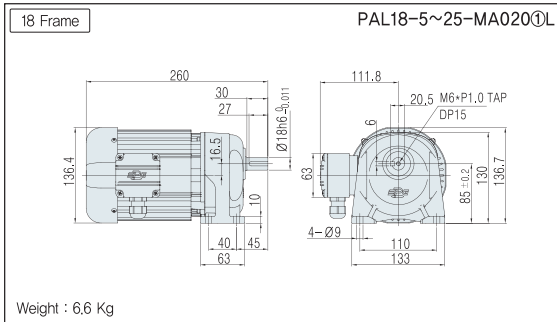
■ GEARED MOTOR – 60Hz

Frame No.	18					22					28					
Reduction gear ratio	5	10	15	20	25	30	40	50	60	80	100	100	120	160	200	
Rotation speed (r/min)	360	180	120	90	72	60	45	36	30	22,5	18	18	15	11,2	9	
Allowable torque	kgf · m	0,51	1	1,5	2,1	2,6	3,1	4	5	6	8	8,2	10	11,9	15,9	19,9
	N · m	5	9,8	14,7	20,6	25,5	30,4	39,2	49	58,8	78,4	80,4	98	117	156	195
Allowable O.H.L	kgf	60	90	100	120	130	180	190	200	220	250	250	290	340	350	350
	N	588	882	980	1180	1270	1760	1860	1960	2160	2450	2450	2840	3330	3430	3430

- Note) • Permissible O,H,L (allowable overhung load) is based on the central part of the outlet length for output shaft
 • ■ Color indicates the same direction of motor rotation, while other color indicates the opposite direction of motor rotation.

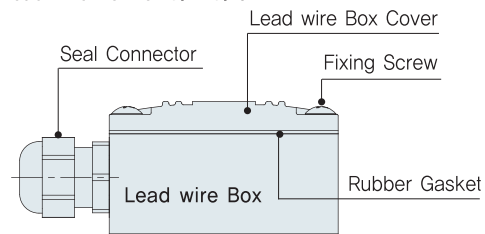
■ PAL TYPE DIMENSIONS [Lead wire Box Type]

UNIT = mm



• Model type ① : Power (Voltage & Frequency)

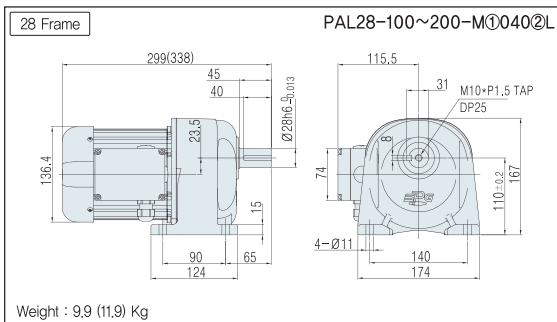
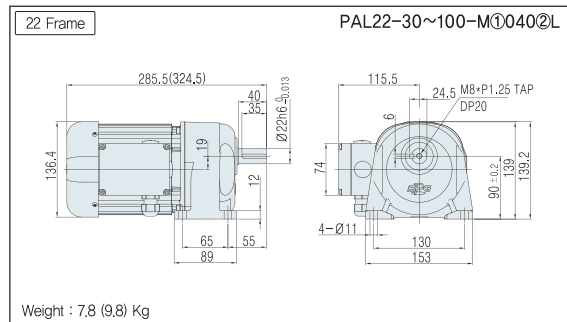
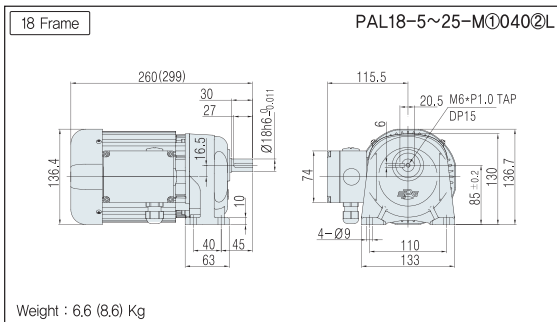
■ Lead wire Box for 0.2~0.75kW



■ PAL TYPE DIMENSIONS [Terminal Box Type]

- Note) • Dimensions for IP40 model and IP55 model are the same.
 • The brake-attached model is applied to the Terminal Box Type for basic features, but does not apply to the lead wire box type.
 • () dimension and weight in dimensions is for brake attached model specification

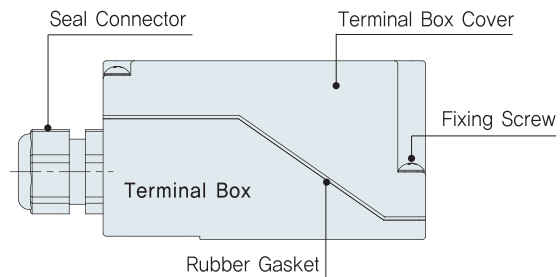
UNIT = mm



• Model type ① : Motor option (B, C, D)

② : Power (Voltage & Frequency)

■ Terminal Box for 0.2~0.75kW





PAL Series 3-Phase

0.4kW

■ SPECIFICATION

■ MOTOR

Output (kW)	Model Name	Poles	Voltage (V)	Freq. (Hz)	Rated Load			Duty	Degrees of protection	Insulation Classification	Protective Cooling System
					Current (A)	Speed (r/min)	Efficiency (%)				
0,4	PAL□-□-M□040R4□	4	220/380	60	2,00/1,20	1730	74,1	CONT.	IP55	F	Totally Enclosed Fan-Cooled
			200	50	2,20	1450	74,2				
	PAL□-□-M□040W6□	4	200/220	60	1,80/1,90	1735/1745	76,4/75,7				
			380/400	50	1,10/1,10	1425/1430	75,5/74,1				
	PAL□-□-M□040X6□	4	400/440	60	1,00/1,00	1710/1725	75,4/75,2				

- The Brake Geared Motor is divided into 2 models: one is a non-water proof product with IP40 while the other is a waterproof product with IP55.
- The Models with IP40 and IP55 have the same electric characteristics.

■ GEARED MOTOR – 50Hz

Frame No.	22					28					32					
Reduction gear ratio	5	10	15	20	25	30	40	50	60	80	★100	100	120	160	200	
Rotation speed (r/min)	300	150	100	75	60	50	37,5	30	25	18,8	15	15	12,5	9,4	7,5	
Allowable torque	kgf · m	1,2	2,5	3,7	4,9	6,2	7,4	9,6	11,9	14,3	19,1	19,7	23,9	28,7	38,2	44
	N · m	12	25	36	48	61	73	94	117	140	187	193	234	281	374	431
Allowable O.H.L	kgf	90	120	140	150	170	260	290	320	350	350	350	500	600	600	600
	N	882	1180	1370	1470	1670	2550	2840	3140	3430	3430	3430	4900	5880	5880	5880

■ GEARED MOTOR – 60Hz

Frame No.	22					28					32					
Reduction gear ratio	5	10	15	20	25	30	40	50	60	80	★100	100	120	160	200	
Rotation speed (r/min)	360	180	120	90	72	60	45	36	30	22,5	18	18	15	11,2	9	
Allowable torque	kgf · m	1	2,1	3,1	4,1	5,1	6,2	8	10	11,9	15,9	16,4	19,9	23,9	31,9	39,8
	N · m	10	21	30	40	50	61	78	98	117	156	161	195	234	313	390
Allowable O.H.L	kgf	90	120	140	150	170	260	290	320	350	350	350	500	600	600	600
	N	882	1180	1370	1470	1670	2550	2840	3140	3430	3430	3430	4900	5880	5880	5880

- Note)
- Permissible O,H,L (allowable overhung load) is based on the central part of the outlet length for output shaft
 - Permissible Torque is limited for products with a mark "★" of reduction gear ratio
 - ■ Color indicates the same direction of motor rotation, while other color indicates the opposite direction of motor rotation.