Sumitomo Drive Technologies

Always on the Move

SKK Gearmotor

0.1kw～11kw

MFG500 Series

A Series

No. Z3001E-1

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Sumitomo Drive Technologies now includes the SKK Gearmotor which meets various needs with wide variations

The best-selling model that softly and quietly operates with a small and light body.

Advantage

Small and light	:	Lean and compact with ideal strength balance. Easy to use with small footprint.
Soft and quiet operating noise	:	The gear specification that reduces gear intermeshing noise and the rational structure of the gear case attain the noiseless and smooth operating sound.

Scope of Model

Model	:	Gearmotor, reducer (solid shaft and hollow shaft types)
Reduction ratio	:	5-200
Motor type	:	3-phase, single-phase
Motor capacity	:	0.1 kW, 0.2 kW

Two series provide the optimal model for various applications.

High-performance gearmotor minimizes the irregularity of the reduction part case with fine shape.

Advantage

Small and light	:	Maximally compact by thoroughly studying the strength balance.
Low noise and low vibration	:	Extremely low noise and vibration by adopting low-noise design and new processing technology.
Three classes	:	Three classes for light load (Class G), standard load (Class L), and heavy load (Class S) are provided for various applications.

Scope of Model

Model	:	Gearmotor, reducer (solid shaft and hollow shaft types)
Reduction ratio	:	5-1000
Motor type	:	3-phase, single-phase (0.1 kW - 0.75 kW)
Motor capacity	:	0.1 kW - 11 kW

Product Range

Part of Gear | Gearmotor

3-phase Motor

MFG500 Series Stages of Reduction		2						3				
A Series Stages of Reduction		2						3				
Nominal Reduction Ratio		5	10	15	20	25	30	45	50	60	75	100
Output Speed [r/min]	50Hz	290	145	96.7	72.5	58	48.3	32.2	29	24.2	19.3	14.5
	60Hz	350	175	117	87.5	70	58.3	38.9	35	29.2	23.3	17.5
Motor Capacity/Class	0.1 kW	L	518D							522T		
	0.2 kW	L	518D				522D		522T			
	0.4 kW	G	R			A			S			
		L	A			B					C	
		S	B			C					D	
	0.75 kW	G	T			B						
		L	B			C					D	
		S	C			D					E	
	1.5 kW	G	U			V						
		L	C			D					E	
		S	D			E					F	
	2.2 kW	G	V			D						
		L	D			E				F		
		S	E			F				G		
	3.7 kW	L	E			F				G		
		S	F			G				H		
	5.5 kW	S	F		G	H				K		
	7.5 kW	S	G		H	K						
	11 kW	S	H		K							

Single-phase Motor

MFG500 Series Stages of Reduction		2						3				
A Series Stages of Reduction		2						3				
Nominal Reduction Ratio		5	10	15	20	25	30	45	50	60	75	100
Output Speed [r/min]	50Hz	290	145	96.7	72.5	58	48.3	32.2	29	24.2	19.3	14.5
	60Hz	350	175	117	87.5	70	58.3	38.9	35	29.2	23.3	17.5
Motor Capacity/Class	0.1 kW	L	518D							522T		
	0.2 kW	L	518D				522D		522T			
	0.4 kW	L	A			B					C	
	0.75 kW	L	B			C					D	

3-phase Motor for Inverter

Stages of Reduction		2						3				
Nominal Reduction Ratio		5	10	15	20	25	30	4 5	50	60	75	100
Output Speed [r/min]	60Hz	350	175	117	87.5	70	58.3	38.9	35	29.2	23.3	17.5
Motor Capacity/Class	0.2 kW	L	A			B					C	
		S	B			C					D	
	0.4 kW	L	B			C					D	
		S	C			D					E	
	0.75 kW	L	C			D					E	
		S	D			E					F	
	1.5 kW	L	D			E				F		
		S	E			F				G		
	2.2 kW	L	E			F				G		
		S	F			G				H		
	3.7 kW	S	F		G	H				K		
	5.5 kW	S	G		H	K						
	7.5 kW	S	H		K							

3										
3			4							
130	150	200	240	300	360	450	540	650	800	1000
11.2	9.67	7.25	6.04	4.83	4.03	3.22	2.69	2.23	1.81	1.45
13.5	11.7	8.75	7.29	5.83	4.86	3.89	3.24	2.69	2.19	1.75
522T			C				D			E
C			D				E			F
C	D									
D	E		F			G				H
D	E									
E	F		G			H			K	
F	G									
G	H		K							
G										
H	K									
K										

3										
3			4							
130	150	200	240	300	360	450	540	650	800	1000
11.2	9.67	7.25	6.04	4.83	4.03	3.22	2.69	2.23	1.81	1.45
13.5	11.7	8.75	7.29	5.83	4.86	3.89	3.24	2.69	2.19	1.75
522T			C				D			E
C			D				E			F
C	D									
D	E									

3			4							
130	150	200	240	300	360	450	540	650	800	1000
13.5	11.7	8.75	7.29	5.83	4.86	3.89	3.24	2.69	2.19	1.75
C	D									
D	E		F			G				H
D	E									
E	F		G			H			K	
F	G									
G	H		K							
G										
H	K									
K										

Product Range

Part of Gear | Reducer

A Products

Both-end Shaft Type

MFG500 Series Stages of Reduction		2						3				
A Series Stages of Reduction		2						3				
Nominal Reduction Ratio		5	10	15	20	25	30	45	50	60	75	100
Output Speed [r/min]	50Hz	290	145	96.7	72.5	58	48.3	32.2	29	24.2	19.3	14.5
	60Hz	350	175	117	87.5	70	58.3	38.9	35	29.2	23.3	17.5
Equivalent Input Capacity/Class: 0.1 kW equivalent	L	518D								522T		
0.1 kW equivalent	L	518D					522T					
0.4 kW equivalent	L	A				B						C
	S											
0.75 kW equivalent	L	B				C						D
	S											
1.5 kW equivalent	L	C				D						E
	S										E	
2.2 kW equivalent	L	D				E					F	
	S											
3.7 kW equivalent	L	E				F					G	
	S					G					H	
5.5 kW equivalent	S	F			G	H					K	
7.5 kW equivalent	S	G			H	K						
11 kW equivalent	S	H			K							

3										
3			4							
130	150	200	240	300	360	450	540	650	800	1000
11.2	9.67	7.25	6.04	4.83	4.03	3.22	2.69	2.23	1.81	1.45
13.5	11.7	8.75	7.29	5.83	4.86	3.89	3.24	2.69	2.19	1.75
522T			C				D			E
C			D				E			F
C	D									
			E	F			G			H
D	E									
E	F		G			H			K	
F	G									
	H			K						
G										
H	K									
K										

Product Range

Part of Motor

Symbols	
●	Standard specifications
○	Optional items
B	As a band voltage motor. Refer to "D: Options" for band voltage motors.
※	Consult us.
-	No supports.

3-phase Motor

Indoor Type (IP44)

Specifications	Without Brake				With Brakes						Thermal Class							
	200 V Class		400 V Class		200 V Class					400 V Class								
					SAV	SBV	FB	SAV	SBV	FB	E		B		F		H	
Capacity	TOSHIBA	SUMITOMO	TOSHIBA	SUMITOMO	TOSHIBA			SUMITOMO	TOSHIBA		SUMITOMO	TOSHIBA	SUMITOMO	TOSHIBA	SUMITOMO	TOSHIBA	SUMITOMO	TOSHIBA	SUMITOMO
0.1 kW × 4P	●	※	B	※	●	●	※	※		※	※	●	※	※	※	※	※	※	※
0.2 kW × 4P	●	※	B	※	●	●	※	※		※	※	●	※	※	※	※	※	※	※
0.4 kW × 4P	●	●	B	○	●	●	●	※		○	※	●	●	※	○	※	○	※	○
0.75 kW × 4P	●	●	B	○	●	●	●	※		○	※	●	-	※	●	※	○	※	○
1.5 kW × 4P	●	●	B	○	●	●	●	※		○	※	●	-	※	●	※	○	※	○
2.2 kW × 4P	●	●	B	○	●	-	●	※		○	※	●	-	※	●	※	○	※	○
3.7 kW × 4P	●	●	B	○	●	-	●	※		○	※	●	-	※	●	※	○	※	○
5.5 kW × 4P	●	●	B	○	●	-	●	※		○	※	●	-	※	●	※	○	※	○
7.5 kW × 4P	●	●	B	○	●	-	●	※		○	※	●	-	※	●	※	○	※	○
11 kW × 4P	-	●	-	○	-	-	●	-		○	-	-	-	※	●	※	○	※	○

Outdoor Type (IP44)

Specifications	Without Brake				With Brakes						Thermal Class							
	200 V Class		400 V Class		200 V Class					400 V Class								
					SAV	SBV	FB	SAV	SBV	FB	E		B		F		H	
Capacity	TOSHIBA	SUMITOMO	TOSHIBA	SUMITOMO	TOSHIBA			SUMITOMO	TOSHIBA		SUMITOMO	TOSHIBA	SUMITOMO	TOSHIBA	SUMITOMO	TOSHIBA	SUMITOMO	TOSHIBA	SUMITOMO
0.1 kW × 4P	●	※	B	※	●	●	※	※		※	※	●	※	※	※	※	※	※	※
0.2 kW × 4P	●	※	B	※	●	●	※	※		※	※	●	※	※	※	※	※	※	※
0.4 kW × 4P	●	●	B	○	●	●	●	※		○	※	●	●	※	○	※	○	※	○
0.75 kW × 4P	●	●	B	○	●	●	●	※		○	※	●	-	※	●	※	○	※	○
1.5 kW × 4P	●	●	B	○	●	●	●	※		○	※	●	-	※	●	※	○	※	○
2.2 kW × 4P	●	●	B	○	●	-	●	※		○	※	●	-	※	●	※	○	※	○
3.7 kW × 4P	●	●	B	○	●	-	●	※		○	※	●	-	※	●	※	○	※	○
5.5 kW × 4P	●	●	B	○	●	-	●	※		○	※	●	-	※	●	※	○	※	○
7.5 kW × 4P	●	●	B	○	●	-	●	※		○	※	●	-	※	●	※	○	※	○
11 kW × 4P	-	●	-	○	-	-	●	-		○	-	-	-	※	●	※	○	※	○

Safety Enhanced Explosion-proof (eG3)

Specifications	Without Brake				Thermal Class					
	200 V Class		400 V Class		E		B		F	
Capacity	TOSHIBA	SUMITOMO	TOSHIBA	SUMITOMO	TOSHIBA	SUMITOMO	TOSHIBA	SUMITOMO	TOSHIBA	SUMITOMO
0.4 kW × 4P	※	●	※	○	※	-	※	●	※	○
0.75 kW × 4P	※	●	※	○	※	-	※	●	※	○
1.5 kW × 4P	※	●	※	○	※	-	※	●	※	○
2.2 kW × 4P	※	●	※	○	※	-	※	●	※	○
3.7 kW × 4P	※	●	※	○	※	-	※	●	※	○
5.5 kW × 4P	※	●	※	○	※	-	※	●	※	○
7.5 kW × 4P	※	●	※	○	※	-	※	●	※	○
11 kW × 4P	-	●	-	○	-	-	-	●	-	○

Note that we support flame proof and 2nd class rustproof motors. Consult us for details.

●Motor manufacturers in the tables
TOSHIBA: TOSHIBA Motor
SUMITOMO: SUMITOMO Motor

Symbols		
	●	Standard Specifications
	○	Optional items
	※	Consult us.
	-	No supports.

Single-phase Motor

Indoor Type (IP22)

Specifications	Without Brake				With Brakes		Thermal Class		
					100 V Class	200 V Class			
	100 V Class		200 V Class		SAVS	SAVS	E	B	F
Capacity	TOSHIBA	SUMITOMO	TOSHIBA	SUMITOMO	TOSHIBA	TOSHIBA	TOSHIBA	TOSHIBA	TOSHIBA
0.1 kW × 4P	●	-	-	-	●	※	●	※	※
0.2 kW × 4P	●	-	-	-	●	※	●	※	※
0.4 kW × 4P	●	-	●	-	●	※	●	※	※
0.75 kW × 4P	●	-	●	-	●	※	●	※	※

3-phase Motor for Inverter

Indoor Type (IP44)

Specifications	Without Brake				With Brakes		Thermal Class			
					200 V Class	400 V Class				
	200 V Class		400 V Class		FB	FB	E	B	F	H
Capacity	TOSHIBA	SUMITOMO	TOSHIBA	SUMITOMO	SUMITOMO	SUMITOMO	SUMITOMO	SUMITOMO	SUMITOMO	SUMITOMO
0.2 kW × 4P	-	●	-	○	※	※	●	○	○	○
0.4 kW × 4P	-	●	-	○	※	※	-	●	○	○
0.75 kW × 4P	-	●	-	○	※	※	-	●	○	○
1.5 kW × 4P	-	●	-	○	※	※	-	●	○	○
2.2 kW × 4P	-	●	-	○	※	※	-	●	○	○
3.7 kW × 4P	-	●	-	○	※	※	-	●	○	○
5.5 kW × 4P	-	●	-	○	※	※	-	●	○	○
7.5 kW × 4P	-	●	-	○	※	※	-	●	○	○

Outdoor Type (IP44)

Specifications	Without Brake				With Brakes		Thermal Class			
					200 V Class	400 V Class				
	200 V Class		400 V Class		FB	FB	E	B	F	H
Capacity	TOSHIBA	SUMITOMO	TOSHIBA	SUMITOMO	SUMITOMO	SUMITOMO	SUMITOMO	SUMITOMO	SUMITOMO	SUMITOMO
0.2 kW × 4P	-	●	-	○	※	※	●	○	○	○
0.4 kW × 4P	-	●	-	○	※	※	-	●	○	○
0.75 kW × 4P	-	●	-	○	※	※	-	●	○	○
1.5 kW × 4P	-	●	-	○	※	※	-	●	○	○
2.2 kW × 4P	-	●	-	○	※	※	-	●	○	○
3.7 kW × 4P	-	●	-	○	※	※	-	●	○	○
5.5 kW × 4P	-	●	-	○	※	※	-	●	○	○
7.5 kW × 4P	-	●	-	○	※	※	-	●	○	○

Note that we support flame proof and 2nd class rustproof motors for 3-phase motors for inverter. Consult us for details.

●Motor manufacturers in the tables
TOSHIBA: TOSHIBA Motor
SUMITOMO: SUMITOMO Motor

B

Gearmotor

	Page
1. How to Select	B3
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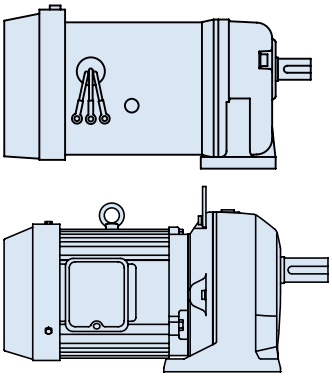

B Gearmotor

1. How to Select

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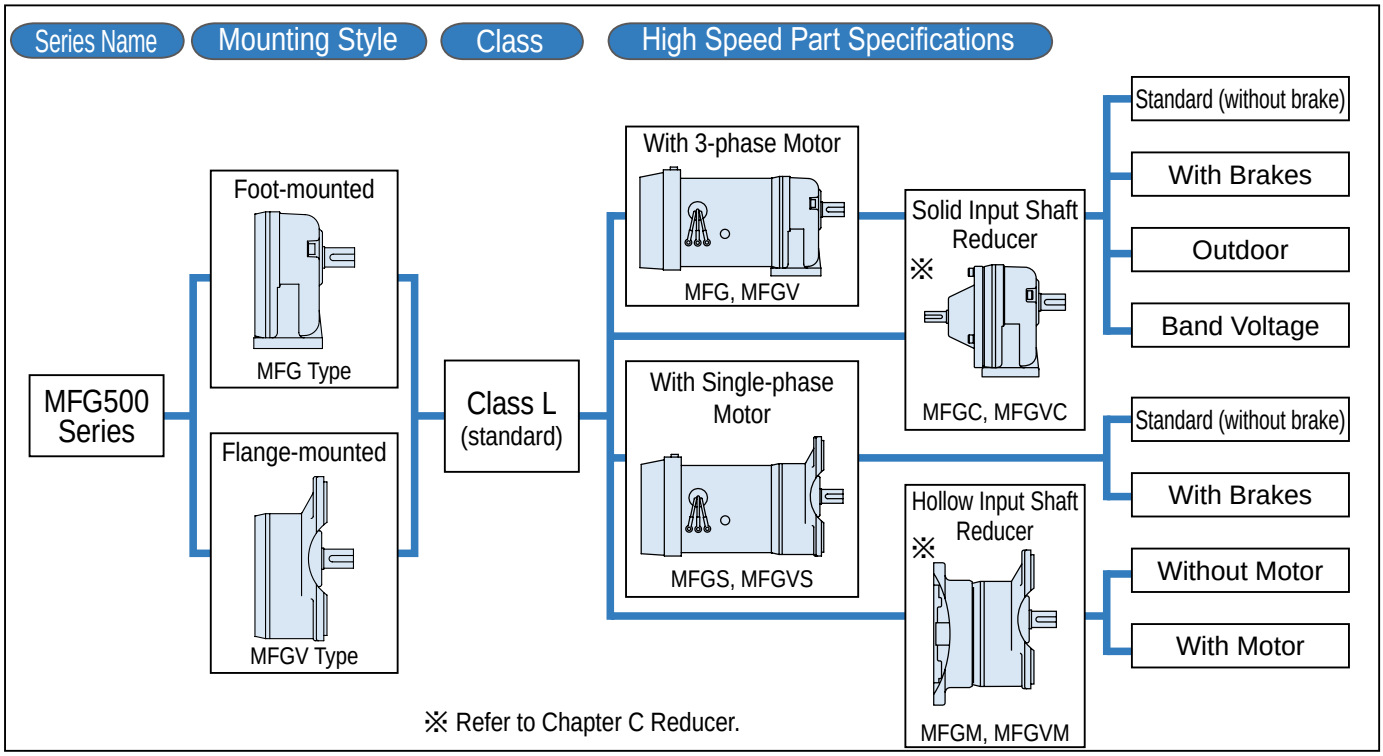
Selection Example	B8
Gearmotor Standard Specifications	B10

Variations and Types

■MFG500 Series Variations



■MFG500 Series Type Symbols

MFG				518	D	–	30R	S	0.1	–	4	
MFG	V	B		522	T	–	60R	S	0.2	–	4	W

Series Name

Mounting Style

Foot-mounted .....blank
Flange-mounted.....V

Variations

With 3-phase Motor .....blank
With 3-phase Brake Motor.....B
With Single-phase Motor .....S
With Single-phase Brake Motor... SB
Solid Input Shaft Reducer.....C
Hollow Input Shaft Reducer..... M

Gear Specifications

Special.....Z

Frame Size

Reduction Stages

Double ..... D
Triple..... T

Reduction Ratio

1/60....60R
1/30....30R

Motor Manufacturer

TOSHIBA..... S
Without Motor .... blank

Motor Capacity

0.1kW.....0.1
0.2kW 0.2

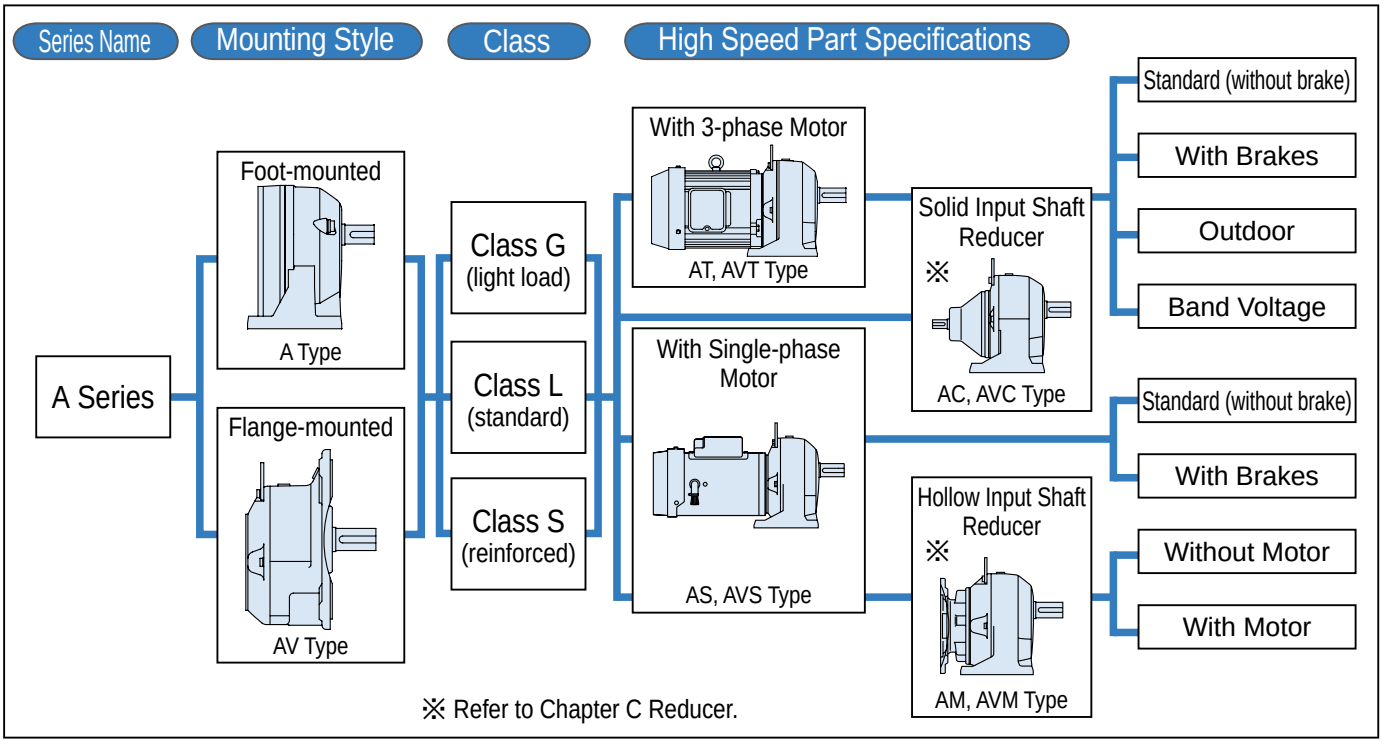
Motor Poles

4 Poles.....4

Motor Specification

Outdoor..... W
Brake Type..... SBV, SAV, SAVS
Band Voltage Motor.....B
Different Voltage V
Special..... Z

■A Series Variations



■A Series Type Symbols

Model		Reducer Frame Size				Motor Specifications			
ATB		A	20	L	–	0.4	S	W	SAV

Gear Spec
Special : Z

Reduction Ratio
1/20 : 20
1/60 : 60

Motor Capacity
0.4kW : 0.4
5.5kW : 5.5

Motor Spec
Indoor : blank For Inverter : I (H)
Outdoor : W Increased Safety : X
Band Voltage : B Flame Proof : T
Different Voltage : V Special : Z

Frame Size (output shaft diameter)
A : Φ18 F : Φ42
B : Φ22 G : Φ48
C : Φ24 H : Φ56
D : Φ32 K : Φ63
E : Φ38

Class
Light Load : G
Standard : L
Reinforced : S

Motor Manufacturer
TOSHIBA : S
SUMITOMO : Su

Brake Spec
Without Brake : blank
SAV Brake : SAV
SBV Brake : SBV
SAVS Brake : SAVS
FB Brake : FB

Foot-mounted		Flange-mounted	
With 3-phase Motor	AT	With 3-phase Motor	AVT
With 3-phase Brake Motor	ATB	With 3-phase Brake Motor	AVTB
With Single-phase Motor	AS	With Single-phase Motor	AVS
With Single-phase Brake Motor	ASB	With Single-phase Brake Motor	AVSB

■A Series Classes

For A Series gearmotors, three classes are available for various loads, allowing you to easily select the best model for specific use conditions.

Light load (G) : Class for light load usage such as uniform load and light radial load.

Standard (L) : Uniform load. Note that Class S is standard for models with the high reduction ratio or the output 5.5 kW or higher.

Reinforced (S) : The overhang load and output shaft torque are reinforced.

Note: This classification is just for a guide. Check the selection tables on page B14 to B27 for model selection.

Gearmotor Selection Method

To use A Series Gearmotor efficiently, follow these steps to select a model.

Selection rocedure

1. Determining Reduction Ratio

Determine the reduction ratio based on the required output speed. Refer to the selection tables on page B14 to B20 for information on determining the reduction ratio of the gearmotor.

2. Calculating Load Torque

Calculate the required actual load torque (T_E) of the application machine.
Calculate the maximum torque if the load torque varies.

3. Calculating Output (only for gearmotors)

Find the output that meets the following condition expression in the required reduction ratio column on the selection tables (on page B14 to 20):

Conditional expression: $T_E \leqq T$ → Determine the output [kW]

4. Determining Service Factor

To select the gearmotor or reducer, the service factor should be considered based on the load condition and duty time.

Table 1. Service Factor Table (sf)

Load Condition/Duty Time	3 or less hours/day	3 to 10 hours/day	10 or more hours/day
niform load	1.00	1.00	1.25
Moderate Shock Load	1.00	1.25	1.50

Note: Consult us if you want to use it with heavy shock load.

5. Considering Moment of Inertia of Load (J) and Startup Frequency

If the moment of inertia of load is large, a large load may occur at starting or stopping with brakes, causing an unexpected accident. Consider the moment of inertia of load and the startup frequency.

1) Calculate the moment of inertia of load (J).
2) Calculate the load inertia moment at motor shaft (J_L).

$$J_L = \frac{J}{R^2} \qquad \frac{1}{R} = \text{Reduction Ratio}$$

3) Calculate the moment of inertia (at motor shaft) (J_M) for the gearmotor with the output determined in step 3, based on page E .

Calculation Example

1. For 50 r/min (50 Hz)
   Reduction Ratio = 1/30
   (or 2 r/min (0 z)
   Reduction Ratio = 1/ 0 → 30 r/min)
2. Assume that T_E = 88.2 N・m.
3. For 0.4 kW, T = 76.2 < T_E = 88.2 N・m
   For 0.75 kW, T = 135 > T_E = 88.2 N・m
   The output of 0.75 kW meets the condition expression.
4. Application: Conveyor-driven (moderate shock load)
   8 hours/day operation

5-1) ssume the following moment of inertia of load (J).
$J = 1.2\ kg \cdot m^2$

5-2) Reduction ratio: 1/R = 1/30

$$J_L = \frac{J}{R^2} = \frac{1.2}{30^2}$$

$$= 1.3 \times 10^{-3} kg \cdot m^2$$

5-3) TOS I 3-phase gearmotor Output = 0.75 kW
$J_M = 0.0028 kg \cdot m^2$

■Model Selection

Selection rocedure

4) Calculate the load inertia moment ratio (M).

$$M = \frac{J_L}{J_M}$$

J_L : Moment of inertia of load (at motor shaft)
J_M: Moment of inertia of gearmotor (at motor shaft)

5) Calculate the service factor based on the load inertia moment ratio and the startup frequency (sf_1) from Table 3.

Calculation Example

5 - 4) Load inertia moment ratio (M):

$$M = \frac{J_L}{J_M} = \frac{1.3 \times 10^{-3}}{2.8 \times 10^{-3}} = 0.4$$

5 - 5) Coupling method: Chain (non-direct)
Load inertia moment ratio: M = 0.46
Startup frequency: 20 times/hour
From Table 3, Service factor: sf_1 = 1.13

Gear-Motor
ow to Select

Table 3. Service actor ased on Inertia Moment Ratio and Startup requency (sf_1)

Startup Frequency / our	Coupling Method: Direct				Coupling Method: Non-direct (such as chain conveyance)			
	M ≦ 0.5	0.5 < M ≦ 1.0	1.0 < M ≦ 2.0	2.0 < M ≦ 3.0	M ≦ 0.2	0.2 < M ≦ 0.5	0.5 < M ≦ 0.7	0.7 < M ≦ 1.0
1 time	1.00	1.01	1.05	1.10	1.00	1.01	1.02	1.0
5 times	1.01	1.04	1.1	1.2	1.01	1.05	1.0	1.18
10 times	1.01	1.07	1.23	1.35	1.01	1.08	1.15	1.2
20 times	1.03	1.12	1.32	1.45	1.02	1.13	1.22	1.35
50 times	1.0	1.21	1.45	1. 0	1.05	1.22	1.34	1.48
100 times	1.10	1.2	1.57	1.73	1.08	1.30	1.44	1. 0
150 times	1.13	1.35	1. 4	1.81	1.11	1.3	1.50	1. 8

Note: For chain conveyance, use a properly tightened chain. The impact force increases significantly when the chain is loose.

6. Selecting Frame Size

Find the frame size that meets the following condition expression in the reduction ratio and output columns for the values calculated in the step 1 and 3 on the selection tables (on page B14 to 20):

Conditional expression $T_E \times sf \times sf_1 \leqq T \times sf_G$

Note: Assume that sf_G = 1.00 when sf_G is *.
The class G and L outperform the class S when they all meet the condition expression.
If the class S cannot meet the condition expression, increase the motor capacity by one level.

6-1) For gearmotor
T_E sf sf_1 = 88.2 x 1.25 x 1.13 = 124.6N・m
In the case of class L: T x sf_G = 131×1.03 = 134.9N・m
Since T_E x sf sf_1 ≦ T sf_G is met, then
Motor Output: 0.75kW
Reducer Frame Size: C30L

T_E = Actual load torque (required torque of the application machine) [N・m]
T = Output shaft torque (Maximum driving torque of gearmotor) [N・m]
T_G = Reducer output shaft allowable torque [N・m]
sf = Service factor based on load condition and duty time (Table 1)
sf_1 = Service factor based on inertia moment ratio and startup frequency (Table 3)
sf_G = Strength margin ratio of reducer for T torque

7. Checking Overhang Load (O. .L.)

If you use a sprocket, gear, and belt with the input/output shaft, make sure that the overhang load acting on the shaft does not exceed the allowable overhang load of the used gearmotor (refer to the selection tables on page 14 to 20). owever, it is not required if the input/output shaft is coupled with a coupling.

$$O.\ .L.\ [N] = \frac{2000 \times T_E \times sf \times sf_1}{D} \times \frac{Cf}{Lf}$$

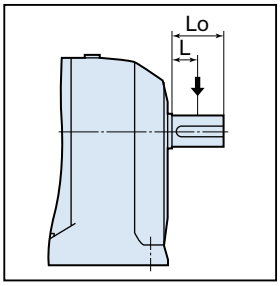
D: itch circle diameter of sprocket, pulley, etc. [mm]
Cf: Driving method factor (refer to Table 4)
Lf: Load position factor (refer to Table 5)

Table 4. Cf: Driving Method Factor

Single Row Chain	Double Row Chain	Gear	elt
1.00	1.25	1.25	1.50

Table 5. Lf: Load Position Factor

0.3Lo	0.5Lo	0.7Lo	0. Lo
1.10	1.00	0.83	0.70



7. Pitch Circle Diameter of Sprocket: D = 120mm
Driving Method: Single Row Chain
Driving Method Factor: Cf = 1.00
Load Position: L = 25 mm
Since the Lo dimension of ATC30L model is 36 mm,
L = 0.70Lo and then
Load Position Factor: Lf = 0.83

$$O.\ .L. = \frac{2000 \times T_E \times sf \times sf_1}{D} \times \frac{Cf}{Lf}$$

$$= \frac{2000 \times 88.2 \times 1.25 \times 1.13}{120} \times \frac{1.00}{0.83}$$

= 2502N

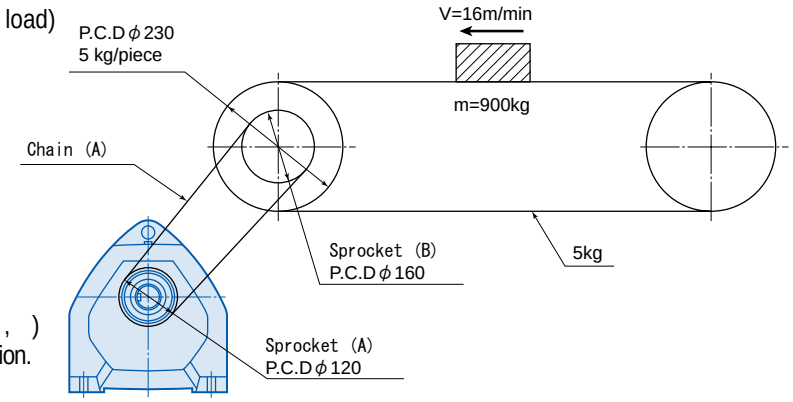
There is no problems since the allowable overhang load of the model selected in step 6 is 3970 N.

◆ Also refer to the selection tables for motors for 3-phase inverter on page B22 to 27 for the inverter driving.

Gearmotor Selection Example

pplication	Conveyor (moderate shock load)
Conveyance Speed	= 1 m/min
Conveyed Mass	m = 00kg
Duty Time	8 hours/day
Start/Stop requency	50 times/hour
riction actor	0.15 assumed
Chain Conveyance Efficiency	0. 5 assumed
ower Source	3-phase 200 50 z

The sprockets are attached to the center of the shafts
The load inertia moments of chain ( ) and sprockets (,) and miscellaneous conditions are not included in the calculation.



1. Determining Reduction Ratio

・Required conveyor shaft speed: $N_1 = \frac{1 \times 1000}{230 \times \pi} \fallingdotseq 22.1$r/min

・Gearmotor output shaft speed: $N = N_1 \times \frac{\text{Sprocket ( )}}{\text{Sprocket ( )}} = 22.1 \times \frac{1\ 0}{120} = 2\ .5$r/min

・ rom the selection tables (on page 14 to 20) for the output shaft speed close to 2 .5 r/min, you can obtain the reduction ratio 1/50 (30 r/min).

2. Calculating Load Torque

・Required conveyor shaft torque: $T_1 = 00 \times 0.15 \times \frac{230}{2 \times 1000} \times \frac{1}{0.\ 5} \times .8 = 1\ 0.2$N・m

・Load torque at gearmotor output shaft: $T_E = 1\ 0.2 \times \frac{120}{1\ 0} \times \frac{1}{0.\ 5} = 12\ .5$N・m

3. Calculating Output

・ rom the selection tables (on page 14 to 20), you can obtain the output 0.75 kW that meets the output shaft torque 12 .5 N・m with the reduction ratio 1/50.

4. Determining Service actor

・Service factor based on load condition and duty time: sf = 1.25 (moderate shock load, 8 hours/day, from Table 1 on page)

5. Considering Moment of Inertia of Load (J) and Startup requency

・Load inertia moment of conveyor: $J = \left[\frac{5+5}{2} + 00 + 5 \right] \times \left[\frac{230}{1000} \right]^2 \times \frac{1}{4} = 12.0\text{kg・m}^2$

・Load inertia moment at motor shaft: $J_L = 12.0 \times \left[\frac{120}{1\ 0} \right]^2 \times \left[\frac{1}{50} \right]^2 \times = 27 \times 10^{-4}\text{kg・m}^2$

・Moment of inertia of gearmotor: $J_M = 28 \times 10^{-4}\text{kg・m}^2$ (output 0.75 kW, 3-phase gearmotor, from page E)

・Load inertia moment ratio: $M = \frac{J_L}{J_M} = \frac{27 \times 10^{-4}}{28 \times 10^{-4}} = 0.$

・With the chain conveyance, startup frequency 50 times/hour, and load inertia moment ratio: M = 0. and from the service factor tables (Table 3 on page 7), the service factor based on inertia moment ratio and startup frequency: $sf_1 = 1.48$

. Selecting rame Size

・Required reduction part strength: $T_E \times sf \times sf_1 = 12\ .5 \times 1.25 \times 1.48 = 234$N・m

・ rom the selection tables (on page 14 to 20), the frame size that meets the reduction part strength 234 N・m with the reduction ratio 1/50 is:
In the case of class L: $T \times sf_G = 225 \times 1.00 = 225 < 234$
In the case of class S: $T \times sf_G = 214 \times 1.17 = 250 > 234$ and then
the reducer frame size is D50S.

7. Checking Overhang Load (O. .L.)

・O. .L. $= \frac{2000 \times T_E \times sf \times sf_1}{D} \times \frac{C_f}{L_f} = \frac{2000 \times 12\ .5 \times 1.25 \times 1.48}{120} \times \frac{1.00}{1.00} = 3\ 00\text{N}$

・There is no problems since the allowable overhang load of the reducer frame size D50S selected in step is 5100 N from the selection tables (on page 14 to 20).

8. Determining Model

・In conclusion, TD50S-0.75S is determined as the model of gearmotor (when using TOS I motor).

Gearmotor Standard Specifications

Motor

Type	Item	Standard Specifications		Standard Specifications with Built-in Brakes		
3-phase Motors	Motor Manufacturer	Toshiba Industrial Products Manufacturing Corporation	Sumitomo Heavy Industries, Ltd.	Toshiba Industrial Products Manufacturing Corporation		Sumitomo Heavy Industries, Ltd.
				SAV Brake	SBV Brake	FB Brake
	Capacity Range	0.1 kW - 7.5 kW 4	0.4 kW - 11 kW 4	0.1 kW - 7.5 kW 4	0.1 kW - 1.5 kW 4	0.4 kW - 11 kW 4
	rotection Method Enclosure	IP44 totally enclosed fan cooled type (0.1 kW is totally enclosed non ventilated type)	IP44 totally enclosed fan cooled type	IP20 totally enclosed fan cooled type (0.1 kW is totally enclosed non ventilated type)	IP20 totally enclosed fan cooled type (0.1 kW is totally enclosed non ventilated type)	IP44 totally enclosed fan cooled type
	ower Source	3 rated power 200 V 50/60 Hz, 220V60Hz Band voltage motor for 400 class	3 rated power 200 V 50/60 Hz, 220 V 60 Hz or 400V 50/60Hz, 440V60Hz	3 rated power 200 V 50/60 Hz, 220V60Hz	3 rated power 200 V 50/60 Hz, 220V60Hz	3 rated power 200 V 50/60 Hz, 220 V 60 Hz or 400V 50/60Hz, 440V60Hz
	Thermal Class	0.1 kW - 0.75 kW Class E 1.5 kW Class B 2.2 kW - 3.7 kW Class E 5.5 kW - 7.5 kW Class B	0.4 kW Class E 0.75 kW - 11 kW Class B	Class E	Class E	0.4 kW Class E 0.75 kW - 11 kW Class B (Brake is B thermal class)
	Time Rating	Continuous	Continuous	Continuous	Continuous	Continuous
	Starting Method	Direct: 0.1 kW - 3.7 kW 人-Δ start: 5.5 kW - 7.5 kW	Direct: 0.4 kW - 7.5 kW 人-Δ start: 11 kW	Direct: 0.1 kW - 3.7 kW 人-Δ start: 5.5 kW - 7.5kW	Direct	Direct: 0.4 kW - 7.5 kW 人-Δ start: 11 kW
	Lead Wiring	Lug type 3-terminal: 0.1 kW - 0.2 kW Screw clamp terminal block connection method 3-terminal: 0.4 kW - 3.7 kW Stud type terminal block method 6-terminal: 5.5 kW - 7.5 kW	Lug type 3-terminal: 0.4 kW - 7.5 kW 6-terminal: 11 kW	Lug type 5-terminal: 0.1 kW - 0.2 kW Screw clamp terminal block connection method 5-terminal: 0.4 kW - 3.7 kW Stud type terminal block method 8-terminal: 5.5 kW - 7.5 kW	Lug type 5-terminal: 0.1 kW - 0.2 kW Screw clamp terminal block connection method 5-terminal: 0.4 kW - 1.5 kW	Lug type 5-terminal: 0.4 kW - 7.5 kW 8-terminal: 11 kW
	Standards	JIS compliant		JIS compliant		
Single-phase Motors	Motor Manufacturer	Toshiba Industrial Products Manufacturing Corporation		Toshiba Industrial Products Manufacturing Corporation (SAVS Brake)		
	Capacity Range	0.1 kW - 0.75 kW 4 P		0.1 kW - 0.75kW 4 P		
	rotection Method Enclosure	IP22 dip-proof type: 0.1 kW - 0.4 kW IP44 totally enclosed fan cooled type: 0.75 kW (0.1 kW to 0.4 kW vertical type is IP20 protected type)		IP22 dip-proof type: 0.1 kW - 0.4 kW IP44 totally enclosed fan cooled type: 0.75 kW (0.1 kW to 0.4 kW vertical type is IP20 protected type)		
	ower Source	100V 50/60Hz: 0.1 kW - 0.2 kW Dual voltage 100/200 V 50/60 Hz: 0.4 kW - 0.75 kW		100V 50/60Hz: 0.1 kW - 0.2 kW Dual voltage 100/200 V 50/60 Hz: 0.4 kW - 0.75 kW		
	Thermal Class	0.1kW - 0.4kW E 0.75kW B		0.1kW - 0.4kW E 0.75kW B		
	Time Rating	Continuous		Continuous		
	Starting Method	Split phase start type: 0.1 kW - 0.2 kW Condenser start/condenser run type: 0.4 kW - 0.75 kW		Split phase start type: 0.1 kW - 0.2 kW Condenser start/condenser run type: 0.4 kW - 0.75 kW		
	Lead Wiring (Lug Type)	Lug type 4-terminal: 0.1 kW - 0.2 kW 6-terminal: 0.4 kW - 0.75 kW		Lug type 6-terminal: 0.1 kW - 0.2 kW 8-terminal: 0.4 kW - 0.75 kW		
	Standards	JIS compliant		JIS compliant		
3-phase Inverter Motors (Constant Torque)	Motor Manufacturer	Sumitomo Heavy Industries, Ltd.		Sumitomo Heavy Industries, Ltd. (FB Brake)		
	Capacity Range	0.2 kW - 7.5 kW 4 P		These are treated as individuals. Consult us.		
	rotection Method Enclosure	IP44 totally enclosed fan cooled type				
	ower Source	200 V 60 Hz, 220 V 60 Hz				
	Thermal Class					
	Time Rating	Continuous (6 - 60 Hz, constant torque characteristics)				
	Lead Wiring (Lug Type)	Lug type 3-terminal: 0.4kW - 7.5kW 6-terminal: 11kW				
	Standards	JIS compliant				

Gearmotor Standard Specifications

Gear

Item	Standard Specifications
Lubrication Method	Grease lubrication, Showa Shell Sekiyu K.K. Albania EPR000 grease (factory filled)
Speed Reduction Method	Circumscribed gear type with helical gears (2 to 4 reduction gears)
Casing Material	MFG500 Series, Frame size A to C: Aluminum alloy, Frame size D to K: Cast iron

Miscellaneous

Item		Standard Specifications
Ambient Conditions	Installation Location	Indoors (minimal dust and humidity)
	Ambient Temperature	-20 to 40 ℃ Note: -15 to 40 ℃ with brakes
	Ambient Humidity	Under 85 %, with no condensation
	Elevation	elow 1,000 meters
	Atmosphere	Well ventilated location, free of corrosive gases, explosive gases, vapors, and dust.
Installation Angle		Output shaft direction: Horizontal (with feet) or vertically downward
Painting		Paint component: Phthalic acid resin, Color: Approximate color of mancel 10 B 4/1.5 (neo selva gray)

M E M O

B Gearmotor

2. Selection Tables

	Page
3-phase/Single-phase Motors	B14
0.1kW・0.2kW	B14
0.4kW	B15
0.75kW	B16
1.5kW	B17
2.2kW	B18
3.7kW・5.5kW	B19
7.5kW・11kW	B20
Motor for Inverter	B22
0.2kW	B22
0.4kW	B23
0.75kW	B24
1.5kW	B25
2.2kW・3.7kW	B26
5.5kW・7.5kW	B27

0.1 kW, 0.2 kW Gearmotor Selection Tables

0.1 kW

Frequency	Hz	50	60
Poles	P	4	4
Motor Speed	r/min	1500	1800

3-phase	3-Phase with Brakes			Single-phase	Single-Phase with Brakes
	SAV	SBV	FB		

Reduction Ratio	Output Shaft Speed [r/min]		Nomenclature (△, ◎, □, ◇ : Refer to footnote 1. Nomenclature Detail : Refer to page B4 and B5)										Reduction Stages	Class	Actual Reduction Ratio	Output Shaft Allowable Torque Tout [N·m]		SF_G		Output Shaft Allowable Radial Load Pro [N]		Dimension Sheet Page			
																						Foot-Mounted		Flange-Mounted	
	50Hz	60Hz	Unit		Frame Size		Specifications									50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	3-phase	Single-phase	3-phase	Single-phas
5	300	360	MFG	△	518D	-	5R	◎	0.1	-	4	□	◇		L	4.865	2.84	2.35	1.00	1.20	353	294	B30	B42	B48	B58
10	150	180	MFG	△	518D	-	10R	◎	0.1	-	4	□	◇		L	10.096	5.98	4.90	1.00	1.20	686	588	B30	B42	B48	B58
15	100	120	MFG	△	518D	-	15R	◎	0.1	-	4	□	◇		L	14.643	8.73	7.16	1.00	1.20	1080	883	B30	B42	B48	B58
20	75	90	MFG	△	518D	-	20R	◎	0.1	-	4	□	◇	2	L	19.412	11.8	9.40	1.00	1.20	1470	1230	B30	B42	B48	B58
25	60	72	MFG	△	518D	-	25R	◎	0.1	-	4	□	◇		L	25.714	15.7	12.7	1.00	1.20	1520	1370	B30	B42	B48	B58
30	50	60	MFG	△	518D	-	30R	◎	0.1	-	4	□	◇		L	30.000	17.7	14.7	1.00	1.20	1570	1470	B30	B42	B48	B58
45	33	40	MFG	△	518D	-	45R	◎	0.1	-	4	□	◇		L	44.318	26.5	21.6	1.00	1.20	1670	1670	B30	B42	B48	B58
50	30	36	MFG	△	518D	-	50R	◎	0.1	-	4	□	◇		L	49.500	29.4	24.5	1.00	1.20	1670	1670	B30	B42	B48	B58
60	25	30	MFG	△	522T	-	60R	◎	0.1	-	4	□	◇		L	58.842	35.3	28.4	1.00	1.20	1770	1770	B30	B42	B48	B58
75	20	24	MFG	△	522T	-	75R	◎	0.1	-	4	□	◇		L	74.450	44.1	36.3	1.00	1.20	1770	1770	B30	B42	B48	B58
100	15	18	MFG	△	522T	-	100R	◎	0.1	-	4	□	◇		L	98.828	58.8	48.1	1.00	1.20	1770	1770	B30	B42	B48	B58
130	12	14	MFG	△	522T	-	130R	◎	0.1	-	4	□	◇	3	L	129.567	76.5	63.7	1.00	1.20	1770	1770	B30	B42	B48	B58
150	10	12	MFG	△	522T	-	150R	◎	0.1	-	4	□	◇		L	143.229	90.2	74.5	1.00	1.20	1770	1770	B30	B42	B48	B58
200	7.5	9.0	MFG	△	522T	-	200R	◎	0.1	-	4	□	◇		L	198.545	99.0	81.4	*	*	1770	1770	B30	B42	B48	B58
240	6.3	7.5	A	△	C240L	-	0.1	◎	□	◇					L	244.608	142	118	1.00	1.20	3970	3970	B32	B44	B50	B60
300	5.0	6.0	A	△	C300L	-	0.1	◎	□	◇					L	308.150	178	163	1.00	1.20	3970	3970	B32	B44	B50	B60
360	4.2	5.0	A	△	C360L	-	0.1	◎	□	◇				4	L	363.206	211	175	1.00	1.20	3970	3970	B32	B44	B50	B60
450	3.3	4.0	A	△	C450L	-	0.1	◎	□	◇					L	443.005	216	213	*	1.00	3970	3970	B32	B44	B50	B60
540	2.8	3.3	A	△	D540L	-	0.1	◎	□	◇					L	539.547	313	259	1.00	1.20	5100	5100	B33	B44	B51	B60
650	2.3	2.8	A	△	D650L	-	0.1	◎	□	◇				4	L	660.020	382	317	1.00	1.20	5100	5100	B33	B44	B51	B60
800	1.9	2.3	A	△	D800L	-	0.1	◎	□	◇					L	786.407	393	378	*	1.00	5100	5100	B33	B44	B51	B60
1000	1.5	1.8	A	△	E1000L	-	0.1	◎	□	◇				4	L	977.772	567	470	1.00	1.20	7350	7350	B34	B45	B52	B61

0.2 kW

Frequency	Hz	50	60
Poles	P	4	4
Motor Speed	r/min	1500	1800

3-phase	3-Phase with Brakes			Single-phase	Single-Phase with Brakes
	SAV	SBV	FB		

Reduction Ratio	Output Shaft Speed [r/min]		Nomenclature (△, ◎, □, ◇ : Refer to footnote 1. Nomenclature Detail : Refer to page B4 and B5)										Reduction Stages	Class	Actual Reduction Ratio	Output Shaft Allowable Torque Tout [N·m]		SF_G		Output Shaft Allowable Radial Load Pro [N]		Dimension Sheet Page			
																						Foot-Mounted		Flange-Mounted	
	50Hz	60Hz	Unit		Frame Size		Specifications									50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	3-phase	Single-phase	3-phase	Single-phas
5	300	360	MFG	△	518D	-	5R	◎	0.2	-	4	□	◇		L	4.980	5.88	4.81	1.00	1.20	353	294	B30	B42	B48	B58
10	150	180	MFG	△	518D	-	10R	◎	0.2	-	4	□	◇		L	10.045	11.8	9.7	1.00	1.20	686	588	B30	B42	B48	B58
15	100	120	MFG	△	518D	-	15R	◎	0.2	-	4	□	◇	2	L	14.667	17.7	13.7	1.00	1.20	1080	883	B30	B42	B48	B58
20	75	90	MFG	△	518D	-	20R	◎	0.2	-	4	□	◇		L	19.429	22.6	18.6	1.00	1.20	1470	1230	B30	B42	B48	B58
25	60	72	MFG	△	518D	-	25R	◎	0.2	-	4	□	◇		L	25.242	30.4	24.5	1.00	1.20	1520	1370	B30	B42	B48	B58
30	50	60	MFG	△	522D	-	30R	◎	0.2	-	4	□	◇	2	L	28.848	34.3	28.4	1.00	1.20	1670	1620	B30	B42	B48	B58
45	33	40	MFG	△	522T	-	45R	◎	0.2	-	4	□	◇		L	44.458	53.0	43.1	1.00	1.20	1770	1770	B30	B42	B48	B58
50	30	36	MFG	△	522T	-	50R	◎	0.2	-	4	□	◇		L	48.020	56.9	47.1	1.00	1.20	1770	1770	B30	B42	B48	B58
60	25	30	MFG	△	522T	-	60R	◎	0.2	-	4	□	◇	3	L	56.478	68.6	56.9	1.00	1.20	1770	1770	B30	B42	B48	B58
75	20	24	MFG	△	522T	-	75R	◎	0.2	-	4	□	◇		L	74.044	90.2	74.5	1.00	1.20	1770	1770	B30	B42	B48	B58
100	15	18	MFG	△	522T	-	100R	◎	0.2	-	4	□	◇		L	97.895	95.1	78.5	*	*	1770	1770	B30	B42	B48	B58
130	12	14	A	△	C130L	-	0.2	◎	□	◇					L	132.000	157	129	1.00	1.20	3970	3970	B32	B44	B50	B60
150	10	12	A	△	C150L	-	0.2	◎	□	◇				3	L	159.923	189	157	1.00	1.20	3970	3970	B32	B44	B50	B60
200	7.5	9.0	A	△	C200L	-	0.2	◎	□	◇					L	196.000	229	192	*	1.00	3970	3970	B32	B44	B50	B60
240	6.3	7.5	A	△	D240L	-	0.2	◎	□	◇					L	240.441	279	231	1.00	1.20	5100	5100	B33	B44	B51	B60
300	5.0	6.0	A	△	D300L	-	0.2	◎	□	◇					L	312.368	362	300	1.00	1.20	5100	5100	B33	B44	B51	B60
360	4.2	5.0	A	△	D360L	-	0.2	◎	□	◇				4	L	340.282	372	327	*	1.00	5100	5100	B33	B44	B51	B60
450	3.3	4.0	A	△	D450L	-	0.2	◎	□	◇					L	436.545	408	400	*	*	5100	5100	B33	B44	B51	B60
540	2.8	3.3	A	△	E540L	-	0.2	◎	□	◇					L	558.747	604	536	*	1.00	7350	7350	B34	B45	B52	B61
650	2.3	2.8	A	△	E650L	-	0.2	◎	□	◇				4	L	656.772	606	606	*	*	7350	7350	B34	B45	B52	B61
800	1.9	2.3	A	△	E800L	-	0.2	◎	□	◇					L	796.884	606	606	*	*	7350	7350	B34	B45	B52	B61
1000	1.5	1.8	A	△	F1000L	-	0.2	◎	□	◇				4	L	985.819	961	947	*	1.00	11600	11600	B35	B45	B53	B61

Note: 1. △ , ◎ , □ , and ◇ in the Nomenclature column should be replaced with the following specification items: Refer to page B4 and B5 for more details on the nomenclature of main unit.
△ : Gearmotor type, ◎ : Motor Manufacturer, □ : Motor Specification, ◇ : With or without brake
2. When * is indicated in SF_G column, the full capacity load [kW] of the motor will be an overload. Please use it within the value in the Output Shaft Allowable Torque column.
3. Motor speed represents a typical value. Refer to Technical Data E8 for more details.
4. Output shaft allowable radial load represents a value for the output shaft center.
5. For inverter driving in the frequency range of 6 to 60 Hz, select an appropriate model based on the allowable torque for 60 Hz. Also refer to B22 to 27 for combinations of the motor for inverter.

Gearmotor Selection Table 0.4 kW

0.4kW			
	Frequency	Hz	50	60
	Poles	P	4	4
	Motor Speed	r/min	1500	1800

3-phase	3-Phase with Brakes			Single-phase	Single-Phase with Brakes
	SAV	SBV	FB		

Reduction Ratio	Output Shaft Speed [r/min]		Nomenclature (△, ◎, □, ◇ : Refer to footnote 1. Nomenclature Detail : Refer to page B4 and B5)										Reduction Stages	Class	Actual Reduction Ratio	Output Shaft Allowable Torque Tout [N·m]		SF_G		Output Shaft Allowable Radial Load Pro [N]		Dimension Sheet Page			
																						Foot-Mounted		Flange-Mounted	
	50Hz	60Hz	Unit			Frame Size			Specifications							50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	3-phase	Single-phase	3-phase	Single-phas
5	300	360	A	△		R5G	-	0.4	◎	□	◇		2	G	5.022	12.0	10.0	1.00	1.20	735	637	B39	-	B55	-
			A	△		A5L	-	0.4	◎	□	◇			L	4.983	12.1	10.0	1.55	1.83	1180	1080	B31	B43	B49	B59
			A	△		B5S	-	0.4	◎	□	◇			S	4.900	11.9	9.8	1.55	1.83	1320	1270	B31	B43	B49	B59
10	150	180	A	△		R10G	-	0.4	◎	□	◇		2	G	10.130	25.0	20.0	1.00	1.20	1370	1320	B39	-	B55	-
			A	△		A10L	-	0.4	◎	□	◇			L	9.893	24.0	19.9	1.33	1.53	1520	1420	B31	B43	B49	B59
			A	△		B10S	-	0.4	◎	□	◇			S	10.316	25.0	20.7	1.34	1.61	1860	1620	B31	B43	B49	B59
15	100	120	A	△		R15G	-	0.4	◎	□	◇		2	G	14.790	36.0	30.0	1.00	1.20	1520	1470	B39	-	B55	-
			A	△		A15L	-	0.4	◎	□	◇			L	15.417	37.4	31.0	1.16	1.32	1570	1470	B31	B43	B49	B59
			A	△		B15S	-	0.4	◎	□	◇			S	15.273	37.1	30.7	1.24	1.32	2060	1960	B31	B43	B49	B59
20	75	90	A	△		R20G	-	0.4	◎	□	◇		2	G	19.592	48.0	39.0	1.00	1.20	1620	1570	B39	-	B55	-
			A	△		A20L	-	0.4	◎	□	◇			L	18.836	45.7	37.9	1.15	1.27	1570	1570	B31	B43	B49	B59
			A	△		B20S	-	0.4	◎	□	◇			S	20.653	50.1	41.5	1.28	1.27	2160	2110	B31	B43	B49	B59
25	60	72	A	△		A25G	-	0.4	◎	□	◇		2	G	26.190	64.0	53.0	1.00	1.20	1960	1910	B31	B43	B49	B59
			A	△		B25L	-	0.4	◎	□	◇			L	26.232	63.5	52.7	1.39	1.34	2160	2160	B31	B43	B49	B59
			A	△		C25S	-	0.4	◎	□	◇			S	25.212	61.1	50.6	1.55	1.83	3630	3380	B32	B44	B50	B60
30	50	60	A	△		A30G	-	0.4	◎	□	◇		2	G	29.091	71.0	58.0	1.00	1.20	2060	2010	B31	B43	B49	B59
			A	△		B30L	-	0.4	◎	□	◇			L	29.400	71.3	59.0	1.07	1.27	2160	2160	B31	B43	B49	B59
			A	△		C30S	-	0.4	◎	□	◇			S	31.418	76.2	63.1	1.55	1.83	3780	3530	B32	B44	B50	B60
45	33	40	A	△		S45G	-	0.4	◎	□	◇		3	G	44.832	106	88.0	1.00	1.10	1760	1760	B39	-	B55	-
			A	△		B45L	-	0.4	◎	□	◇			L	44.898	107	88.3	1.05	1.18	2160	2160	B31	B43	B49	B59
			A	△		C45S	-	0.4	◎	□	◇			S	46.383	110	91.1	1.46	1.38	3970	3970	B32	B44	B50	B60
50	30	36	A	△		S50G	-	0.4	◎	□	◇		3	G	48.423	115	95.0	1.00	1.10	1760	1760	B39	-	B55	-
			A	△		B50L	-	0.4	◎	□	◇			L	51.140	122	100	*	1.10	2160	2160	B31	B43	B49	B59
			A	△		C50S	-	0.4	◎	□	◇			S	50.445	120	99.0	1.40	1.43	3970	3970	B32	B44	B50	B60
60	25	30	A	△		S60G	-	0.4	◎	□	◇		3	G	59.952	126	104	*	*	1760	1760	B39	-	B55	-
			A	△		B60L	-	0.4	◎	□	◇			L	58.698	129	116	*	*	2160	2160	B31	B43	B49	B59
			A	△		C60S	-	0.4	◎	□	◇			S	60.445	143	119	1.25	1.44	3970	3970	B32	B44	B50	B60
75	20	24	A	△		B75L	-	0.4	◎	□	◇		3	L	73.576	131	130	*	*	2160	2160	B31	B43	B49	B59
			A	△		C75S	-	0.4	◎	□	◇			S	80.182	190	158	1.00	1.20	3970	3970	B32	B44	B50	B60
100	15	18	A	△		C100L	-	0.4	◎	□	◇		3	L	98.270	233	193	*	1.00	3970	3970	B32	B44	B50	B60
			A	△		D100S	-	0.4	◎	□	◇			S	98.117	232	193	1.31	1.56	5100	5100	B33	B44	B51	B60
130	12	14	A	△		C130L	-	0.4	◎	□	◇		3	L	127.726	226	223	*	*	3970	3970	B32	B44	B50	B60
			A	△		D130S	-	0.4	◎	□	◇			S	120.025	284	235	1.03	1.23	5100	5100	B33	B44	B51	B60
150	10	12	A	△		C150L	-	0.4	◎	□	◇		3	L	140.318	226	224	*	*	3970	3970	B32	B44	B50	B60
			A	△		D150S	-	0.4	◎	□	◇			S	151.232	330	297	*	*	5100	5100	B33	B44	B51	B60
200	7.5	9.0	A	△		D200L	-	0.4	◎	□	◇		3	L	184.403	437	362	*	1.07	5100	5100	B33	B44	B51	B60
			A	△		E200S	-	0.4	◎	□	◇			S	194.997	463	383	*	1.13	7350	7350	B34	B45	B52	B61
240	6.3	7.5	A	△		E240S	-	0.4	◎	□	◇		4	S	232.875	540	447	*	1.07	7350	7350	B34	B45	B52	B61
300	5.0	6.0	A	△		E300S	-	0.4	◎	□	◇			S	300.826	563	552	*	*	7350	7350	B34	B45	B52	B61
360	4.2	5.0	A	△		F360S	-	0.4	◎	□	◇		4	S	364.547	845	700	*	1.16	11600	11600	B35	B45	B53	B61
450	3.3	4.0	A	△		F450S	-	0.4	◎	□	◇			S	454.062	934	873	*	*	11600	11600	B35	B45	B53	B61
540	2.8	3.3	A	△		G540S	-	0.4	◎	□	◇		4	S	541.448	1260	1040	*	1.18	13700	13700	B36	B46	B54	B62
650	2.3	2.8	A	△		G650S	-	0.4	◎	□	◇			S	636.524	1370	1230	*	*	13700	13700	B36	B46	B54	B62
800	1.9	2.3	A	△		G800S	-	0.4	◎	□	◇			S	777.521	1390	1390	*	*	13700	13700	B36	B46	B54	B62
1000	1.5	1.8	A	△		H1000S	-	0.4	◎	□	◇		4	S	1094.976	1810	1790	*	*	18100	18100	B37	B46	-	-

Note: 1. △ , ◎ , □ , and ◇ in the Nomenclature column should be replaced with the following specification items: Refer to page B4 and B5 for more details on the nomenclature of main unit.
△ : Gearmotor type, ◎ : Motor Manufacturer, □ : Motor Specification, ◇ : With or without brake
2. When * is indicated in SF_G column, the full capacity load [kW] of the motor will be an overload. Please use it within the value in the Output Shaft Allowable Torque column.
3. Motor speed represents a typical value. Refer to Technical Data E8 for more details.
4. Output shaft allowable radial load represents a value for the output shaft center.
5. For inverter driving in the frequency range of 6 to 60 Hz, select an appropriate model based on the allowable torque for 60 Hz. Also refer to B22 to 27 for combinations of the motor for inverter.

0.75 kW Gearmotor Selection Tables

0.75kW			
Frequency	Hz	50	60
Poles	P	4	4
Motor Speed	r/min	1500	1800

3-phase	3-Phase with Brakes			Single-phase	Single-Phase with Brakes
	SAV	SBV	FB		

Reduction Ratio	Output Shaft Speed [r/min]		Nomenclature (△, ◎, ☐, ◇ : Refer to footnote 1. Nomenclature Detail : Refer to page B4 and B5)				Reduction Stages	Class	Actual Reduction Ratio	Output Shaft Allowable Torque Tout [N·m]		SF_G		Output Shaft Allowable Radial Load Pro [N]		Dimension Sheet Page			
																Foot-Mounted		Flange-Mounted	
	50Hz	60Hz	Unit	Frame Size	Specifications					50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	3-phase	Single-phase	3-phase	Single-phas
5	300	360	A △	T5G	- 0.75 ◎ ☐ ◇		2	G	4.983	23.0	19.0	1.00	1.20	1130	1030	B39	-	B55	-
			A △	B5L	- 0.75 ◎ ☐ ◇			L	5.113	23.2	19.2	1.51	1.58	1320	1270	B31	B43	B49	B59
			A △	C5S	- 0.75 ◎ ☐ ◇			S	5.048	22.9	19.0	1.52	1.78	1860	1520	B32	B44	B50	B60
10	150	180	A △	T10G	- 0.75 ◎ ☐ ◇		2	G	9.893	45.0	37.0	1.00	1.20	1570	1520	B39	-	B55	-
			A △	B10L	- 0.75 ◎ ☐ ◇			L	9.881	44.9	37.2	1.41	1.49	1520	1470	B31	B43	B49	B59
			A △	C10S	- 0.75 ◎ ☐ ◇			S	9.800	44.5	36.9	1.52	1.78	2600	2400	B32	B44	B50	B60
15	100	120	A △	T15G	- 0.75 ◎ ☐ ◇		2	G	15.417	70.0	58.0	1.00	1.20	1760	1720	B39	-	B55	-
			A △	B15L	- 0.75 ◎ ☐ ◇			L	15.595	70.9	58.7	1.17	1.29	1620	1620	B31	B43	B49	B59
			A △	C15S	- 0.75 ◎ ☐ ◇			S	14.552	66.1	54.8	1.52	1.78	2790	2600	B32	B44	B50	B60
20	75	90	A △	T20G	- 0.75 ◎ ☐ ◇		2	G	18.836	86.0	71.0	1.00	1.20	1860	1810	B39	-	B55	-
			A △	B20L	- 0.75 ◎ ☐ ◇			L	19.808	90.0	74.6	1.13	1.30	1670	1620	B31	B43	B49	B59
			A △	C20S	- 0.75 ◎ ☐ ◇			S	19.303	87.8	72.7	1.52	1.78	2890	2700	B32	B44	B50	B60
25	60	72	A △	B25G	- 0.75 ◎ ☐ ◇		2	G	26.232	119	99.0	1.00	1.20	2400	2350	B31	B43	B49	B59
			A △	C25L	- 0.75 ◎ ☐ ◇			L	24.055	109	90.6	1.52	1.78	3970	3970	B32	B44	B50	B60
			A △	D25S	- 0.75 ◎ ☐ ◇			S	24.315	111	91.6	1.52	1.78	4900	4760	B33	B44	B51	B60
30	50	60	A △	B30G	- 0.75 ◎ ☐ ◇		2	G	29.400	134	111	1.00	1.20	2450	2400	B31	B43	B49	B59
			A △	C30L	- 0.75 ◎ ☐ ◇			L	28.955	131	109	1.03	1.23	3970	3970	B32	B44	B50	B60
			A △	D30S	- 0.75 ◎ ☐ ◇			S	29.744	135	112	1.52	1.78	5050	4900	B33	B44	B51	B60
45	33	40	A △	B45G	- 0.75 ◎ ☐ ◇		3	G	44.898	160	132	*	*	2210	2210	B31	B43	B49	B59
			A △	C45L	- 0.75 ◎ ☐ ◇			L	46.460	207	172	*	1.06	3970	3970	B32	B44	B50	B60
			A △	D45S	- 0.75 ◎ ☐ ◇			S	44.163	196	163	1.23	1.39	5100	5100	B33	B44	B51	B60
50	30	36	A △	C50L	- 0.75 ◎ ☐ ◇		3	L	50.529	225	186	*	1.01	3970	3970	B32	B44	B50	B60
			A △	D50S	- 0.75 ◎ ☐ ◇			S	48.109	214	177	1.17	1.33	5100	5100	B33	B44	B51	B60
60	25	30	A △	C60L	- 0.75 ◎ ☐ ◇		3	L	60.545	242	223	*	*	3970	3970	B32	B44	B50	B60
			A △	D60S	- 0.75 ◎ ☐ ◇			S	57.823	257	213	1.06	1.20	5100	5100	B33	B44	B51	B60
75	20	24	A △	C75L	- 0.75 ◎ ☐ ◇		3	L	74.204	245	243	*	*	3970	3970	B32	B44	B50	B60
			A △	D75S	- 0.75 ◎ ☐ ◇			S	75.121	334	277	*	1.07	5100	5100	B33	B44	B51	B60
100	15	18	A △	D100L	- 0.75 ◎ ☐ ◇		3	L	94.653	421	349	*	1.04	5100	5100	B33	B44	B51	B60
			A △	E100S	- 0.75 ◎ ☐ ◇			S	92.688	412	341	1.10	1.24	7350	7350	B34	B45	B52	B61
130	12	14	A △	D130L	- 0.75 ◎ ☐ ◇		3	L	127.427	429	423	*	*	5100	5100	B33	B44	B51	B60
			A △	E130S	- 0.75 ◎ ☐ ◇			S	124.449	553	459	*	1.01	7350	7350	B34	B45	B52	B61
150	10	12	A △	D150L	- 0.75 ◎ ☐ ◇		3	L	141.183	426	422	*	*	5100	5100	B33	B44	B51	B60
			A △	E150S	- 0.75 ◎ ☐ ◇			S	150.567	483	475	*	*	7350	7350	B34	B45	B52	B61
200	7.5	9.0	A △	E200L	- 0.75 ◎ ☐ ◇		3	L	196.520	592	580	*	*	7350	7350	B34	B45	B52	B61
			A △	F200S	- 0.75 ◎ ☐ ◇			S	196.987	876	726	1.07	1.28	11600	11600	B35	B45	B53	B61
240	6.3	7.5	A △	F240S	- 0.75 ◎ ☐ ◇		4	S	237.615	963	856	*	*	11600	11600	B35	B45	B53	B61
300	5.0	6.0	A △	G300S	- 0.75 ◎ ☐ ◇		4	S	305.617	1320	1100	*	1.05	13700	13700	B36	B46	B54	B62
360	4.2	5.0	A △	G360S	- 0.75 ◎ ☐ ◇			S	345.480	1360	1250	*	*	13700	13700	B36	B46	B54	B62
450	3.3	4.0	A △	H450S	- 0.75 ◎ ☐ ◇		4	S	415.376	1780	1500	*	1.03	18100	18100	B37	B46	-	-
540	2.8	3.3	A △	H540S	- 0.75 ◎ ☐ ◇			S	563.065	1860	1820	*	*	18100	18100	B37	B46	-	-
650	2.3	2.8	A △	K650S	- 0.75 ◎ ☐ ◇		4	S	635.884	2770	2290	*	1.06	21600	21600	B38	B47	-	-
800	1.9	2.3	A △	K800S	- 0.75 ◎ ☐ ◇			S	796.726	2640	2610	*	*	21600	21600	B38	B47	-	-
1000	1.5	1.8	A △	K1000S	- 0.75 ◎ ☐ ◇		4	S	959.498	2710	2670	*	*	21600	21600	B38	B47	-	-

Note: 1. △ , ◎ , ☐ , and ◇ in the Nomenclature column should be replaced with the following specification items: Refer to page B4 and B5 for more details on the nomenclature of main unit.
△ : Gearmotor type, ◎ : Motor Manufacturer, ☐ : Motor Specification, ◇ : With or without brake
2. When * is indicated in SF_G column, the full capacity load [kW] of the motor will be an overload. Please use it within the value in the Output Shaft Allowable Torque column.
3. Motor speed represents a typical value. Refer to Technical Data E8 for more details.
4. Output shaft allowable radial load represents a value for the output shaft center.
5. For inverter driving in the frequency range of 6 to 60 Hz, select an appropriate model based on the allowable torque for 60 Hz. Also refer to B22 to 27 for combinations of the motor for inverter.

Gearmotor Selection Table 1.5 kW

1.5kW			
Frequency	Hz	50	60
Poles	P	4	4
Motor Speed	r/min	1500	1800

3-phase	3-Phase with Brakes			Single-phase	Single-Phase with Brakes
	SAV	SBV	FB		

Reduction Ratio	Output Shaft Speed [r/min]		Nomenclature (△, ◎, □, ◇ : Refer to footnote 1. Nomenclature Detail : Refer to page B4 and B5)										Reduction Stages	Class	Actual Reduction Ratio	Output Shaft Allowable Torque Tout [N·m]		SF_G		Output Shaft Allowable Radial Load Pro [N]		Dimension Sheet Page			
																						Foot-Mounted		Flange-Mounted	
	50Hz	60Hz	Unit		Frame Size		Specifications									50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	3-phase	Single-phase	3-phase	Single-phas
5	300	360	A	△	U5G	-	1.5	◎	□	◇			2	G	5.113	47.0	39.0	1.00	1.20	1670	1620	B40	-	B56	-
			A	△	C5L	-	1.5	◎	□	◇				L	4.859	44.1	36.6	1.35	1.38	1860	1520	B32	-	B50	-
			A	△	D5S	-	1.5	◎	□	◇				S	4.994	45.4	37.7	1.40	1.64	3190	3040	B33	-	B51	-
10	150	180	A	△	U10G	-	1.5	◎	□	◇			2	G	9.881	90.0	74.0	1.00	1.20	1960	1910	B40	-	B56	-
			A	△	C10L	-	1.5	◎	□	◇				L	9.802	89.1	73.8	1.40	1.54	3140	3040	B32	-	B50	-
			A	△	D10S	-	1.5	◎	□	◇				S	9.719	88.4	73.2	1.40	1.64	3730	3630	B33	-	B51	-
15	100	120	A	△	U15G	-	1.5	◎	□	◇			2	G	15.595	142	117	1.00	1.20	2110	2060	B40	-	B56	-
			A	△	C15L	-	1.5	◎	□	◇				L	15.364	139	116	1.33	1.39	3430	3330	B32	-	B50	-
			A	△	D15S	-	1.5	◎	□	◇				S	15.034	136	113	1.40	1.64	4070	3970	B33	-	B51	-
20	75	90	A	△	U20G	-	1.5	◎	□	◇			2	G	19.808	180	149	1.00	1.20	2110	2110	B40	-	B56	-
			A	△	C20L	-	1.5	◎	□	◇				L	19.145	174	144	1.11	1.32	3530	3480	B32	-	B50	-
			A	△	D20S	-	1.5	◎	□	◇				S	19.531	177	147	1.40	1.64	4220	4120	B33	-	B51	-
25	60	72	A	△	V25G	-	1.5	◎	□	◇			2	G	24.055	219	181	1.00	1.20	4070	3920	B40	-	B56	-
			A	△	D25L	-	1.5	◎	□	◇				L	23.893	217	180	1.23	1.44	4900	4760	B33	-	B51	-
			A	△	E25S	-	1.5	◎	□	◇				S	25.455	231	192	1.40	1.64	7210	6720	B34	-	B52	-
30	50	60	A	△	V30G	-	1.5	◎	□	◇			2	G	28.955	263	218	1.00	1.20	4220	4070	B40	-	B56	-
			A	△	D30L	-	1.5	◎	□	◇				L	27.942	254	211	1.23	1.42	5050	4900	B33	-	B51	-
			A	△	E30S	-	1.5	◎	□	◇				S	28.264	257	213	1.40	1.64	7350	6820	B34	-	B52	-
45	33	40	A	△	V45G	-	1.5	◎	□	◇			3	G	46.460	307	255	*	*	4220	4220	B40	-	B56	-
			A	△	D45L	-	1.5	◎	□	◇				L	45.665	406	336	*	1.01	5100	5100	B33	-	B51	-
			A	△	E45S	-	1.5	◎	□	◇				S	47.292	421	348	1.06	1.27	7350	7350	B34	-	B52	-
50	30	36	A	△	D50L	-	1.5	◎	□	◇			3	L	49.745	423	367	*	*	5100	5100	B33	-	B51	-
			A	△	E50S	-	1.5	◎	□	◇				S	51.705	460	380	*	1.17	7350	7350	B34	-	B52	-
60	25	30	A	△	D60L	-	1.5	◎	□	◇			3	L	59.790	431	421	*	*	5100	5100	B33	-	B51	-
			A	△	E60S	-	1.5	◎	□	◇				S	62.735	508	462	*	*	7350	7350	B34	-	B52	-
75	20	24	A	△	D75L	-	1.5	◎	□	◇			3	L	75.336	439	431	*	*	5100	5100	B33	-	B51	-
			A	△	E75S	-	1.5	◎	□	◇				S	74.755	647	548	*	1.05	7350	7350	B34	-	B52	-
100	15	18	A	△	E100L	-	1.5	◎	□	◇			3	L	99.967	662	646	*	*	7350	7350	B34	-	B52	-
			A	△	F100S	-	1.5	◎	□	◇				S	102.987	844	759	*	*	11600	11300	B35	-	B53	-
130	12	14	A	△	F130L	-	1.5	◎	□	◇			3	L	122.637	1040	903	*	*	11600	111600	B35	-	B53	-
			A	△	G130S	-	1.5	◎	□	◇				S	121.154	1080	892	1.04	1.24	13700	13700	B36	-	B54	-
150	10	12	A	△	F150L	-	1.5	◎	□	◇			3	L	149.610	1020	1020	*	*	11600	11600	B35	-	B53	-
			A	△	G150S	-	1.5	◎	□	◇				S	148.388	1270	1090	*	1.03	13700	13700	B36	-	B54	-
200	7.5	9.0	A	△	G200L	-	1.5	◎	□	◇			3	L	174.432	1500	1280	*	1.04	13700	13700	B36	-	B54	-
			A	△	H200S	-	1.5	◎	□	◇				S	196.987	1500	1450	*	*	18100	18100	B37	-	-	-
240	6.3	7.5	A	△	K240S	-	1.5	◎	□	◇			4	S	242.121	2110	1750	1.04	1.24	21600	21600	B38	-	-	-
300	5.0	6.0	A	△	K300S	-	1.5	◎	□	◇			4	S	303.364	2360	2190	*	*	21600	21600	B38	-	-	-
360	4.2	5.0	A	△	K360S	-	1.5	◎	□	◇			4	S	350.950	2390	2350	*	*	21600	21600	B38	-	-	-
450	3.3	4.0	A	△	K540S	-	1.5	◎	□	◇			4	S	539.313	3090	3090	*	*	21600	21600	B38	-	-	-

Note: 1. △ , ◎ , □ , and ◇ in the Nomenclature column should be replaced with the following specification items: Refer to page B4 and B5 for more details on the nomenclature of main unit.
△ : Gearmotor type, ◎ : Motor Manufacturer, □ : Motor Specification, ◇ : With or without brake
2. When * is indicated in SF_G column, the full capacity load [kW] of the motor will be an overload. Please use it within the value in the Output Shaft Allowable Torque column.
3. Motor speed represents a typical value. Refer to Technical Data E8 for more details.
4. Output shaft allowable radial load represents a value for the output shaft center.
5. For inverter driving in the frequency range of 6 to 60 Hz, select an appropriate model based on the allowable torque for 60 Hz. Also refer to B22 to 27 for combinations of the motor for inverter.

2.2 kW Gearmotor Selection Tables

2.2kW			
	Frequency Hz	50	60
	Poles P	4	4
	Motor Speed r/min	1500	1800

3-phase	3-Phase with Brakes			Single-phase	Single-Phase with Brakes
	SAV	SBV	FB		

Reduction Ratio	Output Shaft Speed [r/min]		Nomenclature (△, ◎, □, ◇ : Refer to footnote 1. Nomenclature Detail : Refer to page B4 and B5)				Reduction Stages	Class	Actual Reduction Ratio	Output Shaft Allowable Torque Tout [N·m]		SF_G		Output Shaft Allowable Radial Load Pro [N]		Dimension Sheet Page			
																Foot-Mounted		Flange-Mounted	
	50Hz	60Hz	Unit	Frame Size	Specifications							50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	3-phase	Single-phase	3-phase	Single-phas
5	300	360	A △	V5G	- 2.2 ◎ □ ◇		2	G	4.859	65.0	54.0	1.00	1.20	2060	1910	B40	-	B56	-
			A △	D5L	- 2.2 ◎ □ ◇			L	5.141	68.5	56.8	1.32	1.55	3190	3040	B33	-	B51	-
			A △	E5S	- 2.2 ◎ □ ◇			S	4.848	64.6	53.5	1.32	1.55	3480	3090	B34	-	B52	-
10	150	180	A △	V10G	- 2.2 ◎ □ ◇		2	G	9.802	131	108	1.00	1.20	3040	2940	B40	-	B56	-
			A △	D10L	- 2.2 ◎ □ ◇			L	9.761	130	108	1.32	1.51	3730	3630	B33	-	B51	-
			A △	E10S	- 2.2 ◎ □ ◇			S	10.287	137	114	1.32	1.55	5540	5150	B34	-	B52	-
15	100	120	A △	V15G	- 2.2 ◎ □ ◇		2	G	15.364	205	170	1.00	1.20	3380	3280	B40	-	B56	-
			A △	D15L	- 2.2 ◎ □ ◇			L	15.944	213	177	1.28	1.40	4070	3970	B33	-	B51	-
			A △	E15S	- 2.2 ◎ □ ◇			S	14.773	197	163	1.32	1.55	5980	5540	B34	-	B52	-
20	75	90	A △	V20G	- 2.2 ◎ □ ◇		2	G	19.145	255	211	1.00	1.20	3530	3430	B40	-	B56	-
			A △	D20L	- 2.2 ◎ □ ◇			L	19.504	260	216	1.19	1.34	4220	4120	B33	-	B51	-
			A △	E20S	- 2.2 ◎ □ ◇			S	21.212	282	234	1.32	1.55	6330	5880	B34	-	B52	-
25	60	72	A △	D25G	- 2.2 ◎ □ ◇		2	G	23.893	319	264	1.00	1.20	4950	4800	B33	-	B51	-
			A △	E25L	- 2.2 ◎ □ ◇			L	23.554	314	260	1.32	1.55	7350	7350	B34	-	B52	-
			A △	F25S	- 2.2 ◎ □ ◇			S	23.766	317	263	1.32	1.55	7850	7650	B35	-	B53	-
30	50	60	A △	D30G	- 2.2 ◎ □ ◇		2	G	27.942	373	309	1.00	1.20	5100	4950	B33	-	B51	-
			A △	E30L	- 2.2 ◎ □ ◇			L	27.686	369	306	1.29	1.51	7350	7350	B34	-	B52	-
			A △	F30S	- 2.2 ◎ □ ◇			S	28.636	381	317	1.32	1.55	8040	7850	B35	-	B53	-
45	33	40	A △	D45G	- 2.2 ◎ □ ◇		3	G	45.665	496	411	*	*	4310	4310	B33	-	B51	-
			A △	E45L	- 2.2 ◎ □ ◇			L	45.818	597	495	*	*	7350	7350	B34	-	B52	-
			A △	F45S	- 2.2 ◎ □ ◇			S	43.182	563	467	1.08	1.22	9760	9460	B35	-	B53	-
50	30	36	A △	E50L	- 2.2 ◎ □ ◇		3	L	50.093	632	541	*	*	7350	7350	B34	-	B52	-
			A △	F50S	- 2.2 ◎ □ ◇			S	53.342	695	577	*	1.09	10000	9760	B35	-	B53	-
60	25	30	A △	E60L	- 2.2 ◎ □ ◇		3	L	60.779	634	628	*	*	7350	7350	B34	-	B52	-
			A △	F60S	- 2.2 ◎ □ ◇			S	62.374	814	674	*	1.01	10100	10000	B35	-	B53	-
75	20	24	A △	F75L	- 2.2 ◎ □ ◇		3	L	73.396	830	793	*	*	10500	10300	B35	-	B53	-
			A △	G75S	- 2.2 ◎ □ ◇			S	72.808	949	786	1.05	1.19	13700	13700	B36	-	B54	-
100	15	18	A △	F100L	- 2.2 ◎ □ ◇		3	L	102.198	1070	1060	*	*	11600	11300	B35	-	B53	-
			A △	G100S	- 2.2 ◎ □ ◇			S	100.962	1230	1090	*	1.01	13700	13700	B36	-	B54	-
130	12	14	A △	G130L	- 2.2 ◎ □ ◇		3	L	123.657	1470	1330	*	*	13700	13700	B36	-	B54	-
			A △	H130S	- 2.2 ◎ □ ◇			S	125.169	1470	1350	*	*	18100	18100	B37	-	-	-
150	10	12	A △	G150L	- 2.2 ◎ □ ◇		3	L	145.360	1470	1450	*	*	13700	13700	B36	-	B54	-
			A △	H150S	- 2.2 ◎ □ ◇			S	149.161	1470	1470	*	*	18100	18100	B37	-	-	-
200	7.5	9.0	A △	K200S	- 2.2 ◎ □ ◇		3	S	198.751	2590	2150	*	1.09	21600	21600	B38	-	-	-
240	6.3	7.5	A △	K240S	- 2.2 ◎ □ ◇		4	S	233.418	2470	2440	*	*	21600	21600	B38	-	-	-
300	5.0	6.0	A △	K300S	- 2.2 ◎ □ ◇			S	297.848	3070	3040	*	*	21600	21600	B38	-	-	-

Note: 1. △ , ◎ , □ , and ◇ in the Nomenclature column should be replaced with the following specification items: Refer to page B4 and B5 for more details on the nomenclature of main unit.
△ : Gearmotor type, ◎ : Motor Manufacturer, □ : Motor Specification, ◇ : With or without brake
2. When * is indicated in SF_G column, the full capacity load [kW] of the motor will be an overload. Please use it within the value in the Output Shaft Allowable Torque column.
3. Motor speed represents a typical value. Refer to Technical Data E8 for more details.
4. Output shaft allowable radial load represents a value for the output shaft center.
5. For inverter driving in the frequency range of 6 to 60 Hz, select an appropriate model based on the allowable torque for 60 Hz. Also refer to B22 to 27 for combinations of the motor for inverter.

Gearmotor Selection Table 3.7 kW, 5.5 kW

3.7kW

		50Hz	60Hz
Frequency	Hz	50	60
Poles	P	4	4
Motor Speed	r/min	1500	1800

3-phase: 3-Phase with Brakes (SAV, SBV, FB); Single-phase; Single-Phase with Brakes

Reduction Ratio	Output Shaft Speed [r/min] 50Hz	60Hz	Nomenclature (△, ◎, □, ◇ : Refer to footnote 1. Nomenclature Detail : Refer to page B4 and B5) Unit	Frame Size	Specifications	Reduction Stages	Class	Actual Reduction Ratio	Output Shaft Allowable Torque Tout [N·m] 50Hz	60Hz	SF_G 50Hz	60Hz	Output Shaft Allowable Radial Load Pro [N] 50Hz	60Hz	Dimension Sheet Page Foot-Mounted 3-phase	Foot-Mounted Single-phase	Flange-Mounted 3-phase	Flange-Mounted Single-phas
5	300	360	A △	E5L	- 3.7 ◎ □ ◇	2	L	4.949	111	92.0	1.32	1.29	3480	3090	B34	-	B52	-
			A △	F5S	- 3.7 ◎ □ ◇		S	5.023	113	93.4	1.32	1.29	3480	3090	B35	-	B53	-
10	150	180	A △	E10L	- 3.7 ◎ □ ◇	2	L	10.107	227	187	1.32	1.32	6820	6570	B34	-	B52	-
			A △	F10S	- 3.7 ◎ □ ◇		S	9.852	221	183	1.32	1.32	6820	6570	B35	-	B53	-
15	100	120	A △	E15L	- 3.7 ◎ □ ◇	2	L	14.727	330	274	1.29	1.34	7350	7160	B34	-	B52	-
			A △	F15S	- 3.7 ◎ □ ◇		S	14.682	330	273	1.32	1.34	7350	7160	B35	-	B53	-
20	75	90	A △	E20L	- 3.7 ◎ □ ◇	2	L	19.785	443	368	1.03	1.17	7350	7350	B34	-	B52	-
			A △	F20S	- 3.7 ◎ □ ◇		S	20.201	453	376	1.32	1.46	7550	7350	B35	-	B53	-
25	60	72	A △	F25L	- 3.7 ◎ □ ◇	2	L	24.341	546	452	1.20	1.31	7850	7650	B35	-	B53	-
			A △	G25S	- 3.7 ◎ □ ◇		S	25.057	562	466	1.32	1.52	11400	11100	B36	-	B54	-
30	50	60	A △	F30L	- 3.7 ◎ □ ◇	2	L	28.205	633	524	1.04	1.21	8040	7850	B35	-	B53	-
			A △	G30S	- 3.7 ◎ □ ◇		S	29.455	661	547	1.32	1.52	11800	11500	B36	-	B54	-
45	33	40	A △	F45L	- 3.7 ◎ □ ◇	3	L	44.807	981	814	*	*	8040	8040	B35	-	B53	-
			A △	G45S	- 3.7 ◎ □ ◇		S	46.364	1020	842	1.09	1.29	13700	13500	B36	-	B54	-
50	30	36	A △	F50L	- 3.7 ◎ □ ◇	3	L	52.394	1060	952	*	*	8040	8040	B35	-	B53	-
			A △	G50S	- 3.7 ◎ □ ◇		S	50.356	1110	915	1.01	1.20	13700	13700	B36	-	B54	-
60	25	30	A △	F60L	- 3.7 ◎ □ ◇	3	L	57.000	1080	1010	*	*	8290	8040	B35	-	B53	-
			A △	G60S	- 3.7 ◎ □ ◇		S	56.924	1250	1040	*	1.07	13700	13700	B36	-	B54	-
75	20	24	A △	G75L	- 3.7 ◎ □ ◇	3	L	74.103	1270	1260	*	*	13700	13700	B36	-	B54	-
			A △	H75S	- 3.7 ◎ □ ◇		S	72.409	1590	1310	1.06	1.20	18100	18100	B37	-	-	-
100	15	18	A △	G100L	- 3.7 ◎ □ ◇	3	L	94.659	1620	1590	*	*	13700	13700	B36	-	B54	-
			A △	H100S	- 3.7 ◎ □ ◇		S	101.108	1890	1830	*	*	18100	18100	B37	-	-	-
130	12	14	A △	K130S	- 3.7 ◎ □ ◇	3	S	120.055	2640	2190	*	1.15	21600	21600	B38	-	-	-
150	10	12	A △	K150S	- 3.7 ◎ □ ◇		S	144.582	2790	2630	*	*	21600	21600	B38	-	-	-

5.5kW

		50Hz	60Hz
Frequency	Hz	50	60
Poles	P	4	4
Motor Speed	r/min	1500	1800

3-phase: 3-Phase with Brakes (SAV, SBV, FB); Single-phase; Single-Phase with Brakes

Reduction Ratio	Output Shaft Speed [r/min] 50Hz	60Hz	Nomenclature (△, ◎, □, ◇ : Refer to footnote 1. Nomenclature Detail : Refer to page B4 and B5) Unit	Frame Size	Specifications	Reduction Stages	Class	Actual Reduction Ratio	Output Shaft Allowable Torque Tout [N·m] 50Hz	60Hz	SF_G 50Hz	60Hz	Output Shaft Allowable Radial Load Pro [N] 50Hz	60Hz	Dimension Sheet Page Foot-Mounted 3-phase	Foot-Mounted Single-phase	Flange-Mounted 3-phase	Flange-Mounted Single-phas
5	300	360	A △	F5S	- 5.5 ◎ □ ◇	2	S	5.065	169	140	1.32	1.48	2650	2060	B35	-	B53	-
10	150	180	A △	F10S	- 5.5 ◎ □ ◇	2	S	9.692	323	268	1.32	1.50	6080	4610	B35	-	B53	-
15	100	120	A △	F15S	- 5.5 ◎ □ ◇	2	S	15.077	502	417	1.09	1.24	6960	6520	B35	-	B53	-
20	75	90	A △	G20S	- 5.5 ◎ □ ◇	2	S	19.856	662	548	1.32	1.52	11100	10400	B36	-	B54	-
25	60	72	A △	H25S	- 5.5 ◎ □ ◇	2	S	23.192	773	640	1.30	1.47	15000	14100	B37	-	-	-
30	50	60	A △	H30S	- 5.5 ◎ □ ◇	2	S	29.082	969	803	1.24	1.42	16000	15000	B37	-	-	-
45	33	40	A △	H45S	- 5.5 ◎ □ ◇	3	S	42.878	1400	1160	1.04	1.06	17000	16600	B37	-	-	-
50	30	36	A △	H50S	- 5.5 ◎ □ ◇	3	S	50.242	1640	1350	*	1.06	17800	16800	B37	-	-	-
60	25	30	A △	H60S	- 5.5 ◎ □ ◇	3	S	59.873	1670	1620	*	*	18100	17800	B37	-	-	-
75	20	24	A △	K75S	- 5.5 ◎ □ ◇	3	S	74.555	2430	2010	*	1.09	21600	21300	B38	-	-	-
100	15	18	A △	K100S	- 5.5 ◎ □ ◇	3	S	95.135	2790	2570	*	*	21600	21600	B38	-	-	-

Note: 1. △ , ◎ , □ , and ◇ in the Nomenclature column should be replaced with the following specification items: Refer to page B4 and B5 for more details on the nomenclature of main unit.
△ : Gearmotor type, ◎ : Motor Manufacturer, □ : Motor Specification, ◇ : With or without brake
2. When * is indicated in SF_G column, the full capacity load [kW] of the motor will be an overload. Please use it within the value in the Output Shaft Allowable Torque column.
3. Motor speed represents a typical value. Refer to Technical Data E8 for more details.
4. Output shaft allowable radial load represents a value for the output shaft center.
5. For inverter driving in the frequency range of 6 to 60 Hz, select an appropriate model based on the allowable torque for 60 Hz. Also refer to B22 to 27 for combinations of the motor for inverter.

7.5 kW, 11 kW Gearmotor Selection Tables

7.5kW

Frequency	Hz	50	60
Poles	P	4	4
Motor Speed	r/min	1500	1800

3-phase	3-Phase with Brakes			Single-phase	Single-Phase with Brakes
	SAV	SBV	FB		

Reduction Ratio	Output Shaft Speed [r/min]		Nomenclature (△, ◎, □, ◇ : Refer to footnote 1. Nomenclature Detail : Refer to page B4 and B5)							Reduction Stages	Class	Actual Reduction Ratio	Output Shaft Allowable Torque Tout [N·m]		SF_G		Output Shaft Allowable Radial Load Pro [N]		Dimension Sheet Page			
																			Foot-Mounted		Flange-Mounted	
	50Hz	60Hz	Unit		Frame Size	-	Specifications								50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	3-phase	Single-phase	3-phase	Single-phas
5	300	360	A	△	G5S	-	7.5	◎	□	◇				2	S	5.054	229	190	1.32	1.52	3820	2650	B36	-	B54	-
10	150	180	A	△	G10S	-	7.5	◎	□	◇				2	S	9.988	454	377	1.32	1.52	8780	6470	B36	-	B54	-
15	100	120	A	△	G15S	-	7.5	◎	□	◇				2	S	14.796	673	557	1.28	1.45	9810	9220	B36	-	B54	-
20	75	90	A	△	H20S	-	7.5	◎	□	◇				2	S	20.250	921	763	1.25	1.40	13500	12700	B37	-	-	-
25	60	72	A	△	K25S	-	7.5	◎	□	◇				2	S	24.456	1110	921	1.32	1.52	16100	15100	B38	-	-	-
30	50	60	A	△	K30S	-	7.5	◎	□	◇				2	S	29.013	1310	1090	1.25	1.40	17100	16100	B38	-	-	-
45	33	40	A	△	K45S	-	7.5	◎	□	◇				3	S	44.389	1970	1640	*	1.12	18800	17700	B38	-	-	-
50	30	36	A	△	K50S	-	7.5	◎	□	◇				3	S	51.352	2240	1890	*	1.00	19700	18700	B38	-	-	-
60	25	30	A	△	K60S	-	7.5	◎	□	◇				3	S	64.341	2480	2310	*	*	21600	20300	B38	-	-	-

11kW

Frequency	Hz	50	60
Poles	P	4	4
Motor Speed	r/min	1500	1800

3-phase	3-Phase with Brakes			Single-phase	Single-Phase with Brakes
	SAV	SBV	FB		

Reduction Ratio	Output Shaft Speed [r/min]		Nomenclature (△, ◎, □, ◇ : Refer to footnote 1. Nomenclature Detail : Refer to page B4 and B5)							Reduction Stages	Class	Actual Reduction Ratio	Output Shaft Allowable Torque Tout [N·m]		SF_G		Output Shaft Allowable Radial Load Pro [N]		Dimension Sheet Page			
																			Foot-Mounted		Flange-Mounted	
	50Hz	60Hz	Unit		Frame Size	-	Specifications								50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	3-phase	Single-phase	3-phase	Single-phas
5	300	360	A	△	H5S	-	11	◎	□	◇				2	S	4.952	330	274	1.31	1.31	2840	2350	B37	-	-	-
10	150	180	A	△	H10S	-	11	◎	□	◇				2	S	9.905	660	547	1.32	1.34	7350	6080	B37	-	-	-
15	100	120	A	△	H15S	-	11	◎	□	◇				2	S	15.352	1020	848	1.09	1.23	12000	11300	B37	-	-	-
20	75	90	A	△	K20S	-	11	◎	□	◇				2	S	20.286	1350	1120	1.24	1.40	14200	13300	B38	-	-	-

Note: 1. △ , ◎ , □ , and ◇ in the Nomenclature column should be replaced with the following specification items: Refer to page B4 and B5 for more details on the nomenclature of main unit.
△ : Gearmotor type, ◎ : Motor Manufacturer, □ : Motor Specification, ◇ : With or without brake
2. When * is indicated in SF_G column, the full capacity load [kW] of the motor will be an overload. Please use it within the value in the Output Shaft Allowable Torque column.
3. Motor speed represents a typical value. Refer to Technical Data E8 for more details.
4. Output shaft allowable radial load represents a value for the output shaft center.
5. For inverter driving in the frequency range of 6 to 60 Hz, select an appropriate model based on the allowable torque for 60 Hz. Also refer to B22 to 27 for combinations of the motor for inverter.

M E M O

0.2 kW Gearmotor Selection Table (3-phase Motors for nverter)

0.2 kW	ase requency		0
	oles		
	Motor Speed	r min	1 00

Reduction Ratio	utput Shaft Speed r min			omenclature (△ : Gearmotor type omenclature etails : Refer to page and 5)	Reduction Stages	Class	ctual Reduction Ratio	utput Shaft llowable Torque Tout (·m)	S G	utput Shaft llowable Radial Load ro	imension Sheet age	
		0	llowable Speed	nit rame Si e Specifications				0	0	0	oot-Mounted	lange-Mounted
5	3	3 0	720 (120)	△ 5L - 0.2 Su ( )	2	L	. 3	5.00	3.	10 0	31	
				△ 5S - 0.2 Su ( )		S	. 00	. 0	3.	1270	31	
10	1	1 0	3 0 (120)	△ 10L - 0.2 Su ( )	2	L	. 3	. 5	3.0	1 20	31	
				△ 10S - 0.2 Su ( )		S	10.31	10.3	3.22	1 20	31	
15	12	120	2 0 (120)	△ 15L - 0.2 Su ( )	2	L	15. 17	15.5	2.	1 70	31	
				△ 15S - 0.2 Su ( )		S	15.273	15.	2.	1 0	31	
20	.0	0	1 0 (120)	△ 20L - 0.2 Su ( )	2	L	1 . 3	1 .0	2.5	1570	31	
				△ 20S - 0.2 Su ( )		S	20. 53	20.	2.5	2110	31	
25	7.2	72	1 (120)	△ 25L - 0.2 Su ( )	2	L	2 .232	2 .	2.	21 0	31	
				△ C25S - 0.2 Su ( )		S	25.212	25.3	3.	33 0	32	50
30	.0	0	120 (120)	△ 30L - 0.2 Su ( )	2	L	2 . 00	2 .5	2.5	21 0	31	
				△ C30S - 0.2 Su ( )		S	31. 1	31.	3.	3530	32	50
5	.0	0	0 (120)	△ 5L - 0.2 Su ( )	3	L	.	.2	2.3	21 0	31	
				△ C 5S - 0.2 Su ( )		S	.3 3	5.	2.7	3 70	32	50
50	3.	3	72 (120)	△ 50L - 0.2 Su ( )	3	L	51.1 0	50.0	2.20	21 0	31	
				△ C50S - 0.2 Su ( )		S	50. 5	.5	2.	3 70	32	50
0	3.0	30	0 (120)	△ 0L - 0.2 Su ( )	3	L	5 .	57.	2.10	21 0	31	
				△ C 0S - 0.2 Su ( )		S	0. 5	5 .5	2.	3 70	32	50
75	2.	2	(120)	△ 75L - 0.2 Su ( )	3	L	73.57	72.2	1. 0	21 0	31	
				△ C75S - 0.2 Su ( )		S	0.1 2	7 .0	2. 0	3 70	32	50
100	1.	1	3 (120)	△ C100L - 0.2 Su ( )	3	L	.270	.5	2.00	3 70	32	50
				△ 100S - 0.2 Su ( )		S	.117	.5	3.12	5100	33	51
130	1.	1	27. (120)	△ C130L - 0.2 Su ( )	3	L	127.72	12	1. 0	3 70	32	50
				△ 130S - 0.2 Su ( )		S	120.025	11	2.	5100	33	51
150	1.2	12	2 (120)	△ C150L - 0.2 Su ( )	3	L	1 0.31	1 0	1. 0	3 70	32	50
				△ 150S - 0.2 Su ( )		S	151.232	1 7	2.02	5100	33	51
200	0.	.0	1 (120)	△ 200L - 0.2 Su ( )	3	L	1 . 03	1 1	2.1	5100	33	51
				△ E200S - 0.2 Su ( )		S	1 . 7	1 2	2.2	7350	3	52
2 0	0.75	7.5	15 (120)	△ E2 0S - 0.2 Su ( )		S	232. 75	22	2.1	7350	3	52
300	0. 0	.0	12 (120)	△ E300S - 0.2 Su ( )		S	300. 2	2 1	1. 0	7350	3	52
3 0	0.50	5.0	10 (120)	△ 3 0S - 0.2 Su ( )		S	3 .5 7	350	2.32	11 00	35	53
50	0. 0	.0	.0 (120)	△ 50S - 0.2 Su ( )		S	5 .0 2	1	2.10	11 00	35	53
5 0	0.33	3.3	. (120)	△ G5 0S - 0.2 Su ( )		S	5 1.	520	2.3	13700	3	5
50	0.2	2.	5. (120)	△ G 50S - 0.2 Su ( )		S	3 .52	55	2.20	13700	3	5
00	0.23	2.3	. (120)	△ G 00S - 0.2 Su ( )		S	777.521	751	1. 5	13700	3	5
1000	0.1	1.	3. (120)	△ 1000S - 0.2 Su ( )		S	10 . 7	1053	1.70	1 100	37	-

ote: 1. △ in the omenclature column should be replaced with a symbol representing the gearmotor type. Refer to page and 5 for more details on the nomenclature of main unit.
2. Motor speed represents a typical value. Refer to Technical ata E for more details.
3. utput shaft allowable radial load represents a value for the output shaft center.
. n the range of to 0 , you should select a model according to the allowable torque at 0 .

Gearmotor Selection Table (3-phase Motors for nverter) 0. kW

0. kW	ase requency		0
	oles		
	Motor Speed	r min	1 00

Reduction Ratio	utput Shaft Speed r min		llowable Speed	omenclature (△ : Gearmotor type omenclature etails : Refer to page and 5) nit rame Si e Specifications	Reduction Stages	Class	ctual Reduction Ratio	utput Shaft llowable Torque Tout (·m) 0	S G 0	utput Shaft llowable Radial Load ro 0	imension Sheet age oot-Mounted	lange-Mounted
5	3	3 0	00 (100)	△ 5L - 0. Su ( )	2	L	5.113	10.2	2.	1270	31	
				△ C5S - 0. Su ( )		S	5.0	10.1	3.3	1520	32	50
10	1	1 0	300 (100)	△ 10L - 0. Su ( )	2	L	. 1	1 .	2.7	1 70	31	
				△ C10S - 0. Su ( )		S	. 00	1 .7	3.3	2 00	32	50
15	12	120	200 (100)	△ 15L - 0. Su ( )	2	L	15.5 5	31.3	2. 2	1 20	31	
				△ C15S - 0. Su ( )		S	1 .552	2 .2	3.3	2 00	32	50
20	.0	0	150 (100)	△ 20L - 0. Su ( )	2	L	1 . 0	3 .	2.	1 20	31	
				△ C20S - 0. Su ( )		S	1 .303	3 .	3.3	2700	32	50
25	7.2	72	120 (100)	△ C25L - 0. Su ( )	2	L	2 .055	.3	3.3	3 70	32	50
				△ 25S - 0. Su ( )		S	2 .315	.	3.3	7 0	33	51
30	.0	0	100 (100)	△ C30L - 0. Su ( )	2	L	2 . 55	5 .1	2.31	3 70	32	50
				△ 30S - 0. Su ( )		S	2 .7	5 .7	3.3	00	33	51
5	.0	0	7 (100)	△ C 5L - 0. Su ( )	3	L	. 0	1.7	1.	3 70	32	50
				△ 5S - 0. Su ( )		S	.1 3	.	2. 1	5100	33	51
50	3.	3	0 (100)	△ C50L - 0. Su ( )	3	L	50.52	.2	1.	3 70	32	50
				△ 50S - 0. Su ( )		S	.10	.	2.	5100	33	51
0	3.0	30	50 (100)	△ C 0L - 0. Su ( )	3	L	0.5 5	11	1.	3 70	32	50
				△ 0S - 0. Su ( )		S	57. 23	11	2.25	5100	33	51
75	2.	2	0 (100)	△ C75L - 0. Su ( )	3	L	7 .20	1 5	1.	3 70	32	50
				△ 75S - 0. Su ( )		S	75.121	1	2.01	5100	33	51
100	1.	1	30 (100)	△ 100L - 0. Su ( )	3	L	. 53	1	1. 5	5100	33	51
				△ E100S - 0. Su ( )		S	2.	1 2	2.33	7350	3	52
130	1.	1	23 (100)	△ 130L - 0. Su ( )	3	L	127. 27	2	1.70	5100	33	51
				△ E130S - 0. Su ( )		S	12 .	2 5	1.	7350	3	52
150	1.2	12	20 (100)	△ 150L - 0. Su ( )	3	L	1 1.1 3	277	1.53	5100	33	51
				△ E150S - 0. Su ( )		S	150.5 7	2 7	1. 0	7350	3	52
200	0.	.0	15 (100)	△ E200L - 0. Su ( )	3	L	1 .520	3 7	1.50	7350	3	52
				△ 200S - 0. Su ( )		S	1 . 7	3 7	2. 0	11 00	35	53
2 0	0.75	7.5	13 (100)	△ 2 0S - 0. Su ( )		S	237. 15	57	1.	11 00	35	53
300	0. 0	.0	10 (100)	△ G300S - 0. Su ( )		S	305. 17	5 7	1. 7	13700	3	5
3 0	0.50	5.0	.3 (100)	△ G3 0S - 0. Su ( )		S	3 5. 0	7	1.	13700	3	5
50	0. 0	.0	.7 (100)	△ 50S - 0. Su ( )		S	15.37	00	1. 3	1 100	37	-
5 0	0.33	3.3	5.5 (100)	△ 5 0S - 0. Su ( )		S	5 3.0 5	10 7	1.	1 100	37	-
50	0.2	2.	.7 (100)	△ K 50S - 0. Su ( )		S	35.	1221	1.	21 00	3	-
00	0.23	2.3	3. (100)	△ K 00S - 0. Su ( )		S	7 .72	1535	1.70	21 00	3	-
1000	0.1	1.	3.0 (100)	△ K1000S - 0. Su ( )		S	5 .	1 1	1. 5	21 00	3	-

ote: 1. △ in the omenclature column should be replaced with a symbol representing the gearmotor type. Refer to page and 5 for more details on the nomenclature of main unit.
2. Motor speed represents a typical value. Refer to Technical ata E for more details.
3. utput shaft allowable radial load represents a value for the output shaft center.
. n the range of to 0 , you should select a model according to the allowable torque at 0 .

0.75 kW Gearmotor Selection Table (3-phase Motors for nverter)

0.75 kW	ase requency		0
	oles		
	Motor Speed	r min	1 00

Reduction Ratio	utput Shaft Speed r min			omenclature (△ : Gearmotor type omenclature etails : Refer to page and 5) nit rame Si e Specifications	Reduction Stages	Class	ctual Reduction Ratio	utput Shaft llowable Torque Tout (·m)	S G	utput Shaft llowable Radial Load ro	imension Sheet age	
		0	llowable Speed								oot-Mounted	lange-Mounted
								0	0	0		
5	3	3 0	0 (0)	△ C5L - 0.75 Su ( )	2	L	. 5	1 .3	2.7	1520	32	50
				△ 5S - 0.75 Su ( )		S	.	1 .	3.2	30 0	33	51
10	1	1 0	2 0 (0)	△ C10L - 0.75 Su ( )	2	L	. 02	3 .	3.0	30 0	32	50
				△ 10S - 0.75 Su ( )		S	.71	3 .	3.2	3 30	33	51
15	12	120	1 0 (0)	△ C15L - 0.75 Su ( )	2	L	15.3	5 .0	2.7	3330	32	50
				△ 15S - 0.75 Su ( )		S	15.03	5 .5	3.2	3 70	33	51
20	.0	0	120 (0)	△ C20L - 0.75 Su ( )	2	L	1 .1 5	72.0	2.	3 0	32	50
				△ 20S - 0.75 Su ( )		S	1 .531	73.5	3.2	120	33	51
25	7.2	72	(0)	△ 25L - 0.75 Su ( )	2	L	23. 3	0.0	2.	7 0	33	51
				△ E25S - 0.75 Su ( )		S	25. 55	.0	3.2	720	3	52
30	.0	0	0 (0)	△ 30L - 0.75 Su ( )	2	L	27. 2	10	2.	00	33	51
				△ E30S - 0.75 Su ( )		S	2 .2	107	3.2	20	3	52
5	.0	0	5 (0)	△ 5L - 0.75 Su ( )	3	L	5. 5	1	2.02	5100	33	51
				△ E 5S - 0.75 Su ( )		S	7.2 2	17	2.5	7350	3	52
50	3.	3	(0)	△ 50L - 0.75 Su ( )	3	L	.7 5	1	2.00	5100	33	51
				△ E50S - 0.75 Su ( )		S	51.705	1 0	2.3	7350	3	52
0	3.0	30	0 (0)	△ 0L - 0.75 Su ( )	3	L	5 .7 0	221	1. 1	5100	33	51
				△ E 0S - 0.75 Su ( )		S	2.735	22	2.02	7350	3	52
75	2.	2	32 (0)	△ 75L - 0.75 Su ( )	3	L	75.33	27	1.5	5100	33	51
				△ E75S - 0.75 Su ( )		S	7 .755	27	2.10	7350	3	52
100	1.	1	2 (0)	△ E100L - 0.75 Su ( )	3	L	. 7	3 7	1.7	7350	3	52
				△ 100S - 0.75 Su ( )		S	102. 7	375	2.02	11300	35	53
130	1.	1	1 (0)	△ 130L - 0.75 Su ( )	3	L	122. 37	7	2.02	111 0	35	53
				△ G130S - 0.75 Su ( )		S	121.15		2.	13700	3	5
150	1.2	12	1 (0)	△ 150L - 0.75 Su ( )	3	L	1 . 10	55	1.	11 00	35	53
				△ G150S - 0.75 Su ( )		S	1 .3	5 5	2.0	13700	3	5
200	0.	.0	12 (0)	△ G200L - 0.75 Su ( )	3	L	17 . 32	0	2.0	13700	3	5
				△ 200S - 0.75 Su ( )		S	1 . 7	71	2.02	1 100	37	-
2 0	0.75	7.5	10 (0)	△ K2 0S - 0.75 Su ( )		S	2 2.121	75	2.	21 00	3	-
300	0. 0	.0	.0 (0)	△ K300S - 0.75 Su ( )		S	303.3	1105	1.	21 00	3	-
3 0	0.50	5.0	.7 (0)	△ K3 0S - 0.75 Su ( )		S	350. 50	125	1. 7	21 00	3	-
50	0. 0	.0	5.3 (0)	△ K5 0S - 0.75 Su ( )		S	53 .313	1	1.	21 00	3	-

ote: 1. △ in the omenclature column should be replaced with a symbol representing the gearmotor type. Refer to page and 5 for more details on the nomenclature of main unit.
2. Motor speed represents a typical value. Refer to Technical ata E for more details.
3. utput shaft allowable radial load represents a value for the output shaft center.
. n the range of to 0 , you should select a model according to the allowable torque at 0 .

Gearmotor Selection Table (3-phase Motors for nverter) 1.5 kW

1.5 kW	ase requency		0
	oles		
	Motor Speed	r min	1 00

Reduction Ratio	utput Shaft Speed r min			omenclature (△ : Gearmotor type omenclature etails : Refer to page and 5) nit rame Si e Specifications	Reduction Stages	Class	ctual Reduction Ratio	utput Shaft llowable Torque Tout (·m)	S G	utput Shaft llowable Radial Load ro	imension Sheet age	
		0	llowable Speed					0	0	0	oot-Mounted	lange-Mounted
5	3	3 0	0 (0)	△ 5L - 1.5 Su ( )	2	L	5.1 1	3 .7	2.27	30 0	33	51
				△ E5S - 1.5 Su ( )		S	.	3 .5	2.27	30 0	3	52
10	1	1 0	2 0 (0)	△ 10L - 1.5 Su ( )	2	L	.7 1	73.	2.21	3 30	33	51
				△ E10S - 1.5 Su ( )		S	10.2 7	77.7	2.27	5150	3	52
15	12	120	1 0 (0)	△ 15L - 1.5 Su ( )	2	L	15.	121	2.05	3 70	33	51
				△ E15S - 1.5 Su ( )		S	1 .773	111	2.27	55 0	3	52
20	.0	0	120 (0)	△ 20L - 1.5 Su ( )	2	L	1 .50	1 7	1. 7	120	33	51
				△ E20S - 1.5 Su ( )		S	21.212	1 0	2.27	5 0	3	52
25	7.2	72	(0)	△ E25L - 1.5 Su ( )	2	L	23.55	177	2.27	7350	3	52
				△ 25S - 1.5 Su ( )		S	23.7	17	2.27	7 50	35	53
30	.0	0	0 (0)	△ E30L - 1.5 Su ( )	2	L	27.	20	2.21	7350	3	52
				△ 30S - 1.5 Su ( )		S	2 . 3	21	2.27	7 50	35	53
5	.0	0	53 (0)	△ E 5L - 1.5 Su ( )	3	L	5. 1	33	1. 7	7350	3	52
				△ 5S - 1.5 Su ( )		S	3.1 2	31	1.7	0	35	53
50	3.	3	(0)	△ E50L - 1.5 Su ( )	3	L	50.0 3	3	1. 7	7350	3	52
				△ 50S - 1.5 Su ( )		S	53.3 2	3 3	1. 0	7 0	35	53
0	3.0	30	0 (0)	△ E 0L - 1.5 Su ( )	3	L	0.77		1. 0	7350	3	52
				△ 0S - 1.5 Su ( )		S	2.37	0	1.	10000	35	53
75	2.	2	32 (0)	△ 75L - 1.5 Su ( )	3	L	73.3	5 1	1. 7	10300	35	53
				△ G75S - 1.5 Su ( )		S	72. 0	53	1.75	13700	3	5
100	1.	1	2 (0)	△ 100L - 1.5 Su ( )	3	L	102.1	723	1. 7	11300	35	53
				△ G100S - 1.5 Su ( )		S	100. 2	7 3	1.	13700	3	5
130	1.	1	1 (0)	△ G130L - 1.5 Su ( )	3	L	123. 57	07	1. 7	13700	3	5
				△ 130S - 1.5 Su ( )		S	125.1	20	1. 7	1 100	37	-
150	1.2	12	1 (0)	△ G150L - 1.5 Su ( )	3	L	1 5.3 0	1071	1.35	13700	3	5
				△ 150S - 1.5 Su ( )		S	1 .1 1	1103	1.33	1 100	37	-
200	0. 0	.0	12 (0)	△ K200S - 1.5 Su ( )	3	S	1 .751	1	1. 0	21 00	3	-
2 0	0.75	7.5	10 (0)	△ K2 0S - 1.5 Su ( )		S	233. 1	1 7	1. 5	21 00	3	-
300	0. 0	.0	.0 (0)	△ K300S - 1.5 Su ( )		S	1 7.	21 1	1. 2	21 00	3	-

ote: 1. △ in the omenclature column should be replaced with a symbol representing the gearmotor type. Refer to page and 5 for more details on the nomenclature of main unit.
2. Motor speed represents a typical value. Refer to Technical ata E for more details.
3. utput shaft allowable radial load represents a value for the output shaft center.
. n the range of to 0 , you should select a model according to the allowable torque at 0 .

2.2 kW, 3.7 kW Gearmotor Selection Table (3-phase Motors for nverter)

2.2 kW

ase requency		0
oles		
Motor Speed	r min	1 00

Reduction Ratio	utput Shaft Speed r min	0	llowable Speed	omenclature (△ : Gearmotor type omenclature etails : Refer to page and 5) nit rame Si e Specifications	Reduction Stages	Class	ctual Reduction Ratio	utput Shaft llowable Torque Tout (·m) 0	S G 0	utput Shaft llowable Radial Load ro 0	imension Sheet age oot-Mounted	lange-Mounted
5	3	3 0	0 (0)	△ E5L - 2.2 Su ( )	2	L	.	5 .7	2.17	30 0	3	52
				△ 5S - 2.2 Su ( )		S	5.023	55.5	2.17	30 0	35	53
10	1	1 0	2 0 (0)	△ E10L - 2.2 Su ( )	2	L	10.107	111	2.22	570	3	52
				△ 10S - 2.2 Su ( )		S	. 52	10	2.22	570	35	53
15	12	120	1 0 (0)	△ E15L - 2.2 Su ( )	2	L	1 .727	1 3	2.25	71 0	3	52
				△ 15S - 2.2 Su ( )		S	1 . 2	1 2	2.25	71 0	35	53
20	.0	0	120 (0)	△ E20L - 2.2 Su ( )	2	L	1 .7 5	21	1. 7	7350	3	52
				△ 20S - 2.2 Su ( )		S	20.201	22	2.	7350	35	53
25	7.2	72	(0)	△ 25L - 2.2 Su ( )	2	L	2 .3 1	2	2.20	7 50	35	53
				△ G25S - 2.2 Su ( )		S	25.057	277	2.5	11100	3	5
30	.0	0	0 (0)	△ 30L - 2.2 Su ( )	2	L	2 .205	312	2.0	7 50	35	53
				△ G30S - 2.2 Su ( )		S	2 . 55	325	2.5	11500	3	5
5	.0	0	53 (0)	△ 5L - 2.2 Su ( )	3	L	. 07		1.	0 0	35	53
				△ G 5S - 2.2 Su ( )		S	.3	501	2.17	13500	3	5
50	3.	3	(0)	△ 50L - 2.2 Su ( )	3	L	52.3	5	1.	0 0	35	53
				△ G50S - 2.2 Su ( )		S	50.35	5	2.02	13700	3	5
0	3.0	30	0 (0)	△ 0L - 2.2 Su ( )	3	L	57.000	1	1. 5	0 0	35	53
				△ G 0S - 2.2 Su ( )		S	5 . 2	1	1. 0	13700	3	5
75	2.	2	32 (0)	△ G75L - 2.2 Su ( )	3	L	7 .103	03	1.57	13700	3	5
				△ 75S - 2.2 Su ( )		S	72. 0	77	2.02	1 100	37	-
100	1.	1	2 (0)	△ G100L - 2.2 Su ( )	3	L	. 5	102	1.55	13700	3	5
				△ 100S - 2.2 Su ( )		S	101.10	10	1.	1 100	37	-
130	1.	1	1 (0)	△ K130S - 2.2 Su ( )	3	S	120.055	1302	1. 3	21 00	3	-
150	1.2	12	1 (0)	△ K150S - 2.2 Su ( )		S	1 .5 2	15	1.	21 00	3	-

3.7 kW

ase requency		0
oles		
Motor Speed	r min	1 00

Reduction Ratio	utput Shaft Speed r min	0	llowable Speed	omenclature (△ : Gearmotor type omenclature etails : Refer to page and 5) nit rame Si e Specifications	Reduction Stages	Class	ctual Reduction Ratio	utput Shaft llowable Torque Tout (·m) 0	S G 0	utput Shaft llowable Radial Load ro 0	imension Sheet age oot-Mounted	lange-Mounted
5	3	3 0	20 (70)	△ 5S - 3.7 Su ( )	2	S	5.0 5	.2	2.20	20 0	35	53
10	1	1 0	210 (70)	△ 10S - 3.7 Su ( )	2	S	. 2	1 0	2.23	10	35	53
15	12	120	1 0 (70)	△ 15S - 3.7 Su ( )	2	S	15.077	2 1	1.	520	35	53
20	.0	0	105 (70)	△ G20S - 3.7 Su ( )	2	S	1 . 5	3	2.2	10 00	3	5
25	7.2	72	(70)	△ 25S - 3.7 Su ( )	2	S	23.1 2	31	2.1	1 100	37	-
30	.0	0	70 (70)	△ 30S - 3.7 Su ( )	2	S	2 .0 2	5 0	2.11	15000	37	-
5	.0	0	7 (70)	△ 5S - 3.7 Su ( )	3	S	2. 7	7 0	1.5	1 00	37	-
50	3.	3	2 (70)	△ 50S - 3.7 Su ( )	3	S	50.2 2	0	1.5	1 00	37	-
0	3.0	30	35 (70)	△ 0S - 3.7 Su ( )	3	S	5 . 73	10 0	1.	17 00	37	-
75	2.	2	2 (70)	△ K75S - 3.7 Su ( )	3	S	7 .555	1352	1. 2	21300	3	-
100	1.	1	21 (70)	△ K100S - 3.7 Su ( )	3	S	5.135	172	1.	21 00	3	-

ote: 1. △ in the omenclature column should be replaced with a symbol representing the gearmotor type. Refer to page and 5 for more details on the nomenclature of main unit.
2. Motor speed represents a typical value. Refer to Technical ata E for more details.
3. utput shaft allowable radial load represents a value for the output shaft center.
. n the range of to 0 , you should select a model according to the allowable torque at 0 .

Gearmotor Selection Table (3-phase Motors for nverter) 5.5kW, 7.5kW

5.5 kW

ase requency		0
oles		
Motor Speed	r min	1 00

Reduction Ratio	utput Shaft Speed r min			omenclature (△ : Gearmotor type omenclature etails : Refer to page and 5)	Reduction Stages	Class	ctual Reduction Ratio	utput Shaft llowable Torque Tout (·m)	S G	utput Shaft llowable Radial Load ro	imension Sheet age	
		0	llowable Speed	nit rame Si e Specifications				0	0	0	oot-Mounted	lange-Mounted
5	3	3 0	20 (70)	△ G5S - 5.5 Su ( )	2	S	5.05	13	2.07	2 50	3	5
10	1	1 0	210 (70)	△ G10S - 5.5 Su ( )	2	S	.	27	2.07	70	3	5
15	12	120	1 0 (70)	△ G15S - 5.5 Su ( )	2	S	1 .7	0	1.	220	3	5
20	.0	0	105 (70)	△ 20S - 5.5 Su ( )	2	S	20.250	5 0	1. 1	12700	37	-
25	7.2	72	(70)	△ K25S - 5.5 Su ( )	2	S	2 . 5	75	2.07	15100	3	-
30	.0	0	70 (70)	△ K30S - 5.5 Su ( )	2	S	2 .013	7	1. 1	1 100	3	-
5	.0	0	.7 (70)	△ K 5S - 5.5 Su ( )	3	S	.3	1203	1.53	17700	3	-
50	3.	3	2 (70)	△ K50S - 5.5 Su ( )	3	S	51.352	13	1.3	1 700	3	-
0	3.0	30	35 (70)	△ K 0S - 5.5 Su ( )	3	S	.3 1	1733	1.33	20300	3	-

7.5 kW

ase requency		0
oles		
Motor Speed	r min	1 00

Reduction Ratio	utput Shaft Speed r min			omenclature (△ : Gearmotor type omenclature etails : Refer to page and 5)	Reduction Stages	Class	ctual Reduction Ratio	utput Shaft llowable Torque Tout (·m)	S G	utput Shaft llowable Radial Load ro	imension Sheet age	
		0	llowable Speed	nit rame Si e Specifications				0	0	0	oot-Mounted	lange-Mounted
5	3	3 0	20 (70)	△ 5S - 7.5 Su ( )	2	S	. 52	1 7	1. 2	2350	37	-
10	1	1 0	210 (70)	△ 10S - 7.5 Su ( )	2	S	. 05	373	1. 7	0 0	37	-
15	12	120	1 0 (70)	△ 15S - 7.5 Su ( )	2	S	15.352	57	1. 0	11300	37	-
20	.0	0	105 (70)	△ K20S - 7.5 Su ( )	2	S	20.2	7	2.05	13300	3	-

ote: 1. △ in the omenclature column should be replaced with a symbol representing the gearmotor type. Refer to page and 5 for more details on the nomenclature of main unit.
2. Motor speed represents a typical value. Refer to Technical ata E for more details.
3. utput shaft allowable radial load represents a value for the output shaft center.
. n the range of to 0 , you should select a model according to the allowable torque at 0 .

B Gearmotor

3. Dimension Sheets

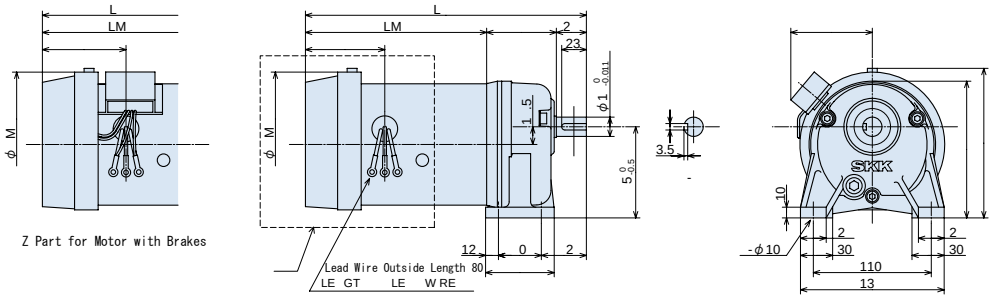
		Page	
		Foot-mounted	Flange-mounted
3-phase Motor/Motor for Inverter		B30	B48
MFG500 Series		B30	B48
A Series	A, B	B31	B49
	C	B32	B50
	D	B33	B51
	E	B34	B52
	F	B35	B53
	G	B36	B54
	H	B37	-
	K	B38	-
	R, S, T	B39	B55
	U, V	B40	B56
Single-phase Motor		B42	B58
MFG500 Series		B42	B58
A Series	A, B	B43	B59
	C, D	B44	B60
	E, F	B45	B61
	G, H	B46	B62*
	K	B47	-

Mark of " * " means that has frame size G only.

Gearmotor Dimension Sheets (3-phase Motor, Foot-mounted)

3-phase Motor		
3-phase Motor with Brakes	SAV Brake	MFG518D- ☐ RS △ -4 (TOSHIBA motor)
		MFG518D- ☐ RS △ -4SAV (TOSHIBA motor)
	SBV Brake	MFG518D- ☐ RS △ -4SBV (TOSHIBA motor)

Symbols should be replaced with the following specification items:
☐ : Reduction ratio, ◎ : Motor manufacturer,
△ : Motor capacity [kW]

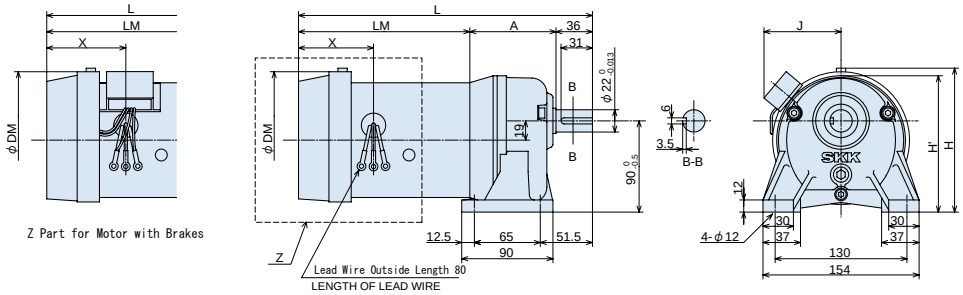


Note: No fan and fan cover for 0.1 kW 3-phase motor (without brake) since it is a totally enclosed non ventilated type.

Motor Type		Motor Capacity [kW]	Reduction Ratio	Nomenclature	Dimension [mm] L TOSHIBA	LM TOSHIBA	A	DM TOSHIBA	H'	H	KD TOSHIBA	J TOSHIBA	X TOSHIBA	Approximate Mass [kg] TOSHIBA
3-phase		0.1	5 ～ 50	MFG518D- ☐ RS0.1-4	221	128	65	113.2	-	127.5	-	-	33	5.6
		0.2	5 ～ 25	MFG518D- ☐ RS0.2-4	262	169	65	135	127.5	136	-	-	74	6.3
3-phase with Brakes	SAV	0.1	5 ～ 50	MFGB518D- ☐ RS0.1-4SAV	282	189	65	113.2	-	127.5	-	-	94	6.6
		0.2	5 ～ 25	MFGB518D- ☐ RS0.2-4SAV	318	225	65	135	127.5	136	-	-	130	9.2
	SBV	0.1	5 ～ 50	MFGB518D- ☐ RS0.1-4SBV	266	173	65	135	127.5	136	-	76	78	7.2
		0.2	5 ～ 25	MFGB518D- ☐ RS0.2-4SBV	266	173	65	135	127.5	136	-	76	78	7.8

3-phase Motor		
3-phase Motor with Brakes	SAV Brake	MFG522D- ☐ RS △ -4, MFG522T- ☐ RS △ -4 (TOSHIBA motor)
		MFG522D- ☐ RS △ -4SAV, MFG522T- ☐ RS △ -4SAV (TOSHIBA motor)
	SBV Brake	MFG522D- ☐ RS △ -4SBV, MFG522T- ☐ RS △ -4SBV (TOSHIBA motor)

Symbols should be replaced with the following specification items:
☐ : Reduction ratio, ◎ : Motor Manufacturer,
△ : Motor capacity [kW]



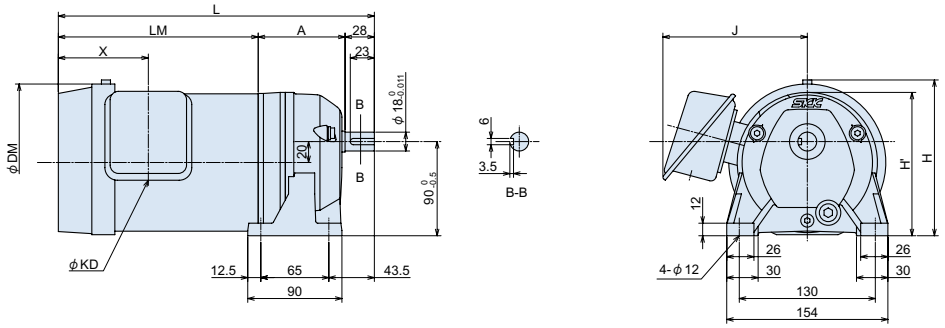
Note: No fan and fan cover for 0.1 kW 3-phase motor (without brake) since it is a totally enclosed non ventilated type.

Motor Type		Motor Capacity [kW]	Reduction Ratio	Nomenclature	Dimension [mm] L TOSHIBA	LM TOSHIBA	A	DM TOSHIBA	H'	H	KD TOSHIBA	J TOSHIBA	X TOSHIBA	Approximate Mass [kg] TOSHIBA
3-phase		0.1	60 ～ 200	MFG522T-□RS0.1-4	249	128	85	113.2	-	134.5	-	-	33	6.8
		0.2	30	MFG522D-□RS0.2-4	277	169	72	135	134.5	138.5	-	-	74	6.7
		0.2	45 ～ 100	MFG522T-□RS0.2-4	290	169	85	135	134.5	138.5	-	-	74	7.4
3-phase with Brakes	SAV	0.1	60 ～ 200	MFGB522T-□RS0.1-4SAV	310	189	85	113.2	-	134.5	-	-	94	7.8
		0.2	30	MFGB522D-□RS0.2-4SAV	333	225	72	135	134.5	138.5	-	-	130	9.6
		0.2	45 ～ 100	MFGB522T-□RS0.2-4SAV	346	225	85	135	134.5	138.5	-	-	130	10.3
	SBV	0.1	60 ～ 200	MFGB522T-□RS0.1-4SBV	294	173	85	135	134.5	138.5	-	76	78	8.4
		0.2	30	MFGB522D-□RS0.2-4SBV	281	173	72	135	134.5	138.5	-	76	78	8.2
		0.2	45 ～ 100	MFGB522T-□RS0.2-4SBV	294	173	85	135	134.5	138.5	-	76	78	8.9

Gearmotor Dimension Sheets (3-phase Motor/Motor for Inverter, Foot-mounted)

3-phase Motor		ATA ☐◇ - △◎	(TOSHIBA motor/SUMITOMO motor)
Motor with 3-phase Brake	SAV Brake	ATBA ☐◇ - △ SSAV	(TOSHIBA motor)
	SBV Brake	ATBA ☐◇ - △ SSBV	(TOSHIBA motor)
	FB Brake	ATBA ☐◇ - △ SuFB	(SUMITOMO motor)
3-phase Motor for Inverter		ATA ☐◇ - △ SuI (H)	(SUMITOMO motor)

Symbols should be replaced with the following specification items:
☐ : Reduction ratio, ◎ : Motor manufacturer,
△ : Motor capacity [kW], ◆ : Brake type



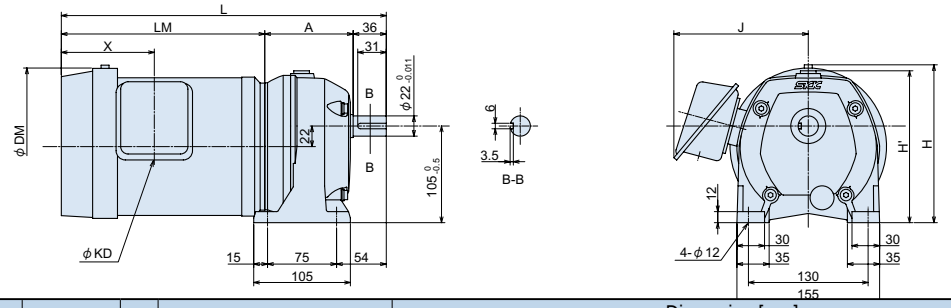
Motor Type		Motor Capacity [kW]	Reduction Ratio	Class	Nomenclature	Dimension [mm] L TOSHIBA	L SUMITOMO	LM TOSHIBA	LM SUMITOMO	A	DM TOSHIBA	DM SUMITOMO	H'	H	KD TOSHIBA	KD SUMITOMO	J TOSHIBA	J SUMITOMO	X TOSHIBA	X SUMITOMO	Approximate Mass [kg] TOSHIBA	Approximate Mass [kg] SUMITOMO
3-phase		0.4	25 ～ 30	G	ATA ☐ G-0.4 ◎	302	-	191	-	83	150	124	-	149	22	12.5	138	85	86	59	9.5	8.5
		0.4	5 ～ 20	L	ATA ☐ L-0.4 ◎	302	279.5	191	194.5	83	150	124	137	149	22	12.5	138	85	86	59	9.5	8.5
3-phase with Brakes	SAV FB	0.4	5 ～ 20	L	ATBA ☐ L-0.4 ◎◆	342	309.5	231	226.5	83	150	124	137	149	22	12.5	140	85	*	91	12.1	9.6
	SBV	0.4	5 ～ 20	L	ATBA ☐ L-0.4SSBV	304	-	193	-	83	150	-	137	149	22	-	140	-	*	-	11.5	-
For Inverter		0.2	5 ～ 20	L	ATA ☐ L-0.2SuI (H)	-	279.5	-	194.5	83	-	124	137	149	-	12.5	-	85	-	59	-	8.5

※ Consult us for class G 3-phase motors with brakes and motors for inverter with brakes. Consult us for dimension *.

Note: The above dimension diagrams are for models with TOSHIBA motors. For SUMITOMO motors, the shape and terminal box position are different.

3-phase Motor		ATB ☐◇ - △◎	(TOSHIBA motor/SUMITOMO motor)
Motor with 3-phase Brake	SAV Brake	ATBB ☐◇ - △ SSAV	(TOSHIBA motor)
	SBV Brake	ATBB ☐◇ - △ SSBV	(TOSHIBA motor)
	FB Brake	ATBB ☐◇ - △ SuFB	(SUMITOMO motor)
3-phase Motor for Inverter		ATB ☐◇ - △ SuI (H)	(SUMITOMO motor)

Symbols should be replaced with the following specification items:
☐ : Reduction ratio, ◎ : Motor manufacturer,
△ : Motor capacity [kW], ◆ : Brake type



Motor Type		Motor Capacity [kW]	Reduction Ratio	Class	Nomenclature	Dimension [mm] L TOSHIBA	L SUMITOMO	LM TOSHIBA	LM SUMITOMO	A	DM TOSHIBA	DM SUMITOMO	H'	H	KD TOSHIBA	KD SUMITOMO	J TOSHIBA	J SUMITOMO	X TOSHIBA	X SUMITOMO	Approximate Mass [kg] TOSHIBA	Approximate Mass [kg] SUMITOMO
3-phase		0.4	75	G	ATB ☐ G-0.4 ◎	354	-	214	-	104	150	-	-	165	22	-	138	-	86	-	12.5	-
		0.4	25 ～ 30	L	ATB ☐ L-0.4 ◎	346	329	214	197	96	150	124	-	165	22	12.5	138	85	86	59	12	12
		0.4	45 ～ 75	L	ATB ☐ L-0.4 ◎	354	337	214	197	104	150	124	-	165	22	12.5	138	85	86	59	12.5	12.5
		0.4	5 ～ 20	S	ATB ☐ S-0.4 ◎	346	329	214	197	96	150	124	-	165	22	12.5	138	85	86	59	12	12
		0.75	25 ～ 30	G	ATB ☐ G-0.75 ◎	353	-	221	-	96	170	-	-	172	22	-	146	-	101	-	16	-
		0.75	45	G	ATB ☐ G-0.75 ◎	361	-	221	-	104	170	-	-	172	22	-	146	-	101	-	16.5	-
		0.75	5 ～ 20	L	ATB ☐ L-0.75 ◎	353	365	221	233	96	170	155	165	172	22	23	146	114	101	97	16	14
3-phase with Brakes	SAV FB	0.4	25 ～ 30	L	ATBB ☐ L-0.4 ◎◆	386	361	254	229	96	150	124	-	165	22	12.5	140	85	*	91	14.6	13.1
		0.4	45 ～ 75	L	ATBB ☐ L-0.4 ◎◆	394	369	254	229	104	150	124	-	165	22	12.5	140	85	*	91	15.1	13.6
		0.4	5 ～ 20	S	ATBB ☐ S-0.4 ◎◆	386	361	254	229	96	150	124	-	165	22	12.5	140	85	*	91	14.6	13.1
		0.75	5 ～ 20	L	ATBB ☐ L-0.75 ◎◆	403	408	271	276	96	170	155	165	172	22	23	148	114	*	140	19	16
	SBV	0.4	25 ～ 30	L	ATBB ☐ L-0.4SSBV	348	-	216	-	96	150	-	-	165	22	-	140	-	*	-	14	-
		0.4	45 ～ 75	L	ATBB ☐ L-0.4SSBV	356	-	216	-	104	150	-	-	165	22	-	140	-	*	-	14.5	-
		0.4	5 ～ 20	S	ATBB ☐ S-0.4SSBV	348	-	216	-	96	150	-	-	165	22	-	140	-	*	-	14	-
		0.75	5 ～ 20	L	ATBB ☐ L-0.75SSBV	360	-	228	-	96	170	-	165	172	22	-	148	-	*	-	20	-
For Inverter		0.2	45 ～ 75	L	ATB ☐ L-0.2SuI (H)	-	329	-	197	104	-	124	-	165	-	12.5	-	85	-	59	-	12.5
		0.2	25 ～ 30	L	ATB ☐ L-0.2SuI (H)	-	337	-	197	96	-	124	-	165	-	12.5	-	85	-	59	-	12
		0.4	5 ～ 20	L	ATB ☐ L-0.4SuI (H)	-	365	-	233	96	-	155	165	172	-	23	-	114	-	97	-	14

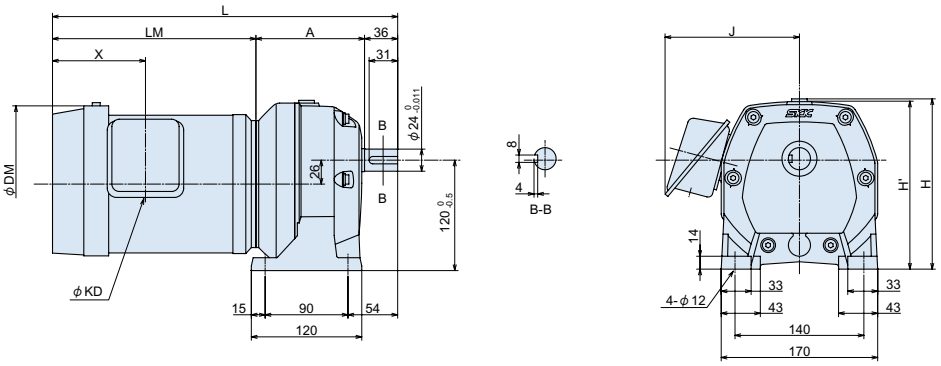
※ Consult us for class G 3-phase motors with brakes and motors for inverter with brakes. Consult us for dimension *.

Note: The above dimension diagrams are for models with TOSHIBA motors. For SUMITOMO motors, the shape and terminal box position are different.

Gearmotor Dimension Sheets (3-phase Motor/Motor for Inverter, Foot-mounted)

3-phase Motor		ATC □◇ - △◎	(TOSHIBA motor/SUMITOMO motor)
3-phase Motor with Brakes	SAV Brake	ATBC □◇ - △ SSAV	(TOSHIBA motor)
	SBV Brake	ATBC □◇ - △ SSBV	(TOSHIBA motor)
	FB Brake	ATBC □◇ - △ SuFB	(SUMITOMO motor)
3-phase Motor for Inverter		ATC □◇ - △ SuI (H)	(SUMITOMO motor)

Symbols should be replaced with the following specification items:
□ : Reduction ratio, ◎ : Motor manufacturer,
△ : Motor capacity [kW], ◆ : Brake type



Motor Type		Motor Capacity [kW]	Reduction Ratio	Class	Nomenclature	Dimension [mm] L TOSHIBA	L SUMITOMO	LM TOSHIBA	LM SUMITOMO	A	DM TOSHIBA	DM SUMITOMO	H'	H	KD TOSHIBA	KD SUMITOMO	J TOSHIBA	J SUMITOMO	X TOSHIBA	X SUMITOMO	Approximate Mass [kg] TOSHIBA	Approximate Mass [kg] SUMITOMO
3-phase		0.1	240 ~ 450	L	ATC □ L-0.1 ◎	322	-	128	-	158	113.2	-	-	185	-	-	-	-	33	-	16	-
		0.2	130 ~ 200	L	ATC □ L-0.2 ◎	316	-	169	-	111	135	-	-	185	-	-	-	-	74	-	11	-
		0.4	100 ~ 150	G	ATC □ G-0.4 ◎	368	-	214	-	118	150	-	-	185	22	-	138	-	86	-	14.5	-
		0.4	100 ~ 150	L	ATC □ L-0.4 ◎	368	383	214	197	118	150	124	-	185	22	12.5	138	85	86	59	14.5	14.5
		0.4	25 ~ 30	S	ATC □ S-0.4 ◎	354	-	214	-	104	150	-	-	185	22	-	138	-	86	-	13.5	-
		0.4	45 ~ 75	S	ATC □ S-0.4 ◎	368	383	214	197	118	150	124	-	185	22	12.5	138	85	86	59	14.5	14.5
		0.75	50 ~ 75	G	ATC □ G-0.75 ◎	375	-	221	-	118	170	-	-	185	22	-	146	-	101	-	18.5	-
		0.75	25 ~ 30	L	ATC □ L-0.75 ◎	361	416	221	233	104	170	155	-	185	22	23	146	114	101	97	17.5	15.5
		0.75	45 ~ 75	L	ATC □ L-0.75 ◎	375	430	221	233	118	170	155	-	185	22	23	146	114	101	97	18.5	16.5
		0.75	5 ~ 20	S	ATC □ S-0.75 ◎	361	-	221	-	104	170	-	-	185	22	-	146	-	101	-	17.5	-
		1.5	5 ~ 20	L	ATC □ L-1.5 ◎	393	491	244	280	113	188	167	185	215	27	23	151	119	123	100	21.5	20.5
3-phase with Brakes	SAV FB	0.1	240 ~ 450	L	ATBC □ L-0.1 ◎◆	383	-	189	-	158	113.2	-	-	185	-	-	-	-	94	-	17	-
		0.2	130 ~ 200	L	ATBC □ L-0.2 ◎◆	372	-	225	-	111	135	-	-	185	-	-	-	-	130	-	13.9	-
		0.4	100 ~ 150	L	ATBC □ L-0.4 ◎◆	408	383	254	229	118	150	124	-	185	22	12.5	140	85	*	91	17.1	15.6
		0.4	25 ~ 30	S	ATBC □ S-0.4 ◎◆	394	-	254	-	104	150	-	-	185	22	-	140	-	*	-	16.1	-
		0.4	45 ~ 75	S	ATBC □ S-0.4 ◎◆	408	369	254	229	118	150	124	-	185	22	12.5	140	85	*	91	17.1	15.6
		0.75	25 ~ 30	L	ATBC □ L-0.75 ◎◆	411	416	271	276	104	170	155	-	185	22	23	148	114	*	140	20.5	17.5
		0.75	45 ~ 75	L	ATBC □ L-0.75 ◎◆	425	430	271	276	118	170	155	-	185	22	23	148	114	*	140	21.5	18.5
		0.75	5 ~ 20	S	ATBC □ S-0.75 ◎◆	411	-	271	-	104	170	-	-	185	22	-	148	-	*	-	20.5	-
		1.5	5 ~ 20	L	ATBC □ L-1.5 ◎◆	455	491	306	342	113	188	167	185	215	27	23	153	119	*	162	27.2	24.5
	SBV	0.1	240 ~ 450	L	ATBC □ L-0.1SSBV	367	-	173	-	158	135	-	-	185	-	-	-	-	76	-	17.6	-
		0.2	130 ~ 200	L	ATBC □ L-0.2SSBV	320	-	173	-	111	135	-	-	185	-	-	-	-	48	-	12.6	-
		0.4	100 ~ 150	L	ATBC □ L-0.4SSBV	370	-	216	-	118	150	-	-	185	22	-	140	-	*	-	16.5	-
		0.4	25 ~ 30	S	ATBC □ S-0.4SSBV	356	-	216	-	104	150	-	-	185	22	-	140	-	*	-	15.5	-
		0.4	45 ~ 75	S	ATBC □ S-0.4SSBV	370	-	216	-	118	150	-	-	185	22	-	140	-	*	-	16.5	-
		0.75	25 ~ 30	L	ATBC □ L-0.75SSBV	368	-	228	-	104	170	-	-	185	22	-	148	-	*	-	21.5	-
		0.75	45 ~ 75	L	ATBC □ L-0.75SSBV	382	-	228	-	118	170	-	-	185	22	-	148	-	*	-	22.5	-
		0.75	5 ~ 20	S	ATBC □ S-0.75SSBV	368	-	228	-	104	170	-	-	185	22	-	148	-	*	-	21.5	-
		1.5	5 ~ 20	L	ATBC □ L-1.5SSBV	408	-	259	-	113	188	-	185	215	27	-	153	-	*	-	27.5	-
For Inverter		0.4	25 ~ 30	L	ATC □ L-0.4SuI (H)	-	373	-	233	104	-	155	-	185	-	23	-	114	-	97	-	15.5
		0.4	45 ~ 75	S	ATC □ S-0.4SuI (H)	-	387	-	233	118	-	155	-	185	-	23	-	114	-	97	-	16.5
		0.75	5 ~ 20	S	ATC □ S-0.75SuI (H)	-	429	-	280	104	-	167	185	215	-	23	-	119	-	100	-	20.5

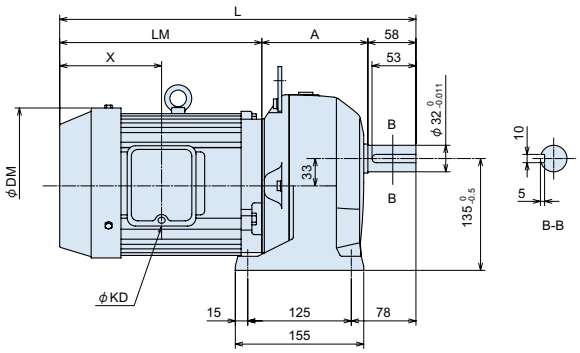
※ Consult us for class G 3-phase motors with brakes and motors for inverter with brakes. Consult us for dimension *.

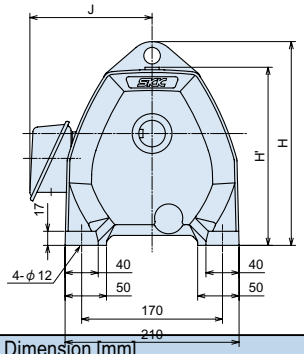
Note: The above dimension diagrams are for models with TOSHIBA motors. For SUMITOMO motors, the shape and terminal box position are different.

Gearmotor Dimension Sheets (3-phase Motor/Motor for Inverter, Foot-mounted)

3-phase Motor		ATD □◇ - △◎	(TOSHIBA motor/SUMITOMO motor)
3-phase Motor with Brakes	SAV Brake	ATBD □◇ - △ SSAV	(TOSHIBA motor)
	SBV Brake	ATBD □◇ - △ SSBV	(TOSHIBA motor)
	FB Brake	ATBD □◇ - △ SuFB	(SUMITOMO motor)
3-phase Motor for Inverter		ATD □◇ - △ SuI (H)	(SUMITOMO motor)

Symbols should be replaced with the following specification items:
□ : Reduction ratio, ◎ : Motor manufacturer,
△ : Motor capacity [kW], ◆ : Brake type





Motor Type		Motor Capacity [kW]	Reduction Ratio	Class	Nomenclature	Dimension [mm] L TOSHIBA	L SUMITOMO	LM TOSHIBA	LM SUMITOMO	A	DM TOSHIBA	DM SUMITOMO	H'	H	KD TOSHIBA	KD SUMITOMO	J TOSHIBA	J SUMITOMO	X TOSHIBA	X SUMITOMO	Approximate Mass [kg] TOSHIBA	Mass [kg] SUMITOMO
3-phase		0.1	540 ~ 800	L	ATD □ L-0.1 ◎	356	-	128	-	170	113.2	-	215	246	-	-	-	-	33	-	25	-
		0.2	240 ~ 450	L	ATD □ L-0.2 ◎	397	-	169	-	170	135	-	215	246	-	-	-	-	74	-	25.5	-
		0.4	200	G	ATD □ G-0.4 ◎	402	-	214	-	130	150	-	215	246	22	-	138	-	86	-	24	-
		0.4	200	L	ATD □ L-0.4 ◎	402	385	214	197	130	150	124	215	246	22	12.5	138	85	86	59	24	24
		0.4	100 ~ 150	S	ATD □ S-0.4 ◎	402	-	214	-	130	150	-	215	246	22	-	138	-	86	-	24	-
		0.75	100 ~ 150	G	ATD □ G-0.75 ◎	409	-	221	-	130	170	-	215	246	22	-	146	-	101	-	28	-
		0.75	100 ~ 150	L	ATD □ L-0.75 ◎	409	421	221	233	130	170	155	215	246	22	23	146	114	101	97	28	26
		0.75	25 ~ 30	S	ATD □ S-0.75 ◎	395	-	221	-	116	170	-	215	246	22	-	146	-	101	-	27	-
		0.75	45 ~ 75	S	ATD □ S-0.75 ◎	409	-	221	-	130	170	-	215	246	22	-	146	-	101	-	28	-
		1.5	50 ~ 75	G	ATD □ G-1.5 ◎	444	-	244	-	142	188	-	215	246	27	-	147.5	-	123	-	32	-
		1.5	5 ~ 20	S	ATD □ S-1.5 ◎	430	-	244	-	128	188	-	215	246	27	-	147.5	-	123	-	31	-
		1.5	25 ~ 30	L	ATD □ L-1.5 ◎	430	466	244	280	128	188	167	215	246	27	23	147.5	117	123	100	31	30
		1.5	45 ~ 75	L	ATD □ L-1.5 ◎	444	480	244	280	142	188	167	215	246	27	23	147.5	117	123	100	32	31
		2.2	25 ~ 30	G	ATD □ G-2.2 ◎	464	-	278	-	128	188	-	215	246	27	-	147.5	-	123	-	37.5	-
		2.2	45	G	ATD □ G-2.2 ◎	478	-	278	-	142	188	-	215	246	27	-	147.5	-	123	-	38.5	-
		2.2	5 ~ 20	L	ATD □ L-2.2 ◎	459	485	273	299	128	198	180	215	246	27	23	139	126	117	105	35	34
3-phase with Brakes	SAV FB	0.1	540 ~ 800	L	ATBD □ L-0.1 ◎◆	417	-	189	-	170	113.2	-	215	246	-	-	-	-	94	-	26	-
		0.2	240 ~ 450	L	ATBD □ L-0.2 ◎◆	453	-	225	-	170	135	-	215	246	-	-	-	-	130	-	28.4	-
		0.4	200	L	ATBD □ L-0.4 ◎◆	442	417	254	229	130	150	124	215	246	22	12.5	140	85	*	91	26.6	25.1
		0.4	100 ~ 150	S	ATBD □ S-0.4 ◎◆	442	-	254	-	130	150	-	215	246	22	-	140	-	*	-	26.6	-
		0.75	100 ~ 150	L	ATBD □ L-0.75 ◎◆	459	464	271	276	130	170	155	215	246	22	23	148	114	*	140	31	28
		0.75	25 ~ 30	S	ATBD □ S-0.75 ◎◆	445	-	271	-	116	170	-	215	246	22	-	148	-	*	-	30	-
		0.75	45 ~ 75	S	ATBD □ S-0.75 ◎◆	459	-	271	-	130	170	-	215	246	22	-	148	-	*	-	31	-
		1.5	25 ~ 30	L	ATBD □ L-1.5 ◎◆	492	528	306	342	128	188	167	215	246	27	23	149.5	119	*	162	36.7	34
		1.5	5 ~ 20	S	ATBD □ S-1.5 ◎◆	492	-	306	-	128	188	-	215	246	27	-	149.5	-	*	-	36.7	-
		1.5	45 ~ 75	L	ATBD □ L-1.5 ◎◆	506	542	306	342	142	188	167	215	246	27	23	149.5	119	*	162	37.7	35
		2.2	5 ~ 20	L	ATBD □ L-2.2 ◎◆	521	548	335	362	128	198	180	215	246	27	23	141	126	*	168	40.7	40
	SBV	0.1	540 ~ 800	L	ATBD □ L-0.1SSBV	401	-	173	-	170	135	-	215	246	-	-	76	-	78	-	26.6	-
		0.2	240 ~ 450	L	ATBD □ L-0.2SSBV	401	-	173	-	170	135	-	215	246	-	-	76	-	78	-	27	-
		0.4	100 ~ 150	S	ATBD □ S-0.4SSBV	404	-	216	-	130	150	-	215	246	22	-	140	-	*	-	26	-
		0.4	200	L	ATBD □ L-0.4SSBV	404	-	216	-	130	150	-	215	246	22	-	140	-	*	-	26	-
		0.75	25 ~ 30	S	ATBD □ S-0.75SSBV	402	-	228	-	116	170	-	215	246	22	-	148	-	*	-	31	-
		0.75	45 ~ 75	S	ATBD □ S-0.75SSBV	416	-	228	-	130	170	-	215	246	22	-	148	-	*	-	32	-
		0.75	100 ~ 150	L	ATBD □ L-0.75SSBV	416	-	228	-	130	170	-	215	246	22	-	148	-	*	-	32	-
		1.5	5 ~ 20	S	ATBD □ S-1.5SSBV	445	-	259	-	128	188	-	215	246	27	-	149.5	-	*	-	37	-
		1.5	25 ~ 30	L	ATBD □ L-1.5SSBV	445	-	259	-	128	188	-	215	246	27	-	149.5	-	*	-	37	-
		1.5	45 ~ 75	L	ATBD □ L-1.5SSBV	459	-	259	-	142	188	-	215	246	27	-	149.5	-	*	-	38	-
For Inverter		0.2	200	L	ATD □ L-0.2SuI (H)	-	385	-	197	130	-	124	215	246	-	12.5	-	85	-	59	-	24
		0.4	100 ~ 150	L	ATD □ L-0.4SuI (H)	-	421	-	233	130	-	155	215	246	-	23	-	114	-	97	-	26
		0.75	25 ~ 30	S	ATD □ S-0.75SuI (H)	-	480	-	280	130	-	167	215	246	-	23	-	117	-	100	-	30
		0.75	45 ~ 75	L	ATD □ L-0.75SuI (H)	-	480	-	280	130	-	167	215	246	-	23	-	117	-	100	-	31
		1.5	5 ~ 20	S	ATD □ S-1.5SuI (H)	-	485	-	299	116	-	180	215	246	-	23	-	126	-	105	-	34

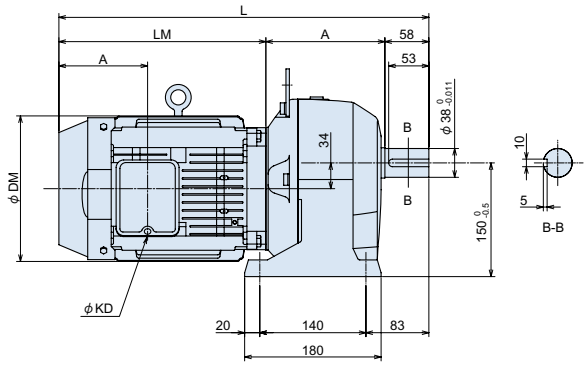
※ Consult us for class G 3-phase motors with brakes and motors for inverter with brakes. Consult us for dimension *.

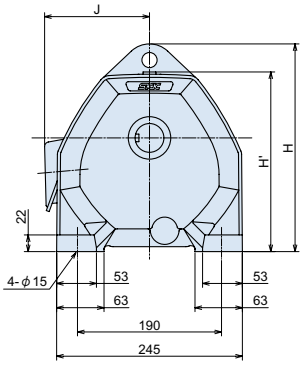
Note: The above dimension diagrams are for models with TOSHIBA motors. For SUMITOMO motors, the shape and terminal box position are different.

Gearmotor Dimension Sheets (3-phase Motor/Motor for Inverter, Foot-mounted)

3-phase Motor		ATE □◇ - △◎	(TOSHIBA motor/SUMITOMO motor)
3-phase Motor with Brakes	SAV Brake	ATBE □◇ - △◎ SAV	(TOSHIBA motor)
	SBV Brake	ATBE □◇ - △◎ SBV	(TOSHIBA motor)
	FB Brake	ATBE □◇ - △ SuFB	(SUMITOMO motor)
3-phase Motor for Inverter		ATE □◇ - △ Sul (H)	(SUMITOMO motor)

Symbols should be replaced with the following specification items:
□ : Reduction ratio, ◎ : Motor manufacturer,
△ : Motor capacity [kW], ◆ : Brake type





Motor Type		Motor Capacity [kW]	Reduction Ratio	Class	Nomenclature	Dimension [mm] L TOSHIBA	L SUMITOMO	LM TOSHIBA	LM SUMITOMO	A	DM TOSHIBA	DM SUMITOMO	H'	H	KD TOSHIBA	KD SUMITOMO	J TOSHIBA	J SUMITOMO	X TOSHIBA	X SUMITOMO	Approximate Mass [kg] TOSHIBA	Approximate Mass [kg] SUMITOMO
3-phase		0.1	1000	L	ATE □ L-0.1 ◎	371	-	128	-	185	113.2	-	237	274	-	-	-	-	33	-	33	-
		0.2	540 ～ 800	L	ATE □ L-0.2 ◎	412	-	169	-	185	135	-	237	274	-	-	-	-	74	-	33.5	-
		0.4	240 ～ 300	S	ATE □ S-0.4 ◎	417	466	214	197	145	150	124	237	274	22	12.5	138	87	86	59	32	38
		0.75	100 ～ 150	S	ATE □ S-0.75 ◎	424	-	221	-	145	170	-	237	274	22	-	146	-	101	-	36	-
		0.75	200	G	ATE □ G-0.75 ◎	424	-	221	-	145	170	-	237	274	22	-	146	-	101	-	36	-
		0.75	200	L	ATE □ L-0.75 ◎	424	436	221	233	145	170	155	237	274	22	23	146	112	101	97	36	34
		1.5	25 ～ 30	S	ATE □ S-1.5 ◎	441	-	244	-	139	188	-	237	274	27	-	147.5	-	101	-	38.5	-
		1.5	45 ～ 75	S	ATE □ S-1.5 ◎	459	-	244	-	157	188	-	237	274	27	-	147.5	-	101	-	40	-
		1.5	100	G	ATE □ G-1.5 ◎	459	-	244	-	157	188	-	237	274	27	-	147.5	-	123	-	40	-
		1.5	100	L	ATE □ L-1.5 ◎	459	495	244	280	157	188	167	237	274	27	23	147.5	117	123	100	40	39
		2.2	5 ～ 20	S	ATE □ S-2.2 ◎	470	-	273	-	139	198	-	237	274	27	-	139	-	123	-	42.5	-
		2.2	25 ～ 30	L	ATE □ L-2.2 ◎	470	496	273	299	139	198	180	237	274	27	23	139	126	117	105	42.5	41.5
		2.2	45 ～ 60	L	ATE □ L-2.2 ◎	488	514	273	299	157	198	180	237	274	27	23	139	126	117	105	44	43
		2.2	50 ～ 60	G	ATE □ G-2.2 ◎	488	-	273	-	157	198	-	237	274	27	-	139	-	117	-	44	-
		3.7	5 ～ 20	L	ATE □ L-3.7 ◎	511	519	314	322	139	214	222	237	274	27	23	151	147	142	127	47.5	53.5
3-phase with Brakes	SAV FB	0.1	1000	L	ATBE □ L-0.1 ◎◆	432	-	189	-	185	113.2	-	237	274	-	-	-	-	94	-	34	-
		0.2	540 ～ 800	L	ATBE □ L-0.2 ◎◆	468	-	225	-	185	135	-	237	274	-	-	-	-	130	-	36.4	-
		0.4	240 ～ 300	S	ATBE □ S-0.4 ◎◆	457	498	254	321	145	150	124	237	274	22	12.5	140	87	*	91	34.6	35.7
		0.75	100 ～ 150	S	ATBE □ S-0.75 ◎◆	474	-	271	-	145	170	-	237	274	22	-	148	-	*	-	39	-
		0.75	200	L	ATBE □ L-0.75 ◎◆	474	479	271	276	145	170	155	237	274	22	23	148	114	*	140	39	36
		1.5	25 ～ 30	S	ATBE □ S-1.5 ◎◆	503	-	306	-	139	188	-	237	274	27	-	149.5	-	*	-	44.2	-
		1.5	45 ～ 75	S	ATBE □ S-1.5 ◎◆	521	-	306	-	157	188	-	237	274	27	-	149.5	-	*	-	45.7	-
		1.5	100	L	ATBE □ L-1.5 ◎◆	521	557	306	342	157	188	167	237	274	27	23	149.5	119	*	162	45.7	43
		2.2	5 ～ 20	S	ATBE □ S-2.2 ◎◆	532	-	335	-	139	198	-	237	274	27	-	141	-	*	-	48.2	-
		2.2	25 ～ 30	L	ATBE □ L-2.2 ◎◆	532	559	335	362	139	198	180	237	274	27	23	141	126	*	168	48.2	47.5
		2.2	45 ～ 60	L	ATBE □ L-2.2 ◎◆	550	577	335	362	157	198	180	237	274	27	23	141	126	*	168	49.7	49
		3.7	5 ～ 20	L	ATBE □ L-3.7 ◎◆	591	591	394	394	139	214	222	237	274	27	23	153	147	*	199	54	64.5
	SBV	0.1	1000	L	ATBE □ L-0.1SSBV	416	-	173	-	185	135	-	237	274	-	-	76	-	78	-	34.6	-
		0.2	540 ～ 800	L	ATBE □ L-0.2SSBV	416	-	173	-	185	135	-	237	274	-	-	76	-	78	-	35	-
		0.4	200	S	ATBE □ S-0.4SSBV	419	-	216	-	145	150	-	237	274	22	-	140	-	*	-	34	-
		0.75	100 ～ 150	S	ATBE □ S-0.75SSBV	431	-	228	-	145	170	-	237	274	22	-	148	-	*	-	40	-
		0.75	200	L	ATBE □ L-0.75SSBV	431	-	228	-	145	170	-	237	274	22	-	148	-	*	-	40	-
		1.5	25 ～ 30	S	ATBE □ S-1.5SSBV	456	-	259	-	139	188	-	237	274	27	-	149.5	-	*	-	44.5	-
		1.5	45 ～ 75	S	ATBE □ S-1.5SSBV	474	-	259	-	157	188	-	237	274	27	-	149.5	-	*	-	46	-
		1.5	100	L	ATBE □ L-1.5SSBV	474	-	259	-	157	188	-	237	274	27	-	149.5	-	*	-	46	-
For Inverter		0.2	240 ～ 300	L	ATE □ L-0.2Sul (H)	-	466	-	197	157	-	124	237	274	-	12.5	-	87	-	59	-	38
		0.4	200	L	ATE □ L-0.4Sul (H)	-	436	-	233	145	-	155	237	274	-	23	-	112	-	97	-	34
		0.75	100	L	ATE □ L-0.75Sul (H)	-	495	-	280	145	-	167	237	274	-	23	-	117	-	100	-	39
		1.5	25 ～ 30	L	ATE □ L-1.5Sul (H)	-	496	-	299	139	-	180	237	274	-	23	-	126	-	105	-	41.5
		1.5	45 ～ 60	L	ATE □ L-1.5Sul (H)	-	514	-	299	145	-	180	237	274	-	23	-	126	-	105	-	43
		2.2	5 ～ 20	S	ATE □ S-2.2Sul (H)	-	519	-	322	139	-	222	237	274	-	23	-	147	-	127	-	53.5

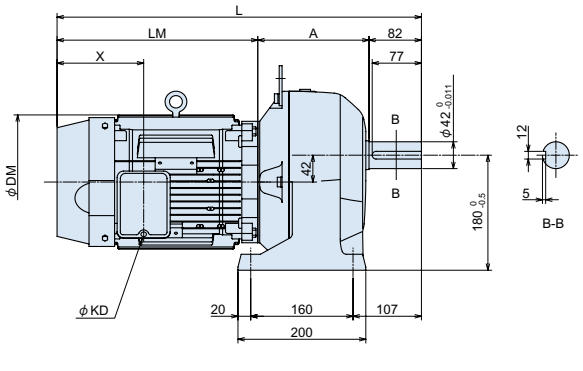
※ Consult us for class G 3-phase motors with brakes and motors for inverter with brakes. Consult us for dimension *.

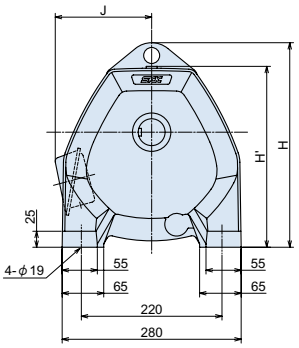
Note: The above dimension diagrams are for models with TOSHIBA motors. For SUMITOMO motors, the shape and terminal box position are different.

Gearmotor Dimension Sheets (3-phase Motor/Motor for Inverter, Foot-mounted)

3-phase Motor		ATF ☐◇ - △◎	(TOSHIBA motor/SUMITOMO motor)
3-phase Motor with Brakes	SAV Brake	ATBF ☐◇ - △◎ SAV	(TOSHIBA motor)
	SBV Brake	ATBF ☐◇ - △◎ SBV	(TOSHIBA motor)
	FB Brake	ATBF ☐◇ - △ SuFB	(SUMITOMO motor)
3-phase Motor for Inverter		ATF ☐◇ - △ SuI (H)	(SUMITOMO motor)

Symbols should be replaced with the following specification items:
☐ : Reduction ratio, ◎ : Motor manufacturer,
△ : Motor capacity [kW], ◆ : Brake type





Motor Type		Motor Capacity [kW]	Reduction Ratio	Class	Nomenclature	Dimension [mm] L TOSHIBA	L SUMITOMO	LM TOSHIBA	LM SUMITOMO	A	DM TOSHIBA	DM SUMITOMO	H'	H	KD TOSHIBA	KD SUMITOMO	J TOSHIBA	J SUMITOMO	X TOSHIBA	X SUMITOMO	Approximate Mass [kg] TOSHIBA	Approximate Mass [kg] SUMITOMO
3-phase		0.2	1000	L	ATF ☐ L-0.2 ◎	453	-	169	-	202	135	-	283	320	-	-	-	-	74	-	45	-
		0.75	200	S	ATF ☐ S-0.75 ◎	465	-	221	-	162	170	-	283	320	22	-	144	-	101	-	47.5	-
		1.5	130 ～ 150	G	ATF ☐ G-1.5 ◎	497	-	244	-	171	188	-	283	320	27	-	147	-	123	-	51.5	-
		1.5	130 ～ 150	L	ATF ☐ L-1.5 ◎	497	533	244	280	171	188	167	283	320	27	23	147	119	123	100	51.5	50.5
		1.5	100	S	ATF ☐ S-1.5 ◎	497	-	244	-	171	188	-	283	320	27	-	147	-	123	-	51.5	-
		2.2	75 ～ 100	G	ATF ☐ G-2.2 ◎	526	-	273	-	171	198	-	283	320	27	-	141	-	117	-	55.5	-
		2.2	75 ～ 100	L	ATF ☐ L-2.2 ◎	526	552	273	299	171	198	180	283	320	27	23	141	126	117	105	55.5	54.5
		2.2	25 ～ 30	S	ATF ☐ S-2.2 ◎	505	-	273	-	150	198	-	283	320	27	-	141	-	117	-	53	-
		2.2	45 ～ 60	S	ATF ☐ S-2.2 ◎	526	-	273	-	171	198	-	283	320	27	-	141	-	117	-	55.5	-
		3.7	25 ～ 30	L	ATF ☐ L-3.7 ◎	549	557	314	322	153	214	222	283	320	27	23	151	147	135.5	127	58	64
		3.7	45 ～ 60	L	ATF ☐ L-3.7 ◎	570	578	314	322	174	214	222	283	320	27	23	151	147	135.5	127	60.5	66.5
		3.7	5 ～ 20	S	ATF ☐ S-3.7 ◎	549	-	314	-	153	214	-	283	320	27	-	151	-	135.5	-	58	-
		5.5	5 ～ 15	S	ATF ☐ S-5.5 ◎	655.5	644	412.5	401	161	252	222	283	320	35	23	189	147	151.5	127	72	72
3-phase with Brakes	SAV FB	0.2	1000	L	ATBF ☐ L-0.2 ◎◆	509	-	225	-	202	135	-	283	320	-	-	-	-	130	-	47.9	-
		0.75	200	S	ATBF ☐ S-0.75 ◎◆	515	-	271	-	162	170	-	283	320	22	-	146	-	*	-	50.5	-
		1.5	130 ～ 150	L	ATBF ☐ L-1.5 ◎◆	559	595	306	342	171	188	167	283	320	27	23	149	119	*	162	57.2	54.5
		1.5	100	S	ATBF ☐ S-1.5 ◎◆	559	-	306	-	171	188	-	283	320	27	-	149	-	*	-	57.2	-
		2.2	75 ～ 100	L	ATBF ☐ L-2.2 ◎◆	588	615	335	362	171	198	180	283	320	27	23	143	126	*	168	61.2	60.5
		2.2	25 ～ 30	S	ATBF ☐ S-2.2 ◎◆	567	-	335	-	150	198	-	283	320	27	-	143	-	*	-	58.7	-
		2.2	45 ～ 60	S	ATBF ☐ S-2.2 ◎◆	588	-	335	-	171	198	-	283	320	27	-	143	-	*	-	61.2	-
		3.7	25 ～ 30	L	ATBF ☐ L-3.7 ◎◆	629	629	394	394	153	214	222	283	320	27	23	153	147	*	199	64.5	75
		3.7	45 ～ 60	L	ATBF ☐ L-3.7 ◎◆	650	650	394	394	174	214	222	283	320	27	23	153	147	*	199	67	77.5
		3.7	5 ～ 20	S	ATBF ☐ S-3.7 ◎◆	629	-	394	-	153	214	-	283	320	27	-	153	-	*	-	64.5	-
		5.5	5 ～ 15	S	ATBF ☐ S-5.5 ◎◆	756	716	513	473	161	252	222	283	320	35	23	191	147	*	199	82	83
	SBV	0.2	1000	L	ATBF ☐ L-0.2SSBV	457	-	173	-	202	135	-	283	320	-	-	76	-	78	-	46.5	-
		0.75	200	S	ATBF ☐ S-0.75SSBV	472	-	228	-	162	170	-	283	320	22	-	146	-	*	-	51.5	-
		1.5	130 ～ 150	L	ATBF ☐ L-1.5SSBV	512	-	259	-	171	188	-	283	320	27	-	149	-	*	-	57.5	-
		1.5	100	S	ATBF ☐ S-1.5SSBV	512	-	259	-	171	188	-	283	320	27	-	149	-	*	-	57.5	-
3-phase for Inverter		0.2	360 ～ 450	S	ATF ☐ S-0.2SuI (H)	-	504	-	197	202	-	124	283	320	-	12.5	-	87	-	50.5	-	50.5
		0.4	240	L	ATF ☐ L-0.4SuI (H)	-	540	-	233	202	-	155	283	320	-	23	-	119	-	97	-	52.5
		0.75	130 ～ 150	L	ATF ☐ L-0.75SuI (H)	-	533	-	280	171	-	167	283	320	-	23	-	119	-	100	-	50.5
		1.5	75 ～ 100	L	ATF ☐ L-1.5SuI (H)	-	552	-	299	171	-	180	283	320	-	23	-	125	-	105	-	54.5
		2.2	25 ～ 30	L	ATF ☐ L-2.2SuI (H)	-	557	-	322	161	-	222	283	320	-	23	-	147	-	127	-	64
		2.2	45 ～ 60	L	ATF ☐ L-2.2SuI (H)	-	578	-	322	171	-	222	283	320	-	23	-	147	-	127	-	66.5
		3.7	5 ～ 15	S	ATF ☐ S-3.7SuI (H)	-	644	-	401	161	-	222	283	320	-	147	-	147	-	127	-	72

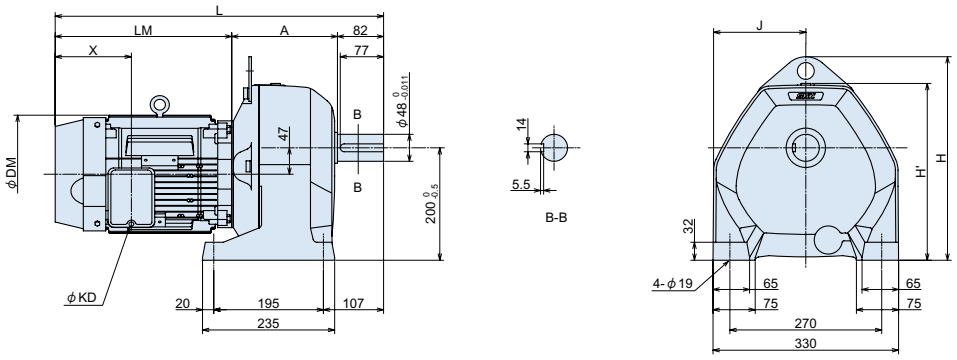
※ Consult us for class G 3-phase motors with brakes and motors for inverter with brakes. Consult us for dimension *.

Note: The above dimension diagrams are for models with TOSHIBA motors. For SUMITOMO motors, the shape and terminal box position are different.

Gearmotor Dimension Sheets (3-phase Motor/Motor for Inverter, Foot-mounted)

3-phase Motor		ATG ☐◇ - △◎	(TOSHIBA motor/SUMITOMO motor)
3-phase Motor with Brakes	SAV Brake	ATBG ☐◇ - △◎ SAV	(TOSHIBA motor)
	SBV Brake	ATBG ☐◇ - △◎ SBV	(TOSHIBA motor)
	FB Brake	ATBG ☐◇ - △ SuFB	(SUMITOMO motor)
3-phase Motor for Inverter		ATG ☐◇ - △ SuI (H)	(SUMITOMO motor)

Symbols should be replaced with the following specification items:
☐ : Reduction ratio, ◎ : Motor manufacturer,
△ : Motor capacity [kW], ◆ : Brake type



Motor Type		Motor Capacity [kW]	Reduction Ratio	Class	Nomenclature	Dimension [mm] L TOSHIBA	L SUMITOMO	LM TOSHIBA	LM SUMITOMO	A	DM TOSHIBA	DM SUMITOMO	H'	H	KD TOSHIBA	KD SUMITOMO	J TOSHIBA	J SUMITOMO	X TOSHIBA	X SUMITOMO	Approximate Mass [kg] TOSHIBA	Approximate Mass [kg] SUMITOMO
3-phase		1.5	200	G	ATG ☐ G-1.5 ◎	517	-	244	-	191	188	-	315	362	27	-	147	-	123	-	71	-
		1.5	200	L	ATG ☐ L-1.5 ◎	517	553	244	280	191	188	167	315	362	27	23	147	120	123	100	71	70
		1.5	130 ~ 150	S	ATG ☐ S-1.5 ◎	517	-	244	-	191	188	-	315	362	27	-	148	-	123	-	71	-
		2.2	130 ~ 150	G	ATG ☐ G-2.2 ◎	546	-	273	-	191	198	-	315	362	27	-	141	-	117	-	75	-
		2.2	130 ~ 150	L	ATG ☐ L-2.2 ◎	546	572	273	299	191	198	180	315	362	27	23	141	126	117	105	75	74
		2.2	75 ~ 100	S	ATG ☐ S-2.2 ◎	546	-	273	-	191	198	-	315	362	27	-	141	-	117	-	75	-
		3.7	75 ~ 100	L	ATG ☐ L-3.7 ◎	584	592	314	322	188	214	222	315	362	27	23	151	144	135.5	127	80	86
		3.7	25 ~ 30	S	ATG ☐ S-3.7 ◎	558	-	314	-	162	214	-	315	362	27	-	151	-	135.5	-	75	-
		3.7	45 ~ 60	S	ATG ☐ S-3.7 ◎	584	-	314	-	188	214	-	315	362	27	-	151	-	135.5	-	80	-
		5.5	20	S	ATG ☐ S-5.5 ◎	667.5	656	412.5	401	173	252	222	315	362	35	23	189	147	151.5	127	89	89
		7.5	5 ~ 15	S	ATG ☐ S-7.5 ◎	724.5	671	464.5	411	178	252	260	315	362	35	43	189	188	151.5	143	100	106
3-phase with Brakes	SAV FB	1.5	200	L	ATBG ☐ L-1.5 ◎◆	579	615	306	342	191	188	167	315	362	27	23	150	119	*	162	76.7	74
		1.5	130 ~ 150	S	ATBG ☐ S-1.5 ◎◆	579	-	306	-	191	188	-	315	362	27	-	150	-	*	-	76.7	-
		2.2	130 ~ 150	L	ATBG ☐ L-2.2 ◎◆	608	635	335	362	191	198	180	315	362	27	23	143	126	*	168	80.7	80
		2.2	75 ~ 100	S	ATBG ☐ S-2.2 ◎◆	608	-	335	-	191	198	-	315	362	27	-	143	-	*	-	80.7	-
		3.7	75 ~ 100	L	ATBG ☐ L-3.7 ◎◆	664	664	394	394	188	214	222	315	362	27	23	153	147	*	199	86.5	97
		3.7	25 ~ 30	S	ATBG ☐ S-3.7 ◎◆	638	-	394	-	162	214	-	315	362	27	-	153	-	*	-	81.5	-
		3.7	45 ~ 60	S	ATBG ☐ S-3.7 ◎◆	664	-	394	-	188	214	-	315	362	27	-	153	-	*	-	86.5	-
		5.5	20	S	ATBG ☐ S-5.5 ◎◆	768	728	513	473	173	252	222	315	362	35	23	191	147	*	199	99	100
		7.5	5 ~ 15	S	ATBG ☐ S-7.5 ◎◆	825	766	565	506	178	252	260	315	362	35	43	191	188	*	238	110	126
	SBV	1.5	200	L	ATBG ☐ L-1.5SSBV	532	-	259	-	191	188	-	315	362	27	-	150	-	*	-	77	-
		1.5	130 ~ 150	S	ATBG ☐ S-1.5SSBV	532	-	259	-	191	188	-	315	362	27	-	150	-	*	-	77	-
3-phase for Inverter		0.2	540 ~ 800	S	ATG ☐ S-0.2SuI (H)	-	524	-	197	245	-	124	315	362	-	12.5	-	87	-	59	-	69
		0.4	300 ~ 360	S	ATG ☐ S-0.4SuI (H)	-	560	-	233	245	-	155	315	362	-	23	-	119	-	97	-	71
		0.75	200	L	ATG ☐ L-0.75SuI (H)	-	553	-	280	191	-	167	315	362	-	23	-	120	-	100	-	70
		1.5	130 ~ 150	L	ATG ☐ L-1.5SuI (H)	-	572	-	299	191	-	180	315	362	-	23	-	126	-	105	-	74
		2.2	75 ~ 100	L	ATG ☐ L-2.2SuI (H)	-	592	-	322	188	-	222	315	362	-	23	-	82	-	127	-	86
		3.7	20	S	ATG ☐ S-3.7SuI (H)	-	656	-	401	173	-	222	315	362	-	23	-	147	-	127	-	89
		5.5	5 ~ 15	S	ATG ☐ S-5.5SuI (H)	-	671	-	411	173	-	260	315	362	-	43	-	188	-	143	-	106

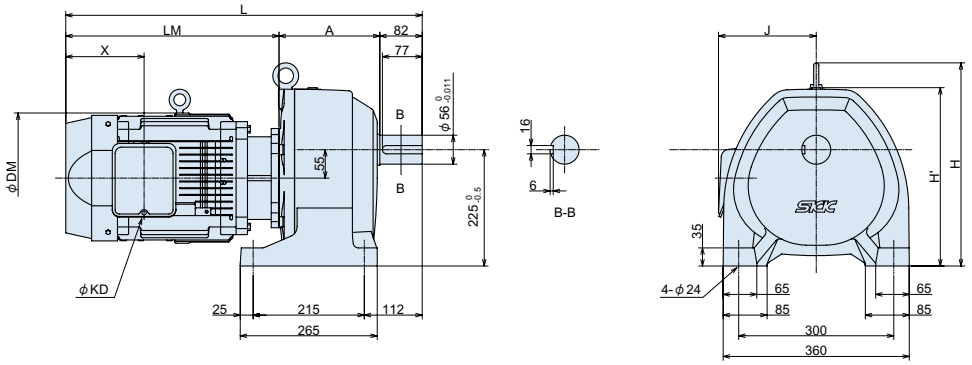
※ Consult us for class G 3-phase motors with brakes and motors for inverter with brakes. Consult us for dimension *.

Note: The above dimension diagrams are for models with TOSHIBA motors. For SUMITOMO motors, the shape and terminal box position are different.

Gearmotor Dimension Sheets (3-phase Motor/Motor for Inverter, Foot-mounted)

3-phase Motor		ATH ☐◇ - △◎	(TOSHIBA motor/SUMITOMO motor)
3-phase Motor with Brakes	SAV Brake	ATBH ☐◇ - △◎ SAV	(TOSHIBA motor)
	SBV Brake	ATBH ☐◇ - △◎ SBV	(TOSHIBA motor)
	FB Brake	ATBH ☐◇ - △ SuFB	(SUMITOMO motor)
3-phase Motor for Inverter		ATH ☐◇ - △ SuI (H)	(SUMITOMO motor)

Symbols should be replaced with the following specification items:
☐ : Reduction ratio, ◎ : Motor manufacturer,
△ : Motor capacity [kW], ◆ : Brake type



Motor Type		Motor Capacity [kW]	Reduction Ratio	Class	Nomenclature	Dimension [mm] L		LM		A	DM		H'	H	KD		J		X		Approximate Mass [kg]	
						TOSHIBA	SUMITOMO	TOSHIBA	SUMITOMO		TOSHIBA	SUMITOMO			TOSHIBA	SUMITOMO	TOSHIBA	SUMITOMO	TOSHIBA	SUMITOMO	TOSHIBA	SUMITOMO
3-phase		1.5	200	S	ATH ☐ S-1.5 ◎	531	-	244	-	205	188	-	345	393	27	-	154	-	123	-	86	-
		2.2	130 ~ 150	S	ATH ☐ S-2.2 ◎	560	-	273	-	205	198	-	345	393	27	-	149	-	117	-	90	-
		3.7	75 ~ 100	S	ATH ☐ S-3.7 ◎	607	-	314	-	211	214	-	345	393	27	-	151	-	135.5	-	95	-
		5.5	25 ~ 30	S	ATH ☐ S-5.5 ◎	689.5	678	412.5	401	195	252	222	345	393	35	23	189	147	151.5	127	104	104
		5.5	45 ~ 60	S	ATH ☐ S-5.5 ◎	713.5	702	412.5	401	219	252	222	345	393	35	23	189	147	151.5	127	109	109
		7.5	20	S	ATH ☐ S-7.5 ◎	746.5	693	464.5	411	200	252	260	345	393	35	43	189	188	151.5	143	115	121
		11	5 ~ 15	S	ATH ☐ S-11 ◎	-	755	-	473	200	-	260	345	393	-	43	-	188	-	143	-	139
3-phase with Brakes	SAV FB	1.5	200	S	ATBH ☐ S-1.5 ◎◆	593	-	306	-	205	188	-	345	393	27	-	156	-	*	-	91.7	-
		2.2	130 ~ 150	S	ATBH ☐ S-2.2 ◎◆	622	-	335	-	205	198	-	345	393	27	-	149	-	*	-	95.7	-
		3.7	75 ~ 100	S	ATBH ☐ S-3.7 ◎◆	687	-	394	-	211	214	-	345	393	27	-	153	-	*	-	102	-
		5.5	25 ~ 30	S	ATBH ☐ S-5.5 ◎◆	790	750	513	473	195	252	222	345	393	35	23	191	147	*	199	114	115
		5.5	45 ~ 60	S	ATBH ☐ S-5.5 ◎◆	814	774	513	473	219	252	222	345	393	35	23	191	147	*	199	119	120
		7.5	20	S	ATBH ☐ S-7.5 ◎◆	847	788	565	506	200	252	260	345	393	35	43	191	188	*	238	125	141
		11	5 ~ 15	S	ATBH ☐ S-11 ◎◆	-	768	-	568	200	-	260	345	393	-	43	-	188	*	238	-	159
	SBV	1.5	200	S	ATBH ☐ S-1.5SSBV	546	-	259	-	205	188	-	345	393	27	-	156	-	*	-	92	-
3-phase for Inverter		0.2	1000	S	ATH ☐ S-0.2SuI (H)	-	546	-	197	267	-	225	345	393	-	12.5	-	85	-	59	-	86
		0.4	450 ~ 540	S	ATH ☐ S-0.4SuI (H)	-	582	-	233	267	-	155	345	393	-	23	-	114	-	97	-	88
		3.7	25 ~ 30	S	ATH ☐ S-3.7SuI (H)	-	678	-	401	195	-	222	345	393	-	23	-	147	-	127	-	104
		3.7	45 ~ 60	S	ATH ☐ S-3.7SuI (H)	-	702	-	401	211	-	222	345	393	-	23	-	147	-	127	-	109
		5.5	20	S	ATH ☐ S-5.5SuI (H)	-	693	-	411	200	-	260	345	393	-	43	-	188	-	143	-	121
		7.5	5 ~ 15	S	ATH ☐ S-7.5SuI (H)	-	755	-	473	200	-	260	345	393	-	43	-	188	-	143	-	139

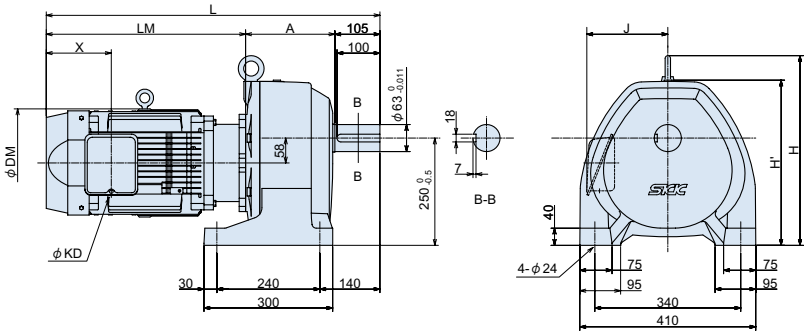
※ Consult us for class G 3-phase motors with brakes and motors for inverter with brakes. Consult us for dimension *.

Note: The above dimension diagrams are for models with TOSHIBA motors. For SUMITOMO motors, the shape and terminal box position are different.

Gearmotor Dimension Sheets (3-phase Motor/Motor for Inverter, Foot-mounted)

3-phase Motor		ATK □◇ - △◎	(TOSHIBA motor/SUMITOMO motor)
3-phase Motor with Brakes	SAV Brake	ATBK □◇ - △◎ SAV	(TOSHIBA motor)
	SBV Brake	ATBK □◇ - △◎ SBV	(TOSHIBA motor)
	FB Brake	ATBK □◇ - △ SuFB	(SUMITOMO motor)
3-phase Motor for Inverter		ATK □◇ - △ SuI (H)	(SUMITOMO motor)

Symbols should be replaced with the following specification items:
□ : Reduction ratio, ◎ : Motor manufacturer,
△ : Motor capacity [kW], ◆ : Brake type



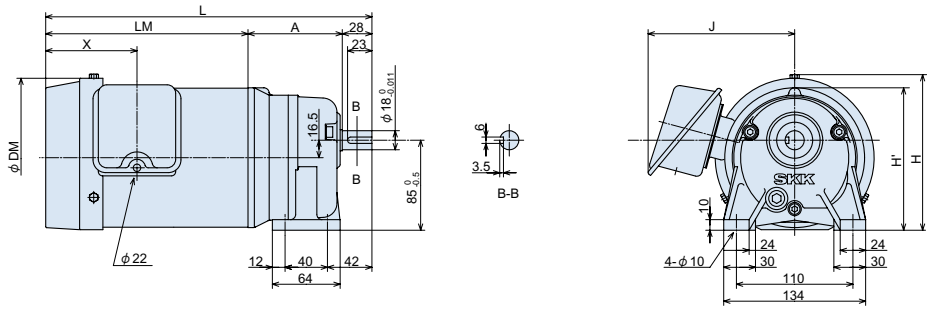
Motor Type		Motor Capacity [kW]	Reduction Ratio	Class	Nomenclature	Dimension [mm] L		LM		A	DM		H'	H	KD		J		X		Approximate Mass [kg]	
						TOSHIBA	SUMITOMO	TOSHIBA	SUMITOMO		TOSHIBA	SUMITOMO			TOSHIBA	SUMITOMO	TOSHIBA	SUMITOMO	TOSHIBA	SUMITOMO	TOSHIBA	SUMITOMO
3-phase		0.75	1000	S	ATK □ S-0.75 ◎	611	600	221	233	285	170	155	385	442	22	23	146	114	101	97	121	119
		1.5	240 ～ 540	S	ATK □ S-1.5 ◎	667	680	244	280	318	188	167	385	442	27	23	147.5	117	123	100	131	130
		2.2	200	S	ATK □ S-2.2 ◎	597	-	273	-	219	198	-	385	442	27	-	149	-	117	-	120	-
		2.2	240 ～ 300	S	ATK □ S-2.2 ◎	696	699	273	299	318	198	180	385	442	27	23	139	126	117	105	135	119
		3.7	130 ～ 150	S	ATK □ S-3.7 ◎	648	-	314	-	229	214	-	385	442	27	-	151	-	135.5	-	125	-
		5.5	75 ～ 100	S	ATK □ S-5.5 ◎	754.5	720	412.5	401	237	252	222	385	442	35	23	189	147	151.5	127	139	139
		7.5	25 ～ 30	S	ATK □ S-7.5 ◎	777.5	701	464.5	411	208	252	260	385	442	35	43	189	188	151.5	143	140	146
		7.5	45 ～ 60	S	ATK □ S-7.5 ◎	811.5	735	464.5	411	242	252	260	385	442	35	43	189	188	151.5	143	150	156
		11	20	S	ATK □ S-11 ◎	-	763	-	473	208	-	260	385	442	-	43	-	188	-	143	-	164
3-phase with Brakes	SAV FB	0.75	1000	S	ATBK □ S-0.75 ◎◆	661	643	668	276	285	170	155	385	442	24	23	148	114	*	140	124	121
		1.5	240 ～ 540	S	ATBK □ S-1.5 ◎◆	729	742	306	342	318	188	167	385	442	27	23	149.5	119	*	140	137	134
		2.2	200	S	ATBK □ S-2.2 ◎◆	659	-	335	-	219	198	-	385	442	27	-	151	-	*	-	126	-
		2.2	240 ～ 300	S	ATBK □ S-2.2 ◎◆	758	762	335	362	318	198	180	385	442	27	23	141	126	*	168	141	125
		3.7	130 ～ 150	S	ATBK □ S-3.7 ◎◆	728	-	394	-	229	214	-	385	442	27	-	153	-	*	-	132	-
		5.5	75 ～ 100	S	ATBK □ S-5.5 ◎◆	855	792	513	473	237	252	222	385	442	35	23	191	147	*	199	149	150
		7.5	25 ～ 30	S	ATBK □ S-7.5 ◎◆	878	796	565	506	208	252	260	385	442	35	43	191	188	*	238	150	166
		7.5	45 ～ 60	S	ATBK □ S-7.5 ◎◆	917	830	565	506	242	252	260	385	442	35	43	191	188	*	238	160	176
		11	20	S	ATBK □ S-11 ◎◆	-	858	-	568	208	-	260	385	442	-	43	-	188	-	238	-	184
	SBV	0.75	1000	S	ATBK □ S-0.75SSBV	618	-	228	-	285	170	-	385	442	22	-	148	-	*	-	125	-
		1.5	240 ～ 540	S	ATBK □ S-1.5SSBV	682	-	259	-	318	188	-	385	442	27	-	149.5	-	*	-	137	-
3-phase for Inverter		0.4	1000	S	ATK □ S-0.4SuI (H)	-	600	-	233	285	-	155	385	442	-	23	-	114	-	97	-	119
		0.75	240 ～ 450	S	ATK □ S-0.75SuI (H)	-	680	-	280	318	-	167	385	442	-	23	-	117	-	100	-	130
		1.5	240 ～ 300	S	ATK □ S-1.5SuI (H)	-	699	-	299	318	-	180	385	442	-	23	-	126	-	105	-	119
		3.7	75 ～ 100	S	ATK □ S-3.7SuI (H)	-	720	-	401	237	-	222	385	442	-	23	-	147	-	127	-	139
		5.5	25 ～ 30	S	ATK □ S-5.5SuI (H)	-	701	-	411	208	-	260	385	442	-	43	-	188	-	143	-	146
		5.5	45 ～ 60	S	ATK □ S-5.5SuI (H)	-	735	-	411	242	-	260	385	442	-	43	-	188	-	143	-	156
		7.5	20	S	ATK □ S-7.5SuI (H)	-	763	-	473	208	-	260	385	442	-	43	-	188	-	143	-	164

※ Consult us for class G 3-phase motors with brakes and motors for inverter with brakes. Consult us for dimension *.

Note: The above dimension diagrams are for models with TOSHIBA motors. For SUMITOMO motors, the shape and terminal box position are different.

Gearmotor Dimension Sheets (3-phase Motor, Foot-mounted)

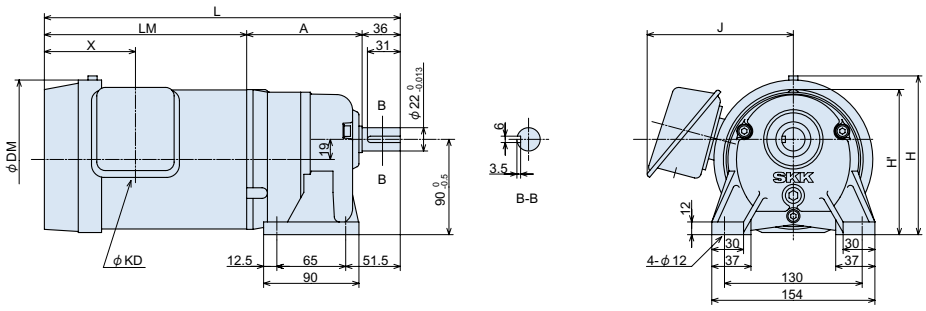
3-phase Motor ATR □◇ - △ S (T S motor) □ : Reduction ratio, △ : Motor capacity [kW]



Motor Type	Motor Capacity [kW]	Reduction Ratio	Class	omenclature	Dimension [mm] L	LM		M			K			pproximate Mass [kg]
					T S	T S		T S			T S	T S	T S	T S
3-phase	0.	5 ～ 20	G	TR □ G-0. S	30	1 1		150	-	1	22	13		.

Consult us for 3-phase motors with brakes.

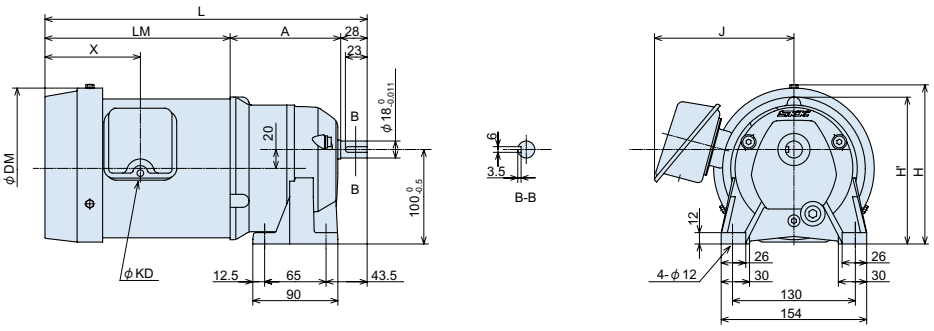
3-phase Motor TS □◇ - △ S (T S motor) □ : Reduction ratio, △ : Motor capacity [kW]



Motor Type	Motor Capacity [kW]	Reduction Ratio	Class	omenclature	Dimension [mm] L	LM		M			K			pproximate Mass [kg]
					T S	T S		T S			T S	T S	T S	T S
3-phase	0.	5 ～ 0	G	TS □ G-0. S	33	1 1	10	150	-	150	22	13		10

Consult us for 3-phase motors with brakes.

3-phase Motor TT □◇ - △ S (T S motor) □ : Reduction ratio, △ : Motor capacity [kW]

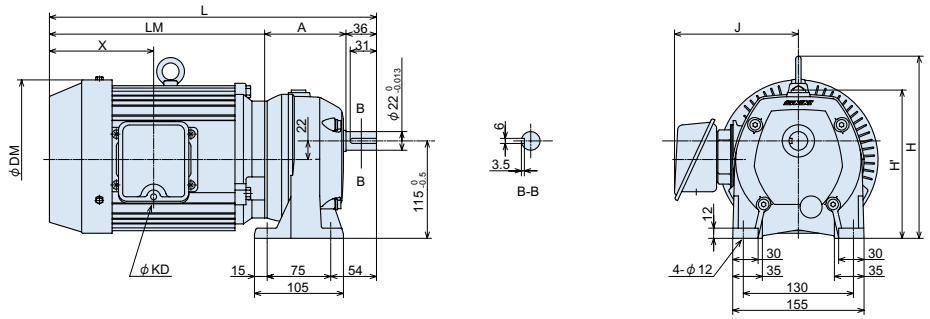


Motor Type	Motor Capacity [kW]	Reduction Ratio	Class	omenclature	Dimension [mm] L	LM		M			K			pproximate Mass [kg]
					T S	T S		T S			T S	T S	T S	T S
3-phase	0.75	5 ～ 20	G	TT □ G-0.75S	3 1	1	117	170	-	1	22	1	101	13.5

Consult us for 3-phase motors with brakes.

Gearmotor imension Sheets (3-phase Motor, oot-mounted)

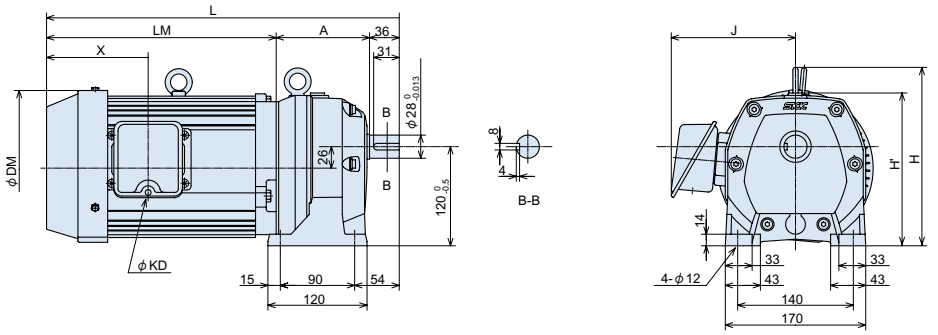
3-phase Motor T □◇ - △ S (T S motor) □ : Reduction ratio, △ : Motor capacity [kW]



Motor Type	Motor Capacity [kW]	Reduction Ratio	Class	omenclature	Dimension [mm] L	LM		M			K			pproximate Mass [kg]
					T S	T S		T S			T S	T S	T S	T S
3-phase	1.5	5 ～ 20	G	T □ G-1.5S	3	25		1	1 1	215	27	1 7.5	123	20

Consult us for 3-phase motors with brakes.

3-phase Motor T □◇ - △ S (T S motor) □ : Reduction ratio, △ : Motor capacity [kW]



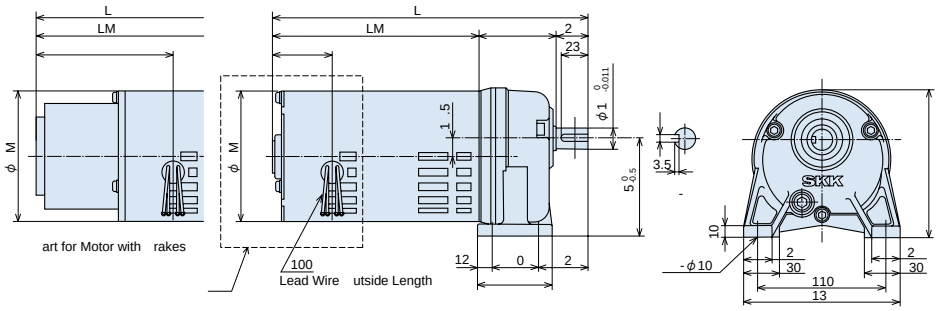
Motor Type	Motor Capacity [kW]	Reduction Ratio	Class	omenclature	Dimension [mm] L	LM		M			K			pproximate Mass [kg]
					T S	T S		T S			T S	T S	T S	T S
3-phase	1.5	25 ～ 30	G	T □ G-1.5S	3	25	10	1	1 2	21	27	1 7.5	123	21.
	1.5	5	G	T □ G-1.5S	0	25	11	1	1 2	21	27	1 7.5	123	22.5
	2.2	5 ～ 20	G	T □ G-2.2S	27	27	113	1	1 5	215	27	151	123	2 .1

Consult us for 3-phase motors with brakes.

Gearmotor Dimension Sheets (Single-phase Motor, Foot-mounted)

Single-phase Motor	MFGS518D- ☐ RS △ -4
Single-phase Motor with Brakes (SAVS)	MFGS518D- ☐ RS △ -4SAVS

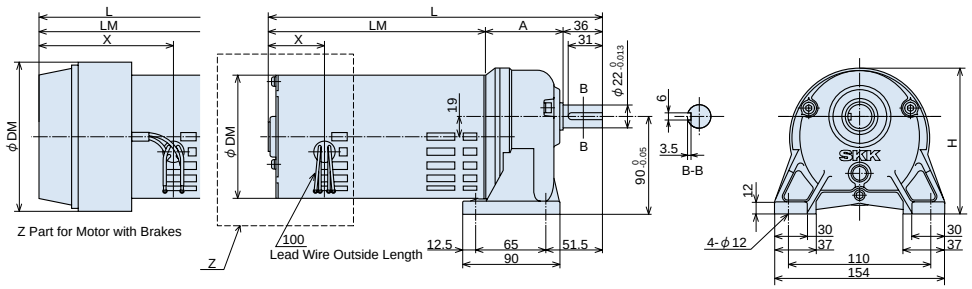
☐ : Reduction ratio, △ : Motor capacity [kW]



Motor Type	Motor Capacity [kW]	Reduction Ratio	Nomenclature	Dimension [mm] L	LM	A	DM	H'	H	KD	J	X	Approximate Mass [kg]
				TOSHIBA	TOSHIBA		TOSHIBA			TOSHIBA	TOSHIBA	TOSHIBA	TOSHIBA
Single-phase	0.1	5 ～ 50	MFGS518D- ☐ RS0.1-4	270.5	177.5	65	113.2	-	127.5	-	-	52	6.3
	0.2	5 ～ 25	MFGS518D- ☐ RS0.2-4	290.5	197.5	65	113.2	-	127.5	-	-	52	8
Single-phase with Brakes	0.1	5 ～ 50	MFGSB518D- ☐ RS0.1-4SAVS	332	239	65	113.2	-	127.5	-	-	113.5	7.3
	0.2	5 ～ 25	MFGSB518D- ☐ RS0.2-4SAVS	347	254	65	140	127.5	138.5	-	-	108.5	10.9

Single-phase Motor	MFGS522D- ☐ RS △ -4
Single-phase Motor with Brakes (SAVS)	MFGS522D- ☐ RS △ -4SAVS

☐ : Reduction ratio, △ : Motor capacity [kW]

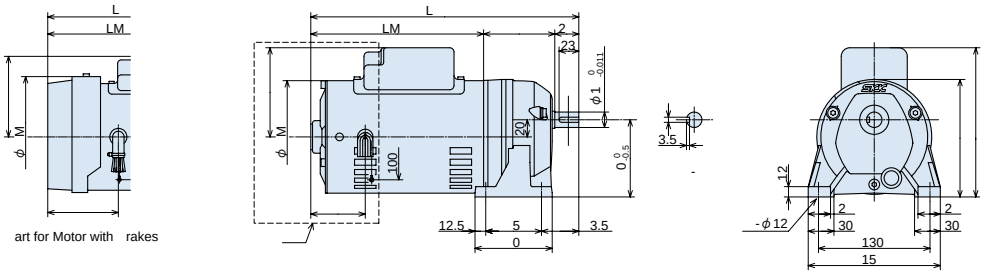


Motor Type	Motor Capacity [kW]	Reduction Ratio	Nomenclature	Dimension [mm] L	LM	A	DM	H'	H	KD	J	X	Approximate Mass [kg]
				TOSHIBA	TOSHIBA		TOSHIBA			TOSHIBA	TOSHIBA	TOSHIBA	TOSHIBA
Single-phase	0.1	60 ～200	MFGS522T- ☐ RS0.1-4	298.5	177.5	85	113.2	-	134.5	-	-	52	7.5
	0.2	30	MFGS522D- ☐ RS0.2-4	305.5	197.5	72	113.2	-	134.5	-	-	52	8.4
	0.2	45 ～100	MFGS522T- ☐ RS0.2-4	318.5	197.5	85	113.2	-	134.5	-	-	52	9.1
Single-phase with Brakes	0.1	60 ～200	MFGS522T- ☐ RS0.1-4SAVS	360	239	85	113.2	-	134.5	-	-	113.5	8.5
	0.2	30	MFGS522D- ☐ RS0.2-4SAVS	362	254	72	140	134.5	141	-	-	108.5	11.3
	0.2	45 ～100	MFGS522T- ☐ RS0.2-4SAVS	375	254	85	140	134.5	141	-	-	108.5	12

Gearmotor Dimension Sheets (Single-phase Motor, Foot-mounted)

Single-phase Motor	ASA □◇ - △ S
Single-phase Motor with Brakes (SAVS)	ASBA □◇ - △ SSAVS

□ : Reduction ratio, △ : Motor capacity [kW]

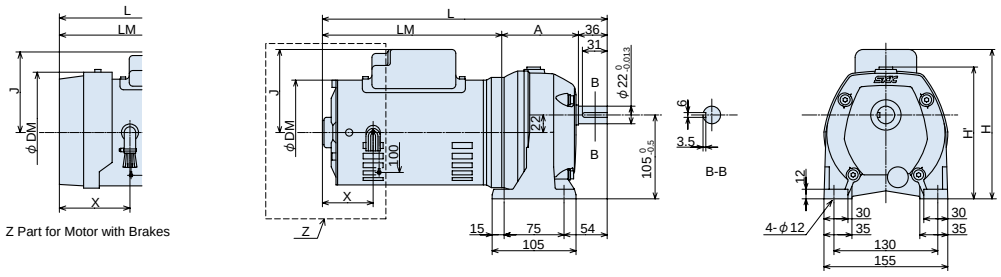


Motor Type	Motor Capacity [kW]	Reduction Ratio		Nomenclature	Dimension [mm] L	LM	A	DM	H'	H	KD	J	X	Approximate Mass [kg]
					TOSHIBA	TOSHIBA		TOSHIBA			TOSHIBA	TOSHIBA	TOSHIBA	TOSHIBA
Single-phase	0.4	5 ～ 20	L	ASA □ L-0.4S	313	202	83	131.2	-	137	-	104	*	14
Single-phase with Brakes	0.4	5 ～ 20	L	ASBA □ L-0.4SSAVS	393	282	83	131.2	-	137	-	104	*	17

Consult us for dimension *.

Single-phase Motor	ASB □◇ - △ S
Single-phase Motor with Brakes (SAVS)	ASBB □◇ - △ SSAVS

□ : Reduction ratio, △ : Motor capacity [kW]



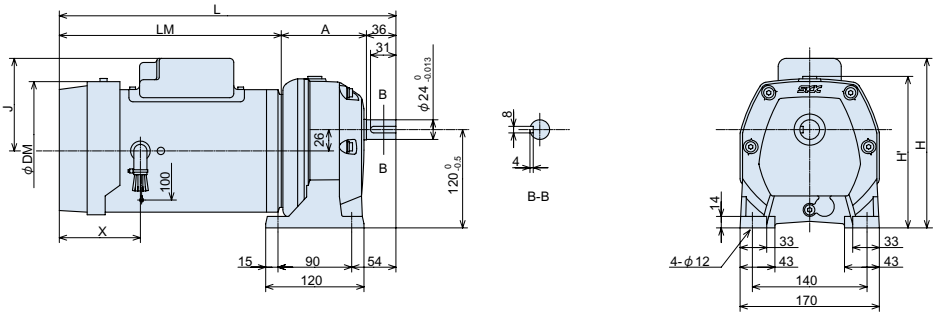
Motor Type	Motor Capacity [kW]	Reduction Ratio		Nomenclature	Dimension [mm] L	LM	A	DM	H'	H	KD	J	X	Approximate Mass [kg]
					TOSHIBA	TOSHIBA		TOSHIBA			TOSHIBA	TOSHIBA	TOSHIBA	TOSHIBA
Single-phase	0.4	25 ～ 30	L	ASB □ L-0.4S	357	225	96	131.2	-	165	-	104	*	16.5
	0.4	45 ～ 75	L	ASB □ L-0.4S	365	225	104	131.2	-	165	-	104	*	17
	0.4	5 ～ 20	S	ASB □ S-0.4S	357	225	96	131.2	-	165	-	104	*	16.5
	0.75	5 ～ 20	L	ASB □ L-0.75S	403	271	96	169.2	-	165	-	113	*	22
Single-phase with Brakes	0.4	25 ～ 30	L	ASBB □ L-0.4SSAVS	437	305	96	131.2	-	165	-	104	*	19.5
	0.4	45 ～ 75	L	ASBB □ L-0.4SSAVS	445	305	104	131.2	-	165	-	104	*	20
	0.4	5 ～ 20	S	ASBB □ S-0.4SSAVS	437	305	96	131.2	-	165	-	104	*	19.5
	0.75	5 ～ 20	L	ASBB □ L-0.75SSAVS	473	341	96	169.2	-	165	-	113	*	25.6

Consult us for dimension *.

Gearmotor Dimension Sheets (Single-phase Motor, Foot-mounted)

Single-phase Motor	ASC ☐◇ - △ S
Single-phase Motor with Brakes (SAVS)	ASBC ☐◇ - △ SSAVS

☐ : Reduction ratio, △ : Motor capacity [kW]



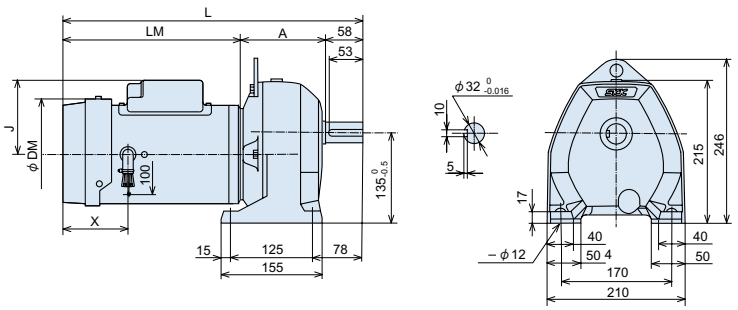
* 0.1 kW to 0.2 kW single-phase motors (without brake) are dip-proof type and their shapes are slightly different.

Motor Type	Motor Capacity [kW]	Reduction Ratio	Nomenclature		Dimension [mm] L TOSHIBA	LM TOSHIBA	A	DM TOSHIBA	H'	H	KD TOSHIBA	J TOSHIBA	X TOSHIBA	Approximate Mass [kg] TOSHIBA
Single-phase	0.1	240～450	L	ASC ☐ L-0.1S	371.5	177.5	158	113.2	-	185	-	-	52	16.7
	0.2	130～200	L	ASC ☐ L-0.2S	344.5	197.5	111	113.2	-	185	-	-	52	12.7
	0.4	100～150	L	ASC ☐ L-0.4S	379	225	118	131.2	-	185	-	104	*	17
	0.4	25 ～ 30	S	ASC ☐ S-0.4S	365	225	104	131.2	-	185	-	104	*	18
	0.4	45 ～ 75	S	ASC ☐ S-0.4S	379	225	118	131.2	-	185	-	104	*	19
	0.75	25 ～ 30	L	ASC ☐ L-0.75S	411	271	104	169.2	-	185	-	113	*	23.5
	0.75	45 ～ 75	L	ASC ☐ L-0.75S	425	271	118	169.2	-	185	-	113	*	24.5
	0.75	5 ～ 20	S	ASC ☐ S-0.75S	411	271	104	169.2	-	185	-	113	*	23.5
Single-phase with Brakes	0.1	240～450	L	ASBC ☐ L-0.1SSAVS	433	239	158	113.2	-	185	-	-	113.5	17.7
	0.2	130～200	L	ASBC ☐ L-0.2SSAVS	401	254	111	140	-	185	-	-	108.5	15.6
	0.4	100～150	L	ASBC ☐ L-0.4SSAVS	459	305	118	131.2	-	185	-	104	*	22
	0.4	25 ～ 30	S	ASBC ☐ S-0.4SSAVS	445	305	104	131.2	-	185	-	104	*	21
	0.4	45 ～ 75	S	ASBC ☐ S-0.4SSAVS	459	305	118	131.2	-	185	-	104	*	22
	0.75	25 ～ 30	L	ASBC ☐ L-0.75SSAVS	481	341	104	169.2	-	185	-	113	*	27.1
	0.75	45 ～ 75	L	ASBC ☐ L-0.75SSAVS	495	341	118	169.2	-	185	-	113	*	28.1
	0.75	5 ～ 20	S	ASBC ☐ S-0.75SSAVS	481	341	104	169.2	-	185	-	113	*	27.1

Consult us for dimension *.

Single-phase Motor	ASD ☐◇ - △ S
Single-phase Motor with Brakes (SAVS)	ASBD ☐◇ - △ SSAVS

☐ : Reduction ratio, △ : Motor capacity [kW]



* 0.1 kW to 0.2 kW single-phase motors (without brake) are dip-proof type and their shapes are slightly different.

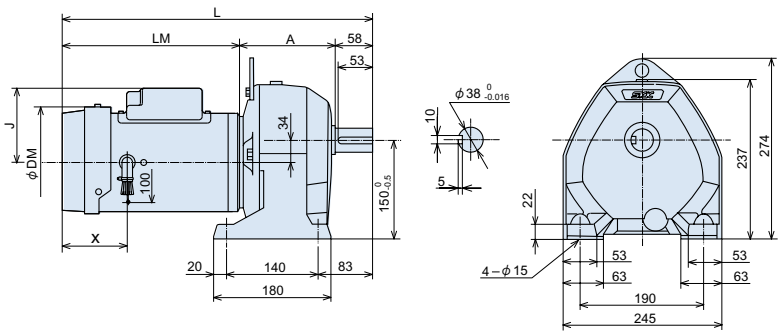
Model	Motor Capacity [kW]	Reduction Ratio	Nomenclature		Dimension [mm] L TOSHIBA	LM TOSHIBA	A	DM TOSHIBA	H'	H	KD TOSHIBA	J TOSHIBA	X TOSHIBA	Approximate Mass [kg] TOSHIBA
Single-phase	0.1	540～800	L	ASD ☐ L-0.1S	405.5	177.5	170	113.2	215	246	-	-	52	25.7
	0.2	240～450	L	ASD ☐ L-0.2S	425.5	197.5	170	113.2	215	246	-	-	52	27.2
	0.4	200	L	ASD ☐ L-0.4S	413	225	130	131.2	215	246	-	104	*	28.5
	0.4	100～150	S	ASD ☐ S-0.4S	413	225	130	131.2	215	246	-	104	*	28.5
	0.75	100～150	L	ASD ☐ L-0.75S	459	271	130	169.2	215	246	-	113	*	34
	0.75	25 ～ 30	S	ASD ☐ S-0.75S	445	271	130	169.2	215	246	-	113	*	34
	0.75	45 ～ 75	S	ASD ☐ S-0.75S	459	271	130	169.2	215	246	-	113	*	34
Single-phase with Brakes	0.1	540～800	L	ASBD ☐ L-0.1SSAVS	467	239	170	113.2	215	246	-	-	113.5	26.7
	0.2	240～450	L	ASBD ☐ L-0.2SSAVS	482	254	170	140	215	246	-	-	108.5	30.1
	0.4	200	L	ASBD ☐ L-0.4SSAVS	493	305	130	131.2	215	246	-	104	*	31.5
	0.4	100～150	S	ASBD ☐ S-0.4SSAVS	493	305	130	131.2	215	246	-	104	*	31.5
	0.75	100～150	L	ASBD ☐ L-0.75SSAVS	529	341	130	169.2	215	246	-	113	*	37.6
	0.75	25 ～ 30	S	ASBD ☐ S-0.75SSAVS	515	341	116	169.2	215	246	-	113	*	36.6
	0.75	45 ～ 75	S	ASBD ☐ S-0.75SSAVS	529	341	130	169.2	215	246	-	113	*	37.6

Consult us for dimension *.

Gearmotor Dimension Sheets (Single-phase Motor, Foot-mounted)

Single-phase Motor	ASE ☐◇ - △ S
Single-phase Motor with Brakes (SAVS)	ASBE ☐◇ - △ SSAVS

☐ : Reduction ratio, △ : Motor capacity [kW]



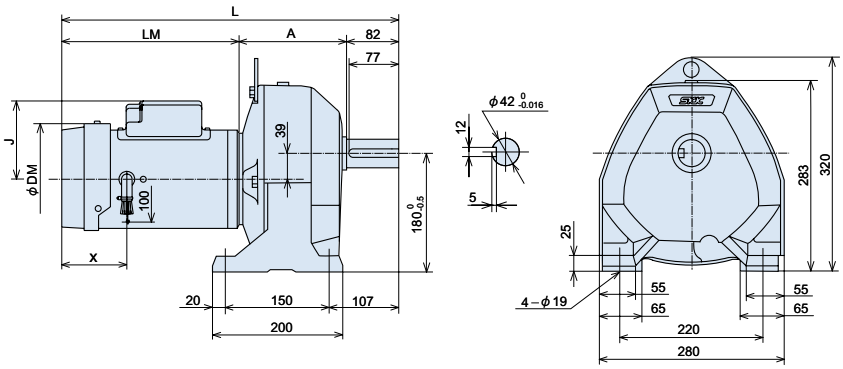
* 0.1 kW to 0.2 kW single-phase motors (without brake) are dip-proof type and their shapes are slightly different.

Motor Type	Motor Capacity [kW]	Reduction Ratio	Nomenclature		Dimension [mm] L TOSHIBA	LM TOSHIBA	A	DM TOSHIBA	H'	H	KD TOSHIBA	J TOSHIBA	X TOSHIBA	Approximate Mass [kg] TOSHIBA
Single-phase	0.1	1000	L	ASE ☐ L-0.1S	420.5	177.5	185	113.2	237	274	-	-	52	33.7
	0.2	540 ～800	L	ASE ☐ L-0.2S	440.5	197.5	185	135	237	274	-	-	52	35.2
	0.4	200	S	ASE ☐ S-0.4S	428	225	145	131.2	237	274	-	104	*	36.5
	0.75	200	L	ASE ☐ L-0.75S	474	271	145	169.2	237	274	-	113	*	42
	0.75	100～150	S	ASE ☐ S-0.75S	474	271	145	169.2	237	274	-	113	*	42
Single-phase with Brakes	0.1	1000	L	ASBE ☐ L-0.1SSAVS	482	239	185	113.2	237	284	-	-	113.5	34.7
	0.2	540 ～800	L	ASBE ☐ L-0.2SSAVS	497	254	185	140	237	274	-	-	108.5	38.1
	0.4	200	S	ASBE ☐ S-0.4SSAVS	508	305	145	131.2	237	274	-	106	*	39.5
	0.75	200	L	ASBE ☐ L-0.75SSAVS	544	341	145	169.2	237	274	-	115	*	45.6
	0.75	100～150	S	ASBE ☐ S-0.75SSAVS	544	341	145	169.2	237	274	-	115	*	45.6

Consult us for dimension *.

Single-phase Motor	ASF ☐◇ - △ S
Single-phase Motor with Brakes (SAVS)	ASBF ☐◇ - △ SSAVS

☐ : Reduction ratio, △ : Motor capacity [kW]



* 0.1 kW to 0.2 kW single-phase motors (without brake) are dip-proof type and their shapes are slightly different.

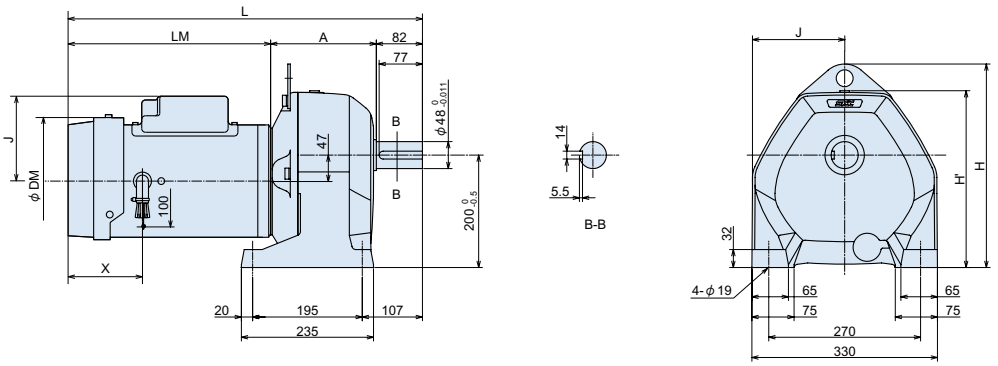
Motor Type	Motor Capacity [kW]	Reduction Ratio	Nomenclature		Dimension [mm] L TOSHIBA	LM TOSHIBA	A	DM TOSHIBA	H'	H	KD TOSHIBA	J TOSHIBA	X TOSHIBA	Approximate Mass [kg] TOSHIBA
Single-phase	0.2	1000	L	ASF ☐ L-0.2S	481.5	197.5	202	113.2	283	320	-	-	52	46.7
	0.75	200	S	ASF ☐ S-0.75S	515	271	162	169.2	283	320	-	113	*	53.5
Single-phase with Brakes	0.2	1000	L	ASBF ☐ L-0.2SSAVS	538	254	202	140	283	320	-	-	108.5	49.6
	0.75	200	S	ASBF ☐ S-0.75SSAVS	585	341	162	169.2	283	320	-	113	*	57.1

Consult us for dimension *.

Gearmotor Dimension Sheets (Single-phase Motor, Foot-mounted)

Single-phase Motor	ASG ☐◇ - △ S
Single-phase Motor with Brakes (SAVS)	ASBG ☐◇ - △ SSAVS

☐ : Reduction ratio, △ : Motor capacity [kW]

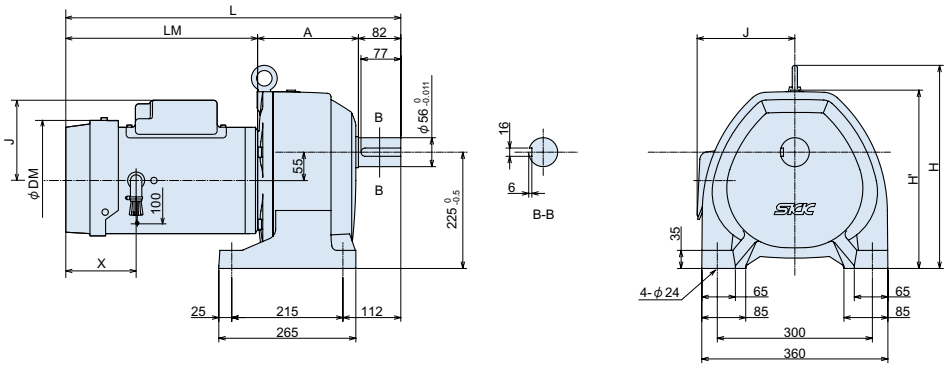


Motor Type	Motor Capacity [kW]	Reduction Ratio		Nomenclature	Dimension [mm] L TOSHIBA	LM TOSHIBA	A	DM TOSHIBA	H'	H	KD TOSHIBA	J TOSHIBA	X TOSHIBA	Approximate Mass [kg] TOSHIBA
Single-phase	0.4	540～800	S	ASG ☐ S-0.4S	552	225	245	131.2	315	362	-	104	*	73.5
	0.75	300～360	S	ASG ☐ S-0.75S	598	271	245	169.2	315	362	-	113	*	79
Single-phase with Brakes	0.4	540～800	S	ASBG ☐ S-0.4SSAVS	632	305	245	131.2	315	362	-	104	*	76.5
	0.75	300～360	S	ASBG ☐ S-0.75SSAVS	668	341	245	169.2	315	362	-	113	*	82.6

Consult us for dimension *.

Single-phase Motor	ASH ☐◇ - △ S
Single-phase Motor with Brakes (SAVS)	ASBH ☐◇ - △ SSAVS

☐ : Reduction ratio, △ : Motor capacity [kW]



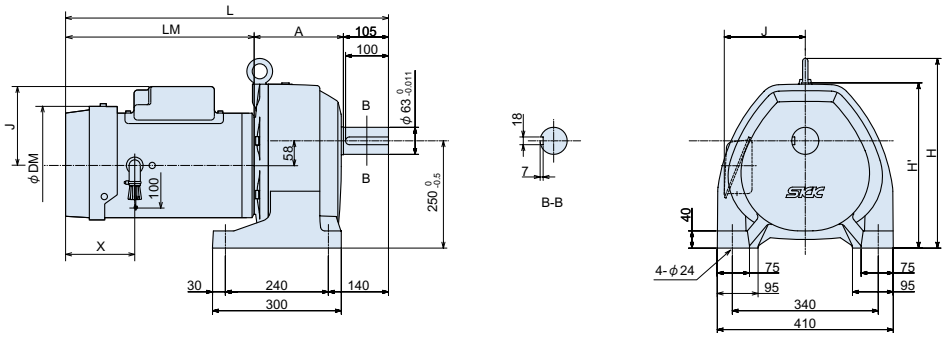
Motor Type	Motor Capacity [kW]	Reduction Ratio		Nomenclature	Dimension [mm] L TOSHIBA	LM TOSHIBA	A	DM TOSHIBA	H'	H	KD TOSHIBA	J TOSHIBA	X TOSHIBA	Approximate Mass [kg] TOSHIBA
Single-phase	0.4	1000	S	ASH ☐ S-0.4S	574	225	267	131.2	345	393	-	104	*	90.5
	0.75	450～540	S	ASH ☐ S-0.75S	620	271	267	169.2	345	393	-	113	*	96
Single-phase with Brakes	0.4	1000	S	ASBH ☐ S-0.4SSAVS	654	305	267	131.2	345	393	-	104	*	93.5
	0.75	450～540	S	ASBH ☐ S-0.75SSAVS	690	341	267	169.2	345	393	-	113	*	99.6

Consult us for dimension *.

Gearmotor Dimension Sheets (Single-phase Motor, Foot-mounted)

Single-phase Motor	ASK ☐◇ - △ S
Single-phase Motor with Brakes (SAVS)	ASBK ☐◇ - △ SSAVS

☐ : Reduction ratio, △ : Motor capacity [kW]



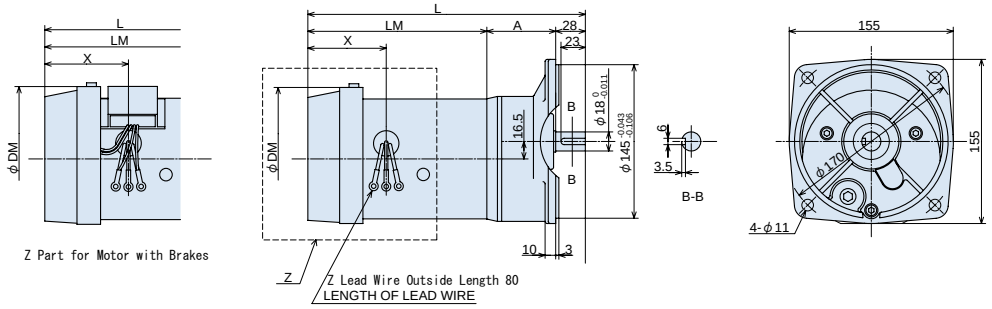
Motor Type	Motor Capacity [kW]	Reduction Ratio	Nomenclature		Dimension [mm] L TOSHIBA	LM TOSHIBA	A	DM TOSHIBA	H'	H	KD TOSHIBA	J TOSHIBA	X TOSHIBA	Approximate Mass [kg] TOSHIBA
Single-phase	0.75	1000	S	ASK ☐ S-0.75S	661	271	285	169.2	385	442	-	113	*	127
Single-phase with Brakes	0.75	1000	S	ASBK ☐ S-0.75SSAVS	731	341	285	169.2	385	442	-	113	*	131

Consult us for dimension *.

Gearmotor imension Sheets (3-phase Motor, lange-mounted)

3-phase Motor	M G 51 - ☐ RS △ -	(T S motor)
3-phase Motor with rakes S rake	M G 51 - ☐ RS △ - S	(T S motor)
3-phase Motor with rakes S rake	M G 51 - ☐ RS △ - S	(T S motor)

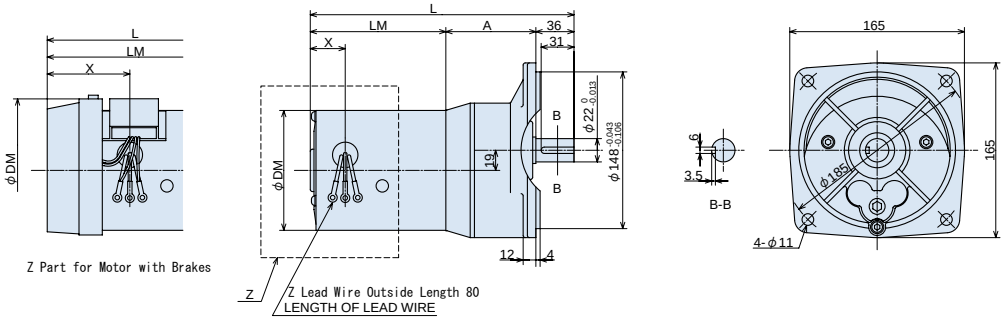
☐ : Reduction ratio, △ : Motor capacity kW ,



Motor Type		Motor Capacity kW	Reduction Ratio	omenclature	imension mm L T S	LM T S		M T S	K T S	T S	T S	pproximate Mass kg T S
3-phase		0.1	5 ～ 50	M G 51 - ☐ RS0.1-	221	12	5	113.2	-	-	33	5.
		0.2	5 ～ 25	M G 51 - ☐ RS0.2-	2 2	1	5	135	-	-	7	.
3-phase with rakes	S	0.1	5 ～ 50	M G 51 - ☐ RS0.1- S	2 2	1	5	113.2	-	-		.
		0.2	5 ～ 25	M G 51 - ☐ RS0.2- S	31	225	5	135	-	-	130	.5
	S	0.1	5 ～ 50	M G 51 - ☐ RS0.1- S	2	173	5	135	-	7	7	7.5
		0.2	5 ～ 25	M G 51 - ☐ RS0.2- S	2	173	5	135	-	7	7	.1

3-phase Motor	M G 522 - ☐ RS △ - ,	M G 522T- ☐ RS △ - (T S motor)
3-phase Motor with rakes S rake	M G 522 - ☐ RS △ - S ,	M G 522T- ☐ RS △ - S (T S motor)
3-phase Motor with rakes S rake	M G 522 - ☐ RS △ - S ,	M G 522T- ☐ RS △ - S (T S motor)

☐ : Reduction ratio, △ : Motor capacity kW ,

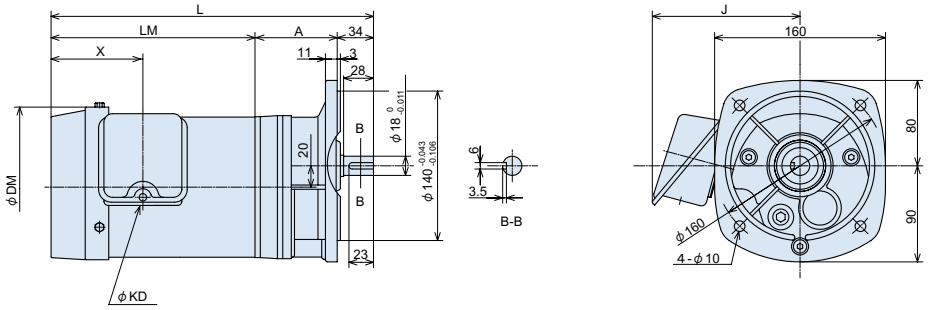


Motor Type		Motor Capacity kW	Reduction Ratio	omenclature	imension mm L T S	LM T S		M T S	K T S	T S	T S	pproximate Mass kg T S
3-phase		0.1	0 ～ 200	M G 522T- ☐ RS0.1-	2	12	5	113.2	-	-	33	7.2
		0.2	30	M G 522 - ☐ RS0.2-	277	1	72	135	-	-	7	7.1
		0.2	5 ～ 100	M G 522T- ☐ RS0.2-	2 0	1	5	135	-	-	7	7.
3-phase with rakes	S	0.1	0 ～ 200	M G 522T- ☐ RS0.1- S	310	1	5	113.2	-	-		.2
		0.2	30	M G 522 - ☐ RS0.2- S	333	225	72	135	-	-	130	10
		0.2	5 ～ 100	M G 522T- ☐ RS0.2- S	3	225	5	135	-	-	130	10.7
	S	0.1	0 ～ 200	M G 522T- ☐ RS0.1- S	2	173	5	135	-	7	7	.
		0.2	30	M G 522 - ☐ RS0.2- S	2 1	173	72	135	-	7	7	.
		0.2	5 ～ 100	M G 522T- ☐ RS0.2- S	2	173	5	135	-	7	7	.3

Gearmotor imension Sheets (3-phase Motor Motor for nverter, lange-mounted)

3-phase Motor		T □◇ - △◎	(T S motor S M T M motor)
3-phase Motor with rakes	S rake	T □◇ - △ SS	(T S motor)
	S rake	T □◇ - △ SS	(T S motor)
	rake	T □◇ - △ Su	(S M T M motor)
3-phase Motor for nverter		T □◇ - △ Su ( )	(S M T M motor)

□ : Reduction ratio, ◎ : Motor manufacturer,
△ : Motor capacity kW , ◆ : rake type



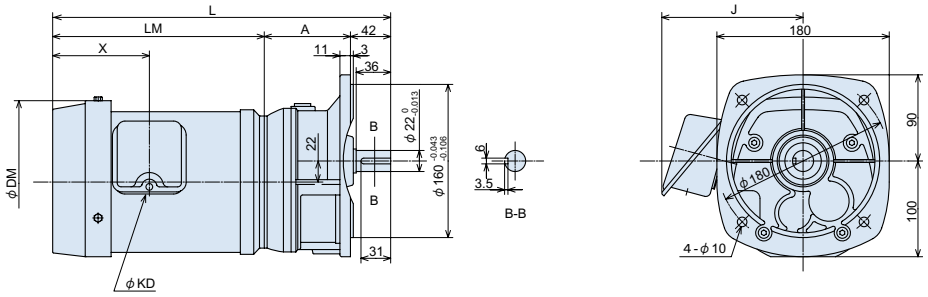
Motor Type		Motor Capacity kW	Reduction Ratio	Class	omenclature	imension mm L T S	L S M T M	LM T S	LM S M T M		M T S	M S M T M	K T S	K S M T M	T S	S M T M	T S	S M T M	pproximate Mass kg T S	S M T M
3-phase		0.	25 ～ 30	G	T □ G-0. ◎	302	-	1 1	-	77	150	12	22	12.5	13	5		5	10	
		0.	5 ～ 20	L	T □ L-0. ◎	302	27 .5	1 1	1 5	77	150	12	22	12.5	13	5		5	10	
3-phase with rakes	S	0.	5 ～ 20	L	T □ L-0. ◎◆	3 2	30 .5	231	227	77	150	12	22	12.5	1 0	5		1	12.	10.1
	S	0.	5 ～ 20	L	T □ L-0. SS	30	-	1 3	-	77	150	12	22	-	1 0	-	-	-	12	-
or nverter		0.	5 ～ 20	L	T □ L-0. Su ( )	-	27 .5	-	1 5	77	-	12	-	12.5	-	5	-	1	-	

※ Consult us for class G 3-phase motors with brakes and motors for inverter with brakes. Consult us for dimension .

ote: The above dimension diagrams are for models with T S motors. or S M T M motors, the shape and terminal box position are different.

3-phase Motor		T □◇ - △◎	(T S motor S M T M motor)
3-phase Motor with rakes	S rake	T □◇ - △ SS	(T S motor)
	S rake	T □◇ - △ SS	(T S motor)
	rake	T □◇ - △ Su	(S M T M motor)
3-phase Motor for nverter		T □◇ - △ Su ( )	(S M T M motor)

□ : Reduction ratio, ◎ : Motor manufacturer,
△ : Motor capacity kW , ◆ : rake type



Motor Type		Motor Capacity kW	Reduction Ratio	Class	omenclature	imension mm L T S	L S M T M	LM T S	LM S M T M		M T S	M S M T M	K T S	K S M T M	T S	S M T M	T S	S M T M	pproximate Mass kg T S	S M T M
3-phase		0.	75	G	T □ G-0. ◎	35	-	21	-	0	150	-	22	-	13	-		-	13	-
		0.	25 ～ 30	L	T □ L-0. ◎	3	32	21	1 7	0	150	12	22	12.5	13	5		5	12.5	12.5
		0.	5 ～ 75	L	T □ L-0. ◎	35	3	21	1 7		150	12	22	12.5	13	5		5	13	13
		0.	5 ～ 20	S	T □ S-0. ◎	3	32	21	1 7	0	150	12	22	12.5	13	5		5	12.5	12.5
		0.75	25 ～ 30	G	T □ G-0.75 ◎	353	-	221	-	0	170	-	22		1	-	101	-	1 .5	-
		0.75	5	G	T □ G-0.75 ◎	3 1	-	221	-		170	-	22	-	1	-	101	-	17	-
		0.75	5 ～ 20	L	T □ L-0.75 ◎	353	3 5	221	233	0	170	155	22	23	1	11	101	7	1 .5	1 .5
3-phase with rakes	S	0.	25 ～ 30	L	T □ L-0. ◎◆	3	3 1	25	22	0	150	12	22	12.5	1 0	5		1	15.1	13.
	S	0.	5 ～ 75	L	T □ L-0. ◎◆	3	3	25	22		150	12	22	12.5	1 0	5		1	15.	1 .1
	S	0.	5 ～ 20	S	T □ S-0. ◎◆	3	3 1	25	22	0	150	12	22	12.5	1 0	5		1	15.1	13.
		0.75	5 ～ 20	L	T □ L-0.75 ◎◆	03	0	271	27	0	170	155	22	23	1	11		1 0	1 .5	1 .5
	S	0.	25 ～ 30	L	T □ L-0. SS	3	-	21	-	0	150	-	22	-	1 0	-		-	1 .5	-
	S	0.	5 ～ 75	L	T □ L-0. SS	35	-	21	-		150	-	22	-	1 0	-		-	15	-
	S	0.	5 ～ 20	S	T □ S-0. SS	3	-	21	-	0	150	-	22	-	1 0	-		-	1 .5	-
		0.75	5 ～ 20	L	T □ L-0.75SS	3 0	-	22	-	0	170	-	22	-	1	-		-	20.5	-
or nverter		0.2	5 ～ 75	L	T □ L-0. Su ( )	-	32	-	1 7		-	12	-	12.5	-	5	-	1	-	13
		0.2	25 ～ 30	S	T □ S-0. Su ( )	-	337	-	1 7	0	-	12	-	12.5	-	5	-	1	-	12.5
		0.	5 ～ 20	L	T □ L-0.75Su ( )	-	3 5	-	233	0	-	155	-	23	-	11	-	7	-	1 .5

※ Consult us for class G 3-phase motors with brakes and motors for inverter with brakes. Consult us for dimension .

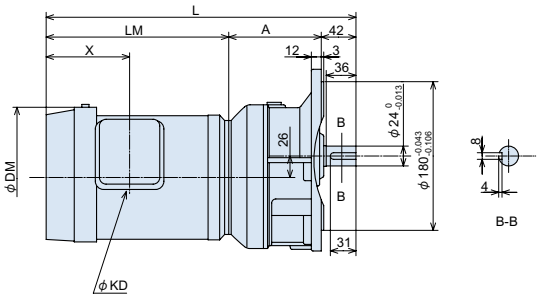
ote: The above dimension diagrams are for models with T S motors. or S M T M motors, the shape and terminal box position are different.

Gearmotor imension Sheets (3-phase Motor Motor for nverter, lange-mounted)

3-phase Motor		
3-phase Motor with rakes	S rake	
	S rake	
	rake	
3-phase Motor for nverter		

TC □◇ - △◎ (T S motor S M T M motor)
T C □◇ - △ SS (T S motor)
T C □◇ - △ SS (T S motor)
T C □◇ - △ Su (S M T M motor)
T □◇ - △ Su ( ) (S M T M motor)

□ : Reduction ratio, ◎ : Motor manufacturer,
△ : Motor capacity kW , ◆ : rake type



Motor Type		Motor Capacity kW	Reduction Ratio	Class	omenclature	imension mm L T	L S M T M	LM T	LM S M T M		M T	M S M T M	K T	K S M T M	T	S M T M	T	S M T M	pproximate Mass kg T	S M T M
3-phase		0.1	2 0 ~ 50	L	TC □ L-0.1 ◎	322	-	12	-	152	113.2	-	-	-	-	-	33	-	1 .5	-
		0.2	130 ~ 200	L	TC □ L-0.2 ◎	31	-	1	-	105	135	-	-	-	-	-	7	-	11.5	-
		0.	100 ~ 150	G	TC □ G-0. ◎	3	-	21	-	112	150	-	22	-	13	-		-	15	-
		0.	100 ~ 150	L	TC □ L-0. ◎	3	3 3	21	1 7	112	150	12	22	12.5	13	5		5	15	15
		0.	25 ~ 75	S	TC □ S-0. ◎	35	-	21	-		150	-	22	-	13	-		-	1	-
		0.	25 ~ 75	S	TC □ S-0. ◎	3	3 3	21	1 7	112	150	12	22	12.5	13	5		5	15	15
		0.75	50 ~ 75	G	TC □ G-0.75 ◎	375	-	221	-	112	170	-	22	-	1	-	101	-	1	-
		0.75	25 ~ 30	L	TC □ L-0.75 ◎	3 1	1	221	233		170	155	22	23	1	11	101	7	1	1
		0.75	5 ~ 75	L	TC □ L-0.75 ◎	375	30	221	233	121	170	155	22	23	1	11	101	7	1	17
		0.75	5 ~ 20	S	TC □ S-0.75 ◎	3 1	-	221	-		170	-	22	-	1	-	101	-	1	-
		1.5	5 ~ 20	L	TC □ L-1.5 ◎	3 3	1	2	2 0	107	1	1 7	27	23	151	11	123	100	22	21
3-phase with rakes	S	0.1	2 0 ~ 50	L	T C □ L-0.1 ◎◆	3 3	-	1	-	152	113.2	-	-	-	-	-		-	17.5	-
		0.2	130 ~ 200	L	T C □ L-0.2 ◎◆	372	-	225	-	105	135	-	-	-	-	-	130	-	1 .	-
		0.	100 ~ 150	L	T C □ L-0. ◎◆	0	3 3	25	22	112	150	12	22	12.5	1 0	5		1	17.	1 .1
		0.	25 ~ 75	S	T C □ S-0. ◎◆	3	-	25	-		150	-	22	-	1 0	-		-	1 .	-
		0.	25 ~ 75	S	T C □ S-0. ◎◆	0	3	25	22	112	150	12	22	12.5	1 0	5		1	17.	1 .1
		0.75	25 ~ 75	L	T C □ L-0.75 ◎◆	11	1	271	27		170	155	22	23	1	11		1 0	21	1
		0.75	25 ~ 75	L	T C □ L-0.75 ◎◆	25	30	271	27	112	170	155	22	23	1	11		1 0	22	1
		0.75	5 ~ 20	S	T C □ S-0.75 ◎◆	11	-	271	-		170	-	22	-	1	-		-	21	-
		1.5	5 ~ 20	L	T C □ L-1.5 ◎◆	55	1	30	3 2	107	1	1 7	27	23	153	11		1 2	27.7	25
	S	0.1	2 0 ~ 50	L	T C □ L-0.1SS	3 7	-	173	-	152	135	-	-	-	7	-	7	-	1 .1	-
		0.2	130 ~ 200	L	T C □ L-0.2SS	320	-	173	-	105	135	-	-	-		-	7	-	13	-
		0.	100 ~ 150	L	T C □ L-0. SS	370	-	21	-	112	150	-	22	-	1 0	-		-	17	-
		0.	25 ~ 30	S	T C □ S-0. SS	35	-	21	-		150	-	22	-	1 0	-		-	1	-
		0.	5 ~ 75	S	T C □ S-0. SS	370	-	21	-	112	150	-	22	-	1 0	-		-	17	-
		0.75	25 ~ 30	L	T C □ L-0.75SS	3	-	22	-		170	-	22	-	1	-		-	22	-
		0.75	5 ~ 75	L	T C □ L-0.75SS	3 2	-	22	-	112	170	-	22	-	1	-		-	23	-
		0.75	5 ~ 20	S	T C □ S-0.75SS	3	-	22	-		170	-	22	-	1	-		-	22	-
		1.5	5 ~ 20	L	T C □ L-1.5SS	0	-	25	-	107	1	-	27	-	153	-		-	2	-
3-phase for nverter		0.	25 ~ 30	L	TC □ L-0. Su ( )	-	373		1 0		-	155	-	23	-	11	-	7	-	1
		0.	5 ~ 75	S	TC □ S-0. Su ( )	-	3 7		15	112	-	155	-	23	-	11	-	7	-	17
		0.75	5 ~ 20	S	TC □ S-0.75Su ( )	-	2		1		-	1 7	-	23	-	11	-	7	-	21

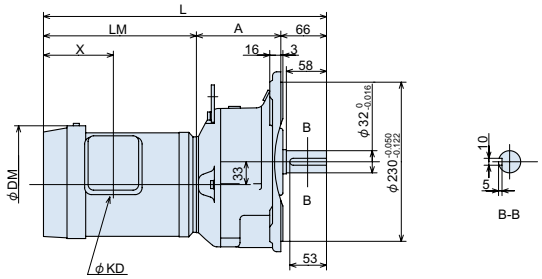
※ Consult us for class G 3-phase motors with brakes and motors for inverter with brakes. Consult us for dimension .

ote: The above dimension diagrams are for models with T S motors. or S M T M motors, the shape and terminal box position are different.

Gearmotor imension Sheets (3-phase Motor Motor for nverter, lange-mounted)

3-phase Motor			
3-phase Motor with rakes	S rake	T □◇ - △◎	(T S motor S M T M motor)
	S rake	T □◇ - △ SSS	(T S motor)
	rake	T □◇ - △ SS	(T S motor)
3-phase Motor for nverter		T □◇ - △ Su	(S M T M motor)
		T □◇ - △ Su ( )	(S M T M motor)

□ : Reduction ratio, ◎ : Motor manufacturer,
△ : Motor capacity kW , ◆ : rake type



Motor Type		Motor Capacity kW	Reduction Ratio	Class	omenclature	imension mm L T S	L S M T M	LM T S	LM S M T M		M T S	M S M T M	K T S	K S M T M	T S	S M T M	T S	S M T M	pproximate Mass kg T S	S M T M
3-phase		0.1	5 0 ~ 00	L	T □ L-0.1 ◎	35	-	12	-	1 2	113.2	-	-	-	-	-	33	-	2	-
		0.2	2 0 ~ 50	L	T □ L-0.2 ◎	3 7	-	1	-	1 2	135	-	-	-	-	-	7	-	2 .5	-
		0.	200	G	T □ G-0. ◎	02	-	21	-	122	150	-	22	-	13	-		-	27	-
		0.	200	L	T □ L-0. ◎	02	3 5	21	1 7	122	150	12	22	12.5	13	5		5	27	27
		0.	100 ~ 150	S	T □ S-0. ◎	02	-	21	-	122	150	-	22	-	13	-		-	27	-
		0.75	100 ~ 150	G	T □ G-0.75 ◎	0	-	221	-	122	170	-	22	-	1	-	101	-	31	-
		0.75	100 ~ 150	L	T □ L-0.75 ◎	0	21	221	233	122	170	155	22	23	1	11	101	7	31	2
		0.75	25 ~ 30	S	T □ S-0.75 ◎	3 5	-	221	-	10	170	-	22	-	1	-	101	-	30	-
		0.75	5 ~ 75	S	T □ S-0.75 ◎	0	-	221	-	122	170	-	22	-	1	-	101	-	31	-
		1.5	50 ~ 75	G	T □ G-1.5 ◎		-	2	-	13	1	-	27	-	1 7.5	-	123	-	35	-
		1.5	5 ~ 20	S	T □ S-1.5 ◎	30	-	2	-	120	1	-	27	-	1 7.5	-	123	-	3	-
		1.5	25 ~ 30	L	T □ L-1.5 ◎	30		2	2 0	120	1	1 7	27	23	1 7.5	117	123	100	3	33
		1.5	5 ~ 75	L	T □ L-1.5 ◎		0	2	2 0	13	1	1 7	27	23	1 7.5	117	123	100	35	3
		2.2	25 ~ 30	G	T □ G-2.2 ◎		-	27	-	120	1	-	27	-	1 7.5	-	123	-	0.5	-
		2.2	5	G	T □ G-2.2 ◎	7	-	27	-	13	1	-	27	-	1 7.5	-	123	-	1.5	-
		2.2	5 ~ 20	L	T □ L-2.2 ◎	5	5	273	2	120	1	1 0	27	23	13	12	117	105	3	37
3-phase with rakes		0.1	5 0 ~ 00	L	T □ L-0.1 ◎◆	17	-	1	-	1 2	113.2	-	-	-	-	-		-	2	-
		0.2	2 0 ~ 50	L	T □ L-0.2 ◎◆	53	-	225	-	1 2	135	-	-	-	-	-		-	31.	-
		0.	200	L	T □ L-0. ◎◆	2	17	25	22	122	150	12	22	12.5	1 0	5		1	2 .	2 .1
		0.	100 ~ 150	S	T □ S-0. ◎◆	2	-	25	-	122	150	-	22	-	1 0	-		-	2 .	-
	S	0.75	100 ~ 150	L	T □ L-0.75 ◎◆	5		271	27	122	170	155	22	23	1	11		1 0	3	31
	S	0.75	25 ~ 75	S	T □ S-0.75 ◎◆	5	-	271	-	10	170	-	22	-	1	-		-	33	-
	S	0.75	25 ~ 75	S	T □ S-0.75 ◎◆	5	-	271	-	122	170	-	22	-	1	-		-	3	-
		1.5	25 ~ 30	L	T □ L-1.5 ◎◆	2	52	30	3 2	120	1	1 7	27	23	1 .5	11		1 2	3 .7	37
		1.5	5 ~ 20	S	T □ S-1.5 ◎◆	2	-	30	-	120	1	-	27	-	1 .5	-		-	3 .7	-
		1.5	50 ~ 75	L	T □ L-1.5 ◎◆	50	5 2	30	3 2	13	1	1 7	27	23	1 .5	11		1 2	0.7	3
		2.2	5 ~ 20	L	T □ L-2.2 ◎◆	52	5	3 0	3 2	120	1	1 0	27	23	1 .5	12		1	.2	3
	S	0.1	5 0 ~ 00	L	T □ L-0.1SS	01	-	173	-	1 2	135	-	-	-	7	-		-	2 .	-
	S	0.2	2 0 ~ 50	L	T □ L-0.2SS	01	-	173	-	1 2	135	-	-	-	7	-		-	30	-
	S	0.	100 ~ 150	S	T □ S-0. SS	0	-	21	-	122	150	-	22	-	1 0	-		-	2	-
	S	0.	200	L	T □ L-0. SS	0	-	21	-	122	150	-	22	-	1 0	-		-	2	-
	S	0.75	25 ~ 30	S	T □ S-0.75SS	02	-	22	-	10	170	-	22	-	1	-		-	3	-
	S	0.75	5 ~ 75	S	T □ S-0.75SS	1	-	22	-	122	170	-	22	-	1	-		-	35	-
	S	0.75	100 ~ 150	L	T □ L-0.75SS	1	-	22	-	122	170	-	22	-	1	-		-	35	-
	S	1.5	5 ~ 20	S	T □ S-1.5SS	5	-	25	-	120	1	-	27	-	1 .5	-		-	0	-
	S	1.5	25 ~ 30	L	T □ L-1.5SS	5	-	25	-	120	1	-	27	-	1 .5	-		-	0	-
	S	1.5	5 ~ 75	L	T □ L-1.5SS	5	-	25	-	13	1	-	27	-	1 .5	-		-	1	-
3-phase for nverter		0.2	100 ~ 150	S	T □ S-0.2Su ( )	-	3 5	-	1 7	122	-	12	-	12.5	-	5	-	5	-	27
		0.	100 ~ 150	L	T □ L-0. Su ( )	-	21	-	233	122	-	155	-	23	-	7	-	7	-	2
		0.75	25 ~ 30	S	T □ S-0.75Su ( )	-	0	-	2 0	10	-	1 7	-	23	-	100	-	100	-	33
		0.75	5 ~ 75	L	T □ L-0.75Su ( )	-	0	-	2 0	13	-	1 7	-	23	-	100	-	100	-	3
		1.5	5 ~ 20	S	T □ S-1.5Su ( )	-	5	-	2	120	-	1 0	-	23	-	105	-	105	-	37

※ Consult us for class G 3-phase motors with brakes and motors for inverter with brakes. Consult us for dimension .

ote: The above dimension diagrams are for models with T S motors. or S M T M motors, the shape and terminal box position are different.

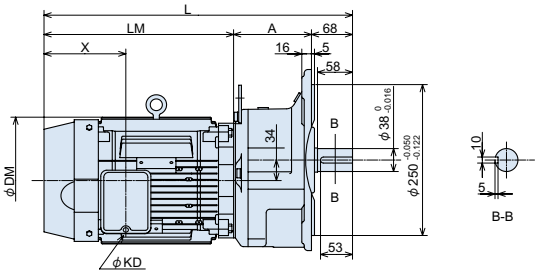
Series

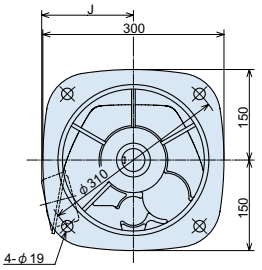
Gearmotor imension Sheets (3-phase Motor Motor for nverter, lange-mounted)

3-phase Motor		
3-phase Motor with rakes	S	rake
	S	rake
		rake
3-phase Motor for nverter		

TE □◇ - △◎ (T S motor S M T M motor)
T E □◇ - △ SS (T S motor)
T E □◇ - △ SS (T S motor)
T E □◇ - △ Su (S M T M motor)
TE □◇ - △ Su ( ) (S M T M motor)

□ : Reduction ratio, ◎ : Motor manufacturer,
△ : Motor capacity kW , ◆ : rake type





Motor Type		Motor Capacity kW	Reduction Ratio	Class	omenclature	imension mm L T S	L S M T M	LM T S	LM S M T M		M T S	M S M T M	K T S	K S M T M					pproximate Mass kg T S	pproximate Mass kg S M T M
3-phase		0.1	1000	L	TE □ L-0.1 ◎	371	-	12	-	175	113.2	-	-	-	-	-	33	-	3 .5	-
		0.2	5 0 ~ 00	L	TE □ L-0.2 ◎	12	-	1	-	175	135	-	-	-	-	-	7	-	37	-
		0.	200	S	TE □ S-0. ◎	17		21	1 7	135	150	12	22	12.5	13	7		5	35.5	1.5
		0.75	100 ~ 150	S	TE □ S-0.75 ◎	2	-	221	-	135	170	-	22	-	1	-	101	-	3 .5	-
		0.75	200	G	TE □ G-0.75 ◎	2	-	221	-	135	170	-	22	-	1	-	101	-	3 .5	-
		0.75	200	L	TE □ L-0.75 ◎	2	3	221	233	135	170	155	22	23	1	112	101	7	3 .5	37.5
		1.5	25 ~ 30	S	TE □ S-1.5 ◎	1	-	2	-	12	1	-	27	-	1 7.5	-	101	-	2	-
		1.5	5 ~ 75	S	TE □ S-1.5 ◎	5	-	2	-	1 7	1	-	27	-	1 7.5	-	101	-	3.5	-
		1.5	100	G	TE □ G-1.5 ◎	5	-	2	-	1 7	1	-	27	-	1 7.5	-	123	-	3.5	-
		1.5	100	L	TE □ L-1.5 ◎	5	5	2	2 0	1 7	1	1 7	27	23	1 7.5	117	123	100	3.5	2.5
		2.2	5 ~ 20	S	TE □ S-2.2 ◎	70	-	273	-	12	1	-	27	-	13	-	123	-		-
		2.2	25 ~ 30	L	TE □ L-2.2 ◎	70		273	2	12	1	1 0	27	23	13	12	117	105		5
		2.2	5 ~ 0	L	TE □ L-2.2 ◎		51	273	2	1 7	1	1 0	27	23	13	12	117	105	7.5	.5
		2.2	50 ~ 0	G	TE □ G-2.2 ◎		-	273	-	1 7	1	-	27	-	13	-	117	-	7.5	-
		3.7	5 ~ 20	L	TE □ L-3.7 ◎	511	51	31	322	12	21	222	27	23	151	1 7	1 2	127	51	57
3-phase with rakes	S	0.1	1000	L	T E □ L-0.1 ◎◆	32	-	1	-	175	113.2	-	-	-	-	-		-	37.5	-
		0.2	5 0 ~ 00	L	T E □ L-0.2 ◎◆		-	225	-	175	135	-	-	-	-	-		-	3 .	-
		0.	200	S	T E □ S-0. ◎◆	57		25	321	135	150	12	22	12.5	1 0	7		1	3 .1	3
		0.75	100 ~ 150	S	T E □ S-0.75 ◎◆	7	-	271	-	135	170	-	22	-	1	-		-	2.5	-
		0.75	200	L	T E □ L-0.75 ◎◆	7	7	271	27	135	170	155	22	23	1	11		1 0	2.5	3 .5
		1.5	25 ~ 30	S	T E □ S-1.5 ◎◆	503	-	30	-	12	1	-	27	-	1 .5	-		-	7.7	-
		1.5	5 ~ 75	S	T E □ S-1.5 ◎◆	521	-	30	-	1 7	1	-	27	-	1 .5	-		-	.2	-
		1.5	100	L	T E □ L-1.5 ◎◆	521	557	30	3 2	1 7	1	1 7	27	23	1 .5	11		1 2	.2	.5
		2.2	5 ~ 20	S	T E □ S-2.2 ◎◆	537	-	3 0	-	12	1	-	27	-	1 .5	-		-	5 .2	-
		2.2	25 ~ 0	L	T E □ L-2.2 ◎◆	537	55	3 0	3 2	12	1	1 0	27	23	1 .5	12		1	5 .2	51
		2.2	25 ~ 0	L	T E □ L-2.2 ◎◆	555	577	3 0	3 2	1 7	1	1 0	27	23	1 .5	12		1	55.7	52.5
		3.7	5 ~ 20	L	T E □ L-3.7 ◎◆	03	5 1	0	3	12	202	222	27	23	15	1 7		1	2	
	S	0.1	1000	L	T E □ L-0.1SS	1	-	173	-	175	135	-	-	-	7	-		-	3 .1	-
		0.2	5 0 ~ 00	L	T E □ L-0.2SS	1	-	173	-	175	135	-	-	-	7	-		-	3 .5	-
		0.	200	S	T E □ S-0. SS	1	-	21	-	135	150	-	22	-	1 0	-		-	37.5	-
		0.75	100 ~ 150	S	T E □ S-0.75SS	31	-	22	-	135	170	-	22	-	1	-		-	3.5	-
		0.75	200	L	T E □ L-0.75SS	31	-	22	-	135	170	-	22	-	1	-		-	3.5	-
		1.5	25 ~ 30	S	T E □ S-1.5SS	5	-	25	-	12	1	-	27	-	1 .5	-		-		-
		1.5	5 ~ 75	S	T E □ S-1.5SS	7	-	25	-	1 7	1	-	27	-	1 .5	-		-	.5	-
		1.5	100	L	T E □ L-1.5SS	7	-	25	-	1 7	1	-	27	-	1 .5	-		-	.5	-
3-phase for nverter		0.2	2 0 ~ 300	L	TE □ L-0.2Su ( )	-		-	1 7	175	-	12	-	12.5	-	7	-	5	-	1.5
		0.	200	L	TE □ L-0. Su ( )	-	3	-	233	135	-	155	-	23	-	112	-	7	-	37.5
		0.75	100	L	TE □ L-0.75Su ( )	-	5	-	2 0	135	-	1 7	-	23	-	117	-	100	-	2.5
		1.5	25 ~ 30	L	TE □ L-1.5Su ( )	-		-	2	12	-	1 0	-	23	-	12	-	105	-	5
		1.5	5 ~ 0	L	TE □ L-1.5Su ( )	-	51	-	2	135	-	1 0	-	23	-	12	-	105	-	.5
		2.2	5 ~ 20	S	TE □ S-2.2Su ( )	-	51	-	322	12	-	222	-	23	-	1 7	-	127	-	57

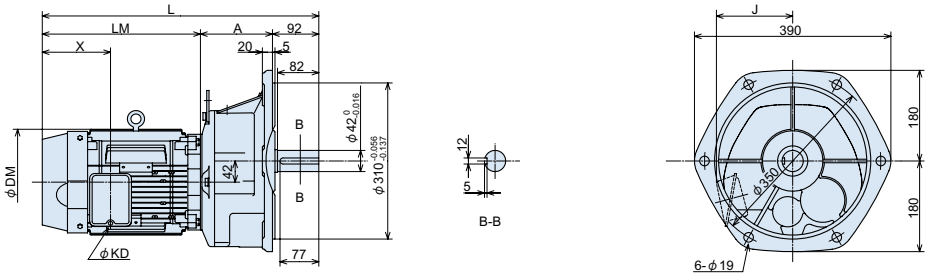
※ Consult us for class G 3-phase motors with brakes and motors for inverter with brakes. Consult us for dimension .

ote: The above dimension diagrams are for models with T S motors. or S M T M motors, the shape and terminal box position are different.

Gearmotor imension Sheets (3-phase Motor Motor for nverter, lange-mounted)

3-phase Motor		
3-phase Motor with rakes	S	rake
	S	rake
		rake
3-phase Motor for nverter		

T □◇ - △◎ (T S motor S M T M motor) □ : Reduction ratio, ◎ : Motor manufacturer,
T □◇ - △ SS (T S motor) △ : Motor capacity kW , ◆ : rake type
T □◇ - △ SS (T S motor)
T □◇ - △ Su (S M T M motor)
T □◇ - △ Su ( ) (S M T M motor)



Motor Type		Motor Capacity kW	Reduction Ratio	Class	omenclature	imension mm L T S	L S M T M	LM T S	LM S M T M		M T S	M S M T M	K T S	K S M T M					pproximate Mass kg T S	S M T M
3-phase		0.2	1000	L	T □ L-0.2 ◎	53	-	1	-	1 2	135	-	-	-	-	-	7	-		-
		0.75	200	S	T □ S-0.75 ◎	5	-	221	-	152	170	-	22	-	1	-	101	-	50.5	-
		1.5	130 ～ 150	G	T □ G-1.5 ◎	7	-	2	-	1 1	1	-	27	-	1 7	-	123	-	5 .5	-
		1.5	130 ～ 150	L	T □ L-1.5 ◎	7	533	2	2 0	1 1	1	1 7	27	23	1 7	11	123	100	5 .5	53.5
		1.5	100	S	T □ S-1.5 ◎	7	-	2	-	1 1	1	-	27	-	1 7	-	123	-	5 .5	-
		2.2	75 ～ 100	G	T □ G-2.2 ◎	52	-	273	-	1 1	1	-	27	-	1 1	-	117	-	5 .5	-
		2.2	75 ～ 100	L	T □ L-2.2 ◎	52	552	273	2	1 1	1	1 0	27	23	1 1	12	117	105	5 .5	57.5
		2.2	25 ～ 30	S	T □ S-2.2 ◎	505	-	273	-	1 0	1	-	27	-	1 1	-	117	-	5	-
		2.2	5 ～ 0	S	T □ S-2.2 ◎	52	-	273	-	1 1	1	-	27	-	1 1	-	117	-	5 .5	-
		3.7	25 ～ 30	L	T □ L-3.7 ◎	5	557	31	322	1 3	21	222	27	23	151	1 7	13	127	1	7
		3.7	5 ～ 0	L	T □ L-3.7 ◎	570	57	31	322	1	21	222	27	23	151	1 7	13	127	3.5	.5
		3.7	5 ～ 20	S	T □ S-3.7 ◎	5	-	31	-	1 3	21	-	27	-	151	-	13	-	1	-
		5.5	5 ～ 15	S	T □ S-5.5 ◎	5		13	01	151	252	222	35	23	1	1 7	152	127	75	75
3-phase with rakes	S	0.2	1000	L	T □ L-0.2 ◎◆	50	-	225	-	1 2	135	-	-	-	-	-		-	50.	-
		0.75	200	S	T □ S-0.75 ◎◆	515	-	271	-	152	170	-	22	-	1	-		-	53.5	-
		1.5	130 ～ 150	L	T □ L-1.5 ◎◆	55	5 5	30	3 2	1 1	1	1 7	27	23	1	11		1 2	0.2	57.5
		1.5	100	S	T □ S-1.5 ◎◆	55	-	30	-	1 1	1	-	27	-	1	-		-	0.2	-
		2.2	75 ～ 100	L	T □ L-2.2 ◎◆	5 3	15	3 0	3 2	1 1	1	1 0	27	23	1	12		1	.7	3.5
		2.2	25 ～ 30	S	T □ S-2.2 ◎◆	572	-	3 0	-	1 0	1	-	27	-	1	-		-	.2	-
		2.2	5 ～ 0	S	T □ S-2.2 ◎◆	5 3	-	3 0	-	1 1	1	-	27	-	1	-		-	.7	-
		3.7	25 ～ 30	L	T □ L-3.7 ◎◆	1	2	0	3	1 3	202	222	27	23	15	1 7		1	72	7
		3.7	5 ～ 0	L	T □ L-3.7 ◎◆	2	50	0	3	1	202	222	27	23	15	1 7		1	7 .5	0.5
		3.7	5 ～ 20	S	T □ S-3.7 ◎◆	1	-	0	-	1 3	202	-	27	-	15	-		-	72	-
		5.5	5 ～ 15	S	T □ S-5.5 ◎◆	75	71	515	73	151	2 3	222	35	23	1 1	1 7		1	.2	
	S	0.2	1000	L	T □ L-0.2SS	57	-	173	-	1 2	135	-	-	-	7	-		-	.5	-
		0.75	200	S	T □ S-0.75SS	72	-	22	-	152	170	-	22	-	1	-		-	5 .5	-
		1.5	130 ～ 150	L	T □ L-1.5SS	512	-	25	-	1 1	1	-	27	-	1	-		-	0.5	-
		1.5	100	S	T □ S-1.5SS	512	-	25	-	1 1	1	-	27	-	1	-		-	0.5	-
3-phase for nverter		0.2	3 0 ～ 50	S	T □ S-0.2Su ( )	-	50	-	1 7	1 2	-	12	-	12.5	-	7	-	50.5	-	53.5
		0.	2 0	L	T □ L-0.75Su ( )	-	5 0	-	233	1 2	-	155	-	23	-	11	-	7	-	55.5
		0.75	130 ～ 150	L	T □ L-1.5Su ( )	-	533	-	2 0	1 1	-	1 7	-	23	-	11	-	100	-	53.5
		1.5	75 ～ 100	L	T □ L-1.5Su ( )	-	552	-	2	1 1	-	1 0	-	23	-	125	-	105	-	57.5
		2.2	75 ～ 100	L	T □ L-2.2Su ( )	-	557	-	322	1 1	-	222	-	23	-	1 7	-	127	-	7
		2.2	5 ～ 0	L	T □ L-2.2Su ( )	-	57	-	322	1 1	-	222	-	23	-	1 7	-	127	-	.5
		3.7	5 ～ 15	S	T □ S-3.7Su ( )	-		-	01	151	-	222	-	23	-	1 7	-	127	-	75

※ Consult us for class G 3-phase motors with brakes and motors for inverter with brakes. Consult us for dimension .

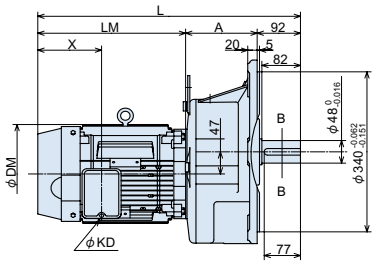
ote: The above dimension diagrams are for models with T S motors. or S M T M motors, the shape and terminal box position are different.

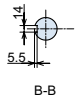
Series

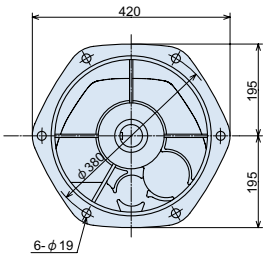
Gearmotor imension Sheets (3-phase Motor Motor for nverter, lange-mounted)

3-phase Motor		
3-phase Motor with rakes	S rake	TG □◇ - △◎ (T S motor S M T M motor)
	S rake	T G □◇ - △ SS (T S motor)
	rake	T G □◇ - △ SS (T S motor)
3-phase Motor for nverter		T G □◇ - △ Su (S M T M motor)
		TG □◇ - △ Su ( ) (S M T M motor)

□ : Reduction ratio, ◎ : Motor manufacturer,
△ : Motor capacity kW , ◆ : rake type







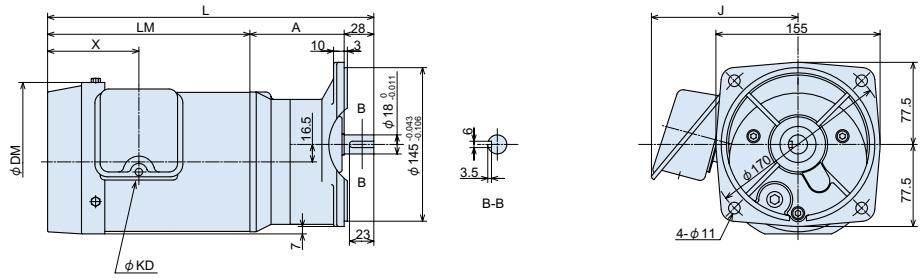
Motor Type		Motor Capacity kW	Reduction Ratio	Class	omenclature	imension mm L T S	L S M T M	LM T S	LM S M T M		M T S	M S M T M	K T S	K S M T M	T S	S M T M	T S	S M T M	pproximate Mass kg T S	S M T M
3-phase		1.5	200	G	TG □ G-1.5 ◎	517	-	2	-	1 1	1	-	27	-	1	-	123	-	75	-
		1.5	200	L	TG □ L-1.5 ◎	517	553	2	2 0	1 1	1	1 7	27	23	1	120	123	100	75	7
		1.5	130 ~ 150	S	TG □ S-1.5 ◎	517	-	2	-	1 1	1	-	27	-	1	-	123	-	75	-
		2.2	130 ~ 150	G	TG □ G-2.2 ◎	5	-	273	-	1 1	1	-	27	-	1 1	-	117	-	7	-
		2.2	130 ~ 150	L	TG □ L-2.2 ◎	5	572	273	2	1 1	1	1 0	27	23	1 1	12	117	105	7	7
		2.2	75 ~ 100	S	TG □ S-2.2 ◎	5	-	273	-	1 1	1	-	27	-	1 1	-	117	-	7	-
		3.7	75 ~ 100	L	TG □ L-3.7 ◎	5	5 2	31	322	17	21	222	27	23	151	1	13	127		0
		3.7	25 ~ 30	S	TG □ S-3.7 ◎	55	-	31	-	152	21	-	27	-	151	-	13	-	7	-
		3.7	5 ~ 0	S	TG □ S-3.7 ◎	5	-	31	-	17	21	-	27	-	151	-	13	-		-
		5.5	20	S	TG □ S-5.5 ◎		5	13	01	1 3	252	222	35	23	1	1 7	152	127	3	3
		7.5	5 ~ 15	S	TG □ S-7.5 ◎	725	71	5	11	1	252	2 0	35	3	1	1	152	1 3	10	110
3-phase with rakes	S	1.5	200	L	T G □ L-1.5 ◎◆	57	15	30	3 2	1 1	1	1 7	27	23	150	11		1 2	0.7	7
		1.5	130 ~ 150	S	T G □ S-1.5 ◎◆	57	-	30	-	1 1	1	-	27	-	150	-		-	0.7	-
		2.2	130 ~ 150	L	T G □ L-2.2 ◎◆	13	35	3 0	3 2	1 1	1	1 0	27	23	150	12		1	7.2	
		2.2	75 ~ 100	S	T G □ S-2.2 ◎◆	13	-	3 0	-	1 1	1	-	27	-	150	-		-	7.2	-
		3.7	75 ~ 100	L	T G □ L-3.7 ◎◆	7		0	3	17	202	222	27	23	15	1 7		1	5	101
		3.7	25 ~ 0	S	T G □ S-3.7 ◎◆	50	-	0	-	152	202	-	27	-	15	-		-	0	-
		3.7	25 ~ 0	S	T G □ S-3.7 ◎◆	7	-	0	-	17	202	-	27	-	15	-		-	5	-
		5.5	20	S	T G □ S-5.5 ◎◆	770	72	515	73	1 3	2 3	222	35	23	1 1	1 7		1	107	10
		7.5	5 ~ 15	S	T G □ S-7.5 ◎◆	10	7	550	50	1	2 3	2 0	35	3	1 1	1		23	11	130
	S	1.5	200	L	T G □ L-1.5SS	532	-	25	-	1 1	1	-	27	-	150	-		-	1	-
		1.5	130 ~ 150	S	T G □ S-1.5SS	532	-	25	-	1 1	1	-	27	-	150	-		-	1	-
3-phase for nverter		0.2	5 0 ~ 00	S	TG □ S-0.2Su ( )	-	52	-	1 7	235	-	12	-	12.5	-	7	-	5	-	73
		0.	300 ~ 3 0	S	TG □ S-0. Su ( )	-	5 0	-	233	235	-	155	-	23	-	11	-	7	-	75
		0.75	200	L	TG □ L-0.75Su ( )	-	553	-	2 0	1 1	-	1 7	-	23	-	120	-	100	-	7
		1.5	130 ~ 150	L	TG □ L-1.5Su ( )	-	572	-	2	1 1	-	1 0	-	23	-	12	-	105	-	7
		2.2	75 ~ 100	L	TG □ L-2.2Su ( )	-	5 2	-	322	17	-	222	-	23	-	1 7	-	127	-	0
		3.7	20	S	TG □ S-3.7Su ( )	-	5	-	01	1 3	-	222	-	23	-	1 7	-	127	-	3
		5.5	5 ~ 15	S	TG □ S-5.5Su ( )	-	71	-	11	1 3	-	2 0	-	3	-	1	-	1 3	-	110

※ Consult us for class G 3-phase motors with brakes and motors for inverter with brakes. Consult us for dimension .

ote: The above dimension diagrams are for models with T S motors. or S M T M motors, the shape and terminal box position are different.

Gearmotor imension Sheets (3-phase Motor, lange-mounted)

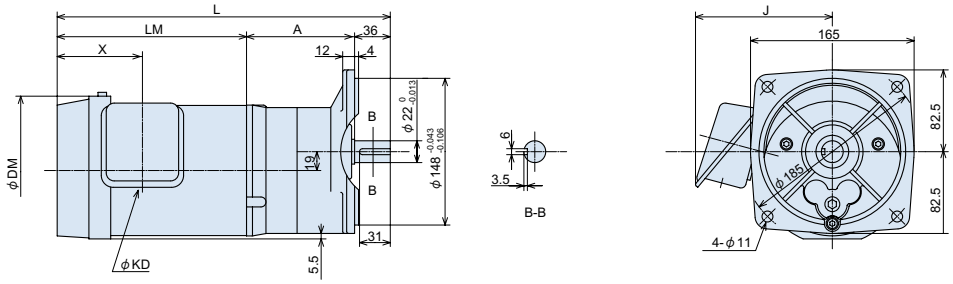
3-phase Motor TR □◇ - △ S (T S motor) □ : Reduction ratio, ◎ : Motor Manufacturer, △ : Motor capacity kW



Motor Type	Motor Capacity kW	Reduction Ratio	Class	omenclature	imension mm							pproximate Mass kg
					L	LM		M	K			
					T S	T S		T S	T S	T S	T S	T S
3-phase	0.	5 ～ 20	G	TR □ G-0. S	30	1 1		150	22	13		.1

Consult us for 3-phase motors with brakes.

3-phase Motor TS □◇ - △ S (T S motor) □ : Reduction ratio, ◎ : Motor Manufacturer, △ : Motor capacity kW

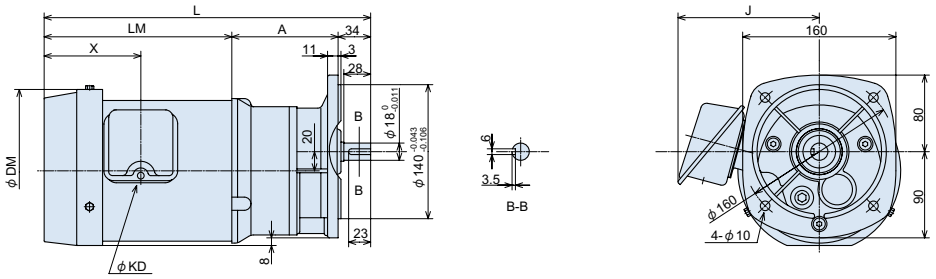


Motor Type	Motor Capacity kW	Reduction Ratio	Class	omenclature	imension mm							pproximate Mass kg
					L	LM		M	K			
					T S	T S		T S	T S	T S	T S	T S
3-phase	0.	5 ～ 0	G	TS □ G-0. S	33	1 1	10	150	22	13		10.

Consult us for 3-phase motors with brakes.

Gearmotor imension Sheets (3-phase Motor, lange-mounted)

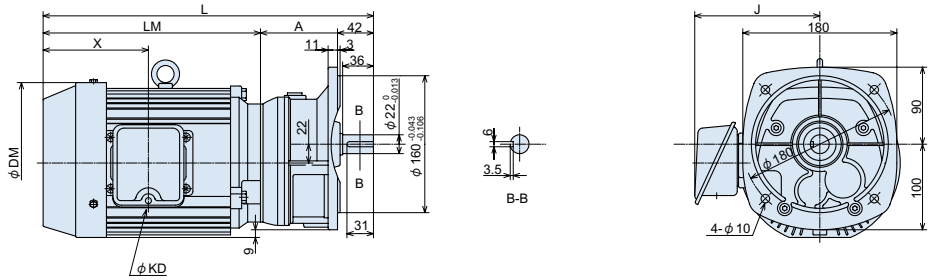
3-phase Motor TT □◇ - △ S (T S motor) □ : Reduction ratio, ◎ : Motor Manufacturer, △ : Motor capacity kW



Motor Type	Motor Capacity kW	Reduction Ratio	Class	omenclature	imension mm							pproximate Mass kg
					L	LM		M	K			
					T S	T S		T S	T S	T S	T S	T S
3-phase	0.75	5 ～ 20	G	TT □ G-0.75S	3 1	1	111	170	22	1	101	1

Consult us for 3-phase motors with brakes.

3-phase Motor T □◇ - △ S (T S motor) □ : Reduction ratio, ◎ : Motor Manufacturer, △ : Motor capacity kW

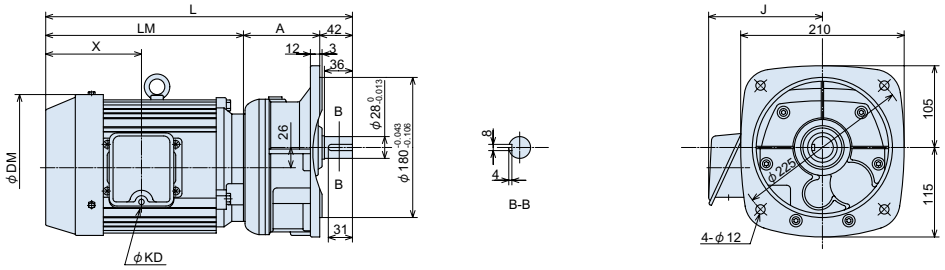


Motor Type	Motor Capacity kW	Reduction Ratio	Class	omenclature	imension mm							pproximate Mass kg
					L	LM		M	K			
					T S	T S		T S	T S	T S	T S	T S
3-phase	1.5	5 ～ 20	G	T □ G-1.5S	3	25	0	1	27	1 7.5	123	20.5

Consult us for 3-phase motors with brakes.

Gearmotor imension Sheets (3-phase Motor, lange-mounted)

3-phase Motor T □◇ - △ S (T S motor) □ : Reduction ratio, ◎ : Motor Manufacturer, △ : Motor capacity kW

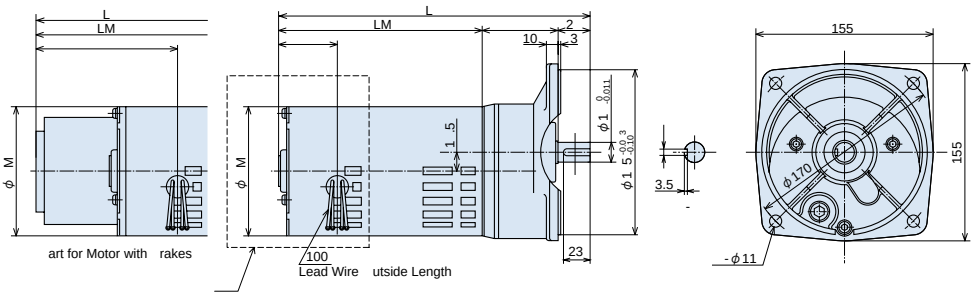


Motor Type	Motor Capacity kW	Reduction Ratio	Class	omenclature	imension mm L	LM		M	K			pproximate Mass kg
					T S	T S		T S	T S	T S	T S	T S
3-phase	1.5	25 ～ 30	G	T □ G-1.5S	3	25		1	27	1 7.5	123	22.1
	1.5	5	G	T □ G-1.5S	0	25	112	1	27	1 7.5	123	23
	2.2	5 ～ 20	G	T □ G-2.2S	27	27	107	1	27	151	123	2 .

Consult us for 3-phase motors with brakes.

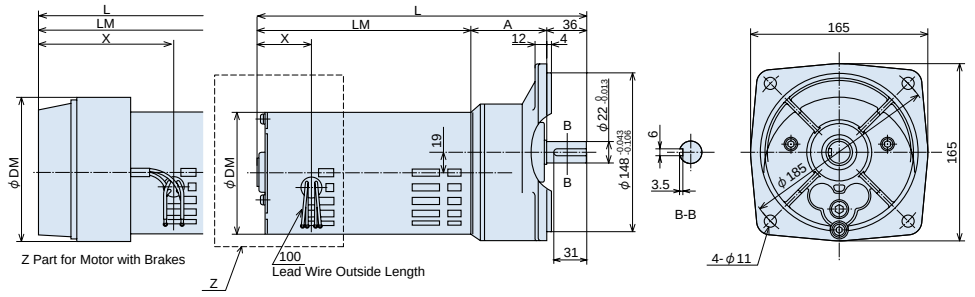
Gearmotor Dimension Sheets (Single-phase Motor, Flange-mounted)

Single-phase Motor	MFGVS518D- ☐ RS △ -4	☐ : Reduction ratio, ◎ : Motor manufacturer, △ : Motor capacity [kW]
Single-phase Motor with Brakes (SAVS)	MFGVS518D- ☐ RS △ -4SAVS	



Motor Type	Motor Capacity [kW]	Reduction Ratio	Nomenclature	Dimension [mm] L	LM	A	DM	KD	J	X	Approximate Mass [kg]
				TOSHIBA	TOSHIBA		TOSHIBA	TOSHIBA	TOSHIBA	TOSHIBA	TOSHIBA
Single-phase	0.1	5 ～ 50	MFGVS518D- ☐ RS0.1-4	270.5	177.5	65	113.2	-	-	52	6.6
	0.2	5 ～ 25	MFGVS518D- ☐ RS0.2-4	290.5	197.5	65	113.2	-	-	52	8.4
Single-phase with Brakes	0.1	5 ～ 50	MFGVSB518D- ☐ RS0.1-4SAVS	332	239	65	113.2	-	-	113.5	7.3
	0.2	5 ～ 25	MFGVSB518D- ☐ RS0.2-4SAVS	347	254	65	140	-	-	108.5	10.9

Single-phase Motor	MFGVS522D- ☐ RS △ -4	☐ : Reduction ratio, ◎ : Motor manufacturer, △ : Motor capacity [kW]
Single-phase Motor with Brakes (SAVS)	MFGVS522D- ☐ RS △ -4SAVS	

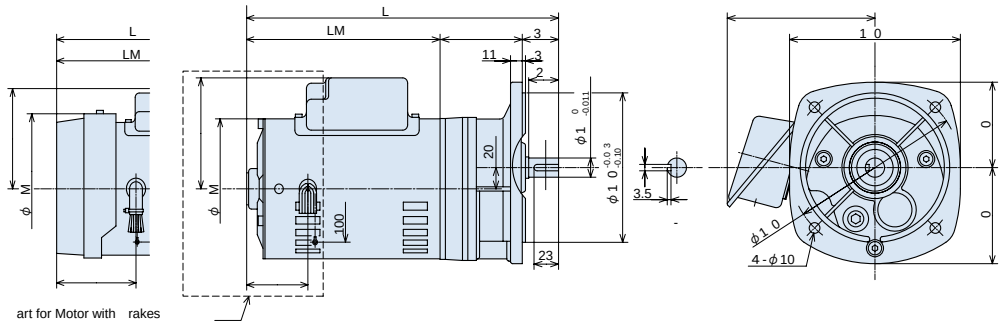


Motor Type	Motor Capacity [kW]	Reduction Ratio	Nomenclature	Dimension [mm] L	LM	A	DM	KD	J	X	Approximate Mass [kg]
				TOSHIBA	TOSHIBA		TOSHIBA	TOSHIBA	TOSHIBA	TOSHIBA	TOSHIBA
Single-phase	0.1	60 ～200	MFGVS522T- ☐ RS0.1-4	298.5	177.5	85	113.2	-	-	52	7.9
	0.2	30	MFGVS522D- ☐ RS0.2-4	305.5	197.5	72	113.2	-	-	52	8.8
	0.2	45 ～100	MFGVS522T- ☐ RS0.2-4	318.5	197.5	85	113.2	-	-	52	9.5
Single-phase with Brakes	0.1	60 ～200	MFGVS522T- ☐ RS0.1-4SAVS	360	239	85	113.2	-	-	113.5	8.5
	0.2	30	MFGVS522D- ☐ RS0.2-4SAVS	362	254	72	140	-	-	108.5	11.3
	0.2	45 ～100	MFGVS522T- ☐ RS0.2-4SAVS	375	254	85	140	-	-	108.5	12

Gearmotor Dimension Sheets (Single-phase Motor, Flange-mounted)

Single-phase Motor	AVSA ☐◇ - △ S
Single-phase Motor with Brakes (SAVS)	AVSBA ☐◇ - △ SSAVS

☐ : Reduction ratio, ◎ : Motor manufacturer, △ : Motor capacity [kW]

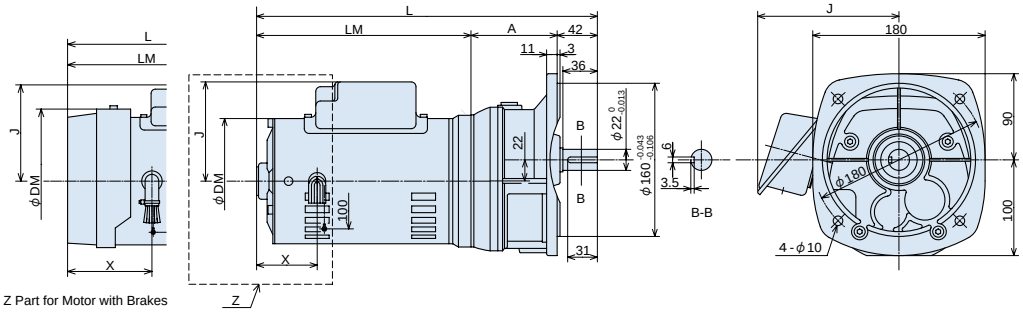


Motor Type	Motor Capacity [kW]	Reduction Ratio	Nomenclature		Dimension [mm] L TOSHIBA	LM TOSHIBA	A	DM TOSHIBA	KD TOSHIBA	J TOSHIBA	X TOSHIBA	Approximate Mass [kg] TOSHIBA
Single-phase	0.4	5 ～ 20	L	AVSA ☐ L-0.4S	313	202	77	131.2	-	104	*	14.5
Single-phase with Brakes	0.4	5 ～ 20	L	AVSBA ☐ L-0.4SSAVS	393	282	77	131.2	-	104	*	17.5

Consult us for dimension *.

Single-phase Motor	AVSB ☐◇ - △ S
Single-phase Motor with Brakes (SAVS)	AVSBB ☐◇ - △ SSAVS

☐ : Reduction ratio, ◎ : Motor manufacturer, △ : Motor capacity [kW]



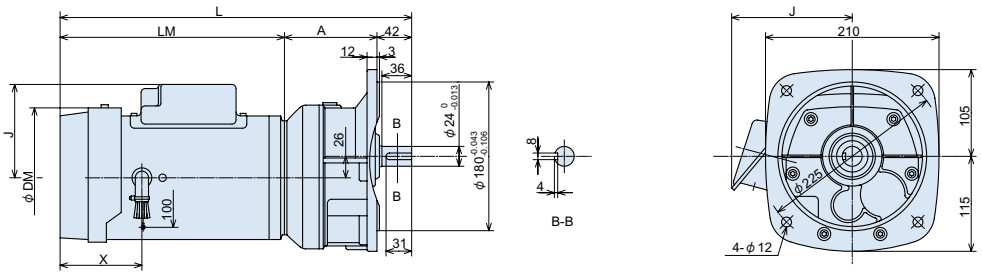
Motor Type	Motor Capacity [kW]	Reduction Ratio	Nomenclature		Dimension [mm] L TOSHIBA	LM TOSHIBA	A	DM TOSHIBA	KD TOSHIBA	J TOSHIBA	X TOSHIBA	Approximate Mass [kg] TOSHIBA
Single-phase	0.4	25 ～ 30	L	AVSB ☐ L-0.4S	357	225	90	131.2	-	104	*	17
	0.4	45 ～ 75	L	AVSB ☐ L-0.4S	365	225	98	131.2	-	104	*	17.5
	0.4	5 ～ 20	S	AVSB ☐ S-0.4S	357	225	90	131.2	-	104	*	17
	0.75	5 ～ 20	L	AVSB ☐ L-0.75S	403	271	90	169.2	-	113	*	22.5
Single-phase with Brakes	0.4	25 ～ 30	L	AVSBB ☐ L-0.4SSAVS	437	305	90	131.2	-	104	*	20
	0.4	45 ～ 75	L	AVSBB ☐ L-0.4SSAVS	445	305	98	131.2	-	104	*	20.5
	0.4	5 ～ 20	S	AVSBB ☐ S-0.4SSAVS	437	305	90	131.2	-	104	*	20
	0.75	5 ～ 20	L	AVSBB ☐ L-0.75SSAVS	481	341	98	169.2	-	113	*	27.6

Consult us for dimension *.

Gearmotor Dimension Sheets (Single-phase Motor, Flange-mounted)

Single-phase Motor	AVSC ☐◇ - △ S
Single-phase Motor with Brakes (SAVS)	AVSBC ☐◇ - △ SSAVS

☐ : Reduction ratio, ◎ : Motor manufacturer, △ : Motor capacity [kW]



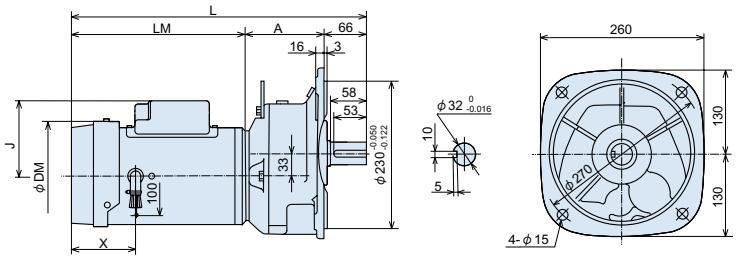
※ 0.1 kW to 0.4 kW single-phase motors (without brake) are dip-proof type and their shapes are slightly different.

Motor Type	Motor Capacity [kW]	Reduction Ratio		Nomenclature	Dimension [mm] L TOSHIBA	LM TOSHIBA	A	DM TOSHIBA	KD TOSHIBA	J TOSHIBA	X TOSHIBA	Approximate Mass [kg] TOSHIBA
Single-phase	0.1	240～450	L	AVSC ☐ L-0.1S	371.5	177.5	152	113.2	-	-	52	17.2
	0.2	130～200	L	AVSC ☐ L-0.2S	344.5	197.5	105	113.2	-	-	52	13.2
	0.4	100～150	L	AVSC ☐ L-0.4S	379	225	112	131.2	-	104	*	19.5
	0.4	25 ～ 30	S	AVSC ☐ S-0.4S	365	225	98	131.2	-	104	*	18.5
	0.4	45 ～ 75	S	AVSC ☐ S-0.4S	379	225	112	131.2	-	104	*	19.5
	0.75	25 ～ 30	L	AVSC ☐ L-0.75S	411	271	98	169.2	-	113	*	24
	0.75	45 ～ 75	L	AVSC ☐ L-0.75S	425	271	112	169.2	-	113	*	25
	0.75	5 ～ 20	S	AVSC ☐ S-0.75S	411	271	98	169.2	-	113	*	24
Single-phase with Brakes	0.1	240～450		AVSBC ☐ L-0.1SSAVS	433	239	158	113.2	-	-	113.5	17.7
	0.2	130～200		AVSBC ☐ L-0.2SSAVS	401	254	111	140	-	-	108.5	15.6
	0.4	100～150	L	AVSBC ☐ L-0.4SSAVS	459	305	112	131.2	-	104	*	22.5
	0.4	25 ～ 30	S	AVSBC ☐ S-0.4SSAVS	445	305	98	131.2	-	104	*	21.5
	0.4	45 ～ 75	S	AVSBC ☐ S-0.4SSAVS	459	305	112	131.2	-	104	*	22.5
	0.75	25 ～ 30	L	AVSBC ☐ L-0.75SSAVS	481	341	98	169.2	-	113	*	27.6
	0.75	45 ～ 75	L	AVSBC ☐ L-0.75SSAVS	495	341	112	169.2	-	113	*	28.6
	0.75	5 ～ 20	S	AVSBC ☐ S-0.75SSAVS	481	341	98	169.2	-	113	*	27.6

Consult us for dimension *.

Single-phase Motor	AVSD ☐◇ - △ S
Single-phase Motor with Brakes (SAVS)	AVSBD ☐◇ - △ SSAVS

☐ : Reduction ratio, ◎ : Motor manufacturer, △ : Motor capacity [kW]



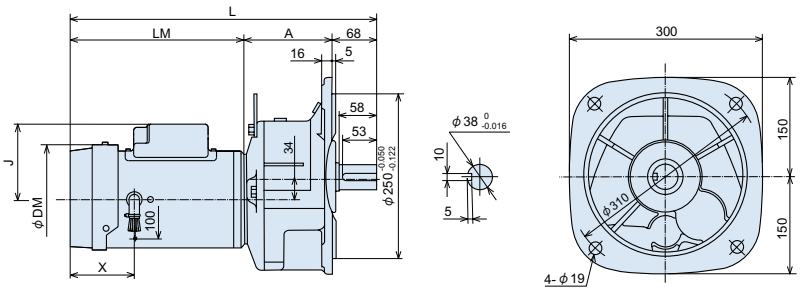
※ 0.1 kW to 0.4 kW single-phase motors (without brake) are dip-proof type and their shapes are slightly different.

Motor Type	Motor Capacity [kW]	Reduction Ratio		Nomenclature	Dimension [mm] L TOSHIBA	LM TOSHIBA	A	DM TOSHIBA	KD TOSHIBA	J TOSHIBA	X TOSHIBA	Approximate Mass [kg] TOSHIBA
Single-phase	0.1	540～800	L	AVSD ☐ L-0.1S	405.5	177.5	162	113.2	-	-	52	28.7
	0.2	240～450	L	AVSD ☐ L-0.2S	425.5	197.5	162	113.2	-	-	52	30.2
	0.4	200	L	AVSD ☐ L-0.4S	413	225	122	131.2	-	104	*	31.5
	0.4	100～150	S	AVSD ☐ S-0.4S	413	225	122	131.2	-	104	*	31.5
	0.75	100～150	L	AVSD ☐ L-0.75S	459	271	122	169.2	-	113	*	37
	0.75	25 ～ 30	S	AVSD ☐ S-0.75S	445	271	108	169.2	-	113	*	36
	0.75	45 ～ 75	S	AVSD ☐ S-0.75S	459	271	122	169.2	-	113	*	37
Single-phase with Brakes	0.1	540～800	L	AVSBD ☐ L-0.1SSAVS	467	239	170	113.2	-	-	113.5	26.7
	0.2	240～450	L	AVSBD ☐ L-0.2SSAVS	482	254	170	140	-	-	108.5	30.1
	0.4	200	L	AVSBD ☐ L-0.4SSAVS	493	305	122	131.2	-	104	*	34.5
	0.4	100～150	S	AVSBD ☐ S-0.4SSAVS	493	305	122	131.2	-	104	*	34.5
	0.75	100～150	L	AVSBD ☐ L-0.75SSAVS	529	341	122	169.2	-	113	*	40.6
	0.75	25 ～ 30	S	AVSBD ☐ S-0.75SSAVS	515	341	108	169.2	-	113	*	39.6
	0.75	45 ～ 75	S	AVSBD ☐ S-0.75SSAVS	529	341	122	169.2	-	113	*	40.6

Consult us for dimension *.

Gearmotor Dimension Sheets (Single-phase Motor, Flange-mounted)

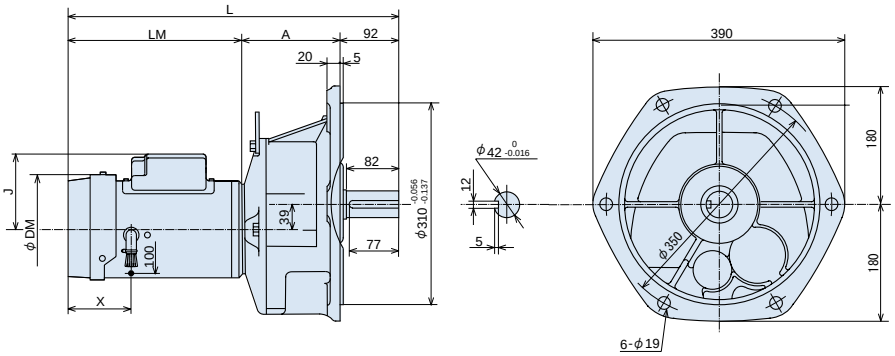
Single-phase Motor	AVSE ☐◇ - △ S	☐ : Reduction ratio, ◎ : Motor manufacturer, △ : Motor capacity [kW]
Single-phase Motor with Brakes (SAVS)	AVSBE ☐◇ - △ SSAVS	



Motor Type	Motor Capacity [kW]	Reduction Ratio	Nomenclature		Dimension [mm] L TOSHIBA	LM TOSHIBA	A	DM TOSHIBA	KD TOSHIBA	J TOSHIBA	X TOSHIBA	Approximate Mass [kg] TOSHIBA
Single-phase	0.1	1000	L	AVSE ☐ L-0.1S	420.5	177.5	175	113.2	-	-	52	37.2
	0.2	540～800	L	AVSE ☐ L-0.2S	440.5	197.5	175	113.2	-	-	52	38.7
	0.4	200	S	AVSE ☐ S-0.4S	428	225	135	131.2	-	106	*	40
	0.75	200	L	AVSE ☐ L-0.75S	474	271	135	169.2	-	115	*	45.5
	0.75	100～150	S	AVSE ☐ S-0.75S	474	271	135	169.2	-	115	*	45.5
Single-phase with Brakes	0.1	1000	L	AVSBE ☐ L-0.1SSAVS	482	239	185	113.2	-	-	113.5	34.7
	0.2	540～800	L	AVSBE ☐ L-0.2SSAVS	497	254	185	140	-	-	108.5	38.1
	0.4	200	S	AVSBE ☐ S-0.4SSAVS	508	305	135	131.2	-	106	*	43
	0.75	200	L	AVSBE ☐ L-0.75SSAVS	544	341	135	169.2	-	115	*	49.1
	0.75	100～150	S	AVSBE ☐ S-0.75SSAVS	544	341	135	169.2	-	115	*	49.1

Consult us for dimension *.

Single-phase Motor	AVSF ☐◇ - △ S	☐ : Reduction ratio, ◎ : Motor manufacturer, △ : Motor capacity [kW]
Single-phase Motor with Brakes (SAVS)	AVSBF ☐◇ - △ SSAVS	



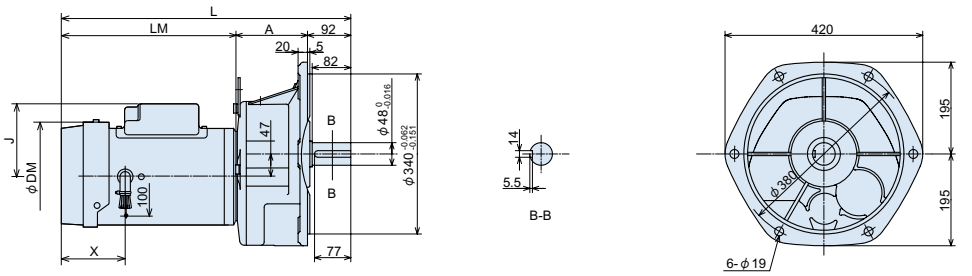
Motor Type	Motor Capacity [kW]	Reduction Ratio	Nomenclature		Dimension [mm] L TOSHIBA	LM TOSHIBA	A	DM TOSHIBA	KD TOSHIBA	J TOSHIBA	X TOSHIBA	Approximate Mass [kg] TOSHIBA
Single-phase	0.2	1000	L	AVSF ☐ L-0.2S	481.5	197.5	192	113.2	-	-	52	49.7
	0.75	200	S	AVSF ☐ S-0.75S	515	571	152	169.2	-	115	*	56.5
Single-phase with Brakes	0.2	1000	L	AVSBF ☐ L-0.2SSAVS	538	254	202	140	-	-	108.5	49.6
	0.75	200	S	AVSBF ☐ S-0.75SSAVS	585	341	152	169.2	-	115	*	60.1

Consult us for dimension *.

Gearmotor Dimension Sheets (Single-phase Motor, Flange-mounted)

Single-phase Motor	AVSG ☐◇ - △ S
Single-phase Motor with Brakes (SAVS)	AVSBG ☐◇ - △ SSAVS

☐ : Reduction ratio, ◎ : Motor manufacturer, △ : Motor capacity [kW]



Motor Type	Motor Capacity [kW]	Reduction Ratio		Model	Dimension [mm] L TOSHIBA	LM TOSHIBA	A	DM TOSHIBA	KD TOSHIBA	J TOSHIBA	X TOSHIBA	Approximate Mass [kg] TOSHIBA
Single-phase	0.4	540～800	S	AVSG ☐ G-0.4S	552	225	235	131.2	-	104	*	77.5
	0.75	300～360	S	AVSG ☐ G-0.75S	598	271	235	169.2	-	113	*	83
Single-phase with Brakes	0.4	540～800	S	AVSBG ☐ G-0.4SSAVS	632	305	235	131.2	-	104	*	80.5
	0.75	300～360	S	AVSBG ☐ G-0.75SSAVS	668	341	235	169.2	-	113	*	86.6

Consult us for dimension *.

C

Reducer

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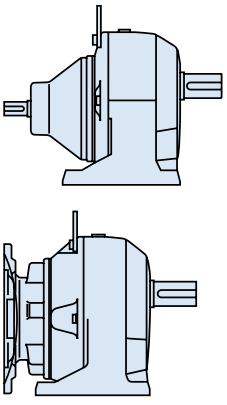
1. ow to Select C3
2. Selection Tables C11
3. imension Sheets C15



C Reducer

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Selection Method C
Selection Example C
Reducer Standard Specifications C9

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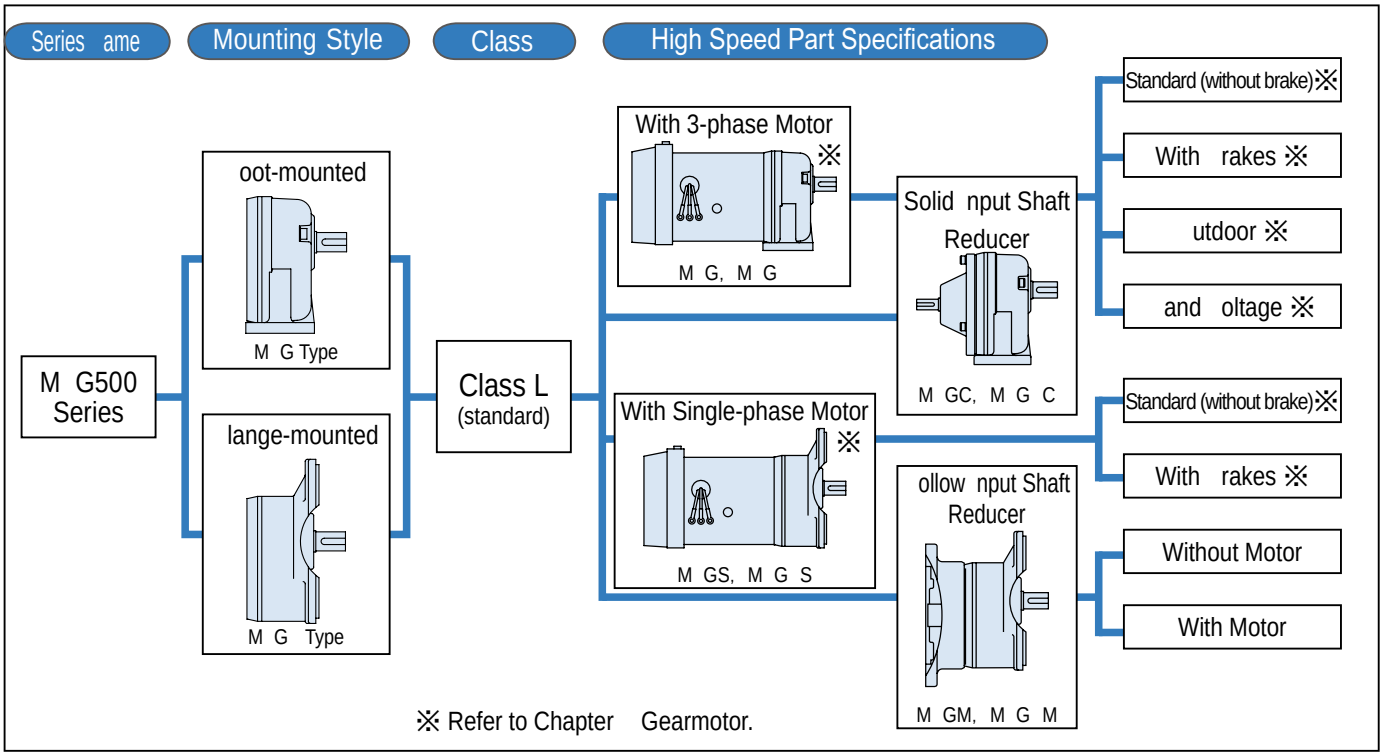
■ M G500 Series ariations



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■ M G500 Series Type Symbols

M G		C		51		–	30R	0.1
M G		M		522	T	–	0R	0.2

Series ame

Mounting Style

oot-mounted ..... blank
lange-mounted .....

ariations

Solid nput Shaft Reducer C
ollow nput Shaft Reducer .. M

Gear Specifications

Special.....

rame Si e

Reduction Stages

ouble .....
Triple..... T

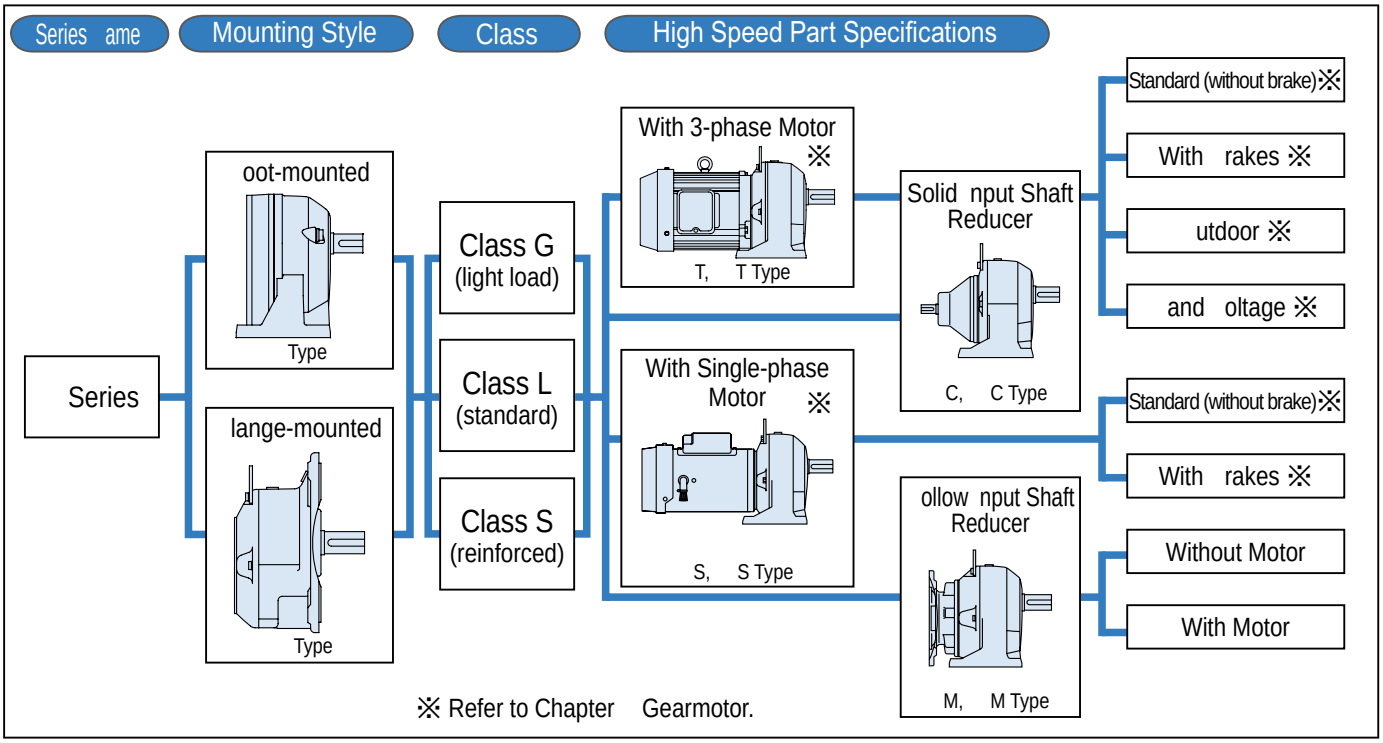
Reduction Ratio

1 0..... 0R
1 30⋯ ..30R

Equivalent nput Capacity

0.1 kW Equivalent 0.1
0.2 kW Equivalent..... 0.2

Series ariations



C
Reducer
ow to Select

Series Type Symbols

Model		Reducer rame Si e			–	nput Specifications
T			20	L	–	0.

Gear Specifications
Special:

Reduction Ratio
1／20 : 20
1／ 0 : 0

Equivalent nput
0. kW Equivalent: 0.
5.5 kW Equivalent: 5.5

rame Si e (output shaft diameter)
: ϕ 1 : ϕ 2
: ϕ 22 G : ϕ
C : ϕ 2 : ϕ 5
: ϕ 32 K : ϕ 3
E : ϕ 3

Class isplay
Light Load: G
Standard: L
Reinforced: S

oot-mounted		lange-mounted	
Solid nput Shaft Reducer	C	Solid nput Shaft Reducer	C
ollow nput Shaft Reducer	M	ollow nput Shaft Reducer	M

Series Classes

For A Series reducers, two classes are available for various loads, allowing you to easily select the best model for specific use conditions.

Standard (L): niform load. ote that Class S is standard for models with the high reduction ratio or the input capacity 5.5 kW or higher.

Reinforced (S): The overhang load and output shaft torque are reinforced.

Note: This classification is just for a guide. Check the selection tables on page C12 to C14 for model selection.

Reducer Selection Method

To use MFG500 Series, A Series Reducer efficiently, follow these steps to select a model.

Selection Procedure

1. Determining Reduction Ratio

Determine the reduction ratio based on the required output speed. Refer to the selection tables on page C13 to C15 for information on determining the reduction ratio of the reducer.

2. Calculating Load Torque

Calculate the required actual load torque (T_E) of the application machine.
Calculate the maximum torque if the load torque varies.

3. Calculating Equivalent Output

Find the output that meets the following condition expression in the required reduction ratio column on the selection tables (on page C13 to 15):

Conditional expression $T_E \leqq T$ → Determine the equivalent output [kW]

4. Determining Service Factor

To select the gearmotor or reducer, the service factor should be considered based on the load condition and duty time.

Table 1. Service Factor Table (sf)

Load Condition/Duty Time	3 or Less Hours/day	3 - 10 Hours/day	10 or More Hours/day
Uniform Load	1.00	1.00	1.25
Moderate Shock Load	1.00	1.25	1.50

Note: Consult us if you want to use it with heavy shock load.

5. Considering Moment of Inertia of Load (J) and Startup Frequency

If the moment of inertia of load is large, a large load may occur at starting or stopping with brakes, causing an unexpected accident. Consider the moment of inertia of load and the startup frequency.

1) Calculate the moment of inertia of load (J).
2) Calculate the load inertia moment at input shaft (J_L).

$$J_L = \frac{J}{R^2} \quad \frac{1}{R} \text{ Reduction Ratio}$$

3) Calculate the inertia moment at input shaft (J_M) for the driving unit attached to the reducer input shaft.

Calculation Example

1. 50 r min
   Reduction Ratio 1 30
2. ssume that T_E .2 ・m.
3. or 0. kW equivalent, T 7 .2 < T_E .2 ・m
   or 0.75 kW equivalent, T 135 > T_E .2 ・m

The output of 0.75 kW meets the condition expression.

. pplication: Conveyor-driven (moderate shock load)
hours day operation

5-1) ssume the following moment of inertia of load (J).
J 1.2 kg・m^2

5-2) Reduction Ratio: 1 R 1 30

$$J_L = \frac{J}{R^2} = \frac{1.2}{30^2}$$

1.3×10^{-3}kg・m^2

5-3) Motor to be attached to the reducer
J_M = 0.002 kg・m^2

Reducer Selection Method

■ Model Selection

Selection rocedure

4) Calculate the load inertia moment ratio (M).

$$M = \frac{J_L}{J_M}$$

J_L: Moment of inertia of load (at input shaft)
J_M: Moment of inertia of driving unit (at input shaft)

5) Calculate the service factor based on the load inertia moment ratio and the startup frequency (sf_1) from Table 3.

Calculation Example

5-) Load inertia moment ratio

$$M = \frac{J_L}{J_M} = \frac{1.3 \times 10^{-3}}{2. \times 10^{-3}} = 0.$$

5-5) Coupling method: Chain (non-direct)
Load inertia moment ratio: M 0.
Startup frequency: 20 times hour
rom Table 3, Service factor: sf_1 1.13

Table 3. Service Factor Based on Inertia Moment Ratio and Startup Frequency (sf_1)

Startup Frequency / our	Coupling Method: Direct				Coupling Method: on-direct (such as chain conveyance)			
	M ≦ 0.5	0.5 < M ≦ 1.0	1.0 < M ≦ 2.0	2.0 < M ≦ 3.0	M ≦ 0.2	0.2 < M ≦ 0.5	0.5 < M ≦ 0.7	0.7 < M ≦ 1.0
1 time	1.00	1.01	1.05	1.10	1.00	1.01	1.02	1.0
5 times	1.01	1.0	1.1	1.2	1.01	1.05	1.0	1.1
10 times	1.01	1.07	1.23	1.35	1.01	1.0	1.15	1.2
20 times	1.03	1.12	1.32	1. 5	1.02	1.13	1.22	1.35
50 times	1.0	1.21	1. 5	1. 0	1.05	1.22	1.3	1.
100 times	1.10	1.2	1.57	1.73	1.0	1.30	1.	1. 0
150 times	1.13	1.35	1.	1. 1	1.11	1.3	1.50	1.

Note: For chain conveyance, use a properly tightened chain. The impact force increases significantly when the chain is loose.

6. Selecting Frame Size

Find the frame size that meets the following condition expression in the required reduction ratio column on the selection tables (on page C13 to 15):

Conditional expression $T_E \times sf \times sf_1 \leqq T_G$

-1) or reducer,
$T_E \times sf \times sf_1 =$ .2 × 1.25 × 1.13 = 12 . ・m
In the case of class L: T × sf_G = 131 × 1.03 = 13 . ・m
Since T_E x sf x $sf_1 \leqq$ T x sf_G is met, then
Equivalent Capacity : 0.75 kW
Reducer rame Size : C30L

T_E	ctual load torque (required torque of the application machine) [・m]
T	Output shaft torque (Maximum driving torque of reducer) [・m]
T_G	Reducer output shaft allowable torque [・m]
sf	Service factor based on load condition and duty time (Table 1)
sf_1	Service factor based on inertia moment ratio and startup frequency (Table 3)
sf_G	Strength margin ratio of reducer for T torque

7. Checking Overhang Load (O.H.L.)

If you use a sprocket, gear, and belt with the input/output shaft, make sure that the overhang load acting on the shaft does not exceed the allowable overhang load of the used reducer (refer to the selection tables on page C13 to 15). However, it is not required if the input/output shaft is coupled with a coupling.

$$O.\ .L.\ [\ ] = \frac{2000 \times T_E \times sf \times sf_1}{D} \times \frac{Cf}{Lf}$$

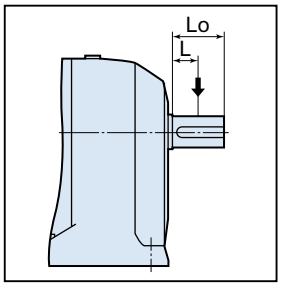
D: itch circle diameter of sprocket, pulley, etc. [mm]
Cf: Driving method factor (refer to Table)
Lf: Load position factor (refer to Table 5)

Table 4. Cf: Driving Method Factor

Single Row Chain	Double Row Chain	Gear	V Belt
1.00	1.25	1.25	1.50

Table 5. Lf: Load Position Factor

0.3Lo	0.5Lo	0.7Lo	0. Lo
1.10	1.00	0. 3	0.70



7. itch Circle Diameter of Sprocket: D 120mm
Driving Method: Single Row Chain
Driving Method actor: Cf 1.00
Load osition: L 25 mm
Since the Lo dimension of TC30L model is 3 mm,
L 0.70Lo and then
Load osition actor: Lf 0. 3

$$O.\ .L. = \frac{2000 \times T_E \times sf \times sf_1}{D} \times \frac{Cf}{Lf}$$

$$= \frac{2000 \times \ .2 \times 1.25 \times 1.13}{120} \times \frac{1.00}{0.\ 3}$$

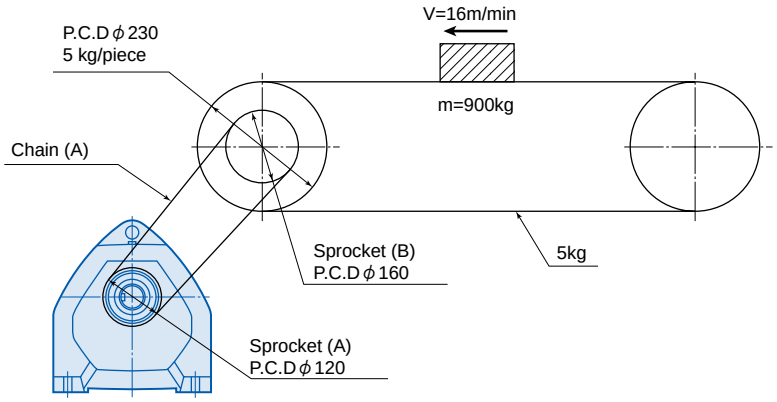
$$= 2502$$

There is no problems since the allowable overhang load of the model selected in step is 3 70 .

Reducer Selection Example

Application	Conveyor (moderate shock load)
Conveyance Speed	= 16m/min
Conveyed Mass	m = 900kg
Duty Time	8 hours/day
Start/Stop Frequency	50 times/hour
Friction Factor	0.15 assumed
Chain Conveyance Efficiency	0.95 assumed
Driving Unit	3-phase motor, 50 Hz

* The sprockets are attached to the center of the shafts
* The load inertia moments of chain (A) and sprockets (A, B) and miscellaneous conditions are not included in the calculation.



1. Determining Reduction Ratio

・Required conveyor shaft speed: N1 = $\frac{1 \times 1000}{230 \times \pi} \fallingdotseq 22.1$r min

・Reducer Output Shaft Speed: N = N_1 x $\frac{\text{Sprocket (B)}}{\text{Sprocket ( )}} = 22.1 \times \frac{1\ 0}{120} = 2\ .5$r min

・From the selection tables (on page C13 to 15) for the output shaft speed close to 29.5 r/min, you can obtain the reduction ratio 1/50 (30 r/min).

2. Calculating Load Torque

・Required conveyor shaft torque: T_1 = 900 x 0.15 x $\frac{230}{2 \times 1000} \times \frac{1}{0.\ 5} \times\ . = 1\ 0.2$ ・m

・Load torque at reducer output shaft: T_E = 160.2 x $\frac{120}{1\ 0} \times \frac{1}{0.\ 5} = 12\ .5$ ・m

3. Calculating Input Capacity

・From the selection tables (on page C13 to 15), you can obtain the input capacity 0.75 kW that meets the output shaft torque 126.5 N・m with the reduction ratio 1/50.

4. Determining Service Factor

・Service factor based on load condition and duty time: sf = 1.25 (moderate shock load, 8 hours/day, from Table 1 on page C6)

5. Considering Moment of Inertia of Load (J) and Startup Frequency

・Load inertia moment of conveyor: J = $\left[\frac{5+5}{2} + 00 + 5\right] \times \left[\frac{230}{1000}\right]^2 \times \frac{1}{} = 12.0\text{kg・m}^2$

・Load inertia moment at input shaft: J_L = 12.0 x $\left[\frac{120}{1\ 0}\right]^2 \times \left[\frac{1}{50}\right]^2 \times = 27 \times 10^{-}\ \text{kg・m}^2$

・Moment of inertia of driving unit and reducer: J_M = 28 x 10^{-} kg・m^2

Consult the appropriate manufacturer for moment of inertia of the driving unit. Consult us for moment of inertia of the reducer.

・Load inertia moment ratio: M = $\frac{J_L}{J_M} = \frac{27 \times 10^{-}}{2\ \times 10^{-}} = 0.$

・With the chain conveyance, startup frequency 50 times/hour, and load inertia moment ratioM = 0.96 and from the selection tables (on page C7), Service factor based on inertia moment ratio and startup frequency: sf_1 = 1.48

6. Selecting Frame Size

・Required reduction part strength: T_E sf sf_1 = 126.5×1.25×1.48 = 234N・m

・From the selection tables (C13 to 15), the frame size that meets the reduction part strength 234 N・m with the reduction ratio 1/50 is:
In the case of class L: T sf_G = 225×1.00 = 225 < 234
In the case of class S: T sf_G = 214×1.17 = 250 > 234 and then
the reducer frame size is D50S.

7. Checking Overhang Load (O.H.L.)

・O. .L. = $\frac{2000 \times T_E \times sf \times sf_1}{D} \times \frac{C_f}{L_f} = \frac{2000 \times 12\ .5 \times 1.25 \times 1.}{120} \times \frac{1.00}{1.00} = 3\ 00$

・There is no problems since the allowable overhang load of the reducer frame size D50S selected in step 6 is 5100 N from the selection tables (on page C13 to 15).

8. Determining Model

・In conclusion, ACD50S-0.75 is determined as the model of reducer.

Reducer Standard Specifications

Gear

Item	Standard Specifications
Lubrication Method	Grease lubrication, Showa Shell Sekiyu K.K. Albania EPR000 grease (factory filled)
Speed Reduction Method	Circumscribed gear type with helical gears (2 to 4 reduction gears)
Casing Material	MFG500 Series, Frame size A to C: Aluminum alloy, Frame size D to K: Cast iron

Miscellaneous

Item		Standard Specifications
mbient Conditions	Installation Location	Indoors (minimal dust and humidity)
	Ambient Temperature	-20 to 0 ℃ Note: -15 to 40 ℃ with brakes
	Ambient Humidity	Under 85 %, with no condensation
	Elevation	Below 1,000 meters
	Atmosphere	Well ventilated location, free of corrosive gases, explosive gases, vapors, and dust
Installation Angle		Output shaft direction: Horizontal (with feet) or vertically downward
Painting		Paint component: Phthalic acid resin, Color: Approximate color of mancel 10 B 4/1.5 (neo selva gray)

M E M O

C Reducer

2. Selection Tables

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Reducer (Solid Input Shaft Type, Hollow Input Shaft Type) Selection Tables

Reduction Ratio	Output Shaft Speed [r/min]		Reducer Frame Size	Motor Equivalence Capacity [kW]	Actual Reduction Ratio	Reduction Stages	Input Shaft Speed 1450 r/min				Input Shaft Speed 1750 r/min				Dimension Sheet Page		
							Allowable Input Capacity [kW]	Output Shaft Allowable Torque Tout [N-m]	Allowable Radial Load		Allowable Input Capacity [kW]	Output Shaft Allowable Torque Tout [N-m]	Allowable Radial Load		Solid Input Shaft	Hollow Shaft	
	Input 1450 [r/min]	Input 1750 [r/min]							Output Shaft Pro [N]	Input Shaft Pri [N]			Output Shaft Pro [N]	Input Shaft Pri [N]		Foot-Mounted	Flange-Mounted
5	290	350	518D	0.1	4.865	2	0.10	2.84	353	206	0.1	2.35	294	167	C16	C20	C24
			518D	0.2	4.980	2	0.20	5.88	353	206	0.2	4.81	294	167	C16	C20	C24
			A5L	0.4	4.983	2	0.50	15.1	1180	265	0.58	14.5	1080	226	C16	C20	C24
			B5L	0.75	5.113	2	1.05	32.6	1320	314	1.24	31.9	1270	275	C17	C21	C25
			C5L	1.5	4.859	2	1.95	57.5	1860	431	2.25	54.9	1520	402	C17	C21	C25
			D5L	2.2	5.141	2	2.82	87.9	3190	471	3.23	83.4	3040	441	C17	C21	C25
			E5L	3.7	4.949	2	4.77	143	3480	598	5.19	128	3090	549	C18	C21	C25
			F5S	5.5	5.065	2	7.25	223	2650	804	8.36	213	2060	755	C18	C22	C25
			G5S	7.5	5.054	2	9.87	302	3820	990	11.4	289	2650	932	C18	C22	C26
			H5S	11	4.952	2	14.5	435	2840	1210	15.7	389	2350	1140	C19	C23	-
10	145	175	518D	0.1	10.096	2	0.10	5.98	686	206	0.1	4.9	588	167	C16	C20	C24
			518D	0.2	10.045	2	0.20	11.8	686	206	0.2	9.7	588	167	C16	C20	C24
			A10L	0.4	9.893	2	0.50	30.0	1520	265	0.58	28.8	1420	226	C16	C20	C24
			B10L	0.75	9.881	2	1.05	62.9	1520	314	1.21	60.3	1470	275	C17	C21	C25
			C10L	1.5	9.802	2	1.95	116	3140	431	2.25	111	3040	402	C17	C21	C25
			D10L	2.2	9.761	2	2.82	167	3730	471	3.23	158	3630	441	C17	C21	C25
			E10L	3.7	10.107	2	4.77	292	6820	598	5.31	270	6570	549	C18	C21	C25
			F10S	5.5	9.692	2	7.25	426	6080	804	8.36	407	4610	755	C18	C22	C25
			G10S	7.5	9.988	2	9.87	597	8780	990	11.4	572	6470	932	C18	C22	C26
			H10S	11	9.905	2	14.5	871	7350	1210	16.0	797	6080	1140	C19	C23	-
15	96.7	116.7	518D	0.1	14.643	2	0.10	8.73	1080	206	0.1	7.16	883	167	C16	C20	C24
			518D	0.2	14.667	2	0.20	17.7	1080	206	0.2	13.7	883	167	C16	C20	C24
			A15L	0.4	15.417	2	0.50	46.7	1570	265	0.57	44.4	1470	226	C16	C20	C24
			B15L	0.75	15.595	2	0.95	90.1	1620	314	1.05	82.4	1620	275	C17	C21	C25
			C15L	1.5	15.364	2	1.95	181	3430	431	2.25	174	3330	402	C17	C21	C25
			D15L	2.2	15.944	2	2.82	273	4070	471	3.23	259	3970	441	C17	C21	C25
			E15L	3.7	14.727	2	4.77	426	7350	598	5.39	398	7160	549	C18	C21	C25
			F15S	5.5	15.077	2	6.52	595	6960	804	7.41	561	6520	755	C18	C22	C25
			G15S	7.5	14.796	2	9.87	885	9810	990	11.4	847	9220	932	C18	C22	C26
			H15S	11	15.352	2	13.0	1220	12000	1210	14.7	1140	11300	1140	C19	C23	-
20	72.5	87.5	518D	0.1	19.412	2	0.10	11.8	1470	206	0.10	9.4	1230	167	C16	C20	C24
			518D	0.2	19.429	2	0.20	22.6	1470	206	0.20	18.6	1230	167	C16	C20	C24
			A20L	0.4	18.836	2	0.50	57.1	1570	265	0.55	52.3	1570	226	C16	C20	C24
			B20L	0.75	19.808	2	0.92	111	1670	314	1.06	105	1620	275	C17	C21	C25
			C20L	1.5	19.145	2	1.81	210	3530	431	2.15	207	3480	402	C17	C21	C25
			D20L	2.2	19.504	2	2.82	333	4220	471	3.20	314	4120	441	C17	C21	C25
			E20L	3.7	19.785	2	4.14	496	7350	598	4.71	468	7350	549	C18	C21	C25
			F20S	3.7	20.201	2	4.77	583	7550	598	5.40	548	7350	549	C18	C22	C25
			G20S	5.5	19.856	2	7.25	873	11100	804	8.36	834	10400	755	C18	C22	C26
			H20S	7.5	20.250	2	9.87	1220	13500	990	11.4	1160	12700	932	C19	C23	-
			K20S	11	20.286	2	14.5	1780	14200	1210	16.7	1700	13300	1140	C19	C23	-
25	58.0	70.0	518D	0.1	25.714	2	0.10	15.7	1520	206	0.1	12.7	1370	167	C16	C20	C24
			518D	0.2	25.242	2	0.20	30.4	1520	206	0.2	24.5	1370	167	C16	C20	C24
			B25L	0.4	26.232	2	0.58	92.2	2160	265	0.58	76.8	2160	226	C17	C21	C25
			C25L	0.75	24.055	2	1.05	153	3970	314	1.24	150	3970	275	C17	C21	C25
			D25L	1.5	23.893	2	1.95	282	4900	431	2.25	270	4760	402	C17	C21	C25
			E25L	2.2	23.554	2	2.82	402	7350	471	3.23	382	7350	441	C18	C21	C25
			F25L	3.7	24.341	2	4.77	704	7850	598	5.27	644	7650	549	C18	C22	C25
			G25S	3.7	25.057	2	4.77	725	11400	598	5.40	680	11100	549	C18	C22	C26
			H25S	5.5	23.192	2	7.25	1020	15000	804	8.36	974	14100	755	C19	C23	-
			K25S	7.5	24.456	2	9.87	1460	16100	990	11.4	1400	15100	932	C19	C23	-
30	48.3	58.3	518D	0.1	30.000	2	0.10	17.7	1570	206	0.1	14.7	1470	167	C16	C20	C24
			522D	0.2	28.848	2	0.20	34.3	1670	206	0.20	28.4	1620	167	C16	C20	C24
			B30L	0.4	29.400	2	0.47	82.9	2160	265	0.55	81.5	2160	226	C17	C21	C25
			C30L	0.75	28.955	2	0.84	147	3970	314	1.00	146	3970	275	C17	C21	C25
			D30L	1.5	27.942	2	1.95	330	5050	431	2.25	316	4900	402	C17	C21	C25
			E30L	2.2	27.686	2	2.82	473	7350	471	3.23	449	7350	441	C18	C21	C25
			F30L	3.7	28.205	2	4.18	715	8040	598	4.87	689	7850	549	C18	C22	C25
			G30S	3.7	29.455	2	4.77	851	11800	598	5.40	798	11500	549	C18	C22	C26
			H30S	5.5	29.082	2	7.25	1270	16000	804	8.36	1220	15000	755	C19	C23	-
			K30S	7.5	29.013	2	9.87	1740	17100	990	11.4	1660	16100	932	C19	C23	-

Note: 1. Output shaft allowable radial load represents a value for the output shaft center.
2. "Equivalent motor capacity [kW]" is just for a guide. Note that the full (100 %) output of the motor may be an overload. Be sure to use it within the output shaft allowable torque.

Reducer (Solid Input Shaft Type, Hollow Input Shaft Type) Selection Tables

Reduction Ratio	Output Shaft Speed [r/min]		Reducer Frame Size	Motor Equivalence Capacity [kW]	Actual Reduction Ratio	Reduction Stages	Input Shaft Speed 1450 r/min				Input Shaft Speed 1750 r/min				Dimension Sheet Page		
							Allowable Input Capacity [kW]	Output Shaft Allowable Torque Tout [N-m]	Allowable Radial Load		Allowable Input Capacity [kW]	Output Shaft Allowable Torque Tout [N-m]	Allowable Radial Load		Solid Input Shaft	Hollow Shaft	
	Input 1450 [r/min]	Input 1750 [r/min]							Output Shaft Pro [N]	Input Shaft Pri [N]			Output Shaft Pro [N]	Input Shaft Pri [N]		Foot-Mounted	Flange-Mounted
45	32.2	38.9	518D	0.1	44.318	3	0.10	26.5	1670	206	0.1	21.6	1670	167	C16	C20	C24
			522T	0.2	44.458	3	0.20	53	1770	206	0.2	43.1	1770	167	C16	C20	C24
			B45L	0.4	44.898	3	0.47	125	2160	265	0.52	116	2160	226	C17	C21	C25
			C45L	0.75	46.460	3	0.78	216	3970	314	0.88	202	3970	275	C17	C21	C25
			D45L	1.5	45.665	3	1.50	406	5100	431	1.68	378	5100	402	C17	C21	C25
			E45L	2.2	45.818	3	2.22	604	7350	471	2.37	533	7350	441	C18	C21	C25
			F45L	3.7	44.807	3	3.70	981	8040	598	4.03	887	8040	549	C18	C22	C25
			G45S	3.7	46.364	3	4.48	1240	13700	598	5.30	1210	13500	549	C18	C22	C26
			H45S	5.5	42.878	3	6.36	1620	17000	804	6.48	1360	16600	755	C19	C23	-
			K45S	7.5	44.389	3	8.25	2170	18800	990	9.33	2040	17800	932	C19	C23	-
50	29.0	35.0	518D	0.1	49.500	3	0.10	29.4	1670	206	0.1	24.5	1670	167	C16	C20	C24
			522T	0.2	48.020	3	0.20	56.9	1770	206	0.2	47.1	1770	167	C16	C20	C24
			B50L	0.4	51.140	3	0.42	128	2160	265	0.49	123	2160	226	C17	C21	C25
			C50L	0.75	50.529	3	0.75	225	3970	314	0.84	209	3970	275	C17	C21	C25
			D50L	1.5	49.745	3	1.43	423	5100	431	1.60	391	5100	402	C17	C21	C25
			E50L	2.2	50.093	3	2.13	632	7350	471	2.40	589	7350	441	C18	C21	C25
			F50L	3.7	52.394	3	3.41	1060	8040	598	3.70	951	8040	549	C18	C22	C25
			G50S	3.7	50.356	3	4.15	1240	13700	598	4.93	1220	13700	549	C18	C22	C26
			H50S	5.5	50.242	3	5.56	1660	17800	804	6.48	1600	16800	755	C19	C23	-
			K50S	7.5	51.352	3	7.33	2240	19700	990	8.33	2100	18700	932	C19	C23	-
60	24.2	29.2	522T	0.1	58.842	3	0.10	35.3	1770	206	0.10	28.4	1770	167	C16	C20	C24
			522T	0.2	56.478	3	0.20	68.6	1770	206	0.20	56.9	1770	167	C16	C20	C24
			B60L	0.4	58.698	3	0.37	129	2160	265	0.42	121	2160	226	C17	C21	C25
			C60L	0.75	60.545	3	0.68	242	3970	314	0.75	223	3970	275	C17	C21	C25
			D60L	1.5	59.790	3	1.22	431	5100	431	1.43	421	5100	402	C17	C21	C25
			E60L	2.2	60.779	3	1.76	634	7350	471	2.10	628	7350	441	C18	C21	C25
			F60L	3.7	57.000	3	3.21	1080	8290	598	3.62	1010	8040	549	C18	C22	C25
			G60S	3.7	56.924	3	3.70	1250	13700	598	4.40	1230	13700	549	C18	C22	C26
			H60S	5.5	59.873	3	4.71	1670	18100	804	5.62	1660	17800	755	C19	C23	-
			K60S	7.5	64.341	3	6.50	2480	21600	990	7.33	2310	20300	932	C19	C23	-
75	19.3	23.3	522T	0.1	74.450	3	0.10	44.1	1770	206	0.10	36.3	1770	167	C16	C20	C24
			522T	0.2	74.044	3	0.20	90.2	1770	206	0.20	74.5	1770	167	C16	C20	C24
			B75L	0.4	73.576	3	0.30	131	2160	265	0.36	130	2160	226	C17	C21	C25
			C75L	0.75	74.204	3	0.56	245	3970	314	0.67	243	3970	275	C17	C21	C25
			D75L	1.5	75.336	3	0.98	439	5100	431	1.17	431	5100	402	C17	C21	C25
			E75S	1.5	74.455	3	1.47	647	7350	431	1.75	640	7350	402	C18	C21	C25
			F75L	2.2	73.396	3	1.91	830	10500	471	2.22	802	10300	441	C18	C22	C25
			G75L	3.7	74.103	3	2.88	1270	13700	598	3.45	1260	13700	549	C18	C22	C26
			H75S	3.7	72.409	3	4.36	1870	18100	598	4.93	1760	18100	549	C19	C23	-
			K75S	5.5	74.555	3	5.87	2590	21600	804	6.66	2440	21300	755	C19	C23	-
100	14.5	17.5	522T	0.1	98.828	3	0.10	58.8	1770	206	0.10	48.1	1770	167	C16	C20	C24
			522T	0.2	97.895	3	0.20	95.1	1770	206	0.20	78.5	1770	167	C16	C20	C24
			C100L	0.4	98.270	3	0.40	233	3970	265	0.44	215	3970	226	C17	C21	C25
			D100L	0.75	94.653	3	0.76	426	5100	314	0.87	403	5100	275	C17	C21	C25
			E100L	1.5	99.967	3	1.12	662	7350	431	1.32	646	7350	402	C18	C21	C25
			F100L	2.2	102.198	3	1.76	1070	11600	471	2.10	1060	11300	441	C18	C22	C25
			G100L	3.7	94.659	3	2.88	1620	13700	598	3.41	1590	13700	549	C18	C22	C26
			H100S	3.7	101.108	3	3.17	1890	18100	598	3.82	1900	18100	549	C19	C23	-
			K100S	5.5	95.135	3	4.95	2790	21600	804	5.68	2660	21600	755	C19	C23	-
130	11.2	13.5	522T	0.1	129.567	3	0.10	76.5	1770	206	0.10	63.7	1770	167	C16	C20	C24
			C130L	0.2	132.000	3	0.20	157	3970	206	0.20	129	3970	167	C17	C21	C25
			C130L	0.4	127.726	3	0.30	226	3970	265	0.36	223	3970	226	C17	C21	C25
			D130L	0.75	127.427	3	0.57	429	5100	314	0.68	423	5100	275	C17	C21	C25
			E130S	0.75	124.449	3	0.75	553	7350	314	0.84	515	7350	275	C18	C21	C25
			F130L	1.5	122.637	3	1.43	1040	11600	431	1.62	974	11600	402	C18	C22	C25
			G130L	2.2	123.657	3	2.00	1470	13700	471	2.27	1380	13700	441	C18	C22	C26
			H130S	2.2	125.169	3	1.98	1470	18100	471	2.35	1440	18100	441	C19	C23	-
			K130S	3.7	120.055	3	3.91	2780	21600	598	4.73	2790	21600	549	C19	C23	-

Note: 1. Output shaft allowable radial load represents a value for the output shaft center.
2. "Equivalent motor capacity [kW]" is just for a guide. Note that the full (100 %) output of the motor may be an overload. Be sure to use it within the output shaft allowable torque.

Reducer (Solid Input Shaft Type, Hollow Input Shaft Type) Selection Tables

Reduction Ratio	Output Shaft Speed [r/min]		Reducer Frame Size	Motor Equivalence Capacity [kW]	Actual Reduction Ratio	Reduction Stages	Input Shaft Speed 1450 r/min				Input Shaft Speed 1750 r/min				Dimension Sheet Page		
							Allowable Input Capacity [kW]	Output Shaft Allowable Torque Tout [N-m]	Allowable Radial Load		Allowable Input Capacity [kW]	Output Shaft Allowable Torque Tout [N-m]	Allowable Radial Load		Solid Input Shaft	Hollow Shaft	
	Input 1450 [r/min]	Input 1750 [r/min]							Output Shaft Pro [N]	Input Shaft Pri [N]			Output Shaft Pro [N]	Input Shaft Pri [N]		Foot-Mounted	Flange-Mounted
150	9.67	11.7	522T	0.1	143.229	3	0.10	90.2	1770	206	0.10	74.5	1770	167	C16	C20	C24
			C150L	0.2	159.923	3	0.20	189	3970	206	0.20	157	3970	167	C17	C21	C25
			C150L	0.4	140.318	3	0.27	226	3970	265	0.32	224	3970	226	C17	C21	C25
			D150L	0.75	141.183	3	0.51	426	5100	314	0.61	422	5100	275	C17	C21	C25
			E150S	0.75	150.567	3	0.54	483	7350	314	0.64	475	7350	275	C18	C21	C25
			F150L	1.5	149.610	3	1.15	1020	11600	431	1.38	1020	11600	402	C18	C22	C25
			G150L	2.2	145.360	3	1.71	1470	13700	471	2.03	1450	13700	441	C18	C22	C26
			H150S	2.2	149.161	3	1.66	1470	18100	471	2.00	1470	18100	441	C19	C23	-
			K150S	3.7	144.582	3	3.25	2790	21600	598	3.91	2780	21600	549	C19	C23	-
200	7.25	8.75	522T	0.1	198.545	3	0.10	99	1770	206	0.10	81.4	1770	167	C16	C20	C24
			C200L	0.2	196.000	3	0.20	229	3970	206	0.20	192	3970	167	C17	C21	C25
			D200L	0.4	184.403	3	0.40	437	5100	265	0.48	431	5100	226	C17	C21	C25
			E200L	0.75	196.520	3	0.51	592	7350	314	0.60	580	7350	275	C18	C21	C25
			F200S	0.75	196.987	3	0.89	1040	11600	314	1.07	1030	11600	275	C18	C22	C25
			G200L	1.5	174.432	3	1.45	1500	13700	431	1.73	1480	13700	402	C18	C22	C26
			H200S	1.5	196.987	3	1.28	1500	18100	431	1.53	1480	18100	402	C19	C23	-
			K200S	2.2	198.751	3	2.35	2770	21600	471	2.66	2600	21600	441	C19	C23	-
240	6.04	7.29	C240L	0.1	244.608	4	0.10	142	3970	206	0.10	118	3970	167	C17	C21	C25
			D240L	0.2	240.441	4	0.20	279	5100	206	0.20	231	5100	167	C17	C21	C25
			E240S	0.4	232.875	4	0.41	552	7350	265	0.49	544	7350	226	C18	C21	C25
			F240S	0.75	237.615	4	0.70	963	11600	314	0.84	963	11600	275	C18	C22	C25
			K240S	2.2	233.418	4	1.83	2470	21600	471	2.18	2440	21600	441	C19	C23	-
300	4.83	5.83	C300L	0.1	308.150	4	0.10	178	3970	206	0.10	163	3970	167	C17	C21	C25
			D300L	0.2	312.368	4	0.20	362	5100	206	0.20	300	5100	167	C17	C21	C25
			E300S	0.4	300.826	4	0.32	563	7350	265	0.38	552	7350	226	C18	C21	C25
			G300S	0.75	305.617	4	0.76	1340	13700	314	0.89	1310	13700	275	C18	C22	C26
			K300S	2.2	297.848	4	1.78	3070	21600	471	2.13	3040	21600	441	C19	C23	-
360	4.03	4.86	C360L	0.1	363.206	4	0.10	211	3970	206	0.10	175	3970	167	C17	C21	C25
			D360L	0.2	340.282	4	0.20	372	5100	206	0.20	327	5100	167	C17	C21	C25
			F360S	0.4	364.547	4	0.45	941	11600	265	0.53	923	11600	226	C18	C22	C25
			G360S	0.75	345.480	4	0.68	1360	13700	314	0.80	1330	13700	275	C18	C22	C26
			K360S	1.5	350.950	4	1.18	2390	21600	431	1.40	2350	21600	402	C19	C23	-
450	3.22	3.89	C450L	0.1	443.005	4	0.10	216	3970	206	0.10	213	3970	167	C17	C21	C25
			D450L	0.2	436.545	4	0.20	408	5100	206	0.20	400	5100	167	C17	C21	C25
			F450S	0.4	454.062	4	0.35	934	11600	265	0.42	922	11600	226	C18	C22	C25
			H450S	0.75	415.376	4	0.74	1780	18100	314	0.88	1760	18100	275	C19	C23	-
			K450S	1.5	447.823	4	1.19	3100	21600	431	1.41	3040	21600	402	C19	C23	-
540	2.69	3.24	D540L	0.1	539.547	4	0.10	313	5100	206	0.10	259	5100	167	C17	C21	C25
			E540L	0.2	558.747	4	0.20	604	7350	206	0.20	536	7350	167	C18	C21	C25
			G540S	0.4	541.488	4	0.45	1400	13700	265	0.54	1390	13700	226	C18	C22	C26
			H540S	0.75	563.065	4	0.57	1860	18100	314	0.67	1820	18100	275	C19	C23	-
			K540S	1.5	539.313	4	0.99	3090	21600	431	1.19	3090	21600	402	C19	C23	-
650	2.23	2.69	D650L	0.1	660.020	4	0.10	382	5100	206	0.10	317	5100	167	C17	C21	C25
			E650L	0.2	656.772	4	0.20	606	7350	206	0.20	606	7350	167	C18	C21	C25
			G650S	0.4	636.524	4	0.37	1370	13700	265	0.44	1340	13700	226	C18	C22	C26
			K650S	0.75	635.884	4	0.76	2790	21600	314	0.90	2760	21600	275	C19	C23	-
800	1.81	2.19	D800L	0.1	786.407	4	0.10	393	5100	206	0.10	378	5100	167	C17	C21	C25
			E800L	0.2	796.884	4	0.20	606	7350	206	0.20	606	7350	167	C18	C21	C25
			G800S	0.4	777.521	4	0.31	1390	13700	265	0.37	1390	13700	226	C18	C22	C26
			K800S	0.75	796.726	4	0.57	2610	21600	314	0.68	2640	21600	275	C19	C23	-
1000	1.45	1.75	E1000L	0.1	977.772	4	0.10	567	7350	206	0.10	470	7350	167	C18	C21	C25
			F1000L	0.2	985.819	4	0.20	961	11600	206	0.20	947	11600	167	C18	C22	C25
			H1000S	0.4	1094.976	4	0.29	1810	18100	265	0.34	1790	18100	226	C19	C23	-
			K1000S	0.75	959.498	4	0.49	2710	21600	314	0.58	2670	21600	275	C19	C23	-

Note: 1. Output shaft allowable radial load represents a value for the output shaft center.
2. "Equivalent motor capacity [kW]" is just for a guide. Note that the full (100 %) output of the motor may be an overload. Be sure to use it within the output shaft allowable torque.

C Reducer

3. imension Sheets

Solid nput Shaft Type	age C1
M G500 Series	C1
Series	C1
, C,	C17
E, , G	C1
, K	C1

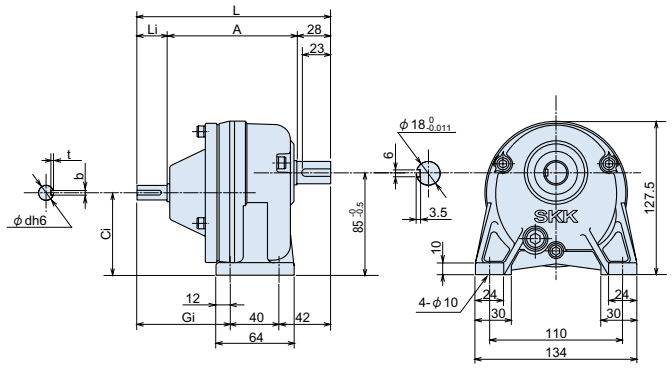
ollow nput Shaft Type	age oot-mounted C20	lange-mounted C2
M G500 Series	C20	C2
Series	C20	C2
, C,	C21	C25
E, , G	C22	C2
, K	C23	-

Reducer imension Sheets (Solid nput Shaft Type)

oot-mounted

☐: Reduction ratio, Δ: Equivalent capacity kW

M GC51 -☐R Δ-

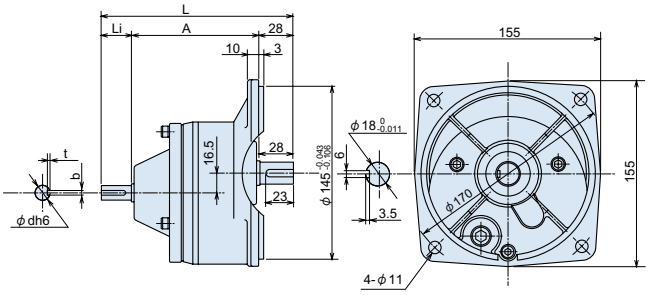


omenclature	Reduction Ratio	imension mm								pprox-imate Mass kg
		L		Ci	Gi	d	Li	b	t	
M GC51 -☐R Δ-	5 ～ 50	15	10	.5	77	12	25		2.5	2.2

lange-mounted

☐: Reduction ratio, Δ: Equivalent capacity kW

M G C51 -☐R Δ-

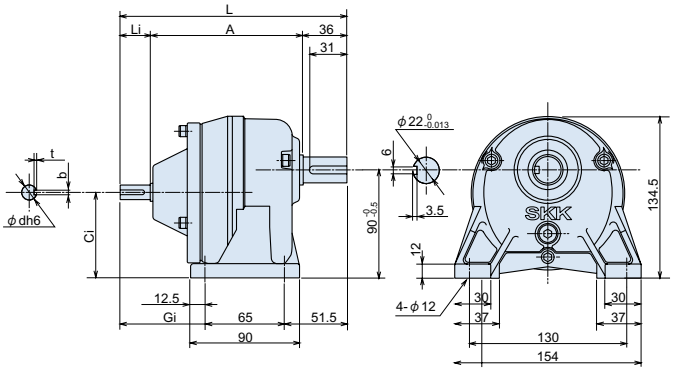


omenclature	Reduction Ratio	imension mm						pprox-imate Mass kg
		L		d	Li	b	t	
M G C51 -☐R Δ-	5 ～ 50	15	10	12	25		2.5	2.5

oot-mounted

☐: Reduction ratio, Δ: Equivalent capacity kW

M GC522 -☐R Δ-
M GC522T-☐R Δ-

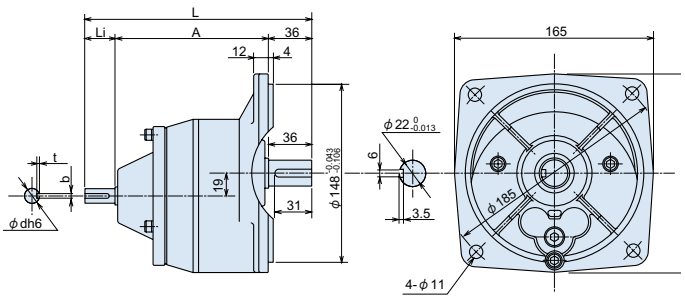


omenclature	Reduction Ratio	imension mm								pprox-imate Mass kg
		L		Ci	Gi	d	Li	b	t	
M GC522 -☐R Δ-	30	17	113	71	57.5	12	25		2.5	2.
M GC522T-☐R Δ-	5 ～ 200	1 7	12	71	70.5	12	25		2.5	3.3

lange-mounted

☐: Reduction ratio, Δ: Equivalent capacity kW

M G C522 -☐R Δ-
M G C522T-☐R Δ-

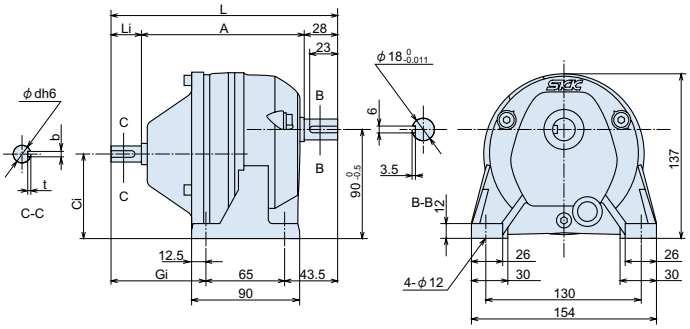


omenclature	Reduction Ratio	imension mm						pprox-imate Mass kg
		L		d	Li	b	t	
M G C522 -☐R Δ-	30	17	113	12	25		2.5	3
M G C522T-☐R Δ-	5 ～ 200	1 7	12	12	25		2.5	3.7

oot-mounted

☐: Reduction ratio, Δ: Equivalent capacity kW

C ☐L-Δ

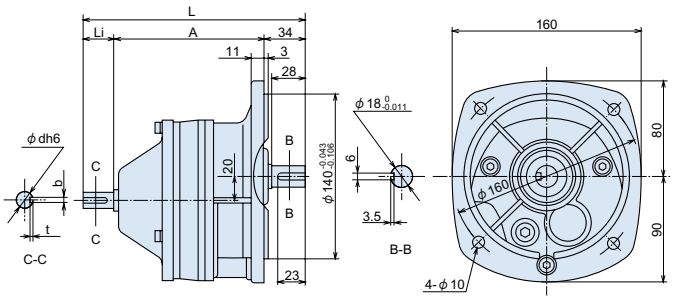


omenclature	Reduction Ratio	imension mm								pprox-imate Mass kg
		L		Ci	Gi	d	Li	b	t	
C ☐L-0.	5 ～ 20	1	135	70	7 .5	1	25	5	3	.5

lange-mounted

☐: Reduction ratio, Δ: Equivalent capacity kW

C ☐L-Δ



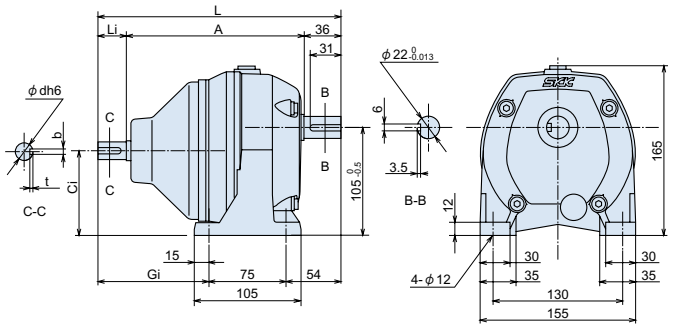
omenclature	Reduction Ratio	imension mm						pprox-imate Mass kg
		L		d	Li	b	t	
C ☐L-0.	5 ～ 20	1	12	1	25	5	3	5

Reducer imension Sheets (Solid nput Shaft Type)

oot-mounted

☐ : Reduction ratio, Δ : Equivalent capacity kW

C ☐L-Δ

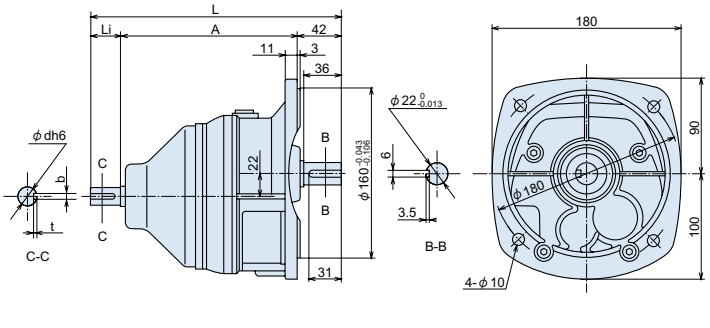


omenclature	Reduction Ratio	imension mm L		Ci	Gi	d	Li	b	t	pprox-imate Mass kg
C ☐L-0.	25 ~ 30	230	1	3	101	1	25	5	3	7
C ☐L-0.	5 ~ 75	23	177	3	10	1	25	5	3	7.5
C ☐L-0.75	5 ~ 20	23	175	3	110	1	2		3.5	

lange-mounted

☐ : Reduction ratio, Δ : Equivalent capacity kW

C ☐L-Δ

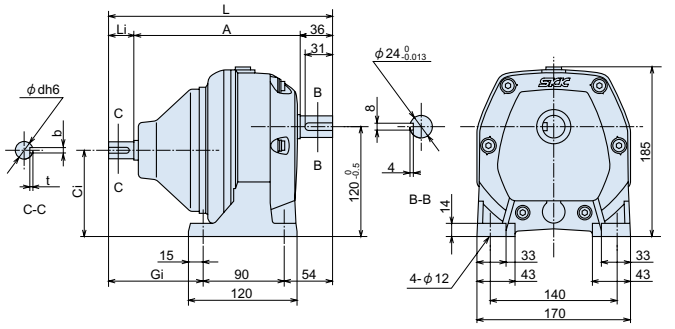


omenclature	Reduction Ratio	imension mm L		d	Li	b	t	pprox-imate Mass kg
C ☐L-0.	5 ~ 50	230	1 3	1	25	5	3	7.5
C ☐L-0.	5 ~ 75	23	171	1	25	5	3	
C ☐L-0.75	5 ~ 20	23	1	1	2		3.5	.5

oot-mounted

☐ : Reduction ratio, Δ : Equivalent capacity kW

CC ☐L-Δ

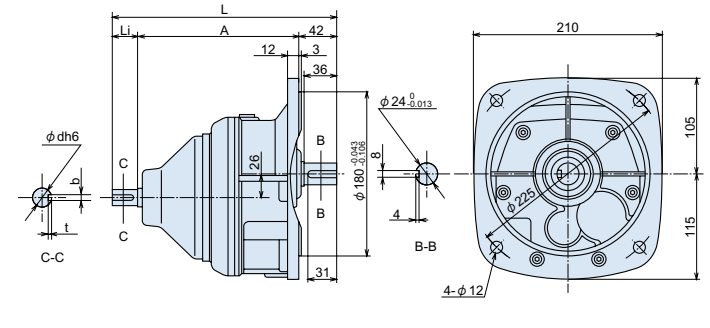


omenclature	Reduction Ratio	imension mm L		Ci	Gi	d	Li	b	t	pprox-imate Mass kg
CC ☐L-0.	100 ~ 150	252	1 1		10	1	25	5	3	.5
CC ☐L-0.75	25 ~ 30	2 7	1 3		103	1	2		3.5	.5
CC ☐L-0.75	5 ~ 75	2 1	1 7		117	23	2		3.5	10.5

lange-mounted

☐ : Reduction ratio, Δ : Equivalent capacity kW

CC ☐L-Δ

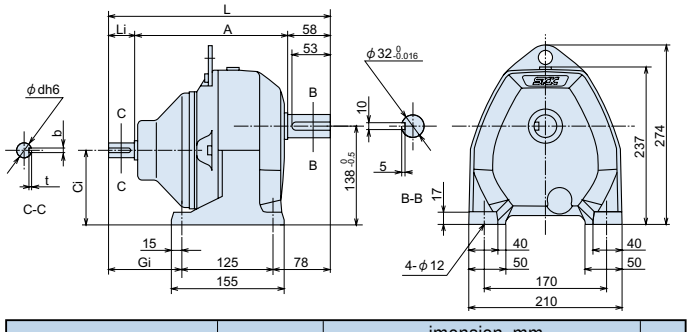


omenclature	Reduction Ratio	imension mm L		d	Li	b	t	pprox-imate Mass kg
CC ☐L-0.	100 ~ 150	252	1 5	1	25	5	3	10
CC ☐L-0.75	25 ~ 30	2 7	177	1	2		3.5	10
CC ☐L-0.75	5 ~ 75	2 1	1 1	1	2		3.5	11

oot-mounted

☐ : Reduction ratio, Δ : Equivalent capacity kW

C ☐L-Δ

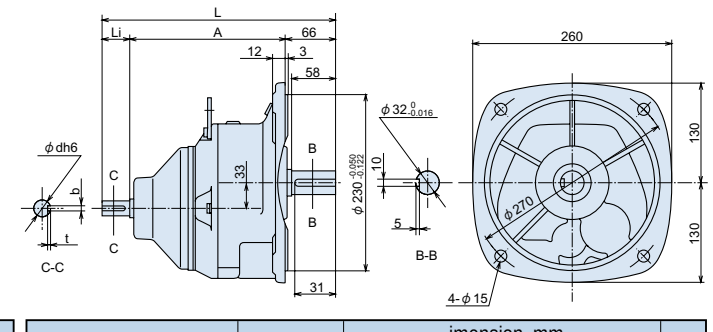


omenclature	Reduction Ratio	imension mm L		Ci	Gi	d	Li	b	t	pprox-imate Mass kg
C ☐L-0.	200	2	203	102	3	1	25	5	3	1
C ☐L-0.75	100 ~ 150	2 5	20	102	2	1	2		3.5	20
C ☐L-1.5	25 ~ 30	305	211	102	102	1	2		3.5	.5
C ☐L-1.5	5 ~ 75	31	225	102	11	20	3		3.5	22
C ☐L-2.2	5 ~ 20	322	22	102	11	22	3		3.5	21.5

lange-mounted

☐ : Reduction ratio, Δ : Equivalent capacity kW

C ☐L-Δ



omenclature	Reduction Ratio	imension mm L		d	Li	b	t	pprox-imate Mass kg
C ☐L-0.	200	2	1 5	1	25	5	3	22
C ☐L-0.75	100 ~ 150	2 5	201	1	2		3.5	23
C ☐L-1.5	25 ~ 30	305	203	20	3		3.5	2
C ☐L-1.5	5 ~ 75	31	217	20	3		3.5	25
C ☐L-2.2	5 ~ 20	322	220	22	3		3.5	2 .5

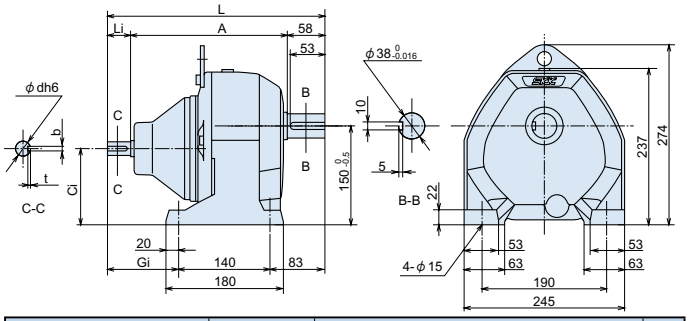
Series

Reducer imension Sheets (Solid nput Shaft Type)

oot-mounted

☐ : Reduction ratio, Δ : Equivalent capacity kW

CE ☐ L- Δ
CE ☐ S- Δ

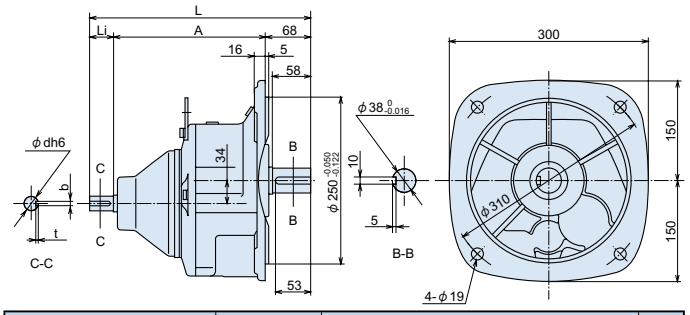


omenclature	Reduction Ratio	imension mm L		Ci	Gi	d	Li	b	t	pprox-imate Mass kg
CE ☐ S-0.	2 0 ~ 300	3 7	2	13 .	1	1	25	5	3	33
CE ☐ L-0.75	200	310	22	11	7	1	2		3.5	2
CE ☐ S-0.75	130 ~ 150	310	22	11	7	1	2		3.5	2
CE ☐ S-1.5	75	33	2 0	11	111	20	3		3.5	30
CE ☐ L-2.2	25 ~ 30	333	23	11	110	22	3		3.5	2
CE ☐ L-2.2	5 ~ 0	351	257	11	12	22	3		3.5	30.5
CE ☐ L-3.7	5 ~ 20	3 7	2 7	11	12	25	2			32.5

lange-mounted

☐ : Reduction ratio, Δ : Equivalent capacity kW

CE ☐ L- Δ
CE ☐ S- Δ

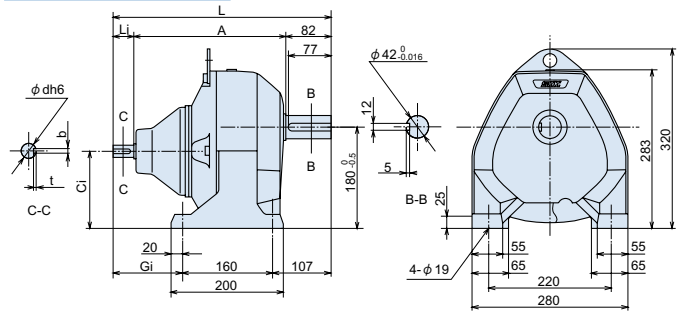


omenclature	Reduction Ratio	imension mm L		d	Li	b	t	pprox-imate Mass kg
CE ☐ S-0.	2 0 ~ 300	3 7	27	1	25	5	3	3 .5
CE ☐ L-0.75	200	310	21	1	2		3.5	31.5
CE ☐ S-0.75	130 ~ 150	310	21	1	2		3.5	31.5
CE ☐ S-1.5	75	33	230	20	3		3.5	33.5
CE ☐ L-2.2	25 ~ 30	333	22	22	3		3.5	32.5
CE ☐ L-2.2	5 ~ 0	351	2 7	22	3		3.5	3
CE ☐ L-3.7	5 ~ 20	3 7	237	25	2			3

oot-mounted

☐ : Reduction ratio, Δ : Equivalent capacity kW

C ☐ L- Δ
C ☐ S- Δ

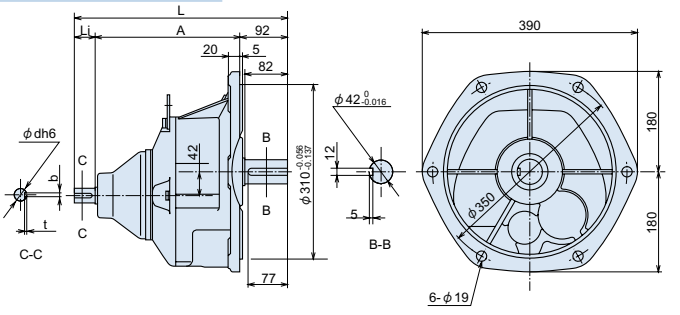


omenclature	Reduction Ratio	imension mm L		Ci	Gi	d	Li	b	t	pprox-imate Mass kg
C ☐ S-0.	3 0 ~ 50	05	2	1 7.2	13	1	25	5	3	5.5
C ☐ S-0.75	200	351	2 1	1 1		1	2		3.5	3 .5
C ☐ S-0.75	2 0	1	30	1 7.2	1 7	1	2		3.5	.5
C ☐ L-1.5	130 ~ 150	372	25	13	105	20	3		3.5	1.5
C ☐ L-2.2	75 ~ 100	3	271	13	122	22	3		3.5	2
C ☐ L-3.7	25 ~ 30	3 5	2 1	13	11	25	2			3
C ☐ L-3.7	5 ~ 0	0	2 2	13	13	25	2			5.5
C ☐ S-3.7	20	3 5	2 1	13	11	25	2			3
C ☐ S-5.5	5 ~ 15	17	277	13	150	30	5			3

lange-mounted

☐ : Reduction ratio, Δ : Equivalent capacity kW

C ☐ L- Δ
C ☐ S- Δ

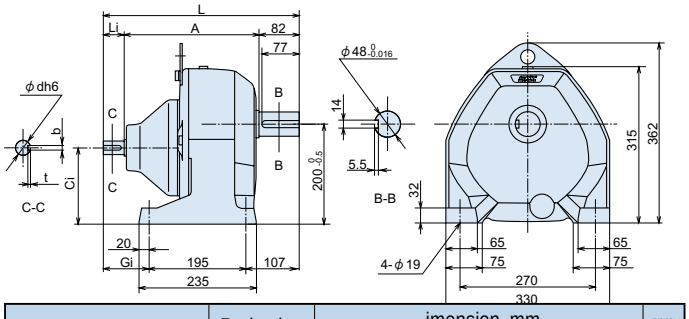


omenclature	Reduction Ratio	imension mm L		d	Li	b	t	pprox-imate Mass kg
C ☐ S-0.	3 0 ~ 50	05	2	1	25	5	3	.5
C ☐ S-0.75	200	351	231	1	2		3.5	2.5
C ☐ S-0.75	2 0	1	2	1	2		3.5	.5
C ☐ L-1.5	130 ~ 150	372	2	20	3		3.5	.5
C ☐ L-2.2	75 ~ 100	3	2 1	22	3		3.5	5
C ☐ L-3.7	25 ~ 30	3 5	251	25	2			
C ☐ L-3.7	5 ~ 0	0	272	25	2			.5
C ☐ S-3.7	20	3 5	251	25	2			
C ☐ S-5.5	5 ~ 15	17	2 7	30	5			

oot-mounted

☐ : Reduction ratio, Δ : Equivalent capacity kW

CG ☐ L- Δ
CG ☐ S- Δ

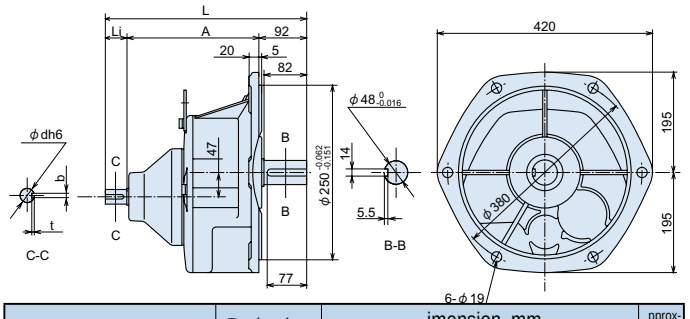


omenclature	Reduction Ratio	imension mm L		Ci	Gi	d	Li	b	t	pprox-imate Mass kg
CG ☐ S-0.	5 0 ~ 00	25	31	177.	123	1	25	5	3	
CG ☐ S-0.75	300 ~ 3 0	3 7	2	177.	1	1	25	5	3	33
CG ☐ L-1.5	200	3 2	27	153	0	20	3		3.5	1
CG ☐ L-2.2	130 ~ 150	0	2 1	153	107	22	3		3.5	1.5
CG ☐ S-3.7	25 ~ 30	3	270	153	2	25	2			0
CG ☐ S-3.7	5 ~ 0	20	2	153	11	25	2			5
CG ☐ L-3.7	75 ~ 100	20	2	153	11	25	2			5
CG ☐ S-5.5	20	2	2	1	127	30	5			0
CG ☐ S-7.5	5 ~ 15		30	1	1	35	5	10	5	3

lange-mounted

☐ : Reduction ratio, Δ : Equivalent capacity kW

CG ☐ L- Δ
CG ☐ S- Δ

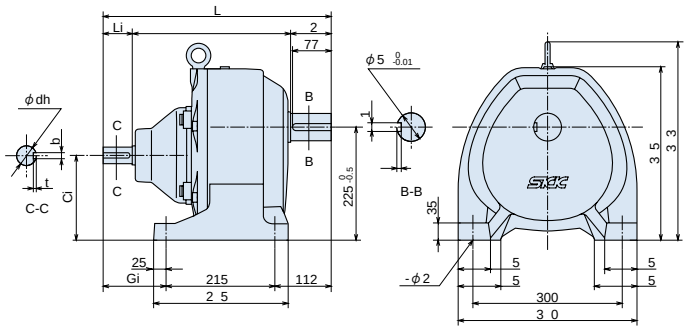


omenclature	Reduction Ratio	imension mm L		d	Li	b	t	pprox-imate Mass kg
CG ☐ S-0.	5 0 ~ 00	25	30	1	25	5	3	
CG ☐ S-0.75	300 ~ 3 0	3	31	1	25	5	3	
CG ☐ S-1.5	200	3 2	2	20	3		3.5	5
CG ☐ L-2.2	130 ~ 150	0	2 1	22	3		3.5	5.5
CG ☐ S-3.7	25 ~ 30	3	2 0	25	2			
CG ☐ S-3.7	5 ~ 0	20	2	25	2			
CG ☐ L-3.7	75 ~ 100	20	2	25	2			
CG ☐ S-5.5	20	2	27	30	5			
CG ☐ S-7.5	5 ~ 15		2	35	5	10	5	7

Reducer imension Sheets (Solid nput Shaft Type)

oot-mounted ☐ : Reduction ratio, Δ : Equivalent capacity kW

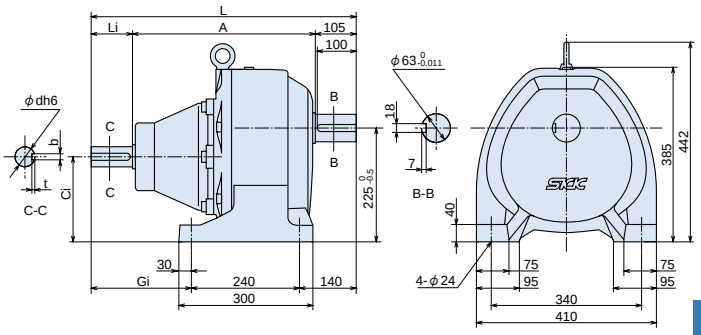
C ☐ S- Δ



Nomenclature	Reduction Ratio	Dimension [mm]								Approx-imate Mass [kg]
		L	A	Ci	Gi	d	Li	b	t	
ACH ☐ S-0.4	1000	447	340	217	120	14	25	5	3	81
ACH ☐ S-0.75	450 ~ 540	456	346	217	129	18	28	6	3.5	82
ACH ☐ S-1.5	200	406	288	168	79	20	36	6	3.5	76
ACH ☐ S-2.2	130 ~ 150	423	305	168	96	22	36	6	3.5	76.5
ACH ☐ S-3.7	75 ~ 100	443	319	168	116	25	42	8	4	80
ACH ☐ S-5.5	25 ~ 30	451	311	170	124	30	58	8	4	75
ACH ☐ S-5.5	45 ~ 60	475	335	168	148	30	58	8	4	80
ACH ☐ S-7.5	20	470	330	170	143	35	58	10	5	78
ACH ☐ S-11	5 ~ 15	525	361	170	198	40	82	12	5	91

Foot-mounted ☐ : Reduction ratio, Δ : Equivalent capacity [kW]

ACK ☐ S- Δ

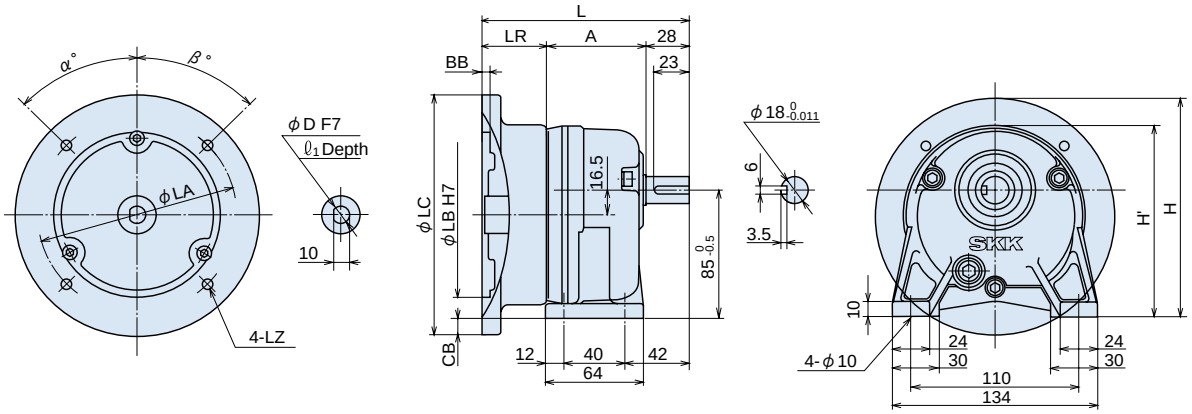


Nomenclature	Reduction Ratio	Dimension [mm]								Approx-imate Mass [kg]
		L	A	Ci	Gi	d	Li	b	t	
ACK ☐ S-0.75	650 ~ 1000	497	364	241.7	40	18	28	6	3.5	113
ACK ☐ S-1.5	360 ~ 540	542	401	246.6	162	20	36	6	3.5	121
ACK ☐ S-2.2	200	460	319	192	80	22	36	3.5	3.5	107
ACK ☐ S-2.2	240 ~ 300	559	418	246.6	179	22	36	6	3.5	122
ACK ☐ S-3.7	130 ~ 150	484	337	192	104	25	42	8	4	110
ACK ☐ S-5.5	75 ~ 100	516	353	190	136	30	24	8	4	110
ACK ☐ S-7.5	25 ~ 30	501	338	192	121	35	58	10	5	103
ACK ☐ S-7.5	45 ~ 60	535	372	190	155	35	58	10	5	113
ACK ☐ S-11	5 ~ 20	556	369	192	176	40	24	12	5	116

Reducer imension Sheets (ollow nput Shaft Type)

oot-mounted ☐ : Reduction ratio, △ : Equivalent capacity kW

M GM51 - ☐ R △ -

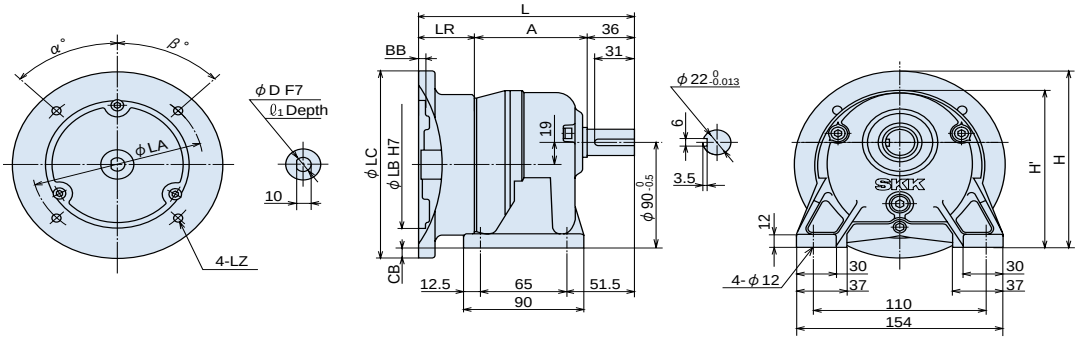


Motor kW	omenclature	Reduction Ratio	imension mm															pprox-imate Mass kg
			Reducer			Motor-mounted art												
			L				C	L	L	LC	L	α	β	l1		m		
0.1	M GM51 - ☐ R0.1-	5 ～ 50	135	1 .5	127.5	5	-11.5	130	110	1 0	M	5	5	23	11	10	
0.2	M GM51 - ☐ R0.2-	5 ～ 25	135	1 .5	127.5	5	-11.5	130	110	1 0	M	5	5	23	11	10	

oot-mounted ☐ : Reduction ratio, △ : Equivalent capacity kW

M GM522 - ☐ R △ -

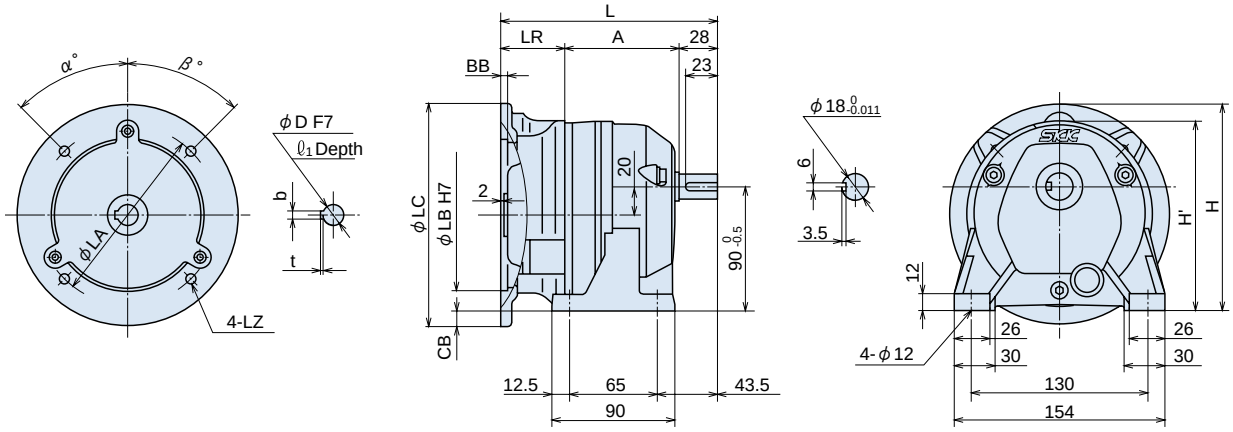
M GM522T- ☐ R △ -



Motor kW	omenclature	Reduction Ratio	imension mm															pprox-imate Mass kg
			Reducer			Motor-mounted art												
			L				C	L	L	LC	L	α	β	l1		m		
0.1	M GM522 - ☐ R0.2-	30	150	151	13 .5	5	-	130	110	1 0	M	5	5	23	11	10	.
0.1	M GM522T- ☐ R0.1-	0 ～ 200	1 3	151	13 .5	5	-	130	110	1 0	M	5	5	23	11	10	5.1
0.2	M GM522T- ☐ R0.2-	5 ～ 100	1 3	151	13 .5	5	-	130	110	1 0	M	5	5	23	11	10	5.1

oot-mounted ☐ : Reduction ratio, △ : Equivalent capacity kW

M ☐ L- △

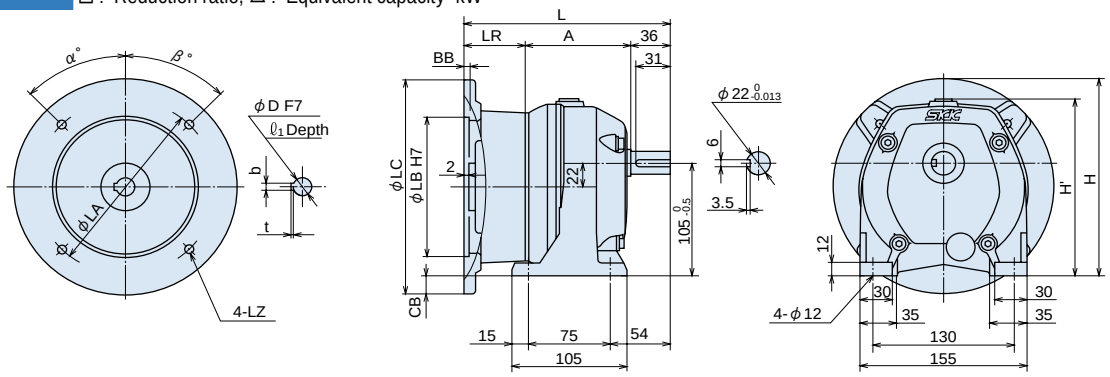


Motor kW	omenclature	Reduction Ratio	imension mm																	pprox-imate Mass kg
			Reducer				Motor-mounted art													
			L				LR		C	L	L	LC	L	α	β	l1		b	t	
0.	M ☐ L-0.	5 ～ 20	15	3	150	137	7	5	-10	130	110	1 0	M	5	5	30	1	5	2.3	5.5

Reducer imension Sheets (ollow nput Shaft Type)

oot-mounted ☐ : Reduction ratio, △ : Equivalent capacity kW

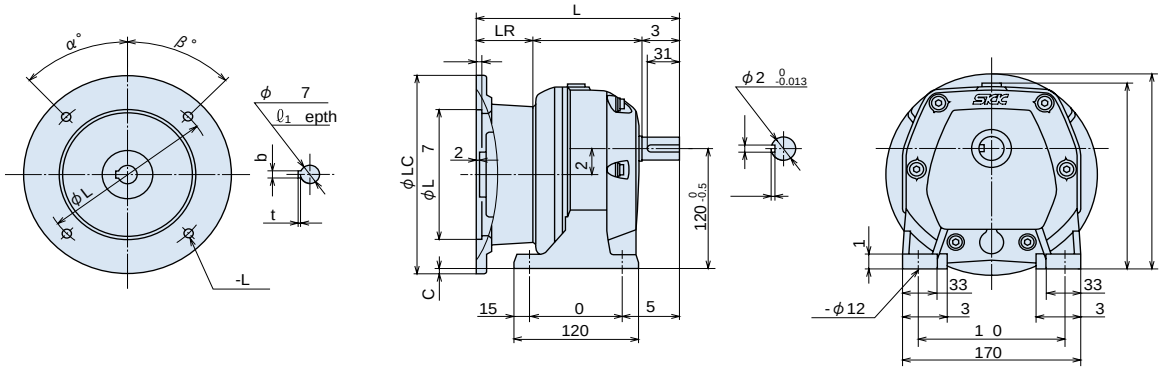
M ☐L-△



Motor kW	omenclature	Reduction Ratio	imension mm																		pprox-imate Mass kg
			Reducer				Motor-mounted art														
			L				LR		C	L	L	LC	L	α	β	l1		b	t		
0.	M ☐L-0.	25 ~ 30	17		-	1 5	7	5	3	130	110	1 0	M	5	5	30	1	5	2.3		
0.	M ☐L-0.	5 ~ 75	1 7	10	-	1 5	7	5	3	130	110	1 0	M	5	5	30	1	5	2.3		.5
0.75	M ☐L-0.75	5 ~ 20	1 7		1 3	1 5	55	5	-17	1 5	130	200	M10	5	5	0	1		2.		10

oot-mounted ☐ : Reduction ratio, △ : Equivalent capacity kW

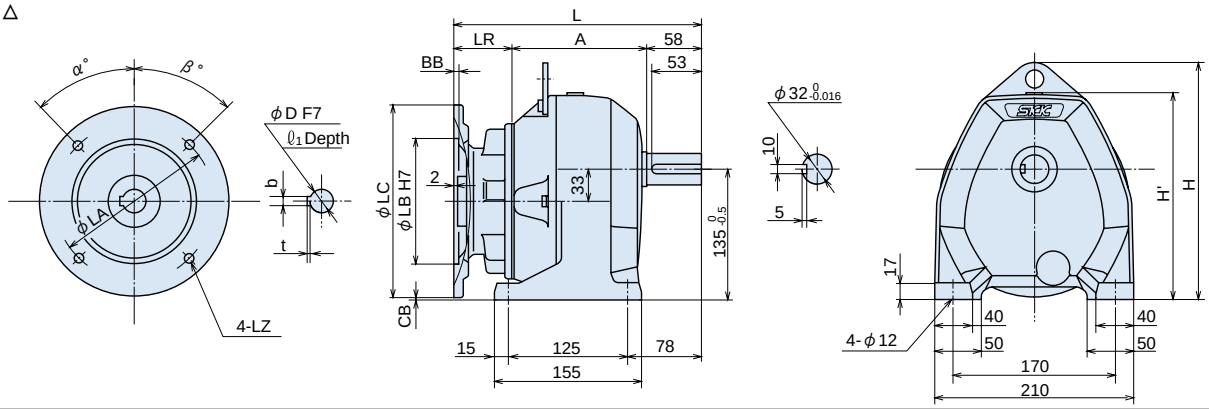
MC ☐L-△



Motor kW	omenclature	Reduction Ratio	imension mm																		pprox-imate Mass kg
			Reducer				Motor-mounted art														
			L				LR		C	L	L	LC	L	α	β	l1		b	t		
0.	MC ☐L-0.	100 ~ 150	201	11	-	1 5	7	5	1	130	110	1 0	M	5	5	30	1	5	2.3		10.5
0.75	MC ☐L-0.75	25 ~ 30	1 5	10	1	1 5	55	5	-	1 5	130	200	M10	5	5	0	1		2.		11.5
0.75	MC ☐L-0.75	5 ~ 75	20	11	1	1 5	55	5	-	1 5	130	200	M10	5	5	0	1		2.		12.5

oot-mounted ☐ : Reduction ratio, △ : Equivalent capacity kW

M ☐L-△



Motor kW	omenclature	Reduction Ratio	imension mm																		pprox-imate Mass kg
			Reducer				Motor-mounted art														
			L				LR		C	L	L	LC	L	α	β	l1		b	t		
0.1	M ☐L-0.1	5 0 ~ 00	270	※ 212	2	215	-	5		130	110	1 0	M	5	5	23	11	※ 10	-		23.2
0.2	M ☐L-0.2	2 0 ~ 50	270	※ 212	27	237	-	5	1	130	110	1 0	M	5	5	23	11	※ 10	-		23.2
0.	M ☐L-0.	200	235	130	2	215	7	5	22	130	110	1 0	M	5	5	30	1	5	2.3		20
0.75	M ☐L-0.75	100 ~ 150	2 3	130	2	215	55	5	2	1 5	130	200	M10	5	5	0	1		2.		22
1.5	M ☐L-1.5	25 ~ 30	2	12	2	215	0	5	2	1 5	130	200	M10	5	5	50	2		3.3		22
1.5	M ☐L-1.5	5 ~ 75	2 0	1 2	2	215	0	5	2	1 5	130	200	M10	5	5	50	2		3.3		23
2.2	M ☐L-2.2	5 ~ 20	257	12	2	215	71		-23	215	1 0	250	M12	5	5	0	2		3.3		25

value of the dimension with ※ is the total value of dimension value A + LR in the figure.

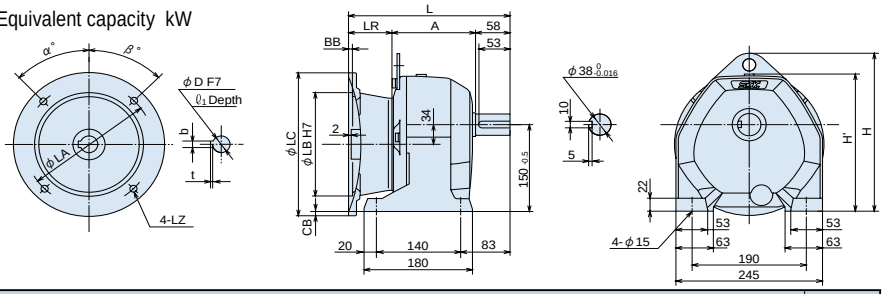
value of the dimension b with ※ is the dimension of the cut.

Reducer imension Sheets (ollow nput Shaft Type)

oot-mounted ☐ : Reduction ratio, △ : Equivalent capacity kW

ME ☐ L- △

ME ☐ S- △



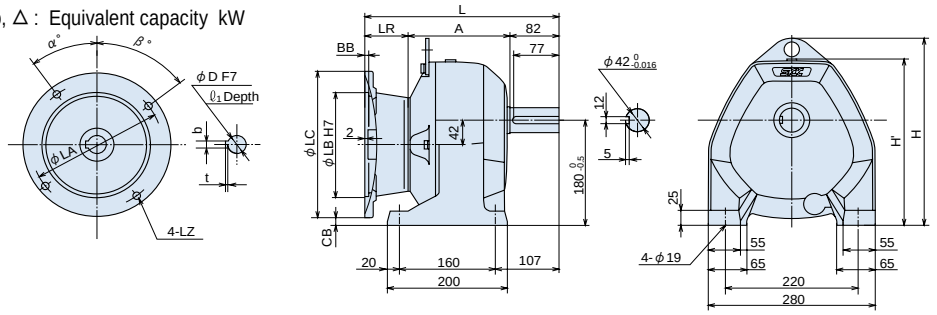
Motor kW	omenclature	Reduction Ratio	imension mm Reducer L				Motor-mounted art LR		C	L	L	LC	L	α	β	l1		b	t	pprox. imate Mass kg
0.1	ME ☐ L-0.1	1000	2 5	※ 227	27	237	-	5	1	130	110	1 0	M	5	5	23	11	※ 10	-	31.2
0.2	ME ☐ L-0.2	5 0 ～ 00	2 5	※ 227	27	237	-	5	1	130	110	1 0	M	5	5	23	11	※ 10	-	31.2
0.	ME ☐ S-0.	2 0 ～ 300	31	211	27	237	7	5	5 .	130	110	1 0	M	51	3	30	1	5	2.3	3
0.75	ME ☐ S-0.75	130 ～ 150	25	1 5	27	237	55	5	1	1 5	130	200	M10	5	5	0	1		2.	22
0.75	ME ☐ L-0.75	200	25	1 5	27	237	55	5	1	1 5	130	200	M10	2		0	1		2.	30
1.5	ME ☐ S-1.5	75	275	157	237	27	0	5	1	1 5	130	200	M10	5	5	50	2		3.3	31
1.5	ME ☐ L-1.5	100	275	157	27	237	0	5	1	1 5	130	200	M10	5	5	50	2		3.3	31
2.2	ME ☐ L-2.2	25 ～ 30	2	13	27	237	71		-	215	1 0	250	M12	5	5	0	2		3.3	32.5
2.2	ME ☐ L-2.2	5 ～ 0	2	157	27	237	71		-	215	1 0	250	M12	5	5	0	2		3.3	3
3.7	ME ☐ L-3.7	5 ～ 20	271	13	27	237	7		-	215	1 0	250	M12	5	5	0	2		3.3	3 .5

value of the dimension with ※ is the total value of dimension value A + LR in the figure.
value of the dimension b with ※ is the dimension of the cut.

oot-mounted ☐ : Reduction ratio, △ : Equivalent capacity kW

M ☐ L- △

M ☐ S- △



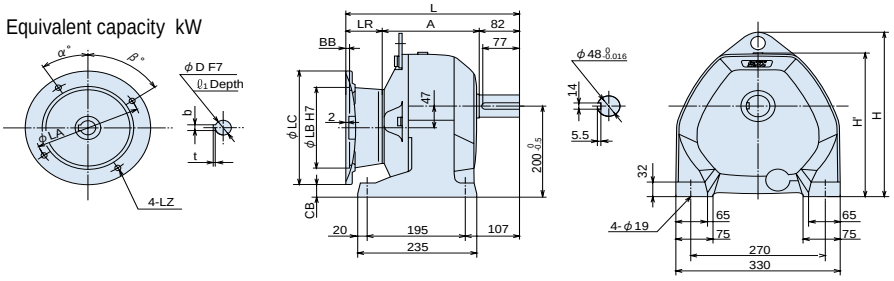
Motor kW	omenclature	Reduction Ratio	imension mm Reducer L				Motor-mounted art LR		C	L	L	LC	L	α	β	l1		b	t	pprox. imate Mass kg
0.2	M ☐ L-0.2	1000	32	※ 2	320	2 3	-	5	7	130	110	1 0	M	5	5	23	11	※ 10	-	2.7
0.	M ☐ S-0.	3 0 ～ 50	35	225	320	2 3	7	5	7.2	130	110	1 0	M	51	3	30	1	5	2.3	.5
0.75	M ☐ S-0.75	200	2	1 2	320	2 0	55	5	1	1 5	130	200	M10	3	51	0	1		2.	1.5
0.75	M ☐ S-0.75	2 0	3 2	225	320	2 3	55	5	220	1 5	130	200	M10	51	3	0	1		2.	.5
1.5	M ☐ L-1.5	130 ～ 150	313	171	320	2 3	0	5	3	1 5	130	200	M10	3 .5	51.5	50	2		3.3	2.5
2.2	M ☐ L-2.2	75 ～ 100	32	171	320	2 3	71		13	215	1 0	250	M12	3 .5	51.5	0	2		3.3	5.5
3.7	M ☐ S-3.7	20	30	153	320	2 3	7		13	215	1 0	250	M12	5	5	0	2		3.3	7
3.7	M ☐ L-3.7	25 ～ 30	30	153	320	2 3	7		13	215	1 0	250	M12	5	5	0	2		3.3	7
3.7	M ☐ L-3.7	5 ～ 0	330	17	320	2 3	7		13	215	1 0	250	M12	5	5	0	2		3.3	.5
5.5	M ☐ S-5.5	5 ～ 15	33	1 1	320	2 3	1		-12	2 5	230	300	M12	5	5	0	3	10	3.3	50

value of the dimension with ※ is the total value of dimension value A + LR in the figure.
value of the dimension b with ※ is the dimension of the cut.

oot-mounted ☐ : Reduction ratio, △ : Equivalent capacity kW

MG ☐ L- △

MG ☐ S- △

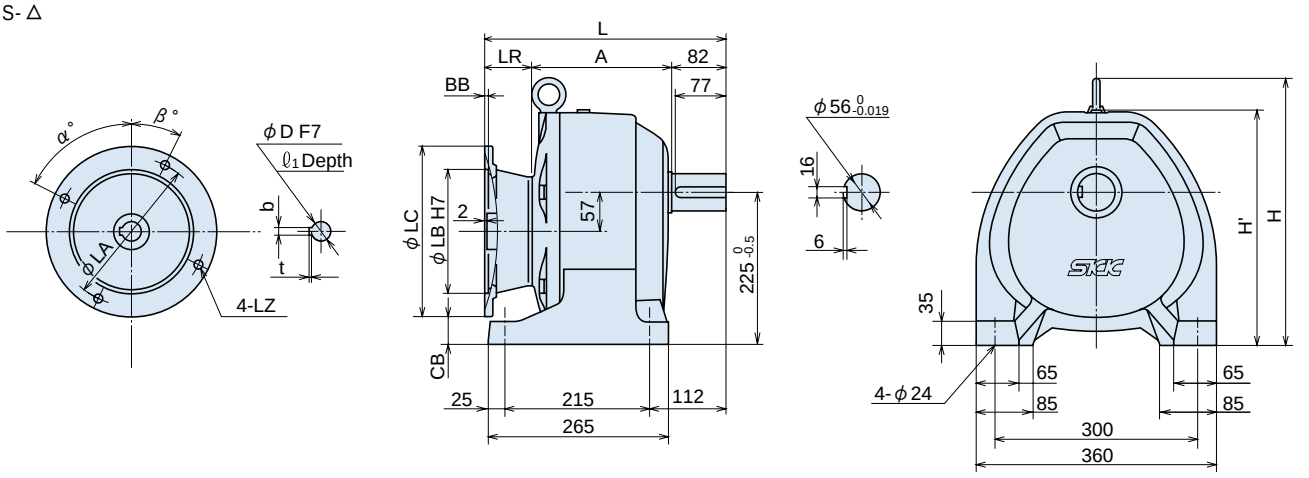


Motor kW	omenclature	Reduction Ratio	imension mm Reducer L				Motor-mounted art LR		C	L	L	LC	L	α	β	l1		b	t	pprox. imate Mass kg
0.	MG ☐ S-0.	5 0 ～ 00	37	2 5	3 2	315	7	5	7.	130	110	1 0	M	51	3	30	1	5	2.3	5
0.75	MG ☐ S-0.75	300 ～ 3 0	3 2	2 5	3 2	315	55	5	77.	1 5	130	200	M10	51	3	0	1		2.	7
1.5	MG ☐ S-1.5	200	333	1 1	3 2	315	0	5	53	1 5	130	200	M10	3	5	50	2		3.3	2
2.2	MG ☐ L-2.2	130 ～ 150	3	1 1	3 2	315	71		2	215	1 0	250	M12	3	5	0	2		3.3	5
3.7	MG ☐ S-3.7	25 ～ 30	3	1 2	3 2	315	7		2	215	1 0	250	M12	2		0	2		3.3	
3.7	MG ☐ S-3.7	5 ～ 0	3	1	3 2	315	7		2	215	1 0	250	M12	2		0	2		3.3	
3.7	MG ☐ L-3.7	75 ～ 100	3	1	3 2	315	7		2	215	1 0	250	M12	2		0	2		3.3	
5.5	MG ☐ S-5.5	20 ～ 25	3	173	3 2	315	1		-2	2 5	230	300	M12	5	5	0	3	10	3.3	7
7.5	MG ☐ S-7.5	5 ～ 15	3	17	3 2	315			-2	2 5	230	300	M12	5	5	0	3	10	3.3	72

Reducer imension Sheets (ollow nput Shaft Type)

oot-mounted ☐ : Reduction ratio, △ : Equivalent capacity kW

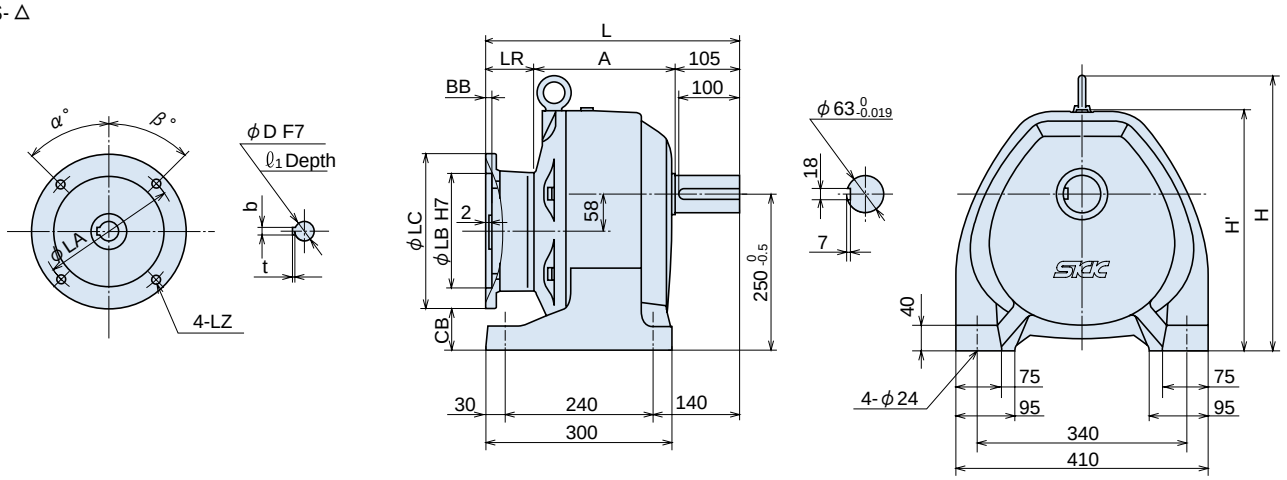
M ☐S-△



Motor kW	omenclature	Reduction Ratio	imension mm																		pprox-imate Mass kg
			Reducer				Motor-mounted art														
			L				LR		C	L	L	LC	L	α	β	l1		b	t		
0.	M ☐S-0.	1000	3	2 7	3 3	3 5	7	5	137	130	110	1 0	M	5	5	30	1	5	2.3		2
0.75	M ☐S-0.75	50 ~ 5 0	0	2 7	3 3	3 5	55	5	117	1 5	130	200	M10	5	5	0	1		2.		
1.5	M ☐S-1.5	200	3 7	205	3 3	3 5	0	5		1 5	130	200	M10		2	50	2		3.3		77
2.2	M ☐S-2.2	130 ~ 150	35	205	3 3	3 5	71		3	215	1 0	250	M12		2	0	2		3.3		0
3.7	M ☐S-3.7	75 ~ 100	3 7	211	3 3	3 5	7		3	215	1 0	250	M12	5	5	0	2		3.3		
5.5	M ☐S-5.5	25 ~ 30	3	1 5	3 3	3 5	1		20	2 5	230	300	M12	5	5	0	3	10	3.3		2
5.5	M ☐S-5.5	5 ~ 0	3 2	21	3 3	3 5	1		1	2 5	230	300	M12	5	5	0	3	10	3.3		7
7.5	M ☐S-7.5	20	371	200	3 3	3 5			20	2 5	230	300	M12	5	5	0	3	10	3.3		7
11	M ☐S-11	5 ~ 15	05	200	3 3	3 5	123	7	-5	300	250	350	M1	5	5	110	2	12	3.3		

oot-mounted ☐ : Reduction ratio, △ : Equivalent capacity kW

MK ☐S-△

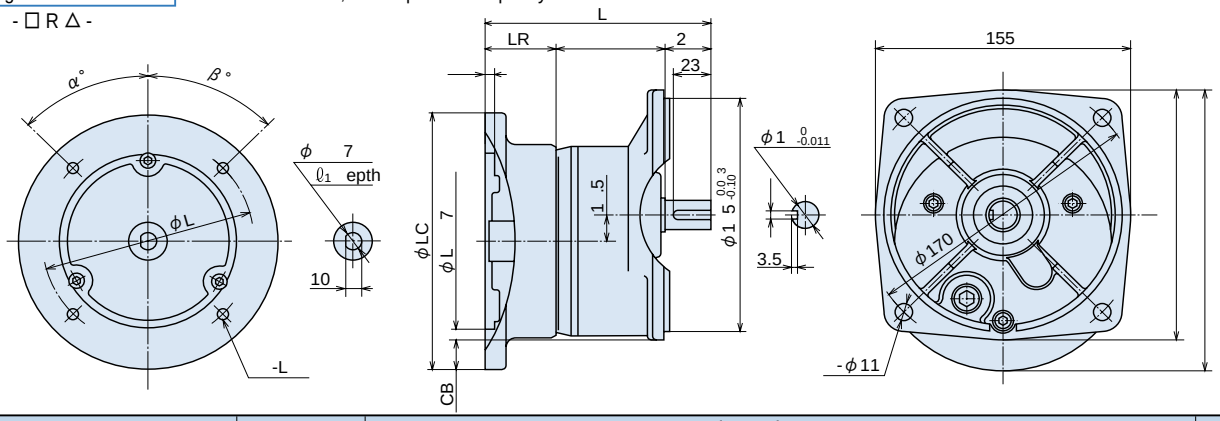


Motor kW	omenclature	Reduction Ratio	imension mm																		pprox-imate Mass kg
			Reducer				Motor-mounted art														
			L				LR		C	L	L	LC	L	α	β	l1		b	t		
0.75	MK ☐S-0.75	50 ~ 1000	5	2 5	2	3 5	55	5	1 2	1 5	130	200	M10	5	5	0	1		2.		115
1.5	MK ☐S-1.5	3 0 ~ 5 0	3	31	2	3 5	0	5	1	1 5	130	200	M10	5	5	50	2		3.3		122
2.2	MK ☐S-2.2	200	3 5	21	2	3 5	71		7	215	1 0	250	M12		2	0	2		3.3		110
2.2	MK ☐S-2.2	2 0 ~ 300		31	2	3 5	71		12	215	1 0	250	M12	5	5	0	2		3.3		125
3.7	MK ☐S-3.7	130 ~ 150	0	22	2	3 5	7		7	215	1 0	250	M12	5	5	0	2		3.3		11
5.5	MK ☐S-5.5	75 ~ 100	33	237	2	3 5	237		0	2 5	230	300	M12	5	5	0	3	10	3.3		117
7.5	MK ☐S-7.5	25 ~ 30	02	20	2	3 5			2	2 5	230	300	M12	5	5	0	3	10	3.3		112
7.5	MK ☐S-7.5	5 ~ 0	3	2 2	2	3 5			0	2 5	230	300	M12	5	5	0	3	10	3.3		122
11	MK ☐S-11	5 ~ 20	3	20	2	3 5	123	7	17	300	250	350	M1	5	5	110	2	12	3.3		121

Reducer imension Sheets (ollow nput Shaft Type)

lange-mounted ☐ : Reduction ratio, Δ : Equivalent capacity kW

M G M51 - ☐ R Δ -

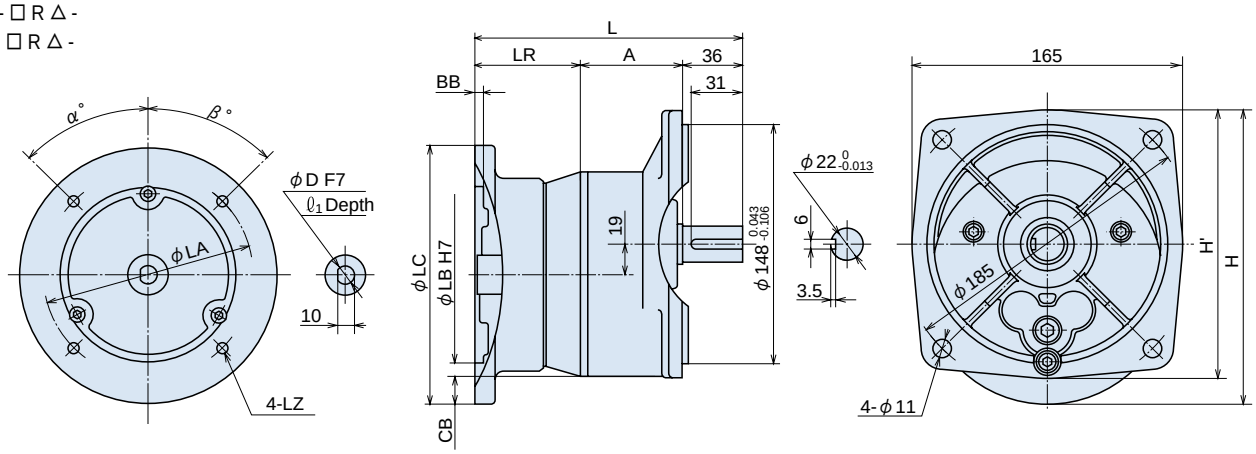


Motor kW	omenclature	Reduction Ratio	imension mm											pprox-imate Mass kg
			Reducer	Motor-mounted art										
			L		L	L	LC	L	α	β	l1		b	
0.1	M G M51 - ☐ R0.1-	5 ~ 50	135	5	130	110	1 0	M	5	5	23	11	10	.3
0.2	M G M51 - ☐ R0.2-	5 ~ 25	135	5	130	110	1 0	M	5	5	23	11	10	.3

lange-mounted ☐ : Reduction ratio, Δ : Equivalent capacity kW

M G M522 - ☐ R Δ -

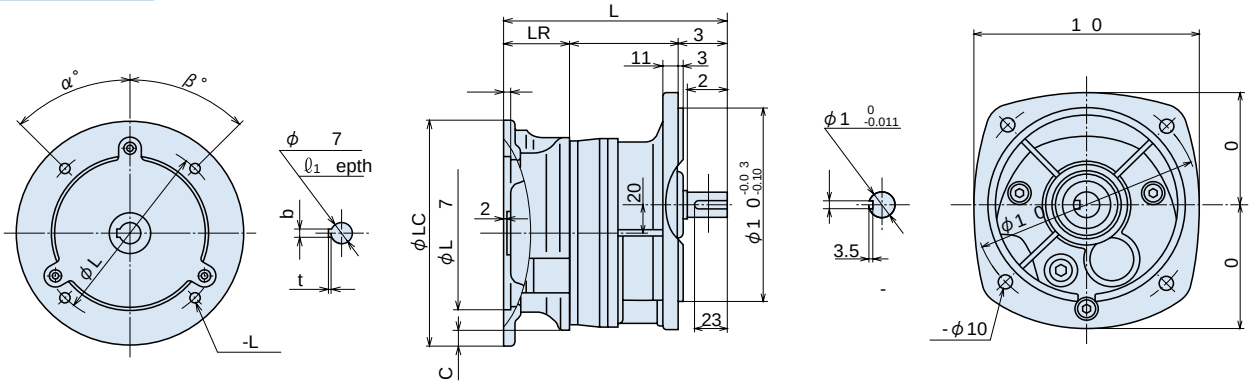
M G M522T- ☐ R Δ -



Motor kW	omenclature	Reduction Ratio	imension mm											pprox-imate Mass kg
			Reducer	Motor-mounted art										
			L		L	L	LC	L	α	β	l1		b	
0.1	M G M522 - ☐ R0.2-	30	150	5	130	110	1 0	M	5	5	23	11	10	.
0.1	M G M522T- ☐ R0.1-	0 ~ 200	1 3	5	130	110	1 0	M	5	5	23	11	10	5.5
0.2	M GM522T- ☐ R0.2-	5 ~ 100	1 3	5	130	110	1 0	M	5	5	23	11	10	5.5

lange-mounted ☐ : Reduction ratio, Δ : Equivalent capacity kW

M ☐ L- Δ

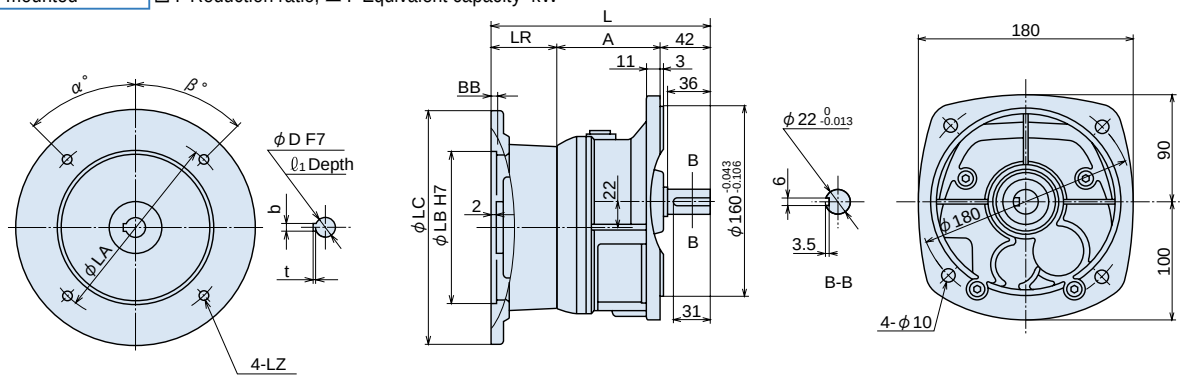


Motor kW	omenclature	Reduction Ratio	imension mm															pprox-imate Mass kg
			Reducer		Motor-mounted art													
			L		LR		C	L	L	LC	L	α	β	l1		b	t	
0.	M ☐ L-0.	5 ~ 20	15	77	7	5	-10	130	110	1 0	M	5	5	30	1	5	2.3	

Reducer imension Sheets (ollow nput Shaft Type)

lange-mounted ☐ : Reduction ratio, △ : Equivalent capacity kW

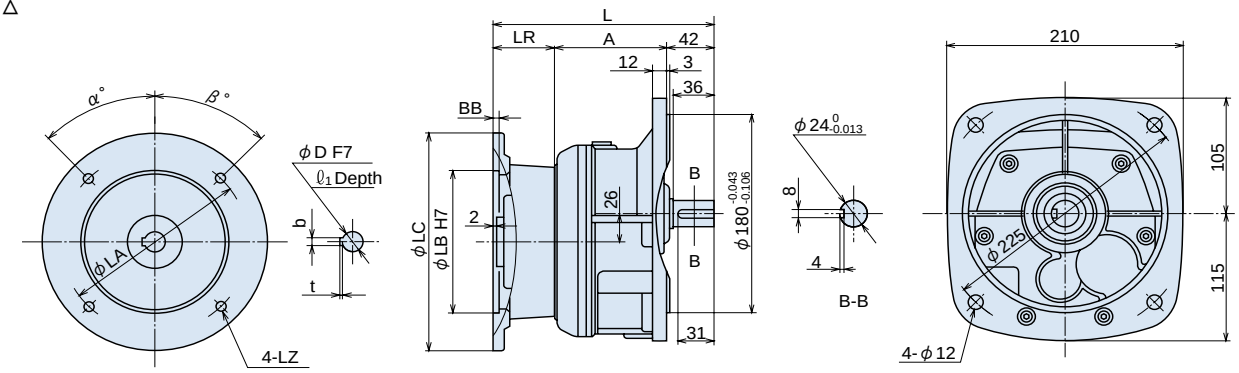
M ☐L-△



Motor kW	omenclature	Reduction Ratio	imension mm Reducer L		Motor-mounted art LR		C	L	L	LC	L	α	β	l1		b	t	pprox- imate Mass kg
0.	M ☐L-0.	25 ～ 30	17	0	7	5	-2	130	110	1 0	M	5	5	30	1	5	2.3	.5
0.	M ☐L-0.	5 ～ 75	1 7		7	5	-2	130	110	1 0	M	5	5	30	1	5	2.3	
0.75	M ☐L-0.75	5 ～ 20	1 7	0	55	5	-22	1 5	130	200	M10	5	5	0	1		2.	10.5

lange-mounted ☐ : Reduction ratio, △ : Equivalent capacity kW

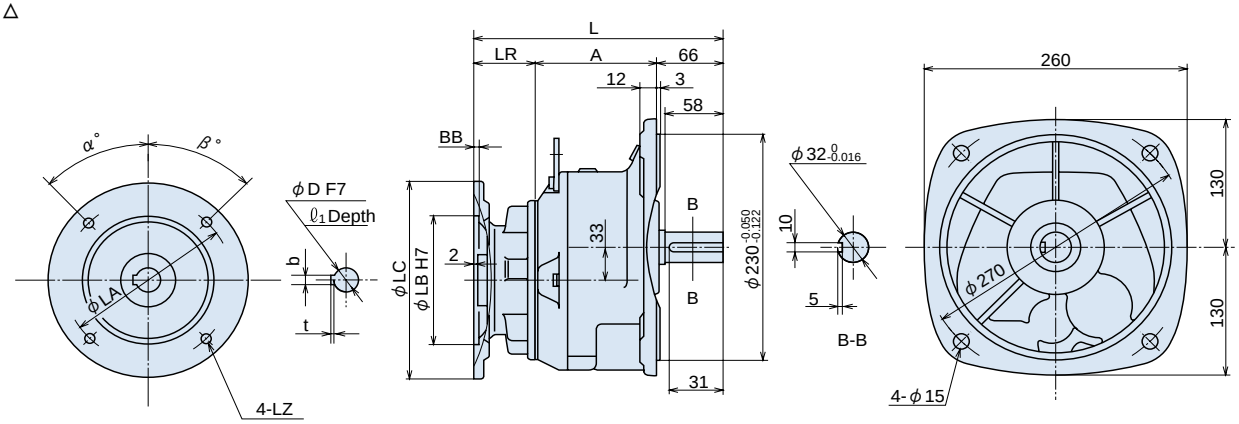
MC ☐L-△



Motor kW	omenclature	Reduction Ratio	imension mm Reducer L		Motor-mounted art LR		C	L	L	LC	L	α	β	l1		b	t	pprox- imate Mass kg
0.	MC ☐L-0.	100 ～ 150	201	112	7	5		130	110	1 0	M	5	5	30	1	5	2.3	11
0.75	MC ☐L-0.75	25 ～ 30	1 5		55	5	-11	1 5	130	200	M10	5	5	0	1		2.	12
0.75	MC ☐L-0.75	5 ～ 75	20	112	55	5	-11	1 5	130	200	M10	5	5	0	1		2.	13

lange-mounted ☐ : Reduction ratio, △ : Equivalent capacity kW

M ☐L-△



Motor kW	omenclature	Reduction Ratio	imension mm Reducer L		Motor-mounted art LR		C	L	L	LC	L	α	β	l1		b	t	pprox- imate Mass kg
0.1	M ☐L-0.1	5 0 ～ 00	270	※20	-	5		130	110	1 0	M	5	5	23	11	※10	-	2 .2
0.2	M ☐L-0.2	2 0 ～ 50	270	※212	-	5	1	130	110	1 0	M	5	5	23	11	※10	-	23.2
0.	M ☐L-0.	200	235	122	7	5	17	130	110	1 0	M	5	5	30	1	5	2.3	23
0.75	M ☐L-0.75	100 ～ 150	2 3	122	55	5	-3	1 5	130	200	M10	5	5	0	1		2.	25
1.5	M ☐L-1.5	25 ～ 30	2	120	0	5	-3	1 5	130	200	M10	5	5	50	2		3.3	25
1.5	M ☐L-1.5	5 ～ 75	2 0	13	0	5	-3	1 5	130	200	M10	5	5	50	2		3.3	2
2.2	M ☐L-2.2	5 ～ 20	257	120	71			215	1 0	250	M12	5	5	0	2		3.3	2

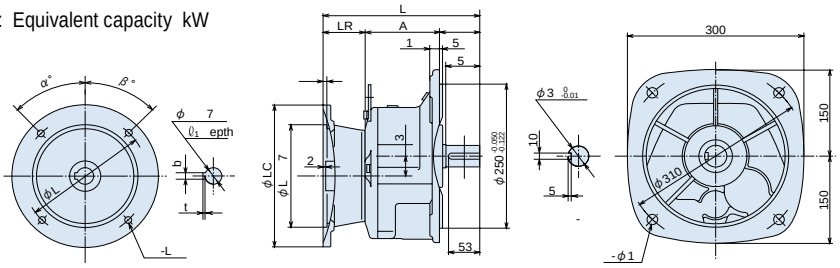
value of the dimension with ※ is the total value of dimension value LR in the figure.
value of the dimension b with ※ is the dimension of the cut.

Reducer imension Sheets (ollow nput Shaft Type)

lange-mounted ☐ : Reduction ratio, Δ : Equivalent capacity kW

ME ☐ L- Δ

ME ☐ S- Δ



Motor kW	omenclature	Reduction Ratio	imension mm															pprox-imate Mass kg
			Reducer		Motor-mounted art													
			L		LR		C	L	L	LC	L	α	β	l1		b	t	
0.1	ME ☐ L-0.1	1000	2 5	※217	-	5		130	110	1 0	M	5	5	23	11	※10	-	3 .7
0.2	ME ☐ L-0.2	5 0 ～ 00	2 5	※227	-	5		130	110	1 0	M	5	5	23	11	※10	-	31.2
0.	ME ☐ S-0.	2 0 ～ 300	31	201	7	5	5 .	130	110	1 0	M	51	3	30	1	5	2.3	37.5
0.75	ME ☐ S-0.75	130 ～ 150	25	135	55	5	1	1 5	130	200	M10	5	5	0	1		2.	33.5
0.75	ME ☐ L-0.75	200	25	135	55	5	1	1 5	130	200	M10	2		0	1		2.	33.5
1.5	ME ☐ S-1.5	75	275	1 7	0	5	1	1 5	130	200	M10	5	5	50	2		3.3	3 .5
1.5	ME ☐ L-1.5	100	275	1 7	0	5	1	1 5	130	200	M10	5	5	50	2			3 .5
2.2	ME ☐ L-2.2	25 ～ 30	2	12	71		-	215	1 0	250	M12	5	5	0	2		3.3	3
2.2	ME ☐ L-2.2	5 ～ 0	2	1 7	71		-	215	1 0	250	M12	5	5	0	2		3.3	37.5
3.7	ME ☐ L-3.7	5 ～ 20	271	12	7		-	215	1 0	250	M12	5	5	0	2		3.3	0

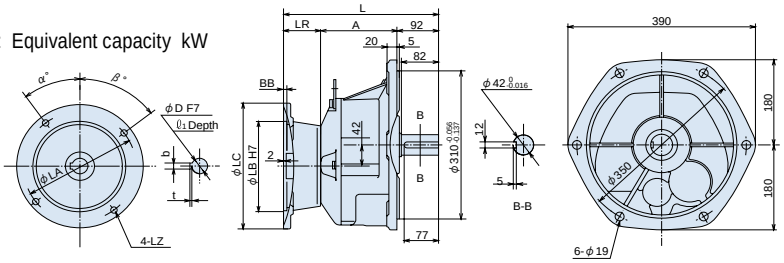
value of the dimension with ※ is the total value of dimension value A + LR in the figure.

value of the dimension b with ※ is the dimension of the cut.

lange-mounted ☐ : Reduction ratio, Δ : Equivalent capacity kW

M ☐ L- Δ

M ☐ S- Δ



Motor kW	omenclature	Reduction Ratio	imension mm															pprox-imate Mass kg
			Reducer		Motor-mounted art													
			L		LR		C	L	L	LC	L	α	β	l1		b	t	
0.2	M ☐ L-0.2	1000	32	※2	-	5		130	110	1 0	M	5	5	23	11	※10	-	2.7
0.	M ☐ S-0.	3 0 ～ 50	35	215	7	5	7.2	130	110	1 0	M	51	3	30	1	5	2.3	.5
0.75	M ☐ S-0.75	200	2	152	55	5	1	1 5	130	200	M10	3	51	0	1		2.	.5
0.75	M ☐ S-0.75	2 0	3 2	215	55	5	7.2	1 5	130	200	M10	51	3	0	1		2.	51.5
1.5	M ☐ L-1.5	130 ～ 150	313	1 1	0	5	3	1 5	130	200	M10	3 .5	51.5	50	2		3.3	5.5
2.2	M ☐ L-2.2	75 ～ 100	32	1 1	71		13	215	1 0	250	M12	3 .5	51.5	0	2		3.3	.5
3.7	M ☐ S-3.7	20	30	1 3	7		13	215	1 0	250	M12	5	5	0	2		3.3	50
3.7	M ☐ L-3.7	25 ～ 30	30	1 3	7		13	215	1 0	250	M12	5	5	0	2		3.3	50
3.7	M ☐ L-3.7	5 ～ 0	330	1	7		13	215	1 0	250	M12	5	5	0	2		3.3	52.5
5.5	M ☐ S-5.5	5 ～ 15	33	151	1		-12	2 5	230	300	M12	5	5	0	3	10	3.3	53

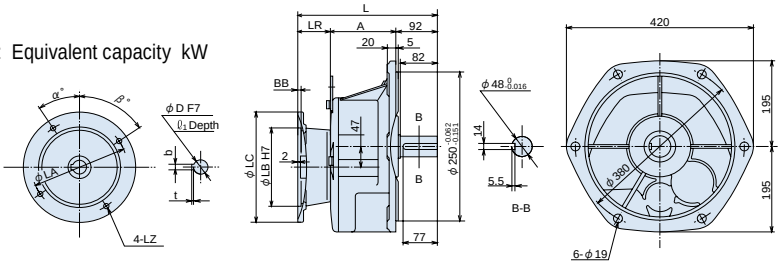
value of the dimension with ※ is the total value of dimension value A + LR in the figure.

value of the dimension b with ※ is the dimension of the cut.

lange-mounted ☐ : Reduction ratio, Δ : Equivalent capacity kW

MG ☐ L- Δ

MG ☐ S- Δ



Motor kW	omenclature	Reduction Ratio	imension mm															pprox-imate Mass kg
			Reducer		Motor-mounted art													
			L		LR		C	L	L	LC	L	α	β	l1		b	t	
0.	MG ☐ S-0.	5 0 ～ 00	37	235	7	5	2.	130	110	1 0	M	51	3	30	1	5	2.3	
0.75	MG ☐ S-0.75	300 ～ 3 0	3 2	235	55	5	72.	1 5	130	200	M10	51	3	0	1		2.	71
1.5	MG ☐ S-1.5	200	333	1 1	0	5		1 5	130	200	M10	3	5	50	2		3.3	
2.2	MG ☐ L-2.2	130 ～ 150	3	1 1	71		23	215	1 0	250	M12	3	5	0	2		3.3	
3.7	MG ☐ S-3.7	25 ～ 30	31	152	7		23	215	1 0	250	M12	2		0	2		3.3	
3.7	MG ☐ S-3.7	5 ～ 0	3	17	7		23	215	1 0	250	M12	2		0	2		3.3	73
3.7	MG ☐ L-3.7	75 ～ 100	3	17	7		23	215	1 0	250	M12	2		0	2		3.3	73
5.5	MG ☐ S-5.5	25 ～ 30	3	1 3	1		-7	2 5	230	300	M12	5	5	0	3	10	3.3	71
7.5	MG ☐ S-7.5	5 ～ 15	3	1			-7	2 5	230	300	M12	5	5	0	3	10	3.3	7

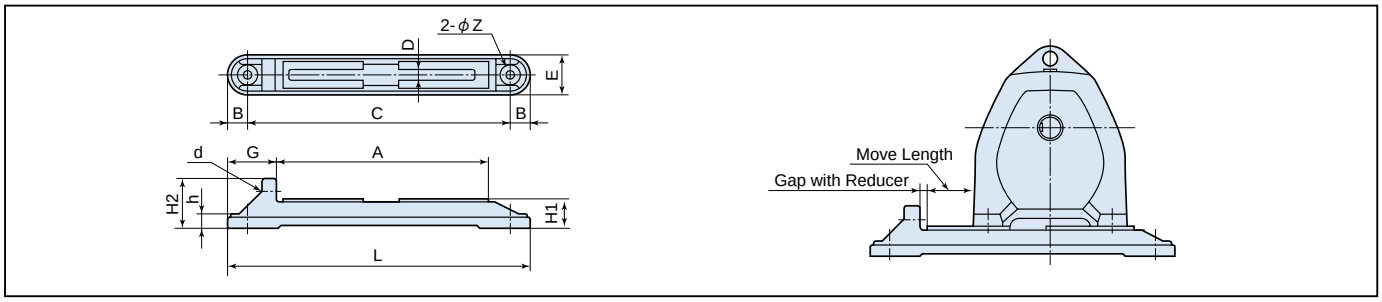
ptions pplications

age

Slide ase 2
and oltage Motor 2
utdoor Type Motor 3
Safety Enhanced Explosion-proof Motor 3
ther Motor ptions 3

■ Slide ase (Series nly)

We provide optional slide base dedicated for Series. lease ask us at the time of order.



ttaching Slide ases When you use the slide bases with driving chain or belt, attach the push bolts at front and back in the opposite direction of the external force as shown above.

Reducer rame Si e	Slide ases o.	imension mm											ush olt d	Gap with Reducer mm	Move Length mm	Mass kg er nit (2 Rails)
		L			C		E	G	1	2	h					
	SR-30	1	2 0	27	3 0	1	5	7	0		20	12	M10	5	35	12
														50	30	
C														0	35	
														10	0	
E	SR- 5		355	32	35	1		2	50	3	25	15	M12	20	30	15
	S R-50	520	370	30	0	20	0	0	0		30	1	M1	20	5	21
G														-	0	
	S R- 3	35	0	35	5 5	2	0	105	70	115	35	2	M20	15	70	3
K														-	50	

■ and oltage Motor

or 3-phase motors, we provide multi-voltage compatible band voltage motors for 00 class other than 200 standard. lease ask us at the time of order.

Compatible voltages of the band voltage motors are as follows:

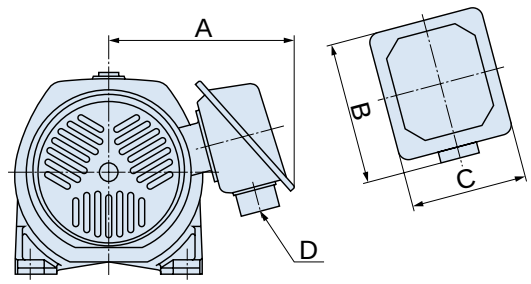
oltage	3 0	00	15	00	0
requency	50			0	

ote: Consult us for ones with brakes.

■ utdoor Type Motor

We provide outdoor type gearmotors suitable to use outdoors.
They are specially designed to be used safely under the conditions such as weather, snow, etc.
nly the dimensions different from the indoor types are shown below:

○ T S Motor (0. to 11 kW)



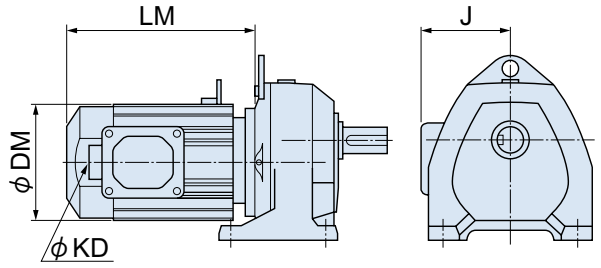
right side seen from motor fan side

mm

utput kw	T S Motor				
			C		Connection Method
0.	150	11		3	Screw Clamp Terminal lock
0.75	15	11		3	
1.5	15	11		3	
2.2	153	11		3	
3.7	1	11		3	
5.5	2 0	203	15	1 1 2	Stud Type Terminal lock
7.5	2 0	203	15	1 1 2	
11	-	-	-	-	

ote: There is a slightly difference in the dimension among models because the attaching angle of the terminal box varies depending on the model.

○ S M T M Motor (0. to 11 kW)



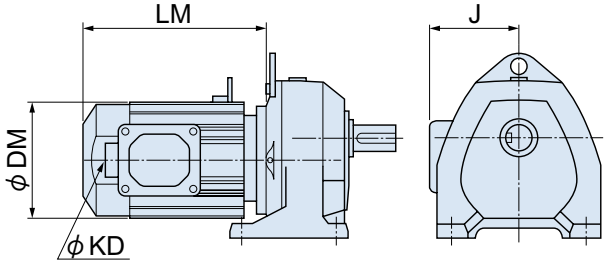
kW-	imension mm			
	LM	M	K	
0. ( )	1 .5 (22 .5)	12	3	105
0. ( )	1 7 (22)	12	3	105
0.75	233 (27)	155	3	13
1.5	2 0 (3 2)	1 7	3	1 1
2.2	2 (3 2)	1 0	3	1
3.7	322 (3)	222	1	1 3
5.5	01 (73)	222	1	1 3
7.5	11 (50)	2 0	1	222
11	73 (5)	2 0	1 1	222

1. ( ) represents the dimension with brakes.
2. The frame si e is T for 0.2 and 0. ( ), and T to T for 0.2 and 0. ( ).

■ ncresed Safety Explosion-proof Motor

We provide increased safety explosion-proof motors (eG3) for an environment where an explosive gas may be produced.
nly the dimensions different from the indoor types are shown below:
nly without brake. nverter driving not supported.

* We can provide flame proof types (hollow shaft only). Consult us for details.



kW-	imension mm			
	LM	M	K	
0. ( )	1 .5	12	3	105
0. ( )	1 7	12	3	105
0.75	233	155	3	13
1.5	2 0	1 7	3	1 1
2.2	2	1 0	3	1
3.7	322	222	1	1 3
5.5	01	222	1	1 3
7.5	11	2 0	1	222
11	73	2 0	1 1	222

The frame si e is T for 0.2 and 0. ( ), and T to T for 0.2 and 0. ( ).

■ ther Motor ptions

We can manufacture 2nd class rustproof types, dust proof types, overseas standard motors, high-efficient motors etc. Consult us for details.

E

Technical Data

	Page
1. Reducer	E3
2. Motor	E7

E Technical Data

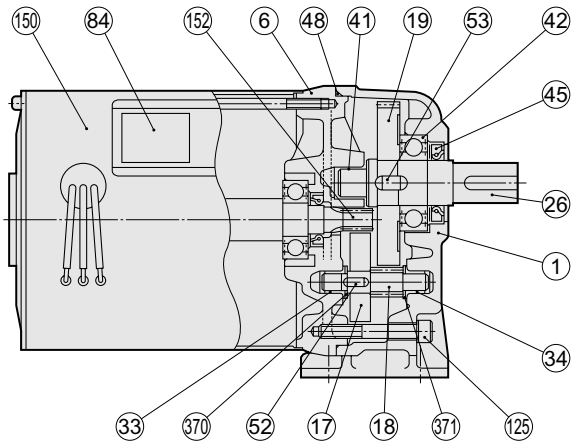
1. Reducer

	Page
Construction Drawing	E4
Lubrication	E5
Moment of Inertia	E6
Dimension of Tapped Hole of Output Shaft End	E6

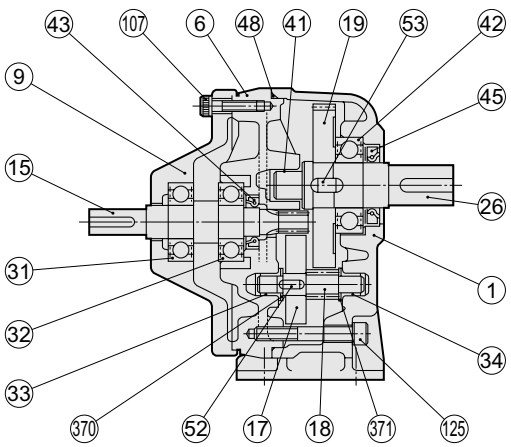
Construction Drawing

MFG500 Series Construction Drawing

● MFG500/A type gearmotor (double reduction type)



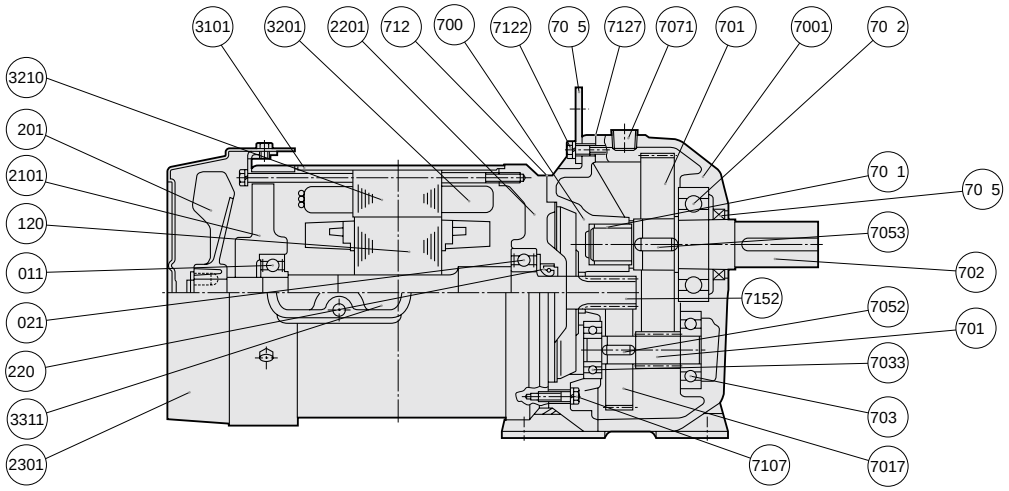
● MFGC500/AC type both-end shaft reducer (double reduction type)



1 Gear-casing
6 High speed ring
9 High speed cover
15 First pinion with shaft
17 First gear
18 Second pinion
19 Second gear
26 Slow speed shaft
31 High speed shaft bearing (H)
32 High speed shaft bearing (L)
33 Second pinion bearing (H)
34 Second pinion bearing (L)
41 Slow speed shaft bearing (H)
42 Slow speed shaft bearing (L)
43 High speed shaft oil seal
45 Slow speed shaft oil seal
48 O ring for high speed ring
52 First gear key
53 Second gear key
84 Name plate
107 High speed cover bolt
125 Case assembling bolt
150 Motor
152 Rotor core shaft with first pinion gear
370 Spacer for second pinion shaft bearing (H)
371 Spacer for second pinion shaft bearing (L)

A Series Construction Drawing

● AT type gearmotor (double reduction type)



No.	Name	No.	Name	No.	Name	No.	Name
7001	Gear-casing	7041	Slow speed shaft bearing (H)	7122	High speed ring bolt	3101	Frame
7006	High speed ring	7042	Slow speed shaft bearing (L)	7126	Motor packing	3201	Stator winding
7017	First gear	7045	Slow speed shaft oil seal	7127	High speed ring packing	3210	Stator core
7018	Second pinion	7052	First gear key	7152	Rotor core shaft with first pinion gear	3311	Terminal box
7019	Second gear	7053	Second gear key	2101	Bearing bracket	4011	Bearing
7026	Slow speed shaft (Output shaft)	7071	Oil filler plug	2201	Bearing bracket	4021	Bearing
7033	Second pinion bearing (H)	7085	Hanging ring	2209	Oil seal	4120	Rotor core
7034	Second pinion bearing (L)	7107	Bolt for motor	2301	Fan cover	4201	Fan

Lubrication

The gearmotors and reducers of MFG500 and A Series are grease-lubricated and sealed with grease before shipment. So they can be used without replenishment.

Replace the grease with new one about every 20,000 hours (three to five years). In severe circumstances such as high temperature or continuous use, replace it about every 15,000 hours.

Specified Grease	L E Grease R000 (Showa Shell Sekiyu K.K.) LG o.000 Multi-purpose Lithium ase Extreme-pressure Grease

ill olume of Grease for M G500 Series

oot-mounted							lange-mounted						
ouble Reduction		Triple Reduction		uad Reduction			ouble Reduction		Triple Reduction		uad Reduction		
Reducer rame Si e	ill olume	Reducer rame Si e	ill olume	Reducer rame Si e	igh Speed ill olume	Slow Speed ill olume	Reducer rame Si e	ill olume	Reducer rame Si e	ill olume	Reducer rame Si e	igh Speed ill olume	Slow Speed ill olume
51	0.0 (100)	522T	0.1 (200)	C	0.1 (200)	0.32 (350)	51	0.07 (0)	522T	0.15 (1 0)	C	0.1 (200)	0.32 (350)
					0.1 (200)	0.51 (550)						0.1 (200)	0. (500)
522	0.1 (150)	C	0.32 (350)	E	0.1 (200)	0. 2 (1000)	522	0.11 (120)	C	0.32 (350)	E	0.1 (200)	0. 3 (00)
					0.1 (200)	1. 0 (1500)						0.1 (200)	1.30 (1 00)

ill olume of Grease for Series

kg ml

Mounting Style	Reducer rame Si e	ouble Reduction		Triple Reduction 1 5 ~ 1 200	uad Reduction 1 2 0 ~ 1 1000	
		1 5・1 10	1 15 ~ 1 30		igh Speed Side	Slow Speed Side
Type (oot-mounted)		0.1 (150)		-	-	-
		0.23 (250)		0.2 (300)	-	-
	C	0.2 (300)		0.32 (350)	-	-
		0. 2 (50)		0.51 (550)	-	-
	E	0. 3 (00)		0. 2 (1000)	0.37 (00)	0. 2 (1000)
		1.3 (1 00)	1.1 (1200)	1. (1500)	0.37 (00)	1. (1500)
	G	2.0 (2200)	1. (2000)	2.3 (2500)	0.37 (00)	2.3 (2500)
		2. (3100)	2. (2 00)	3.2 (3500)	0.51 (550)	3.2 (3500)
	K	.2 (500)	3. (100)	. (5000)	0.75kW 0.51 (550)	. (5000)
					1.5-2.2kW 0. (700)	
Type (lange-mounted)		0.12 (130)		-	-	-
		0.1 (200)		0.23 (250)	-	-
	C	0.2 (300)		0.32 (350)	-	-
		0.37 (00)		0. (500)	-	-
	E	0.7 (00)		0. 3 (00)	0.37 (00)	0. 3 (00)
		1.2 (1300)	1.0 (1100)	1.3 (1 00)	0.37 (00)	1.3 (1 00)
	G	1. (2000)	1.7 (1 00)	2.1 (2300)	0.37 (00)	2.1 (2300)

Moment of nertia, imension of Tapped ole at utput Shaft End

Moment of nertia of Gearmotor

○ T S Motor (0. - 11 kW)

kg・m²

utput kW	3-phase Gearmotor	3-phase gearmotor with brakes			Single-phase Gearmotor	Single-phase with rakes Gearmotor
		With S Type rakes	With S Type rakes	With S Type rakes		
0.	0.0012	0.0022	0.000	0.0013	0.0020	0.0021
0.75	0.002	0.0050	0.0030	0.0030	0.00 0	0.00 2
1.5	0.00	0.007	0.0051	0.0051	-	-
2.2	0.00 1	-	0.00	-	-	-
3.7	0.00 2	-	0.00 0	-	-	-
5.5	0.020	-	0.0225	-	-	-
7.5	0.0277	-	0.02	-	-	-

or the moment of inertia of 0.1 and 0.2 kW, consult us.

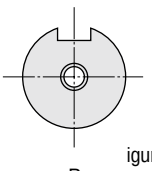
○ S M T M Motor (0. - 11 kW)

kg・m²

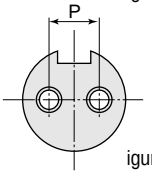
utput kW	3-phase Gearmotor	3-phase gearmotor with brakes
		With Type rakes
0.	0.000 5	0.000
0.75	0.00120	0.00130
1.5	0.00213	0.00235
2.2	0.00333	0.00373
3.7	0.00	0.00 5
5.5	0.011	0.0125
7.5	0.02	0.0303
11	0.0375	0.0 10

imension of Tapped ole of utput Shaft End

We provide tapped holes at output shaft (slow speed shaft) end as semi-standard. The dimensions are as follows:



igure1



igure2

Reducer rame Si e	igure o.	imension	Tapped ole Si e	epth
	1	-	M	10
	1	-	M	10
C	1	-	M	10
	2	1	M	1
E	2	20	M	1
	2	22	M10	1
G	2	2	M10	1
	2	30	M10	1
K	2	3	M12	20

E Technical Data

2. Motor

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Characteristics for Motor

3-phase Motor

TOSHIBA Motor (Motor manufacturer code: S)

Capacity [kW]	Frame Size	4P					
		200V-50Hz		200V-60Hz		220-60Hz	
		Full Load Current A	Full Load Speed [r/min]	Full Load Current A	Full Load Speed [r/min]	Full Load Current A	Full Load Speed [r/min]
0.1	63M	0.63	1400	0.57	1680	0.58	1700
0.2	63M	1.2	1400	1.1	1690	1.1	1710
0.4	71M	2.2	1400	2.0	1680	2.0	1710
0.75	80M	3.8	1410	3.4	1700	3.4	1720
1.5	90L	7.2	1420	6.2	1690	6.2	1720
2.2	100L	9.8	1400	8.9	1680	8.5	1710
3.7	112M	16.0	1410	14.8	1690	14.0	1710
5.5	132S	23.8	1430	21.0	1730	20.0	1740
7.5	132M	31.8	1435	28.2	1730	27.0	1740

SUMITOMO Motor (Motor manufacturer code: Su)

Capacity [kW]	Frame Size	4P					
		200V-50Hz		200V-60Hz		220-60Hz	
		Full Load Current A	Full Load Speed [r/min]	Full Load Current A	Full Load Speed [r/min]	Full Load Current A	Full Load Speed [r/min]
0.4	71M	2.3	1410	2.0	1700	2.0	1730
0.75	80M	3.9	1430	3.4	1730	3.3	1740
1.5	90L	7.0	1430	6.3	1720	6.0	1740
2.2	100L	9.6	1430	8.8	1710	8.3	1720
3.7	112M	15.1	1420	14.2	1700	13.1	1720
5.5	132S	22.2	1420	20.8	1700	19.2	1720
7.5	132M	29.5	1450	27.4	1750	25.6	1750
11	160M	42.1	1450	39.7	1740	36.9	1750

Single-phase Motor

TOSHIBA Motor (Motor manufacturer code: S)

Capacity [kW]	Model	4P							
		100V-50Hz		100V-60Hz		200-50Hz		200-60Hz	
		Full Load Current A	Full Load Speed [r/min]	Full Load Current A	Full Load Speed [r/min]	Full Load Current A	Full Load Speed [r/min]	Full Load Current A	Full Load Speed [r/min]
0.1	SIK-DCKLK2	3.2	-	2.8	-	-	-	-	-
0.2	SIK-DCKLK2	5.2	-	4.5	-	-	-	-	-
0.4	SIKD-DCKLK2	7.2	1440	5.8	1730	3.6	1440	2.9	1730
0.75	SIKD-FCKLK8	12.6	1440	10.8	1730	6.3	1440	5.4	1730

Characteristics for Motor Brake

For 3-phase Motor

SAV Brake (for TOSHIBA Motor)

[Specification]

Brake structure: Dry-type DC electromagnetic brake Excitation method: Voltage Braking method: Non-exciting

Power source: AC200V-50Hz, 200/220V-60Hz

Motor Capacity [kW]	Model	Rated Torque [N-m]	Specified Gap [mm]	Limit Gap [mm]	Total Energy [x 10^7J]	Motion Delay Time	
						Standard Circuit [sec]	Separate Switching Circuit [sec]
0.1	SAV-01	1	0.2	0.6	0.9	0.16	0.10
0.2	SAV-02	2	0.3	0.6	22	0.14	0.07
0.4	SAV-04	4	0.3	0.6	22	0.07	0.04
0.75	SAV-08	7.5	0.2	0.6	36	0.10	0.04
1.5	SAV-15	15	0.2	0.6	36	0.15	0.06
2.2	SAV-22	22	0.2	0.6	36	0.14	0.05
3.7	SAV-37	37	0.3	0.8	45	0.15	0.04
5.5	SAV-55	55	0.2	0.8	84	0.20	0.08
7.5	SAV-80	75	0.2	0.8	84	0.20	0.08

SBV Brake (for TOSHIBA Motor)

[Specification]

Brake structure: Dry-type DC electromagnetic brake Excitation method: Voltage Braking method: Non-exciting

Power source: AC200V-50Hz, 200/220V-60Hz

Motor Capacity [kW]	Model	Rated Torque [N-m]	Specified Gap [mm]	Limit Gap [mm]	Total Energy [x 10^7J]	Motion Delay Time	
						Standard Circuit [sec]	Separate Switching Circuit [sec]
0.1	SBV-01	1	0.2	0.6	0.9	0.16	0.10
0.2	SBV-02	2	0.3	0.6	22	0.14	0.07
0.4	SBV-04	4	0.3	0.6	22	0.07	0.04
0.75	SBV-08	7.5	0.2	0.6	36	0.10	0.04
1.5	SBV-15	15	0.2	0.6	36	0.15	0.06

FB Brake (for SUMITOMO Motor)

[Specification]

Brake structure: Dry-type DC electromagnetic brake Excitation method: Voltage Braking method: Non-exciting

Power source: AC200V-50Hz, 200/220V-60Hz

Motor Capacity [kW]	Model	Rated Torque [N-m]	Specified Gap [mm]	Limit Gap [mm]	Total Energy [x 10^7J]	Motion Delay Time	
						Standard Braking Circuit [sec]	Quick Braking Circuit [sec]
0.4	FB-05A1	4	0.2 ~ 0.35	0.5	12	0.1 ~ 0.15	0.01 ~ 0.015
0.75	FB-1B	7.5	0.3 ~ 0.4	0.6	33	0.2 ~ 0.3	0.01 ~ 0.02
1.5	FB-2B1	15	0.3 ~ 0.4	0.6	38	0.2 ~ 0.3	0.01 ~ 0.02
2.2	FB-3B	22	0.3 ~ 0.4	0.7	45	0.3 ~ 0.4	0.01 ~ 0.02
3.7	FB-5B	37	0.4 ~ 0.5	1	235	0.4 ~ 0.5	0.01 ~ 0.02
5.5	FB-8B	55	0.4 ~ 0.5	1	235	0.3 ~ 0.4	0.01 ~ 0.02
7.5	FB-10B	75	0.4 ~ 0.5	1.2	343	0.7 ~ 0.8	0.03 ~ 0.04
11	FB-15B	110	0.4 ~ 0.5	1.2	343	0.5 ~ 0.6	0.03 ~ 0.04

For Single-phase Motor

SAVS Brake (for TOSHIBA Motor)

[Specification]

Brake Structure: Dry-type DC electromagnetic brake Excitation method: Voltage Braking method: Non-exciting

Power source: AC100/200V-50/60Hz

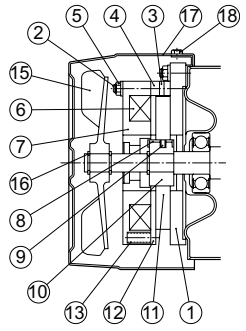
Motor Capacity [kW]	Model	Rated Torque [N-m]	Specified Gap [mm]	Limit Gap [mm]	Total Energy [x 10^7J]	Motion Delay Time Standard Circuit [sec]
0.1	SAVS-01	1	0.2	0.6	0.9	0.16
0.2	SAVS-02	2	0.3	0.6	22	0.14
0.4	SAVS-04	4	0.3	0.6	22	0.07
0.75	SAVS-08	7.5	0.2	0.6	36	0.10

Construction Drawing of Motor Brake

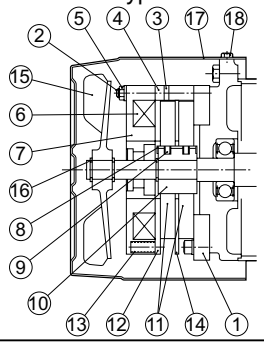
For 3-phase Motor

SAV Brake (for TOSHIBA Motor)

SAV-04 to 37 Types



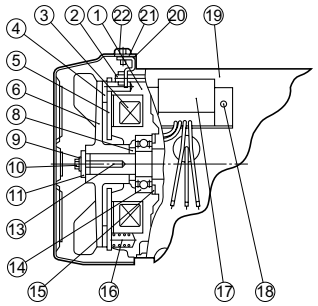
SAV-55 to 110 Types



No.	Part Name	No.	Part Name
1	Brake adapter plate	10	Hub
2	Stud bolt	11	Inner disc
3	Gap adjusting liner	12	Armature
4	Distance collar	13	Actuating spring
5	Fixing hexagon nut	14	Outer disc
6	Coil	15	Fan
7	Field	16	Snap ring
8	Noise eliminator	17	Fan cover
9	Noise-deadening spring	18	Fan cover fixing screw

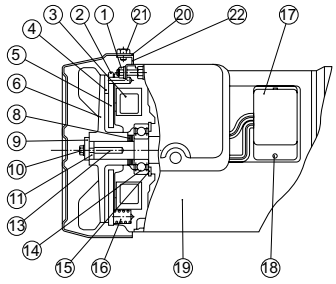
SBV Brake (for TOSHIBA Motor)

SBV-010 and 020 Types

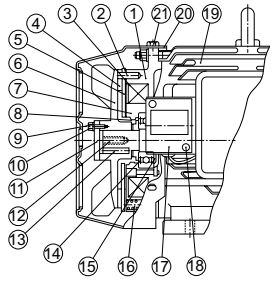


No.	Part Name
1	Field core
2	Spring pin
3	Magnet coil
4	Lining
5	Armature
6	Brake plate (Fan)
8	Shim washer
16	Brake spring
17	DC power module
19	Motor
20	Brake cover

SBV-G040 Type



SBV-G075 and G150 Types

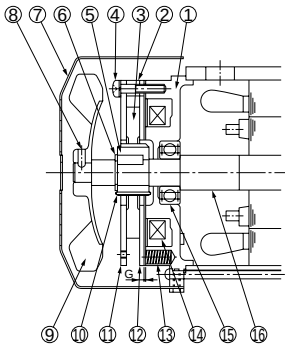


No.	Part Name	No.	Part Name
1	Field core (Bearing bracket)	12	Adjusting bolt
2	Spring pin	13	Brake plate key
3	Magnet coil	14	Ball bearing
4	Lining	15	Stop ring
5	Armature	16	Brake spring
6	Brake plate (Fan)	17	DC power supply unit
7	Coned disc spring	18	Plus pan-head screw
8	Shim washer	19	Motor
9	Spring washer	20	Brake cover
10	Hexagon socket head cap screw	21	Cover fixing screw
11	Brake plate fixing washer		

Construction Drawing of Motor Brake

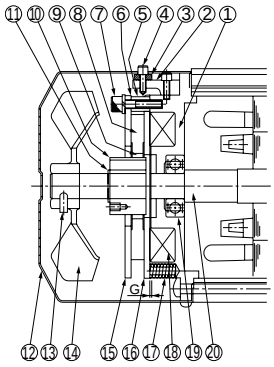
FB Brake (for SUMITOMO Motor)

FB-05A Type



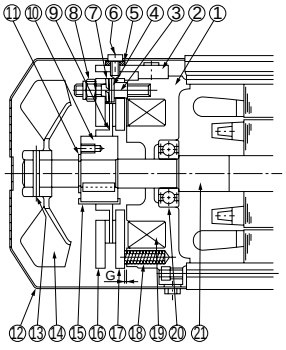
No.	Part Name	No.	Part Name
1	Stationary core	9	Fan (except for FB-01A1 and FB-01A)
2	Spacer	10	Leaf spring
3	Brake lining	11	Fixed plate
4	Assembling bolt	12	Armature plate
5	Boss	13	Spring
6	Shaft snap C-ring	14	Electromagnetic coil
7	Cover	15	Ball bearing
8	Fan set bolt	16	Motor shaft

FB-1B, 2B1, and 3B Types



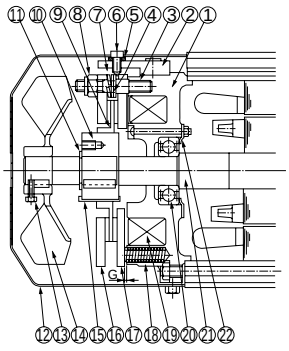
No.	Part Name	No.	Part Name
1	Stationary core	11	Shaft snap C-ring
2	Release fitting	12	Cover
3	Manual release protection spacer	13	Fan set bolt
4	Brake release bolt	14	Fan
5	Spacer	15	Fixed plate
6	Gap adjusting shim	16	Armature plate
7	Assembling bolt	17	Spring
8	Brake lining	18	Electromagnetic coil
9	Leaf spring	19	Ball bearing
10	Boss	20	Motor shaft

FB-5B and 8B Types



No.	Part Name	No.	Part Name
1	Stationary core	12	Cover
2	Release fitting	13	Spring pin
3	Stud bolt	14	Fan
4	Adjusting washer	15	Leaf spring
5	Manual release protection spacer	16	Fixed plate
6	Brake release bolt	17	Armature plate
7	Spring washer	18	Spring
8	Gap adjusting nut	19	Electromagnetic coil
9	Brake lining	20	Ball bearing
10	Boss	21	Motor shaft
11	Shaft snap C-ring		

FB-10B and 15B Types

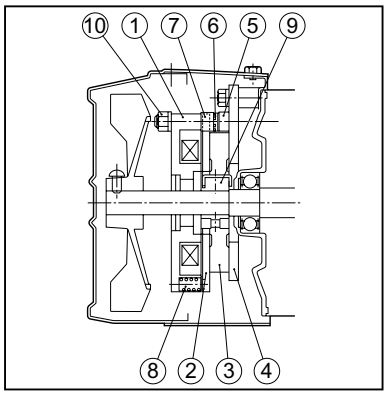


No.	Part Name	No.	Part Name
1	Stationary core	12	Cover
2	Release fitting	13	Fan set bolt
3	Stud bolt	14	Fan
4	Adjusting washer	15	Leaf spring
5	Manual release protection spacer	16	Fixed plate
6	Brake release bolt	17	Armature plate
7	Spring washer	18	Spring
8	Gap adjusting nut	19	Electromagnetic coil
9	Brake lining	20	Ball bearing
10	Boss	21	Motor shaft
11	Shaft snap C-ring	22	Bearing cover

Construction Drawing of Motor Brake

For single-phase Motor

SAVS Brake (for TOSHIBA Motor)



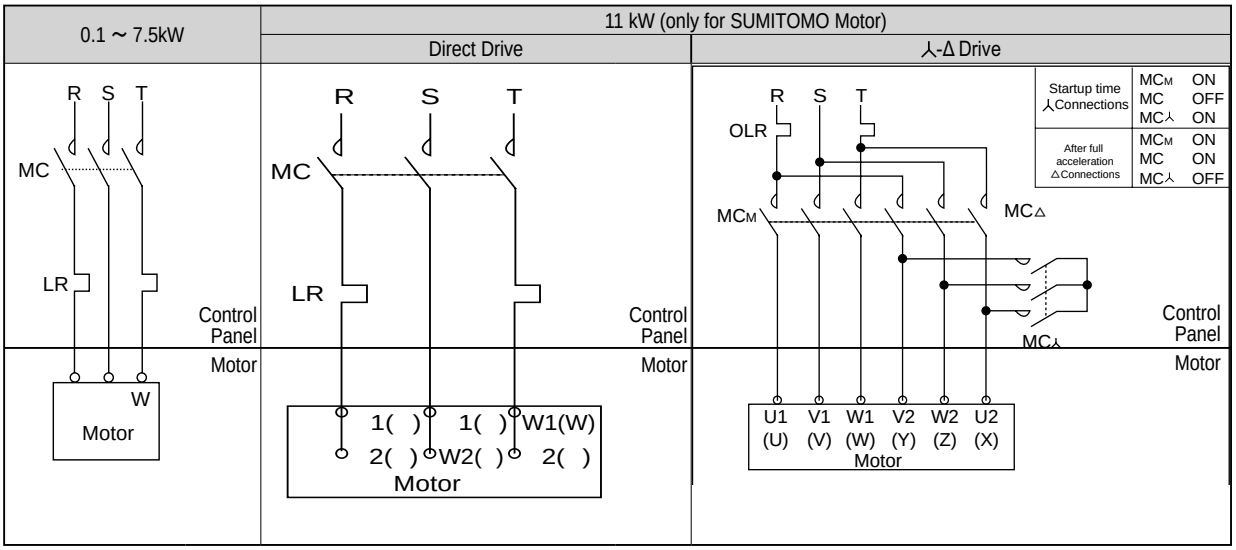
No.	Part Name
1	Field
2	Armature
3	Inner disc
4	Adapter plate
5	Stud bolt
6	Gap adjusting liner
7	Distance collar
8	Actuating spring
9	Hub
10	Fixing nut

Connection

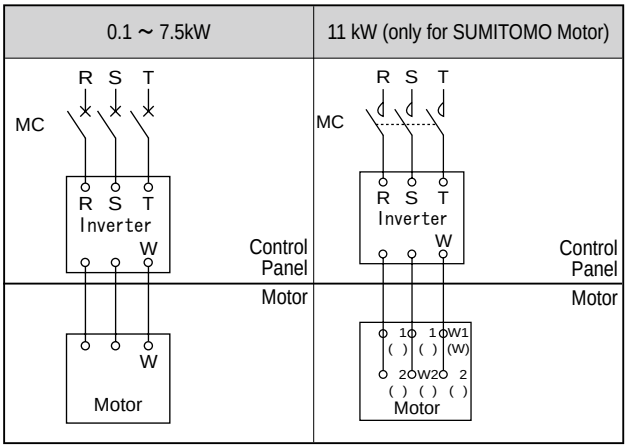
3-phase Motor | Without Brake

Common to TOSHIBA and SUMITOMO Motors

Direct Drive and 人-Δ Drive (only 11kW)

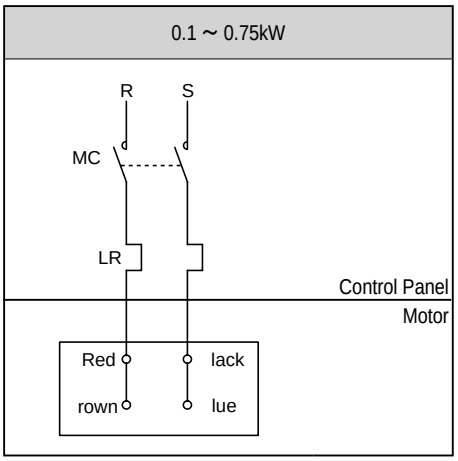


Inverter Driving



Single-phase Motor | Without Brake

TOSHIBA Motor

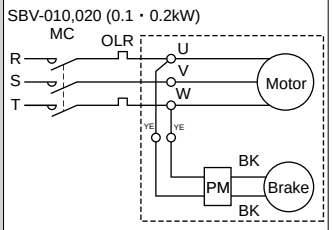
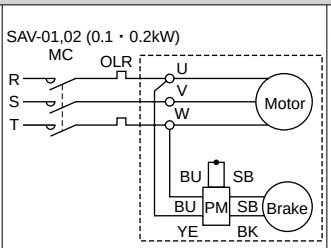
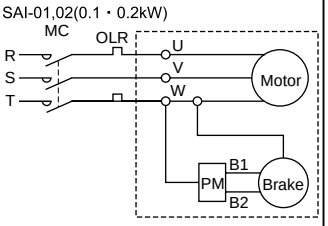
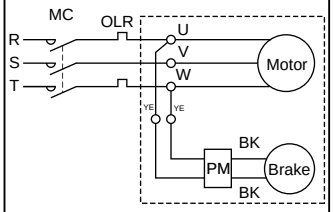
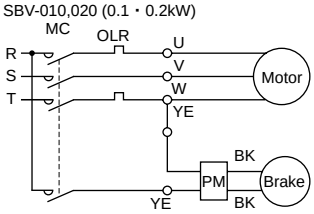
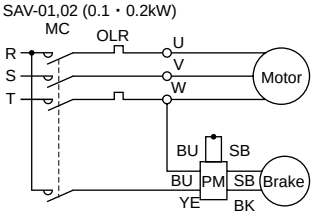
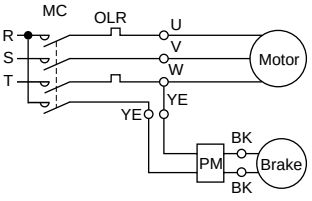
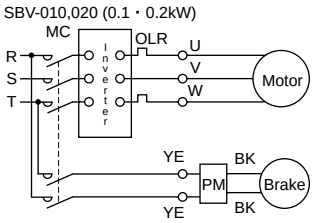
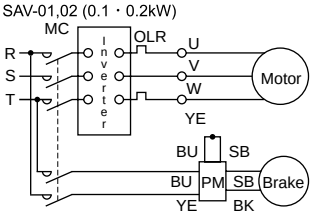
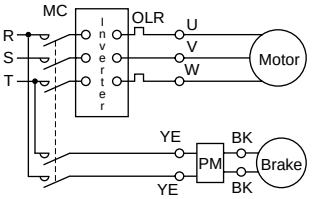


* Swap brown and blue to reverse the rotation direction.

Connection

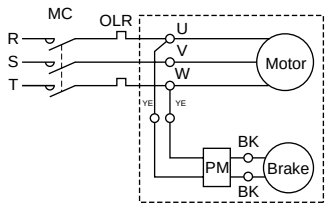
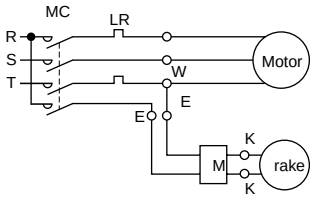
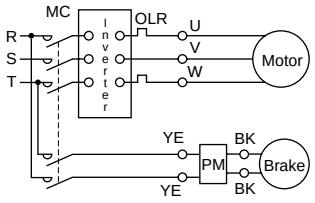
3-phase Motor | With Brakes

TOSHIBA Motor with SAV Type Brake

	0.1 kW and 0.2 kW (Brake Type: SAV-01 and 02) 200V 50/60Hz, 220 0			0. - 7.5 kW (rake Type: S -0 to 0) 200 50 0 , 220 0
Simultaneous Switching Circuit (Standard Connection)	SBV-010,020 (0.1・0.2kW) 	SAV-01,02 (0.1・0.2kW) 	SAI-01,02(0.1・0.2kW) 	
Separate Switching Circuit	SBV-010,020 (0.1・0.2kW) 	SAV-01,02 (0.1・0.2kW) 		
nverter riving Circuit	SBV-010,020 (0.1・0.2kW) 	SAV-01,02 (0.1・0.2kW) 		

3-phase Motor	With rakes

T S Motor with S Type rake

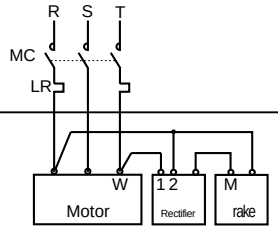
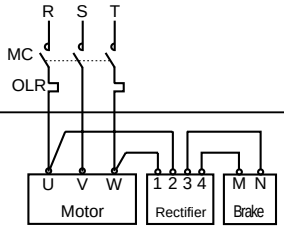
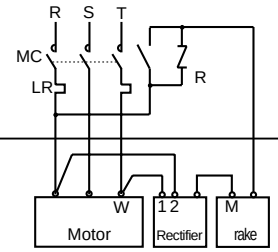
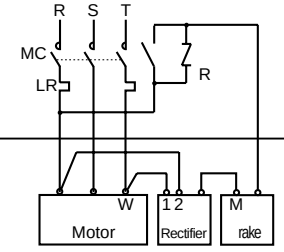
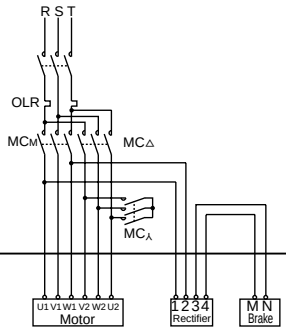
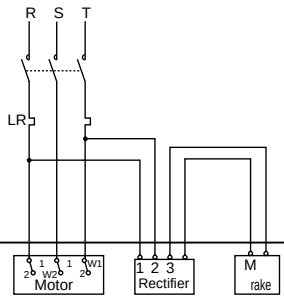
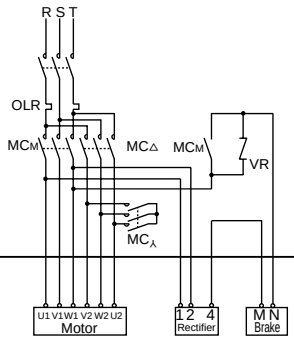
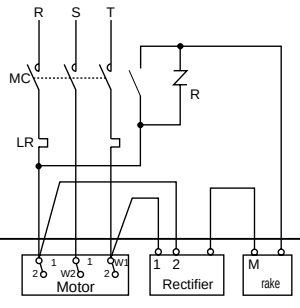
	0.1 - 1.5 kW (rake Type: S -G010 to G150)
Simultaneous Switching Circuit(Standard Connection)	
Separate Switching Circuit	
Inverter Driving Circuit	

Connection

3-phase Motor | With Brakes

SUMITOMO Motor with FB Type Brake

Examples of Connection for One Way Rotation

	0.4 kW (Brake Type: FB-05A1)	0.75 - 7.5 kW (Brake Type: FB-1B to FB-10B)
Standard Braking Circuit		
Quick Braking Circuit		
	11 kW (Brake Type: FB-15B) 人-Δ Start	11 kW (Brake Type: FB-15B) Direct Start
Standard Braking Circuit		
Quick Braking Circuit		

Please prepare the following connection parts on your side:

- MC : Electromagnetic contactor
- OLR: Overload protection relay
- VR : Varistor

Capacity of Varistor (VR)

Brake input power		AC200V ~ 230V	AC380V ~ 460V
Rated voltage of varistor		AC260V ~ 300V	AC510V
Voltage of varistor		430V ~ 470V	820V
Rated power of varistor	FB-05A1	0.2 Watt or more	0.4 Watt or more
	FB-1B	0.4 Watt or more	0.6 Watt or more
	FB-2B1,3B, 5B,8B	0.6 Watt or more	1.5 Watt or more
	FB-10B,15B	1.0 Watt or more	1.5 Watt or more

We can also supply varistors.

(Optional items)

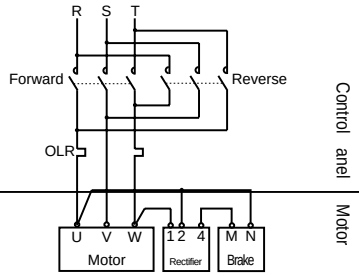
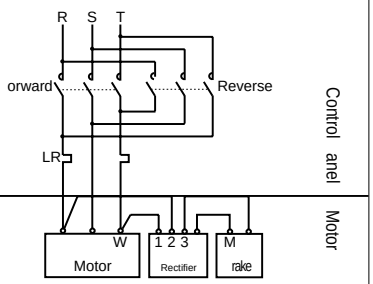
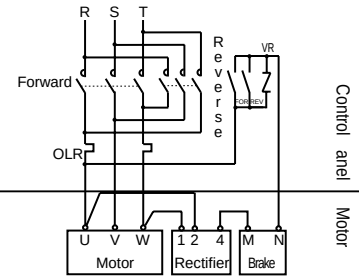
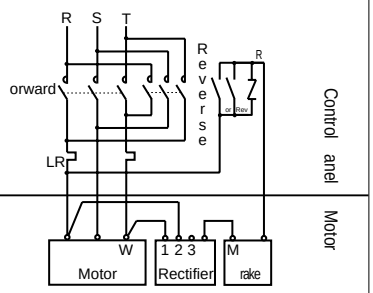
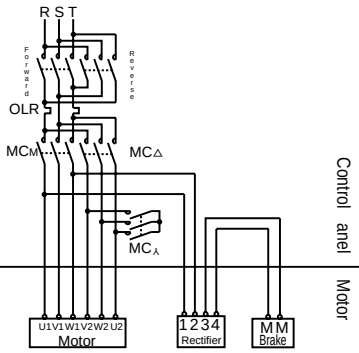
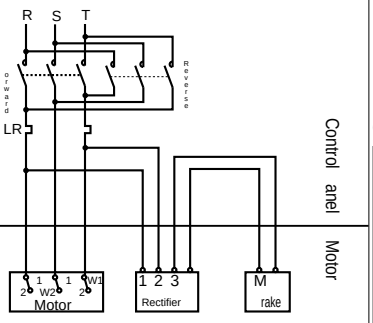
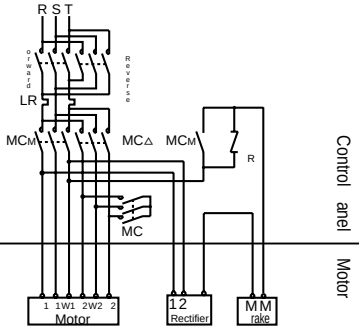
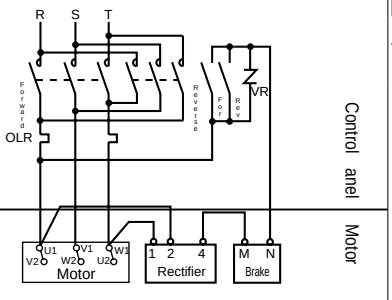
- For lifter or greater stopping accuracy, use the fast braking circuit.
- As the contact capacity for the quick braking circuit, we recommend the DC breaking capacity (for DC coil load) that is more than 5 times of the braking current.
- If you want to use other connection methods, protection relays, or varistors than indicated in these connection diagrams, please consult us.

Connection

3-phase Motor	With Brakes

SUMITOMO Motor with FB Type Brake

Examples of Connection for Operating in Both Direction

	0.4 kW (Brake Type: FB-05A1)	0.75 - 7.5 kW (Brake Type: FB-1B to FB-10B)
Standard Braking Circuit		
Quick Braking Circuit		
	11 kW (Brake Type: FB-15B) 人-Δ Start	11 kW (Brake Type: FB-15B) Direct Start
Standard Braking Circuit		
Quick Braking Circuit		

Please prepare the following connection parts on your side:

- MC : Electromagnetic contactor
- OLR: Overload protection relay
- VR : Varistor

Capacity of Varistor (VR)

Brake input power		AC200V ~ 230V	AC380V ~ 460V
Rated voltage of varistor		AC260V ~ 300V	AC510V
Voltage of varistor		430V ~ 470V	820V
Rated power of varistor	FB-05A1	0.2 Watt or more	0.4 Watt or more
	FB-1B	0.4 Watt or more	0.6 Watt or more
	FB-2B1,3B, 5B,8B	0.6 Watt or more	1.5 Watt or more
	FB-10B,15B	1.0 Watt or more	1.5 Watt or more

We can also supply varistors.

(Optional items)

- For lifter or greater stopping accuracy, use the quick braking circuit.
- As the contact capacity for the quick braking circuit, we recommend the DC breaking capacity (for DC coil load) that is more than 5 times of the braking current.
- If you want to use other connection methods, protection relays, or varistors than indicated in these connection diagrams, please consult us.

Connection

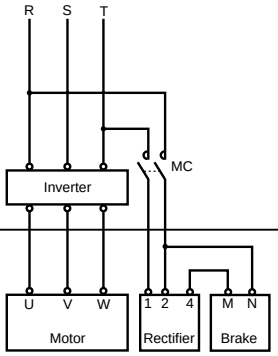
3-phase Motor	With rakes

S M T M Motor with Type rake

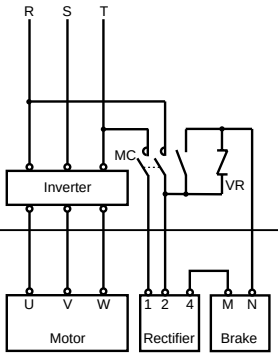
Examples of Connection for nverter riving

0.2 kW (rake Type: -05 1)

Standard raking Circuit

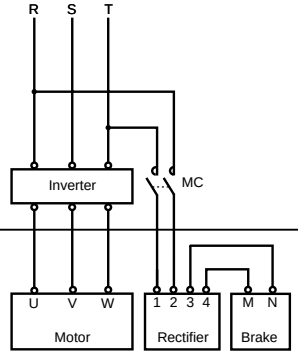


uick raking Circuit

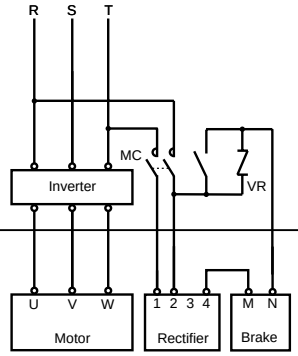


0. - 5.5 kW (rake Type: -1 to -10)

Standard raking Circuit

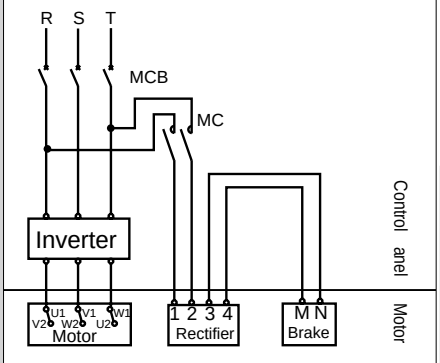


uick raking Circuit

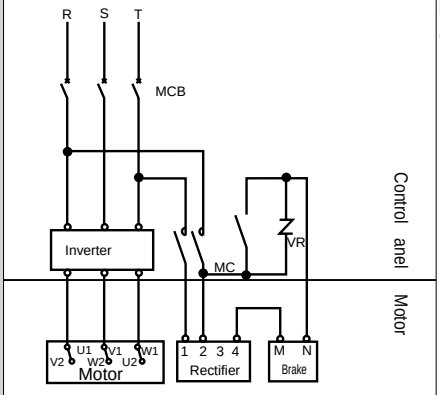


7.5 kW (rake Type: -15)

Standard raking Circuit



uick raking Circuit



lease prepare the following connection parts on your side:

- MC : Electromagnetic contactor
- LR: verload protection relay
- R : aristor

Capacity of aristor (R)

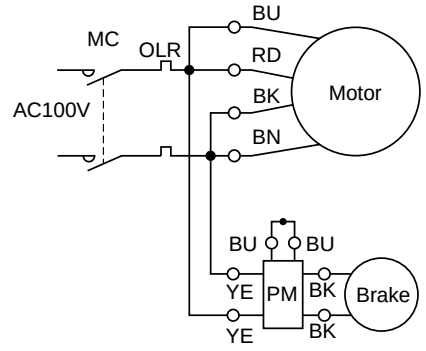
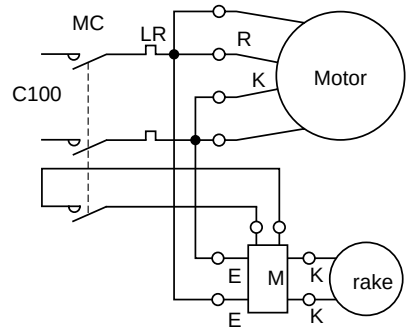
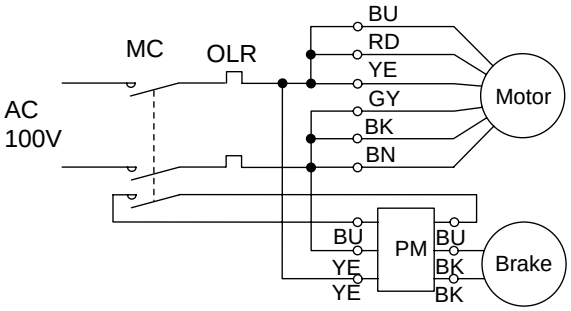
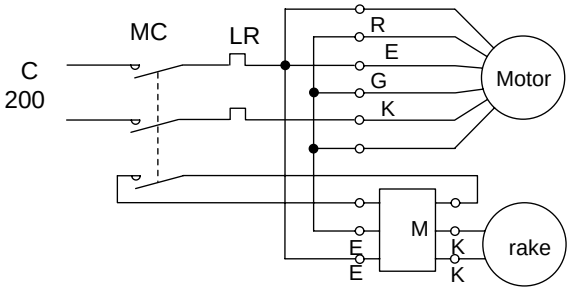
rake input power		C200 ~230	C3 0 ~ 0
Rated voltage of varistor		C2 0 ~300	C510
oltage of varistor		30 ~ 70	20
Rated power of varistor	-05 1	0.2 Watt or more	0. Watt or more
	-1	0. Watt or more	0. Watt or more
	-2 1,3 ,	0. Watt or more	1.5 Watt or more
	5 ,		
	-10 ,15	1.0 Watt or more	1.5 Watt or more

We can also supply varistors.
(ptional items)

- Because MC ON/OFF requires the interlock with the inverter, please refer to the instruction manual or guide manual of the inverter.
- For lifter or greater stopping accuracy, use the quick braking circuit.
- s the contact capacity for the quick braking circuit, we recommend the C breaking capacity (for C coil load) that is more than 5 times of the braking current.
- If you want to use other connection methods, protection relays, or varistors than indicated in these connection diagrams, please consult us.

Single-phase Motor	With rakes

T S Motor with S S Type rake

	0.1 kW and 0.2 kW (rake Type: S S-01 and 02) 100 50 0	0. kW and 0.75 kW (rake Type: S S-0 and 0) 100 50 0 , 200 50 0
Simultaneous Switching Circuit	SAVS-01,02 (0.1・0.2kW)  or the rotation direction of the motor, refer to the name plate.	ot recommended because the response time will become unstable.
Separate Switching Circuit	SAVS-01,02 (0.1・0.2kW)  For the rotation direction of the motor, refer to the name plate.	100 V  For the rotation direction of the motor, refer to the name plate. 200 V  For the rotation direction of the motor, refer to the name plate.

Inverter Driving

Precautions for Inverter Driving

1. Constant torque operation

Constant torque operation needs a special motor for inverter. Consult us, especially when operation is in the frequency range less than 6 Hz.
The sensorless operation mode of our inverters, HF-320 α and HF-430, allows constant torque operation of general-purpose motors (for details, refer to pages E21 and E22).

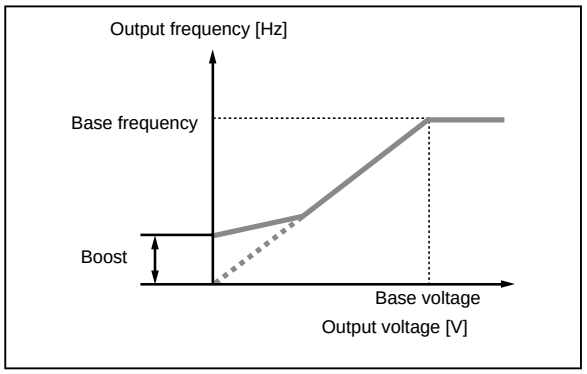
2. Operation over the base frequency (60 Hz)

The rated output operation is carried out over the base frequency. Therefore, the torque will decrease as the speed increases. Select an appropriate motor capacity according to the machine load characteristics.
The output torque becomes lower than that of the standard base frequency (60 Hz), when the constant torque operation is carried out by setting the base frequency to over 60 Hz and setting V/f.
Such adjustment may also result in insufficient torque at low frequency or during startup.
Do not change the base frequency value unless under the reduced load characteristics.

3. V/f mode operation of general-purpose inverter

In the case of multiple operation of motors or V/f operation with an inverter that has no sensorless function, it is necessary to adjust the boost value in compensation for the startup torque and slow-speed torque. The products are usually shipped with the standard factory settings, but overcurrent may occur depending on the load or acceleration/deceleration condition. In such a case, change the value appropriately as follows:

a. In the case of a small capacity motor and a small load, a large boost setting may cause overexcitation of the motor, leading to overcurrent. In such a case, lower the boost to keep the normal value.
b. In cases where a load is large and overcurrent during startup or slow-speed operation easily causes tripping, increase the boost to lower the current value. However, if no improvement is observed after boost adjustment, it is necessary to examine the motor capacity.

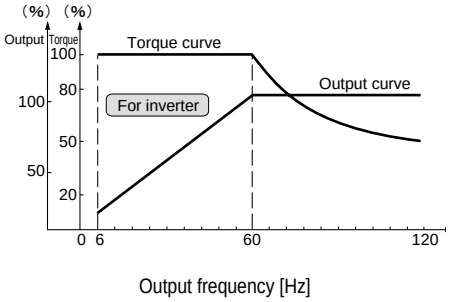


4. Operation by sensorless vector inverter

Some latest high-performance inverters are equipped with a sensorless vector operation function. This function is basically valid only when a motor and an inverter are operated in one-to-one correspondence. The function is not suited to multiple operation or pole-change operation.
Products with the auto-tuning function automatically controls the motor characteristics and do not need adjustment as in the case of the V/f operation. They carry out the vector operation on the basis of the motor data read by the inverter, and the operation is controlled instantaneously in accordance with the load condition to continue optimal operation.
Note that when the wiring distance between the motor and inverter is long (20 m or more), compensation may be necessary according to the line impedance drop. Select sufficiently thick cables for the long wiring distance. Consult us for long distance wiring.

5. Output torque characteristics of motor

○ Total output/torque characteristics curve when a motor for inverter and V/f controlled inverter are operated in combination



When a general-purpose motor is operated with an inverter, the reduced torque operation characteristics will appear as shown below. The startup torque is also reduced by 40-60 % relative to an AF motor.

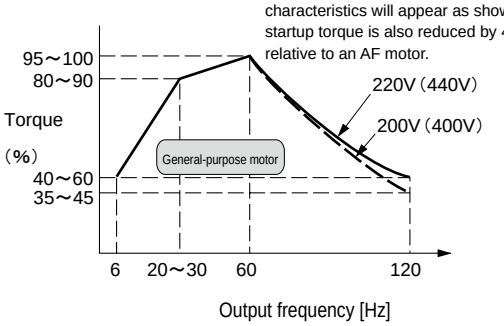


Figure D-1

Note: Constant torque operation is possible from 1 Hz when an axial fantype is used.

6. Motor temperature rise

When a general-purpose motor is combined with an inverter for variable-speed operation, the motor temperature rise may be slightly greater than operated by a commercial power supply.
Possible causes include:

Influence of output waveform ..... Unlike a commercial power supply, the output waveform of an inverter is not a complete sine wave but includes harmonics. Therefore, motor loss will increase and the temperature rises slightly higher.

Less motor cooling effect during slow-speed operation ..... A motor is cooled by its own fan. Therefore, when the motor speed is decreased by an inverter, the cooling air quantity decreases, reducing the cooling effect.

Inverter Operation of General-Purpose Motor
TOSHIBA Motor

• Standard Gearmotors

Gearmotors are designed to be driven by a sinusoidal source such as a commercial power supply.

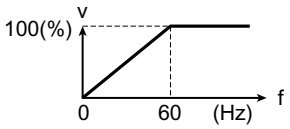
When a gearmotor is driven by an inverter, the loss will increase compared to when it is driven by a sinusoidal source because the power source contains harmonic components. Therefore, it is necessary to reduce the continuous operation torque for a inverter driven gearmotor.

(1) The following figure shows the continuous allowable torque of A series.

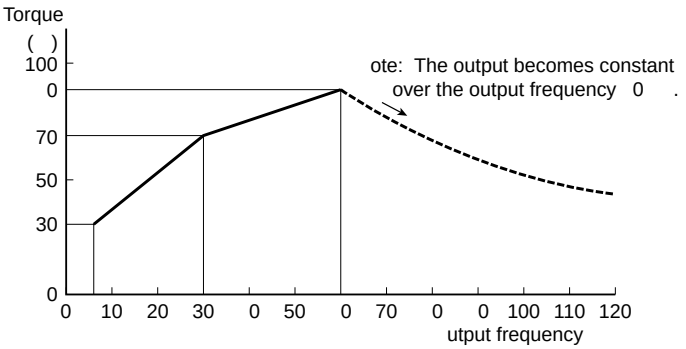
Condition

(1) 100% torque = $\frac{974 \times \text{Motor output [kW]}}{1800 \text{ [r/min]}}$ [N・m]

(2) The v/f pattern of the inverter is the base frequency 60 Hz.



(3) For over 60 Hz operation, keep the allowable maximum frequency shown in (2).



(2) The following table shows the allowable maximum frequency of A series.
Avoid a high speed operation over 60 Hz as far as possible due to more noise or temperature rise, or shorter oil seal life.

Table 1 Allowable Maximum Frequency of A Series

Motor Output [kW]	Allowable Maximum Frequency [Hz]
0.4	120
0.75	100
1.5	80
2.2	80
3.7	80
5.5	70
7.5	70

(3) On the system that runs 400 V class gearmotors by a voltage-type PWM inverter with an ultra high-speed switching device (ex. IGBT), the insulation degradation of the motor winding may be occurred by a surge voltage which is dependent on the cable laying method or cable constants. In this case, the following measures are suggested:
- Use an enhanced insulation type gearmotor.
- Suppress the surge voltage by installing an AC reactors or surge suppression filter on the inverter output end.

(4) For models with brakes, in the simultaneous switching circuit the startup voltage is so low that the brake cannot be released. Therefore, connect the brake circuit on the power source side of the inverter (refer to related section).
The maximum safety speed for the brake is 1800 r/min. Please use it at 60 Hz or less.

(5) An explosion-proof gearmotor must be authorized together with an inverter. Be sure to operate it with the specific indicated inverter.The body of the inverter is not explosion-proof. It should be installed in an explosive gas-free place.

Inverter Driving

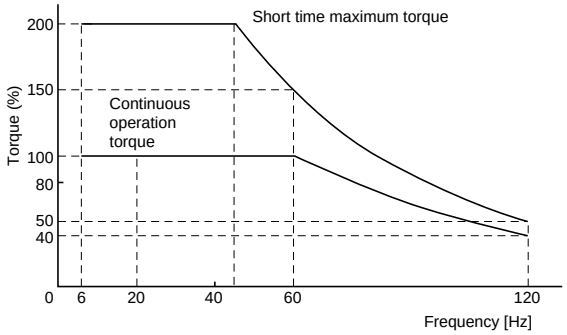
Inverter Operation of General-Purpose Motor
SUMITOMO Motor

When a SUMITOMO inverter from HF-320 α and HF-430 series is used for the sensorless control operation, an operation with the following characteristics is possible in combination with a SUMITOMO general-purpose motor.
This enables a standard frame size motor to be used with an application where a motor for inverter (AF motor) has been used with a reducer of a larger frame size, for the constant torque operation specification.

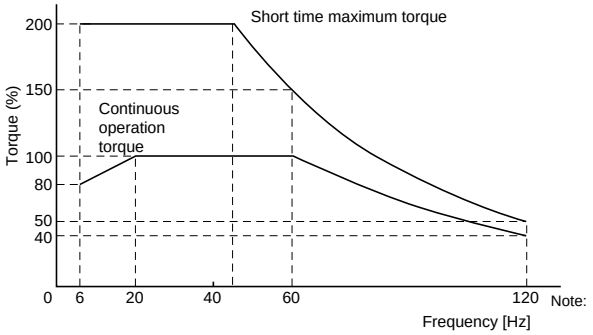
Note:1. To select a gearmotor, it is necessary to consider the lubrication method and torque during the slow speed operation or rated output operation. Be sure to notify us of the inverter operation when placing an order.
2. Consult us for 400 V class model because insulation measures are necessary for the inverter operation.
3. When a motor with brakes is to be operated for a long time at slow speed, the cooling effect of the fan will decrease and the brake temperature will rise substantially. Consult us for details.
4. Consult us for details when a general-purpose motor is to be operated at constant torque under the V/F control (consult us also when a SUMITOMO inverter from SF-320 α series is to be used).

[kW]	Motor Frame Size	Thermal Class	Available Frequency	Constant Torque Range	Rated Output Range	Applicable Inverter
0.4	F71M	E	6 ~ 120Hz	6 ~ 60Hz (1:10)	60 ~ 120Hz	HF-320 α Sensorless control
0.75	F80M	B		20 ~ 60Hz (1:3)		
1.5	F90L					
2.2	F100L					
3.7	F112M					
5.5	F132S					HF-430 Sensorless control
7.5	F132M					
11	F160M					

HF-320 α and HF-430 Output Torque Characteristics During Sensorless Mode Operation



0.2 - 0.4 kW



0.75 - 11 kW

●Combination - The output torque presupposes that the 60 Hz rating of the motor is 100%.

Continuous operation torque : The allowable torque value for continuous operation of the motor with the temperature rise kept within the standard value.

Short time maximum torque : The maximum torque value emitted by the motor operated by an inverter. It can be operated for a short time (one minute) at this torque value.

Warranty Standard

Warranty Period	The warranty period for the new Product shall be 18 months from factory shipment date or 12 months from the first Product operation, whether comes first.
Warranty Condition	In case that any Product failures occur during the "Warranty Period" although the Product is appropriately installed, connected, and maintained in accordance with the instruction manual and is properly operated under the conditions as described in the catalogue or otherwise as agreed upon in writing, Sumitomo Heavy Industries, Ltd. will provide, at our sole discretion, appropriate repair or replacement on the Product without charge, except as stipulated in the "Exception for Warranty" as described below. However, in the event that the Product is connected to your other equipments, Sumitomo Heavy Industries, Ltd. shall not reimburse the costs for removal/ re-installation of the Product from/to the equipments or other incidental engineering or shipping costs related thereto, and any opportunity loss, loss of profit or any other incidental losses or damages incurred by you.
Exception for Warranty	Notwithstanding the above warranty, the warranty as set forth herein shall not be applied to the problems, troubles or damages on the Product which are caused by: 1. the problems of the installation or connection to other equipments of the Product 2. the insufficient maintenance or improper operation, such that the Product is not appropriately maintained in accordance with the maintenance manual provided by us 3. the improper use or operation of the Product which are not informed to us, including, without limitation, the customers' operation of the Product not in conformity with the specifications, or use of the lubrication oil in the Product which is not recommended by us 4. the problems of any equipment which the Product is connected to, or any specifications particular to the equipments 5. any modification or reconstruction on the Product 6. any parts in the Product which are supplied or designated by you 7. earthquake, fire, flood, sea-breeze, gas, thunder, or any other reasons beyond the control 8. natural wear and tear, exhaustion, or deterioration on the parts of the Product such as bearing and oil seal, in spite of proper use 9. any other troubles, problems or damages on the Product which are not attributable to us

Warning

⚠ SAFETY PRECAUTIONS

- ●Observe safety rules for installation site and equipment strictly (Industrial Safety and Health Law, Technical Standard for Electric Facilities, Extension Rules, Plant Explosion guidelines, Building Standards Law, etc.).
- ●Read the maintenance manual carefully before use. Request one from the distributor you purchased from or our sales department if it is not handy. The maintenance manual must reach the actual user.
- ●Select an appropriate product to match the operating environment and application.
- ●Install protective equipment on the machine side when the machine is used for passenger transportation and elevators, escalators, and dumb waiters.
- ●Use a flameproof type motor for use in explosive environment. Select a flameproof type motor with appropriate specifications sufficient for ha ardous locations.
- ●Either mount a control filter or a reactor on the inverter side or use a sufficiently insulated motor when a 400 V class inverter is used to drive motor.
- ●Install an oil pan or other devices to prevent oil or grease leakage, just in case of failure or termination of service life, for oil-sensitive applications such as food processing and clean rooms.

To Contribute to the Environment

We encourage you to recycle the packaging materials in order to protect the global environment.

or the packaging materials of the roduct, ask for their recycling to recycling manufactures or industrial waste disposers in your neighborhood.

(We can also deliver the Product in a returnable case or without package. lease consult our distributor, dealer, or business office in your neighborhood.)

Worldwide Sumitomo Network

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