

**Sumitomo Drive Technologies**  
*Always on the Move*

# Neo Hyponic

Right Angle Gearmotors & Speed Reducers



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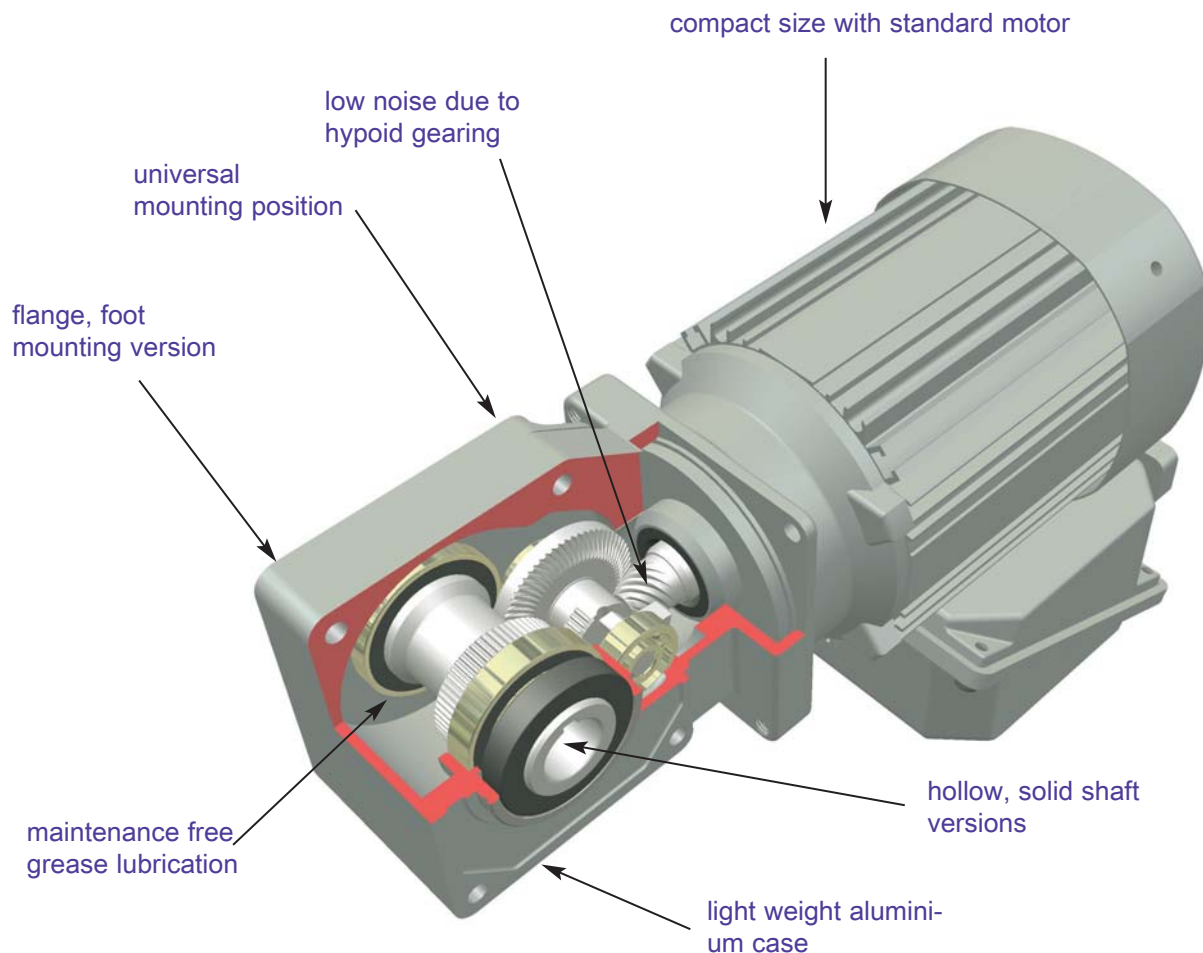
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## Sumitomo HYPONIC DRIVE

*more compact design for 0,12 kW ~ 5,5 kW*

*more combinations of capacity and reduction ratio*

### Fractional Geared Hypoid Gearmotors



- Hollow shaft type
- Flange mount type 1
- Flange mount type 2
- Foot mount type



RNYM Series  
Hollow shaft type



RNFM Series  
Flange mount type (1)



RNHM Series  
Foot mount type



RNFM Series  
Flange mount type (2)



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## Neo Hyponic®

All-Steel Hypoid Technology Fractional Geared Hypoid Gearmotors

### Product description

Sumitomo's Neo Hyponic fractional powered gearmotors incorporate a patented design that provides high reduction ratios delivering greater efficiency in all models. The patented Hypoid gear set, built on Sumitomo's legacy of premier gearing designs, are the most reliable, longest-life gearing solutions available in the market. The right angle shaft design of Neo Hyponic makes it space efficient, and allows for a greater variety of mounting configurations.

With the optional IP65 dust-proof and waterproof feature, the Hyponic Neo is perfect for demanding applications such as food and beverage processing, packaging, agricultural processing, and chemical and pharmaceutical industries.

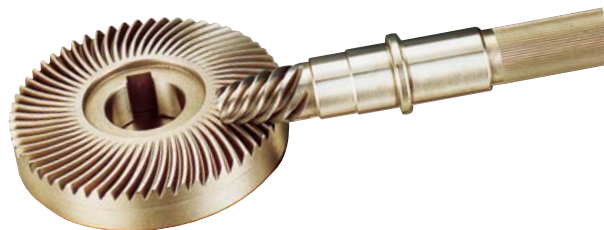
### Features & Benefits

Compact, integral hypoid gear design fits into limitless application environments.

- Maintenance-free, grease-lubricated, sealed housing, with no lubricant leakage
- High efficiency
- High performance hypoid gears run cooler and quieter
- (<2 dB(A)) than bevel gears or helical gears
- Optional IP65 wash-down and dust-proof housing for maximum durability and cleanliness in demanding applications
- Hollow bore for quick and easy mounting
- Fewer mounting parts
- Fewer man-hours for mounting
- Versatile Installation  
New style casing of Hyponic Neo allows installations from both sides.

Sumitomo Hyponic drive right-angle gear motors are equipped with hypoid gears. They are engineered to deliver high performance and high efficiency in a compact package.

The mounting bolts are on square pitch, therefore the mounting position can be changed without protrusion from existing envelope space. Interface dimensions do not need to be changed.



- **High efficiency**

Sumitomo Hyponic Drive provides higher reduction ratio than bevel gears, allowing higher efficiency in all ranges of reduction ratios.

- **Low noise**

With larger contact intervals than bevel gears, Hyponic Drive has a greater transmission capacity, which results in extremely silent and vibrationless operation.

- **Robust and long-life**

Hypoid gears are made of molybdenum steel and case harden to provide reliable robust operation.

- **Lightweight and compact**

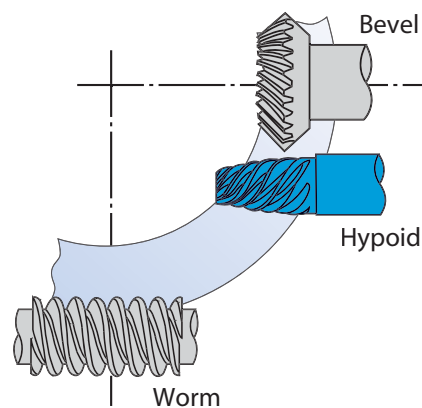
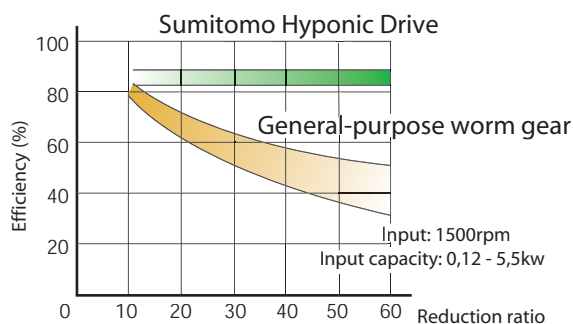
Integration of the motor shaft and hypoid pinion and an aluminium alloy casing minimise weight in a strong compact package.

- **Maintenance free**

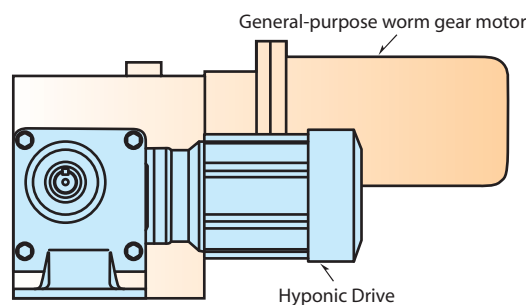
The long-life grease allows operation without changing the grease for a long time and allows installation at any desired angle or incline.

**World standard**

Brakemotors, special voltages, international standards for outdoor use and other specifications are also available.



Comparison of 0,37kW, 1/60 models

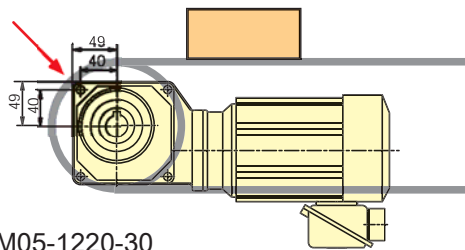


Right angle New HYPONIC NEO series allows compact designs!

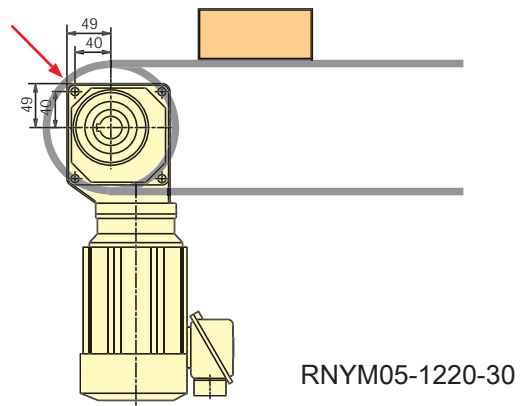
Because the mounting bolts are on square pitch

1. Mounting position can be changed without protrusion from existing envelope space.
2. Mounting position can be changed without changing interface dimensions.

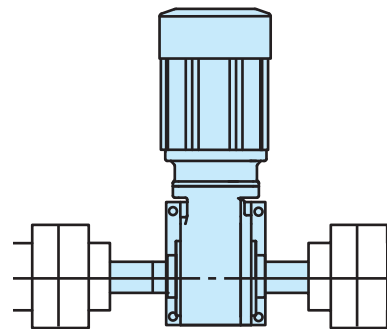
Horizontal mounting



Vertical mounting

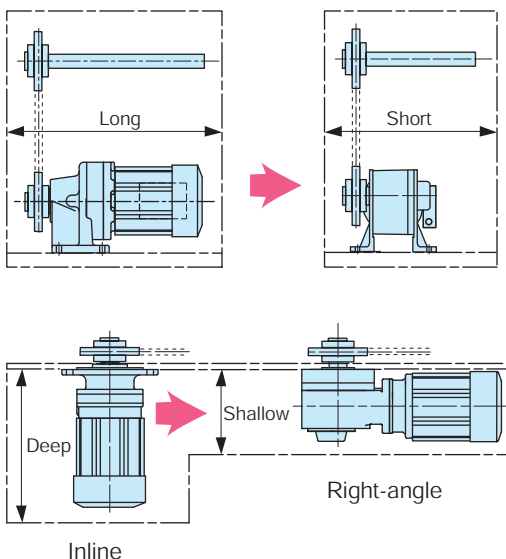


Twin shaft design

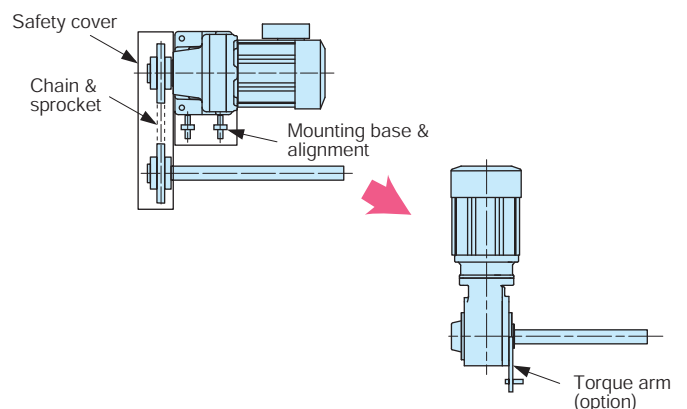


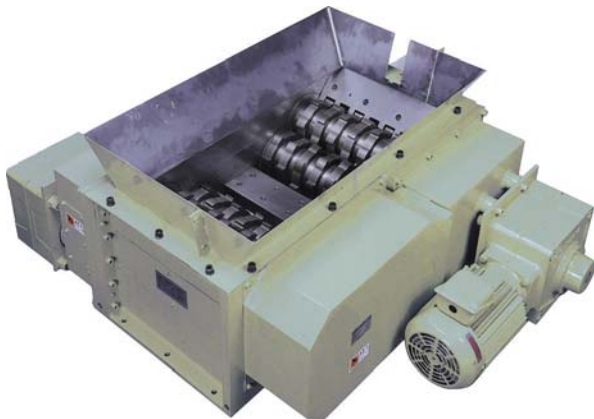
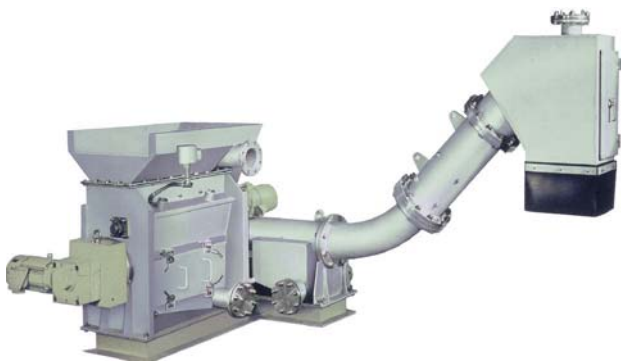
Hyponic Neo right-angle gearmotors make motors installations more compact and less costly.

Space saving design



Direct drive





- Canning, Bottling, Brewing and Sterilising

Machines

- Meat, Dairy, Baking and Food Processing

Equipment

- Conveyors

- Food and Pharmaceutical Testing Equipment

- Medical and Health care Apparatus

- Water and Sewage Treatment Facilities

- Packaging and Container Filling Machines

- Machine Tools

- Measurement Instrumentation



## Product range

		Ratio		5	7	10	12	15	20	25	30	40	50	60	
		Output Speed		50 Hz	290	207	145	121	96,7	72,5	58,0	48,3	36,3	29,0	24,2
Power Supply	Motor Specification		60 Hz	350	250	175	146	117	87,5	70,0	58,3	43,8	35,0	29,2	
Three-Phase	IP44	Note 1 and 2	IP65	15 W	#03 / Ø15										
				25 W	#03 / Ø15										
				40 W	#07 / Ø15										
				60 W	#07 / Ø15										
				90 W	#17 / Ø15										
	IP55	IP65 (without brake)	0,12 kW	#1120 / Ø20											
				#1220 / Ø25											
			0,18 kW	#1120 / Ø20											
				#1220 / Ø25											
				#1320 / Ø30											
			0,25 kW	#1220 / Ø25											
				#1320 / Ø30											
			0,37 kW	#1220 / Ø25											
				#1320 / Ø30											
				#1420 / Ø35											
			0,55 kW	#1320 / Ø30											
				#1420 / Ø35											
			0,75 kW	#1320 / Ø30											
				#1420 / Ø35											
				#1520 / Ø45											
			1,1 kW	#1420 / Ø35											
				#1520 / Ø45											
			1,5 kW	#1420 / Ø35											
				#1520 / Ø45											
				#1531 / Ø45											
			2,2 kW	#1520 / Ø45											
				#1521 / Ø45											
				#1632 / Ø55											
			3,0 kW	#1521 / Ø45											
				#1522 / Ø45											
	#1633 / Ø55														
4,0 kW	#1521 / Ø45														
	#1522 / Ø45														
	#1633 / Ø55														
5,5 kW	#1522 / Ø45														
	* #1633 / Ø55														

80	100	120	150	200	240	300	360	480	600	720	900	1200	1440
18,1	14,5	12,1	9,67	7,25	6,04	4,83	4,03	3,02	2,42	2,01	1,61	1,21	1,01
21,9	17,5	14,6	11,7	8,75	7,29	5,83	4,86	3,65	2,92	2,43	1,94	1,46	1,22
#03 / Ø15													
#03 / Ø15													
#07 / Ø15			#17 / Ø15			* #1240 / Ø25							
* #17 / Ø15						* #1240 / Ø25							
* #17 / Ø15						* #1240 / Ø25							
* #1230 / Ø25						* #1340 / Ø30							
#1330 / Ø30						* #1440 / Ø35							
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#1530 / Ø45						* #1640 / Ø55							
* #1530 / Ø45						* #1640 / Ø55							
* #1530 / Ø45						* #1640 / Ø55							
#1531 Ø45	#1630 / Ø55		#1631 / Ø55										
#1531 Ø45	#1630 / Ø55		#1631 / Ø55										
#1531 Ø45	#1630 / Ø55		* #1631 / Ø55										
#1630 Ø55	#1630 / Ø55		* #1631 / Ø55										
#1630 / Ø55			* #1631 / Ø55										

Note 1: Reduction ratio 1/7,5 instead of 1/7 for 15 W to 90 W

Note 2: Reduction ratio 1/160 instead of 1/150 for 15 W to 25 W








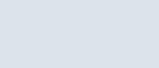


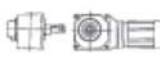
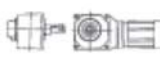


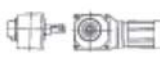









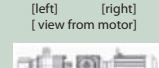
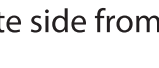

Note 3: Frame sizes marked with \* have a torque limitation. For details refer to the selection table.

For sizes 1630 to 1633 flange and shaft version on request

## Standard specification

	Item	Standard Specifications	Specifications for Motors with Brake
Motor Three Phase	Capacity Range	15 W - 5,5 kW; 4-pole	15 W - 5,5 kW; 4-pole, FB Brake
	Housing Structure	15 W - 90 W: IP44; non ventilated type IC410 0,12 kW: IP55; non ventilated type IC410 0,18 kW and above: IP55; fan cooled type IC411	15 W - 90 W: IP44; non ventilated type IC410 0,12 kW: Std; non ventilated type IC410 0,18 kW and above: IP44; fan cooled type IC411
	Power supply	15 W - 90 W: 220V 50Hz; 220V 60Hz; 230V 50Hz 40 W - 90 W: 380 - 420V 50Hz; 440 - 480V 60Hz 0,12 kW - 4,0 kW: 220V-240V 50Hz Δ; 440V-480V Y 60Hz ; 380V-420V 50Hz Y ; 5,5 kW: 380V-420V 50Hz; Δ 440V-480V 60Hz; Δ	15 W - 90 W: 220V 50Hz; 220V 60Hz; 230V 50Hz 40 W - 90 W: 380 - 420V 50Hz; 440 - 480V 60Hz 0,12 kW - 4,0 kW: 220V-240V 50Hz Δ; 440V-480V 60Hz Y ; 380V-420V 50Hz Y ; (Brake: 220VAC-240VAC) 5,5 kW: 380V-420V 50Hz ; Δ 440V-480V 60Hz ; Δ (Brake:380VAC-440VAC)
	Insulation	15 W - 90 W; 4-pole: Class E 0,12 kW - 5,5 kW; 4-pole: Class F	15 W - 90 W; 4-pole: Class E (Brake: Class B) 0,12 kW - 5,5 kW; 4-pole: Class F (Brake: Class F)
	Time Rating	Continuous	Continuous
	Starting Method	15 W - 4,0 kW: Direct 5,5 kW:Y- Δ Starting	15 W - 4,0 kW: Direct 5,5 kW:Y- Δ Starting
	Lead Wire	15 W - 90 W: 3-wire 0,12 kW - 5,5 kW: 6-wire	15 W - 90 W: 5-wire 0,12 kW - 5,5 kW: 8-wire
	Standard	15 W - 5,5 kW: IEC/EN	15 W - 5,5 kW: IEC/EN
	Reducer	Lubrication	Grease lubrication; Filled with special high grade grease prior to shipment;
Reduction		Combination of hypoid gear and involute gear	
Material		Casing: Aluminium alloy; Gears: Chrome-molybdenum steel	
Installation		Indoor; free from dust and water	
	Temperature	-10 to +40 °C	
	Humidity	max. 85%; no dewing	
	Altitude	max. 1000 m above sea level	
	Atmosphere	Free from corrosion gas, explosive gas or steam and well ventilated	
Installation Angle	no limitation		
Painting	Refer to page 114-116		

# Nomenclature

R		N		Y		M		012		1230		E		—		B		80	
Hyponic	Output Direction	Solid/Hollow	Input Connection	Input Power (rating catalog page)		Frame Size	Shaft Direction	Output Shaft Spec.	Suffic	Brake	Ratio								
R (Hyponic)	N (universal mounting)	Y (Hollow) 	M (gear motor) 	0015	15W	03	(—)	E	(—) [standard] [PG 23-27] 	(—) [non-brake]	5								
				0025	25W	07			K1 [foot] 			7							
				004	40W	17			F1 or G1 [left] [right] [view from motor] 			10							
				006	60W	1120			F1 or G1 [left] [right] [view from motor] 			12							
				009	90W	1230			F1 or G1 [left] [right] [view from motor] 			15							
				012	0,12kw	I			(—) [Japanese standard] [option] 			20							
				018	0,18kw	I			F1 or G1 [left] [right] [view from motor] 			25							
				03	0,25kw	I			E [IEC flange] 			30							
				04	0,37kw	I			L [left view from motor] 			40							
				08	0,55kw	I			(—) [Japanese standard] 			50							
		H (shaft & foot) 	(—) [reducer]	J [adaptor] 	03	0,25kw	I	L [left view from motor] 	E [IEC flange] 	J1 	(—) [non-brake]	60							
					04	0,37kw	I						80						
					08	0,55kw	I						100						
					1	0,75kw	I						120						
					1H	1,1kw	I						150						
					2	1,5kw	I						200						
					3	2,2kw	1540						240						
					4	3,0kw	1630						300						
					6	4,0kw	1631						360						
					8	5,5kw	1640						480						
F (shaft & flange) 	JM [adaptor w/motor] 	R [right view from motor] 	E [IEC flange] 	X1 [standard] 	B [brake]	600													
							2	1,5kw	I	(—) [Japanese standard] 	720								
							3	2,2kw	1540	E [IEC flange] 	900								
							4	3,0kw	1630	P1 or Q1 [left] [right] [view from motor] 	1200								
							6	4,0kw	1631	P1 or Q1 [left] [right] [view from motor] 	1440								
							8	5,5kw	1640	(—) [Japanese standard] [option] 									

Flange Suffix **G1** and **Q1** has flange on opposite side from pictures.

MEMO

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**Hollow Shaft Type  
Selection**

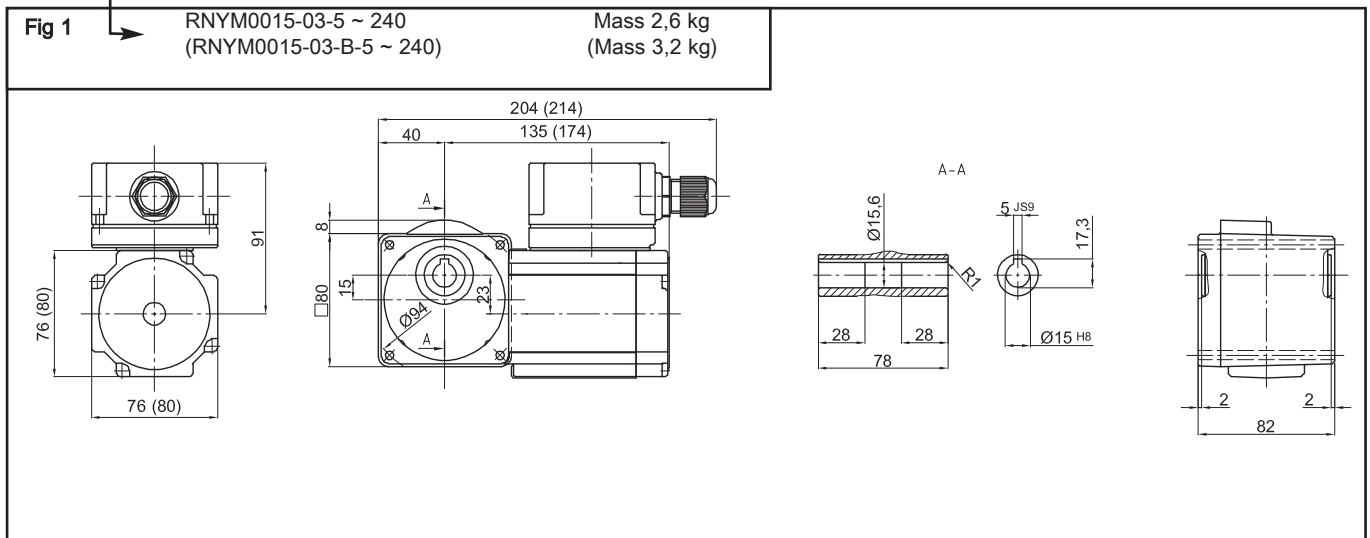
### 15 W 3-phase Motor

Motor Speed $n_1$	50Hz 1450 1/min
	60Hz 1750 1/min

Output Speed $n_2$ [1/min]		Output Torque $T_2$				SF	Allowable Radial Load Pro				Capacity Symbol	Frame Size	Ratio	Outline Drawing Fig.		
		[Nm]		[kgfm]			[N]		[kgf]							
50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz		50 Hz	60 Hz	50 Hz	60 Hz						
290	350	0,371	0,307	0,038	0,031	4,00	539	490	55	50	0015	-	03	-	5	1
193	233	0,556	0,461	0,057	0,047	4,00	588	539	60	55	0015	-	03	-	7,5	
145	175	0,742	0,615	0,076	0,063	4,00	637	588	65	60	0015	-	03	-	10	
121	146	0,890	0,738	0,091	0,075	4,00	686	637	70	65	0015	-	03	-	12	
96,7	117	1,11	0,922	0,113	0,094	4,00	735	686	75	70	0015	-	03	-	15	
72,5	87,5	1,48	1,23	0,151	0,125	4,00	785	735	80	75	0015	-	03	-	20	
58,0	70,0	1,85	1,54	0,189	0,157	4,00	834	785	85	80	0015	-	03	-	25	
48,3	58,3	2,23	1,84	0,227	0,188	4,00	883	834	90	85	0015	-	03	-	30	
36,3	43,8	2,97	2,46	0,303	0,251	4,00	981	932	100	95	0015	-	03	-	40	
29,0	35,0	3,71	3,07	0,378	0,313	4,00	1080	1030	110	105	0015	-	03	-	50	
24,2	29,2	4,45	3,69	0,454	0,376	4,00	1080	1080	110	110	0015	-	03	-	60	
18,1	21,9	5,93	4,92	0,605	0,501	4,00	1080	1080	110	110	0015	-	03	-	80	
14,5	17,5	7,42	6,15	0,756	0,627	4,00	1080	1080	110	110	0015	-	03	-	100	
12,1	14,6	8,90	7,38	0,908	0,752	3,34	1080	1080	110	110	0015	-	03	-	120	
9,06	10,9	11,9	9,83	1,21	1,00	2,50	1080	1080	110	110	0015	-	03	-	160	
7,25	8,75	14,8	12,3	1,51	1,25	2,00	1080	1080	110	110	0015	-	03	-	200	
6,04	7,29	17,8	14,8	1,82	1,50	1,67	1080	1080	110	110	0015	-	03	-	240	

- Note:
1. Motor slip may affect  $n_1$  and  $n_2$ .
  2. Allowable radial load shows the value when the distance from hollow shaft end to the point of radial load is 20 mm.
  3. Output torque is limited when SF is \* . It must be used within the value stipulated in the table as overload may occur if the motor is loaded to its full capacity.

Designate model and voltage and frequency when ordering. Brackets contain dimension, model, or mass of type with brakes



- Note:
1. Output shaft diameter dimensions: Dimension tolerance in accordance with JIS B 0401/1976 "H8"
  2. Output shaft keyway dimensions: Dimension tolerance in accordance with JIS B 1301-1996 parallel key (normal grade)
  3. Dimensions and Masses in the drawings are subject to change without notice.

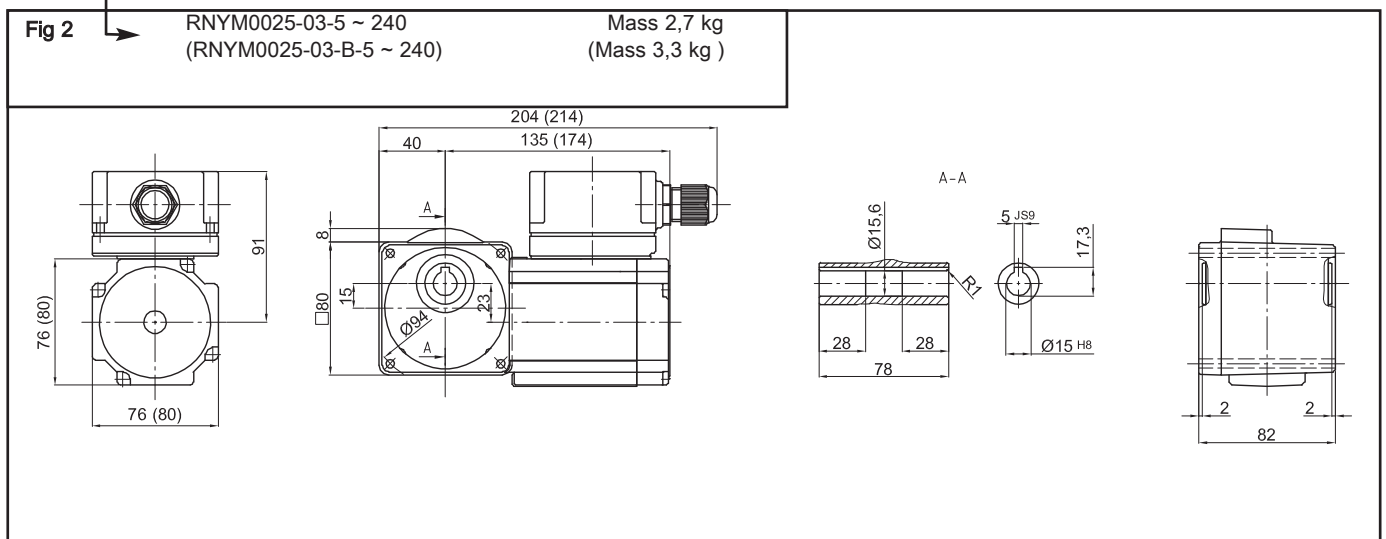
### 25 W 3-phase Motor

Motor Speed n <sub>1</sub>	50Hz	1450 1/min
	60Hz	1750 1/min

Output Speed n <sub>2</sub> [1/min]		Output Torque T <sub>2</sub>				SF	Allowable Radial Load Pro				Capacity Symbol	Frame Size	Ratio	Outline Drawing Fig.	
		[Nm]		[kgfm]			[N]		[kgf]						
50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz		50 Hz	60 Hz	50 Hz	60 Hz					
290	350	0,618	0,512	0,063	0,052	2,40	539	490	55	50	0025	-	03	-	5
193	233	0,927	0,768	0,095	0,078	2,40	588	539	60	55	0025	-	03	-	7,5
145	175	1,24	1,02	0,126	0,104	2,40	637	588	65	60	0025	-	03	-	10
121	146	1,48	1,23	0,151	0,125	2,40	686	637	70	65	0025	-	03	-	12
96,7	117	1,85	1,54	0,189	0,157	2,40	735	686	75	70	0025	-	03	-	15
72,5	87,5	2,47	2,05	0,252	0,209	2,40	785	735	80	75	0025	-	03	-	20
58,0	70,0	3,09	2,56	0,315	0,261	2,40	834	785	85	80	0025	-	03	-	25
48,3	58,3	3,71	3,07	0,378	0,313	2,40	883	834	90	85	0025	-	03	-	30
36,3	43,8	4,95	4,10	0,504	0,418	2,40	981	932	100	95	0025	-	03	-	40
29,0	35,0	6,18	5,12	0,630	0,522	2,40	1080	1030	110	105	0025	-	03	-	50
24,2	29,2	7,42	6,15	0,756	0,627	2,40	1080	1080	110	110	0025	-	03	-	60
18,1	21,9	9,89	8,20	1,01	0,836	2,40	1080	1080	110	110	0025	-	03	-	80
14,5	17,5	12,4	10,2	1,26	1,04	2,40	1080	1080	110	110	0025	-	03	-	100
12,1	14,6	14,8	12,3	1,51	1,25	2,00	1080	1080	110	110	0025	-	03	-	120
9,06	10,9	19,8	16,4	2,02	1,67	1,50	1080	1080	110	110	0025	-	03	-	160
7,25	8,75	24,7	20,5	2,52	2,09	1,20	1080	1080	110	110	0025	-	03	-	200
6,04	7,29	29,7	24,6	3,03	2,51	1,00	1080	1080	110	110	0025	-	03	-	240

- Note:
- Motor slip may affect n<sub>1</sub> and n<sub>2</sub>.
  - Allowable radial load shows the value when the distance from hollow shaft end to the point of radial load is 20 mm.
  - Output torque is limited when SF is \* . It must be used within the value stipulated in the table as overload may occur if the motor is loaded to its full capacity.

Designate model and voltage and frequency when ordering. Brackets contain dimension, model, or mass of type with brakes



- Note:
- Output shaft diameter dimensions:  
Dimension tolerance in accordance with JIS B 0401/1976 "H8"
  - Output shaft keyway dimensions: Dimension tolerance in accordance with JIS B 1301-1996 parallel key (normal grade)
  - Dimensions and Masses in the drawings are subject to change without notice.



## RNYM Series Hollow Shaft Type

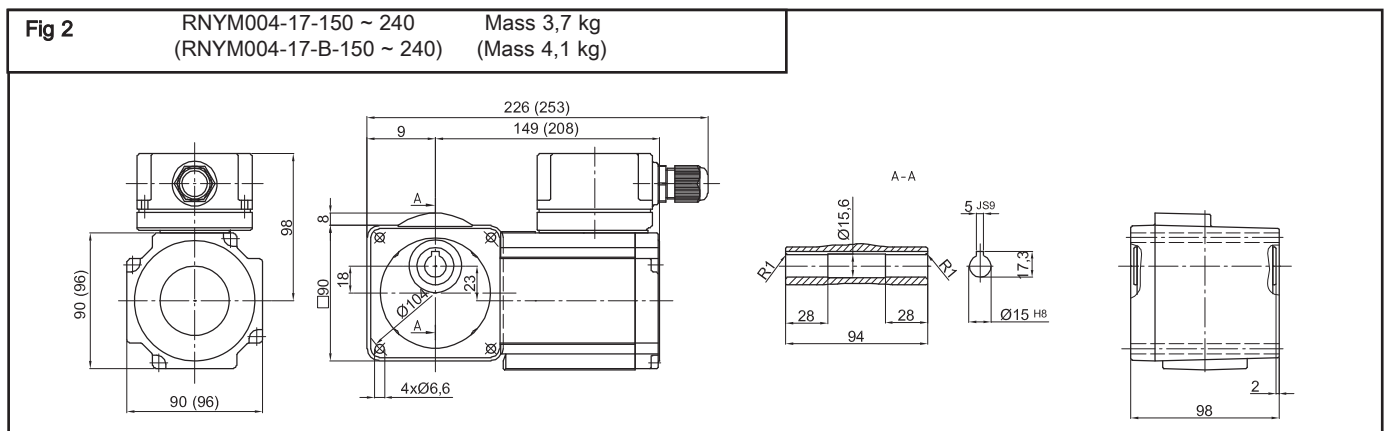
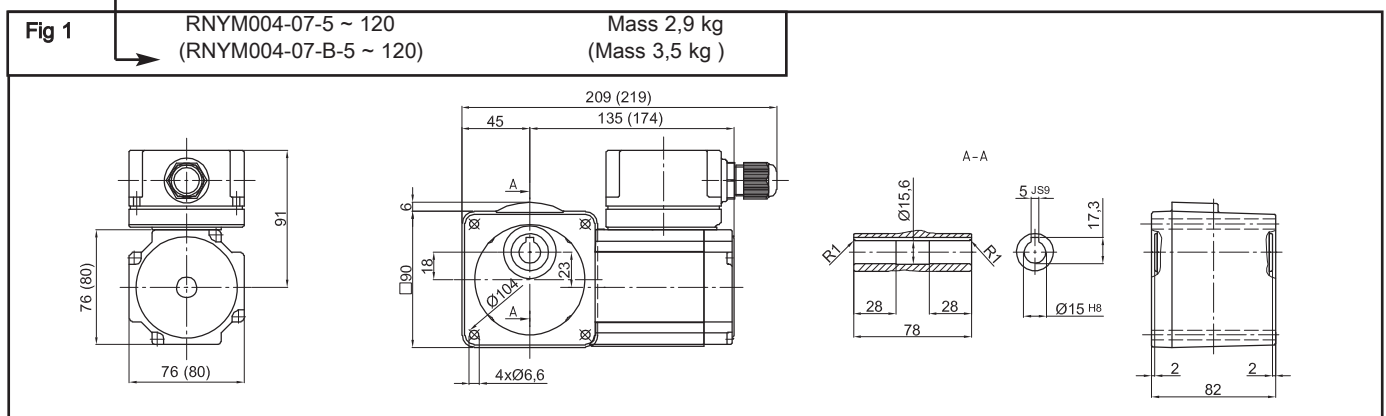
### 40 W 3-phase Motor

Motor Speed $n_1$	50Hz	1450 1/min
	60Hz	1750 1/min

Output Speed $n_2$ [1/min]		Output Torque $T_2$				SF	Allowable Radial Load Pro				Capacity Symbol	Frame Size	Ratio	Outline Drawing Fig.	
		[Nm]		[kgfm]			[N]		[kgf]						
50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz				
290	350	1,12	0,929	0,114	0,095	1,50	539	490	55	50	004	-	07	-	5
193	233	1,68	1,39	0,171	0,142	1,50	588	539	60	55	004	-	07	-	7,5
145	175	2,24	1,86	0,229	0,189	1,50	637	588	65	60	004	-	07	-	10
121	146	2,69	2,23	0,274	0,227	1,50	686	637	70	65	004	-	07	-	12
96,7	117	3,36	2,79	0,343	0,284	1,50	735	686	75	70	004	-	07	-	15
72,5	87,5	4,48	3,72	0,457	0,379	1,50	785	735	80	75	004	-	07	-	20
58,0	70,0	5,61	4,64	0,572	0,474	1,50	834	785	85	80	004	-	07	-	25
48,3	58,3	6,73	5,57	0,686	0,568	1,50	883	834	90	85	004	-	07	-	30
36,3	43,8	8,97	7,43	0,914	0,758	1,50	981	932	100	95	004	-	07	-	40
29,0	35,0	11,2	9,29	1,14	0,947	1,50	1080	1030	110	105	004	-	07	-	50
24,2	29,2	13,5	11,1	1,37	1,14	1,50	1080	1080	110	110	004	-	07	-	60
18,1	21,9	17,9	14,9	1,83	1,52	1,50	1080	1080	110	110	004	-	07	-	80
14,5	17,5	22,4	18,6	2,29	1,89	1,20	1080	1080	110	110	004	-	07	-	100
12,1	14,6	26,9	22,3	2,74	2,27	1,00	1080	1080	110	110	004	-	07	-	120
9,67	11,7	33,6	27,9	3,43	2,84	1,60	1420	1420	145	145	004	-	17	-	150
7,25	8,75	44,8	37,2	4,57	3,79	1,20	1420	1420	145	145	004	-	17	-	200
6,04	7,29	53,8	44,6	5,49	4,55	1,00	1420	1420	145	145	004	-	17	-	240

- Note: 1. Motor slip may affect  $n_1$  and  $n_2$ .  
 2. Allowable radial load shows the value when the distance from hollow shaft end to the point of radial load is 20 mm.  
 3. Output torque is limited when SF is \*. It must be used within the value stipulated in the table as overload may occur if the motor is loaded to its full capacity.

Designate model and voltage and frequency when ordering. Brackets contain dimension, model, or mass of type with brakes



- Note: 1. Output shaft diameter dimensions:  
 Dimension tolerance in accordance with JIS B 0401/1976 "H8"  
 2. Output shaft keyway dimensions: Dimension tolerance in accordance with JIS B 1301-1996 parallel key (normal grade)  
 3. Dimensions and masses in the drawings are subject to change without notice.

## RNYM Series Hollow Shaft Type

### 40 W 3-phase Motor

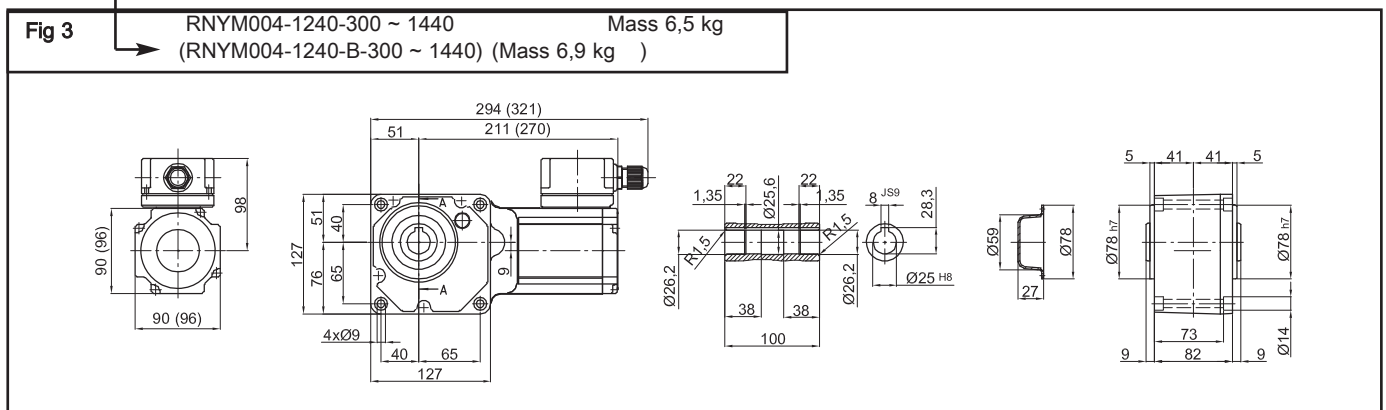
Motor Speed $n_1$	50Hz	1450 1/min
	60Hz	1750 1/min

Output Speed $n_2$ [1/min]		Output Torque $T_2$				SF	Allowable Radial Load Pro				Capacity Symbol	Frame Size	Ratio	Outline Drawing Fig.	
		[Nm]		[kgfm]			[N]		[kgf]						
50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz		50 Hz	60 Hz	50 Hz	60 Hz					
4,83	5,83	63,3	55,7	6,46	5,68	1,55	1810	1810	185	185	004	-	1240	-	300
4,03	4,86	76,0	66,9	7,75	6,82	1,29	1810	1810	185	185	004	-	1240	-	360
3,02	3,65	98,1	89,2	10,0	9,09	*	1810	1810	185	185	004	-	1240	-	480
2,42	2,92	98,1	98,1	10,0	10,0	*	1810	1810	185	185	004	-	1240	-	600
2,01	2,43	98,1	98,1	10,0	10,0	*	1810	1810	185	185	004	-	1240	-	720
1,61	1,94	98,1	98,1	10,0	10,0	*	1810	1810	185	185	004	-	1240	-	900
1,21	1,46	98,1	98,1	10,0	10,0	*	1810	1810	185	185	004	-	1240	-	1200
1,01	1,22	98,1	98,1	10,0	10,0	*	1810	1810	185	185	004	-	1240	-	1440

Hollow shaft  
Selection Tables  
40 kW

- Note:
- Motor slip may affect  $n_1$  and  $n_2$ .
  - Allowable radial load shows the value when the distance from hollow shaft end to the point of radial load is 20 mm.
  - Output torque is limited when SF is \*. It must be used within the value stipulated in the table as overload may occur if the motor is loaded to its full capacity.

Designate model and voltage and frequency when ordering. Brackets contain dimension, model, or mass of type with brakes



- Note:
- Output shaft diameter dimensions:  
Dimension tolerance in accordance with JIS B 0401/1976 "H8"
  - Output shaft keyway dimensions: Dimension tolerance in accordance with JIS B 1301-1996 parallel key (normal grade)

- Dimensions and masses in the drawings are subject to change without notice.

## RNYM Series Hollow Shaft Type

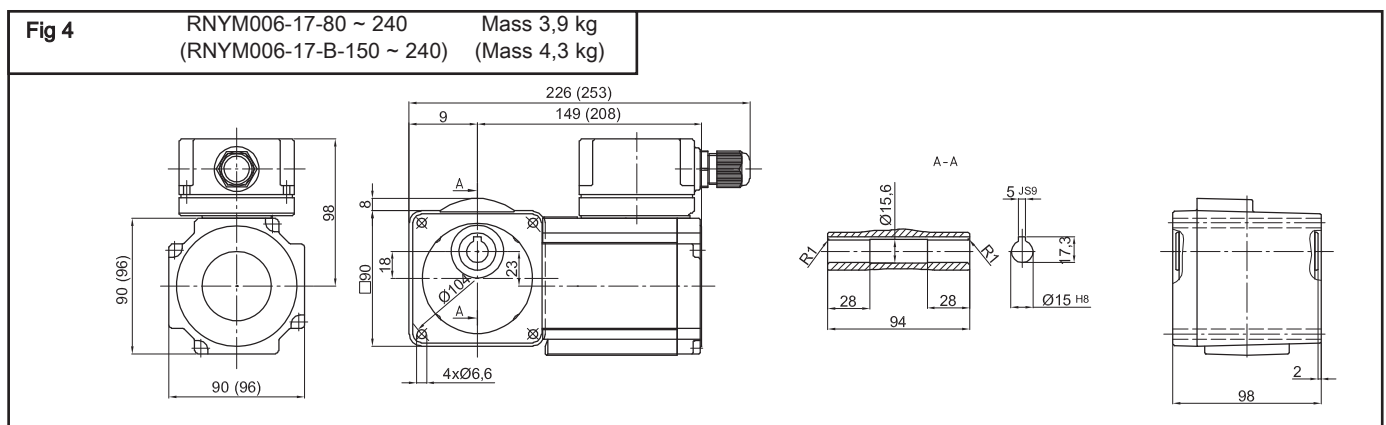
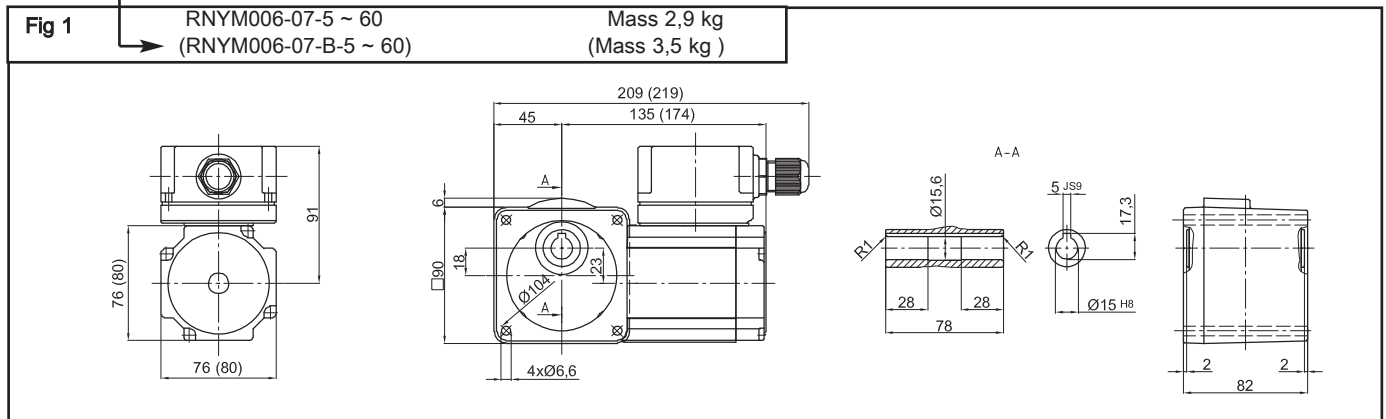
### 60 W 3-phase Motor

Motor Speed $n_1$	50Hz	1450 1/min
	60Hz	1750 1/min

Output Speed $n_2$ [1/min]		Output Torque $T_2$				SF	Allowable Radial Load Pro				Capacity Symbol	Frame Size	Ratio	Outline Drawing Fig.	
		[Nm]		[kgfm]			[N]		[kgf]						
50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz				
290	350	1,68	1,39	0,171	0,142	1,00	539	490	55	50	006	-	07	-	5
193	233	2,52	2,09	0,257	0,213	1,00	588	539	60	55	006	-	07	-	7,5
145	175	3,36	2,79	0,343	0,284	1,00	637	588	65	60	006	-	07	-	10
121	146	4,04	3,34	0,412	0,341	1,00	686	637	70	65	006	-	07	-	12
96,7	117	5,04	4,18	0,514	0,426	1,00	735	686	75	70	006	-	07	-	15
72,5	87,5	6,73	5,57	0,686	0,568	1,00	785	735	80	75	006	-	07	-	20
58,0	70,0	8,41	6,97	0,857	0,710	1,00	834	785	85	80	006	-	07	-	25
48,3	58,3	10,1	8,36	1,03	0,852	1,00	883	834	90	85	006	-	07	-	30
36,3	43,8	13,5	11,1	1,37	1,14	1,00	981	932	100	95	006	-	07	-	40
29,0	35,0	16,8	13,9	1,71	1,42	1,00	1080	1030	110	105	006	-	07	-	50
24,2	29,2	20,2	16,7	2,06	1,70	1,00	1080	1080	110	110	006	-	07	-	60
18,1	21,9	26,9	22,3	2,74	2,27	1,50	1420	1370	145	140	006	-	17	-	80
14,5	17,5	33,6	27,9	3,43	2,84	1,50	1420	1420	145	145	006	-	17	-	100
12,1	14,6	40,4	33,4	4,12	3,41	1,34	1420	1420	145	145	006	-	17	-	120
9,67	11,7	50,4	41,8	5,14	4,26	1,07	1420	1420	145	145	006	-	17	-	150
7,25	8,75	53,9	53,9	5,50	5,50	*	1420	1420	145	145	006	-	17	-	200
6,04	7,29	53,9	53,9	5,50	5,50	*	1420	1420	145	145	006	-	17	-	240

- Note:
1. Motor slip may affect  $n_1$  and  $n_2$ .
  2. Allowable radial load shows the value when the distance from hollow shaft end to the point of radial load is 20 mm.
  3. Output torque is limited when SF is \* . It must be used within the value stipulated in the table as overload may occur if the motor is loaded to its full capacity.

Designate model and voltage and frequency when ordering. Brackets contain dimension, model, or mass of type with brakes



- Note:
1. Output shaft diameter dimensions:  
Dimension tolerance in accordance with JIS B 0401/1976 "H8"
  2. Output shaft keyway dimensions: Dimension tolerance in accordance with JIS B 1301-1996 parallel key (normal grade)
  3. Dimensions and masses in the drawings are subject to change without notice.

## RNYM Series Hollow Shaft Type

### 60 W 3-phase Motor

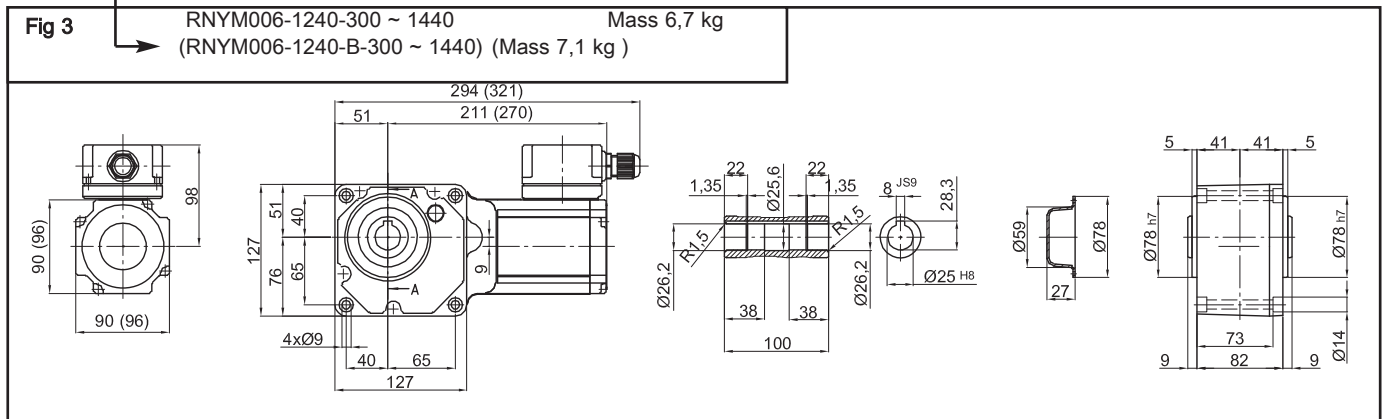
Motor Speed $n_1$	50Hz	1450 1/min
	60Hz	1750 1/min

Output Speed $n_2$ [1/min]		Output Torque $T_2$				SF	Allowable Radial Load Pro				Capacity Symbol	Frame Size	Ratio	Outline Drawing Fig.	
		[Nm]		[kgfm]			[N]		[kgf]						
50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz		50 Hz	60 Hz	50 Hz	60 Hz					
4,83	5,83	95,0	78,7	9,68	8,02	1,03	1810	1810	185	185	006	-	1240	-	300
4,03	4,86	98,1	94,4	10,0	9,63	*	1810	1810	185	185	006	-	1240	-	360
3,02	3,65	98,1	98,1	10,0	10,0	*	1810	1810	185	185	006	-	1240	-	480
2,42	2,92	98,1	98,1	10,0	10,0	*	1810	1810	185	185	006	-	1240	-	600
2,01	2,43	98,1	98,1	10,0	10,0	*	1810	1810	185	185	006	-	1240	-	720
1,61	1,94	98,1	98,1	10,0	10,0	*	1810	1810	185	185	006	-	1240	-	900
1,21	1,46	98,1	98,1	10,0	10,0	*	1810	1810	185	185	006	-	1240	-	1200
1,01	1,22	98,1	98,1	10,0	10,0	*	1810	1810	185	185	006	-	1240	-	1440

Hollow shaft  
Selection Tables  
60 W

- Note:
- Motor slip may affect  $n_1$  and  $n_2$ .
  - Allowable radial load shows the value when the distance from hollow shaft end to the point of radial load is 20 mm.
  - Output torque is limited when SF is \*. It must be used within the value stipulated in the table as overload may occur if the motor is loaded to its full capacity.

Designate model and voltage and frequency when ordering. Brackets contain dimension, model, or mass of type with brakes



- Note:
- Output shaft diameter dimensions:  
Dimension tolerance in accordance with JIS B 0401/1976 "H8"
  - Output shaft keyway dimensions: Dimension tolerance in accordance with JIS B 1301-1996 parallel key (normal grade)

- Dimensions and masses in the drawings are subject to change without notice.

## RNYM Series Hollow Shaft Type

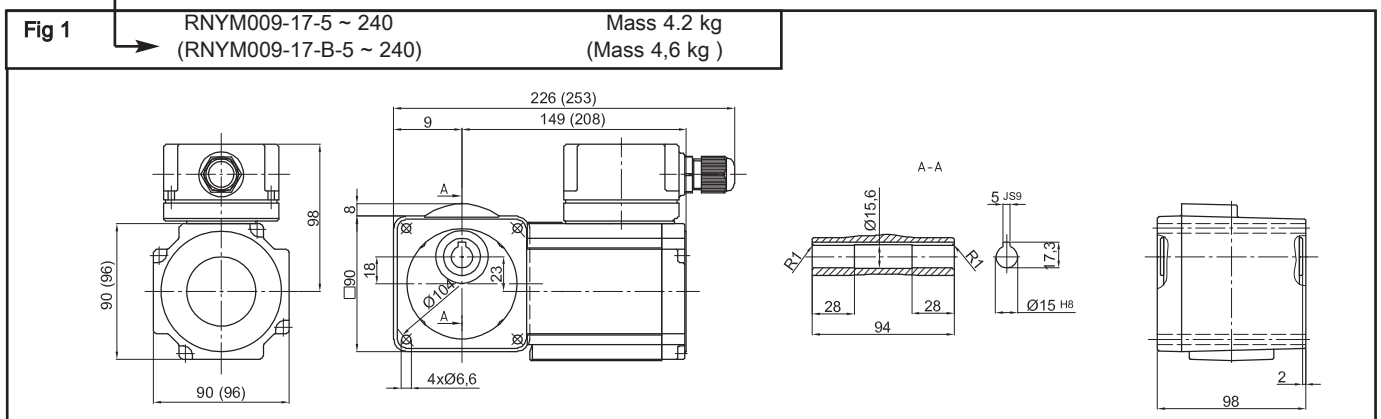
### 90 W 3-phase Motor

Motor Speed $n_1$	50Hz	1450 1/min
	60Hz	1750 1/min

Output Speed $n_2$ [1/min]		Output Torque $T_2$				SF	Allowable Radial Load Pro				Capacity Symbol	Frame Size	Ratio	Outline Drawing Fig.	
		[Nm]		[kgfm]			[N]		[kgf]						
50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz				
290	350	2,52	2,09	0,257	0,213	1,00	637	588	65	60	009	-	17	-	5
193	233	3,78	3,13	0,386	0,320	1,00	686	637	70	65	009	-	17	-	7,5
145	175	5,04	4,18	0,514	0,426	1,00	785	735	80	75	009	-	17	-	10
121	146	6,05	5,02	0,617	0,511	1,00	834	785	85	80	009	-	17	-	12
96,7	117	7,57	6,27	0,772	0,639	1,00	883	834	90	85	009	-	17	-	15
72,5	87,5	10,1	8,36	1,03	0,852	1,00	981	932	100	95	009	-	17	-	20
58,0	70,0	12,6	10,4	1,29	1,07	1,00	1030	981	105	100	009	-	17	-	25
48,3	58,3	15,1	12,5	1,54	1,28	1,00	1080	1030	110	105	009	-	17	-	30
36,3	43,8	20,2	16,7	2,06	1,70	1,00	1180	1130	120	115	009	-	17	-	40
29,0	35,0	25,2	20,9	2,57	2,13	1,00	1270	1230	130	125	009	-	17	-	50
24,2	29,2	30,3	25,1	3,09	2,56	1,00	1320	1270	135	130	009	-	17	-	60
18,1	21,9	40,4	33,4	4,12	3,41	1,00	1420	1370	145	140	009	-	17	-	80
14,5	17,5	50,4	41,8	5,14	4,26	1,00	1420	1420	145	145	009	-	17	-	100
12,1	14,6	53,9	50,2	5,50	5,11	*	1420	1420	145	145	009	-	17	-	120
9,67	11,7	53,9	53,9	5,50	5,50	*	1420	1420	145	145	009	-	17	-	150
7,25	8,75	53,9	53,9	5,50	5,50	*	1420	1420	145	145	009	-	17	-	200
6,04	7,29	53,9	53,9	5,50	5,50	*	1420	1420	145	145	009	-	17	-	240

- Note:
- Motor slip may affect  $n_1$  and  $n_2$ .
  - Allowable radial load shows the value when the distance from hollow shaft end to the point of radial load is 20 mm.
  - Output torque is limited when SF is \* . It must be used within the value stipulated in the table as overload may occur if the motor is loaded to its full capacity.

Designate model and voltage and frequency when ordering. Brackets contain dimension, model, or mass of type with brakes



- Note:
- Output shaft diameter dimensions:  
Dimension tolerance in accordance with JIS B 0401/1976 "H8"
  - Output shaft keyway dimensions: Dimension tolerance in accordance with JIS B 1301-1996 parallel key (normal grade)
  - Dimensions and masses in the drawings are subject to change without notice.

## RNYM Series Hollow Shaft Type

### 90 W 3-phase Motor

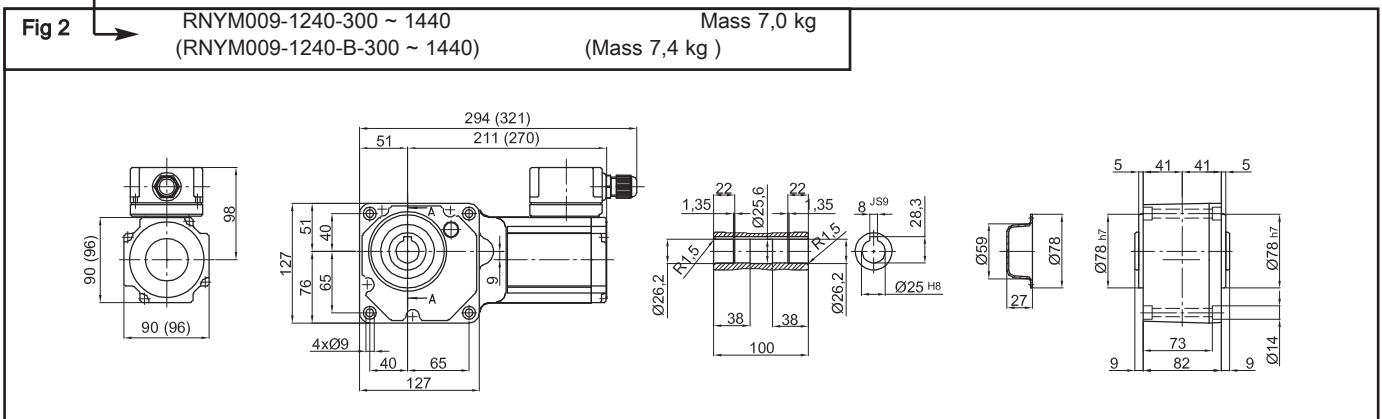
Motor Speed $n_1$	50Hz	1450 1/min
	60Hz	1750 1/min

Output Speed $n_2$ [1/min]		Output Torque $T_2$				SF	Allowable Radial Load Pro				Capacity Symbol	Frame Size	Ratio	Outline Drawing Fig.	
		[Nm]		[kgfm]			[N]		[kgf]						
50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz				
4,83	5,83	98,1	98,1	10,0	10,0	*	1810	1810	185	185	009	-	1240	-	300
4,03	4,86	98,1	98,1	10,0	10,0	*	1810	1810	185	185	009	-	1240	-	360
3,02	3,65	98,1	98,1	10,0	10,0	*	1810	1810	185	185	009	-	1240	-	480
2,42	2,92	98,1	98,1	10,0	10,0	*	1810	1810	185	185	009	-	1240	-	600
2,01	2,43	98,1	98,1	10,0	10,0	*	1810	1810	185	185	009	-	1240	-	720
1,61	1,94	98,1	98,1	10,0	10,0	*	1810	1810	185	185	009	-	1240	-	900
1,21	1,46	98,1	98,1	10,0	10,0	*	1810	1810	185	185	009	-	1240	-	1200
1,01	1,22	98,1	98,1	10,0	10,0	*	1810	1810	185	185	009	-	1240	-	1440

Hollow shaft  
Selection Tables  
90 W

- Note:
- Motor slip may affect  $n_1$  and  $n_2$ .
  - Allowable radial load shows the value when the distance from hollow shaft end to the point of radial load is 20 mm.
  - Output torque is limited when SF is \*. It must be used within the value stipulated in the table as overload may occur if the motor is loaded to its full capacity.

Designate model and voltage and frequency when ordering. Brackets contain dimension, model, or mass of type with brakes



- Note:
- Output shaft diameter dimensions:  
Dimension tolerance in accordance with JIS B 0401/1976 "H8"
  - Output shaft keyway dimensions: Dimension tolerance in accordance with JIS B 1301-1996 parallel key (normal grade)
  - Dimensions and masses in the drawings are subject to change without notice.

## RNYM Series Hollow Shaft Type

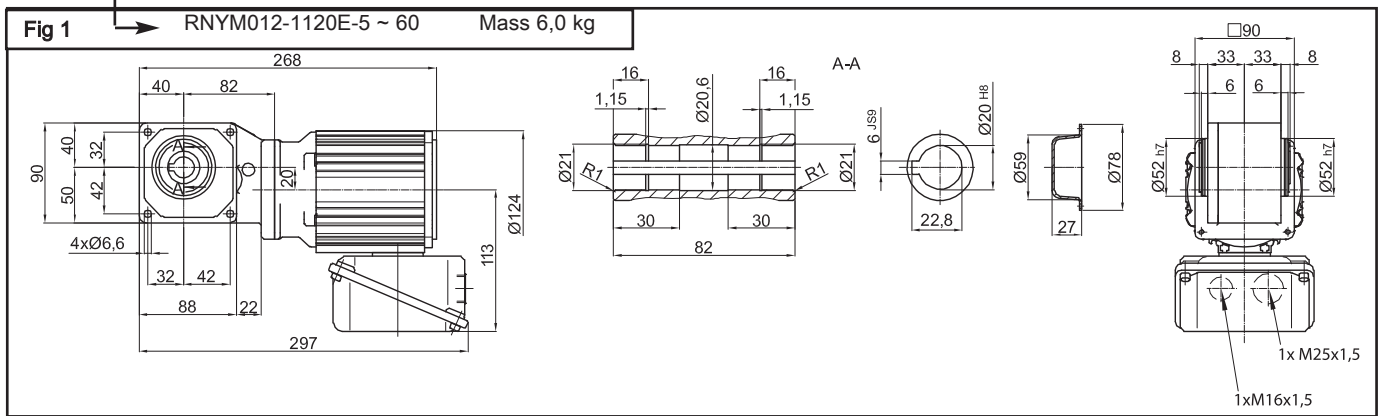
### 0,12 kW 3-phase Motor

Motor Speed $n_1$	50Hz	1450 1/min
	60Hz	1750 1/min

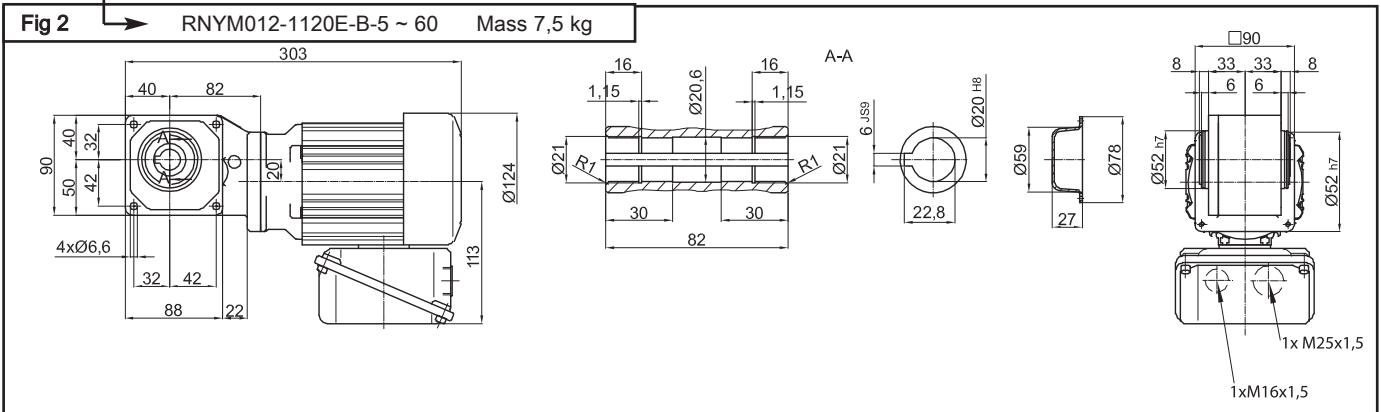
Output Speed $n_2$ [1/min]		Output Torque $T_2$				SF	Allowable Radial Load Pro				Capacity Symbol	Frame Size	Ratio	Outline Drawing Fig.		
		[Nm]		[kgfm]			[N]		[kgf]							
50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz					
290	350	3,36	2,79	0,343	0,284	1,67	637	588	65	60	012	-	1120	-	5	1/2
207	250	4,71	3,90	0,480	0,398	1,67	686	637	70	65	012	-	1120	-	7	1/2
145	175	6,73	5,57	0,686	0,568	1,67	785	735	80	75	012	-	1120	-	10	1/2
121	146	8,07	6,69	0,823	0,682	1,67	834	785	85	80	012	-	1120	-	12	1/2
96,7	117	10,09	8,36	1,029	0,852	1,67	883	834	90	85	012	-	1120	-	15	1/2
72,5	87,5	13,5	11,15	1,37	1,137	1,67	981	932	100	95	012	-	1120	-	20	1/2
58,0	70,0	16,8	13,9	1,71	1,42	1,67	1030	981	105	100	012	-	1120	-	25	1/2
48,3	58,3	20,2	16,7	2,06	1,70	1,67	1080	1030	110	105	012	-	1120	-	30	1/2
36,3	43,8	26,9	22,3	2,74	2,27	0,83	1180	1130	120	115	012	-	1120	-	40	1/2
						1,67	1620	1570	165	160	012	-	1220	-	40	3/4
29,0	35,0	33,6	27,9	3,43	2,84	0,83	1270	1230	130	125	012	-	1120	-	50	1/2
						1,67	1720	1670	175	170	012	-	1220	-	50	3/4
24,2	29,2	40,4	33,4	4,12	3,41	0,83	1320	1270	135	130	012	-	1120	-	60	1/2
						1,67	1770	1720	180	175	012	-	1220	-	60	3/4

- Note: 1. Motor slip may affect  $n_1$  and  $n_2$ .  
 2. Allowable radial load shows the value when the distance from hollow shaft end to the point of radial load is 20 mm.  
 3. Output torque is limited when SF is \* . It must be used within the value stipulated in the table as overload may occur if the motor is loaded to its full capacity.

Designate model and voltage and frequency when ordering.



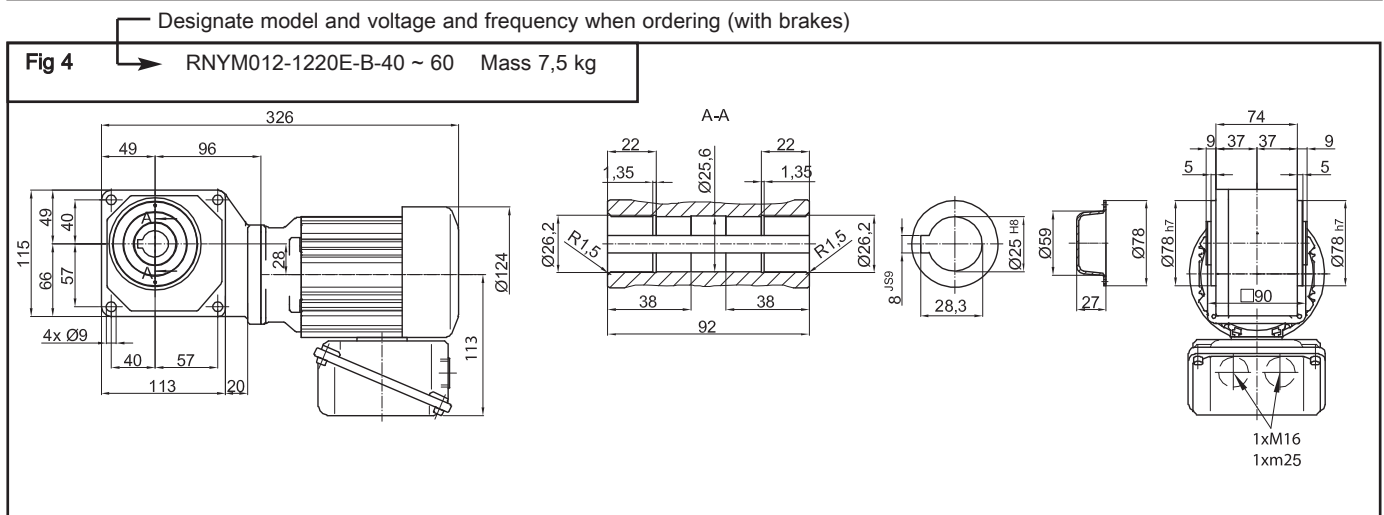
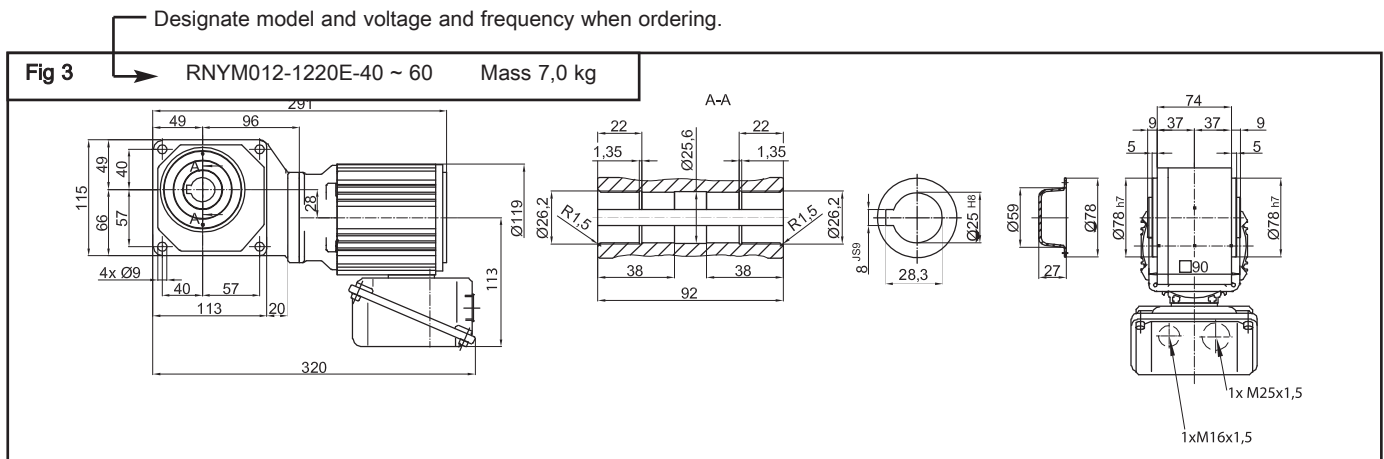
Designate model and voltage and frequency when ordering (with brakes)



- Note: 1. Output shaft diameter dimensions: Dimension tolerance in accordance with JIS B 0401/1976 "H8"  
 2. Output shaft keyway dimensions: Dimension tolerance in accordance with JIS B 1301-1996 parallel key (normal grade)  
 3. Dimensions and masses in the drawings are subject to change without notice.

### 0,12 kW 3-phase Motor

Hollow shaft  
Selection Tables  
0,12 W



Note:

1. Output shaft diameter dimensions:  
Dimension tolerance in accordance with JIS B 0401/1976 "H8"
2. Output shaft keyway dimensions: Dimension tolerance in accordance with JIS B 1301-1996 parallel key (normal grade)

3. Dimensions and masses in the drawings are subject to change without notice.



## RNYM Series Hollow Shaft Type

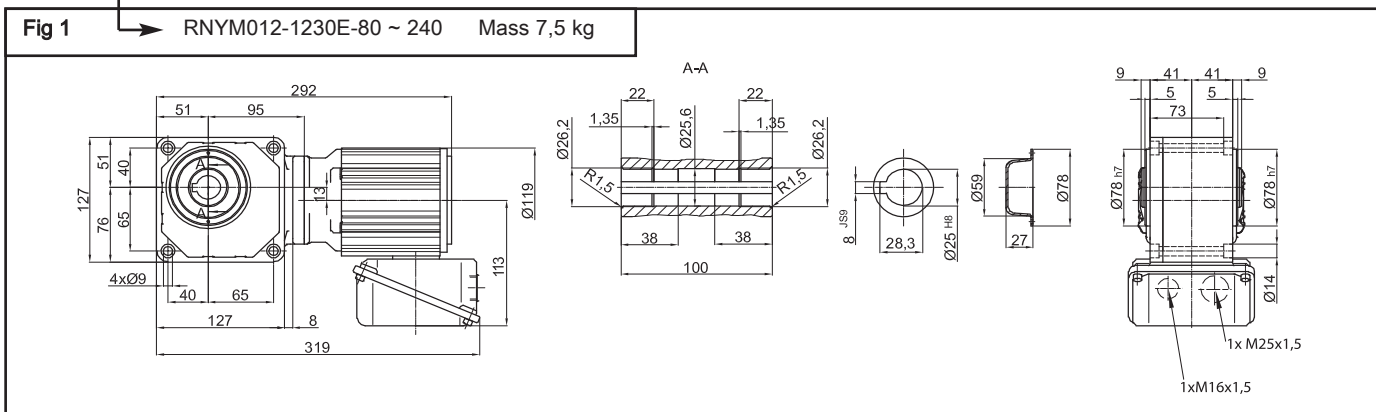
### 0,12 W 3-phase Motor

Motor Speed $n_1$	50Hz	1450 1/min
	60Hz	1750 1/min

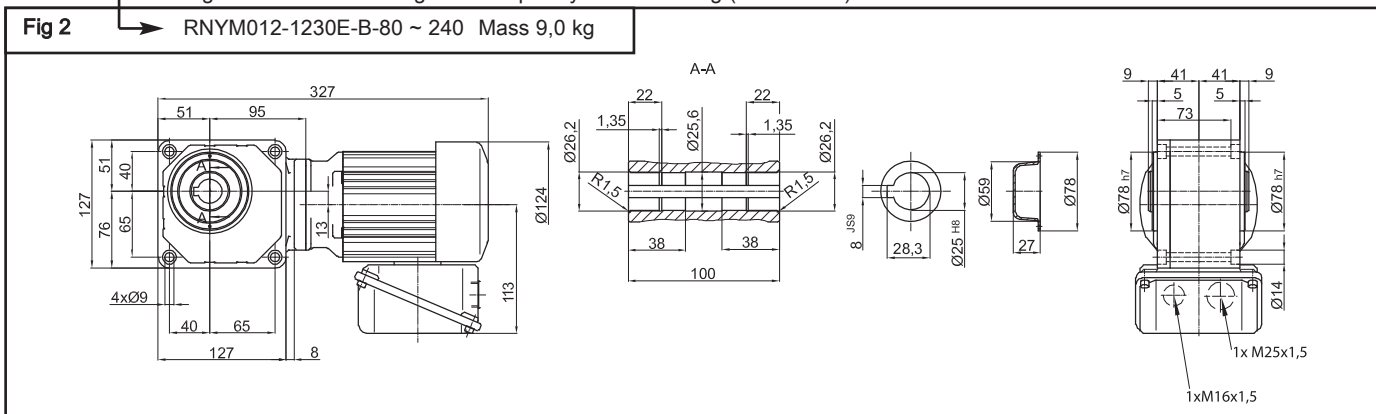
Output Speed $n_2$ [1/min]		Output Torque $T_2$				SF	Allowable Radial Load Pro				Capacity Symbol	Frame Size	Ratio	Outline Drawing Fig.		
		[Nm]		[kgfm]			[N]		[kgf]							
50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz		50 Hz	60 Hz	50 Hz	60 Hz						
18,1	21,9	53,8	44,6	5,49	4,55	0,83	1770	1770	180	180	012	-	1230	-	80	1/2
						1,67	3040	2940	310	300	012	-	1330	-	80	3/4
14,5	17,5	67,3	55,7	6,86	5,68	0,83	1810	1770	185	180	012	-	1230	-	100	1/2
						1,67	3090	3040	315	310	012	-	1330	-	100	3/4
12,1	14,6	80,7	66,9	8,23	6,82	0,83	1810	1810	185	185	012	-	1230	-	120	1/2
						1,67	3090	3090	315	315	012	-	1330	-	120	3/4
9,67	11,7	98,1	83,6	10,00	8,52	0,83	1810	1810	185	185	012	-	1230	-	150	1/2
						1,67	3090	3090	315	315	012	-	1330	-	150	3/4
7,25	8,75	98,1	98,1	10,0	10,0	*	1810	1810	185	185	012	-	1230	-	200	1/2
		135	111,5	13,7	11,37	1,45	3090	3090	315	315	012	-	1330	-	200	3/4
6,04	7,29	98,1	98,1	10,0	10,0	*	1810	1810	185	185	012	-	1230	-	240	1/2
		161	134	16,5	13,6	1,21	3090	3090	315	315	012	-	1330	-	240	3/4

- Note:
1. Motor slip may affect  $n_1$  and  $n_2$ .
  2. Allowable radial load shows the value when the distance from hollow shaft end to the point of radial load is 20 mm.
  3. Output torque is limited when SF is \* . It must be used within the value stipulated in the table as overload may occur if the motor is loaded to its full capacity.

Designate model and voltage and frequency when ordering.



Designate model and voltage and frequency when ordering (with brakes)

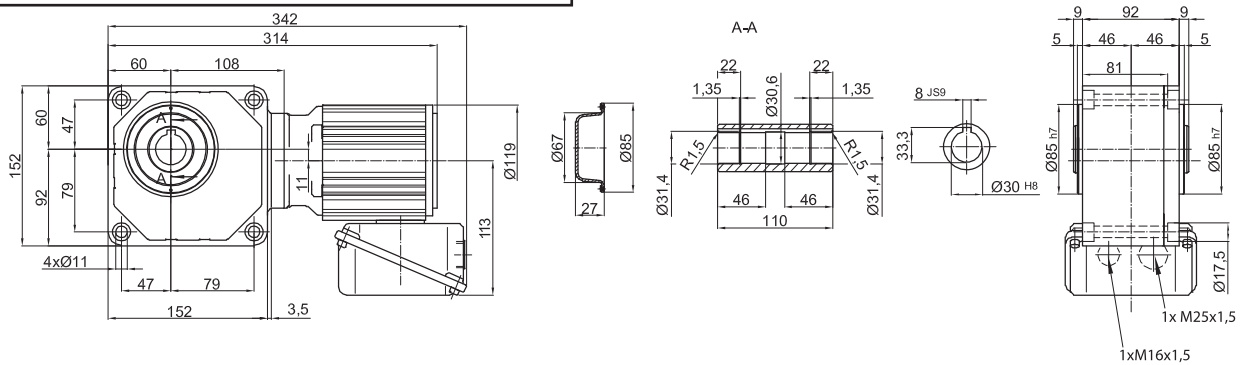


### 0,12 W 3-phase Motor

Hollow shaft  
Selection Tables  
0,12 W

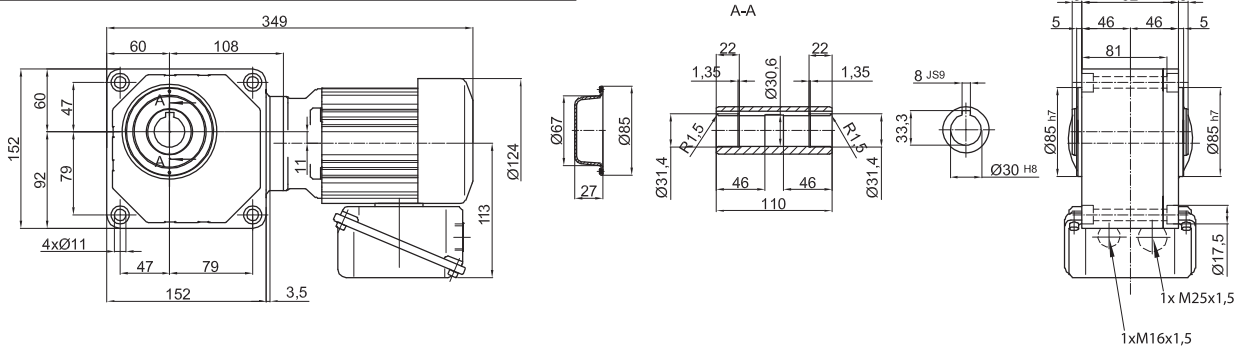
Designate model and voltage and frequency when ordering.

**Fig 3** RNYM012-1330E-80 ~ 240 Mass 9,0 kg



Designate model and voltage and frequency when ordering (with brakes)

**Fig 4** RNYM012-1330E-B-80 ~ 240 Mass 10 kg



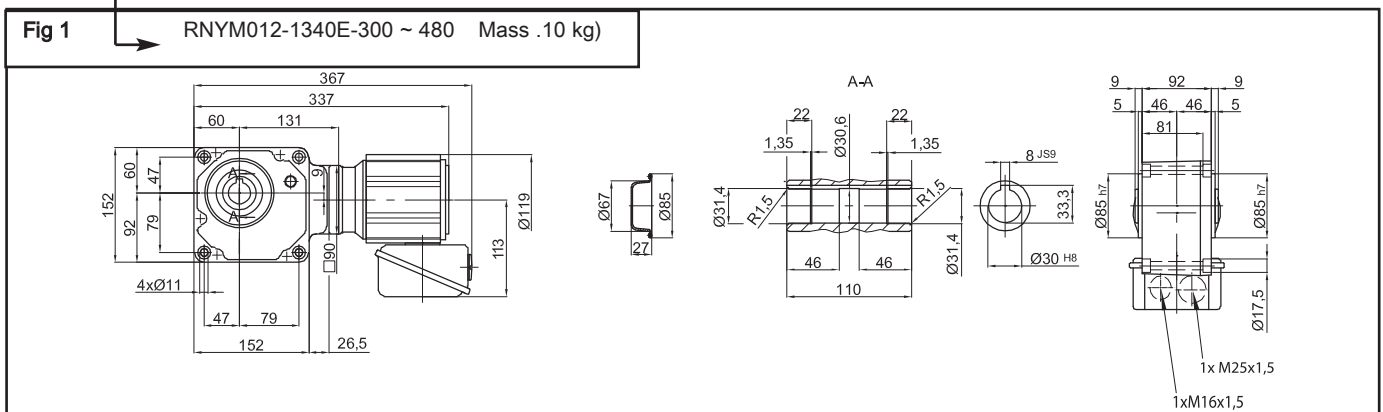
### 0,12 kW 3-phase Motor

Motor Speed $n_1$	50Hz	1450 1/min
	60Hz	1750 1/min

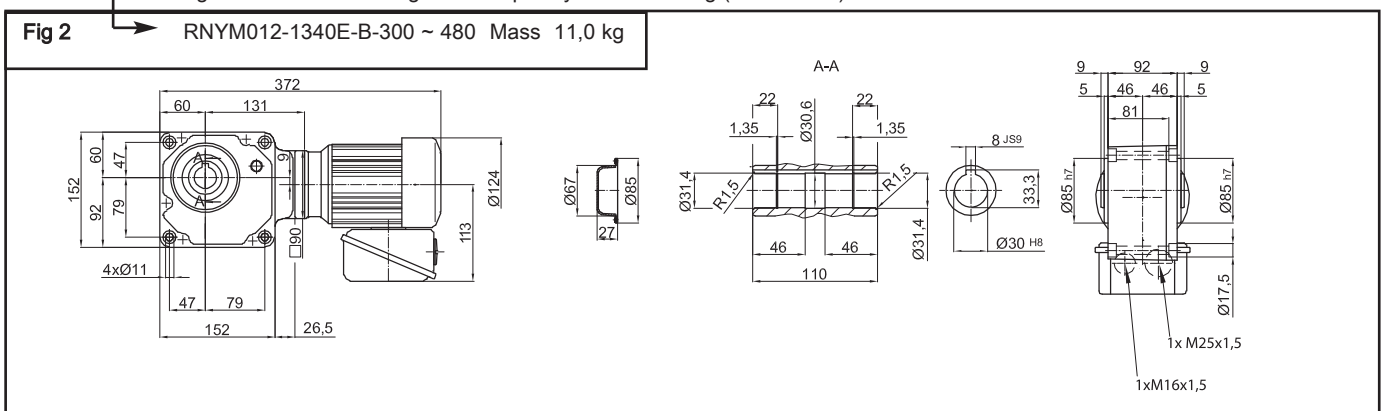
Output Speed $n_2$ [1/min]		Output Torque $T_2$				SF	Allowable Radial Load Pro				Capacity Symbol	Frame Size	Ratio	Outline Drawing Fig.		
		[Nm]		[kgfm]			[N]		[kgf]							
50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz					
4,83	5,83	190	157	19,4	16,0	0,83	3090	3090	315	315	012	-	1340	-	300	1/2
4,83	5,83	190	157	19,4	16,0	1,67	4360	4360	445	445	012	-	1440	-	300	3/4
4,03	4,86	195	189	19,9	19,3	*	3090	3090	315	315	012	-	1340	-	360	1/2
4,03	4,86	228	189	23,2	19,3	1,67	4360	4360	445	445	012	-	1440	-	360	3/4
3,02	3,65	195	195	19,9	19,9	*	3090	3090	315	315	012	-	1340	-	480	1/2
3,02	3,65	304	252	31,0	25,7	1,28	4360	4360	445	445	012	-	1440	-	480	3/4
2,42	2,92	195	195	19,9	19,9	*	3090	3090	315	315	012	-	1340	-	600	1/2
2,42	2,92	380	315	38,7	32,1	1,03	4360	4360	445	445	012	-	1440	-	600	3/4
2,01	2,43	195	195	19,9	19,9	*	3090	3090	315	315	012	-	1340	-	720	1/2
2,01	2,43	390	378	39,8	38,5	*	4360	4360	445	445	012	-	1440	-	720	3/4
1,61	1,94	195	195	19,9	19,9	*	3090	3090	315	315	012	-	1340	-	900	1/2
1,61	1,94	390	390	39,8	39,8	*	4360	4360	445	445	012	-	1440	-	900	3/4
1,21	1,46	195	195	19,9	19,9	*	3090	3090	315	315	012	-	1340	-	1200	1/2
1,21	1,46	390	390	39,8	39,8	*	4360	4360	445	445	012	-	1440	-	1200	3/4
1,01	1,22	195	195	19,9	19,9	*	3090	3090	315	315	012	-	1340	-	1440	1/2
1,01	1,22	390	390	39,8	39,8	*	4360	4360	445	445	012	-	1440	-	1440	3/4

- Note:
- Motor slip may affect  $n_1$  and  $n_2$ .
  - Allowable radial load shows the value when the distance from hollow shaft end to the point of radial load is 20 mm.
  - Output torque is limited when SF is \* . It must be used within the value stipulated in the table as overload may occur if the motor is loaded to its full capacity.

Designate model and voltage and frequency when ordering.



Designate model and voltage and frequency when ordering (with brakes)



- Note:
- Output shaft diameter dimensions: Dimension tolerance in accordance with JIS B 0401/1976 "H8"
  - Output shaft keyway dimensions: Dimension tolerance in accordance with JIS B 1301-1996 parallel key (normal grade)
  - Dimensions and masses in the drawings are subject to change without notice.

### 0,12 kW 3-phase Motor

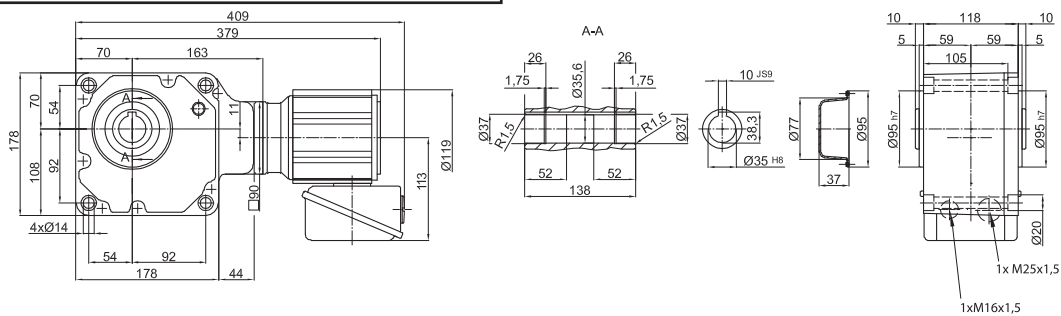
Hollow shaft

Selection Tables

0,12 kW

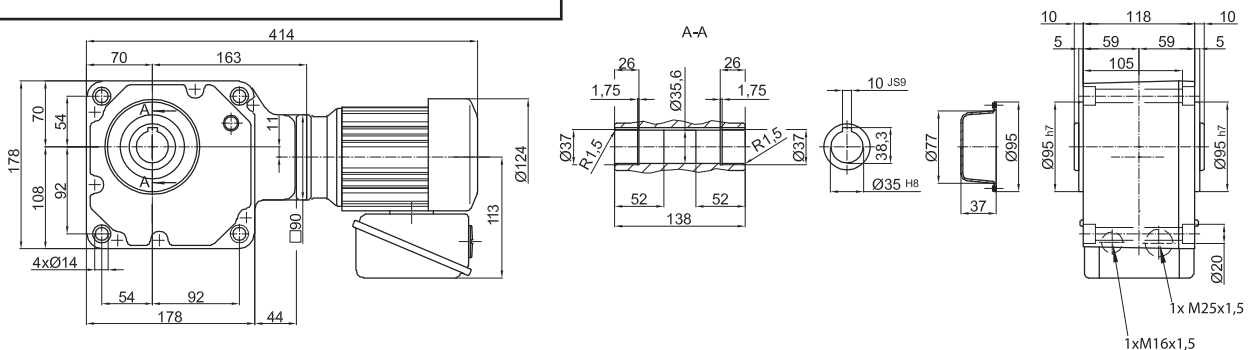
Designate model and voltage and frequency when ordering.

**Fig 3** RNYM012-1440E-600 ~ 1440 Mass 14,5 kg



Designate model and voltage and frequency when ordering (with brakes)

**Fig 4** RNYM012-1440E-B-600 ~ 1440 Mass 16 kg



Note: 1. Output shaft diameter dimensions:  
Dimension tolerance in accordance with JIS B 0401/1976 "H8"  
2. Output shaft keyway dimensions: Dimension tolerance in  
accordance with JIS B 1301-1996 parallel key (normal grade)

3. Dimensions and masses in the drawings are subject to  
change without notice.

## RNYM Series Hollow Shaft Type

### 0,18 kW 3-phase Motor

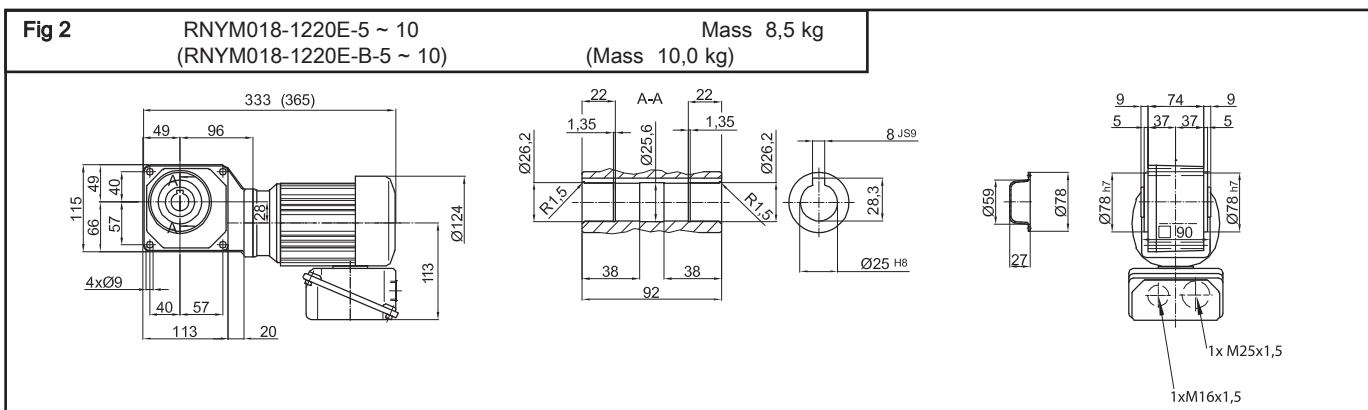
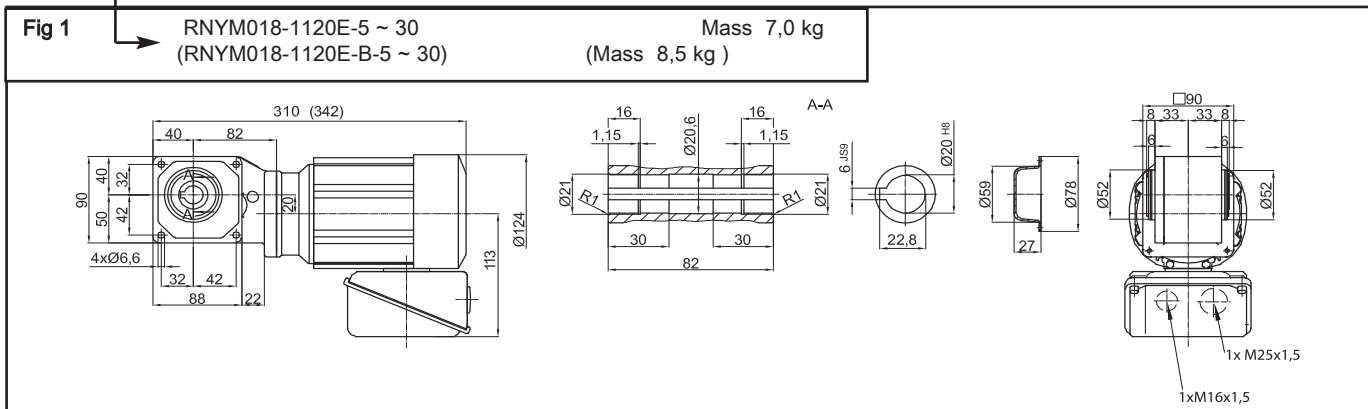
Motor Speed $n_1$	50Hz	1450 1/min
	60Hz	1750 1/min

Output Speed $n_2$ [1/min]		Output Torque $T_2$				SF	Allowable Radial Load Pro				Capacity Symbol	Frame Size	Ratio	Outline Drawing Fig.		
		[Nm]		[kgfm]			[N]		[kgf]							
50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz		50 Hz	60 Hz	50 Hz	60 Hz						
290	350	5,04	4,18	0,514	0,426	1,11	637	588	65	60	018	-	1120	-	5	1
						2,22	883	834	90	85	018	-	1220	-	5	2
207	250	7,06	5,85	0,720	0,597	1,11	686	637	70	65	018	-	1120	-	7	1
						2,22	981	932	100	95	018	-	1220	-	7	2
145	175	10,1	8,36	1,03	0,852	1,11	785	735	80	75	018	-	1120	-	10	1
						2,22	1080	1030	110	105	018	-	1220	-	10	2

Hollow shaft  
Selection Tables  
0,18 kW

- Note:
- Motor slip may affect  $n_1$  and  $n_2$ .
  - Allowable radial load shows the value when the distance from hollow shaft end to the point of radial load is 20 mm.
  - Output torque is limited when SF is \* . It must be used within the value stipulated in the table as overload may occur if the motor is loaded to its full capacity.

Designate model and voltage and frequency when ordering. Brackets contain dimension, model, or mass of type with brakes



- Note:
- Output shaft diameter dimensions: Dimension tolerance in accordance with JIS B 0401/1976 "H8"
  - Output shaft keyway dimensions: Dimension tolerance in accordance with JIS B 1301-1996 parallel key (normal grade)
  - Dimensions and masses in the drawings are subject to change without notice.

## RNYM Series Hollow Shaft Type

### 0,18 kW 3-phase Motor

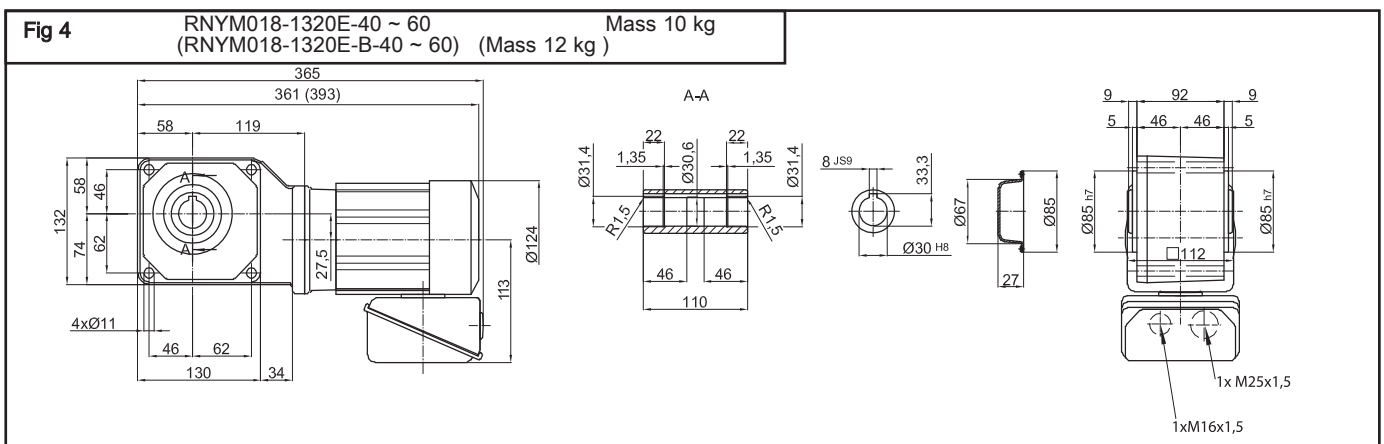
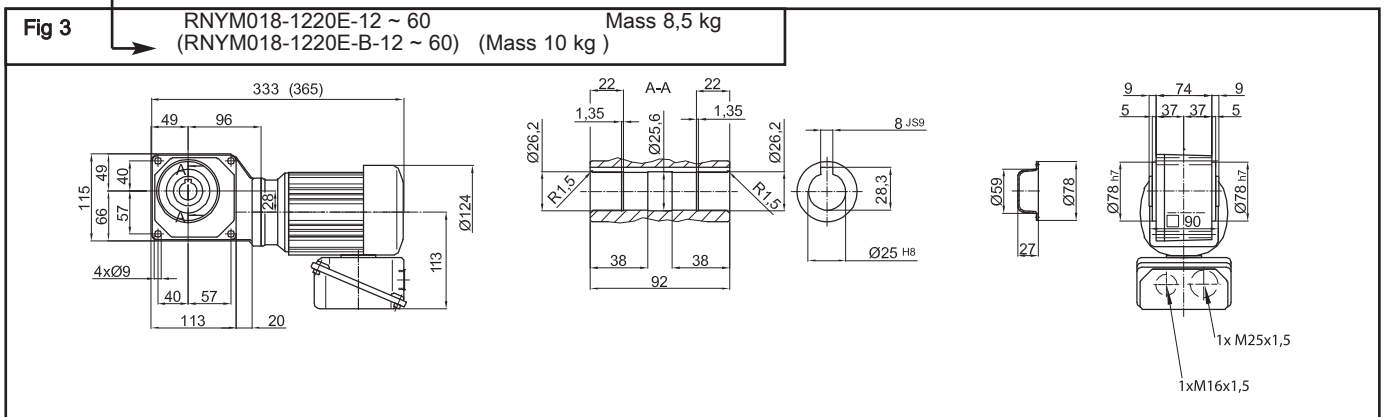
Motor Speed $n_1$	50Hz	1450	1/min
	60Hz	1750	1/min

Output Speed $n_2$ [1/min]		Output Torque $T_2$				SF	Allowable Radial Load Pro				Capacity Symbol	Frame Size	Ratio	Outline Drawing Fig.		
50 Hz	60 Hz	[Nm]		[kgfm]			[N]		[kgf]							
		50 Hz	60 Hz	50 Hz	60 Hz		50 Hz	60 Hz	50 Hz	60 Hz						
121	146	12,1	10,0	1,23	1,02	1,11	834	785	85	80	018	-	1120	-	12	1
		2,22	1130	1080	115	110	018	-	1220	-	12	3				
96,7	117	15,1	12,5	1,54	1,28	1,11	883	834	90	85	018	-	1120	-	15	1
		2,22	1230	1180	125	120	018	-	1220	-	15	3				
72,5	87,5	20,2	16,7	2,06	1,70	1,11	981	932	100	95	018	-	1120	-	20	1
		2,22	1370	1320	140	135	018	-	1220	-	20	3				
58,0	70,0	25,2	20,9	2,57	2,13	1,11	1030	981	105	100	018	-	1120	-	25	1
		2,22	1470	1370	150	140	018	-	1220	-	25	3				
48,3	58,3	30,3	25,1	3,09	2,56	1,11	1080	1030	110	105	018	-	1120	-	30	1
		2,22	1520	1470	155	150	018	-	1220	-	30	3				
36,3	43,8	40,4	33,4	4,12	3,41	1,11	1620	1570	165	160	018	-	1220	-	40	3
		2,22	2650	2550	270	260	018	-	1320	-	40	4				
29,0	35,0	50,4	41,8	5,14	4,26	1,11	1720	1670	175	170	018	-	1220	-	50	3
		2,22	2840	2750	290	280	018	-	1320	-	50	3				
24,2	29,2	60,5	50,2	6,17	5,11	1,11	1770	1720	180	175	018	-	1220	-	60	3
		2,22	2940	2840	300	290	018	-	1320	-	60	4				

- Note:
- Motor slip may affect  $n_1$  and  $n_2$ .
  - Allowable radial load shows the value when the distance from hollow shaft end to the point of radial load is 20 mm.

- Output torque is limited when SF is \* . It must be used within the value stipulated in the table as overload may occur if the motor is loaded to its full capacity.

Designate model and voltage and frequency when ordering. Brackets contain dimension, model, or mass of type with brakes



- Note:
- Output shaft diameter dimensions: Dimension tolerance in accordance with JIS B 0401/1976 "H8"
  - Output shaft keyway dimensions: Dimension tolerance in accordance with JIS B 1301-1996 parallel key (normal grade)

- Dimensions and masses in the drawings are subject to change without notice.

## RNYM Series Hollow Shaft Type

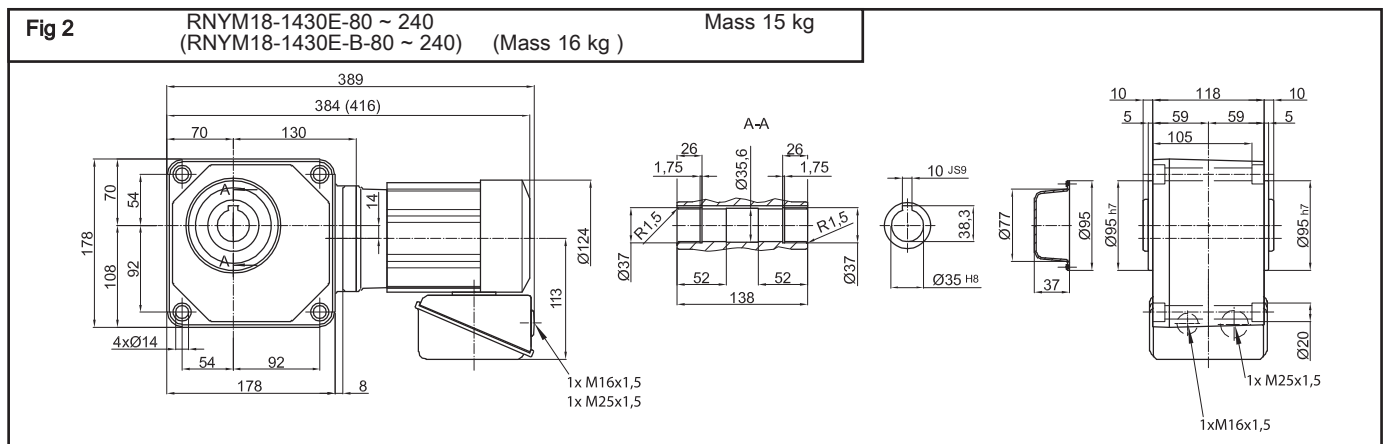
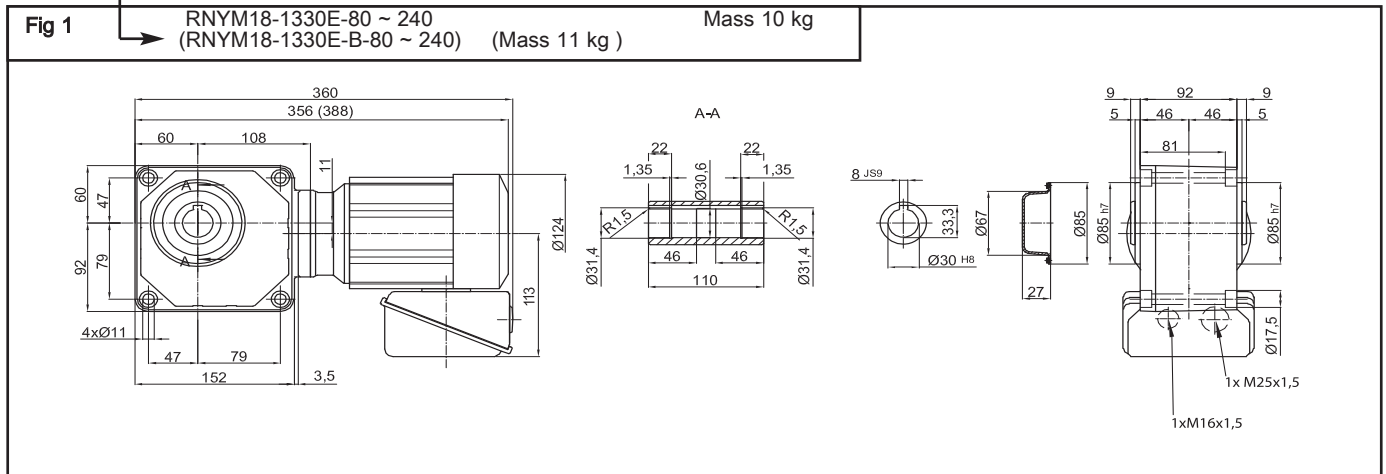
### 0,18 kW 3-phase Motor

Motor Speed $n_1$	50Hz	1450 1/min
	60Hz	1750 1/min

Output Speed $n_2$ [1/min]		Output Torque $T_2$				SF	Allowable Radial Load Pro				Capacity Symbol	Frame Size	Ratio	Outline Drawing Fig.		
		[Nm]		[kgfm]			[N]		[kgf]							
50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz		50 Hz	60 Hz	50 Hz	60 Hz						
18,1	21,9	80,7	66,9	8,23	6,82	1,11	3040	2940	310	300	018	-	1330	-	80	1
		2,22	4360	4270	445	435	018	-	1430	-	80	2				
14,5	17,5	101	83,6	10,3	8,52	1,11	3090	3040	315	310	018	-	1330	-	100	1
		2,22	4360	4360	445	445	018	-	1430	-	100	2				
12,1	14,6	121	100	12,3	10,2	1,11	3090	3090	315	315	018	-	1330	-	120	1
		2,22	4360	4360	445	445	018	-	1430	-	120	2				
9,67	11,7	151	125	15,4	12,8	1,11	3090	3090	315	315	018	-	1330	-	150	1
		2,22	4360	4360	445	445	018	-	1430	-	150	2				
7,25	8,75	195	167	19,9	17,0	*	3090	3090	315	315	018	-	1330	-	200	1
		202	167	20,6	17,0	1,93	4360	4360	445	445	018	-	1430	-	200	2
6,04	7,29	195	195	19,9	19,9	*	3090	3090	315	315	018	-	1330	-	240	1
		242	201	24,7	20,5	1,61	4360	4360	445	445	018	-	1430	-	240	2

- Note:
- Motor slip may affect  $n_1$  and  $n_2$ .
  - Allowable radial load shows the value when the distance from hollow shaft end to the point of radial load is 20 mm.
  - Output torque is limited when SF is \* . It must be used within the value stipulated in the table as overload may occur if the motor is loaded to its full capacity.

Designate model and voltage and frequency when ordering. Brackets contain dimension, model, or mass of type with brakes



- Note:
- Output shaft diameter dimensions: Dimension tolerance in accordance with JIS B 0401/1976 "H8"
  - Output shaft keyway dimensions: Dimension tolerance in accordance with JIS B 1301-1996 parallel key (normal grade)
  - Dimensions and masses in the drawings are subject to change without notice.

## RNYM Series Hollow Shaft Type

### 0,18 kW 3-phase Motor

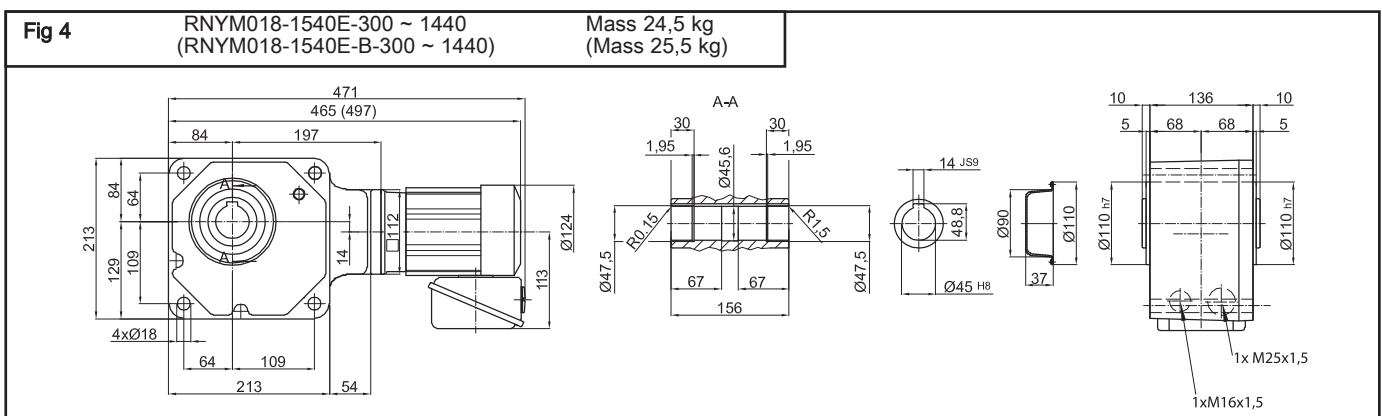
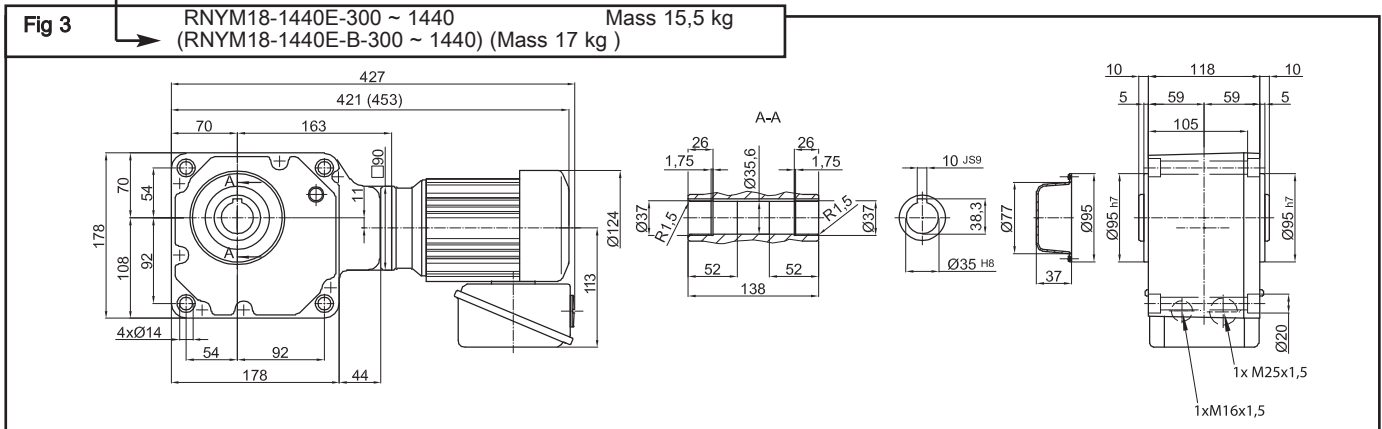
Motor Speed $n_1$	50Hz 1450 1/min 60Hz 1750 1/min
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Output Speed $n_2$ [1/min]		Output Torque $T_2$				SF	Allowable Radial Load Pro				Capacity Symbol	Frame Size	Ratio	Outline Drawing Fig.		
		[Nm]		[kgfm]			[N]		[kgf]							
50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz		50 Hz	60 Hz	50 Hz	60 Hz						
4,83	5,83	285	236	29,0	24,1	1,11	4360	4360	445	445	018	-	1440	-	300	3
4,83	5,83	285	236	29,0	24,1	2,22	6230	6230	635	635	018	-	1540	-	300	4
4,03	4,86	342	283	34,9	28,9	1,11	4360	4360	445	445	018	-	1440	-	360	3
4,03	4,86	342	283	34,9	28,9	2,14	6230	6230	635	635	018	-	1540	-	360	4
3,02	3,65	390	378	39,8	38,5	*	4360	4360	445	445	018	-	1440	-	480	3
3,02	3,65	456	378	46,5	38,5	1,60	6230	6230	635	635	018	-	1540	-	480	4
2,42	2,92	390	390	39,8	39,8	*	4360	4360	445	445	018	-	1440	-	600	3
2,42	2,92	570	472	58,1	48,1	1,28	6230	6230	635	635	018	-	1540	-	600	4
2,01	2,43	390	390	39,8	39,8	*	4360	4360	445	445	018	-	1440	-	720	3
2,01	2,43	684	566	69,7	57,8	1,07	6230	6230	635	635	018	-	1540	-	720	4
1,61	1,94	390	390	39,8	39,8	*	4360	4360	445	445	018	-	1440	-	900	3
1,61	1,94	732	708	74,6	72,2	*	6230	6230	635	635	018	-	1540	-	900	4
1,21	1,46	390	390	39,8	39,8	*	4360	4360	445	445	018	-	1440	-	1200	3
1,21	1,46	732	732	74,6	74,6	*	6230	6230	635	635	018	-	1540	-	1200	4
1,01	1,22	390	390	39,8	39,8	*	4360	4360	445	445	018	-	1440	-	1440	3
1,01	1,22	732	732	74,6	74,6	*	6230	6230	635	635	018	-	1540	-	1440	4

Hollow shaft  
Selection Tables  
0,18 kW

- Note: 1. Motor slip may affect  $n_1$  and  $n_2$ .  
 2. Allowable radial load shows the value when the distance from hollow shaft end to the point of radial load is 20 mm.  
 3. Output torque is limited when SF is \* . It must be used within the value stipulated in the table as overload may occur if the motor is loaded to its full capacity.

Designate model and voltage and frequency when ordering. Brackets contain dimension, model, or mass of type with brakes



- Note: 1. Output shaft diameter dimensions: Dimension tolerance in accordance with JIS B 0401/1976 "H8"  
 2. Output shaft keyway dimensions: Dimension tolerance in accordance with JIS B 1301-1996 parallel key (normal grade)  
 3. Dimensions and masses in the drawings are subject to change without notice.



### 0,25 kW 3-phase Motor

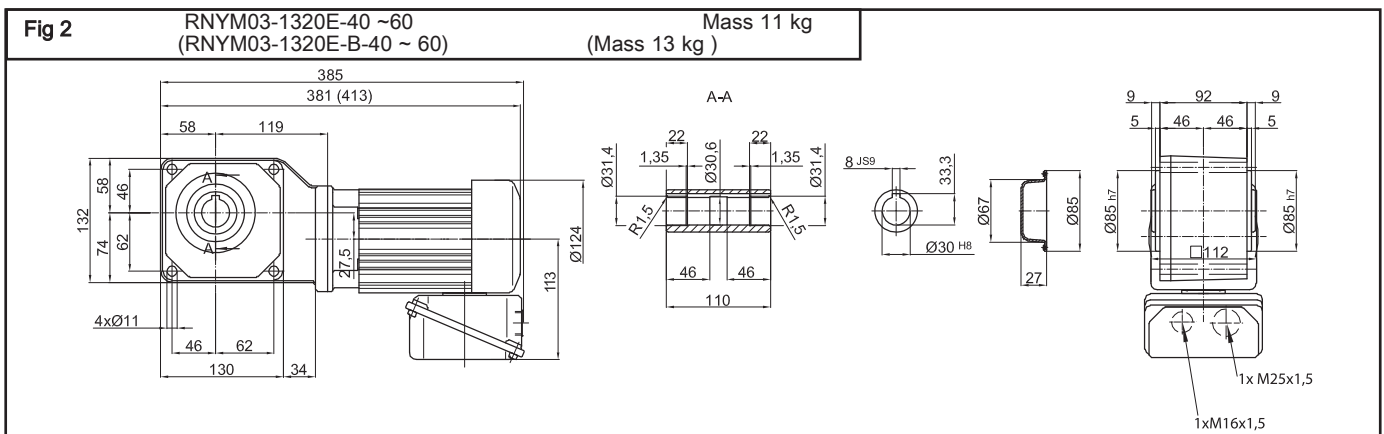
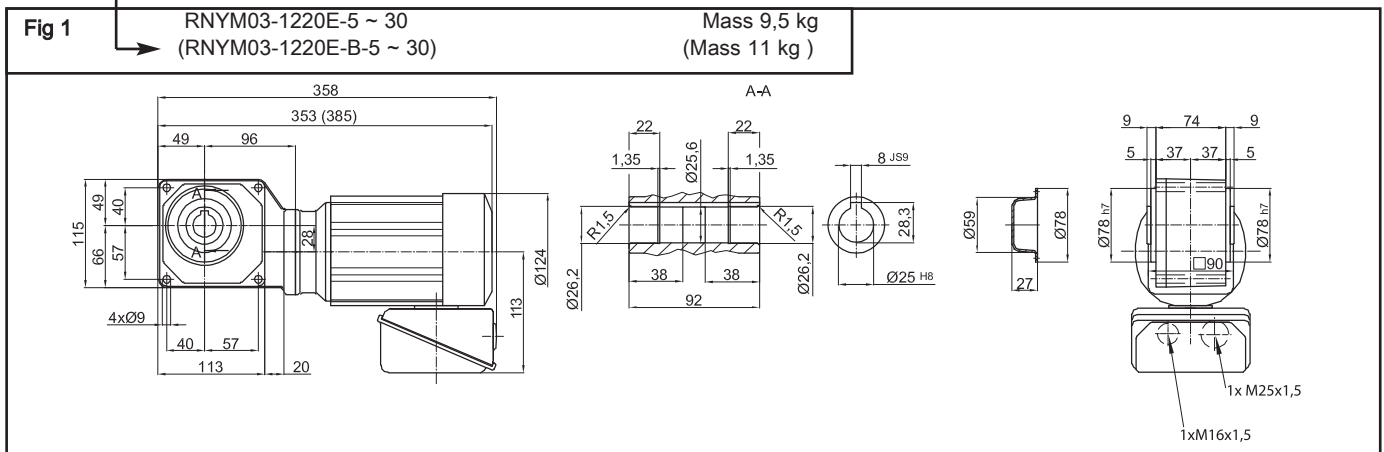
Motor Speed $n_1$	50Hz	1450 1/min
	60Hz	1750 1/min

Hollow shaft  
Selection Tables  
0,25 kW

Output Speed $n_2$ [1/min]		Output Torque $T_2$				SF	Allowable Radial Load Pro				Capacity Symbol	Frame Size	Ratio	Outline Drawing Fig.		
		[Nm]		[kgfm]			[N]		[kgf]							
50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz					
290	350	7,01	5,81	0,714	0,592	1,60	883	834	90	85	03	-	1220	-	5	1
207	250	9,81	8,13	1,00	0,829	1,60	981	932	100	95	03	-	1220	-	7	1
145	175	14,0	11,6	1,43	1,18	1,60	1080	1030	110	105	03	-	1220	-	10	1
121	146	16,8	13,9	1,71	1,42	1,60	1130	1080	115	110	03	-	1220	-	12	1
96,7	117	21,0	17,4	2,14	1,78	1,60	1230	1180	125	120	03	-	1220	-	15	1
72,5	87,5	28,0	23,2	2,86	2,37	1,60	1370	1320	140	135	03	-	1220	-	20	1
58,0	70,0	35,0	29,0	3,57	2,96	1,60	1470	1370	150	140	03	-	1220	-	25	1
48,3	58,3	42,0	34,8	4,29	3,55	1,60	1520	1470	155	150	03	-	1220	-	30	1
36,3	43,8	56,1	46,4	5,72	4,74	1,60	2650	2550	270	260	03	-	1320	-	40	2
9,0	35,0	70,1	58,1	7,14	5,92	1,60	2840	2750	290	280	03	-	1320	-	50	2
24,2	29,2	84,1	69,7	8,57	7,10	1,60	2940	2840	300	290	03	-	1320	-	60	2

- Note:
- Motor slip may affect  $n_1$  and  $n_2$ .
  - Allowable radial load shows the value when the distance from hollow shaft end to the point of radial load is 20 mm.
  - Output torque is limited when SF is \* . It must be used within the value stipulated in the table as overload may occur if the motor is loaded to its full capacity.

Designate model and voltage and frequency when ordering. Brackets contain dimension, model, or mass of type with brakes



- Note:
- Output shaft diameter dimensions: Dimension tolerance in accordance with JIS B 0401/1976 "H8"
  - Output shaft keyway dimensions: Dimension tolerance in accordance with JIS B 1301-1996 parallel key (normal grade)
  - Dimensions and masses in the drawings are subject to change without notice.

## RNYM Series Hollow Shaft Type

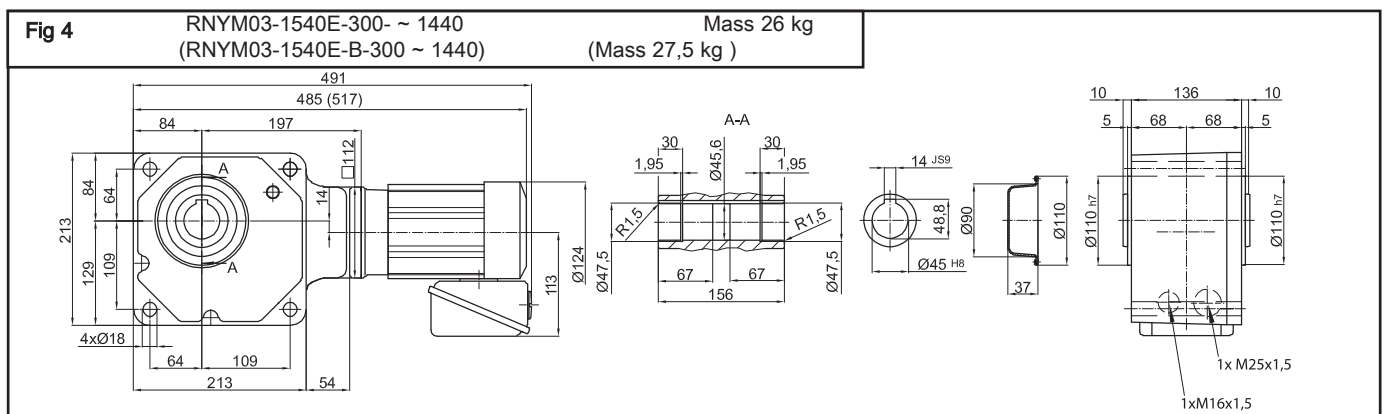
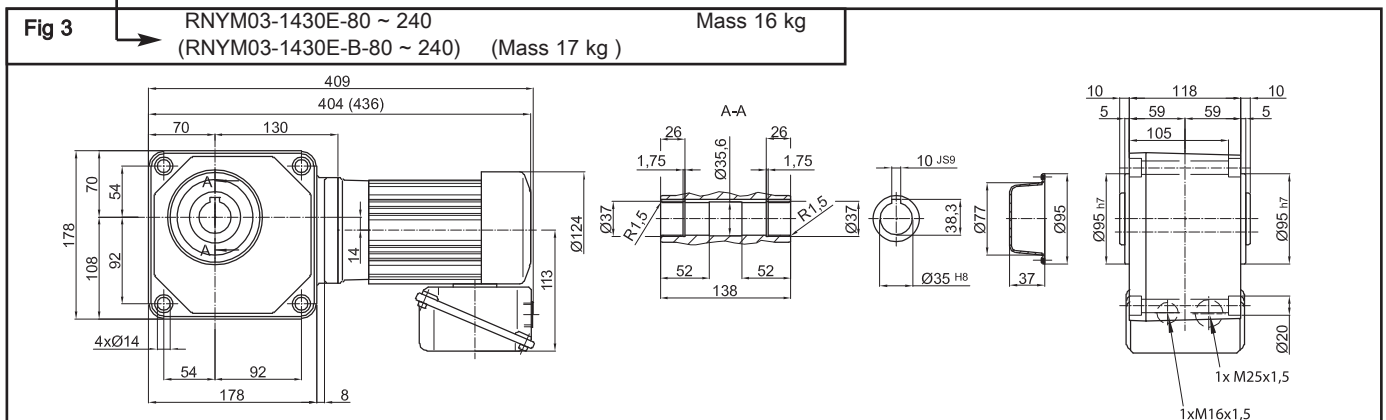
### 0,25 kW 3-phase Motor

Motor Speed $n_1$	50Hz	1450 1/min
	60Hz	1750 1/min

Output Speed $n_2$ [1/min]		Output Torque $T_2$				SF	Allowable Radial Load Pro				Capacity Symbol	Frame Size	Ratio	Outline Drawing Fig.		
		[Nm]		[kgfm]			[N]		[kgf]							
50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz		50 Hz	60 Hz	50 Hz	60 Hz						
18,1	21,9	112	92,9	11,4	9,47	1,60	4360	4270	445	435	03	-	1430	-	80	3
14,5	17,5	140	116	14,3	11,8	1,60	4360	4360	445	445	03	-	1430	-	100	3
12,1	14,6	168	139	17,1	14,2	1,60	4360	4360	445	445	03	-	1430	-	120	3
9,67	11,7	210	174	21,4	17,8	1,60	4360	4360	445	445	03	-	1430	-	150	3
7,25	8,75	280	232	28,6	23,7	1,39	4360	4360	445	445	03	-	1430	-	200	3
6,04	7,29	336	279	34,3	28,4	1,16	4360	4360	445	445	03	-	1430	-	240	3
4,83	5,83	396	328	40,3	33,4	1,60	6230	6230	635	635	03	-	1540	-	300	4
4,03	4,86	475	393	48,4	40,1	1,54	6230	6230	635	635	03	-	1540	-	360	4
3,02	3,65	633	525	64,6	53,5	1,16	6230	6230	635	635	03	-	1540	-	480	4
2,42	2,92	732	656	74,6	66,9	*	6230	6230	635	635	03	-	1540	-	600	4
2,01	2,43	732	732	74,6	74,6	*	6230	6230	635	635	03	-	1540	-	720	4
1,61	1,94	732	732	74,6	74,6	*	6230	6230	635	635	03	-	1540	-	900	4
1,21	1,46	732	732	74,6	74,6	*	6230	6230	635	635	03	-	1540	-	1200	4
1,01	1,22	732	732	74,6	74,6	*	6230	6230	635	635	03	-	1540	-	1440	4

- Note: 1. Motor slip may affect  $n_1$  and  $n_2$ .  
 2. Allowable radial load shows the value when the distance from hollow shaft end to the point of radial load is 20 mm.  
 3. Output torque is limited when SF is \* . It must be used within the value stipulated in the table as overload may occur if the motor is loaded to its full capacity.

Designate model and voltage and frequency when ordering, Brackets contain dimension, model, or mass of type with brakes



- Note: 1. Output shaft diameter dimensions: Dimension tolerance in accordance with JIS B 0401/1976 "H8"  
 2. Output shaft keyway dimensions: Dimension tolerance in accordance with JIS B 1301-1996 parallel key (normal grade)  
 3. Dimensions and masses in the drawings are subject to change without notice.

### 0,37 kW 3-phase Motor

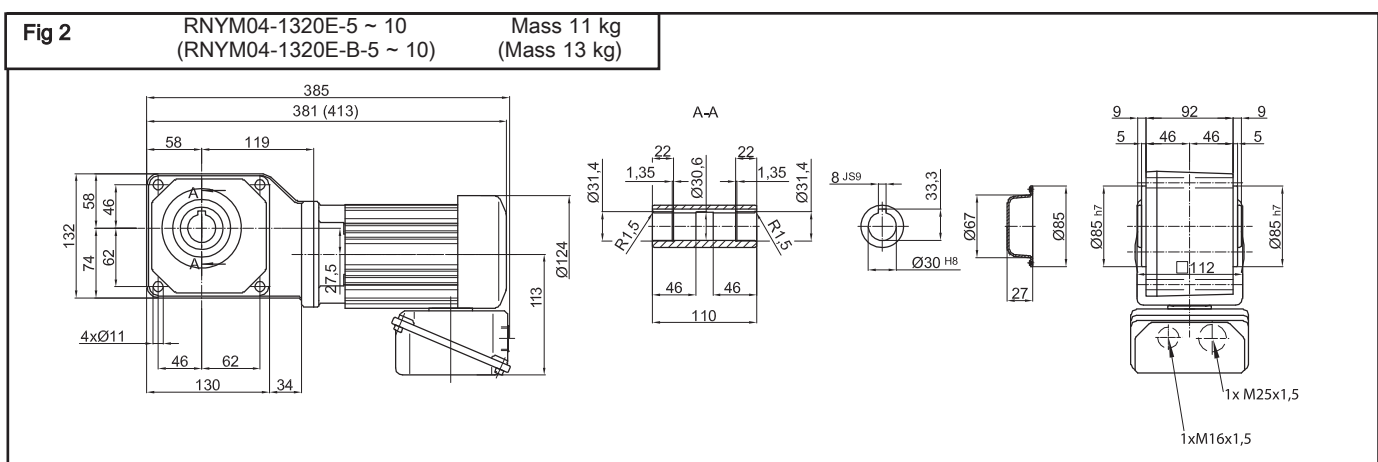
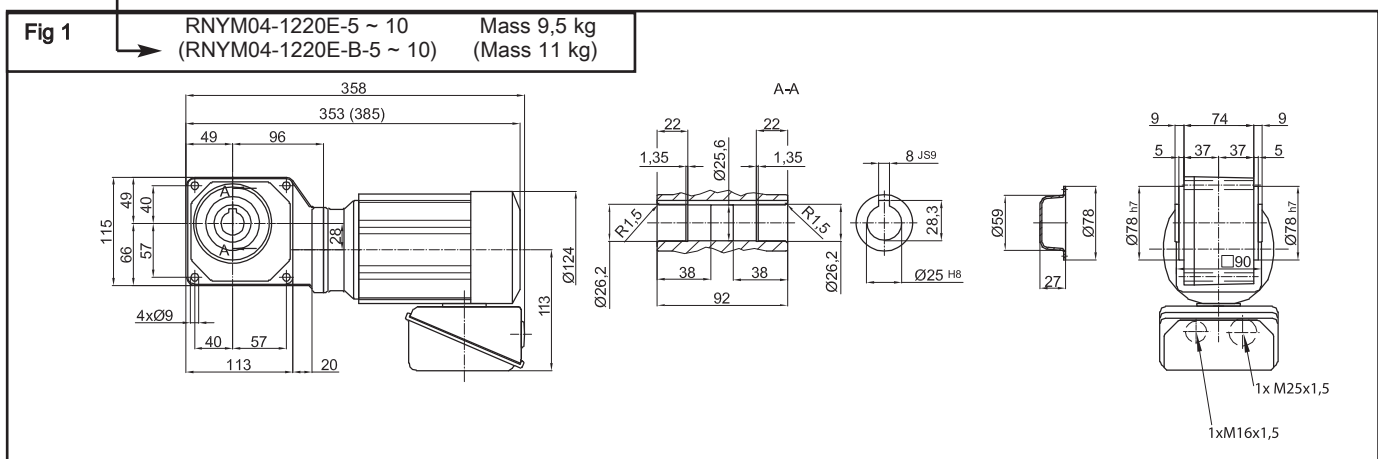
Motor Speed $n_1$	50Hz	1450 1/min
	60Hz	1750 1/min

Output Speed $n_2$ [1/min]		Output Torque $T_2$				SF	Allowable Radial Load Pro				Capacity Symbol	Frame Size	Ratio	Outline Drawing Fig.		
		[Nm]		[kgfm]			[N]		[kgf]							
50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz					
290	350	10,4	8,59	1,06	0,876	1,08	883	834	90	85	04	-	1220	-	5	1
						2,16	1470	1370	150	140	04	-	1320	-	5	2
207	250	14,5	12,0	1,48	1,23	1,08	981	932	100	95	04	-	1220	-	7	1
						2,16	1670	1570	170	160	04	-	1320	-	7	2
145	175	20,7	17,2	2,11	1,75	1,08	1080	1030	110	105	04	-	1220	-	10	1
						2,16	1810	1720	185	175	04	-	1320	-	10	2

Hollow shaft  
Selection Tables  
0,37 kW

- Note:
- Motor slip may affect  $n_1$  and  $n_2$ .
  - Allowable radial load shows the value when the distance from hollow shaft end to the point of radial load is 20 mm.
  - Output torque is limited when SF is \* . It must be used within the value stipulated in the table as overload may occur if the motor is loaded to its full capacity.

Designate model and voltage and frequency when ordering. Brackets contain dimension, model, or mass of type with brakes



- Note:
- Output shaft diameter dimensions:  
Dimension tolerance in accordance with JIS B 0401/1976 "H8"
  - Output shaft keyway dimensions: Dimension tolerance in accordance with JIS B 1301-1996 parallel key (normal grade)
  - Dimensions and masses in the drawings are subject to change without notice.

## RNYM Series Hollow Shaft Type

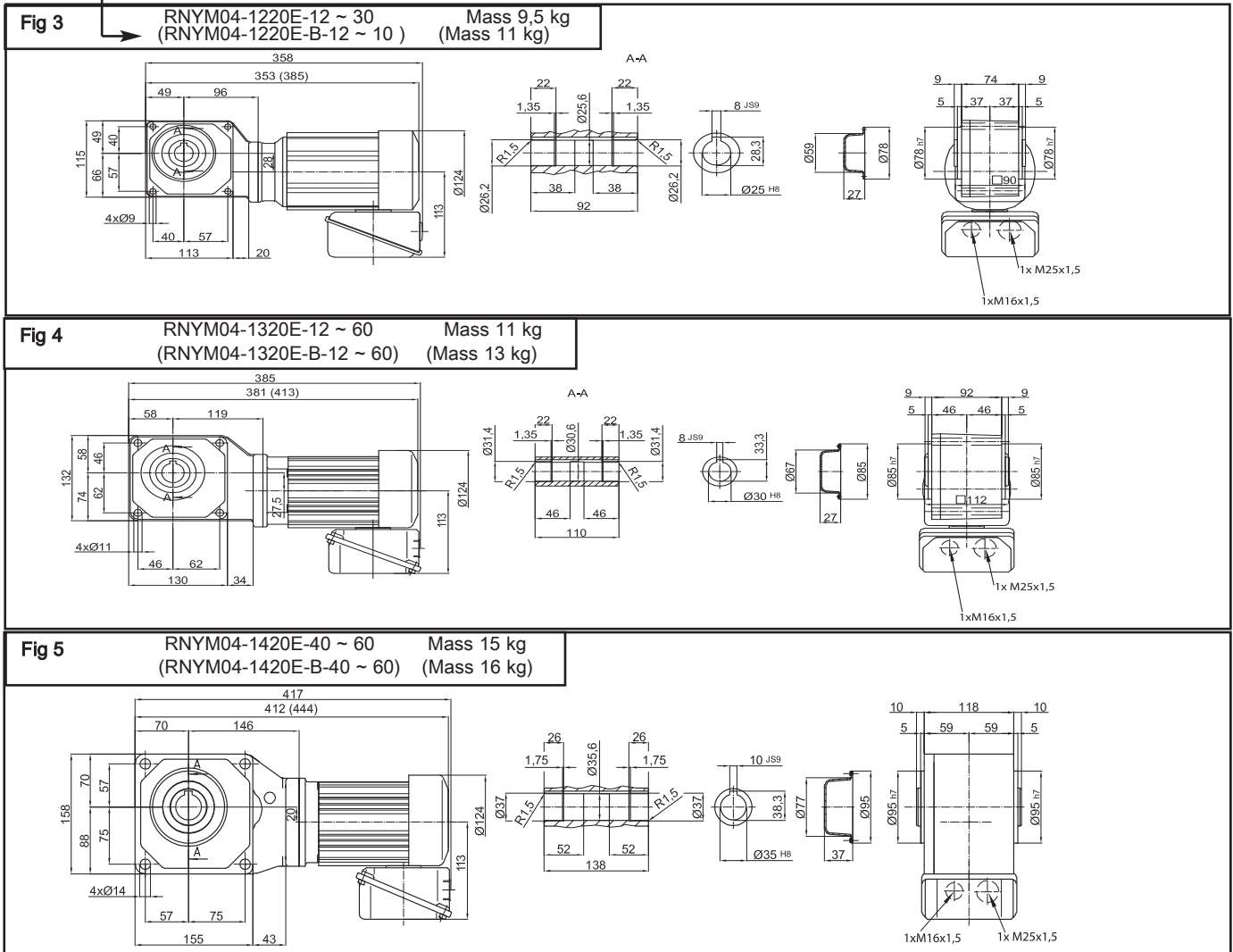
### 0,37 kW 3-phase Motor

Motor Speed $n_1$	50Hz 1450 1/min 60Hz 1750 1/min
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Output Speed $n_2$ [1/min]		Output Torque $T_2$				SF	Allowable Radial Load Pro				Capacity Symbol	Frame Size	Ratio	Outline Drawing Fig.
50 Hz	60 Hz	[Nm]		[kgfm]			[N]		[kgf]					
50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz		50 Hz	60 Hz	50 Hz	60 Hz				
121	146	24,9	20,6	2,54	2,10	1,08 2,16	1130 1910	1080 1810	115 195	110 185	04 - 04 -	1220 - 1320 -	12 12	3 4
96,7	117	31,1	25,8	3,17	2,63	1,08 2,16	1230 2060	1180 1960	125 210	120 200	04 - 04 -	1220 - 1320 -	15 15	3 4
72,5	87,5	41,5	34,4	4,23	3,50	1,08 2,16	1370 2260	1320 2160	140 230	135 220	04 - 04 -	1220 - 1320 -	20 20	3 4
58,0	70,0	51,8	43,0	5,29	4,38	1,08 2,16	1470 2350	1370 2260	150 240	140 230	04 - 04 -	1220 - 1320 -	25 25	3 4
48,3	58,3	62,2	51,6	6,34	5,26	1,08 2,16	1520 2450	1470 2350	155 250	150 240	04 - 04 -	1220 - 1320 -	30 30	3 4
36,3	43,8	83,0	68,7	8,46	7,01	1,08 2,16	2650 3970	2550 3820	270 405	260 390	04 - 04 -	1320 - 1420 -	40 40	4 5
29,0	35,0	104	85,9	10,6	8,76	1,08 2,16	2840 4170	2750 4020	290 425	280 410	04 - 04 -	1320 - 1420 -	50 50	4 5
24,2	29,2	124	103	12,7	10,5	1,08 2,16	2940 4310	2840 4170	300 440	290 425	04 - 04 -	1320 - 1420 -	60 60	4 5

- Note: 1. Motor slip may affect  $n_1$  and  $n_2$ .  
 2. Allowable radial load shows the value when the distance from hollow shaft end to the point of radial load is 20 mm.  
 3. Output torque is limited when SF is \* . It must be used within the value stipulated in the table as overload may occur if the motor is loaded to its full capacity.

Designate model and voltage and frequency when ordering. Brackets contain dimension, model, or mass of type with brakes



- Note: 1. Output shaft diameter dimensions: Dimension tolerance in accordance with JIS B 0401/1976 "H8"  
 2. Output shaft keyway dimensions: Dimension tolerance in accordance with JIS B 1301-1996 parallel key (normal grade)  
 3. Dimensions and masses in the drawings are subject to change without notice.

## RNYM Series Hollow Shaft Type

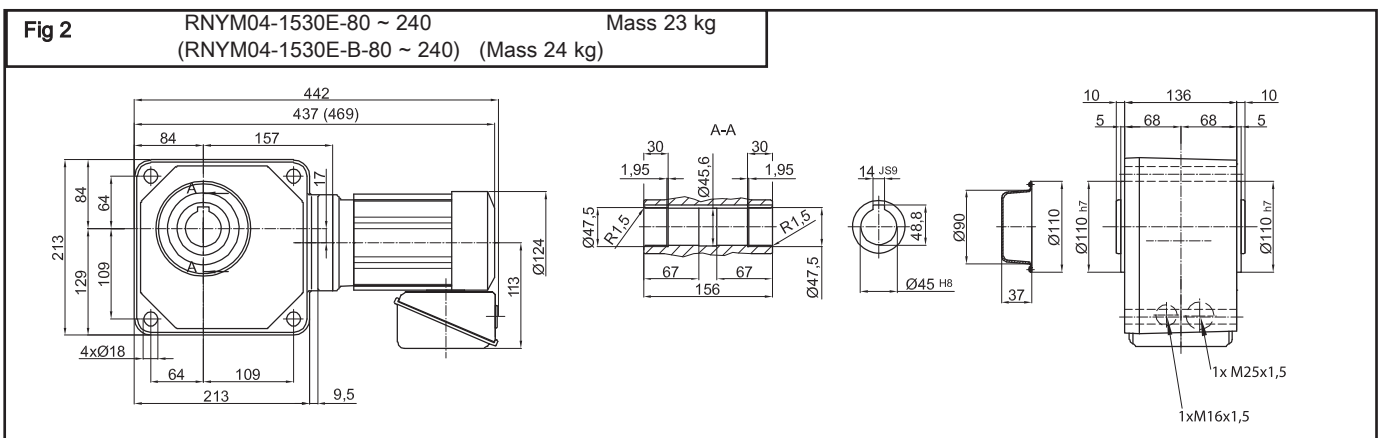
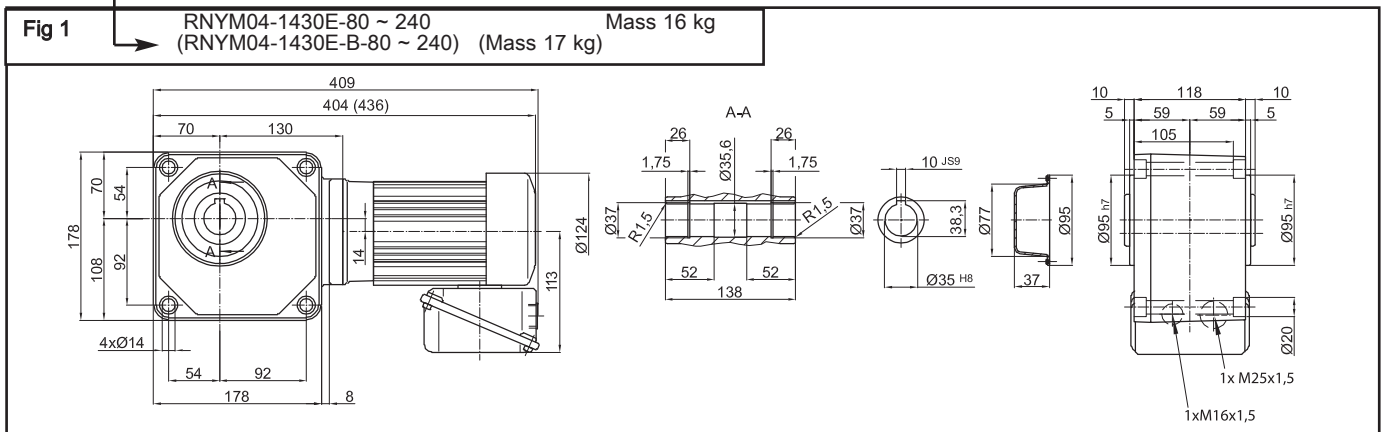
### 0,37 kW 3-phase Motor

Motor Speed $n_1$	50Hz	1450 1/min
	60Hz	1750 1/min

Output Speed $n_2$ [1/min]		Output Torque $T_2$				SF	Allowable Radial Load Pro				Capacity Symbol	Frame Size	Ratio	Outline Drawing Fig.		
		[Nm]		[kgfm]			[N]		[kgf]							
50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz					
18,1	21,9	166	137	16,9	14,0	1,08	4360	4270	445	435	04	-	1430	-	80	1
		216	177	21,1	17,5	2,16	6230	6130	635	625	04	-	1530	-	80	2
14,5	17,5	207	172	21,1	17,5	1,08	4360	4360	445	445	04	-	1430	-	100	1
		249	206	25,4	21,0	2,16	6230	6230	635	635	04	-	1530	-	100	2
12,1	14,6	249	206	25,4	21,0	1,08	4360	4360	445	445	04	-	1430	-	120	1
		291	247	31,7	26,3	2,16	6230	6230	635	635	04	-	1530	-	120	2
9,67	11,7	311	258	31,7	26,3	1,08	4360	4360	445	445	04	-	1430	-	150	1
		353	299	39,8	35,0	2,16	6230	6230	635	635	04	-	1530	-	150	2
7,25	8,75	390	344	39,8	35,0	*	4360	4360	445	445	04	-	1430	-	200	1
		415	344	42,3	35,0	1,76	6230	6230	635	635	04	-	1530	-	200	2
6,04	7,29	390	390	39,8	39,8	*	4360	4360	445	445	04	-	1430	-	240	1
		498	412	50,8	42,1	1,47	6230	6230	635	635	04	-	1530	-	240	2

- Note: 1. Motor slip may affect  $n_1$  and  $n_2$ .  
 2. Allowable radial load shows the value when the distance from hollow shaft end to the point of radial load is 20 mm.  
 3. Output torque is limited when SF is \* . It must be used within the value stipulated in the table as overload may occur if the motor is loaded to its full capacity.

Designate model and voltage and frequency when ordering, Brackets contain dimension, model, or mass of type with brakes



- Note: 1. Output shaft diameter dimensions: Dimension tolerance in accordance with JIS B 0401/1976 "H8"  
 2. Output shaft keyway dimensions: Dimension tolerance in accordance with JIS B 1301-1996 parallel key (normal grade)  
 3. Dimensions and masses in the drawings are subject to change without notice.

## RNYM Series Hollow Shaft Type

### 0,37 kW 3-phase Motor

Motor Speed $n_1$	50Hz	1450	1/min
	60Hz	1750	1/min

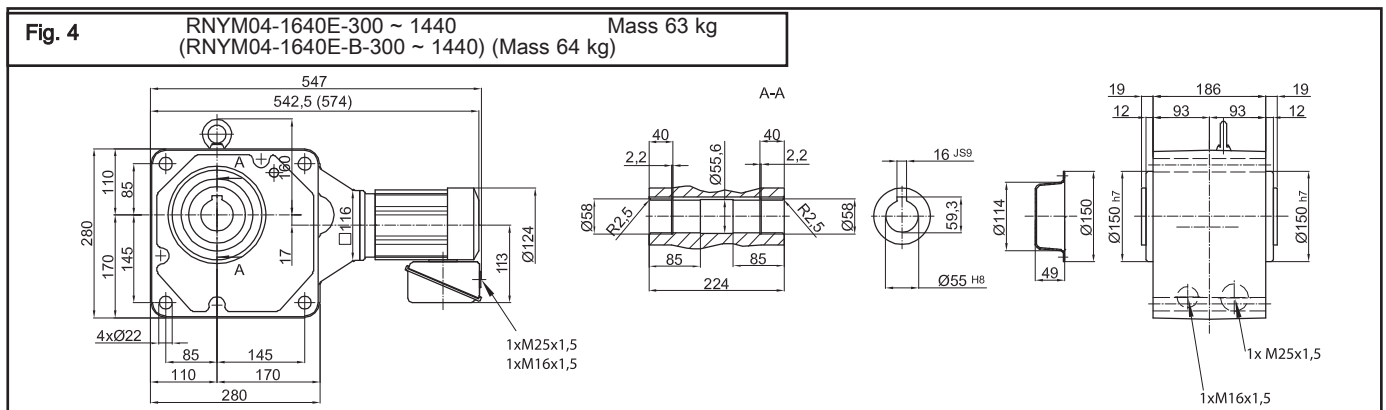
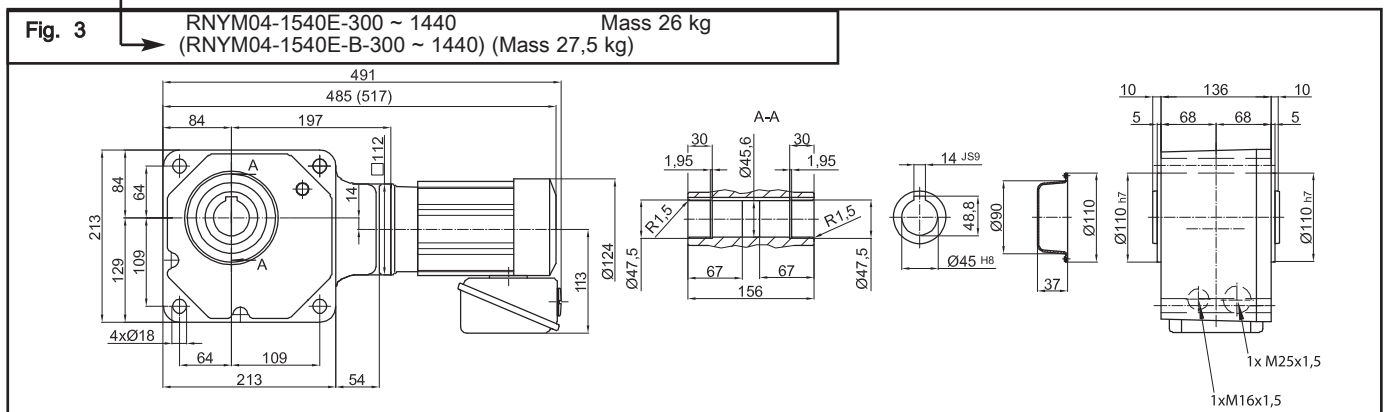
Output Speed $n_2$ [1/min]		Output Torque $T_2$				SF	Allowable Radial Load Pro				Capacity Symbol	Frame Size	Ratio	Outline Drawing Fig.		
		[Nm]		[kgfm]			[N]		[kgf]							
50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz					
4,83	5,83	586	485	59,7	49,5	1,08	6230	6230	635	635	04	-	1540	-	300	3
		937	776	95,5	79,2	1,58	9810	9810	1000	1000	04	-	1640	-	300	4
4,03	4,86	703	582	71,7	59,4	1,04	6230	6230	635	635	04	-	1540	-	360	3
		937	776	95,5	79,2	1,58	9810	9810	1000	1000	04	-	1640	-	360	4
3,02	3,65	732	732	74,6	74,6	*	6230	6230	635	635	04	-	1540	-	480	3
		937	776	95,5	79,2	1,58	9810	9810	1000	1000	04	-	1640	-	480	4
2,42	2,92	732	732	74,6	74,6	*	6230	6230	635	635	04	-	1540	-	600	3
		1171	970	119	98,9	1,26	9810	9810	1000	1000	04	-	1640	-	600	4
2,01	2,43	732	732	74,6	74,6	*	6230	6230	635	635	04	-	1540	-	720	3
		1405	1164	143	119	1,05	9810	9810	1000	1000	04	-	1640	-	720	4
1,61	1,94	732	732	74,6	74,6	*	6230	6230	635	635	04	-	1540	-	900	3
		1480	1456	151	148	*	9810	9810	1000	1000	04	-	1640	-	900	4
1,21	1,46	732	732	74,6	74,6	*	6230	6230	635	635	04	-	1540	-	1200	3
		1480	1480	151	151	*	9810	9810	1000	1000	04	-	1640	-	1200	4
1,01	1,22	732	732	74,6	74,6	*	6230	6230	635	635	04	-	1540	-	1440	3
		1480	1480	151	151	*	9810	9810	1000	1000	04	-	1640	-	1440	4

Note: 1. Motor slip may affect  $n_1$  and  $n_2$ .

2. Allowable radial load shows the value when the distance from hollow shaft end to the point of radial load is 20 mm.

3. Output torque is limited when SF is \* . It must be used within the value stipulated in the table as overload may occur if the motor is loaded to its full capacity.

Designate model and voltage and frequency when ordering. Brackets contain dimension, model, or mass of type with brakes



Note: 1. Output shaft diameter dimensions:  
Dimension tolerance in accordance with JIS B 0401/1976 "H8"  
2. Output shaft keyway dimensions: Dimension tolerance in accordance with JIS B 1301-1996 parallel key (normal grade)

3. Dimensions and masses in the drawings are subject to change without notice.

## RNYM Series Hollow Shaft Type

### 0,55 kW 3-phase Motor

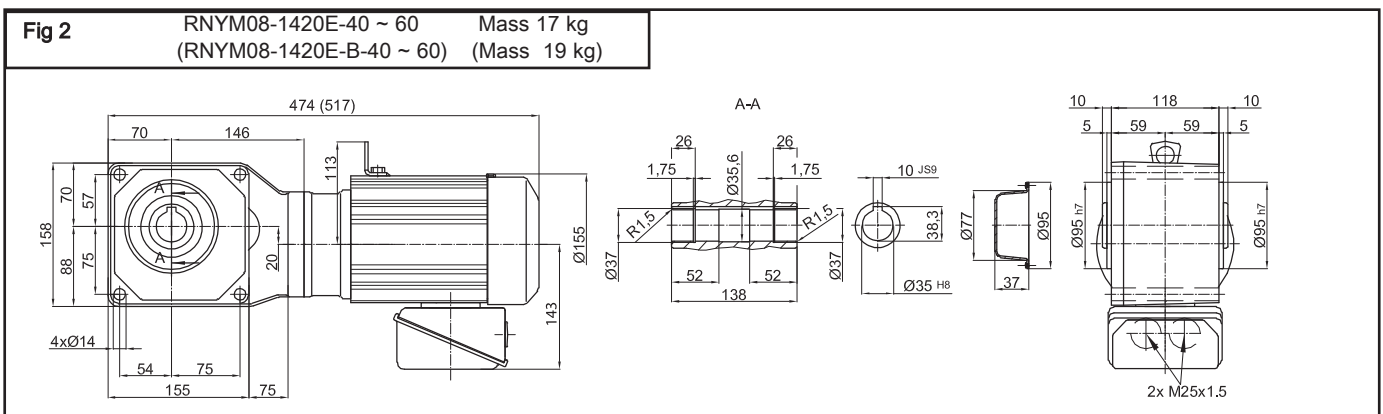
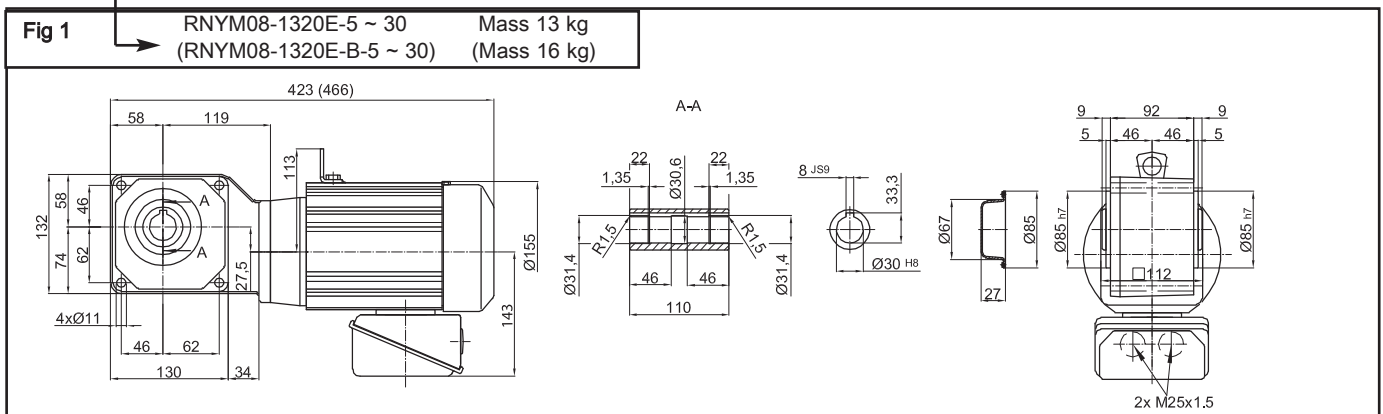
Motor Speed $n_1$	50Hz	1450 1/min
	60Hz	1750 1/min

Hollow shaft  
Selection Tables  
0,55 kW

Output Speed $n_2$ [1/min]		Output Torque $T_2$				SF	Allowable Radial Load Pro				Capacity Symbol	Frame Size	Ratio	Outline Drawing Fig.	
		[Nm]		[kgfm]			[N]		[kgf]						
50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz		50 Hz	60 Hz	50 Hz	60 Hz					
290	350	15,4	12,8	1,57	1,30	1,45	1470	1370	150	140	08	- 1320	-	5	1
207	250	21,6	17,9	2,20	1,82	1,45	1670	1570	170	160	08	- 1320	-	7	1
145	175	30,8	25,5	3,14	2,60	1,45	1810	1720	185	175	08	- 1320	-	10	1
121	146	37,0	30,7	3,77	3,13	1,45	1910	1810	195	185	08	- 1320	-	12	1
96,7	117	46,2	38,3	4,72	3,91	1,45	2060	1960	210	200	08	- 1320	-	15	1
72,5	87,5	61,7	51,1	6,29	5,21	1,45	2260	2160	230	220	08	- 1320	-	20	1
58,0	70,0	77,1	63,9	7,86	6,51	1,45	2350	2260	240	230	08	- 1320	-	25	1
48,3	58,3	92,5	76,6	9,43	7,81	1,45	2450	2350	250	240	08	- 1320	-	30	1
36,3	43,8	123	102	12,6	10,4	1,45	3970	3820	405	390	08	- 1420	-	40	2
29,0	35,0	154	128	15,7	13,0	1,45	4170	4020	425	410	08	- 1420	-	50	2
24,2	29,2	185	153	18,9	15,6	1,45	4310	4170	440	425	08	- 1420	-	60	2

- Note:
1. Motor slip may affect  $n_1$  and  $n_2$ .
  2. Allowable radial load shows the value when the distance from hollow shaft end to the point of radial load is 20 mm.
  3. Output torque is limited when SF is \* . It must be used within the value stipulated in the table as overload may occur if the motor is loaded to its full capacity.

Designate model and voltage and frequency when ordering. Brackets contain dimension, model, or mass of type with brakes



- Note:
1. Output shaft diameter dimensions:  
Dimension tolerance in accordance with JIS B 0401/1976 "H8"
  2. Output shaft keyway dimensions: Dimension tolerance in accordance with JIS B 1301-1996 parallel key (normal grade)
  3. Dimensions and masses in the drawings are subject to change without notice.

## RNYM Series Hollow Shaft Type

### 0,55 kW 3-phase Motor

Motor Speed $n_1$	50Hz 1450 1/min 60Hz 1750 1/min
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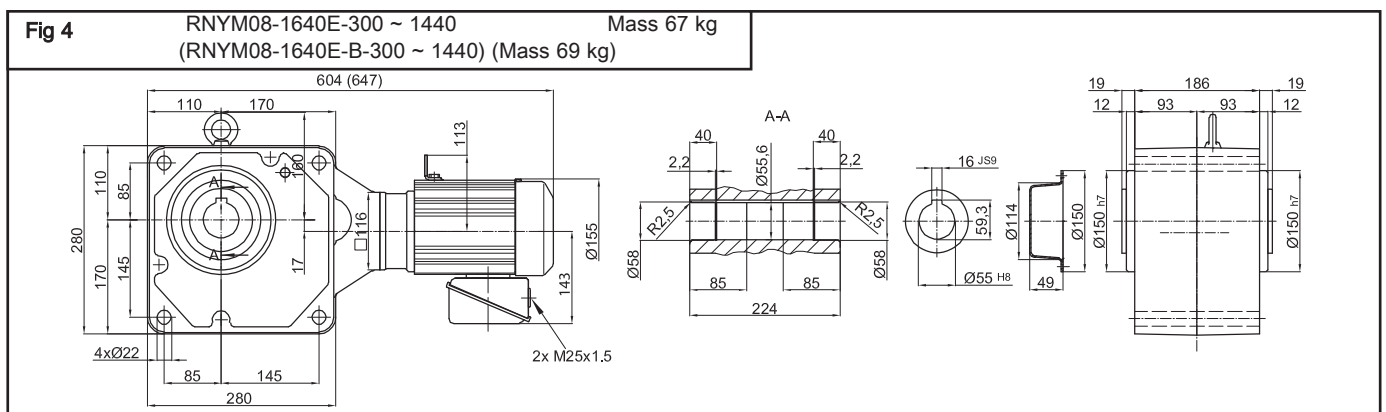
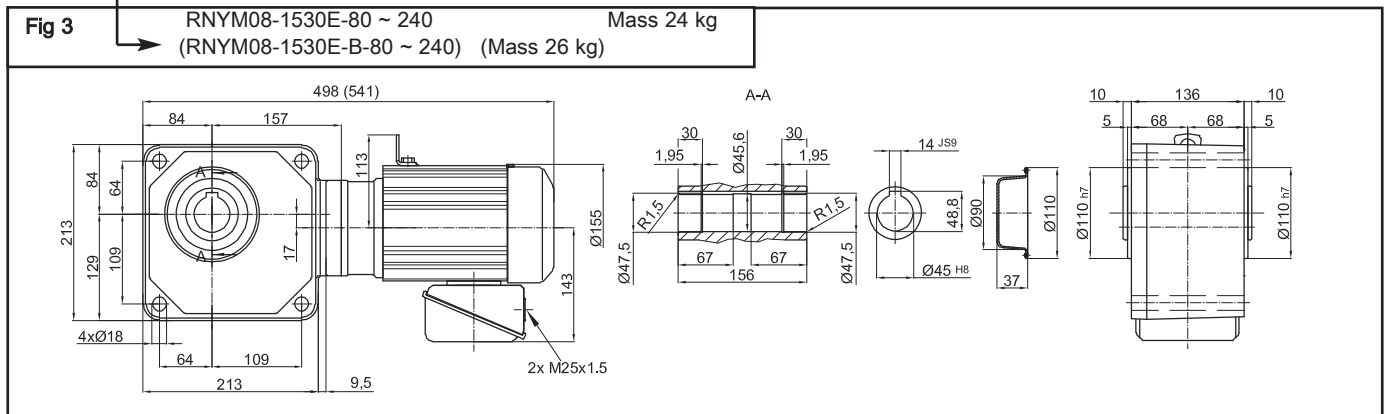
Output Speed $n_2$ [1/min]		Output Torque $T_2$				SF	Allowable Radial Load Pro				Capacity Symbol	Frame Size	Ratio	Outline Drawing Fig.		
		[Nm]		[kgfm]			[N]		[kgf]							
50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz					
18,1	21,9	247	204	25,1	20,8	1,45	6230	6130	635	625	08	-	1530	-	80	3
14,5	17,5	308	255	31,4	26,0	1,45	6230	6230	635	635	08	-	1530	-	100	
12,1	14,6	370	307	37,7	31,3	1,45	6230	6230	635	635	08	-	1530	-	120	
9,67	11,7	462	383	47,2	39,1	1,45	6230	6230	635	635	08	-	1530	-	150	3
7,25	8,75	617	511	62,9	52,1	1,19	6230	6230	635	635	08	-	1530	-	200	
6,04	7,29	732	613	74,6	62,5	*	6230	6230	635	635	08	-	1530	-	240	
4,83	5,83	870	721	88,8	73,5	1,45	9810	9810	1000	1000	08	-	1640	-	300	
4,03	4,86	1045	865	107	88,3	1,42	9810	9810	1000	1000	08	-	1640	-	360	4
3,02	3,65	1393	1154	142	118	1,06	9810	9810	1000	1000	08	-	1640	-	480	
2,42	2,92	1480	1442	151	147	*	9810	9810	1000	1000	08	-	1640	-	600	
2,01	2,43	1480	1480	151	151	*	9810	9810	1000	1000	08	-	1640	-	720	
1,61	1,94	1480	1480	151	151	*	9810	9810	1000	1000	08	-	1640	-	900	
1,21	1,46	1480	1480	151	151	*	9810	9810	1000	1000	08	-	1640	-	1200	
1,01	1,22	1480	1480	151	151	*	9810	9810	1000	1000	08	-	1640	-	1440	

Note: 1. Motor slip may affect  $n_1$  and  $n_2$ .

2. Allowable radial load shows the value when the distance from hollow shaft end to the point of radial load is 20 mm.

3. Output torque is limited when SF is \* . It must be used within the value stipulated in the table as overload may occur if the motor is loaded to its full capacity.

Designate model and voltage and frequency when ordering. Brackets contain dimension, model, or mass of type with brakes



Note: 1. Output shaft diameter dimensions:  
Dimension tolerance in accordance with JIS B 0401/1976 "H8"  
2. Output shaft keyway dimensions: Dimension tolerance in accordance with JIS B 1301-1996 parallel key (normal grade)

3. Dimensions and masses in the drawings are subject to change without notice.



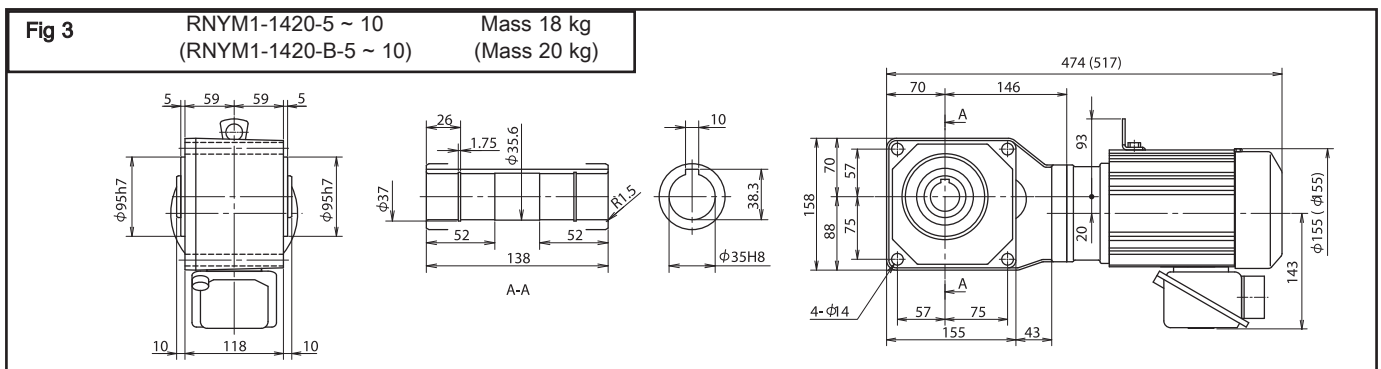
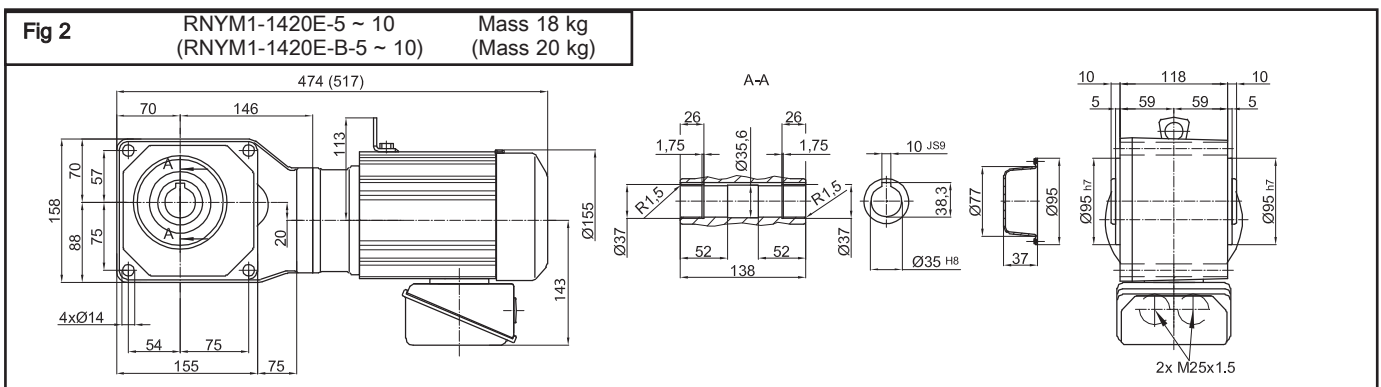
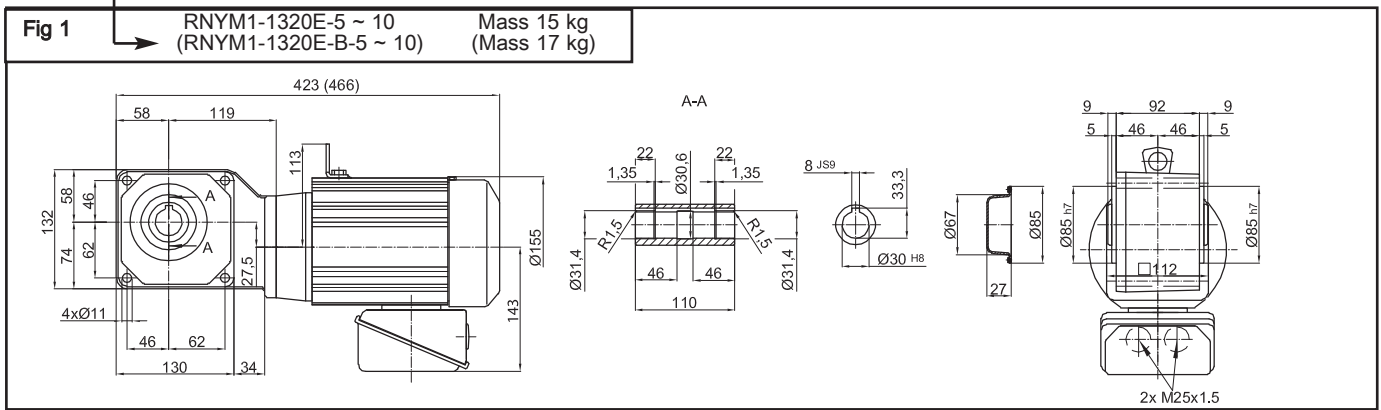
### 0,75 kW 3-phase Motor

Motor Speed $n_1$	50Hz	1450 1/min
	60Hz	1750 1/min

Output Speed $n_2$ [1/min]		Output Torque $T_2$				SF	Allowable Radial Load $P_{ro}$				Capacity Symbol	Frame Size	Ratio	Outline Drawing Fig.		
		[Nm]		[kgfm]			[N]		[kgf]							
50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz					
290	350	21,0	17,4	2,14	1,78	1,07	1470	1370	150	140	1	-	1320	-	5	1
						2,05	2160	2060	220	210	1	-	1420	-	5	2
207	250	29,4	24,4	3,00	2,49	1,07	1670	1570	170	160	1	-	1320	-	7	1
						2,05	2450	2300	250	235	1	-	1420	-	7	2
145	175	42,0	34,8	4,29	3,55	1,07	1810	1720	185	175	1	-	1320	-	10	1
						2,05	2750	2600	280	265	1	-	1420	-	10	2

- Note: 1. Motor slip may affect  $n_1$  and  $n_2$ .  
 2. Allowable radial load shows the value when the distance from hollow shaft end to the point of radial load is 20 mm.  
 3. Output torque is limited when SF is \*. It must be used within the value stipulated in the table as overload may occur if the motor is loaded to its full capacity.

Designate model and voltage and frequency when ordering. Brackets contain dimension, model, or mass of type with brakes



- Note: 1. Output shaft diameter dimensions: Dimension tolerance in accordance with JIS B 0401/1976 "H8"  
 2. Output shaft keyway dimensions: Dimension tolerance in accordance with JIS B 1301-1996 parallel key (normal grade)  
 3. Dimensions and masses in the drawings are subject to change without notice.

## RNYM Series Hollow Shaft Type

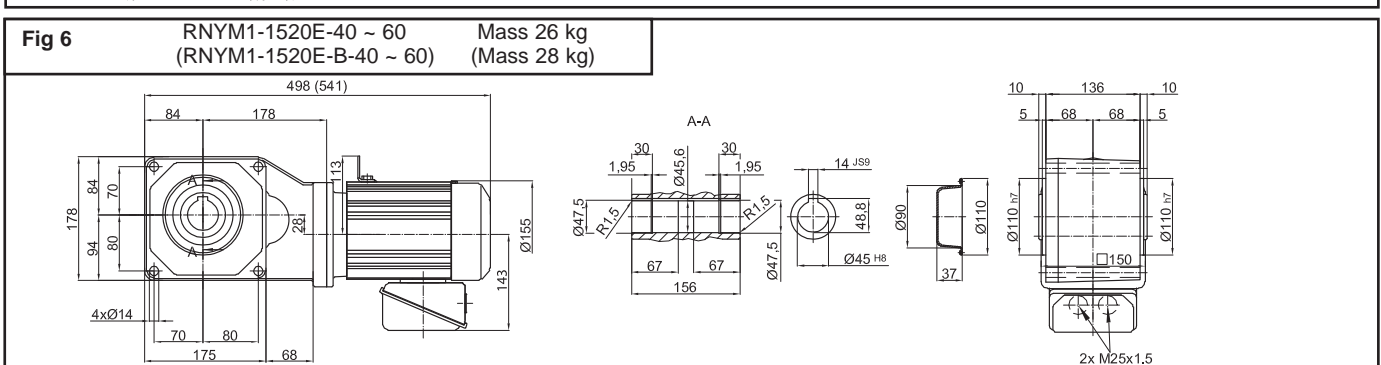
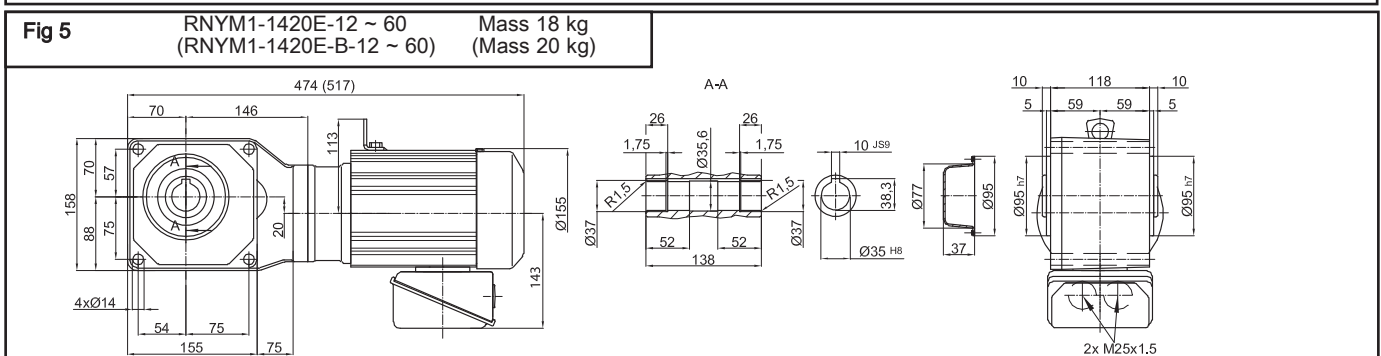
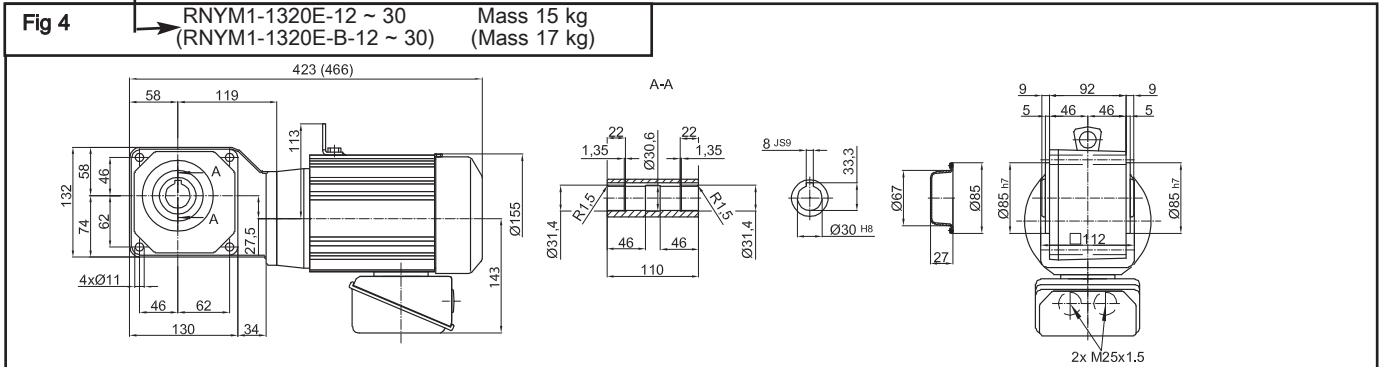
### 0,75 kW 3-phase Motor

Motor Speed $n_1$	50Hz	1450 1/min
	60Hz	1750 1/min

Output Speed $n_2$ [1/min]		Output Torque $T_2$				SF	Allowable Radial Load Pro				Capacity Symbol	Frame Size	Ratio	Outline Drawing Fig.	
		[Nm]		[kgfm]			[N]		[kgf]						
50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz				
121	146	50,4	41,8	5,14	4,26	1,07	1910	1810	195	185	1	- 1320	-	12	4
		2,05	2840	2750	290	280	1	- 1420	-	12	5				
96,7	117	63,1	52,2	6,43	5,33	1,07	2060	1960	210	200	1	- 1320	-	15	4
		2,05	3090	2940	315	300	1	- 1420	-	15	5				
72,5	87,5	84,1	69,7	8,57	7,10	1,07	2260	2160	230	220	1	- 1320	-	20	4
		2,05	3330	3190	340	325	1	- 1420	-	20	5				
58,0	70,0	105	87,1	10,7	8,88	1,07	2350	2260	240	230	1	- 1320	-	25	4
		2,05	3530	3380	360	345	1	- 1420	-	25	5				
48,3	58,3	126	104	12,9	10,7	1,07	2450	2350	250	240	1	- 1320	-	30	4
		2,05	3730	3580	380	365	1	- 1420	-	30	5				
36,3	43,8	168	139	17,1	14,2	1,07	3970	3820	405	390	1	- 1420	-	40	5
		2,05	5740	5540	585	565	1	- 1520	-	40	6				
29,0	35,0	210	174	21,4	17,8	1,07	4170	4020	425	410	1	- 1420	-	50	5
		2,05	6030	5830	615	595	1	- 1520	-	50	6				
24,2	29,2	252	209	25,7	21,3	1,07	4310	4170	440	425	1	- 1420	-	60	5
		2,05	6230	6030	635	615	1	- 1520	-	60	6				

- Note: 1. Motor slip may affect  $n_1$  and  $n_2$ .  
 2. Allowable radial load shows the value when the distance from hollow shaft end to the point of radial load is 20 mm.  
 3. Output torque is limited when SF is \* . It must be used within the value stipulated in the table as overload may occur if the motor is loaded to its full capacity.

Designate model and voltage and frequency when ordering. Brackets contain dimension, model, or mass of type with brakes



- Note: 1. Output shaft diameter dimensions: Dimension tolerance in accordance with JIS B 0401/1976 "H8"  
 2. Output shaft keyway dimensions: Dimension tolerance in accordance with JIS B 1301-1996 parallel key (normal grade)  
 3. Dimensions and masses in the drawings are subject to change without notice.

## RNYM Series Hollow Shaft Type

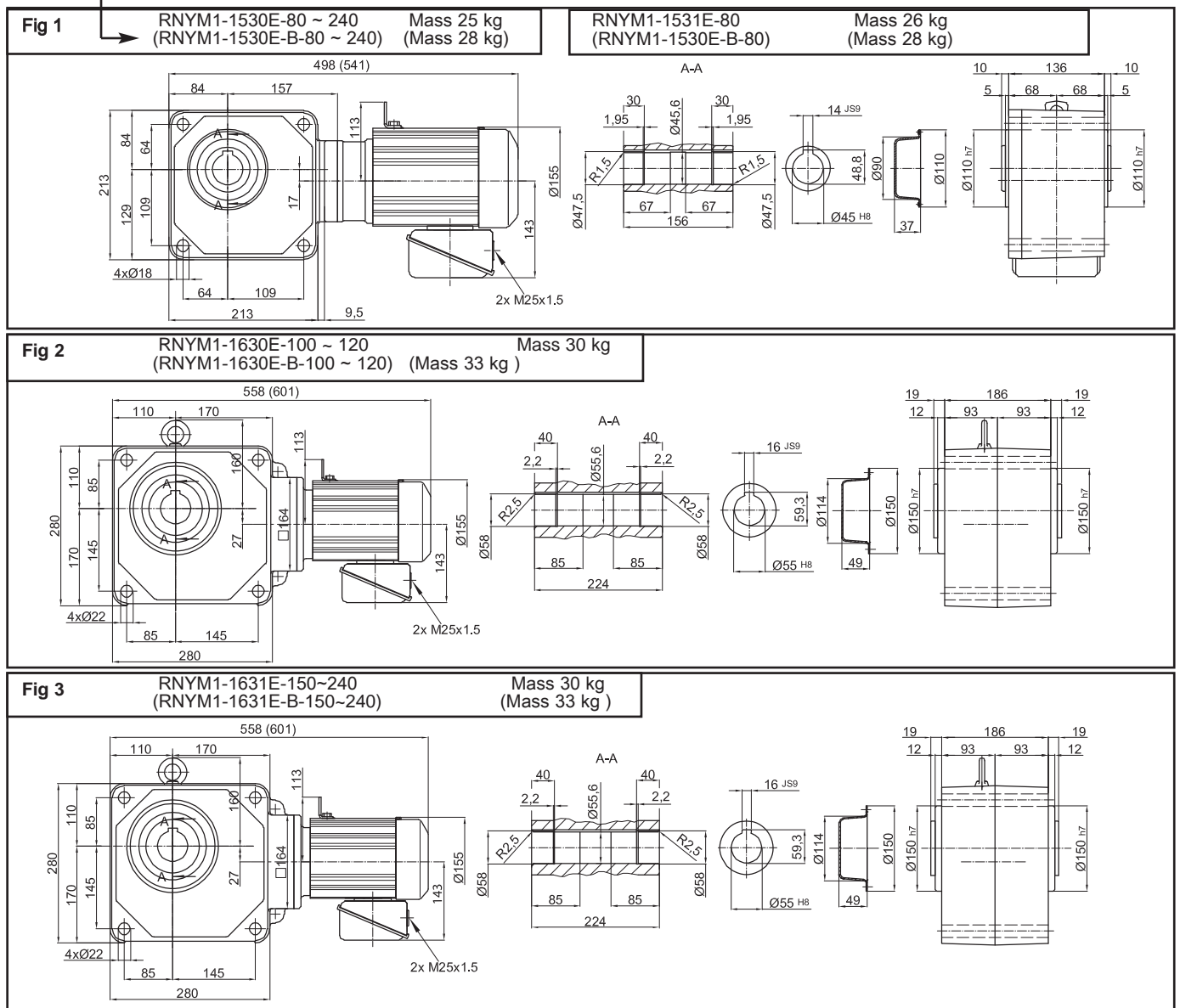
### 0,75 kW 3-phase Motor

Motor Speed $n_1$	50Hz	1450 1/min
	60Hz	1750 1/min

Output Speed $n_2$ [1/min]		Output Torque $T_2$				SF	Allowable Radial Load Pro				Capacity Symbol	Frame Size	Ratio	Outline Drawing Fig.		
		[Nm]		[kgfm]			[N]		[kgf]							
50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz					
18,1	21,9	336	279	34,3	28,4	1,07	6230	6130	635	625	1	-	1530	-	80	1
						2,05	6230	6130	635	625	1	-	1531	-	80	1
14,5	17,5	420	348	42,9	35,5	1,07	6230	6230	635	635	1	-	1530	-	100	1
12,1	14,6	504	418	51,4	42,6	2,93	9810	9810	1000	1000	1	-	1630	-	100	2
						1,07	6230	6230	635	635	1	-	1530	-	120	1
9,67	11,7	631	522	64,3	53,3	2,93	9810	9810	1000	1000	1	-	1630	-	120	2
						1,07	6230	6230	635	635	1	-	1530	-	150	1
7,25	8,75	732	697	74,6	71,0	*	6230	6230	635	635	1	-	1530	-	200	1
						2,35	9810	9810	1000	1000	1	-	1631	-	150	3
6,04	7,29	732	732	74,6	74,6	1,76	9810	9810	1000	1000	1	-	1631	-	200	3
						*	6230	6230	635	635	1	-	1530	-	240	1
6,04	7,29	732	836	103	85,2	1,47	9810	9810	1000	1000	1	-	1631	-	240	3

- Note: 1. Motor slip may affect  $n_1$  and  $n_2$ .  
 2. Allowable radial load shows the value when the distance from hollow shaft end to the point of radial load is 20 mm.  
 3. Output torque is limited when SF is \* . It must be used within the value stipulated in the table as overload may occur if the motor is loaded to its full capacity.

Designate model and voltage and frequency when ordering. Brackets contain dimension, model, or mass of type with brakes



- Note: 1. Output shaft diameter dimensions: Dimension tolerance in accordance with JIS B 0401/1976 "H8"  
 2. Output shaft keyway dimensions: Dimension tolerance in accordance with JIS B 1301-1996 parallel key (normal grade)  
 3. Dimensions and masses in the drawings are subject to change without notice.

## RNYM Series Hollow Shaft Type

### 0,75 kW 3-phase Motor

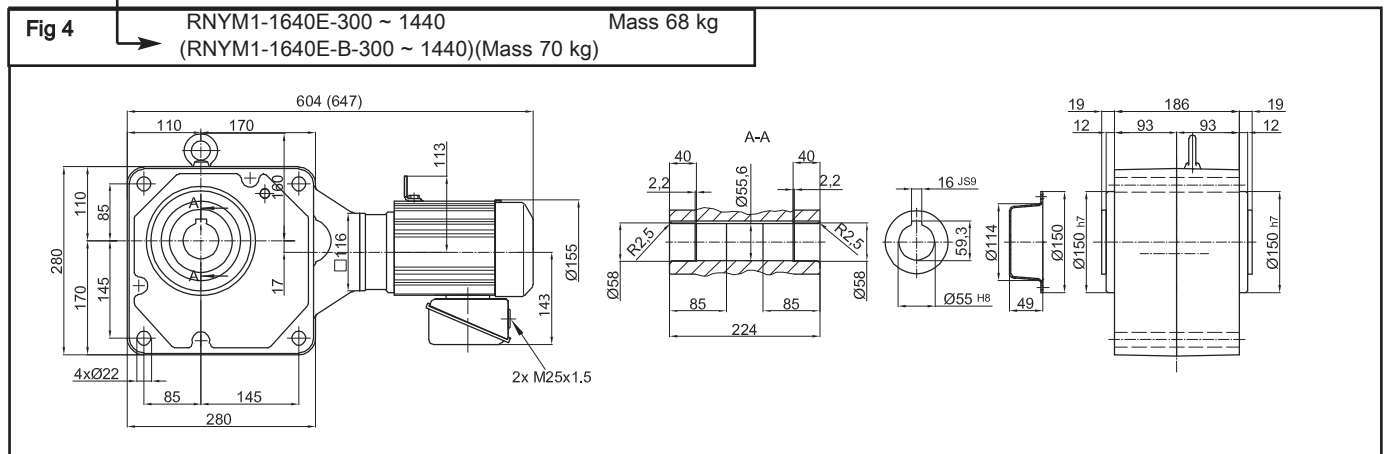
Motor Speed $n_1$	50Hz	1450	1/min
	60Hz	1750	1/min

Output Speed $n_2$ [1/min]		Output Torque $T_2$				SF	Allowable Radial Load Pro				Capacity Symbol	Frame Size	Ratio	Outline Drawing Fig.	
		[Nm]		[kgfm]			[N]		[kgf]						
50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz				
4,83	5,83	1190	983	121	100	1,07	9810	9810	1000	1000	1	-	1640	-	300
4,03	4,86	1420	1180	145	120	1,04	9810	9810	1000	1000	1	-	1640	-	360
3,02	3,65	1480	1480	151	151	*	9810	9810	1000	1000	1	-	1640	-	480
2,42	2,92	1480	1480	151	151	*	9810	9810	1000	1000	1	-	1640	-	600
2,01	2,43	1480	1480	151	151	*	9810	9810	1000	1000	1	-	1640	-	720
1,61	1,94	1480	1480	151	151	*	9810	9810	1000	1000	1	-	1640	-	900
1,21	1,46	1480	1480	151	151	*	9810	9810	1000	1000	1	-	1640	-	1200
1,01	1,22	1480	1480	151	151	*	9810	9810	1000	1000	1	-	1640	-	1440

Hollow shaft  
Selection Tables  
0,75 kW

- Note:
- Motor slip may affect  $n_1$  and  $n_2$ .
  - Allowable radial load shows the value when the distance from hollow shaft end to the point of radial load is 20 mm.
  - Output torque is limited when SF is \* . It must be used within the value stipulated in the table as overload may occur if the motor is loaded to its full capacity.

Designate model and voltage and frequency when ordering. Brackets contain dimension, model, or mass of type with brakes



- Note:
- Output shaft diameter dimensions:  
Dimension tolerance in accordance with JIS B 0401/1976 "H8"
  - Output shaft keyway dimensions: Dimension tolerance in accordance with JIS B 1301-1996 parallel key (normal grade)

- Dimensions and masses in the drawings are subject to change without notice.

## RNYM Series Hollow Shaft Type

### 1,1 kW 3-phase Motor

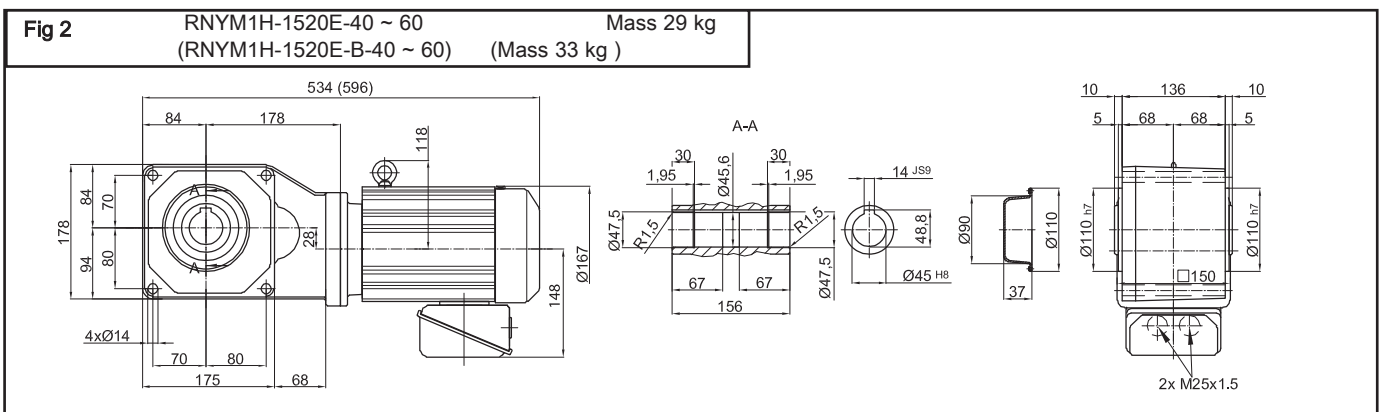
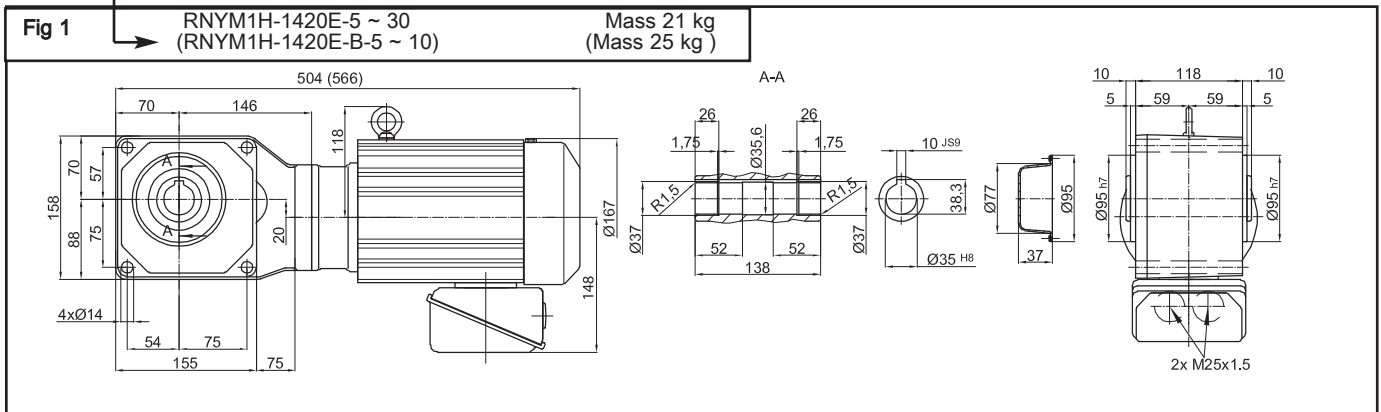
Motor Speed $n_1$	50Hz	1450 1/min
	60Hz	1750 1/min

Hollow shaft  
Selection Tables  
1,1 kW

Output Speed $n_2$ [1/min]		Output Torque $T_2$				SF	Allowable Radial Load Pro				Capacity Symbol	Frame Size	Ratio	Outline Drawing Fig.	
		[Nm]		[kgfm]			[N]		[kgf]						
50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz		50 Hz	60 Hz	50 Hz	60 Hz					
290	350	30,8	25,5	3,14	2,60	1,40	2160	2060	220	210	1H	- 1420	-	5	1
207	250	43,2	35,8	4,40	3,65	1,40	2450	2300	250	235	1H	- 1420	-	7	1
145	175	61,7	51,1	6,29	5,21	1,40	2750	2600	280	265	1H	- 1420	-	10	1
121	146	74,0	61,3	7,54	6,25	1,40	2840	2750	290	280	1H	- 1420	-	12	1
96,7	117	92,5	76,6	9,43	7,81	1,40	3090	2940	315	300	1H	- 1420	-	15	1
72,5	87,5	123	102	12,6	10,4	1,40	3330	3190	340	325	1H	- 1420	-	20	1
58,0	70,0	154	128	15,7	13,0	1,40	3530	3380	360	345	1H	- 1420	-	25	1
48,3	58,3	185	153	18,9	15,6	1,40	3730	3580	380	365	1H	- 1420	-	30	1
36,3	43,8	247	204	25,1	20,8	1,40	5740	5540	585	565	1H	- 1520	-	40	2
29,0	35,0	308	255	31,4	26,0	1,40	6030	5830	615	595	1H	- 1520	-	50	2
24,2	29,2	370	307	37,7	31,3	1,40	6230	6030	635	615	1H	- 1520	-	60	2

- Note:
- Motor slip may affect  $n_1$  and  $n_2$ .
  - Allowable radial load shows the value when the distance from hollow shaft end to the point of radial load is 20 mm.
  - Output torque is limited when SF is \* . It must be used within the value stipulated in the table as overload may occur if the motor is loaded to its full capacity.

Designate model and voltage and frequency when ordering. Brackets contain dimension, model, or mass of type with brakes



- Note:
- Output shaft diameter dimensions: Dimension tolerance in accordance with JIS B 0401/1976 "H8"
  - Output shaft keyway dimensions: Dimension tolerance in accordance with JIS B 1301-1996 parallel key (normal grade)
  - Dimensions and masses in the drawings are subject to change without notice.

## RNYM Series Hollow Shaft Type

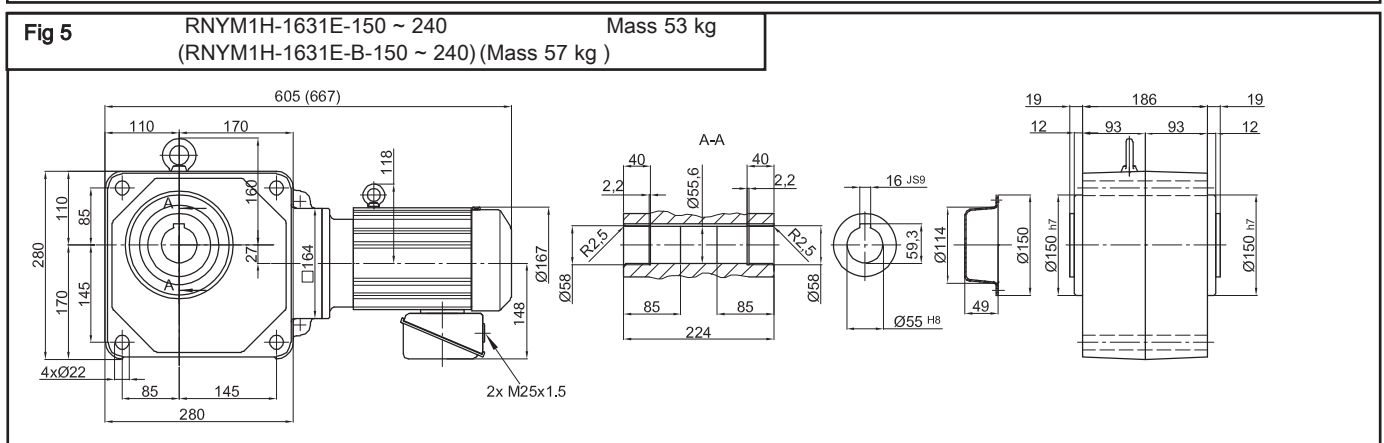
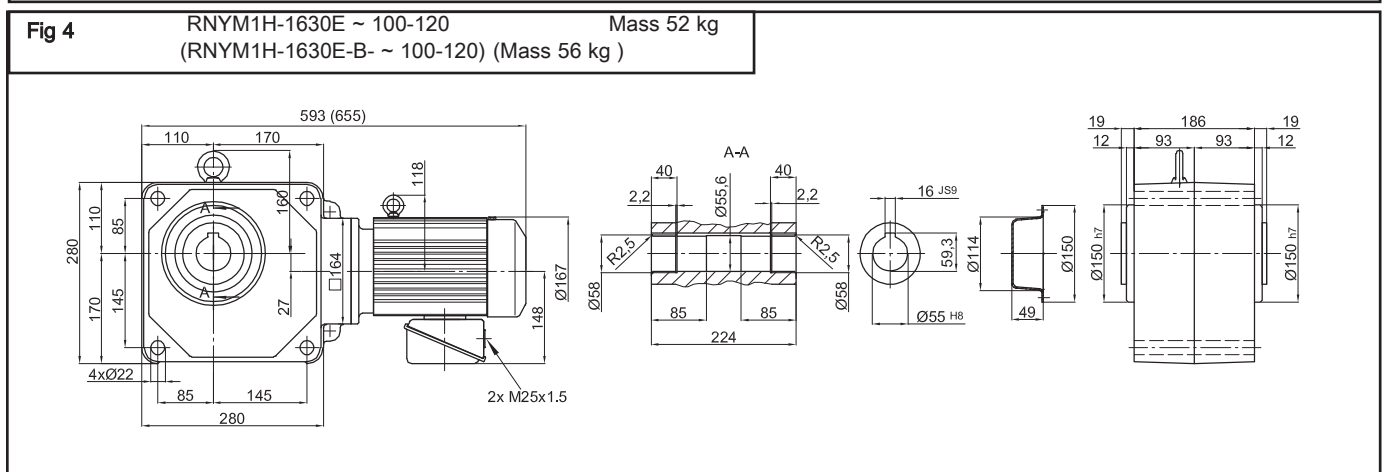
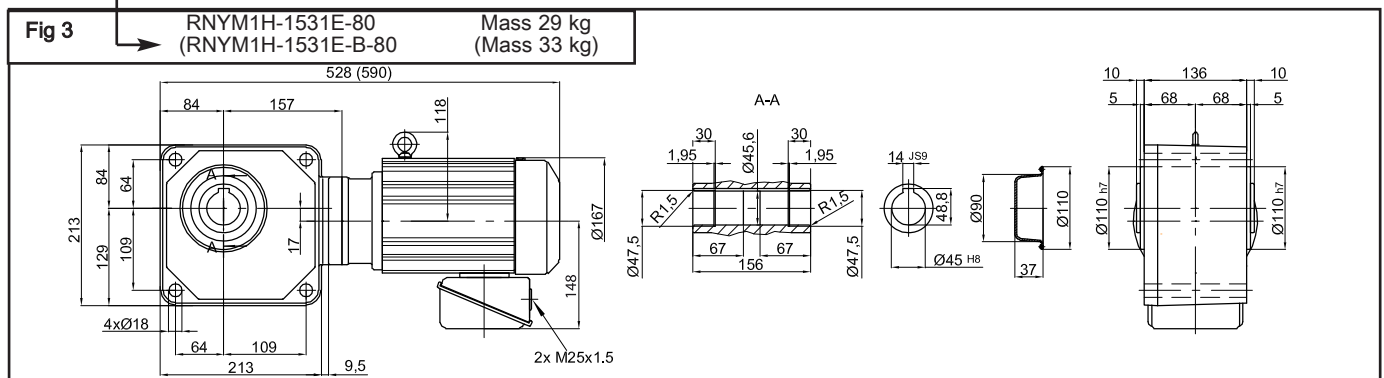
### 1,1 kW 3-phase Motor

Motor Speed $n_1$	50Hz	1450	1/min
	60Hz	1750	1/min

Output Speed $n_2$ [1/min]		Output Torque $T_2$				SF	Allowable Radial Load Pro				Capacity Symbol	Frame Size	Ratio	Outline Drawing Fig.		
		[Nm]		[kgfm]			[N]		[kgf]							
50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz		50 Hz	60 Hz	50 Hz	60 Hz						
18,1	21,9	493	409	50,3	41,7	1,40	6230	6130	635	625	1H	-	1531	-	80	3
14,5	17,5	617	511	62,9	52,1	2,00	9810	9810	1000	1000	1H	-	1630	-	100	4
12,1	14,6	740	613	75,4	62,5	2,00	9810	9810	1000	1000	1H	-	1630	-	120	4
9,67	11,7	925	766	94,3	78,1	1,60	9810	9810	1000	1000	1H	-	1631	-	150	5
7,25	8,75	1233	1022	126	104	1,20	9810	9810	1000	1000	1H	-	1631	-	200	
6,04	7,29	1480	1226	151	125	1,00	9810	9810	1000	1000	1H	-	1631	-	240	

- Note: 1. Motor slip may affect  $n_1$  and  $n_2$ .  
 2. Allowable radial load shows the value when the distance from hollow shaft end to the point of radial load is 20 mm.  
 3. Output torque is limited when SF is \* . It must be used within the value stipulated in the table as overload may occur if the motor is loaded to its full capacity.

Designate model and voltage and frequency when ordering. Brackets contain dimension, model, or mass of type with brakes



- Note: 1. Output shaft diameter dimensions: Dimension tolerance in accordance with JIS B 0401/1976 "H8"  
 2. Output shaft keyway dimensions: Dimension tolerance in accordance with JIS B 1301-1996 parallel key (normal grade)  
 3. Dimensions and masses in the drawings are subject to change without notice.

## RNYM Series Hollow Shaft Type

### 1,5 kW 3-phase Motor

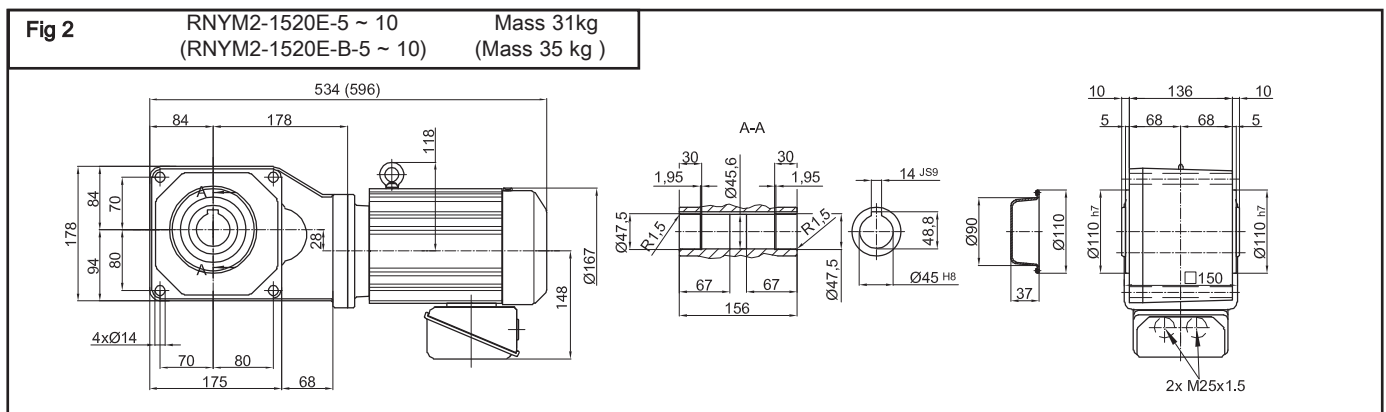
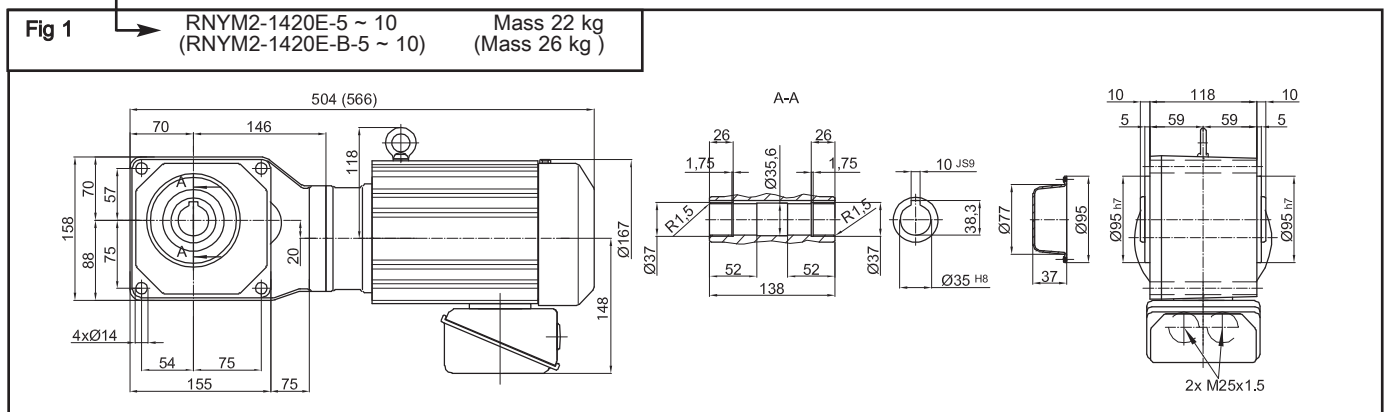
Motor Speed $n_1$	50Hz	1450 1/min
	60Hz	1750 1/min

Output Speed $n_2$ [1/min]		Output Torque $T_2$				SF	Allowable Radial Load Pro				Capacity Symbol	Frame Size	Ratio	Outline Drawing Fig.	
		[Nm]		[kgfm]			[N]		[kgf]						
50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz						
290	350	42,0	34,8	4,29	3,55	1,03	2160	2060	220	210	2	-	1420	5	1
						1,47	3140	2940	320	300	2	-	1520	5	2
207	250	58,9	48,8	6,00	4,97	1,03	2450	2300	250	235	2	-	1420	7	1
						1,47	3530	3330	360	340	2	-	1520	7	2
145	175	84,1	69,7	8,57	7,10	1,03	2750	2600	280	265	2	-	1420	10	1
						1,47	3920	3730	400	380	2	-	1520	10	2

Hollow shaft  
Selection Tables  
1,5 kW

- Note:
- Motor slip may affect  $n_1$  and  $n_2$ .
  - Allowable radial load shows the value when the distance from hollow shaft end to the point of radial load is 20 mm.
  - Output torque is limited when SF is \*. It must be used within the value stipulated in the table as overload may occur if the motor is loaded to its full capacity.

Designate model and voltage and frequency when ordering. Brackets contain dimension, model, or mass of type with brakes



- Note:
- Output shaft diameter dimensions:  
Dimension tolerance in accordance with JIS B 0401/1976 "H8"
  - Output shaft keyway dimensions: Dimension tolerance in accordance with JIS B 1301-1996 parallel key (normal grade)
  - Dimensions and masses in the drawings are subject to change without notice.

## RNYM Series Hollow Shaft Type

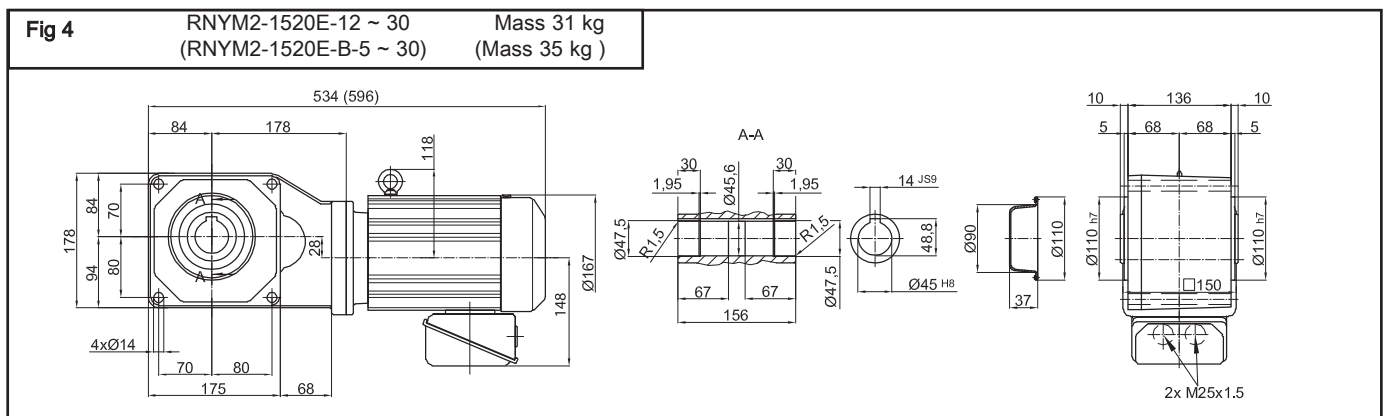
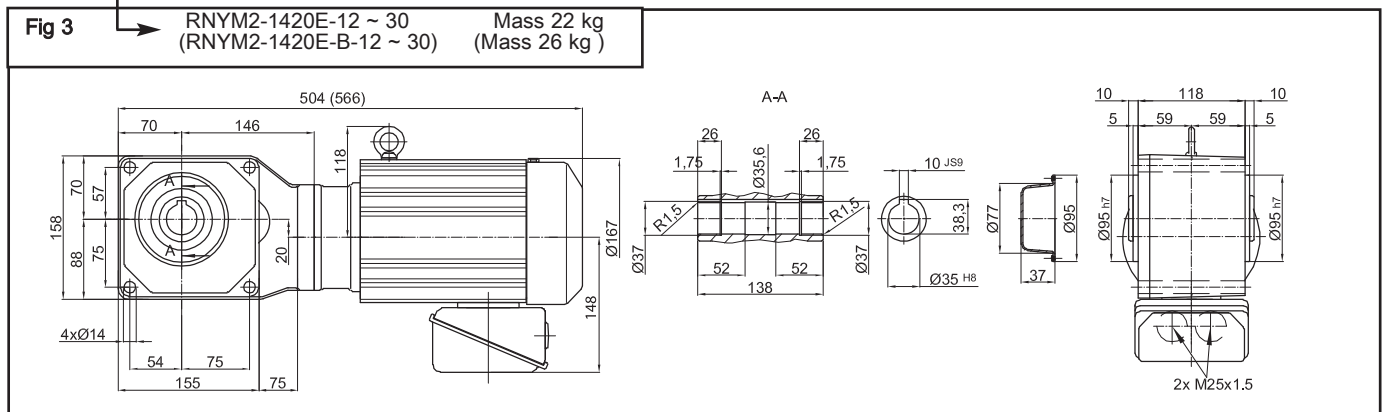
### 1,5 kW 3-phase Motor

Motor Speed $n_1$	50Hz	1450	1/min
	60Hz	1750	1/min

Output Speed $n_2$ [1/min]		Output Torque $T_2$				SF	Allowable Radial Load Pro				Capacity Symbol	Frame Size	Ratio	Outline Drawing Fig.		
		[Nm]		[kgfm]			[N]		[kgf]							
50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz					
121	146	101	83,6	10,3	8,52	1,03	2840	2750	290	280	2	-	1420	-	12	3
						1,47	4120	3970	420	405	2	-	1520	-	12	4
96,7	117	126	104	12,9	10,7	1,03	3090	2940	315	300	2	-	1420	-	15	3
						1,47	4410	4220	450	430	2	-	1520	-	15	4
72,5	87,5	168	139	17,1	14,2	1,03	3330	3190	340	325	2	-	1420	-	20	3
						1,47	4810	4610	490	470	2	-	1520	-	20	4
58,0	70,0	210	174	21,4	17,8	1,03	3530	3380	360	345	2	-	1420	-	25	3
						1,47	5100	4900	520	500	2	-	1520	-	25	4
48,3	58,3	252	209	25,7	21,3	1,03	3730	3580	380	365	2	-	1420	-	30	3
						1,47	5340	5150	545	525	2	-	1520	-	30	4

- Note:
- Motor slip may affect  $n_1$  and  $n_2$ .
  - Allowable radial load shows the value when the distance from hollow shaft end to the point of radial load is 20 mm.
  - Output torque is limited when SF is \*. It must be used within the value stipulated in the table as overload may occur if the motor is loaded to its full capacity.

Designate model and voltage and frequency when ordering. Brackets contain dimension, model, or mass of type with brakes



- Note:
- Output shaft diameter dimensions:  
Dimension tolerance in accordance with JIS B 0401/1976 "H8"
  - Output shaft keyway dimensions: Dimension tolerance in accordance with JIS B 1301-1996 parallel key (normal grade)
  - Dimensions and masses in the drawings are subject to change without notice.



## RNYM Series Hollow Shaft Type

### 1,5 kW 3-phase Motor

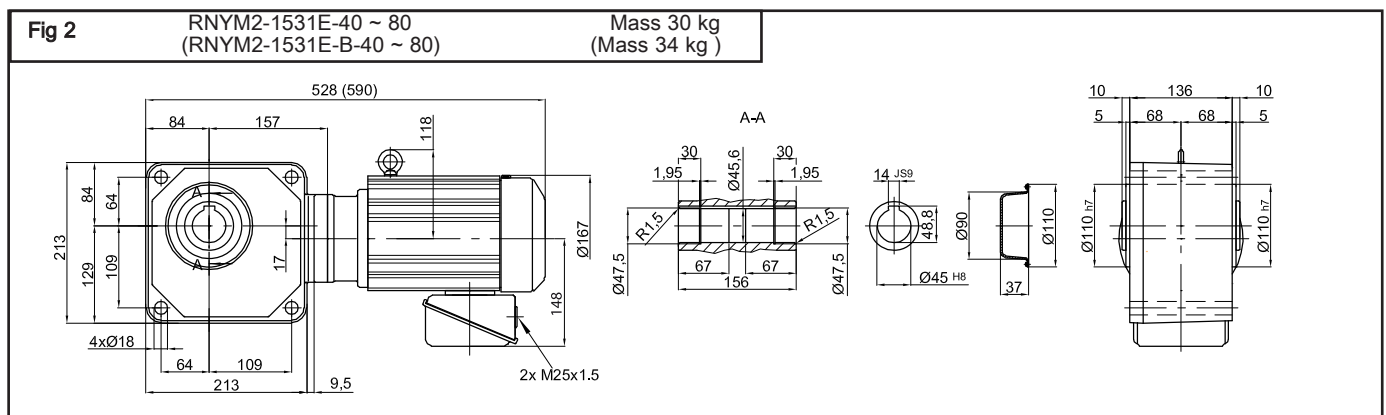
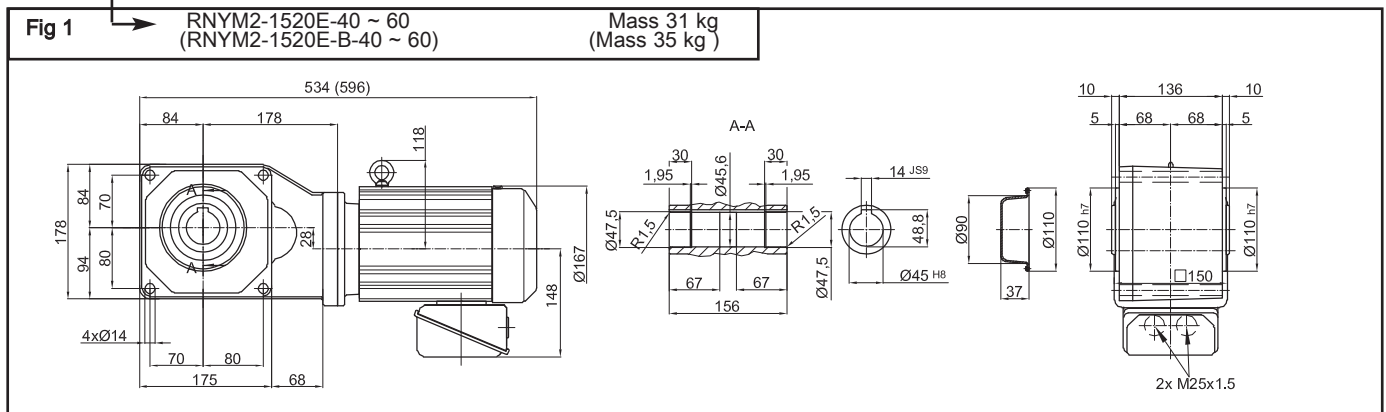
Motor Speed $n_1$	50Hz	1450 1/min
	60Hz	1750 1/min

Output Speed $n_2$ [1/min]		Output Torque $T_2$				SF	Allowable Radial Load Pro				Capacity Symbol	Frame Size	Ratio	Outline Drawing Fig.		
		[Nm]		[kgfm]			[N]		[kgf]							
50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz					
36,3	43,8	336	279	34,3	28,4	1,03	5740	5540	585	565	2	-	1520	-	40	1
						1,47	5740	5540	585	565	2	-	1531	-	40	2
29,0	35,0	420	348	42,9	35,5	1,03	6030	5830	615	595	2	-	1520	-	50	1
						1,47	6030	5830	615	595	2	-	1531	-	50	2
24,2	29,2	504	418	51,4	42,6	1,03	6230	6030	635	615	2	-	1520	-	60	1
						1,47	6230	6030	635	615	2	-	1531	-	60	2
18,1	21,9	673	557	68,6	56,8	1,03	6230	6130	635	625	2	-	1531	-	80	2
						1,47	9810	9660	1000	985	2	-	1630	-	80	3

Hollow shaft  
Selection Tables  
1,5 kW

- Note:
- Motor slip may affect  $n_1$  and  $n_2$ .
  - Allowable radial load shows the value when the distance from hollow shaft end to the point of radial load is 20 mm.
  - Output torque is limited when SF is \* . It must be used within the value stipulated in the table as overload may occur if the motor is loaded to its full capacity.

Designate model and voltage and frequency when ordering. Brackets contain dimension, model, or mass of type with brakes



- Note:
- Output shaft diameter dimensions:  
Dimension tolerance in accordance with JIS B 0401/1976 "H8"
  - Output shaft keyway dimensions: Dimension tolerance in accordance with JIS B 1301-1996 parallel key (normal grade)
  - Dimensions and masses in the drawings are subject to change without notice.

## RNYM Series Hollow Shaft Type

### 1,5 kW 3-phase Motor

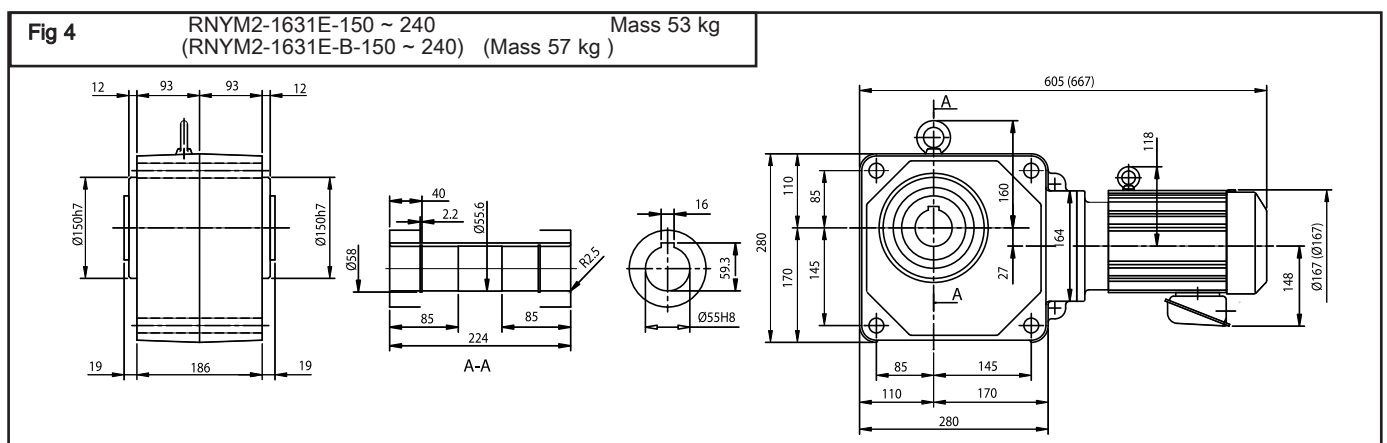
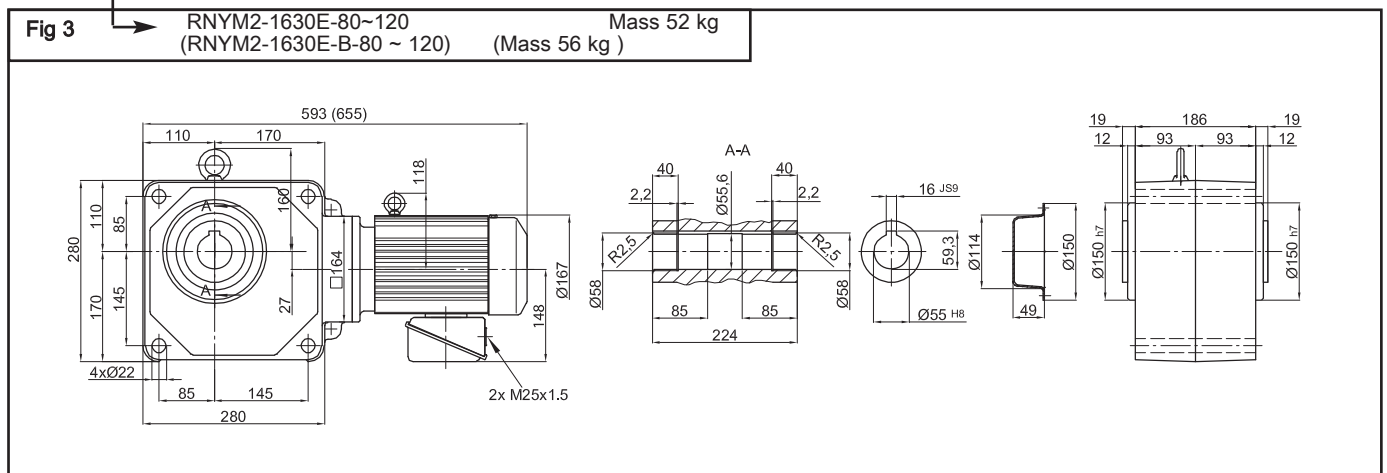
Motor Speed $n_1$	50Hz	1450 1/min
	60Hz	1750 1/min

Output Speed $n_2$ [1/min]		Output Torque $T_2$				SF	Allowable Radial Load Pro				Capacity Symbol	Frame Size	Ratio	Outline Drawing Fig.		
		[Nm]		[kgfm]			[N]		[kgf]							
50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz					
14,5	17,5	841	697	85,7	71,0	1,47	9810	9810	1000	1000	2	-	1630	-	100	3
12,1	14,6	1009	836	103	85,2	1,47	9810	9810	1000	1000	2	-	1630	-	120	
9,67	11,7	1261	1045	129	107	1,17	9810	9810	1000	1000	2	-	1631	-	150	4
7,25	8,75	1480	1393	151	142	*	9810	9810	1000	1000	2	-	1631	-	200	
6,04	7,29	1480	1480	151	151,0	*	9810	9810	1000	1000	2	-	1631	-	240	

Hollow shaft  
Selection Tables  
1,5 kW

- Note:
- Motor slip may affect  $n_1$  and  $n_2$ .
  - Allowable radial load shows the value when the distance from hollow shaft end to the point of radial load is 20 mm.
  - Output torque is limited when SF is \*. It must be used within the value stipulated in the table as overload may occur if the motor is loaded to its full capacity.

Designate model and voltage and frequency when ordering. Brackets contain dimension, model, or mass of type with brakes



- Note:
- Output shaft diameter dimensions: Dimension tolerance in accordance with JIS B 0401/1976 "H8"
  - Output shaft keyway dimensions: Dimension tolerance in accordance with JIS B 1301-1996 parallel key (normal grade)
  - Dimensions and masses in the drawings are subject to change without notice.

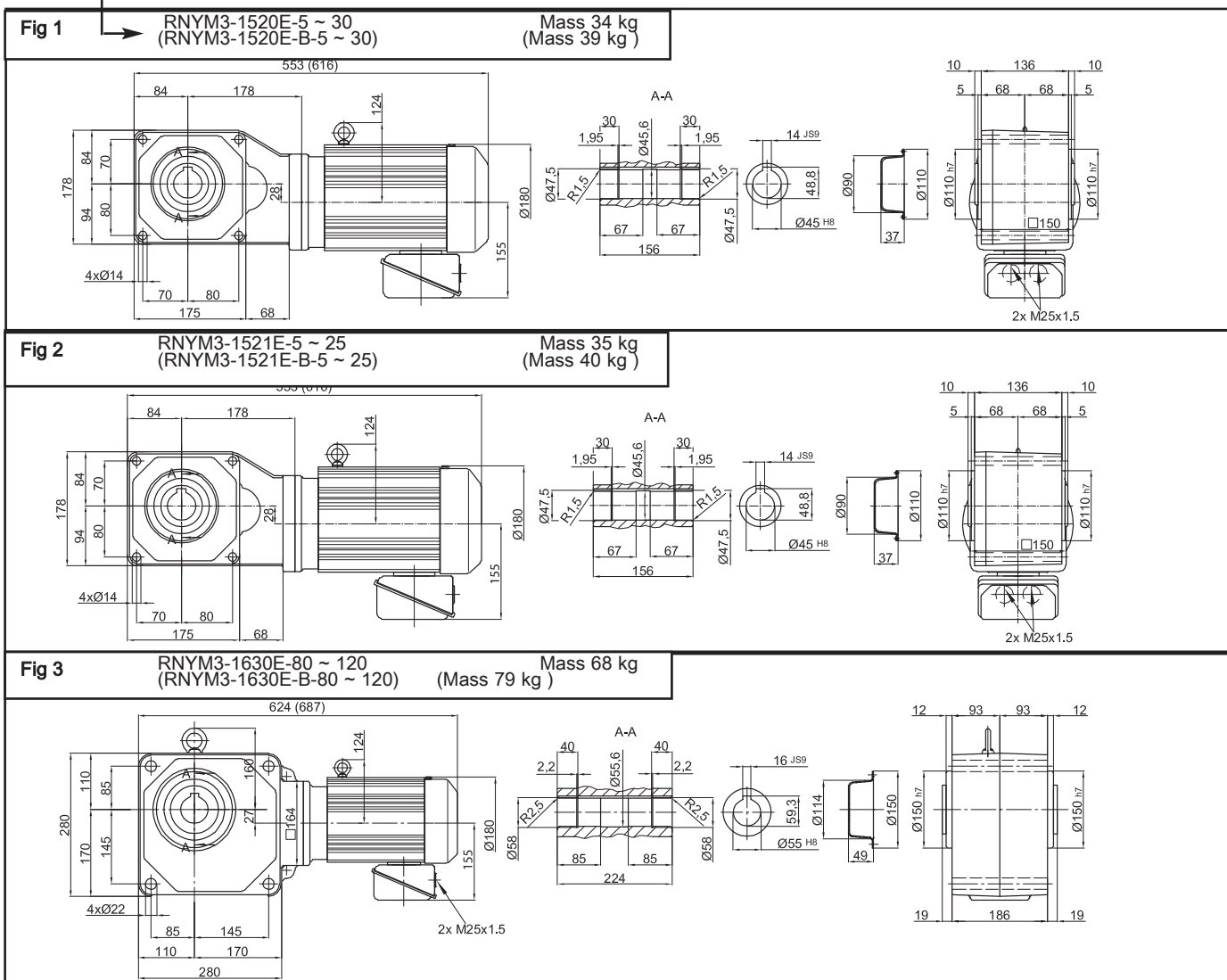
### 2,2 kW 3-phase Motor

Motor Speed $n_1$	50Hz	1450 1/min
	60Hz	1750 1/min

Output Speed $n_2$ [1/min]		Output Torque $T_2$				SF	Allowable Radial Load Pro				Capacity Symbol	Frame Size	Ratio	Outline Drawing Fig.		
50 Hz	60 Hz	[Nm]		[kgfm]			[N]		[kgf]							
50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz		50 Hz	60 Hz	50 Hz	60 Hz						
290	350	61,7	51,1	6,29	5,21	1,00	3140	2940	320	300	3	-	1520	-	5	1
						1,68					3	-	1521	-	5	2
207	250	86,3	71,5	8,80	7,29	1,00	3530	3330	360	340	3	-	1520	-	7	1
						1,68					3	-	1521	-	7	2
145	175	123	102	12,6	10,4	1,00	3920	3730	400	380	3	-	1520	-	10	1
						1,68					3	-	1521	-	10	2
121	146	148	123	15,1	12,5	1,00	4120	3970	420	405	3	-	1520	-	12	1
						1,68					3	-	1521	-	12	2
96,7	117	185	153	18,9	15,6	1,00	4410	4220	450	430	3	-	1520	-	15	1
						1,68					3	-	1521	-	15	2
72,5	87,5	247	204	25,1	20,8	1,00	4810	4610	490	470	3	-	1520	-	20	1
						1,68					3	-	1521	-	20	2
58,0	70,0	308	225	31,4	26	1,00	5100	4900	520	500	3	-	1520	-	25	1
						1,68					3	-	1521	-	25	2

- Note: 1. Motor slip may affect  $n_1$  and  $n_2$ .  
 2. Allowable radial load shows the value when the distance from hollow shaft end to the point of radial load is 20 mm.  
 3. Output torque is limited when SF is \* . It must be used within the value stipulated in the table as overload may occur if the motor is loaded to its full capacity.

Designate model and voltage and frequency when ordering. Brackets contain dimension, model, or mass of type with brakes



- Note: 1. Output shaft diameter dimensions: Dimension tolerance in accordance with JIS B 0401/1976 "H8"  
 2. Output shaft keyway dimensions: Dimension tolerance in accordance with JIS B 1301-1996 parallel key (normal grade)  
 3. Dimensions and masses in the drawings are subject to change without notice.

## RNYM Series Hollow Shaft Type

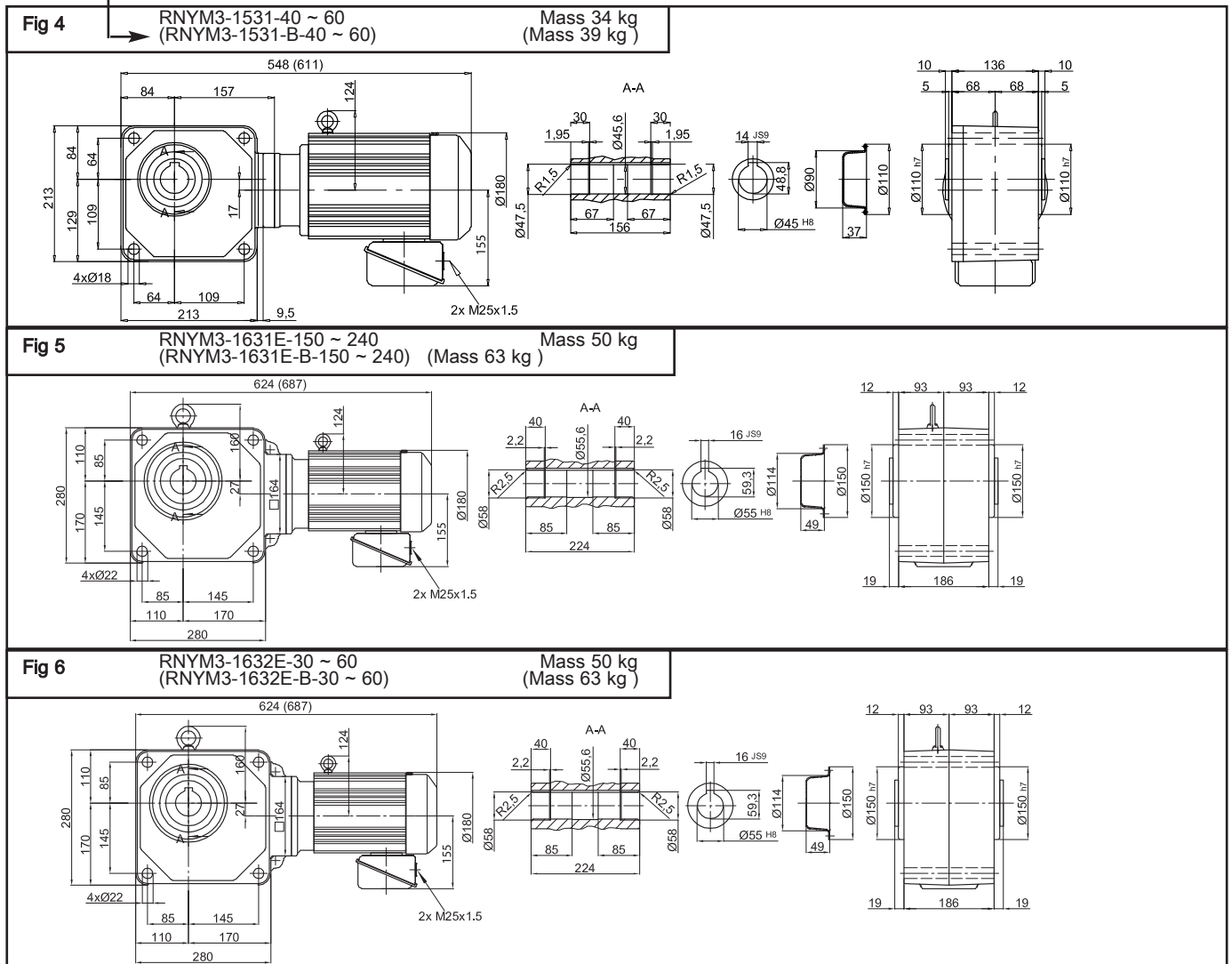
### 2,2 kW 3-phase Motor

Motor Speed $n_1$	50Hz	1450	1/min
	60Hz	1750	1/min

Output Speed $n_2$ [1/min]		Output Torque $T_2$				SF	Allowable Radial Load Pro				Capacity Symbol	Frame Size	Ratio	Outline Drawing Fig.		
		[Nm]		[kgfm]			[N]		[kgf]							
50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz		50 Hz	60 Hz	50 Hz	60 Hz						
48,3	58,3	370	307	37,7	31,3	1,00	5340	5150	545	525	3	-	1520	-	30	1
						1,68	8090	7750	825	790	3	-	1632	-	30	6
36,3	43,8	493	409	50,3	41,7	1,00	5740	5540	585	565	3	-	1531	-	40	4
						1,68	8830	8480	900	865	3	-	1632	-	40	6
29,0	35,0	617	511	62,9	52,1	1,00	6030	5830	615	595	3	-	1531	-	50	4
						1,68	9120	8880	930	905	3	-	1632	-	50	6
24,2	29,2	740	613	75,4	62,5	1,00	6230	6030	635	615	3	-	1531	-	60	4
						1,68	9410	9170	960	935	3	-	1632	-	60	6
18,1	21,9	986	817	101	83,3	1,00	9810	9660	1000	985	3	-	1630	-	80	
14,5	17,5	1233	1022	126	104	1,00	9810	9810	1000	1000	3	-	1630	-	100	3
12,1	14,6	1480	1226	151	125	1,00	9810	9810	1000	1000	3	-	1630	-	120	
9,67	11,7	1480	1480	151	151	*	9810	9810	1000	1000	3	-	1631	-	150	
7,25	8,75	1480	1480	151	151	*	9810	9810	1000	1000	3	-	1631	-	200	5
6,04	7,29	1480	1480	151	151	*	9810	9810	1000	1000	3	-	1631	-	240	

- Note:
- Motor slip may affect  $n_1$  and  $n_2$ .
  - Allowable radial load shows the value when the distance from hollow shaft end to the point of radial load is 20 mm.
  - Output torque is limited when SF is \* . It must be used within the value stipulated in the table as overload may occur if the motor is loaded to its full capacity.

Designate model and voltage and frequency when ordering. Brackets contain dimension, model, or mass of type with brakes



- Note:
- Output shaft diameter dimensions: Dimension tolerance in accordance with JIS B 0401/1976 "H8"
  - Output shaft keyway dimension: Dimension tolerance in accordance with JIS B 1301-1996 parallel key (normal grade)
  - Dimensions and masses in the drawings are subject to change without notice.

## RNYM Series Hollow Shaft Type

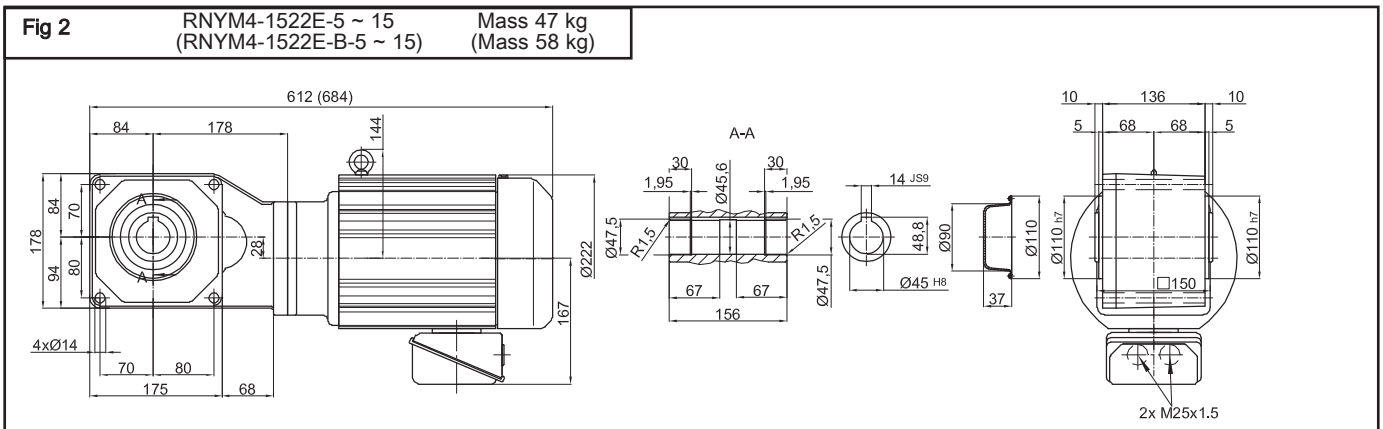
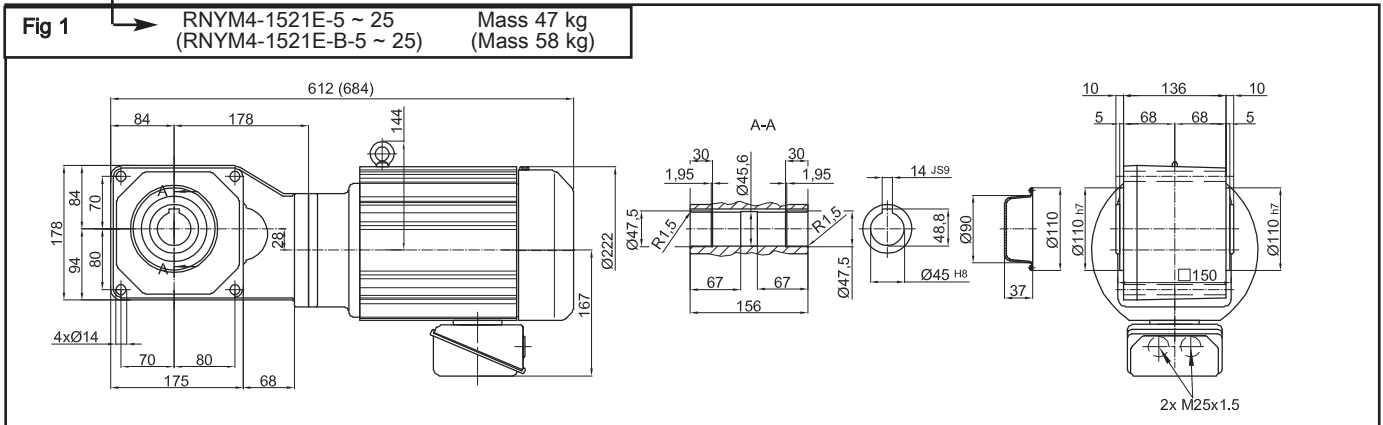
### 3,0 kW 3-phase Motor

Motor Speed $n_1$	50Hz	1450 1/min
	60Hz	1750 1/min

Output Speed $n_2$ [1/min]		Output Torque $T_2$				SF	Allowable Radial Load Pro				Capacity Symbol	Frame Size	Ratio	Outline Drawing Fig.		
50 Hz	60 Hz	[Nm]		[kgfm]			[N]		[kgf]							
50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz		50 Hz	60 Hz	50 Hz	60 Hz						
290	350	84	70	8,6	7,1	1,23	3140	2940	320	300	4	-	1521	-	5	1
						1,83					4	-	1522	-	5	2
207	250	118	98	12,0	9,9	1,23	3530	3330	360	340	4	-	1521	-	7	1
						1,83					4	-	1522	-	7	2
145	175	168	139	17,1	14,2	1,23	3920	3730	400	380	4	-	1521	-	10	1
						1,83					4	-	1522	-	10	2
121	146	202	167	20,6	17,0	1,23	4120	3970	420	405	4	-	1521	-	12	1
						1,83					4	-	1522	-	12	2
96,7	117	252	209	25,7	21,3	1,23	4410	4220	450	430	4	-	1521	-	15	1
						1,83					4	-	1522	-	15	2

- Note:
1. Motor slip may affect  $n_1$  and  $n_2$ .
  2. Allowable radial load shows the value when the distance from hollow shaft end to the point of radial load is 20 mm.
  3. Output torque is limited when SF is \* . It must be used within the value stipulated in the table as overload may occur if the motor is loaded to its full capacity.

Designate model and voltage and frequency when ordering. Brackets contain dimension, model, or mass of type with brakes



- Note:
1. Output shaft diameter dimensions:  
Dimension tolerance in accordance with JIS B 0401/1976 "H8"
  2. Output shaft keyway dimensions: Dimension tolerance in accordance with JIS B 1301-1996 parallel key (normal grade)
  3. Dimensions and masses in the drawings are subject to change without notice.

## RNYM Series Hollow Shaft Type

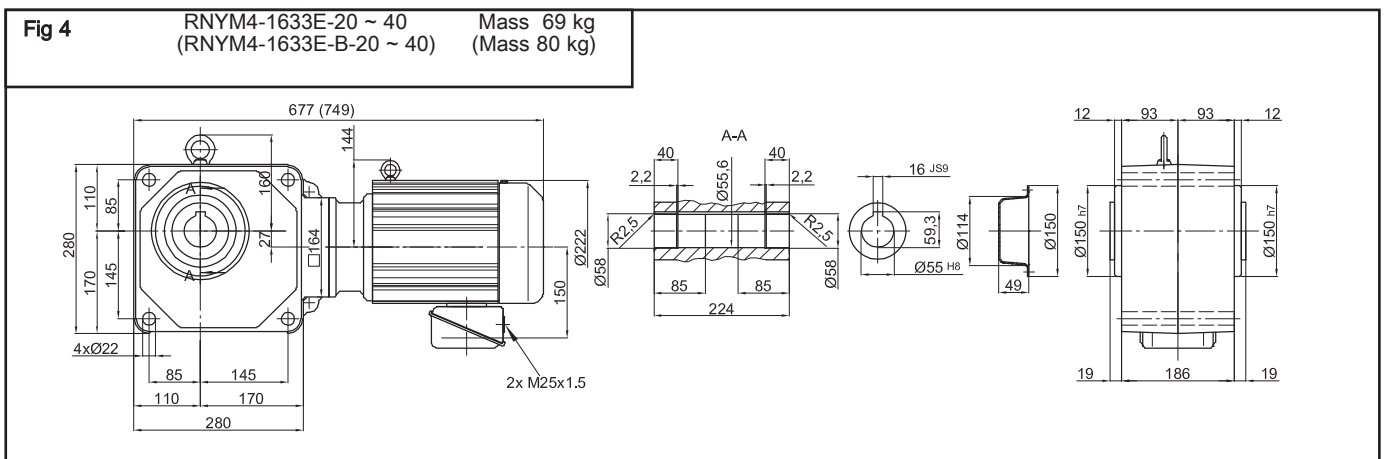
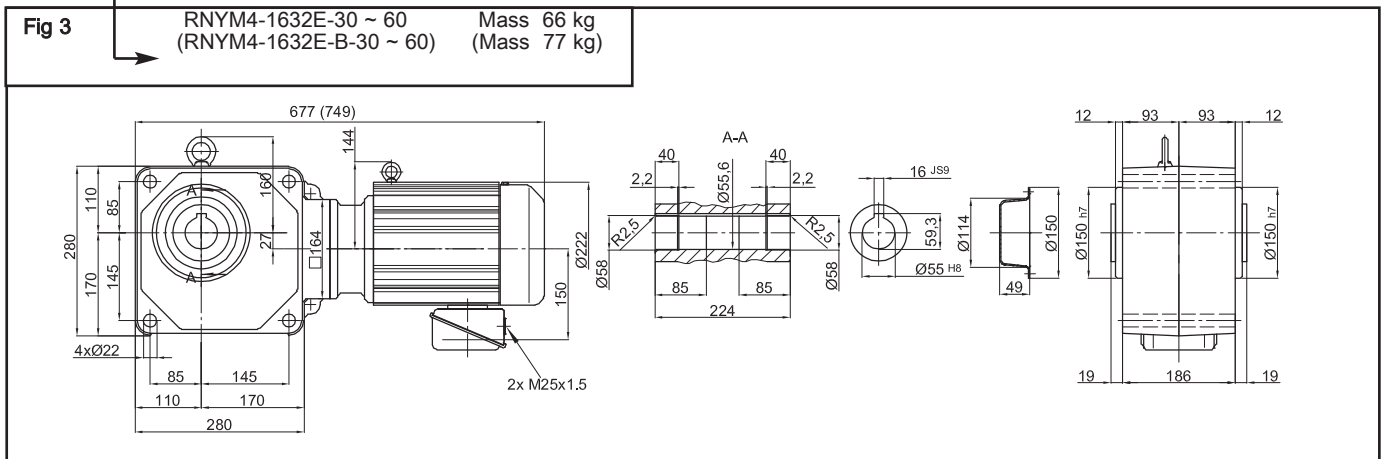
### 3 kW 3-phase Motor

Motor Speed $n_1$	50Hz	1450	1/min
	60Hz	1750	1/min

Output Speed $n_2$ [1/min]		Output Torque $T_2$				SF	Allowable Radial Load Pro				Capacity Symbol	Frame Size	Ratio	Outline Drawing Fig.		
		[Nm]		[kgfm]			[N]		[kgf]							
50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz					
72,5	87,5	336	279	34,3	28,4	1,23	4810	4610	490	470	4	-	1521	-	20	1
						1,83	7700	7350	785	750	4	-	1633	-	20	4
58,0	70,0	420	348	42,9	35,5	1,23	5100	4900	520	500	4	-	1521	-	25	1
						1,83	8090	7750	825	790	4	-	1633	-	25	4
48,3	58,3	504	418	51,4	42,6	1,23	8380	8090	855	825	4	-	1632	-	30	3
						1,83					4	-	1633	-	30	4
36,3	43,8	673	557	68,6	56,8	1,23	8830	8480	900	865	4	-	1632	-	40	3
						1,83					4	-	1633	-	40	4
29,0	35,0	841	697	85,7	71,0	1,23	9120	8880	930	905	4	-	1632	-	50	3
24,2	29,2	1010	836	103	85,2	1,23	9410	9170	960	935	4	-	1632	-	60	3

- Note: 1. Motor slip may affect  $n_1$  and  $n_2$ .  
 2. Allowable radial load shows the value when the distance from hollow shaft end to the point of radial load is 20 mm.  
 3. Output torque is limited when SF is \* . It must be used within the value stipulated in the table as overload may occur if the motor is loaded to its full capacity.

Designate model and voltage and frequency when ordering. Brackets contain dimension, model, or mass of type with brakes



## RNYM Series Hollow Shaft Type

### 4,0 kW 3-phase Motor

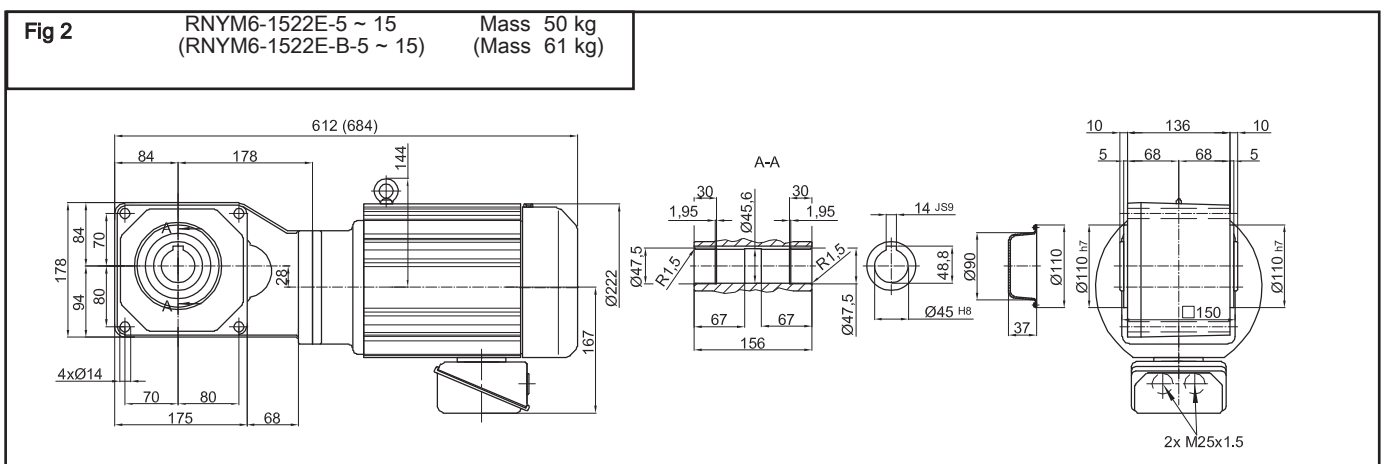
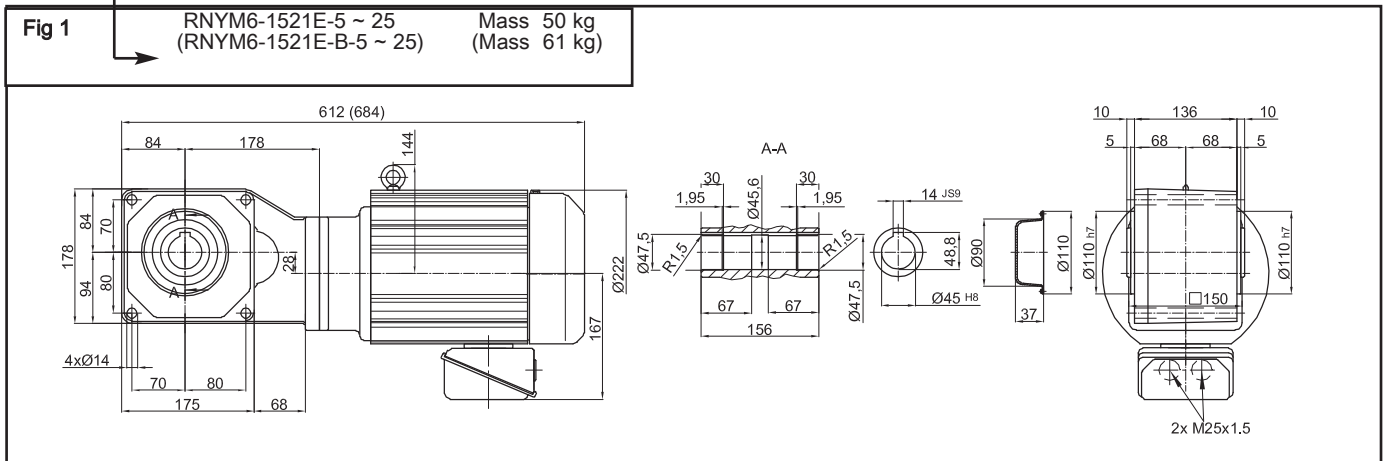
Motor Speed $n_1$	50Hz	1450 1/min
	60Hz	1750 1/min

Hollow shaft  
Selection Tables  
4,0 kW

Output Speed $n_2$ [1/min]		Output Torque $T_2$				SF	Allowable Radial Load Pro				Capacity Symbol	Frame Size	Ratio	Outline Drawing Fig.
		[Nm]		[kgfm]			[N]		[kgf]					
50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz		50 Hz	60 Hz	50 Hz	60 Hz				
290	350	112	93	11,4	9,5	0,93 1,38	3140	2940	320	300	6 - 6 -	1521 - 1522 -	5 5	1 2
207	250	157	130	16,0	13,3	0,93 1,38	3530	3330	360	340	6 - 6 -	1521 - 1522 -	7 7	1 2
145	175	224	186	22,9	18,9	1,00 1,38	3920	3730	400	380	6 - 6 -	1521 - 1522 -	10 10	1 2
121	146	269	223	27,4	22,7	0,93 1,38	4120	3970	420	405	6 - 6 -	1521 - 1522 -	12 12	1 2
96,7	117	336	279	34,3	28,4	0,93 1,38	4410	4220	450	430	6 - 6 -	1521 - 1522 -	15 15	1 2

- Note:
- Motor slip may affect  $n_1$  and  $n_2$ .
  - Allowable radial load shows the value when the distance from hollow shaft end to the point of radial load is 20 mm.
  - Output torque is limited when SF is \* . It must be used within the value stipulated in the table as overload may occur if the motor is loaded to its full capacity.

Designate model and voltage and frequency when ordering. Brackets contain dimension, model, or mass of type with brakes



- Note:
- Output shaft diameter dimensions: Dimension tolerance in accordance with JIS B 0401/1976 "H8"
  - Output shaft keyway dimensions: Dimension tolerance in accordance with JIS B 1301-1996 parallel key (normal grade)
  - Dimensions and masses in the drawings are subject to change without notice.

## RNYM Series Hollow Shaft Type

### 4 kW 3-phase Motor

Motor Speed $n_1$	50Hz	1450 1/min
	60Hz	1750 1/min

Output Speed $n_2$ [1/min]		Output Torque $T_2$				SF	Allowable Radial Load Pro				Capacity Symbol	Frame Size	Ratio	Outline Drawing Fig.		
		[Nm]		[kgfm]			[N]		[kgf]							
50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz					
72,5	87,5	448	372	45,7	37,9	0,93	4810	4610	490	470	6	-	1521	-	20	1
						1,38	7700	7350	785	750	6	-	1633	-	20	4
58,0	70,0	561	464	57,2	47,4	0,93	5100	4900	520	500	6	-	1521	-	25	1
						1,38	8090	7750	825	790	6	-	1633	-	25	4
48,3	58,3	673	557	68,6	56,8	0,93	8380	8090	855	825	6	-	1632	-	30	3
						1,38					6	-	1633	-	30	4
36,3	43,8	897	743	91,4	75,8	0,93	8830	8480	900	865	6	-	1632	-	40	3
						1,38					6	-	1633	-	40	4
29,0	35,0	1120	929	114,3	94,7	0,93	9120	8880	930	905	6	-	1632	-	50	3
24,2	29,2	1340	1110	137,2	113,7	0,93	9410	9170	960	935	6	-	1632	-	60	3

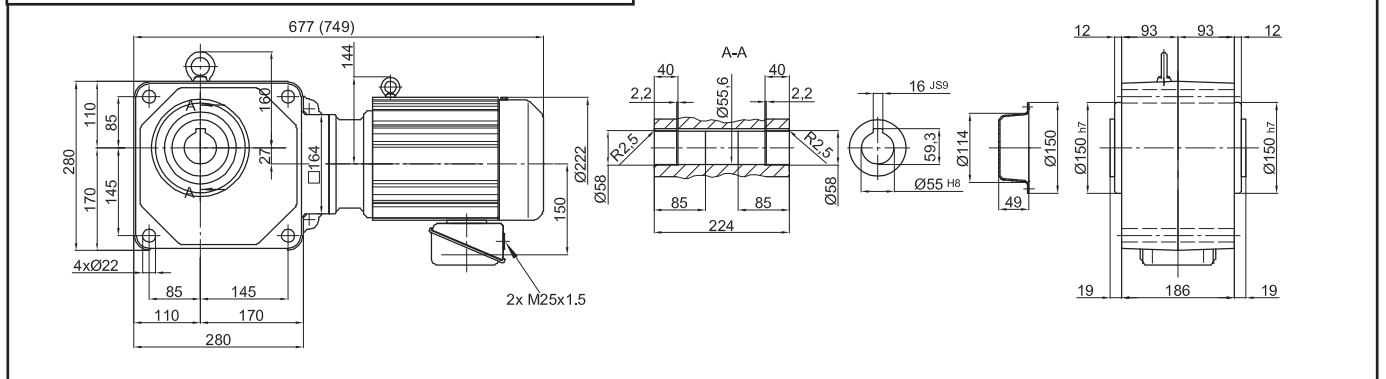
Note: 1. Motor slip may affect  $n_1$  and  $n_2$ .

2. Allowable radial load shows the value when the distance from hollow shaft end to the point of radial load is 20 mm.

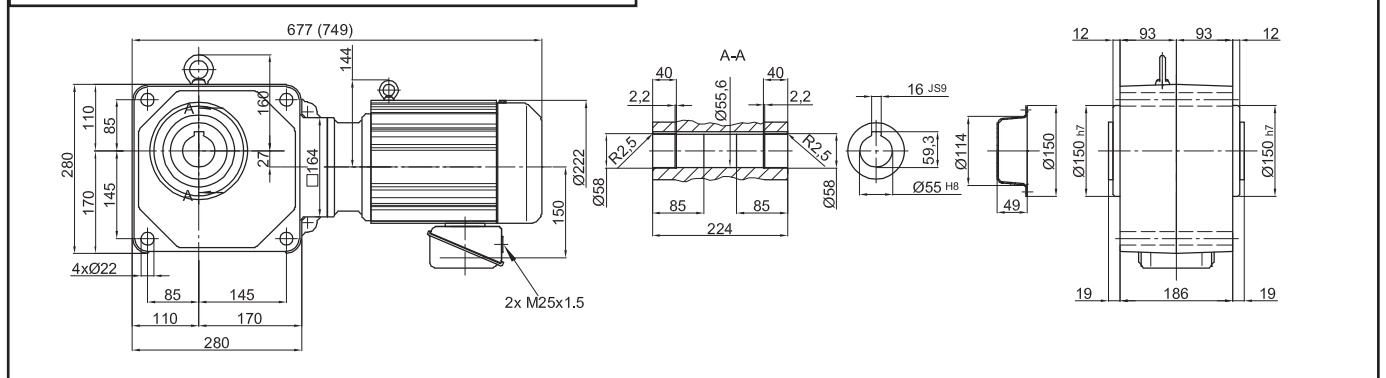
3. Output torque is limited when SF is \* . It must be used within the value stipulated in the table as overload may occur if the motor is loaded to its full capacity.

Designate model and voltage and frequency when ordering. Brackets contain dimension, model, or mass of type with brakes

**Fig 3** RNYM6-1632E-30 ~ 60 Mass 69 kg  
(RNYM6-1632E-B-30 ~ 60) (Mass 80 kg)



**Fig 4** RNYM6-1633E-20 ~ 40 Mass 72 kg  
(RNYM6-1633E-B-20 ~ 40) (Mass 83 kg)





## RNYM Series Hollow Shaft Type

### 5,5 kW 3-phase Motor

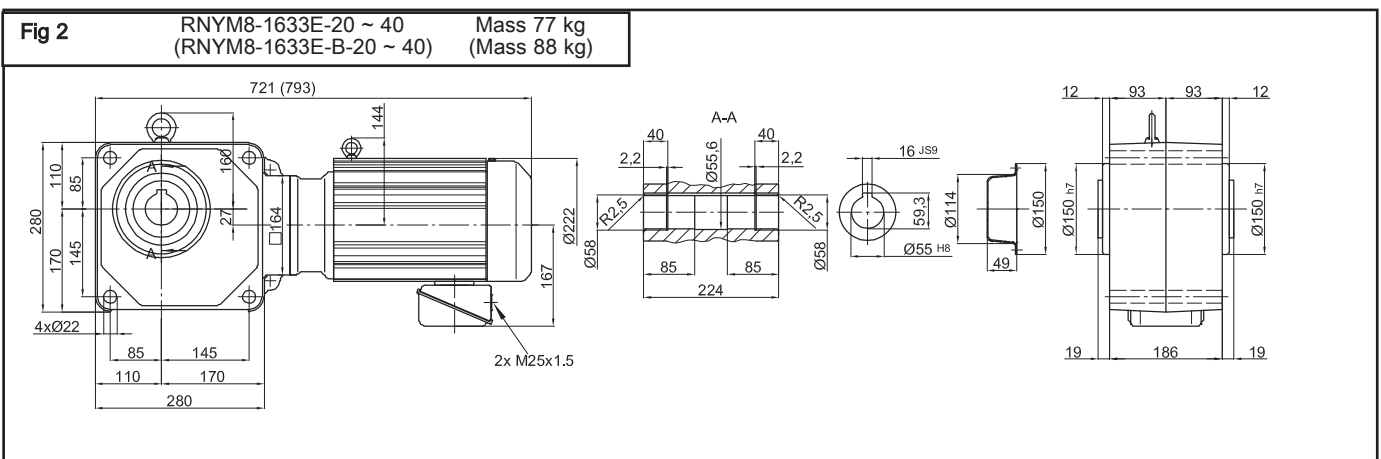
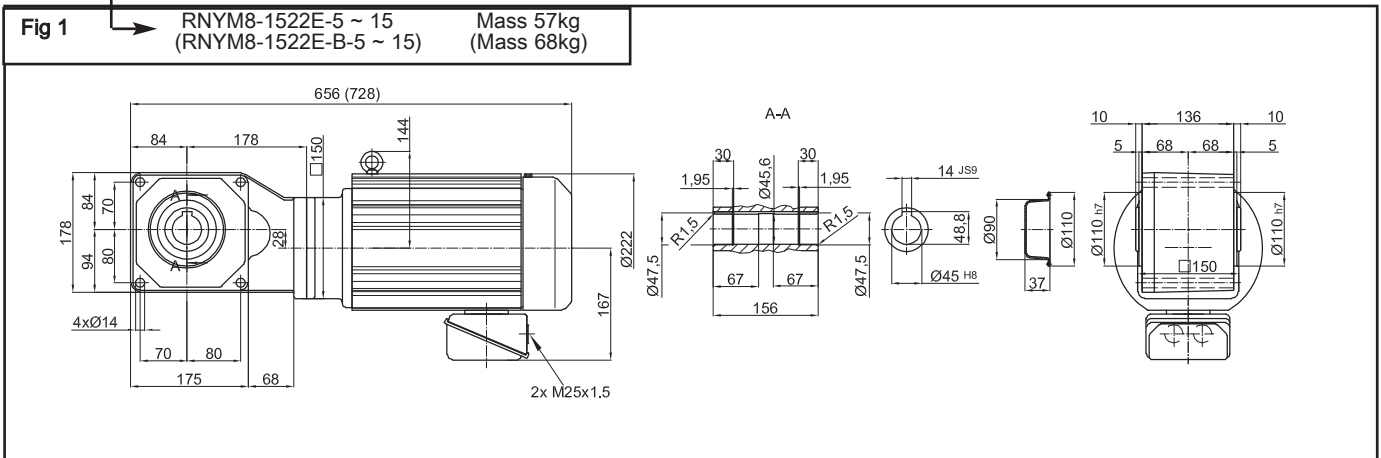
Motor Speed $n_1$	50Hz	1450 1/min
	60Hz	1750 1/min

Hollow shaft  
Selection Tables  
5,5 W

Output Speed $n_2$ [1/min]		Output Torque $T_2$				SF	Allowable Radial Load Pro				Capacity Symbol	Frame Size	Ratio	Outline Drawing Fig.		
		[Nm]		[kgfm]			[N]		[kgf]							
50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz					
290	350	154	128	15,7	13,0	1,00	3140	2940	320	300	8	-	1522	-	5	1
207	250	216	179	22,0	18,2	1,00	3530	3330	360	340	8	-	1522	-	7	
145	175	308	255	31,4	26,0	1,00	6230	5930	635	605	8	-	1522	-	10	
121	146	370	307	37,7	31,3	1,00	6620	6330	675	645	8	-	1522	-	12	
96,7	117	462	383	47,2	39,1	1,00	6960	6670	710	680	8	-	1522	-	15	2
72,5	87,5	617	511	62,9	52,1	1,00	7700	7350	785	750	8	-	1633	-	20	
58,0	70,0	771	639	78,6	65,1	1,00	8090	7750	825	790	8	-	1633	-	25	
48,3	58,3	925	766	94,3	78,1	1,00	8380	8090	855	825	8	-	1633	-	30	
36,3	43,8	1230	1020	126	104	1,00	8830	8480	900	865	8	-	1633	-	40	

- Note:
- Motor slip may affect  $n_1$  and  $n_2$ .
  - Allowable radial load shows the value when the distance from hollow shaft end to the point of radial load is 20 mm.
  - Output torque is limited when SF is \* . It must be used within the value stipulated in the table as overload may occur if the motor is loaded to its full capacity.

Designate model and voltage and frequency when ordering. Brackets contain dimension, model, or mass of type with brakes



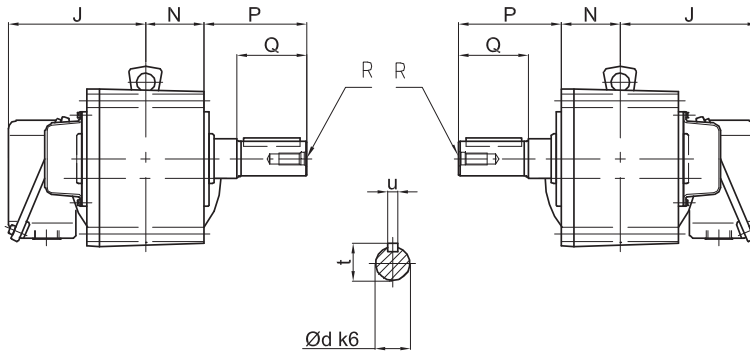
- Note:
- Output shaft diameter dimensions: Dimension tolerance in accordance with JIS B 0401/1976 "H8"
  - Output shaft keyway dimensions: Dimension tolerance in accordance with JIS B 1301-1996 parallel key (normal grade)
  - Dimensions and masses in the drawings are subject to change without notice.

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Option

### RNFM Series Solid Shaft Flange Mount Type (1) 3-phase Motor

please refer to page 22-56 for selection table



Option  
Solid shaft  
flange  
mount

Frame size mm	Power [kW]	Reduction ratio	Output shaft										
			J	N	d k6	P	Q	R			t	u	
1120	0,12	5-60	113	33	20	62	40	M	6	x	15	22,5	6
	0,18	5-30											
1220	0,12	40-60	113	37	25	77,5	50	M	10	x	22	28	8
	0,18	5-60											
	0,25	5-30											
	0,37	5-30											
1320	0,18	40-60	113	46	30	89	60	M	10	x	22	33	8
	0,25	40-60											
	0,37	5-60											
	0,55	5-30	143										
	0,75	5-30											
1420	0,37	40-60	113	59	35	103	70	M	12	x	28	38	10
	0,55	40-60	143										
	0,75	5-60	148										
	1,1	5-30											
	1,5	5-30											
1520	0,75	40-60	143	68	40	112	80	M	12	x	28	43	12
	1,1	40-60	148										
	1,5	5-60	155										
	2,2	5-30											
1230	0,12	80-240	113	41	25	77,5	50	M	10	x	22	28	8
1330	0,12	80-240	113	46	30	89	60	M	10	x	22	33	8
	0,18	80-240											
1430	0,18	80-240	113	59	35	103	70	M	12	x	28	38	10
	0,25	80-240											
	0,37	80-240											
1530	0,37	80-240	113	68	40	112	80	M	12	x	28	43	12
	0,55	80-240	143										
	0,75	80-240											
1531	0,75	80	143	68	40	112	80	M	12	x	28	43	12
	1,1	80	148										
	1,5	40-80											
	2,2	40-60											

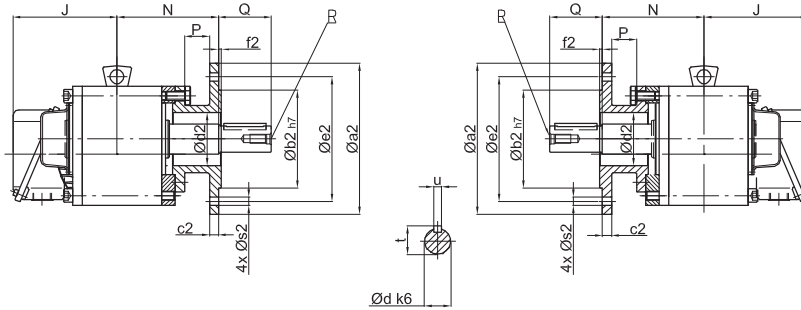
1. Dimensions of right side shaft type are the same as left side shaft type except for the shaft and safety cover direction.

2. This type consists of RNYM with plug-in shaft.

## OPTION Dimension sheet

### RNFM Series Solid Shaft Flange Mount Type (2) 3-phase Motor

Please refer to page 22-56 for selection table



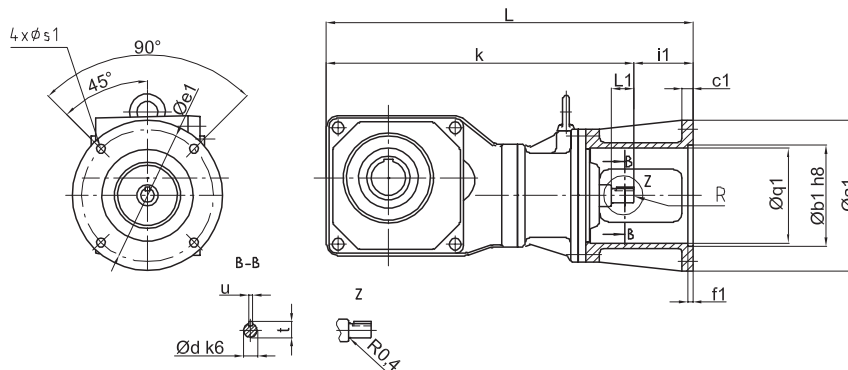
Frame size	Power [kW]	Reduction ratio	Output shaft																	
			a2	b2	c2	d2	e2	f2	s2	J	N	d k6	P	Q	R			t	u	
1120	0,12	5-60	120	80	8	38	100	3	6,6	113	81	20	22	40	M	6	x	15	22,5	6
	0,18	5-30																		
1220	0,12	40-60	120	80	8	55	100	3	6,6	113	87	25	22	50	M	10	x	22	28	8
	0,18	5-60																		
	0,25	5-30																		
	0,37	5-30																		
1320	0,18	40-60	160	110	10	60	130	3,5	9	113	111	30	30	60	M	10	x	22	33	8
	0,25	40-60								143										
	0,37	5-60																		
	0,55	5-30																		
	0,75	5-30																		
1420	0,37	40-60	200	130	12	70	165	3,5	11	113	134	35	33	70	M	12	x	28	38	10
	0,55	40-60								143										
	0,75	5-60								148										
	1,1	5-30																		
	1,5	5-30																		
1520	0,75	40-60	250	180	15	85	215	4	13,5	143	167	40	51	80	M	12	x	28	43	12
	1,1	40-60								148										
	1,5	5-60								155										
	2,2	5-30																		
1230	0,12	80-240	120	80	8	55	100	3	6,6	113	91	25	22	50	M	10	x	22	28	8
1330	0,12	80-240	160	110	10	60	130	3,5	9	113	111	30	30	60	M	10	x	22	33	8
	0,18	80-240																		
1430	0,18	80-240	200	130	12	70	165	3,5	11	113	134	35	33	70	M	12	x	28	38	10
	0,25	80-240																		
	0,37	80-240																		
1530	0,37	80-240	250	180	15	85	215	4	13,5	113	169	40	49	80	M	12	x	28	43	12
	0,55	80-240								143										
	0,75	80-240																		
1531	0,75	80	250	180	15	85	215	4	13,5	143	169	40	49	80	M	12	x	28	43	12
	1,1	80								148										
	1,5	40-80								155										
	2,2	40-60																		

1. Dimensions of right side shaft type are the same as left side shaft type except for the shaft and safety cover direction.

2. This type consists of RNYM with plug-in shaft.

### IEC flange Type

Please refer to page 22-56 for selection table and other dimensions



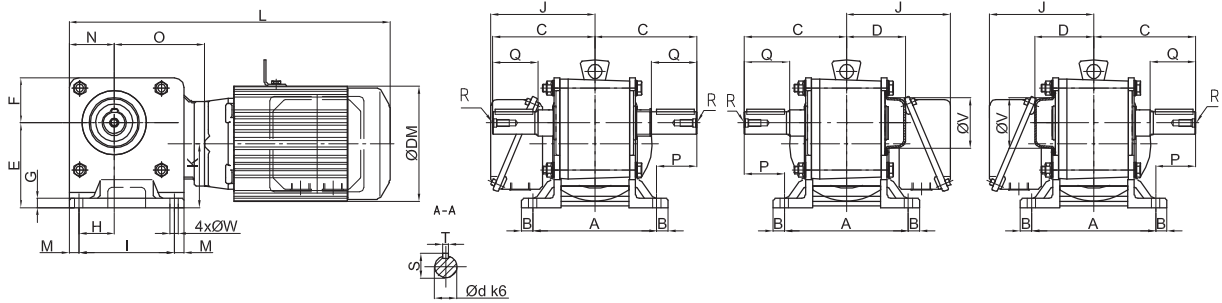
Option  
Solid shaft  
flange  
mount

Power	Reduction ratio	Model	Motor Flange Size	a1	b1 H8	q1	e1	s1	c1
0,12kW	5~60	RNYJ - 1120 - ratio	71/A160	160	110	65	130	9	11
	80~240	RNYJ - 1230 - ratio	71/A160	160	110	65	130	9	11
0,18kW	5~30	RNYJ - 1120 - ratio	71/A160	160	110	65	130	9	11
	40~60	RNYJ - 1220 - ratio	71/A160	160	110	65	130	9	11
	80~240	RNYJ - 1330 - ratio	71/A160	160	110	65	130	9	11
0,25kW	5~30	RNYJ - 1220 - ratio	71/A160	160	110	65	130	9	11
	40~60	RNYJ - 1320 - ratio	71/A160	160	110	90	130	9	10
	80~120	RNYJ - 1430 - ratio	71/A160	160	110	90	130	9	10
	150~240	RNYJ - 1430 - ratio	71/A160	160	110	90	130	9	10
0,37kW	5~30	RNYJ - 1220 - ratio	71/A160	160	110	65	130	9	11
	40~60	RNYJ - 1320 - ratio	71/A160	160	110	90	130	9	10
	80~120	RNYJ - 1430 - ratio	71/A160	160	110	90	130	9	10
	150~240	RNYJ - 1430 - ratio	71/A160	160	110	90	130	9	10
0,55kW	5~30	RNYJ - 1320 - ratio	80/A200	200	130	90	165	12	12,5
	40~60	RNYJ - 1420 - ratio	80/A200	200	130	90	165	12	12,5
	80~120	RNYJ - 1530 - ratio	80/A200	200	130	90	165	12	12,5
	150~240	RNYJ - 1530 - ratio	80/A200	200	130	90	165	12	12,5
0,75kW	5~30	RNYJ - 1320 - ratio	80/A200	200	130	90	165	12	12,5
	40~60	RNYJ - 1420 - ratio	80/A200	200	130	90	165	12	12,5
	80~120	RNYJ - 1530 - ratio	80/A200	200	130	90	165	12	12,5
	150~240	RNYJ - 1530 - ratio	80/A200	200	130	90	165	12	12,5
1,1kW	5~30	RNYJ - 1420 - ratio	90/A200	200	130	90	165	12	12,5
	40~60	RNYJ - 1520 - ratio	80/A200	200	130	110	165	11	12
	80	RNYJ - 1531 - ratio	90/A200	200	130	110	165	11	12
1,5kW	5~30	RNYJ - 1420 - ratio	90/A200	200	130	90	165	12	12,5
	40~60	RNYJ - 1520 - ratio	80/A200	200	130	110	165	11	12
	80	RNYJ - 1531 - ratio	90/A200	200	130	110	165	11	12
2,2kW	5~30	RNYJ - 1520 - ratio	100/A250	250	180	150	215	14	15
	40~60	RNYJ - 1531 - ratio	100/A250	250	180	150	215	14	15

f1	i1	d k 6	L1	u	t	R			k	L	Mass
4,5	35	12	25	4	13,5	M4	x	8	227	262	6,2 kg
4,5	35	12	25	4	13,5	M4	x	8	251	286	7,7 kg
4,5	35	12	25	4	13,5	M4	x	8	227	262	6,2 kg
4,5	35	12	25	4	13,5	M4	x	8	260	295	7,7 kg
4,5	35	12	25	4	13,5	M4	x	8	283	318	9,4 kg
4,5	35	12	25	4	13,5	M4	x	8	260	295	7,7 kg
5	33	14	25	5	16	M5	x	10	302	335	12,6 kg
5	33	14	25	5	16	M5	x	10	325	358	16,8 kg
5	33	14	25	5	16	M5	x	10	326	359	16,8 kg
4,5	35	12	25	4	13,5	M4	x	8	260	295	7,7 kg
5	33	14	25	5	16	M5	x	10	302	335	12,6 kg
5	33	14	25	5	16	M5	x	10	325	358	16,8 kg
5	33	14	25	5	16	M5	x	10	326	359	16,8 kg
5	43	14	25	5	16	M5	x	10	302	345	13,3 kg
5	43	14	25	5	16	M5	x	10	339	382	16,5 kg
5	43	14	25	5	16	M5	x	10	363	406	23,5 kg
5	43	14	25	5	16	M5	x	10	370	413	23,5 kg
5	43	14	25	5	16	M5	x	10	302	345	13,3 kg
5	43	14	25	5	16	M5	x	10	338	381	16,5 kg
5	43	14	25	5	16	M5	x	10	363	406	23,5 kg
5	43	14	25	5	16	M5	x	10	370	413	23,5 kg
5	43	14	25	5	16	M5	x	10	347	390	16,5 kg
5	53	19	35	6	21,5	M6	x	12	421	474	31,6 kg
5	53	19	35	6	21,5	M6	x	12	388	441	26,6 kg
5	43	14	25	5	16	M5	x	10	347	390	16,5 kg
5	53	19	35	6	21,5	M6	x	12	421	474	31,6 kg
5	53	19	35	6	21,5	M6	x	12	388	441	26,6 kg
6	63	19	35	6	21,5	M6	x	12	421	484	33,5 kg
6	63	19	35	6	21,5	M6	x	12	388	451	31,5 kg

### RNHM Series Solid Shaft Foot Mount Type 3-phase Motor

Please refer to page 22-56 for selection table



Option  
Solid shaft  
flange mount

Frame size	Power [kW]	Reduction ratio	A	B	C	D	E	F	G	H	I	J	K	M	N	O	V	W
			1120	0,12	5-60	120	10	95	66	90	40	10	30	70	113	70	10	40
	0,18	5-30																
1220	0,12	40-60	136	15	115	69	110	51	10	40	105	113	82	11	51	96	59	9
	0,18	5-60																
	0,25	5-30																
	0,37	5-30																
1320	0,18	40-60	164	15	135	78	112	60	12	47	126	113	84,5	13	60	114	67	11
	0,25	40-60																
	0,37	5-60																
	0,55	5-30																
	0,75	5-30																
1420	0,37	40-60	204	20	162	101	132	70	12	51	140	113	112	19	70	146	77	14
	0,55	40-60																
	0,75	5-60																
	1,1	5-30																
	1,5	5-30																
1520	0,75	40-60	244	20	180	110	160	84	15	64	173	143	132	20	84	178	90	18
	1,1	40-60																
	1,5	5-60																
	2,2	5-30																
1230	0,12	80-240	144	15	119	73	110	51	10	40	105	113	97	11	51	95	59	9
1330	0,12	80-240	164	15	135	78	112	60	12	47	126	113	101	13	60	108	67	11
	0,18	80-240																
1430	0,18	80-240	204	20	162	101	132	70	12	51	140	113	118	19	70	130	77	14
	0,25	80-240																
	0,37	80-240																
1530	0,37	80-240	244	20	180	110	160	84	15	64	173	113	143	20	84	157	90	18
	0,55	80-240																
	0,75	80-240																
1531	0,75	80	244	20	180	110	160	84	15	64	173	143	143	20	84	157	90	18
	1,1	80																
	1,5	40-80																
	2,2	40-60																

- The dimensions of right side shaft type are the same as left side shaft direction except for the shaft and safety cover direction.  
There are no safety cover on twin shaft type.  
T shaft type has no safety cover with shaft extruding on both sides
- This type consists of RNYM type with plug-in shaft and bolt-on foot.

Option

Solid shaft

flange  
mount

Output shaft									With brake			Without brake		
d k6	P	Q	R				S	T	L	DM	WT(kg)	L	DM	WT(kg)
20	35	40	M	6	x	15	22,5	6	268	119	6,5	303	124	8,0
									310	124	7,5	342	124	9,0
25	47	50	M	10	x	22	28	8	293	119	7,5	328	124	9,0
									335	124	9,0	367	124	10,5
									355	124	10	387	124	12
									355	124	10	387	124	12
30	53	60	M	10	x	22	33	8	363	124	11	395	124	12
									383	124	12	415	124	14
									383	124	12	415	124	14
									425	155	14	468	155	17
									425	155	14	468	155	17
35	60	70	M	12	x	28	38	10	412	124	16	444	124	17
									474	155	19	517	155	21
									474	155	19	517	155	21
									504	167	23	566	167	27
									504	167	23	566	167	27
40	58	80	M	12	x	28	43	12	498	155	28	541	155	30
									534	167	33	596	167	37
									534	167	33	596	167	37
									553	180	36	616	180	41
25	47	50	M	10	x	22	28	8	292	119	8,0	327	124	9,5
30	53	60	M	10	x	22	33	8	314	119	10	349	124	11
									356	124	11	388	124	12
35	60	70	M	12	x	28	38	10	384	124	16	416	124	17
									404	124	17	436	124	18
									404	124	17	436	124	18
40	58	80	M	12	x	28	43	12	437	124	25	469	124	26
									498	155	27	541	155	30
									498	155	27	541	155	30
40	58	80	M	12	x	28	43	12	498	155	28	541	155	30
									528	167	32	590	167	36
									528	167	32	590	167	36
									548	180	36	611	180	41



M E M O

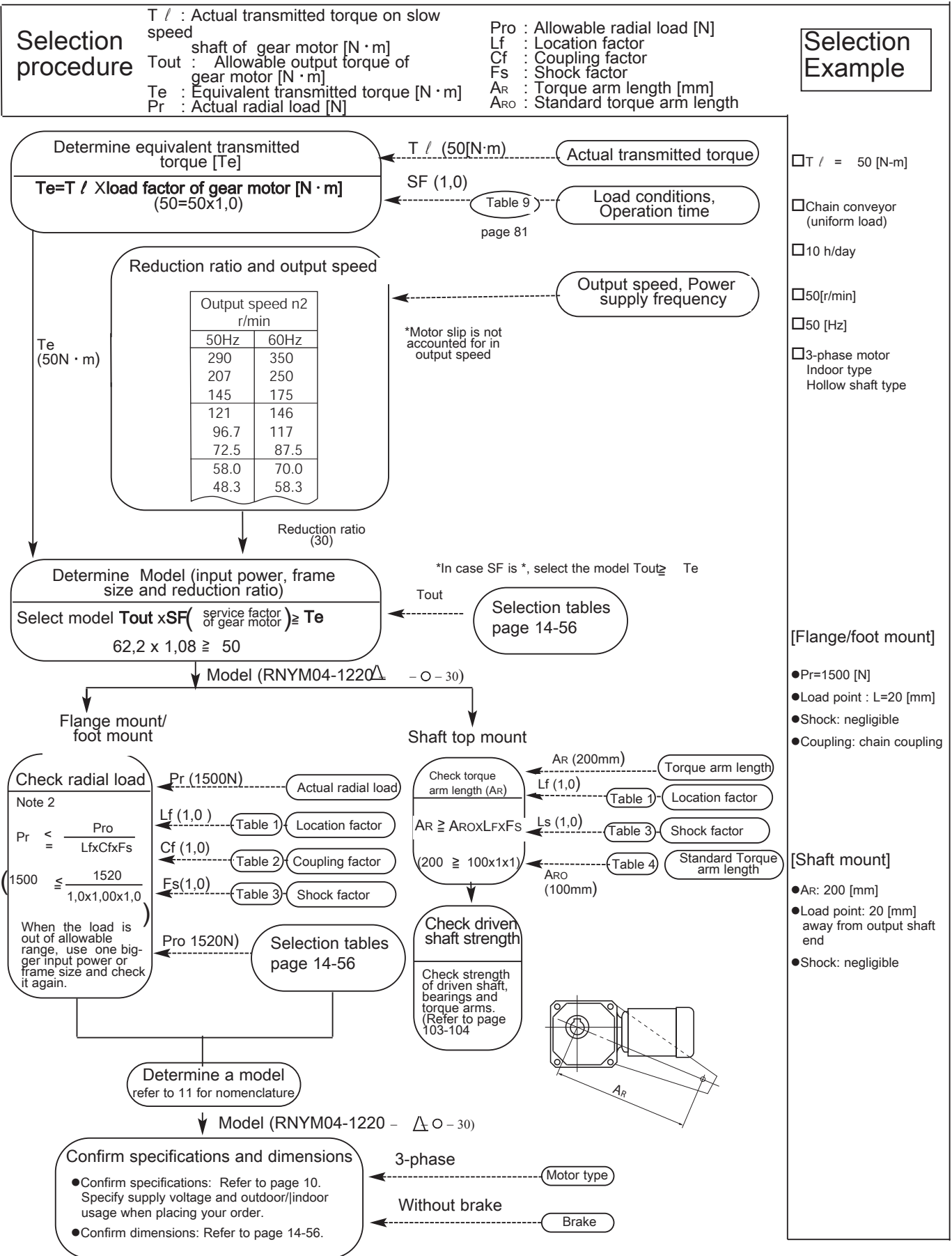
A large grid of graph paper, consisting of 20 columns and 30 rows of small squares, intended for writing a memo. The grid covers the majority of the page area.

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## Selection Procedure

## Selection procedure

### 1. Hollow shaft type (RNYM series)



Model (RNYM04-1220-30)

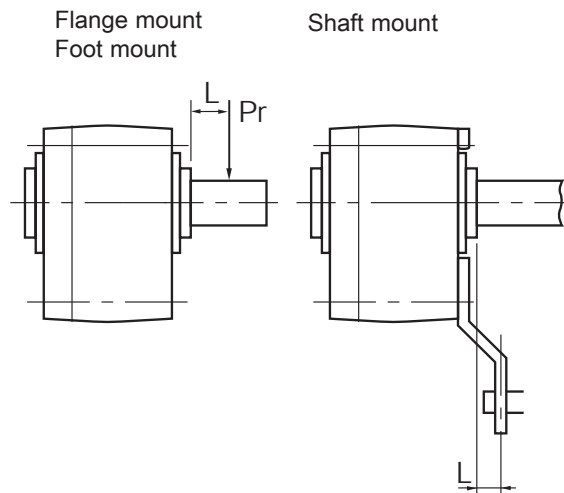
Note 1: Torque arm length is the distance between the centre of driven shaft and the torque arm whirl stop.  
 Note 2: Refer to page 88 for the formula in case of axial load

Table 1 Location factor [Lf]

Radial load location factor Lf

Frame size	*l [mm]									
	10	20	30	40	50	60	70	80	90	
03, 07	1,0	1,0	1,2	1,3	1,4	1,5	1,6	1,7	1,8	
17	1,0	1,0	1,2	1,3	1,4	1,5	1,6	1,7	1,8	
1120	1,0	1,0	1,2	1,3	1,4	1,5	1,6	1,8	1,9	
1220, 1230, 1240	1,0	1,2	1,3	1,4	1,5	1,6	1,7	1,8	1,8	
1320, 1330, 1340	1,0	1,0	1,1	1,2	1,3	1,4	1,5	1,6	1,7	
1420, 1430, 1440	1,0	1,0	1,1	1,2	1,3	1,4	1,4	1,5	1,6	
1520, 1521, 1522, 1530, 1531, 1540	1,0	1,0	1,1	1,2	1,3	1,3	1,4	1,5	1,5	
1630, 1631, 1632, 1633, 1640	1,0	1,0	1,1	1,2	1,2	1,3	1,3	1,4	1,4	

\* l: Distance from roof of shaft to load position



Selection procedure

Table 2 Coupling factor [Cf]

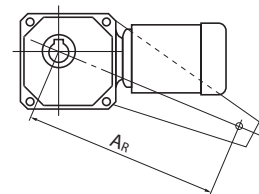
Coupling method	Cf
Chain	1
Gear	1.25
V-belt	1.5

Table 3 Shock factor [Fs]

Degree of shock	Fs
Negligible shock	1
Moderate shock	1-1.2
Heavy shock	1.4-1.6

Table 4 Standard torque arm length [Aro]

Frame Size	Aro	Frame Size	Aro	Frame Size	Aro
03,07,17	50	1420	140	1430,1440	160
1120	80	1520	150	1530,1540	200
1220	100	1230, 1240	100	1630,1640	280
1320	120	1330,1340	130		



## Selection procedure

### 2. Solid shaft type

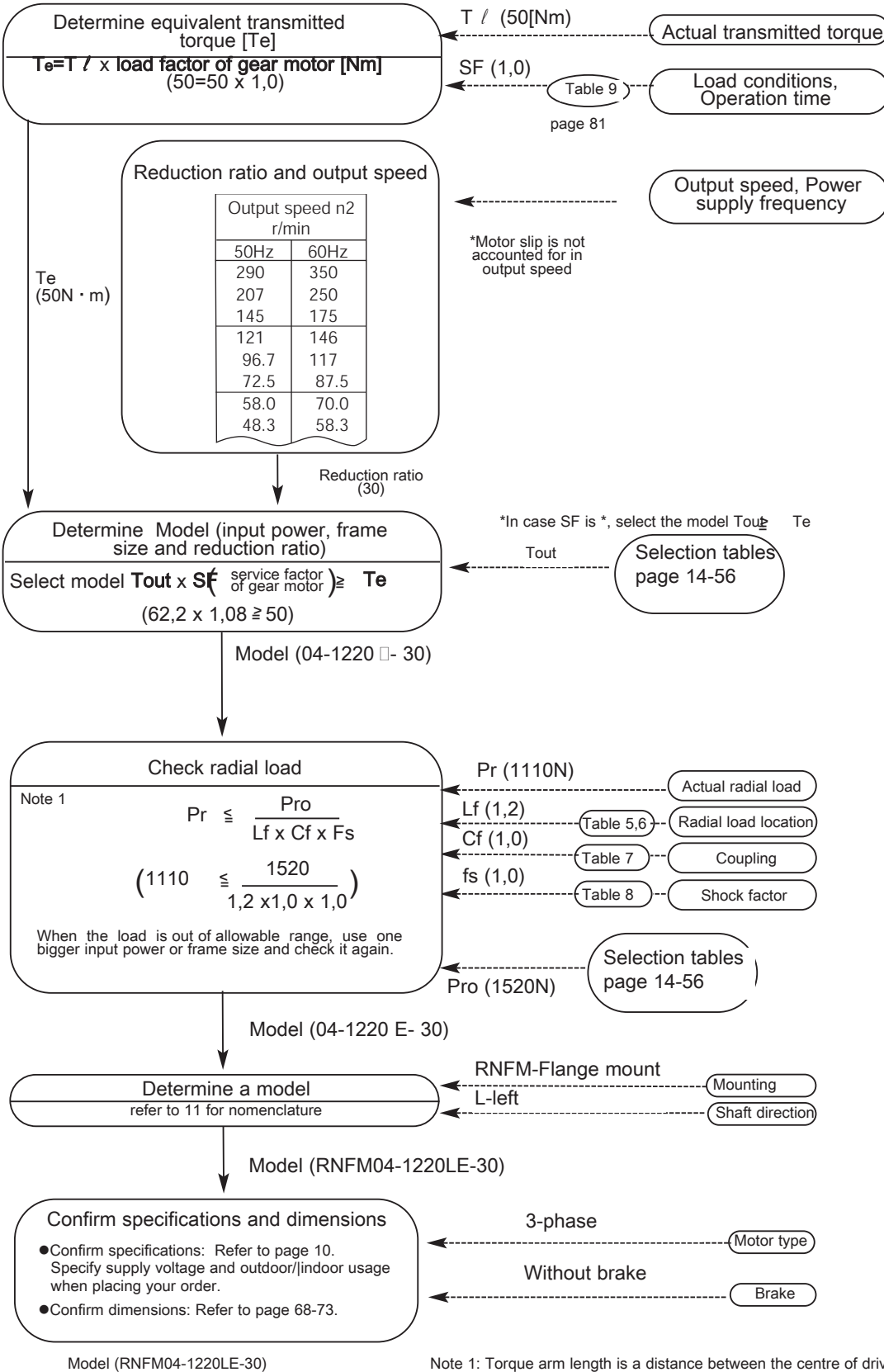
Flange mount type (RNFM series)  
Foot mount type (RNHM series)

#### Selection procedure

$T /$  : Actual transmitted torque on slow speed shaft of gear motor [Nm]  
 $T_{out}$  : Allowable output torque of gear motor [Nm]  
 $T_e$  : Equivalent transmitted torque [Nm]  
 $P_r$  : Actual radial load [N]

$P_{ro}$  : Allowable radial load [N]  
 $L_f$  : Location factor  
 $C_f$  : Coupling factor  
 $f_s$  : Shock factor

#### Selection Example



$T / = 50$  [N·m]

Chain conveyor (uniform load)

10 h/day

50[r/min]

50 [Hz]

3-phase motor  
Indoor type  
Flange mount type

● Sprocket pitch circle diam. 90 [mm]  
Radius R=0,04 [mm]

●  $P_r = \frac{TR}{R} = \frac{50}{0,045} = 1110N$

● Load point : L=20 [mm]

● Coupling: chain coupling

● Shock: negligible

● Flange mount

● Left (Viewed from motor)

Note 1: Torque arm length is a distance between the centre of driven shaft and the torque arm whirl stop.

Note 2: Refer to page 88 for the formula in case of axial load

## Selection procedure

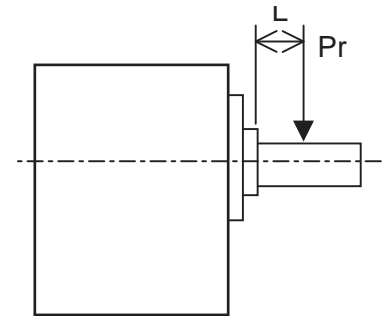
Table 5: Location factor [Lf] for solid shaft

Table 5a Location factor [Lf]

RNFM (up to 90W Frame size 01~17)

Frame size	L (mm)								Shaft end
	10	20	30	40	50	60	70	80	
01	1,0	1,1	1,2	1,4	1,8	2,1	2,5	2,8	1,2
03	1,0	1,1	1,3	1,7	2,2	2,6	3,0	3,5	1,3
05	1,0	1,1	1,2	1,5	1,8	2,2	2,6	2,9	1,2
07	1,0	1,1	1,2	1,5	1,8	2,2	2,6	2,9	1,2
15	1,0	1,1	1,5	2,0	2,5	3,0	3,5	4,0	1,6
17	1,0	1,1	1,2	1,3	1,4	1,5	1,7	2,0	1,2

\*L=Distance from root of shaft to load position



Selection procedure

Table 5b Location factor [Lf]

RNFM-X1 RNHM-J1 (Standard Japanese shaft version)

Frame size	L (mm)								Shaft end
	10	20	30	40	50	60	70	80	
1120	1,0	1,2	1,3	1,4	1,5	1,6	1,8	2,1	1,3
1220	1,1	1,2	1,3	1,4	1,5	1,8	2,1	2,4	1,4
1230	1,1	1,2	1,3	1,7	2,2	2,6	3,0	3,5	1,6
1240	1,1	1,2	1,3	1,7	2,2	2,6	3,0	3,5	1,6
1320	1,1	1,2	1,3	1,4	1,5	1,6	1,7	1,7	1,4
1330	1,1	1,2	1,3	1,4	1,5	1,6	1,7	1,9	1,4
1340	1,1	1,2	1,3	1,4	1,5	1,6	1,7	1,9	1,4
1420	1,1	1,2	1,3	1,3	1,4	1,5	1,6	1,6	1,5
1430	1,1	1,2	1,3	1,3	1,4	1,6	1,9	2,2	1,5
1440	1,1	1,2	1,3	1,3	1,4	1,6	1,9	2,2	1,6
1520	1,1	1,2	1,3	1,3	1,4	1,5	1,5	1,6	1,6
1530,1531	1,1	1,2	1,3	1,3	1,4	1,5	1,5	1,6	1,6
1540	1,1	1,2	1,3	1,3	1,4	1,5	1,5	1,6	1,6
1630,1631 1632,1630	1,1	1,1	1,2	1,2	1,3	1,3	1,4	1,4	1,4
1640	1,1	1,1	1,2	1,2	1,3	1,3	1,4	1,4	1,4

indicates model range with load point exceeding the solid shaft

## Selection procedure

Table 5c Location factor [Lf]

RNFM-E1 RNHM-E\_J1 (European shaft version)

Frame size	L (mm)								Shaft end
	10	20	30	40	50	60	70	80	
1120	1,0	1,2	1,3	1,4	1,5	1,6	1,8	2,1	1,4
1220	1,1	1,2	1,3	1,4	1,5	1,8	2,1	2,4	1,5
1230	1,1	1,2	1,3	1,7	2,2	2,6	3,0	3,5	2,2
1240	1,1	1,2	1,3	1,7	2,2	2,6	3,0	3,5	2,2
1320	1,1	1,2	1,3	1,4	1,5	1,6	1,7	1,7	1,6
1330	1,1	1,2	1,3	1,4	1,5	1,6	1,7	1,9	1,6
1340	1,1	1,2	1,3	1,4	1,5	1,6	1,7	1,9	1,6
1420	1,1	1,2	1,3	1,3	1,4	1,5	1,6	1,6	1,6
1430	1,1	1,2	1,3	1,3	1,4	1,6	1,9	2,2	1,9
1440	1,1	1,2	1,3	1,3	1,4	1,6	1,9	2,2	1,9
1520	1,1	1,1	1,2	1,3	1,4	1,4	1,5	1,6	1,6
1530,1531	1,1	1,1	1,2	1,3	1,4	1,4	1,5	1,6	1,6
1540	1,1	1,1	1,2	1,3	1,4	1,4	1,5	1,6	1,6

\*L=Distance from root of shaft to load position

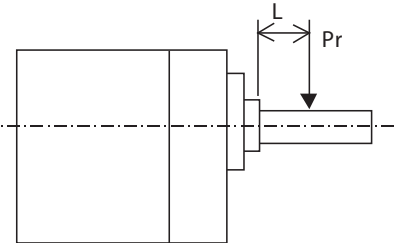


Table 6a Location factor [Lf]

RNFM-P, Q1 (Standard Japanese shaft version)

Frame size	L (mm)								Shaft end
	10	20	30	40	50	60	70	80	
1120	1,2	1,3	1,4	1,6	1,7	1,8	1,9	2,0	1,4
1220	1,3	1,5	1,6	1,7	1,8	1,9	2,1	2,4	1,6
1230	1,1	1,2	1,3	1,7	2,2	2,6	3,0	3,5	1,6
1320	1,3	1,4	1,5	1,5	1,6	1,7	1,8	1,9	1,6
1330	1,0	1,1	1,2	1,3	1,4	1,5	1,7	1,9	1,3
1420	1,2	1,2	1,3	1,4	1,5	1,5	1,6	1,8	1,5
1430	1,1	1,1	1,3	1,7	2,2	2,6	3,0	3,5	2,5
1520	1,1	1,1	1,2	1,3	1,4	1,4	1,5	1,6	1,6
1530,1531	1,1	1,1	1,2	1,3	1,4	1,4	1,5	1,6	1,6

\*L=Distance from root of shaft to load position

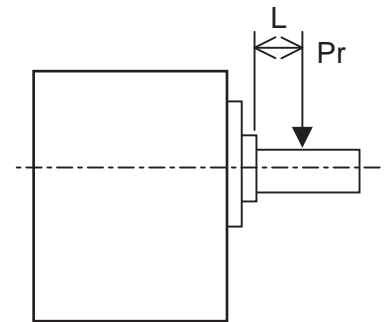


Table 6b Location factor [Lf]

RNFM-E-P, Q1 (European shaft version)

Frame size	L (mm)								Shaft end
	10	20	30	40	50	60	70	80	
1120	1,4	1,5	1,6	1,7	1,8	2,0	2,1	2,2	1,7
1220	1,3	1,4	1,6	1,7	1,8	1,9	2,1	2,4	1,8
1230	1,3	1,4	1,5	1,7	2,2	2,6	3,0	3,5	2,2
1320	1,4	1,5	1,6	1,7	1,8	1,9	2,0	2,1	1,9
1330	1,4	1,5	1,6	1,7	1,8	1,9	2,0	2,1	1,3
1420	1,4	1,5	1,6	1,7	1,7	1,8	1,9	2,0	1,9
1430	1,4	1,5	1,6	1,7	2,2	2,5	3,0	3,5	3,0
1520	1,5	1,6	1,7	1,7	1,8	1,9	1,9	2,0	2,0
1530,1531	1,5	1,6	1,7	1,7	1,8	1,9	1,9	2,0	2,0

■ indicates model range with load point exceeding the solid shaft

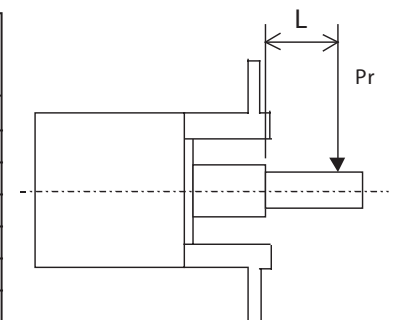


Table 7 Coupling factor [Cf]

Coupling method	Cf
Chain	1
Gear	1,25
V-belt	1,5

Table 8 Coupling factor [Cf]

Degree of shock	Fs
Negligible shock	1
Moderate shock	1~1,25
Heavy shock	1,4~1,6

## Selection procedure

### 3. Selection of load factor

The load factor is rated for the characteristics of the driven machine.

The tabulated ratings are based on a running time of 10 hours per day with uniform load.

For your reference, please see method 1) and 2) shown below.

#### 1) Recommended Load Factor by the Driven Application

Table 9 Service factor [S.F.]

Operation time	10 hrs/ day max.	10-24 hrs/ day max.	Applications
Load conditions			
Uniform	1	1,25	Conveyors (uniform load), Pumps (centrifugal, Food processing machine (rice polishers, canning machines), Elevators (uniform load), Plastic extruders, Agitators (pure liquid), Bar screens
Moderate shock	1,25	1,25	Conveyors (variable speed and heavy duty), Food processing machine (peat slicer, dough mixer, meat grinder), Elevator (heavy duty), Agitators (liquid and solid, variable-density liquid), Feeders (belts, aprons, screws), Tickeners, Filloculators, machine tools
Heavy shock	1,75	2,0	Punching presses, Taping machine, Crushers (crusher mills), Hoists (heavy duty), Drum barkers, Log hauls. Cutters, Platers

Selection  
procedure  
load  
factor

Note 1: The service factors and applications in the above table are only for reference. Actual applications and their characteristics may be variable.

#### 2) Recommended Load Factor Modifications for Frequent Start-Stop-Operation

Please select a model using Table 10 and check the motor thermal rating (Table 11)

Table 10 Number of Starts-Stops and Load Factor

Number of starts-stops (times/hour)	~10 hours/day			~24 hours/day		
	I	II	III	I	II	III
~10	1,00	1,15	1,50	1,20	1,30	1,65
~200	1,10	1,35	1,65	1,30	1,50	1,85
~500	1,15	1,50	1,80	1,40	1,65	2,00

$$\text{Ratio of moment of inertia (ratio of } GD^2) = \frac{\text{Total Moment of Inertia (} GD^2) \text{ as seen from the motor shaft}}{\text{Moment of Inertia (} GD^2) \text{ of motor}}$$

I : Allowable ratio of Moment of Inertia ( $GD^2$ )  $\leq$  0.3

II : Allowable ratio of Moment of Inertia ( $GD^2$ )  $\leq$  3

III : Allowable ratio of Moment of Inertia ( $GD^2$ )  $\leq$  10

Note: 1. The number of starts-stops includes brake or clutch operation times

Note: 2. Consult us when starting under loaded conditions.



Table 11 Motor thermal rating (CxZ )

Note: Contact us regarding a motor for inverters and a single-phase motor

Output Motor kW	Allowable CxZ (35%ED)	Allowable CxZ (35%ED~50ED%)	Allowable CxZ (50%ED~80ED%)	Allowable CxZ (80%ED~100ED%)	Motor moment of inertia kgf*m <sup>2</sup>		Motor GD <sup>2</sup> kgf*m <sup>2</sup>	
					Standard	With brake	Standard	With brake
0,12	3200	3000	2000	1200	0,00033	0,00035	0,0013	0,0014
0,18	2200	2800	2800	2500	0,00050	0,00055	0,002	0,0022
0,25	2200	2800	2800	2500	0,00050	0,00055	0,002	0,0022
0,37	1800	2200	1500	1500	0,00065	0,00068	0,0026	0,0027
0,55	1800	2200	1500	1500	0,00101	0,00111	0,00405	0,00445
0,75	1400	1400	800	500	0,00120	0,00130	0,0048	0,0052
1,1	1400	1400	800	500	0,00185	0,00208	0,0074	0,0083
1,5	1200	1200	500	400	0,00213	0,00235	0,0085	0,0094
2,2	1000	900	400	200	0,00333	0,00373	0,0133	0,0149
3,0	1000	900	400	200	0,00700	0,00810	0,0281	0,0325
3,7	800	800	800	700	0,00848	0,00958	0,0339	0,0383
5,5	300	300	200	150	0,01143	0,01253	0,0457	0,0501

Selection procedure

For your reference, please see method 1) and 3) shown below.

**C x Z calculated below (1) to (3) should be less than allowable CX listed in Table 10.**

1) Obtain the C value.

$$C = \frac{GD_M^2 + GD_L^2}{GD_M^2}$$

GD<sub>M</sub><sup>2</sup> : Moment of inertia (kgf.m<sup>2</sup>) or GD<sup>2</sup> (kg.m<sup>2</sup>) of motor.  
GD<sub>L</sub><sup>2</sup> : Total moment of inertia (kgf.m<sup>2</sup>) or GD<sup>2</sup> (kg.m<sup>2</sup>) of load as seen from the motor

2) Obtain the Z value, number of starts per hour.

a) Assume that one operating period consists of "on time" ta (sec), "off time" tb (sec) and the motor is started nr (times/cycle)

$$Z_r = \frac{3600nr}{ta + tb} \text{ (times/h)}$$

b) When inching, ni (times/cycle) is included in 1 cycle (ta+tb), the number of inching times per hour Zi, and then included in the number of starts.

$$Z_i = \frac{3600ni}{ta + tb} \text{ (times/h)}$$

c) Calculate Z (times/h) by (a) and (b).

$$Z = Z_r + 1/2 \cdot Z_i = \frac{3600}{ta + tb} (nr + \frac{1}{2} ni) \text{ (times/h)}$$

3) Calculate C multiplied by Z.

Use the value C obtained in step 1) and Z in step 2).

4) Obtain the duty cycle %ED and check with table above.

$$\%ED = \frac{ta}{ta + tb} \times 100$$

## Moment of inertia

### (1) Moment of inertia of rotating motion

Rotating motion on the centre of gravity		Rotating motion off the centre of gravity	
	$J = \frac{1}{8} MD^2 \text{ [kg}\cdot\text{m}^2\text{]}$		$J = \frac{M}{4} \left( \frac{1}{2} D^2 + 4R^2 \right) \text{ [kg}\cdot\text{m}^2\text{]}$
	$J = \frac{1}{8} M (D^2 + d^2) \text{ [kg}\cdot\text{m}^2\text{]}$		$J = \frac{M}{4} \left( \frac{a^2 + b^2}{3} + 4R^2 \right) \text{ [kg}\cdot\text{m}^2\text{]}$
	$J = \frac{1}{12} M (a^2 + b^2) \text{ [kg}\cdot\text{m}^2\text{]}$		$J = \frac{1}{12} M (4L^2 + C^2) \text{ [kg}\cdot\text{m}^2\text{]}$

 Selection procedure  
Moment of inertia

### (2) Moment of inertia of rectilinear motion

General application		$J = \frac{M}{4} \left( \frac{V}{\pi \cdot N_s} \right)^2 = \frac{M}{4} D^2 \text{ [kg}\cdot\text{m}^2\text{]}$
Horizontal motion by conveyor		$J = \frac{M}{4} \left( \frac{M_1 + M_2 + M_3 + M_4}{2} \right) 5D^2 \text{ [kg}\cdot\text{m}^2\text{]}$
Horizontal motion by lead screw		$J = \frac{M}{4} \left( \frac{V}{\pi \cdot N_s} \right)^2 = \frac{M}{4} \left( \frac{P}{\pi} \right)^2 \text{ [kg}\cdot\text{m}^2\text{]}$
Vertical motion by hoist		$J = \frac{M_1 D^2}{4} + \frac{1}{8} M_2 D^2 \text{ [kg}\cdot\text{m}^2\text{]}$

### (3) Moment of inertia at different rotating speeds

	$J \text{ l} = \left( \frac{N_{S2}}{N_{S1}} \right)^2 J$

### (1) GD<sup>2</sup> of rotating motion

Rotating motion on the centre of gravity		Rotating motion off the centre of gravity	
	$GD^2 = \frac{1}{2} WD^2$ [kg·m <sup>2</sup> ]		$GD^2 = W \left( \frac{1}{2} D^2 + 4R^2 \right)$ [kg·m <sup>2</sup> ]
	$GD^2 = \frac{1}{2} W (D^2 + d^2)$ [kg·m <sup>2</sup> ]		$GD^2 = W \left( \frac{a^2 + b^2}{3} + 4R^2 \right)$ [kg·m <sup>2</sup> ]
	$GD^2 = \frac{1}{13} W (a^2 + b^2)$ [kg·m <sup>2</sup> ]		$GD^2 = \frac{1}{3} W (4L^2 + C^2)$ [kg·m <sup>2</sup> ]

Selection procedure

GD<sup>2</sup>

### (2) Moment of inertia of rectilinear motion

General application		$GD^2 = W \left( \frac{V}{\pi \cdot N} \right)^2 = WD^2$ [kg·m <sup>2</sup> ]
Horizontal motion by conveyor		$GD^2 = \left( \frac{W1 + W2 + W3 + W4}{2} \right) XD^2$ [kg·m <sup>2</sup> ]
Horizontal motion by lead screw		$GD^2 = W \left( \frac{V}{\pi \cdot N} \right)^2 = W \left( \frac{P}{\pi} \right)^2$ [kg·m <sup>2</sup> ]
Vertical motion by hoist		$GD^2 = W1D^2 + \frac{1}{2} W2D^2$ [kg·m <sup>2</sup> ]

### (3) Moment of inertia at different rotating speeds

	$GD'^2 = \left( \frac{N2}{N1} \right)^2 GD^2$
--	-----------------------------------------------

## Moment of inertia and GD<sup>2</sup> of gearmotors

Moment of Inertia J [kgm<sup>2</sup>] and GD<sup>2</sup> [kgfm<sup>2</sup>] of Gearmotors

Motor type		15W		25W		40W			
		J	GD <sup>2</sup>	J	GD <sup>2</sup>	J	GD <sup>2</sup>	J	GD <sup>2</sup>
Reducer size		01,03		01,03		05,07		17,1240	
Standard 3-phase	without brake	0,000050	0,00020	0,000058	0,00023	0,000070	0,00028	0,00011	0,00043
	with brake	0,000070	0,00028	0,000078	0,00031	0,000090	0,00036	0,00012	0,00047

Motor type		60W				90W			
		J	GD <sup>2</sup>	J	GD <sup>2</sup>	J	GD <sup>2</sup>	J	GD <sup>2</sup>
Reducer size		07		17,1240		15,17		36	
Standard 3-phase	without brake	0,000070	0,00028	0,00012	0,00049	0,00015	0,00058	0,00015	0,00058
	with brake	0,000090	0,00036	0,00013	0,00052	0,00016	0,00062	0,00016	0,00062

Motor type		0,12kW		0,18kW		0,25kW		0,37kW	
		J	GD <sup>2</sup>	J	GD <sup>2</sup>	J	GD <sup>2</sup>	J	GD <sup>2</sup>
Standard 3-phase	without brake	0,000325	0,0013	0,000500	0,0020	0,000650	0,0026	0,000650	0,0026
	with brake	0,000350	0,0014	0,000550	0,0022	0,000675	0,0027	0,000675	0,0027

Motor type		0,55kW		0,75kW		1,1kW		1,5kW	
		J	GD <sup>2</sup>	J	GD <sup>2</sup>	J	GD <sup>2</sup>	J	GD <sup>2</sup>
Standard 3-phase	without brake	0,000325	0,0013	0,000500	0,0020	0,000650	0,0026	0,000650	0,0026
	with brake	0,000350	0,0014	0,000550	0,0022	0,000675	0,0027	0,000675	0,0027

Motor type		2,2kW		3,0kW		4,0kW		5,5kW	
		J	GD <sup>2</sup>	J	GD <sup>2</sup>	J	GD <sup>2</sup>	J	GD <sup>2</sup>
Standard 3-phase	without brake	0,00333	0,0133	0,00703	0,0281	0,00848	0,0339	0,0114	0,0457
	with brake	0,00373	0,0149	0,00813	0,0325	0,00958	0,0383	0,0125	0,0501

Note 1: Moment of inertia /GD<sup>2</sup> on reducer and motor accounted for in the value stipulated in the table.

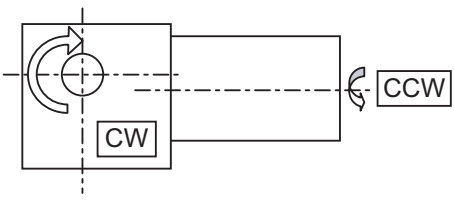
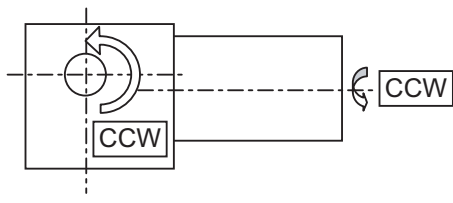
Note 2: The values in the tables are subject to change without notice

## Rotating direction

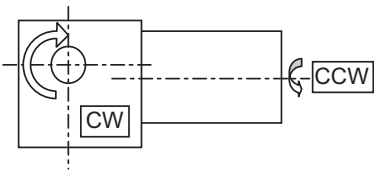
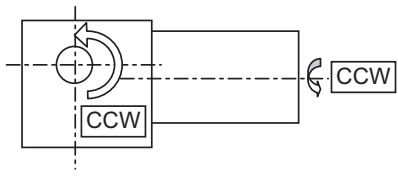
Motor shaft will be rotating counter-clockwise from the fan cover side when wire is connected as shown in connection the figure in page 109.

The direction of output shaft rotation will be as in the arrows of diagrams below.

### a) 3-phase motor (15W - 90W)

			
RNYM Series			
Frame Size	Reduction Ratio	Frame Size	Reduction Ratio
03 07	5 80 100 120 160 200 240	03 07	7,5 10 12 15 20 25 30 40 50 60
17	5 7,5 10 12 80 100 120 150 200 240	17	15 20 25 30 40 50 60
RNFM Series			
Frame Size	Reduction Ratio	Frame Size	Reduction Ratio
01 03 05 07	5 80 100 120 160 200 240	01 03 05 07	7.5 10 12 15 20 25 30 40 50 60
15 17	5 7,5 10 12 80 100 120 150 200 240	15 17	15 20 25 30 40 50 60
ALL Series			
Frame Size	Reduction Ratio	Frame Size	Reduction Ratio
1240	300 360 480 600 720 900 1200 1440		

### b) 3-phase motor and motor for inverter (0,1kW - 5,5kW)

			
ALL Series			
Frame Size	Reduction Ratio	Frame Size	Reduction Ratio
1010	-	1010	5 7 10
1110	-	1110	5 7 10
1120	5 7 10 12 15 20 25 30 40 50 60	1120	-
1210	-	1210	5 7 10
1220	5 7 10 12 15 20 25 30 40 50 60	1220	-
1230	-	1230	80 100 120 150 200 240
1310	-	1310	5 7 10
1320	5 7 10 12 15 20 25 30 40 50 60	1320	-
1330	-	1330	80 100 120 150 200 240
1340	300 360 480 600 720 900 1200 1440	1340	-
1410	-	1410	5 7 10
1420	5 7 10 12 15 20 25 30 40 50 60	1420	-
1430	-	1430	80 100 120 150 200 240
1440	300 360 480 600 720 900 1200 1440	1440	-
1510	-	1510	5 7 10
1520	5 7 10 12 15 20 25 30 40 50 60	1520	-
1521	5 7 10 12 15 20 25	1521	-
1522	5 7 10 12 15	1522	-
1530	-	1530	80 100 120 150 200 240
1531	-	1531	40 50 60 80
1540	300 360 480 600 720 900 1200 1440	1540	-
1630	-	1630	80 100 120
1631	-	1631	150 200 240
1632	30	1632	40 50 60
1633	10 12 15 20 25	1633	30 40
1640	300 360 480 600 720 900 1200 1440	1640	-

## Actual reduction ratio

Table 13 Actual reduction ratio

Frame size	Reduction ratio																
	5	7	10	12	15	20	25	30	40	50	60	80	100	120	150	200	240
01, 03, 05, 07	5,01	7,50	10,00	12,27	15,00	20,00	24,55	30,00	40,00	50,00	60,91	80,00	100,00	121,82	160,00	200,00	243,64
15, 17	5,00	7,50	10,18	12,00	15,00	20,36	25,42	30,48	40,00	50,71	60,83	80,00	103,16	120,00	152,14	195,61	243,64
1010	5,00	7,00	10,00														
1110	5,00	7,00	10,00														
1210	5,00	7,00	10,00														
1310	5,00	7,00	10,00														
1410	5,00	7,00	10,00														
1510	5,00	7,00	10,00														
1120	5,00	7,03	9,81	11,74	15,26	20,67	24,62	30,00	41,33	49,23	60,00						
1220	5,00	7,03	9,81	11,74	15,26	20,67	24,62	30,00	41,33	49,23	60,00						
1320	5,00	7,03	9,81	11,74	15,26	20,67	24,62	30,00	41,33	49,23	60,00						
1420	5,00	6,97	10,00	11,96	14,75	19,69	25,00	30,45	39,38	50,00	60,91						
1520	5,00	7,03	9,81	11,74	15,26	20,67	24,62	30,00	41,33	49,23	60,00						
1521	5,00	7,03	9,81	11,74	15,26	20,67	24,62										
1522	5,06	7,00	10,00	12,21	15,25												
1230												81,45	101,01	120,15	151,51	200,39	231,27
1330												81,94	102,27	122,54	153,40	199,13	232,50
1430												80,37	102,35	122,64	153,52	199,29	240,00
1530												79,63	101,32	119,17	151,99	191,52	232,25
1531									39,20	49,88	57,60	77,42					
1630												80,50	102,94	119,00			
1631															154,41	195,42	244,07
1632								29,24	41,16	49,00	56,35	83,30					
1633						20,88	24,33	29,40	40,25	51,47	59,50						

Selection procedure

Table 14 Actual reduction ratio RNYM series

Frame size	Reduction ratio							
	300	360	480	600	720	900	1200	1440
1240	297,57	346,15	485,71	626,32	728,57	923,72	1159,41	1424,62
1340	302,72	360,10	479,79	595,00	707,78	892,50	1180,45	1382,22
1440	301,12	360,81	498,18	621,72	744,97	932,59	1210,57	1413,28
1540	311,59	373,36	502,52	602,13	753,78	903,20	1194,57	1403,08
1640	297,68	350,10	475,66	605,28	711,87	907,91	1144,07	1396,15

## Allowable axial load on output shaft (Pao) [N/kgf]

When radial and axial loads are posed simultaneously.

$$\left( \frac{Pr \cdot Lf}{Pro} + \frac{Pa}{Pao} \right) \cdot Cf \cdot Fs \leq 1$$

Check your selection to be within the formula.

Pr	:	Actual radial load	
Pro	:	Allowable radial load	(refer to selection tables)
Pa	:	Actual axial load	
Pao	:	Allowable axial load	
Lf	:	Load location factor	(refer to Table 1 of page 77, table 5, 6 of page 79-80)
Cf	:	Coupling factor	(refer to Table 2 of page 77, table 7 of page 80)
Fs	:	Shock factor	(refer to Table 3 of page 77, table 8 of page 80)

Selection  
procedure  
Axial  
load  
Output  
Shaft

Table 16 Allowable axial load on output shaft (3-phase / Single-phase)

Frame size	[N]	[kgf]
01, 03, 05, 07	294	30
15, 17	294	30
1010, 1110, 1210, 1310, 1410, 1510	0	0
1120	294	30
1220, 1230, 1240	784	80
1320, 1330, 1340	980	100
1420, 1430, 1440	11470	150
1520, 1521, 1522, 1530, 1531, 1540	2940	300
1630, 1631, 1632, 1633, 1640	5390	550

## Lubrication

- As Hyponic Drives are sealed with long-life grease, replenishment is practically unnecessary. but overhaul in approximately 20,000 hours or 3~5 years of operation will provide longer service life.
- The durability of oil seals is subject to operating conditions. It may be required to change them in less than 20,000 hours or three years of operation under severe conditions.
- Overhaul of gear motors must be performed at our specified sites with professional knowledge and technique.

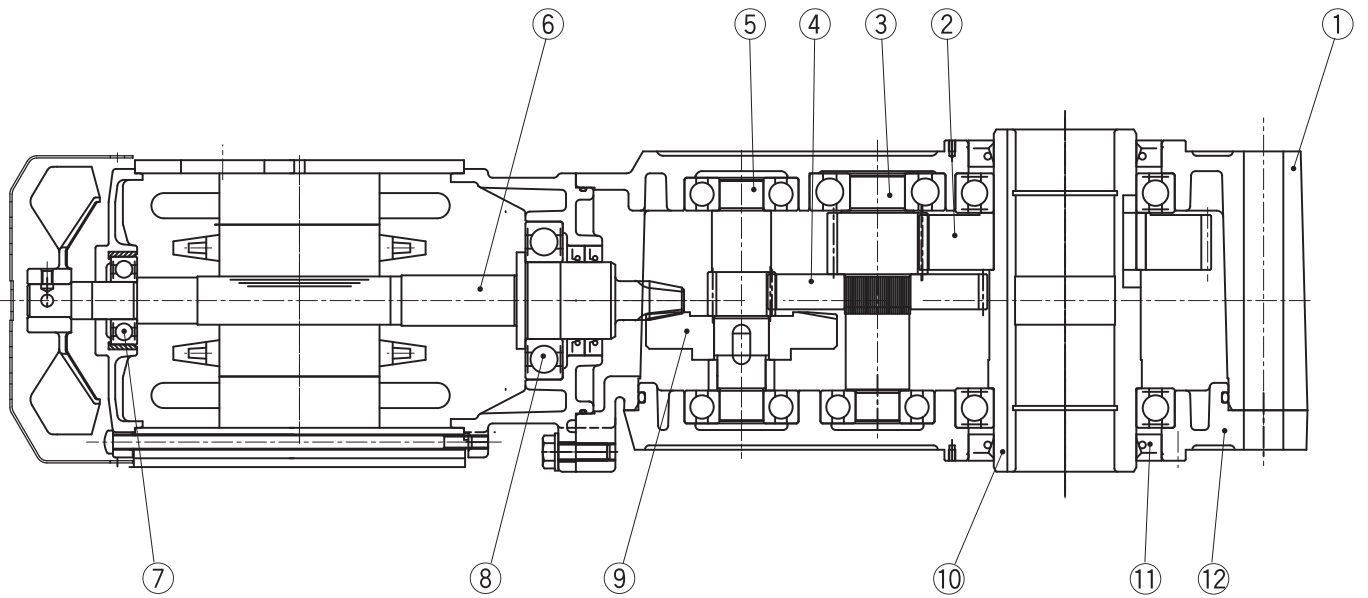
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## Technical Data



## Construction

Hollow shaft type example (RNYM1-1530-120)



Technical  
data

Part No.	Description	part. No.	Description	Part No.	Description	Part No.	Description
1	Casing (1)	4	Gear	7	Bearing	10	Output shaft
2	Gear	5	Pinion shaft	8	Bearing	11	Oil seal
3	Pinion shaft	6	Hypoid pinion shaft	9	Hypoid gear	12	Casing (2)

## Detail dimensions

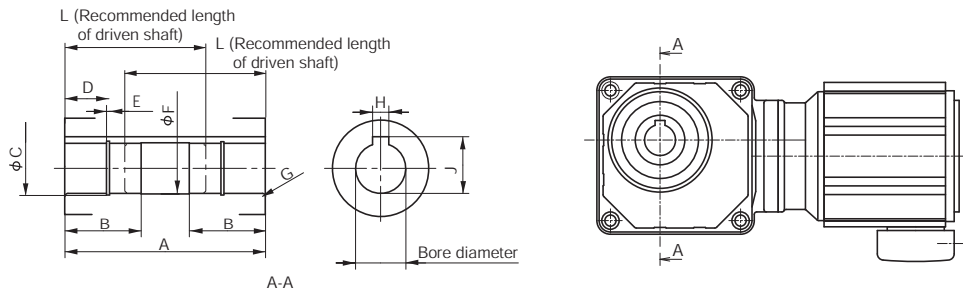
### Hollow shaft type (RNYM series) output shaft bore size

Size	Bore [mm]										
	15	20	25	30	35	38	40	45	50	55	
03 07 17 1010	●										
1110 1120		●									
1210 1220 1230 1240		⊙	●								
1310 1320 1330 1340		⊙	⊙	●							
1410 1420			⊙	⊙	●						
1430 1440 <sup>1)</sup>			⊙	⊙	●	⊙					
1510 1520 1521 1522				⊙	⊙	⊙	⊙	●			
1530 1531 1540									●		
1630 1631 1632 1633 1640								⊙	⊙	⊙	●

1) Ø38 mm not available for frame size 1440

- Standard
- ⊙ Semi-Standard  
(Price and delivery on inquiry)

### Output hollow shaft dimensions

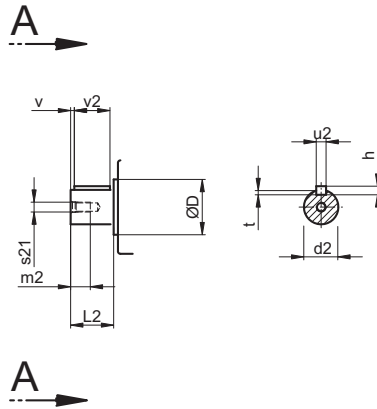


Technical data  
Hollow shaft  
bore size

Frame size	Bore	A	B	C	D	E	F	G	H	J	L	Effective length of driven shaft
03 07	15	78	28	—	—	—	15,6	R1,0	5	17,3	55	20
17	15	94	28	—	—	—	15,6	R1,0	5	17,3	70	35
1010	15	82	28	—	—	—	15,6	R1,0	5	17,3	60	20
1110 1120	20	82	30	21	16	1,15	20,6	R1,0	6	22,8	60	20
1210 1220	20	92	31	21	15	1,15	20,6	R1,5	6	22,8	65	55
	25	92	38	26,2	22	1,35	25,6	R1,5	8	28,3	60	40
1230 1240	20	100	31	21	15	1,15	20,6	R1,5	6	22,8	75	55
	25	100	38	26,2	22	1,35	25,6	R1,5	8	28,3	65	40
1310 1320 1330 1340	20	110	31	21	15	1,15	20,6	R1,5	6	22,8	85	75
	25	110	38	26,2	22	1,35	25,6	R1,5	8	28,3	80	55
	30	110	46	31,4	22	1,35	30,6	R1,5	8	33,3	70	45
1410 1420	25	138	38	26,2	22	1,35	25,6	R1,5	8	28,3	105	80
	30	138	46	31,4	22	1,35	30,6	R1,5	8	33,3	95	65
	35	138	52	37	26	1,75	35,6	R1,5	10	38,3	90	50
1430 1440 <sup>1)</sup>	25	138	38	26,2	22	1,35	25,6	R1,5	8	28,3	105	80
	30	138	46	31,4	22	1,35	30,6	R1,5	8	33,3	95	65
	35	138	52	37	26	1,75	35,6	R1,5	10	38,3	90	50
	38	138	58	40	26	1,75	38,6	R1,5	10	41,3	90	50
1510 1520 1521 1522 1530 1531 1540	30	156	46	31,4	22	1,35	30,6	R1,5	8	33,3	130	115
	35	156	52	37	26	1,75	35,6	R1,5	10	38,3	115	100
	38	156	58	40	26	1,75	38,6	R1,5	10	41,3	110	90
	40	156	60	42,5	30	1,95	40,6	R1,5	12	43,3	105	85
1630 1631 1632 1633 1640	45	156	67	47,5	30	1,95	45,6	R1,5	14	48,8	100	70
	40	224	60	42,5	30	1,95	40,6	R1,5	12	43,3	180	155
	45	224	67	47,5	30	1,95	45,6	R1,5	14	48,8	175	120
	50	224	76	53	30	2,2	50,6	R1,5	14	53,8	165	110
	55	224	85	58	40	2,2	55,6	R2,5	16	59,3	155	90

1) Ø38 mm not available for frame size 1440

## Detail dimensions of solid output shaft



Detail dimensions of output shaft

(mm)

Dimensions Frame size	d <sub>2</sub>	Tolerance	L <sub>2</sub>	s <sub>21</sub>	m <sub>2</sub>	t	Tolerance	b	Tolerance	h	Tolerance	v	v <sub>2</sub>	D	C1*	P1*	P2*
01	10 h6	0 -0,01	29	-	-	2,5	+0,1 0	4	0 -0,030	4	0 -0,030	-	22	25	-	-	-
03	15 h6	0 -0,01	31	-	-	3	+0,1 0	5	0 -0,030	5	0 -0,030	-	22	25	-	-	-
05	12 h6	0 -0,01	29	-	-	2,5	+0,1 0	4	0 -0,030	4	0 -0,030	-	22	25	-	-	-
07	15 h6	0 -0,01	31	-	-	3	+0,1 0	5	0 -0,030	5	0 -0,030	-	22	25	-	-	-
15	15 h6	0 -0,01	31	-	-	3	+0,1 0	5	0 -0,030	5	0 -0,030	-	22	25	-	-	-
17	18 h6	0 -0,01	31	-	-	3,5	+0,1 0	6	0 -0,030	6	0 -0,030	-	22	25	-	-	-
1120	18 h6	0 -0,01	28	M6	12	3,5	+0,1 0	6	0 -0,030	6	0 -0,030	-	22	25	-	-	-
1120E	20 k6	+0,015 +0,002	40	M6	15	3,5	+0,1 0	6	0 -0,030	5	0 -0,030	4	26	25	95	35	62
1220 1230	22 h6	0 -0,01	36	M6	12	3,5	+0,1 0	6	0 -0,030	6	0 -0,030	-	32	30	-	-	-
1220E 1230E	25 k6	+0,015 +0,002	50	M10	22	4	+0,2 0	8	0 -0,036	7	0 -0,090	3,5	32	30	115	46,5	77,5
1320 1330	28 h6	0 -0,01	42	M8	16	4	+0,2 0	8	0 -0,036	7	0 -0,090	-	35	35	-	-	-
1320E 1330E	30 k6	+0,015 +0,002	60	M10	22	4	+0,2 0	8	0 -0,036	7	0 -0,090	3,5	42	35	135	53	89
1420 1430	32 h6	0 -0,02	58	M8	16	5	+0,2 0	10	0 -0,036	8	0 -0,090	-	50	45	-	-	-
1420E 1430E	35 k6	+0,018 +0,002	70	M12	28	5	+0,2 0	10	0 -0,036	8	0 -0,090	7	48	40	162	60	103
1520 1530 1531	40 h6	0 -0,02	82	M10	18	5	+0,2 0	12	0 -0,043	8	0 -0,090	-	70	55	-	-	-
1520E 1530E	40 k6	+0,018 +0,002	80	M12	28	5	+0,2 0	12	0 -0,043	8	0 -0,090	7	62	50	186	64	118
1630 1631 1640	50 h6	0 -0,02	82	M10	18	5,5	+0,2 0	14	0 -0,043	9	0 -0,090	-	70	70	-	-	-

Note:

1. These are standard dimensions for SHI and SCA.

2. Keyway dimensions in accordance with JIS B 1301-1996 parallel keyway (Normal Grade)

\* Reference dimension to SHI standard solid shaft:

C1, P1 corresponding C, P for RNHM type with bolt on foot

P2 corresponding P for RNFM type

### Name plate

Model name of gear motor

② Reduction ratio  
• Input power  
• Input features

③ Manufacturing serial number

<b>HYPONIC DRIVE®</b> INDUCTION GEAR MOTOR	
MODEL ①	④ Motor type
RATIO ②	⑤ Brake type
kW P φ TYPE ④ / ⑤	
VOLTS	FRAME
Hz	M/B INS.CLASS
M.AMP	TIME RATING
r/min	JISC4004 JP
B.AMP	B.TORQUE N·m
SERIAL NO. ③	
Sumitomo Heavy Industries, Ltd. JAPAN AM446516	

## Reducer Rating Hollow Shaft Type

$n_1 = 1450 \text{ min}^{-1}$																		$n_1 = \text{input speed} [\text{min}^{-1}]$			$T_{\text{out}} = \text{output torque} [\text{Nm}]$		
																		$n_2 = \text{output speed} [\text{min}^{-1}]$			$P_{r0} = \text{applicable radial load} [\text{N}]$		
			$P_1 = \text{input power} [\text{kW}]$																				
Size	$n_2 [\text{min}^{-1}]$	290	207	145	121	96,7	72,5	58,0	48,3	36,3	29,0	24,2	18,1	14,5	12,1	9,67	7,25	6,04					
	Ratio	5	7	10	12	15	20	25	30	40	50	60	80	100	120	150	200	240					
1120	$P_1$ [kW]	0,200	0,200	0,200	0,200	0,200	0,200	0,200	0,200	0,100	0,100	0,100											
	$T_{\text{out}}$ [Nm]	5,61	7,85	11,2	13,5	16,8	22,4	28,0	33,6	22,4	28,0	33,6											
	$P_{r0}$ [N]	637	686	785	834	883	981	1030	1080	1180	1270	1320											
1230	$P_1$ [kW]												0,100	0,100	0,100	0,100	0,063	0,053					
	$T_{\text{out}}$ [Nm]												44,8	56,1	67,3	84,1	98,1	98,1					
	$P_{r0}$ [N]												1770	1810	1810	1810	1810	1810					
1220	$P_1$ [kW]	0,400	0,400	0,400	0,400	0,400	0,400	0,400	0,400	0,200	0,200	0,200											
	$T_{\text{out}}$ [Nm]	11,2	15,7	22,4	26,9	33,6	44,8	56,1	67,3	44,8	56,1	67,3											
	$P_{r0}$ [N]	883	981	1080	1130	1230	1370	1470	1520	1620	1720	1770											
1330	$P_1$ [kW]												0,200	0,200	0,200	0,200	0,126	0,105					
	$T_{\text{out}}$ [Nm]												89,7	112	135	168	195	195					
	$P_{r0}$ [N]												2940	3090	3090	3090	3090	3090					
1320	$P_1$ [kW]	0,800	0,800	0,800	0,800	0,800	0,800	0,800	0,800	0,400	0,400	0,400											
	$T_{\text{out}}$ [Nm]	22,4	31,4	44,8	53,8	67,3	89,7	112	135	89,7	112	135											
	$P_{r0}$ [N]	1470	1670	1810	1910	2060	2260	2350	2450	2650	2840	2940											
1430	$P_1$ [kW]												0,400	0,400	0,400	0,400	0,252	0,210					
	$T_{\text{out}}$ [Nm]												179	224	269	336	390	390					
	$P_{r0}$ [N]												4310	4360	4360	4360	4360	4360					
1420	$P_1$ [kW]	1,54	1,54	1,54	1,54	1,54	1,54	1,54	1,54	0,800	0,800	0,800											
	$T_{\text{out}}$ [Nm]	43,2	60,4	86,3	104	129	173	216	259	179	224	269											
	$P_{r0}$ [N]	2160	2450	2750	2840	3090	3330	3530	3730	3970	4170	4310											
1530	$P_1$ [kW]												0,800	0,800	0,800	0,800	0,472	0,393					
	$T_{\text{out}}$ [Nm]												359	448	538	673	732	732					
	$P_{r0}$ [N]												6230	6230	6230	6230	6230	6230					
1520	$P_1$ [kW]	2,20	2,20	2,20	2,20	2,20	2,20	2,20	2,20	1,54	1,54	1,54											
	$T_{\text{out}}$ [Nm]	61,7	86,3	123	148	185	247	308	370	345	432	518											
	$P_{r0}$ [N]	3140	3530	3920	4120	4410	4810	5100	5340	5740	6030	6230											
1531	$P_1$ [kW]									2,20	2,20	2,20	1,54										
	$T_{\text{out}}$ [Nm]									493	617	740	691										
	$P_{r0}$ [N]									5740	6030	6230	6230										

Technical data

## Reducer Rating Hollow Shaft Type

$n_1 = 980 \text{ min}^{-1}$	$n_1 = \text{input speed [min}^{-1}\text{]}$	$T_{\text{out}} = \text{output torque [Nm]}$
	$n_2 = \text{output speed [min}^{-1}\text{]}$	$P_{r0} = \text{applicable radial load [N]}$
	$P_1 = \text{input power [kW]}$	

Size	$n_2 \text{ [min}^{-1}\text{]}$	196	140	98	82	65,3	49,0	39,2	32,7	24,5	19,6	16,3	12,3	9,8	8,2	6,53	4,90	4,08
	Ratio	5	7	10	12	15	20	25	30	40	50	60	80	100	120	150	200	240
1120	$P_1 \text{ [kW]}$	0,098	0,098	0,098	0,098	0,098	0,098	0,098	0,098	0,049	0,049	0,049						
	$T_{\text{out}} \text{ [Nm]}$	5,61	7,85	11,2	13,5	16,8	22,4	28,0	33,6	22,4	28,0	33,6						
	$P_{r0} \text{ [N]}$	686	785	883	932	981	1079	1180	1230	1320	1320	1320						
1230	$P_1 \text{ [kW]}$												0,049	0,049	0,049	0,049	0,043	0,036
	$T_{\text{out}} \text{ [Nm]}$												44,8	56,1	67,3	84,1	98,1	98,1
	$P_{r0} \text{ [N]}$												1810	1810	1810	1810	1810	1810
1220	$P_1 \text{ [kW]}$	0,195	0,195	0,195	0,195	0,195	0,195	0,195	0,195	0,098	0,098	0,098						
	$T_{\text{out}} \text{ [Nm]}$	11,2	15,7	22,4	26,9	33,6	44,8	56,1	67,3	44,8	56,1	67,3						
	$P_{r0} \text{ [N]}$	981	1079	1230	1270	1420	1520	1620	1670	1770	1810	1810						
1330	$P_1 \text{ [kW]}$												0,098	0,098	0,098	0,098	0,085	0,071
	$T_{\text{out}} \text{ [Nm]}$												89,7	112	135	168	195	195
	$P_{r0} \text{ [N]}$												3090	3090	3090	3090	3090	3090
1320	$P_1 \text{ [kW]}$	0,391	0,391	0,391	0,391	0,391	0,391	0,391	0,391	0,195	0,195	0,195						
	$T_{\text{out}} \text{ [Nm]}$	22,4	31,4	44,8	53,8	67,3	89,7	112	135	89,7	112	135						
	$P_{r0} \text{ [N]}$	1670	1810	2060	2160	2300	2450	2650	2790	2940	3090	3090						
1430	$P_1 \text{ [kW]}$												0,195	0,195	0,195	0,195	0,170	0,142
	$T_{\text{out}} \text{ [Nm]}$												179	224	269	336	390	390
	$P_{r0} \text{ [N]}$												4360	4360	4360	4360	4360	4360
1420	$P_1 \text{ [kW]}$	0,752	0,752	0,752	0,752	0,752	0,752	0,752	0,752	0,391	0,391	0,391						
	$T_{\text{out}} \text{ [Nm]}$	43,2	60,4	86,3	104	129	173	216	259	179	224	269						
	$P_{r0} \text{ [N]}$	2500	2750	3090	3240	3430	3730	3920	4070	4310	4360	4360						
1530	$P_1 \text{ [kW]}$												0,391	0,391	0,391	0,391	0,319	0,266
	$T_{\text{out}} \text{ [Nm]}$												359	448	538	673	732	732
	$P_{r0} \text{ [N]}$												6230	6230	6230	6230	6230	6230
1520	$P_1 \text{ [kW]}$	1,074	1,074	1,074	1,074	1,074	1,074	1,074	1,074	0,752	0,752	0,752						
	$T_{\text{out}} \text{ [Nm]}$	61,7	86,3	123	148	185	247	308	370	345	432	518						
	$P_{r0} \text{ [N]}$	3630	3970	4410	4710	5000	5300	5590	5880	6180	6230	6230						
1531	$P_1 \text{ [kW]}$									1,074	1,074	1,074	0,752					
	$T_{\text{out}} \text{ [Nm]}$									493	617	740	691					
	$P_{r0} \text{ [N]}$									6230	6230	6230	6230					

Technical data  
Reducer rating  
Hollow shaft

# Reducer Rating Hollow Shaft Type

$n_1 = 720 \text{ min}^{-1}$	$n_1 = \text{input speed [min}^{-1}\text{]}$	$T_{\text{out}} = \text{output torque [Nm]}$
	$n_2 = \text{output speed [min}^{-1}\text{]}$	$P_{r0} = \text{applied radial load [N]}$
	$P_1 = \text{input power [kW]}$	

Size	$n_2 \text{ [min}^{-1}\text{]}$	144	103	72	60	48,0	36,0	28,8	24,0	18,0	14,4	12,0	9,0	7,2	6,0	4,80	3,60	3,00
	Ratio	5	7	10	12	15	20	25	30	40	50	60	80	100	120	150	200	240
1120	$P_1 \text{ [kW]}$	0,072	0,072	0,072	0,072	0,072	0,072	0,072	0,072	0,036	0,036	0,036						
	$T_{\text{out}} \text{ [Nm]}$	5,61	7,85	11,2	13,5	16,8	22,4	28,0	33,6	22,4	28,0	33,6						
	$P_{r0} \text{ [N]}$	785	883	981	1030	1079	1177	1270	1320	1320	1320	1320						
1230	$P_1 \text{ [kW]}$												0,036	0,036	0,036	0,036	0,031	0,026
	$T_{\text{out}} \text{ [Nm]}$												44,8	56,1	67,3	84,1	98,1	98,1
	$P_{r0} \text{ [N]}$												1810	1810	1810	1810	1810	1810
1220	$P_1 \text{ [kW]}$	0,144	0,144	0,144	0,144	0,144	0,144	0,144	0,144	0,072	0,072	0,072						
	$T_{\text{out}} \text{ [Nm]}$	11,2	15,7	22,4	26,9	33,6	44,8	56,1	67,3	44,8	56,1	67,3						
	$P_{r0} \text{ [N]}$	1079	1177	1370	1470	1520	1620	1720	1770	1810	1810	1810						
1330	$P_1 \text{ [kW]}$												0,072	0,072	0,072	0,072	0,062	0,052
	$T_{\text{out}} \text{ [Nm]}$												89,7	112	135	168	195	195
	$P_{r0} \text{ [N]}$												3090	3090	3090	3090	3090	3090
1320	$P_1 \text{ [kW]}$	0,287	0,287	0,287	0,287	0,287	0,287	0,287	0,287	0,144	0,144	0,144						
	$T_{\text{out}} \text{ [Nm]}$	22,4	31,4	44,8	53,8	67,3	89,7	112	135	89,7	112	135						
	$P_{r0} \text{ [N]}$	1810	2060	2260	2350	2500	2700	2840	2940	3090	3090	3090						
1430	$P_1 \text{ [kW]}$												0,144	0,144	0,144	0,144	0,125	0,104
	$T_{\text{out}} \text{ [Nm]}$												179	224	269	336	390	390
	$P_{r0} \text{ [N]}$												4360	4360	4360	4360	4360	4360
1420	$P_1 \text{ [kW]}$	0,552	0,552	0,552	0,552	0,552	0,552	0,552	0,552	0,287	0,287	0,287						
	$T_{\text{out}} \text{ [Nm]}$	43,2	60,4	86,3	104	129	173	216	259	179	224	269						
	$P_{r0} \text{ [N]}$	2750	3040	3330	3530	3730	3970	4170	4310	4360	4360	4360						
1530	$P_1 \text{ [kW]}$												0,287	0,287	0,287	0,287	0,234	0,195
	$T_{\text{out}} \text{ [Nm]}$												359	448	538	673	732	732
	$P_{r0} \text{ [N]}$												6230	6230	6230	6230	6230	6230
1520	$P_1 \text{ [kW]}$	0,789	0,789	0,789	0,789	0,789	0,789	0,789	0,789	0,552	0,552	0,552						
	$T_{\text{out}} \text{ [Nm]}$	61,7	86,3	123	148	185	247	308	370	345	432	518						
	$P_{r0} \text{ [N]}$	3920	4310	4810	5100	5390	5790	6030	6230	6230	6230	6230						
1531	$P_1 \text{ [kW]}$									0,789	0,789	0,789	0,552					
	$T_{\text{out}} \text{ [Nm]}$									493	617	740	691					
	$P_{r0} \text{ [N]}$									6230	6230	6230	6230					

Technical data  
Reducer rating  
Hollow shaft

## Reducer Rating Hollow Shaft Type

$n_1 = 580 \text{ min}^{-1}$	$n_1 = \text{input speed [min}^{-1}\text{]}$	$T_{\text{out}} = \text{output torque [Nm]}$
	$n_2 = \text{output speed [min}^{-1}\text{]}$	$P_{r0} = \text{applicable radial load [N]}$
	$P_1 = \text{input power [kW]}$	

Size	$n_2 \text{ [min}^{-1}\text{]}$	116	83	58	48	38,7	29,0	23,2	19,3	14,5	11,6	9,7	7,3	5,8	4,8	3,87	2,90	2,42
	Ratio	5	7	10	12	15	20	25	30	40	50	60	80	100	120	150	200	240
1120	$P_1 \text{ [kW]}$	0,058	0,058	0,058	0,058	0,058	0,058	0,058	0,058	0,029	0,029	0,029						
	$T_{\text{out}} \text{ [Nm]}$	5,61	7,85	11,2	13,5	16,8	22,4	28,0	33,6	22,4	28,0	33,6						
	$P_{r0} \text{ [N]}$	834	932	1030	1079	1177	1275	1320	1320	1320	1320	1320						
1230	$P_1 \text{ [kW]}$												0,029	0,029	0,029	0,029	0,025	0,021
	$T_{\text{out}} \text{ [Nm]}$												44,8	56,1	67,3	84,1	98,1	98,1
	$P_{r0} \text{ [N]}$												1810	1810	1810	1810	1810	1810
1220	$P_1 \text{ [kW]}$	0,116	0,116	0,116	0,116	0,116	0,116	0,116	0,116	0,058	0,058	0,058						
	$T_{\text{out}} \text{ [Nm]}$	11,2	15,7	22,4	26,9	33,6	44,8	56,1	67,3	44,8	56,1	67,3						
	$P_{r0} \text{ [N]}$	1177	1275	1470	1520	1620	1720	1770	1810	1810	1810	1810						
1330	$P_1 \text{ [kW]}$												0,058	0,058	0,058	0,058	0,050	0,042
	$T_{\text{out}} \text{ [Nm]}$												89,7	112	135	168	195	195
	$P_{r0} \text{ [N]}$												3090	3090	3090	3090	3090	3090
1320	$P_1 \text{ [kW]}$	0,231	0,231	0,231	0,231	0,231	0,231	0,231	0,231	0,116	0,116	0,116						
	$T_{\text{out}} \text{ [Nm]}$	22,4	31,4	44,8	53,8	67,3	89,7	112	135	89,7	112	135						
	$P_{r0} \text{ [N]}$	1960	2160	2350	2500	2650	2790	2940	3090	3090	3090	3090						
1430	$P_1 \text{ [kW]}$												0,116	0,116	0,116	0,116	0,101	0,084
	$T_{\text{out}} \text{ [Nm]}$												179	224	269	336	390	390
	$P_{r0} \text{ [N]}$												4360	4360	4360	4360	4360	4360
1420	$P_1 \text{ [kW]}$	0,445	0,445	0,445	0,445	0,445	0,445	0,445	0,445	0,231	0,231	0,231						
	$T_{\text{out}} \text{ [Nm]}$	43,2	60,4	86,3	104	129	173	216	259	179	224	269						
	$P_{r0} \text{ [N]}$	2940	3240	3530	3730	3920	4170	4310	4360	4360	4360	4360						
1530	$P_1 \text{ [kW]}$												0,231	0,231	0,231	0,231	0,189	0,157
	$T_{\text{out}} \text{ [Nm]}$												359	448	538	673	732	732
	$P_{r0} \text{ [N]}$												6230	6230	6230	6230	6230	6230
1520	$P_1 \text{ [kW]}$	0,636	0,636	0,636	0,636	0,636	0,636	0,636	0,636	0,445	0,445	0,445						
	$T_{\text{out}} \text{ [Nm]}$	61,7	86,3	123	148	185	247	308	370	345	432	518						
	$P_{r0} \text{ [N]}$	4220	4660	5100	5340	5640	5980	6230	6230	6230	6230	6230						
1531	$P_1 \text{ [kW]}$									0,636	0,636	0,636	0,445					
	$T_{\text{out}} \text{ [Nm]}$									493	617	740	691					
	$P_{r0} \text{ [N]}$									6230	6230	6230	6230					

Technical data  
Reducer rating  
Hollow shaft

## Reducer Rating Hollow Shaft Type

$n_1 = 50 \text{ min}^{-1}$	$n_1 = \text{input speed} [\text{min}^{-1}]$	$T_{\text{out}} = \text{output torque} [\text{Nm}]$
	$n_2 = \text{output speed} [\text{min}^{-1}]$	$P_{r0} = \text{applied radial load} [\text{N}]$
	$P_1 = \text{input power} [\text{kW}]$	

Size	$n_2 [\text{min}^{-1}]$	10	7	5	4	3,3	2,5	2,0	1,7	1,3	1,0	0,8	0,6	0,5	0,4	0,33	0,25	0,21	
	Ratio	5	7	10	12	15	20	25	30	40	50	60	80	100	120	150	200	240	
1120	$P_1 [\text{kW}]$																		
	$T_{\text{out}} [\text{Nm}]$	5,61	7,85	11,2	13,5	16,8	22,4	28,0	33,6	22,4	28,0	33,6							
	$P_{r0} [\text{N}]$	1324	1324	1324	1324	1324	1324	1320	1320	1320	1320	1320							
1230	$P_1 [\text{kW}]$																		
	$T_{\text{out}} [\text{Nm}]$												44,8	56,1	67,3	84,1	98,1	98,1	
	$P_{r0} [\text{N}]$												1810	1810	1810	1810	1810	1810	
1220	$P_1 [\text{kW}]$																		
	$T_{\text{out}} [\text{Nm}]$	11,2	15,7	22,4	26,9	33,6	44,8	56,1	67,3	44,8	56,1	67,3							
	$P_{r0} [\text{N}]$	1814	1814	1810	1810	1810	1810	1810	1810	1810	1810	1810							
1330	$P_1 [\text{kW}]$																		
	$T_{\text{out}} [\text{Nm}]$												89,7	112	135	168	195	195	
	$P_{r0} [\text{N}]$												3090	3090	3090	3090	3090	3090	
1320	$P_1 [\text{kW}]$																		
	$T_{\text{out}} [\text{Nm}]$	22,4	31,4	44,8	53,8	67,3	89,7	112	135	89,7	112	135							
	$P_{r0} [\text{N}]$	3090	3090	3090	3090	3090	3090	3090	3090	3090	3090	3090							
1430	$P_1 [\text{kW}]$																		
	$T_{\text{out}} [\text{Nm}]$												179	224	269	336	390	390	
	$P_{r0} [\text{N}]$												4360	4360	4360	4360	4360	4360	
1420	$P_1 [\text{kW}]$																		
	$T_{\text{out}} [\text{Nm}]$	43,2	60,4	86,3	104	129	173	216	259	179	224	269							
	$P_{r0} [\text{N}]$	4360	4360	4360	4360	4360	4360	4360	4360	4360	4360	4360							
1530	$P_1 [\text{kW}]$																		
	$T_{\text{out}} [\text{Nm}]$												359	448	538	673	732	732	
	$P_{r0} [\text{N}]$												6230	6230	6230	6230	6230	6230	
1520	$P_1 [\text{kW}]$																		
	$T_{\text{out}} [\text{Nm}]$	61,7	86,3	123	148	185	247	308	370	345	432	518							
	$P_{r0} [\text{N}]$	6230	6230	6230	6230	6230	6230	6230	6230	6230	6230	6230							
1531	$P_1 [\text{kW}]$																		
	$T_{\text{out}} [\text{Nm}]$									493	617	740	691						
	$P_{r0} [\text{N}]$									6230	6230	6230	6230						

Technical data  
Reducer rating  
Hollow shaft



M E M O

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## Handling precautions

### 1. Mounting torque arm

#### (1) Mounting on driven shaft

- Apply molybdenum disulfide to the surface of the driven shaft and the inside of the hollow shaft, and insert Hyponic Drive onto the driven shaft.
- If the fitting is too tight, lightly knock the end face of a hollow output shaft with a wooden hammer for smooth insertion. Avoid knocking the casing. We recommend making a jig shown at Fig. 1. Using this jig, you can insert the Drive smoothly.

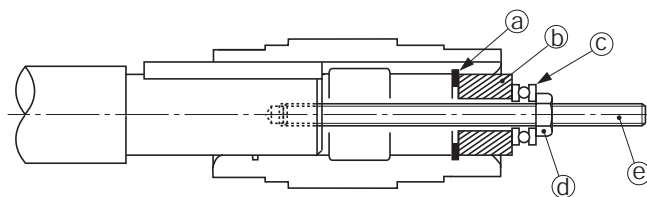


Fig. 1

- a).....Retaining ring
- b).....Spacer
- c).....Thrust bearing
- d)....Nut
- e.)... Double-end threaded bolt

- The hollow shaft dimension tolerance is made according to JIS “H8”.  
Recommended tolerance for the driven shaft :  
uniform load without impact   JIS h6 or js6  
shock load or large radial load     JIS js6 or k6
- Snap ring size is in accordance with JIS B2804C.

#### (2) Hyponic Drive must be secured to driven shaft.

a) How to avoid Hyponic Drive from slipping onto a driven machine (e.g.: Figs 2 - 4)

Handling precautions

Hollow shaft

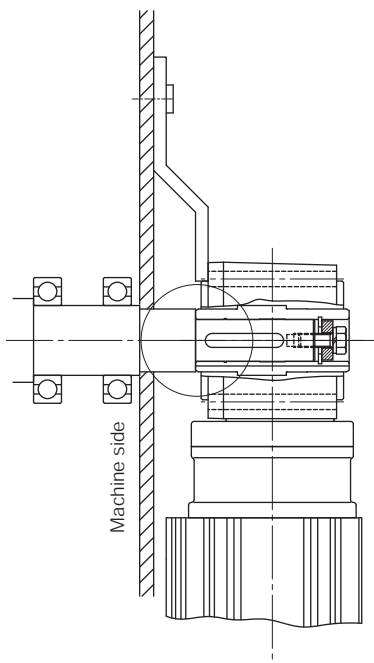


Fig. 2 secured by staged shaft

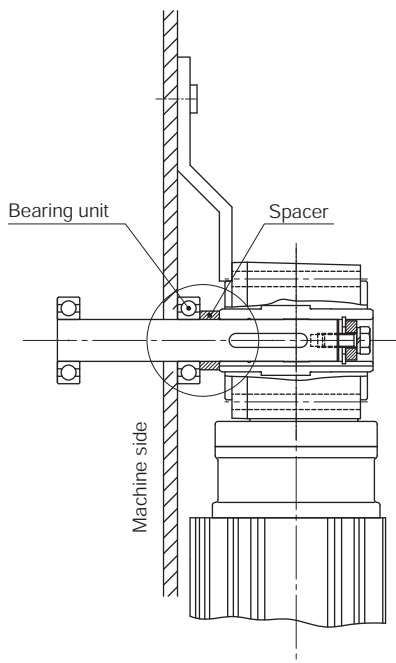


Fig. 3 secured by spacer (stageless driven shaft)

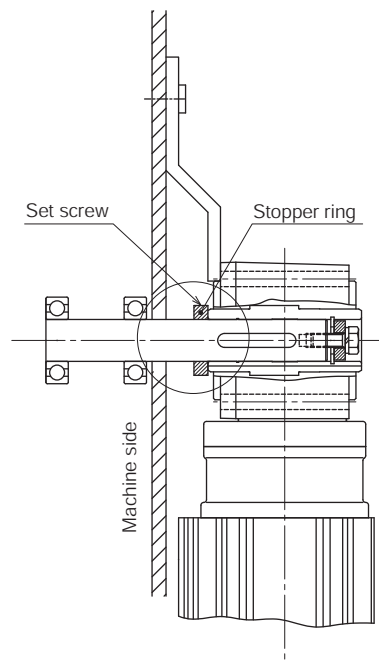


Fig. 4 secured by a set screw and a stopper (stageless driven shaft)

b) How to avoid Hyponic Drive from slipping away from a driven machine (e.g.: Figs 5 - 7)

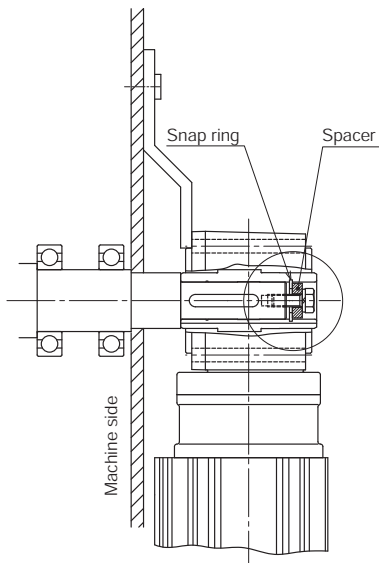


Fig. 5 secured by a spacer and a snap ring

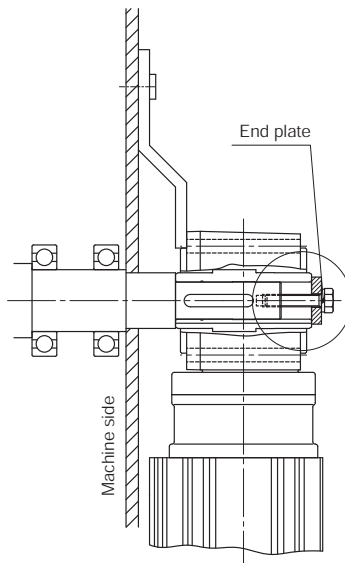


Fig. 6 secured by spacer (stageless driven shaft)

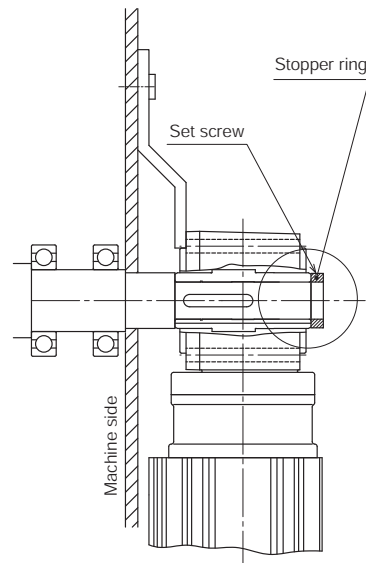


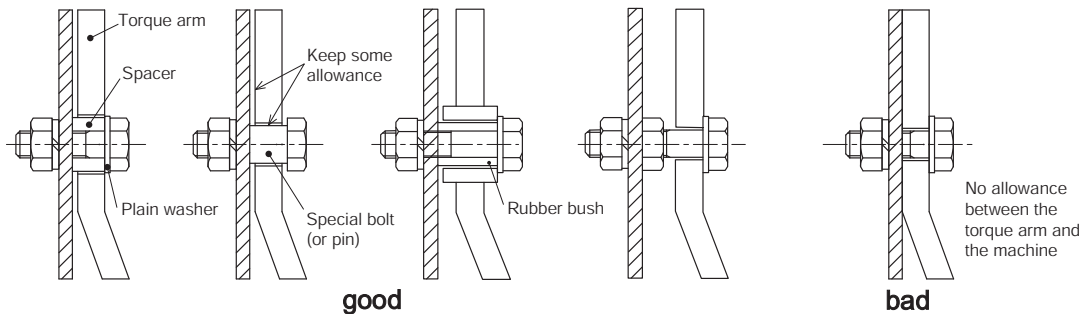
Fig. 7 secured by a set screw and a stopper (stageless driven shaft)

### (3) Torque arm whirl stop

Attach the torque arm to Hyponic Drive casing on the machine side with hex socket head cap screws (refer to the table below for sizes of the bolts.).

Leave some allowance in the section of torque arm whirl stop so that excessive force will not be applied between Hyponic Drive and the driven shaft. Do not secure the torque arm with the whirl stop bolt, because damage might occur to the whirl stop bolt, the torque arm, the Hyponic Drive or to the machine.

In case of frequent start/stop operations, or repeated normal/reverse operations, use a rubber bush between the torque arm and mounting bolt (or spacer) to absorb the shock.



(Adjust the allowance according to the movement of the machine.)

(Excessive force on the whirl stop bolt, machine and Hyponic might cause damage..)

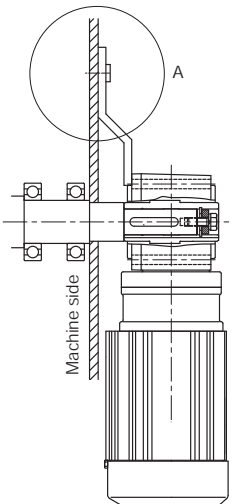
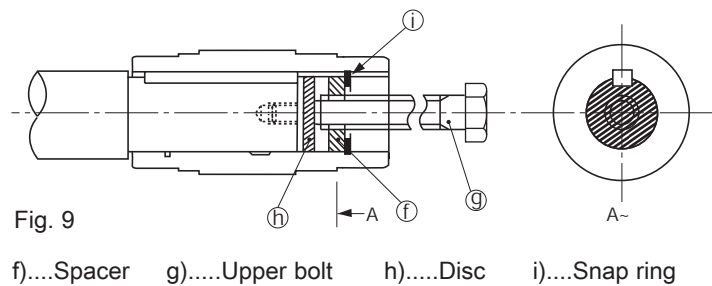


Fig.8 Example of whirl stop mounting (Section A)

Frame size	Bolt
03	M5
07 17	M6
1010 1110 1120 1230 1240	M8
1210 1220 1330 1340	M10
1310 1320 1430 1440	M12
1410 1420 1510 1530 1531 1540	M16
1520 1521 1522 1630 1631 1632 1633	M20

### (4) Removal from a driven shaft

- Make sure that excess force does not act on the Drive and shaft. Using a jig as shown in Fig. 9 will facilitate removal of the shaft.



### 2. Flange mounting and casing bottom mounting (optional)

- Handle with care in order not to apply excessive force to driven shaft or hollow shaft by twisting the Hyponic casing,

Handling precautions  
Hollow shaft

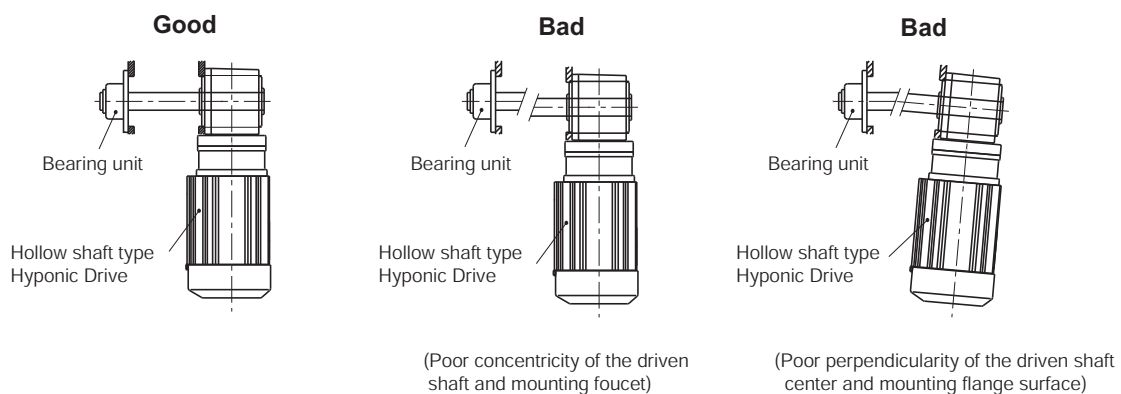
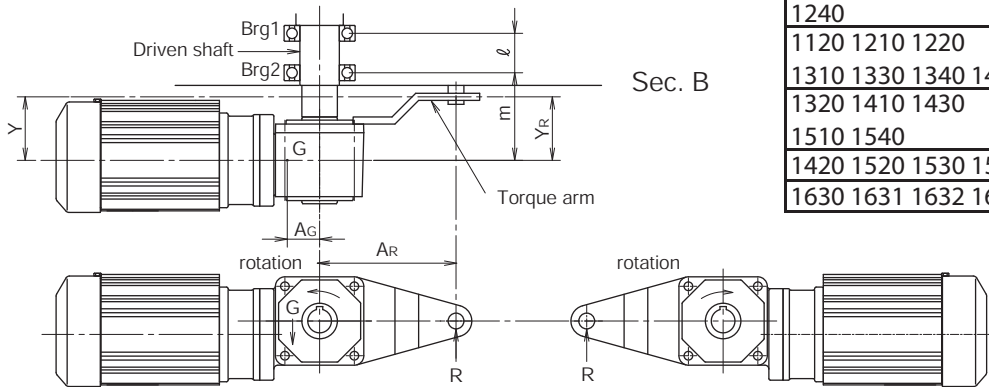


Fig. 10

(Excessive force on Hyponic and the bearing unit may cause damage on inner parts.)

## Torque arm designs & safety cover

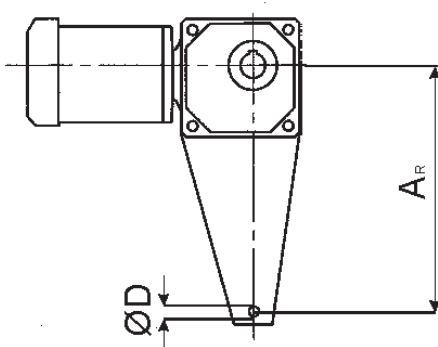
Check the strength of torque arm and driven shaft and the life time of the bearing



Frame size	AG [mm]
03 07 17	0,05
1010 1110 1230 1240	0,1
1120 1210 1220 1310 1330 1340 1440	0,15
1320 1410 1430 1510 1540	0,2
1420 1520 1530 1531	0,25
1630 1631 1632 1633 1640	0,3

- T** : Output torque [N•m]  
**G** : Hyponic Drive gravity [N]  
**R** : Torque arm load [N]  
**A<sup>G</sup>** : Distance between the centres of the driven shaft and gravity [m]  
**A<sup>R</sup>** : Distance from driven shaft centre to torque arm whirl stop [m]  
**Y<sup>R</sup>** : Distance from the centre of Hyponic Drive to torque arm whirl stop [m]  
**m** : Distance from the centre of Hyponic Drive to Brg.2 [m]  
**R** : Distance between Brg.1 Brg.2 [m]  
**Y** : Distance from the centre of Hyponic Drive and Sec.B [m]
- Torque arm load: 
$$R = \frac{T + A_G \cdot G}{A_R}$$
  - Brg. 1 load: 
$$B_1 = \frac{m(R - G) - Y_R \cdot G}{l}$$
  - Brg. 1 load: 
$$B_2 = \frac{(R + m)(R - G) - Y_R \cdot R}{l}$$
  - Sec. B of driven shaft: 
$$M = Y_R \cdot R - Y \cdot (R - G) \quad 0 < Y \leq m$$

Note: Output torque is (+) on the shown rotation, and (-) on the opposite rotation.



Frame size	A <sub>R</sub>	D	Thickness
1120 1220 1230 1240	110	10,4	10
1320 1330 1340	130	10,4	10
1420 1430 1440	160	10,4	10
1520 1530 1531 1540	200	10,4	10
1631 1632 1633 1640	310	16,4	15

## Torque arm designs

Fig. 11 Torque arm mountings and design

	1	2	3	4
Mounting examples				
Drawing examples	<p>03 07 17</p>			
Drawing examples	<p>1010 1110, 1120 1210, 1220, 1230, 1240 1310, 1320, 1330, 1340 1410, 1420, 1430, 1440 1510, 1520, 1530, 1531, 1540 1631, 1632, 1633, 1640</p>			

Handling  
precautions  
torque  
arm

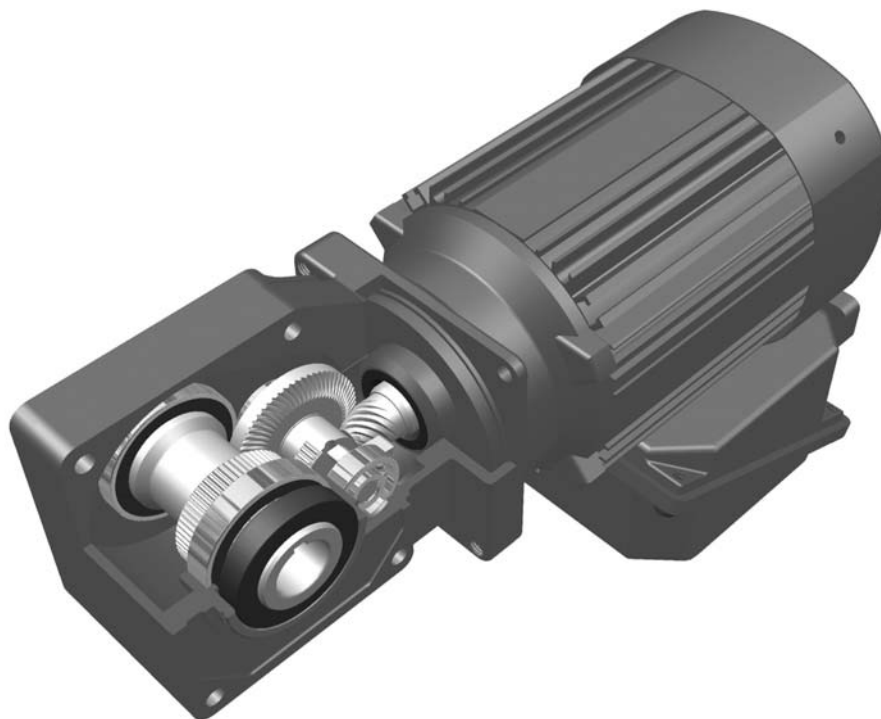
Tab. 17 Recommended dimensions of torque arm design

Frame size	$A_R$	H	D	a	b	c	d	Thickness
03	80	37	6	33	18	48	6	3,2
07	90	37	7	37	19	55	7	3,2
17	90	37	7	37	19	55	7	4,5
1010	50	50	9	25	25	—	7	3,2
1110	80	54	9	29	29	—	7	3,2
1120	80	54	9	42	32	—	7	3,2
1210	100	80	11	37	37	—	9	3,2
1220	100	80	11	57	40	—	9	4,5
1230 1240	100	80	9	65	40	—	9	6
1310	120	87	14	44	44	—	11	4,5
1320	120	87	14	62	46	—	11	4,5
1330 1340	130	87	11	79	47	—	11	9
1410	140	97	18	55	55	—	11	6
1420	140	97	18	75	57	—	14	6
1430 1440	160	97	14	92	54	—	14	9
1510	150	112	18	65	65	—	11	9
1520 1521 1522	150	112	22	80	70	—	14	9
1530 1531 1540	200	112	18	109	64	—	18	9
1630 1631 1632 1633 1640	280	152	22	145	85	—	22	12

Motor characteristics  
technical data



Motors directly mounted to the Hyponic Drive



### General information

The gearmotors are supplied with directly fitted three phase current squirrel cage motors according VDE 0530. IEC 34-1 as described in the selection list.

Upon request we supply the gearmotors with brake.

Very compact size with the adoption of a unique high precision design. A series of very small electrical motors for industrial application was successfully developed for coupling with the Neo Hyponic Drive.

#### Low inertia

The compact design of the motor give low inertia

#### Excellent heat dissipation

The motor design provides a good heat dissipation. The gearmotors are ideally suited for the operation with frequency inverter.

#### Energy saving motors

European Association of motor manufacturers CEMEP together with EU commission has made a voluntary agreement about the efficiency of motors.

The efficiency of 2-pole and 4-pole AC motors from 1,1 kW and above were generally increased. The agreement defines the minimum efficiency classes EFF1 and EFF2. All Motors with lower efficiency than EFF3 must not be declared. The motors are measured according IEC34-2. Motors of efficiency class EFF1 (IE2) and EFF2 (IE1) are called energy saving motors and must be declared on the name plate.

Sumitomo's 4-pole AC motors from 1,1 kW to 5,5 kW fulfil the requirements of the efficiency class EFF2 (IE1) Motors with IE2 efficiency are available on demand, for further details please contact Sumitomo Drive Technologies.

## Standards and Regulations

The CYCLO gearmotors comply with the following standards and regulations

DIN EN60034- 1, IEC 60034-1

General requirements for rotating electrical machines

DIN EN60034- 6, IEC 60034-6

Methods of cooling rotating electrical machines

DIN EN60034- 7, IEC 60034-7

Types of construction of rotating electrical machines

DIN EN60034- 14, IEC 60034-14

Mechanical vibrations of rotating electrical machines

DIN EN 60 034-5; IEC 60 034-5

Degrees of protection by enclosures for rotating electrical machinery

DIN IEC60034- 8

Terminal designations and direction of rotation of electrical machines

DIN EN, IEC 60 034-9

Noise limits for rotating electrical machines

DIN EN 60 034-12, IEC 60 034-12

Restart characteristics, rotating electrical machines

DIN IEC 60 038

IEC standard voltages

### Other Standards and Regulations

Upon request we can supply gearmotors which comply with any other national or international standard.

Ⓐ NEMA/USA

Ⓐ JIS, JEM, JEC/Japan

Ⓐ CSA/Canada

For further details please contact Sumitomo Drive Technologies.

## Standard 3- phase motor specification

PM = motor power [kW]  
 nM = motor speed [min<sup>-1</sup>]  
 IN = rated current [A]  
 cos φ = power factor

η = efficiency [%]  
 MA/MN = starting torque/rated torque [%]  
 MK/MN = breakdown torque/rated torque [%]  
 IA/IN = starting current/rated current [%]

Standard 3ph Motors

PM [kWxP]	motor size	nM 1/min	Mn Nm	In 230 V A	In 400V A	cos	EFF2	Efficiency		MA/MN %	MK/MN %	IA / IN %	JM 10 <sup>-4</sup> kg m <sup>2</sup>
								100 %	75 %				
0,015	F-50S	1360	0,11	0,11		0,58		59,6	55,4	257	274	272	0,500
0,025	F-50M	1340	0,18	0,17		0,60		61,4	59,0	247	251	282	0,575
0,040	F-50L	1290	0,30	0,23		0,68		63,0	63,8	219	220	274	0,700
0,040	F-56S	1410	0,27	0,27	0,15*	0,64		58,8	54,8	242	239	296	1,080
0,060	F-50L	1230	0,47	0,35		0,76		57,9	62,4	164	168	229	0,700
0,060	F-56M	1390	0,41	0,38	0,22*	0,65		59,9	57,0	236	229	316	1,23
0,090	F-56L	1380	0,62	0,56	0,33*	0,63		61,9	59,3	251	235	321	1,45
0,090	F-63S	1440	0,60	0,59	0,35	0,62		61,9	57,4	283	286	389	3,25
0,12	V 63S	1390	0,8	0,67	0,39	0,71		64,3	61,4	214	209	333	3,25
0,18	V 63M	1420	1,2	1,02	0,59	0,66		66,7	64,4	262	261	390	5,00
0,25	V 63M	1380	1,7	1,22	0,7	0,74		69,9	69,4	225	371	371	5,00
0,25	V 71M	1460	1,7	1,8	1,0	0,53		65,0	61,0	379	365	450	6,50
0,37	V 71M	1420	2,5	2,05	1,18	0,66		68,8	66,9	246	249	373	6,50
0,55	V 80S	1410	3,7	2,45	1,41	0,77		73,8	74,5	225	219	390	10,1
0,75	V 80M	1420	5,0	3,38	1,94	0,76		73,7	73,8	215	234	412	12,0
1,1	V 90S	1420	7,4	4,6	2,67	0,77	EFF2	77,6	77,7	226	246	498	18,5
1,5	V90L	1430	10	6,0	3,5	0,79	EFF2	78,5	78,4	212	226	476	21,3
2,2	V 100L	1430	15	8,44	4,87	0,79	EFF2	82,3	83,2	255	268	534	33,3
3,0	V 112S	1420	20	11,2	6,45	0,82	EFF2	82,6	82,8	237	242	577	70,0
4,0	V 112M	1420	27	14,2	8,19	0,84	EFF2	84,2	85,3	219	242	573	84,8
5,5	V 132S	1420	37		11,2	0,84	EFF2	85,7	86,2	256	285	652	114,0

\* motors can be ordered for either 230V or 400V. Only three leads. 230/400V is not possible.

### Range of application

#### Voltage and frequency:

The Hyponic gearmotors are suitable for the connection to the following IEC standard voltages. According to DIN EN 60034-1

0,12 - 4 kW

220-240VΔ / 380-420VY ,50 Hz

440-480V Y, 60 Hz

5,5 kW

380-420VΔ, 50 Hz

440-480VΔ, 60 Hz

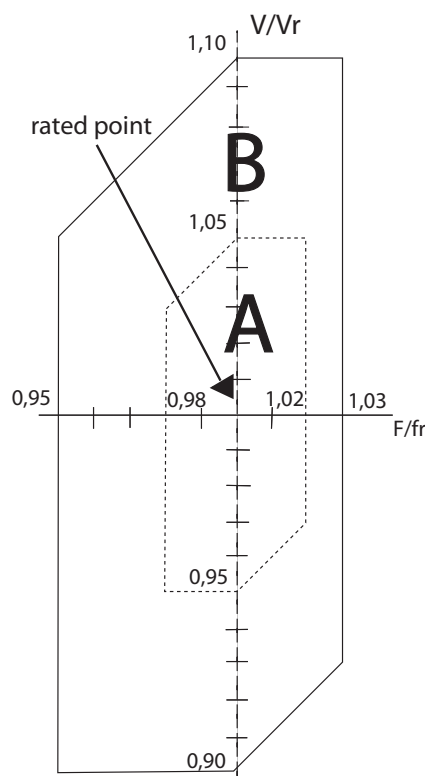
#### Tolerances to electrical values:

According to DIN EN 60 034

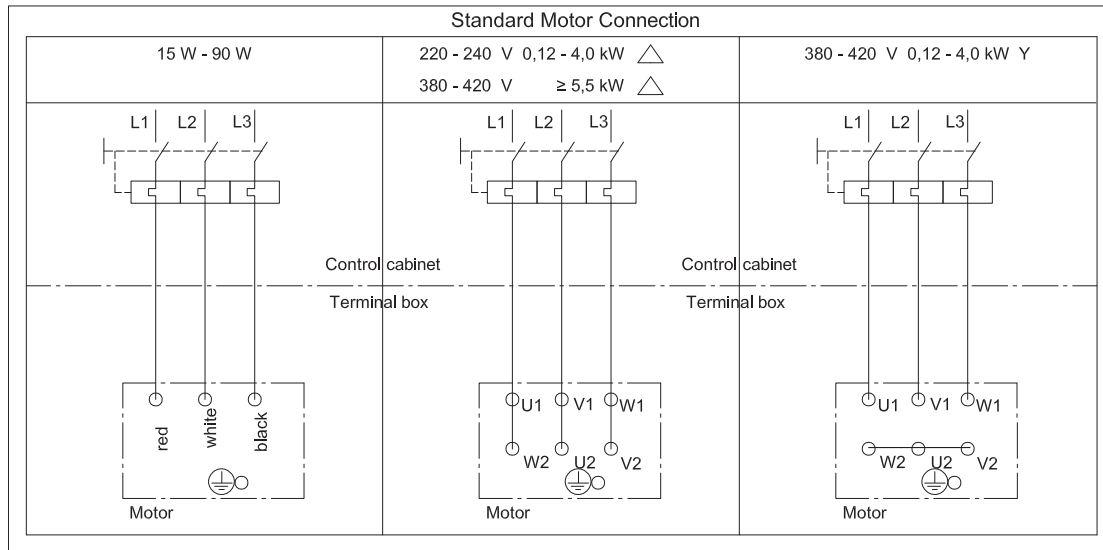
the following tolerances are permitted:

Voltage (area A)	± 5%
Frequency (area A)	± 2%
Efficiency	- 0,15 (1-h)
Power factor (cos j)	- (1-cos j) / 6
Slip Pn < 1 kW	± 30%
Pn ≥ 1 kW	± 20%
Starting current	+ 20%
Starting torque	- 15% - + 20%
Brake down torque	- 10%
Inertia	± 10%

#### Voltage and frequency limits according to DIN EN 60034-1



## Motor connection diagram



Motor

technical  
data

## Terminal box

### Terminal box position:

Mounting direction of a terminal box may be changed by 90°.

Specify a direction according to the Figs below. The direction must be changed by Sumitomo.

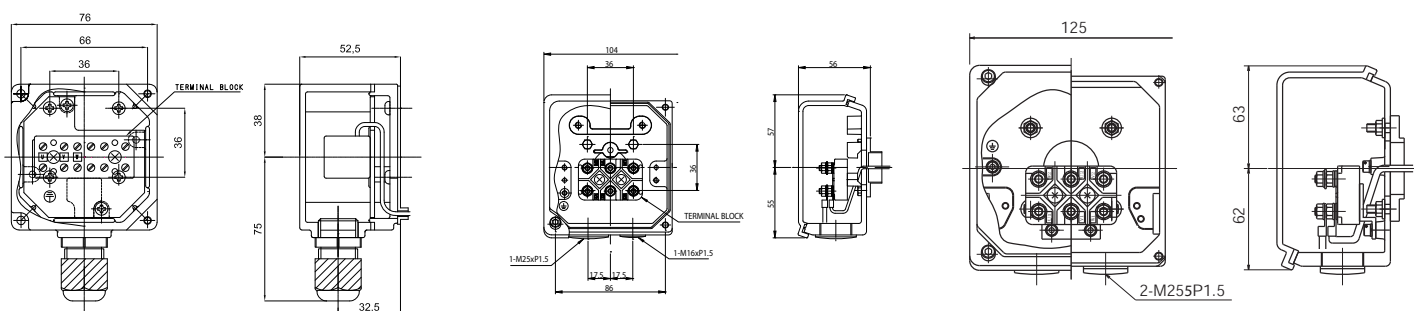
(Terminal boxes are optional for 15-90W. Refer to the outline drawings for lead wire opening direction. The direction cannot be changed after shipment.)

### 3-phase (Standard motors)

Terminal box 40 - 90W  
Standard position N35

Terminal box 0,12 - 0,37KW  
Standard position see table below

Terminal box 0,55 - 5,5KW  
Standard position see table below



Standard position for terminal box 0,12 - 5,5 KW  
(depending on type)

<p>Hollow shaft type (RNYM series)</p>	
<p>Solid shaft Flange mount type (RNFM series)</p>	
<p>Solid shaft Foot mount type (RNHM series)</p>	

The directions indicated as above are viewed from the opposite side of motor fan cover. Arrows indicate lead wire opening direction.

### Brake motor data:

Standard protection level of the brake is IP 44. IP 55 for brake motors from 0,12 - 5,5kW is available on request.

Standard brake input voltages	Rectifier	Coil voltage
180 - 250 V (+/- 0%), 50/60 Hz (0,12 - 4,0 kW)	Half wave (standard)	90 V DC
380 V - 460 V (+/- 0%), 50/60 Hz ( 5,5 kW )	Half wave (standard)	180 V DC

## Brakemotor

Output power	Brake	Reducer	Standard torque	Max.brake torque	Motion delay (Sec)		Brake motor inertia	Total braking energy	Brake current (A)		
					Standard control circuit	Quick braking circuit			230V 50Hz	400V 50Hz	460V 60Hz
kW	Type	Frame	Nm	Nm			10 <sup>-4</sup> kgm	10 <sup>6</sup> J			
0,015	SB-004	01#, 03#	0,4	0,4	0,1 - 0,2	0,005 - 0,015	0,7	11	0,06		
0,025	SB-004	01#, 03#	0,4	0,4	0,1 - 0,2	0,005 - 0,015	0,78	11	0,06		
0,040	SB-004	05#, 07#	0,4	0,4	0,1 - 0,2	0,005 - 0,015	0,9	11	0,06		
0,040	FB-003	17#	0,3	0,3	0,1 - 0,12	0,05 - 0,06	1,2	10	0,03		
0,060	SB-004	07#	0,4	0,4	0,1 - 0,2	0,005 - 0,015	0,9	11	0,06		
0,060	FB-005	17#	0,5	0,5	0,1 - 0,12	0,05 - 0,06	1,3	10	0,04		
0,090	FB-005	15#, 17#	0,5	0,5	0,1 - 0,12	0,05 - 0,06	1,6	10	0,04		
0,12	FB-01A		1,0	1,3	0,15 - 0,2	0,015 - 0,02	3,5	120	0,1	0,04	0,04
0,18	FB-02A		2,0	2,7	0,15 - 0,2	0,015 - 0,02	5,5	120	0,1	0,05	0,05
0,25	FB-05A		4,0	5,4	0,1 - 0,15	0,01 - 0,015	6,8	120	0,1	0,05	0,05
0,37	FB-05A		4,0	5,4	0,1 - 0,15	0,01 - 0,015	6,8	120	0,1	0,05	0,05
0,55	FB-1D		7,5	10	0,2 - 0,3	0,01 - 0,02	11	330	0,1	0,05	0,05
0,75	FB-1D		7,5	10	0,2 - 0,3	0,01 - 0,02	13	330	0,1	0,05	0,05
1,1	FB-2D		15	20	0,2 - 0,3	0,01 - 0,02	21	380	0,3	0,1	0,1
1,5	FB-2D		15	20	0,2 - 0,3	0,01 - 0,02	24	380	0,3	0,1	0,1
2,2	FB-3D		22	30	0,3 - 0,4	0,01 - 0,02	38	450	0,3	0,1	0,1
3,0	FB-5B		37	50	0,4 - 0,5	0,01 - 0,02	81	2350	0,6	0,3	0,3
4,0	FB-5B		37	50	0,4 - 0,5	0,01 - 0,02	96	2350	0,6	0,3	0,3
5,5	FB-8B		55	74	0,3 - 0,4	0,01 - 0,02	125	2350	0,6	0,3	0,3

### Brake torque:

The brake motor will be supplied with the standard brake torque. The brake motors can be supplied with the increased torque on request.

If you require larger or smaller brake torque than those listed, please advise the factory when ordering.

### Characteristics of the FB brakes

- Ⓐ Low inertia
- Ⓐ Long life
- Ⓐ Low maintenance
- Ⓐ Enclosure IP 44 (IP 54, 55 upon request)
- Ⓐ One touch brake release lever for upon request, for size: FB-01A - FB-8B
- Ⓐ Continuous time rating for Motor as well as brake.
- Ⓐ Non-asbestos lining is used for brake.
- Ⓐ Mechanical life time of brake is as long as 2 million times under normal usage conditions.
- Ⓐ Rectifiers of FB brake is built in the brake for 40-90W and in the terminal box for 0.1kW and above. Rectifiers of SB brake is supplied separately.
- Ⓐ To improve the elevating device and stopping accuracy, use the quick braking circuit.

Motor

technical data

## Brakemotor

### Why quick braking circuit shortens braking time

See Fig. 1 and Fig. 2 for differences between standard braking circuit and quick braking circuit.  
See Fig. 3 and Fig. 4 for current curves of standard braking circuit and quick braking circuit.

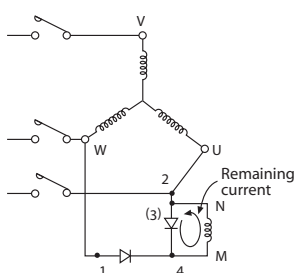


Fig. 1 standard circuit

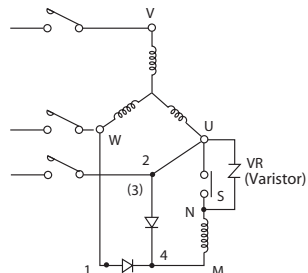


Fig. 2 quick braking circuit

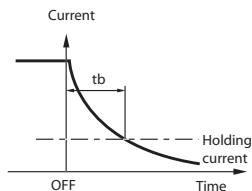


Fig. 3 current curve of standard braking circuit

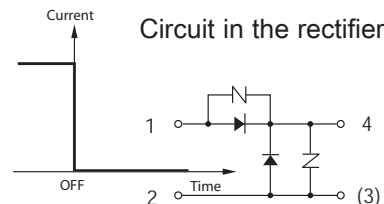


Fig. 4 current curve or quick braking circuit

In the standard circuit as Fig 1, some current remains after the power is turned off due to the saved energy in the inductance L of brake coil.

The current curve is shown in the Fig. 3. When it is connected to quick braking circuit as the Fig. 2 and the switch is released at the same time, no current remains as there is no closed circuit with the brake coil. (See the Fig. 4). Therefore, it shortens the braking time by  $t_b$  in the Fig. 3. Quick braking circuit is to release all current by ON/OFF of brake coil at the same time with power ON/OFF.

(VR varistor must be used to protect the rectifier and connection switch.)

The standard brakemotor used for outdoor installation must be IP55.

For vertical mounting a canopy must be used.

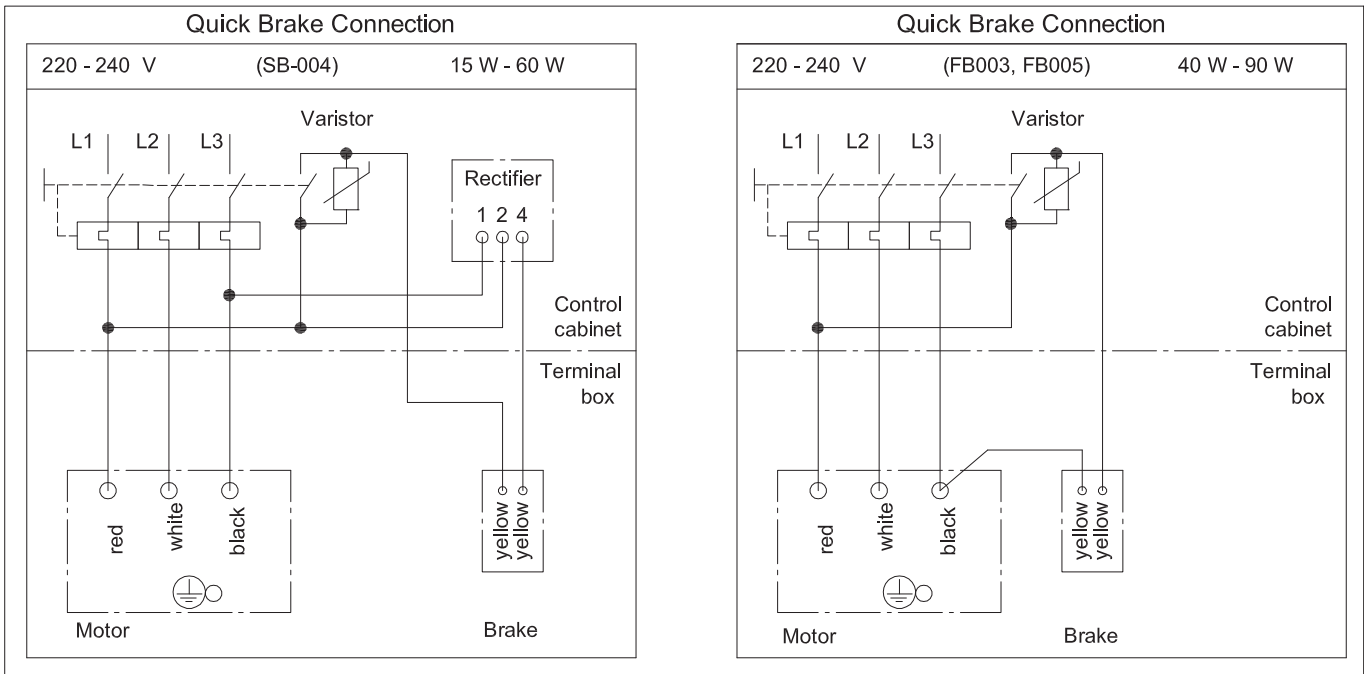
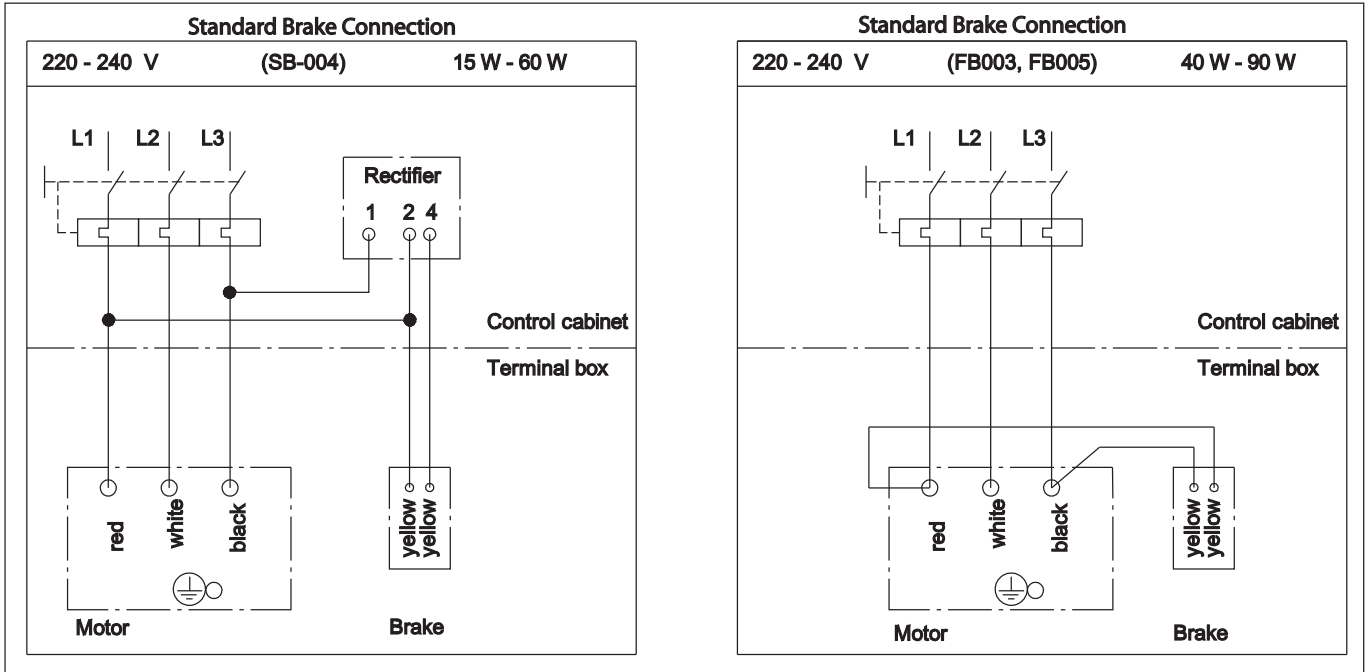
For fast brake operation, add on additional contact and varistor VR from table below.

### VARISTOR Specification

Motor operating voltage		230 V	400V
Varistor rated voltage		AC 260 - 300 V	AC 510V
Varistor voltage		430 - 470 V	820 V
Varistor rated power	FB-01A, FB-02A, FB-05A	> 0,2 W	
	FB-1D	> 0,4 W	
	FB-2D, FB-3D, FB-5B,	> 0,6 W	
	FB-8B		> 1,5 W

## Wiring diagram

### 3-phase motor with brake



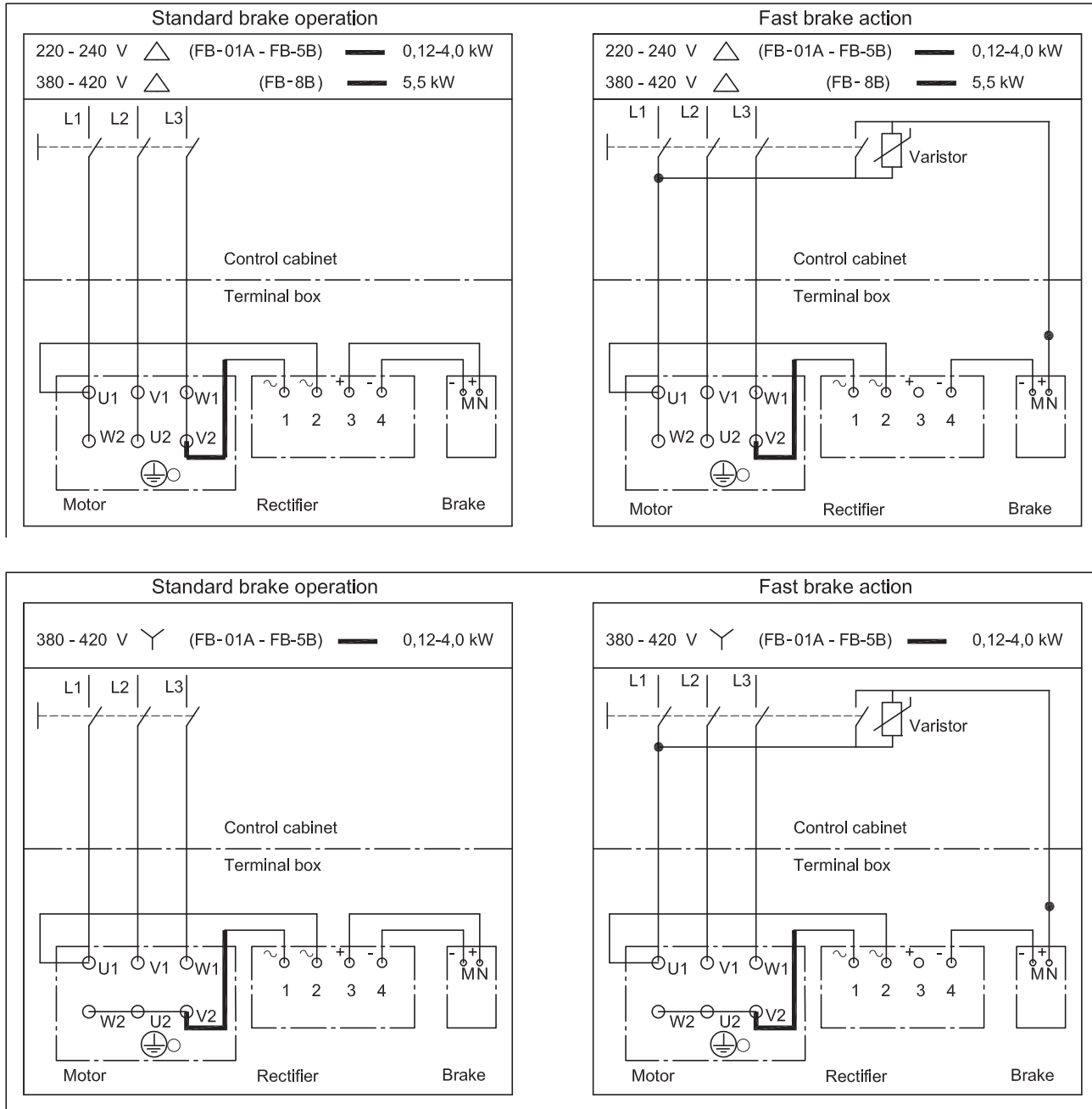
Note 1: A rectifier is supplied separately for 15~40W motors for frame size #01, 03, 05 and 07.

Note 2: A rectifier is built in the brake of 40~90W motors for frame size #15, 17 and 19 (FB-003~005).

Motor  
 technical  
 data



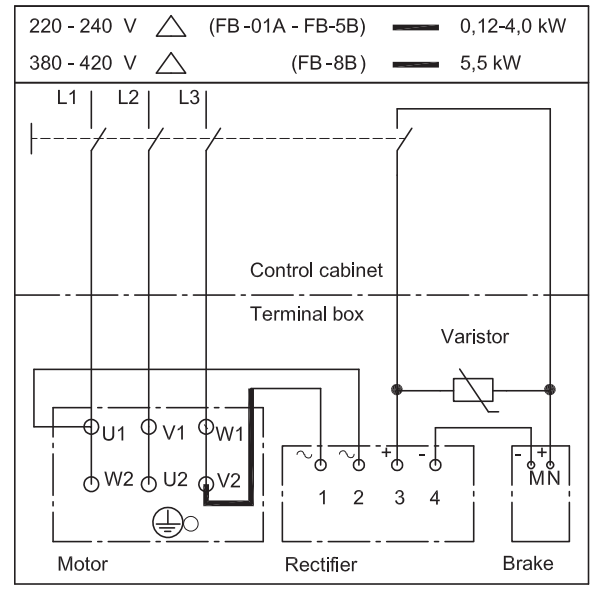
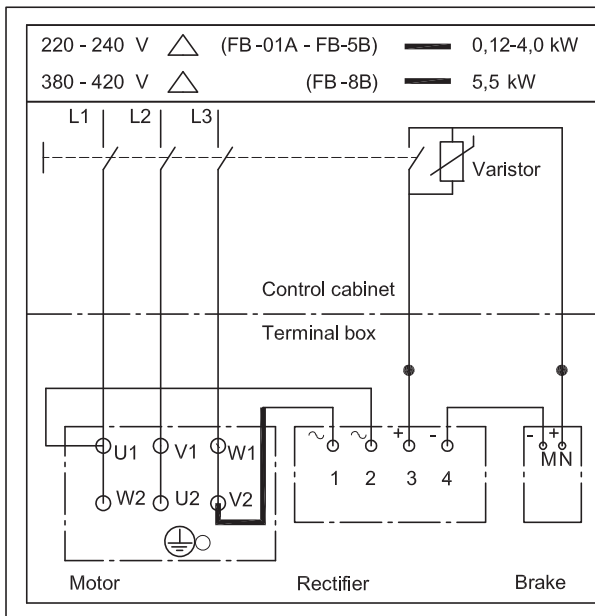
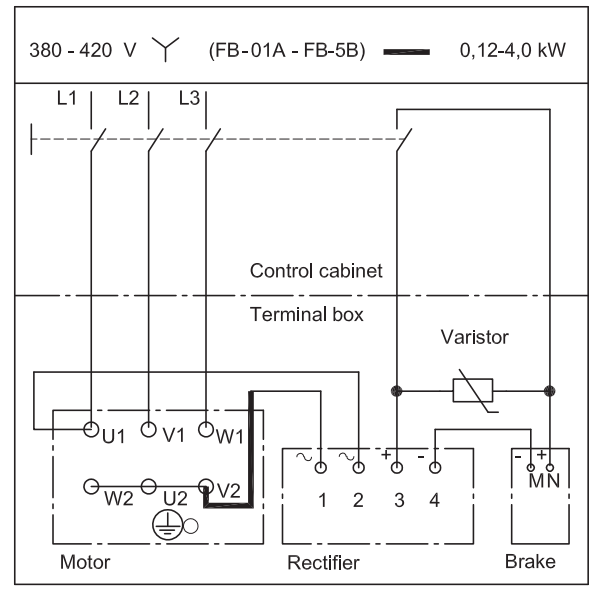
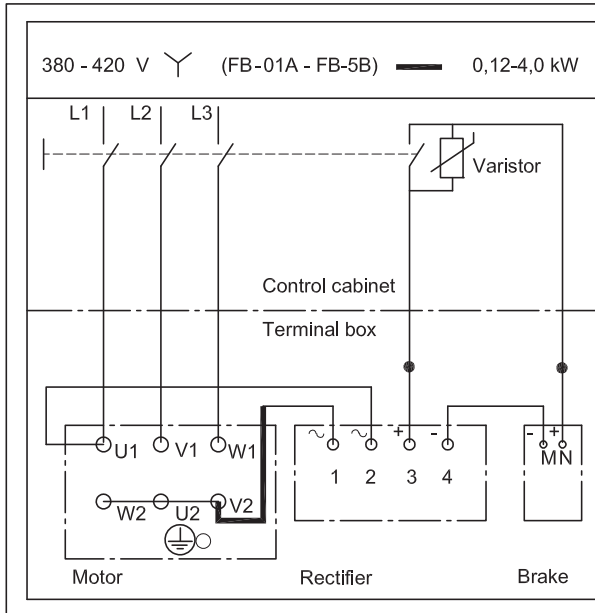
## Wiring diagram



Motor  
wiring  
diagram

## Wiring diagram

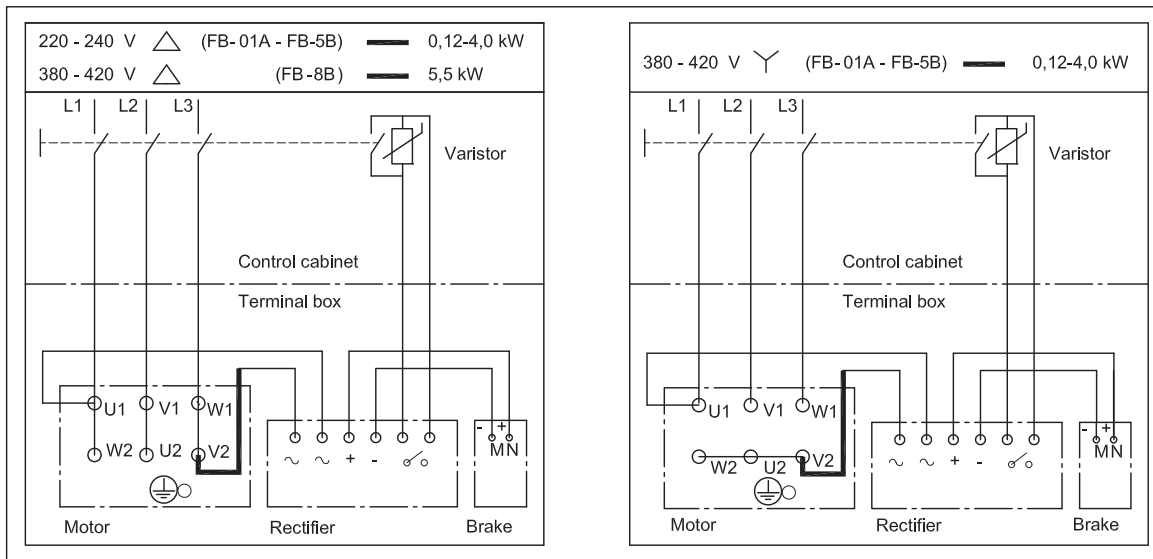
Alternatively the varistor can be placed according to the diagrams below:



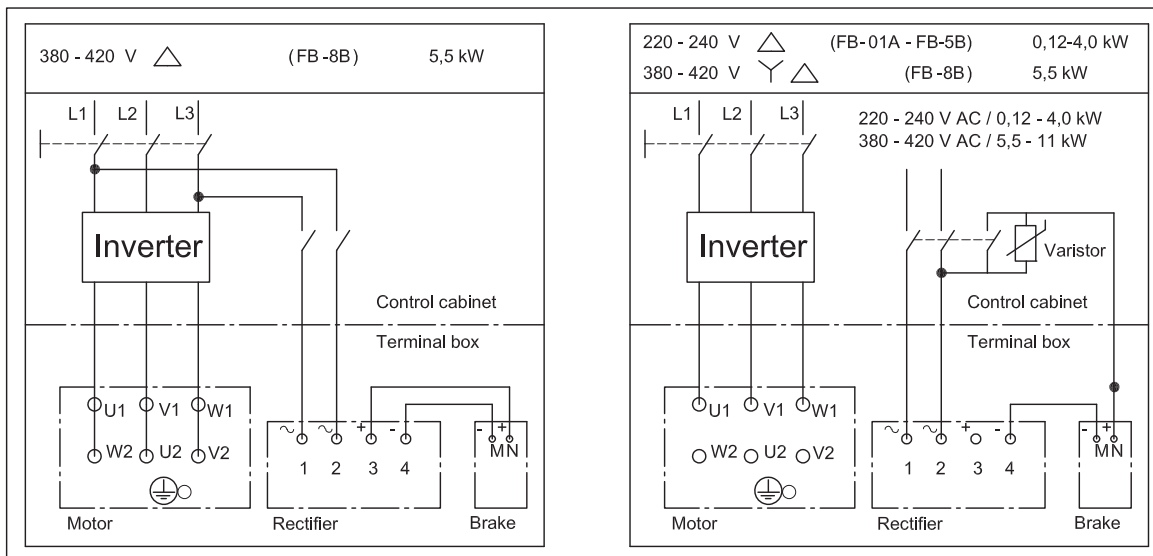
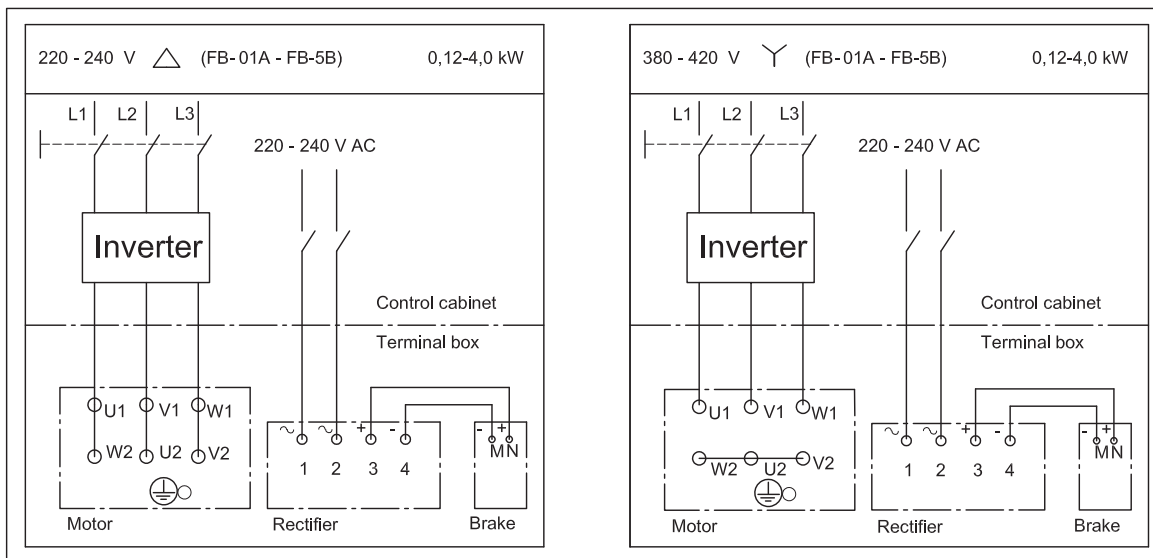
Motor  
technical  
data

## Wiring diagram

Alternatively, a 6 pole rectifier can be used:



For motors driven by an inverter, please supply the brake power separately:



Motor  
wiring  
diagram

## Range of application

### Standard motor data for 440 - 480V 60Hz

440 - 480V 60Hz					
PM	motor	nM	In	cos	Brake current
[kWxP]	size	1/min	A		A
0,015	F-50S				
0,025	F-50M				
0,040	F-50L				
0,040	F-56S				
0,060	F-50L				
0,060	F-56M				
0,090	F-56L				
0,090	F-63S				
0,12	V 63S	1720	0,35	0,66	0,1
0,18	V 63M	1740	0,54	0,62	0,1
0,25	V 63M	1710	0,62	0,70	0,1
0,37	V 71M	1750	1,0	0,63	0,1
0,55	V 80S	1720	1,2	0,73	0,1
0,75	V 80M	1740	1,7	0,72	0,1
1,1	V 90S	1720	2,3	0,74	0,3
1,5	V 90L	1740	3,0	0,76	0,3
2,2	V 100L	1730	4,3	0,77	0,3
3	V 112S	1730	5,5	8,2	0,6
4	V112M	1730	7,0	0,84	0,6
5,5	V132S	1730	9,5	0,84	0,6

Motors wound for 50 Hz can be connected to 60 Hz with the same winding, if certain changes of the operating values are acceptable. If the operating voltage deviates from the rated voltage, the starting torque and the pull-out torque will change with the square of the voltage.

In addition to the standard 50 Hz nameplate data, the following factors are valid for the operating at 60 Hz:

### Factors of change for the operating values at 60 Hz

winding voltage for 50Hz	voltage at 60 Hz	factor power n60Hz/n50Hz	factor power n60Hz/n50Hz	factor rated torque MN60Hz/MN50Hz	factor break down/ starting torque MK60Hz/MK50Hz MA60Hz/MA50Hz
Volt	Volt	K1	K2	K3	K4
230	220	1,2	0,9	0,75	0,63
230	230	1,2	1,0	0,83	0,69
400	380	1,2	0,9	0,75	0,63
400	400	1,2	1,0	0,83	0,69
400	440	1,2	1,1	0,92	0,76
400	460	1,2	1,2	1,0	0,83
400	480	1,2	1,2	1,0	0,83

Motor  
range of  
application

## Range of application

### Insulation

All motors have insulation class F as standard.  
The temperature rise for duty at the common mains is according insulation class B, (F rise B).

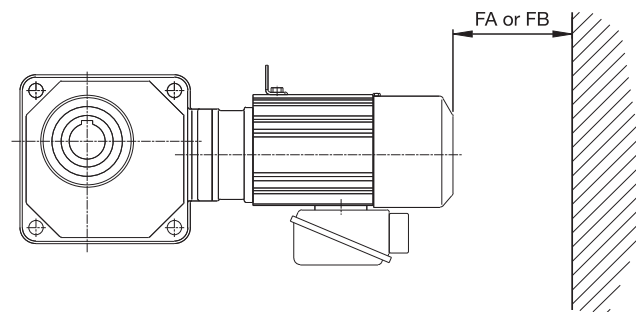
### Cooling and ventilation

Motors are fitted with plastic or aluminium axial-flow fans that function independently of the direction of rotation (IC 0141 to EN60034-6, IEC 34-6).  
Motors of frame size 50-63S have no fan (IC 0140).

Enclosure construction	IEC Standards
Totally enclosed, non-ventilated (TENV)	IC410
Totally enclosed, fan-cooled (TEFC)	IC411

### Installation

Ventilation openings must be kept clear.  
For proper cooling the distance FB is the minimum required between the cover and the wall, FA is the minimum clearance required for disassembling the fan cover.



### Standard Motor:

Frame:	50	56	63 - 71	80	90	100	112-132S
FB (mm):	0	0	20	20	20	20	20
FA (mm):	0	0	48	49	52	56	60

### Brake Motor:

Frame	50	56	63 - 71	80	90	100	112-132S
FB (mm):	0	0	20	20	20	20	25
FA (mm):	85	123	61	93	115	121	132

### Cable gland sockets

Since 01/01/2000, the German Standard DIN 46320, which describes the steel conduit thread (symbol Pg) for cable socket of electric motors, is substituted by the European Standard EN 50262. This new standard recommend to use ISO metric fine screw threads (symbol M) for the cable sockets,

frame	conduit thread
50 - 56	1 x M 20 x 1,5
63 -71	1xM16x1,5/1xM25x1,5
80-132S	2xM25x1,5

## Range of application

### Speed and direction of rotation

The values of rated speed are referred to operation under rated conditions.

The speed varies in direct proportion to the frequency of the power supply system.

The motors are suitable for operating in either direction of rotation.

### Power

The rated power of the gearmotor listed in the selection sheets applies to continuous duty "S1" according to VDE 0530 part 1 at an ambient temperature of + 40°C and at an altitude of up to 1000 m above sea level.

For other working conditions the allowable motor power has to be determined according to the following tables.

If a different ambient temperature occurs simultaneously with a different altitude, the factors have to be multiplied together. For further information, please consult Sumitomo Drive Technologies.

ambient temp.	allowable power in & of rated power	altitude above sea level	allowable power in % of rated power
[° C]	%	[m]	%
10	100	1000	100
15	100	1500	97
20	100	2000	94
25	100	2500	91
30	100	3000	88
35	100	3500	85
40	100		
45	95		
50	90		

\* For these conditions or higher temperatures, please consult Sumitomo Drive Technologies

### Mechanical features:

#### Protection

The motors are totally enclosed, fan cooled, Standard protection is IP 55, and with brake IP 44,

For further details please refer to the table below,

Regarding other enclosures please contact Sumitomo Drive Technologies.

1, Index	Protection against Human/ Tool Contact	2, Index	Protection against water
0	No special protection	0	No special protection
1	Large foreign bodies, diam, >50mm	1	Water dripping/falling vertically
2	Medium-sized foreign bodies, diam, >12	2	Water sprayed at an angle (up to 15° degrees from the vertical)
3	Small foreign bodies, diam, >2,5mm	3	Spray water (any direction up to 60° degrees from the vertical)
4	Granular foreign bodies, diam, >1mm	4	Spray water from all directions, (limited ingress permitted)
5	Dust protected; dust deposits are permitted, but their volume must not affect the function of the unit,	5	Low pressure water jets from all directions, (limited ingress permitted)
6	Dust-proof	6	High pressure jets from all directions, (limited ingress permitted)
		7	Temporary immersion, 15 cm to 1m
		8	Permanent Immersion, under pressure

#### Protection for vertically mounted motors

A motor with canopy is recommended for gearmotor designed with slow speed shaft pointing downwards.

#### Anti-condensation heaters

Anti-condensation heaters can be fitted to motors whose winding is exposed to the danger of condensation due to damp environment or wide fluctuations in temperature.

The anti-condensation heaters must not be switched on while the motors are running.

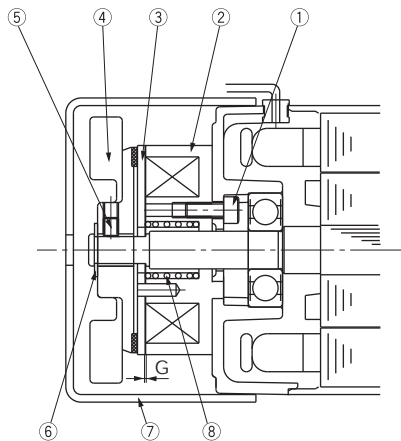
#### Balancing

The motors comply with the vibration severity grade N to DIN EN 60 034-14.

## Brakemotor

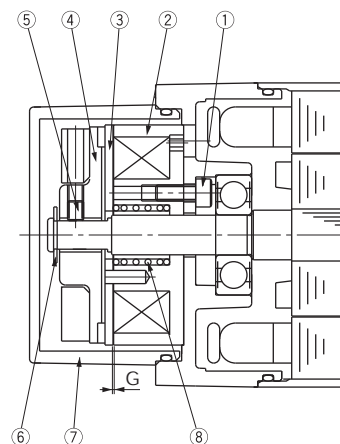
### Construction of the brake

SB-004 (indoor) (15W~60W x 4 poles)



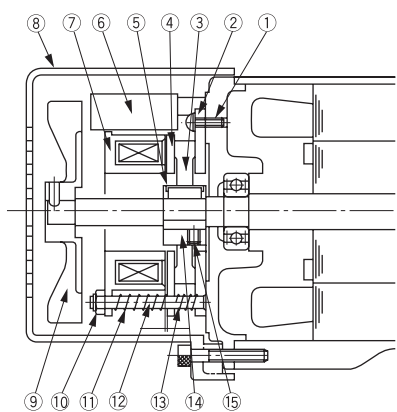
Part.No.	Description		
1	Assembling bolt	8	Set bolt
2	Stationary core	9	Retaining ring
3	Armature plate	11	Cover
4	Lining with fan		Torque spring

SB-004 (waterproof) (15W~60W x 4 poles)



Part.No.	Description		
1	Assembling bolt	8	Set bolt
2	Stationary core	9	Retaining ring
3	Armature plate	11	Cover
4	Lining with fan		Torque spring

FB-003, 05 (40 kW~90 kW x 4 poles)



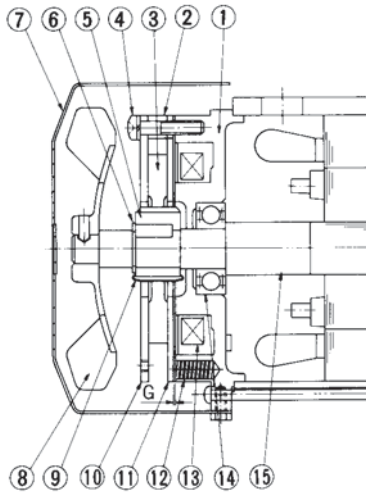
Part.No.	Description		
1	Assembling bolt	8	Cover
2	Stationary core	9	Fan (only for single-phase 60 & 90W)
3	Brake lining	10	Gap adjusting shim
4	Assembling plate	11	Torque spring
5	Leaf Spring	12	Stud bolt
6	Rectifier	13	Supporting spring
7	Stationary core	14	Boss
		15	Bos set bolt

Motor

technical  
data

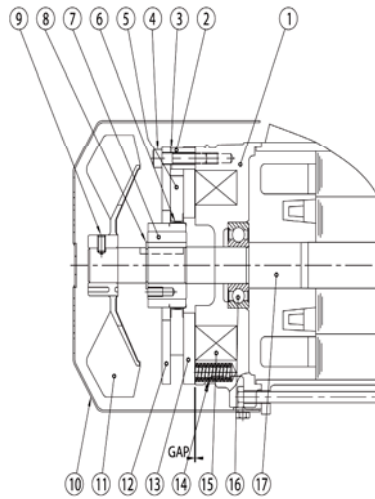
## Standard Brake Motor assembly

**FB-01A, FB-02A, FB-05A**



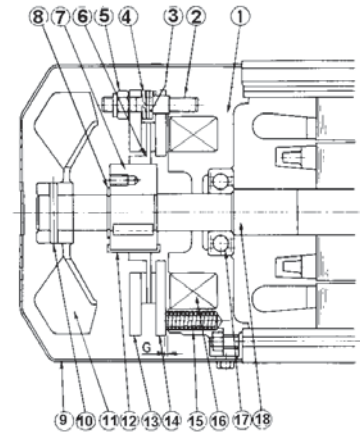
Part no.	Description <b>FB-01A, 02A, 05A</b>
1	Stationary Core
2	Spacer
3	Brake lining
4	Bolt
5	Bushing
6	Retaining Ring
7	Brake Cover
8	Fan
9	Leaf Spring
10	Plate
11	Armature Plate
12	Pressure Spring
13	Solenoid Coil
14	Bearing
15	Motor Shaft

**FB-1D, FB-2D, FB-3D**



Part No./ Teil Nr.	Description <b>FB - 1D, 2D, 3D</b>
1	Stationary Core
2	Spacer
3	Gap adjusting Shim
4	Bolt
5	Brake Lining
6	Leaf Spring
7	Bushing
8	Retaining Ring
9	Fan setting Bolt
10	Brake Cover
11	Fan
12	Plate
13	Armature Plate
14	Pressure Spring
15	Solenoid coil
16	Bearing
17	Motor Shaft

**FB-5B, FB-8B,**



Part no.	Description <b>FB-5B, 8B</b>
1	Stationary Core
2	Stud Bolt
3	Spacer
4	Spring Washer
5	Gap Adjusting Nut
6	Brake lining
7	Bushing
8	Retaining Ring
9	Brake Cover
10	Spring Pin
11	Fan
12	Leaf Spring
13	Plate
14	Armature Plate
15	Pressure Spring
16	Solenoid Coil
17	Bearing
18	Motor Shaft

Motor  
standard  
brake  
motor



M E M O

## Painting specification

## Painting specifications

### 1. Painting Quality and colour

#### 1-1. Standard Painting Quality

Model	Treatment	Kind of painting		Additional lead time (days)	Painting specifications			Applied paint	Weather resistance	Submersible	Oil-proof	Acid resistance	Alkali resistance	Heat resistance (°C)	Application
		Classification	Paint of finish coat		Type	Layers (µm)	Quality	Brand							
15W~90W	Cast iron: Near White blast cleaning	Standard	—	0	Under coating	1 (5~10)	Etching Primer	Shinto wash #20						100	Standard under coat
			Acryl resin	0	Finish coating	1 (15~25)	Acrylic resin baking top coat	Saglan 33	○	X	▲	○	○	100	Standard finish coat
90W (1240) - 5,5 kW	Steel plate: Power tool cleaning	Standard	—	0	Under coating	1 (20~40)	Modified alkyd resin	UNIGROUND PTC PRIMER						100	Standard under coat
			Acryl resin	0	Finish coating	1 (15~30)	Acrylic modified phtalic	SUPIKA 3000	○	X	▲	○	○	100	Standard finish coat

○ Appropriate  
 ▲ Caution in selection  
 X Inappropriate

#### 1-2. Standard Painting Colour

Model	Painting colour
15W~90W	GM grey, similar RAL 7032
90W (1240) ~ 5.5kW	GM grey, similar RAL 7032

## 1-3. Painting Specifications except Standard

Treatment	Kind of painting		Additional lead time (days)	Painting specifications			Applied paint	Weather resistance	Submersible	Oil-proof	Acid resistance	Alkali resistance	Heat resistance (°C)	Application	
	Classification	Paint of finish coat		Type	Layers (μm)	Quality									Brand
Cast iron: Near white blast cleaning	Standard export painting	Acrylic modified phtalic	2	Under coating	1 (30~60)	Modified alkyd resin	UNIGROUND PTC PRIMER	○	×	▼	○	×	100	Export	
				Finish coating	1 (15~30)	Acrylic modified alkyd resin	SUPIKA '3000								
	Special painting including rust-proof and heat resistant painting) one layer of uniground PTC Primer as the first primer	Modified epoxy		3	Under coating	1 (20~40)	Vinyl modified epoxy paint	NEO-GOSE #500 Red lead primer	○	▼	○	○	○	100	Moderate corrosive atmosphere, sea side, outdoor humid atmosphere, chemical plant area
					Finish coating	1 (30~60)	Acrylic modified alkyd resin	Acron #300							
		Long oil phtalic (synthetic resin type)		7	Under coating	2 (40~70)	Lead rust preventive paint	SD MARINE PRIMER (rust)	○	×	×	○	×	100	Ocean-going vessel & boat, bridge, sea side, outdoor humid atmosphere, etc.
					Finish coating	2 (30~60)	Synthetics resin paint	PENFORTE #600							
		Chloride rubber		10	Under coating	2 (40~70)	Lead rust preventive paint	SD MARINE PRIMER (rust)	○	▼	▼	○	○	80	Ocean-going vessel & boat, bridge, sea side, outdoor humid atmosphere, etc.
					Second coating	1 (20~40)	Phenol M.I.O. paint	SHINTOH M10							
					Finish coating	2 (40~70)	Chloride rubber paint	RUBBER #100							
		Phenol		7	Under coating	2 (40~70)	Lead rust preventive paint	SD MARINE PRIMER (rust)	○	×	▼	○	○	100	Indoor/outdoor acid treating plant chemical plant, etc.
					Finish coating	2 (30~60)	Phenol resin enamel	NEW AKNON							
		Heat-proof silver		7	Under coating	1 (20~40)	Lead rust preventive paint	SD MARINE PRIMER (rust)	○	×	×	×	×	120	Heating furnace (120°C), etc.
Finish coating	1 (15~30)				Aluminium paint	SILVER TOP (heat resistant)									
Steel plate: power tool cleaning	Extra rust-proof painting	Epoxy	10	Under coating	1 (50~60)	Special permeability epoxy aluminium paint	CARBOMASTIC #15	○*	○	○	○	○	150	Chemical contact area, chemical plant, anticorrosion plant, etc	
				Finish coating	3 (30~90)	Polyamide epoxy	NEO-GOSE #200								
	Epoxy		10	Under coating	1 (50~60)	Special permeability epoxy aluminium paint	CARBOMASTIC #15	○*	○	○	○	○	150	Nuclear power plant, etc.	
				Finish coating	3 (30~90)	Polyamide epoxy	NEO-GOSE #2300CW								
	Polyurethane		10	Under coating	1 (50~60)	Special permeability epoxy aluminium paint	CARBOMASTIC #15	○	○	○	○	○	150	Nuclear power plant, etc.	
				Finish coating	3 (45~90)	Polysocianate urethane resin paint	NY POLIN K finish coat								
	Extra rust-preventive painting (sand blast undercoating)	Thick film epoxy		12		5 (250350)	Thick film type modified epoxy resin paint	NEO-GOSE #2300 NTHB	○	○	○	○	○	100	Submersible equipment, marine structure, etc.

- Note:
1. Additional lead time for coating refers to the number of days required for special coating compared to standard painting.
  2. Coating may be substituted.
  3. The coatings marked with \* may fade when exposed to sun light
  4. Consult us when ambient temperature is above the heat resistance temperature.  
(The above heat resistance temperature is only for the painting and not for the gearmotor)
  5. Consult us when ambient temperature varies widely in a short period.

- Appropriate
- ▼ Caution in selection
- × Inappropriate

## Painting specifications & Rust proof

### 2. Surface conditioning

Treatment	Surface condition after treatment	Methods	Standards	
			SSPC	SIS
Class 1 Near white blast cleaning	Surface to be completely free of mill scales, rust, corrosive substances, dirt and other foreign substances. However, solidly embedded residues (mill scales, rust, slight smears or discolouration of oxide substances) may be excepted, provided that a minimum of 95% of the surface area is visually free of any residues and the remaining area is limited to smears, stains and other minute loose particles.	Near White Blast cleaning ④ Shot blast ④ Sand blast, etc.	SP-10	Sa-2 1/2
Class 2 Power tool cleaning	Except for solidly embedded mill scales, the surface shall be completely free of loose mill scales, rust, corrosive substances, oil & grease, dirt and other foreign matters. However, solidly embedded residue (mill scales, rust, slight smears or stains of oxide substances) may be excepted. If there is any porous corrosion in the surface, residual rust and coating peelings may remain in such pores, but a minimum of two-thirds of the surface shall be visually free of such residues, with the remaining area being limited to minor smears, stains and other loose minute particles.	Commercial Blast Cleaning Power Tool cleaning  ④ Disk sander ④ Wire wheel • Grinder, etc.	SP-6 (SP-3)	Sa-2 (St-3)
Class 3 hand tool cleaning	Remove loose scale, rust, coating peelings, oil & grease, dirt and other foreign matters, with a wire brush, Scraper, etc. The surface shall have a slight metallic lustre.	Hand Tool Cleaning ④ Wire brush ④ Scraper, etc.	SP-2	St-2

### Rust proof Standards

Rust proof treatment is applied to all completely assembled models, prior to shipment.

#### 1. Standard specifications of rust proof

##### (1) External treatment

Rust-proof oil is applied prior to shipment. Check the condition every six months and really the oil if necessary

##### (2) Internal treatment

Painting	Rust-proof period	One year
Surface conditioning	Storage condition	To be stored inside the shop or warehouse, relatively free of humidity, dust, extreme variation of temperature, corrosive gas and similar atmosphere.

#### 2. Export specifications of rust-proof

Contact us for export rust-proof when special treatment is required or goods are exported.

## EC machinery directive 2006/42/EG

### Reducers

Reducers are considered as “machinery components” and are not subject of the EC machinery directive 2006/42/EG.

The start of operation within the ambit of the EC machinery directive is forbidden, as long as it is not confirmed, that the machine, where the reducer is built in, complies with this directive.

From 2010 no manufacturers declaration, EC conformity declaration and declaration of incorporation will be issued.

### Gearmotors

For gearmotors a conformity declaration according low voltage directive will be issued.

		machine directive 2006/42/EG	low voltage directive 73/23/EG	EMV 89/336/EG	25 ATEX 94/9/EG
reducer	CE mark	no	no	no	yes
	declaration of conformity	no	no	no	yes
	declaration of incorporation	no	no	no	yes
gearmotor	CE mark	no	yes (motor)	no	yes (reducer)
	declaration of conformity	no	yes (motor)	no	yes (reducer)
	declaration of incorporation	no	no	no	no
inverter	CE mark	no	yes (inverter)	yes	no
	declaration of conformity	no	yes (inverter)	yes	no
	declaration of incorporation	no	no	no	no

The Sumitomo's product range covers power transmission applications from crushers to machine tools. Service is quickly available locally all over the world due to a large net of manufacturing, selling and service points.

Sumitomo gearboxes and gearmotors are available with standard features and customer made as well.

A well trained team of product specialist is ready to provide design assistance for any special application.

A short overview of the main product groups:

### **DRIVE 6000 Series**

In-line Concentric Gears and Gearmotor

### **BEVEL BUDDYBOX Series**

Right Angle Shaft Mounted Cyclo Gears and Gearmotors

### **HELICAL BUDDYBOX Series**

Parallel Offset Shaft Mounted Cyclo Gears and Gearmotors

### **FINE CYCLO Series**

In-line Concentric Zero Backlash Gears

### **SERVO 6000 Series**

In-line Concentric Low Back Lash Gears

### **Servo 100 Series**

In-line Concentric Gears with  
mechanical backlash < 3'

### **IB Series**

Compact, High accuracy precision  
servomotor gearboxes

### **Neo HYPONIC Series**

Right Angle Hypoid Gears and Gearmotors

Please contact local sales office for more information.

[www.sumitomodriveeurope.com](http://www.sumitomodriveeurope.com)

# Worldwide locations

## World Headquarters

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