

GEAR MOTOR

MINI Series

40 W to 90 W

HYPOID MOTOR

MINI Series

40 W to 90 W

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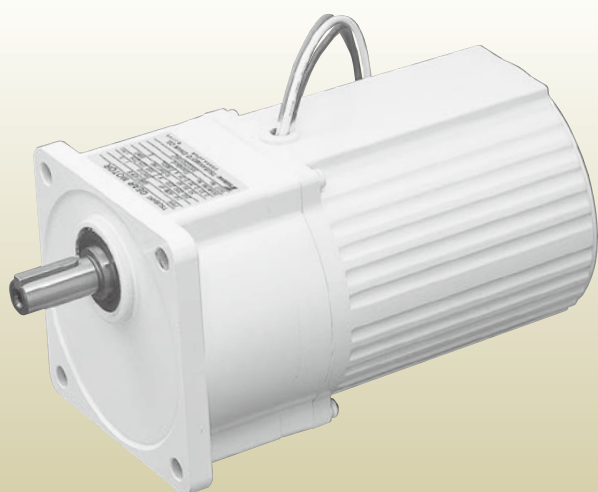
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GEAR MOTOR & HYPOID MOTOR

MINI Series & MINI Series

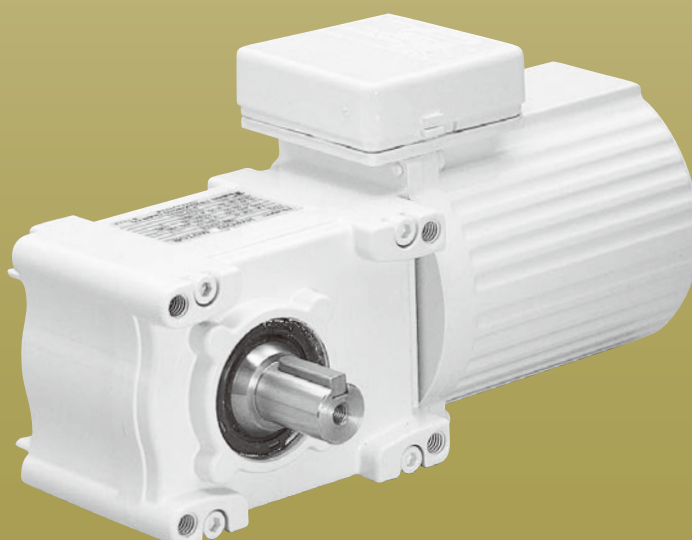
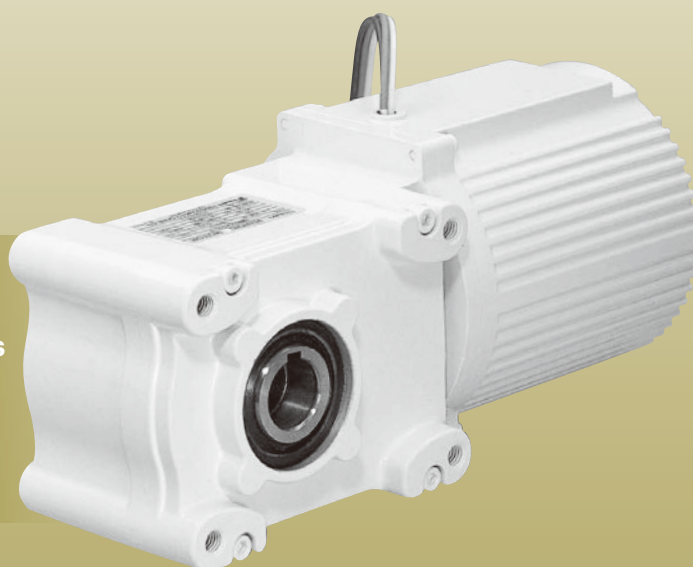
Features

Gear Motor and Hypoid Motor Mini Series Features



Compact

Extensive lineup includes single-phase and three-phase 40 W, 60 W, and 90 W models



1 High torque

During revolution of a low output shaft at a high reduction ratio, there are no torque limitations so users get high torque transfer.

2 High efficiency

In order to reduce power consumption and generate high power output, all parts were meticulously designed with an eye to efficiency. Compared to the worm type, users get less sliding, greater efficiency, and lower operating costs.

3 Long life

The average service life of more than 10,000 hours is one of the highest in this product class.

4 Compatibility

The Gear Motor Mini Series utilizes the same flange-mounting dimensions as products of other Japanese manufacturers.

5 Flexible mounting

With identical upper and lower pitches on the case, two can be installed in a mirror configuration.

6 Wide range of reduction ratios

Choose from the following reduction ratios:

1/5, 1/8, 1/10, 1/15, 1/20, 1/25, 1/30, 1/40, 1/50, 1/60, 1/80, 1/100, 1/120, 1/160, 1/200, 1/240

7 Outdoor type equivalent to IP65 waterproof rating

All outdoor models have waterproof performance equivalent to IP65 under IEC standards.

Nomenclature, Standard Specifications

Nomenclature

G M M T 60 F 50 B - W

① ② ③ ④ ⑤ ⑥ ⑦

① Product series name	GMM	Gear motor Mini Series
② Motor specifications	T S	Three-phase Single-phase
③ Motor capacity	40 60 90	40 W 60 W 90 W
④ Mounting type	F	Flange mount
⑤ Reduction ratio (example)	8 50 240	1/8 1/50 1/240
⑥ Brake	No code B	No brake With brake
⑦ Specification code	No code W J V WV P PV N2 N3	Lead wire outlet type Outdoor type Waterproof specifications Double voltage (three-phase 400 V class, single-phase 200 V class) Outdoor, double voltage (three-phase 400 V class, single-phase 200 V class) Resin terminal box Resin terminal box, double voltage (three-phase 400 V class, single-phase 200 V class) UL listed (three-phase 60W/90 W, non-brake type only) CCC compliant (three-phase 60W/90 W, non-brake type only)



Note 1: Outdoor models (W) have waterproof performance equivalent to IP65.

Note 2: Outdoor models (W) with brake (B) are available.

Note 3: Models equipped with resin terminal box (P) are not available with brake (B).

Note 4: Contact us for single-phase, 90 W (GMMS90) outdoor models (W) and single-phase, 90 W (GMMS90) brake-equipped models (B).

Note 5: The motors do not have micro surge protection.

Note 6: Three-phase 400 V-class models cannot be inverter-driven.

Note 7: Three-phase 200 V-class models can be inverter-driven, but they cannot be continuously operated in low frequencies or at 60 Hz and higher.

Note 8: Refer to page 301 for voltages of global series products.

Specifications

Motor	Output	Three-phase: 40, 60, 90 W	Single-phase: 40, 60, 90 W
	Power supply	200/200/220 V 50/60/60 Hz	100 V 50/60 Hz
	Number of poles	4	4
	Protection	Totally enclosed type (IP30)	Totally enclosed type (90W is totally enclosed external fan type) (IP30)
	Cooling	Self-cooled type	Self-cooled type (90 W is self-managed type)
	Startup	—	Capacitor run
	Rating	S1 (continuous)	
	Insulation	120 (E)	
Reducer	Brake	Non-excitation operation, DC electromagnetic brake (except single-phase 90 W)	
	Reduction ratio	1/5 to 1/240	
	Lubrication	Grease lubrication	
	Start end keyway	New JIS key (JISB1301-1976): output shaft key attached (except hollow shaft type; ordinary-class keyway)	
Ambient conditions	Output shaft end	With tap processing (except hollow shaft type)	
	Installation place	Indoor not exposed to dust or water	
	Temperature	-15°C to 40°C	
	Humidity	Less than 85% (non condensing)	
	Altitude	Elevations below 1000m	
	Atmosphere	Free from corrosive gases, explosive gases, and steam	
Paint color	Mounting direction	No limitations on mounting angles: horizontal, vertical, or inclined	
		Munsell N7.5, light gray	

Motor Specifications

Number of phases	Output	Number of poles	Frequency Hz	Voltage V	Rated revolution r/min	Rated current A	Starting torque N · m {kgf · m} (Nominal torque ratio %)
Three-phase	40 W	4	50/60/60	200/200/220	1370/1640/1680	0.33/0.30/0.30	0.54/0.38/0.48 {0.055/0.039/0.049} (194/165/212)
	60 W				1321/1598/1622	0.45/0.40/0.42	0.83/0.62/0.75 {0.085/0.063/0.076} (192/172/211)
	90 W				1313/1586/1622	0.60/0.55/0.55	1.13/0.87/1.01 {0.115/0.089/0.103} (172/161/191)
Single-phase	40 W	4	50/60	100	1411/1711	0.89/0.82	0.21/0.21 {0.022/0.022} (79.7/96.6)
	60 W				1293/1625	1.17/1.06	0.25/0.25 {0.026/0.025} (57.5/69.5)
	90 W				1274/1614	1.73/1.60	0.40/0.40 {0.041/0.041} (59.6/75.5)

Specification Chart

Model number		Motor output W	Actual reduction ratio	Number of reduction steps	Output shaft revolution r/min		Allowable output shaft torque				Allowable output shaft O.H.L.		Page and drawing number of outline dimensions		
					50Hz	60Hz	N·m {kgf·m}		N·m {kgf·m}	N·m {kgf·m}	shaft O.H.L.	N {kgf}			
							50Hz	60Hz							
GMM T40	5	40	1/5	2	300	360	1.18	{0.12}	0.98	{0.10}	441	{ 45}	147 1	147 3	
	8		1/8		187.5	225	1.86	{0.19}	1.57	{0.16}	490	{ 50}			
	10		1/10		150	180	2.25	{0.23}	1.86	{0.19}	539	{ 55}			
	15		1/15		100	120	3.43	{0.35}	2.84	{0.29}	588	{ 60}			
	20		1/20		75	90	4.61	{0.47}	3.82	{0.39}	637	{ 65}			
	25		1/25		60	72	5.68	{0.58}	4.80	{0.49}	686	{ 70}			
	30		1/30		50	60	6.86	{0.70}	5.68	{0.58}	686	{ 70}			
	GMM S40		40	1/40	3	37.5	45	8.62	{0.88}	7.25	{0.74}	735			{ 75}
50			1/50	30		36	10.8	{1.10}	9.02	{0.92}	735	{ 75}			
60			1/60	25		30	12.9	{1.32}	10.8	{1.10}	735	{ 75}			
80			1/80	18.8		22.5	17.3	{1.77}	14.4	{1.47}	735	{ 75}			
100			1/100	15		18	21.7	{2.21}	18.0	{1.84}	735	{ 75}			
120			1/120	12.5		15	26.0	{2.65}	21.7	{2.21}	735	{ 75}			
160			1/160	9.4		11.3	34.6	{3.53}	28.8	{2.94}	1370	{140}			
200			1/200	7.5		9	43.3	{4.42}	36.1	{3.68}	1370	{140}			
240	1/240		6.2	7.5		51.9	{5.30}	43.3	{4.42}	1370	{140}				
GMM T60	5	60	1/5	2	300	360	1.76	{0.18}	1.47	{0.15}	490	{ 50}	148 1	148 3	
	8		1/8		187.5	225	2.74	{0.28}	2.25	{0.23}	490	{ 50}			
	10		1/10		150	180	3.43	{0.35}	2.84	{0.29}	539	{ 55}			
	15		1/15		100	120	5.19	{0.53}	4.31	{0.44}	588	{ 60}			
	20		1/20		75	90	6.86	{0.70}	5.68	{0.58}	637	{ 65}			
	25		1/25		60	72	8.62	{0.88}	7.15	{0.73}	686	{ 70}			
	30		1/30		50	60	10.3	{1.05}	8.62	{0.88}	686	{ 70}			
	GMM S60		40	1/40	3	37.5	45	12.9	{1.32}	10.8	{1.10}	735			{ 75}
50			1/50	30		36	16.3	{1.66}	13.5	{1.38}	735	{ 75}			
60			1/60	25		30	19.5	{1.99}	16.3	{1.66}	735	{ 75}			
80			1/80	18.8		22.5	26.0	{2.65}	21.7	{2.21}	735	{ 75}			
100			1/100	15		18	32.4	{3.31}	27.0	{2.76}	735	{ 75}			
120			1/120	12.5		15	38.9	{3.97}	32.4	{3.31}	735	{ 75}			
160			1/160	9.4		11.3	51.9	{5.30}	43.3	{4.42}	1370	{140}			
200			1/200	7.5		9	64.9	{6.62}	54.1	{5.52}	1370	{140}			
240	1/240		6.2	7.5		※64.9	※{6.62}	※54.1	※{5.52}	1370	{140}				
GMM T90	5	90	1/5	2	300	360	2.55	{0.26}	2.16	{0.22}	490	{ 50}	150- 1 (GMMT90)	150 3 (GMMT90)	
	8		1/8		187.5	225	4.12	{0.42}	3.43	{0.35}	490	{ 50}			
	10		1/10		150	180	5.19	{0.53}	4.31	{0.44}	539	{ 55}			
	15		1/15		100	120	7.74	{0.79}	6.47	{0.66}	588	{ 60}			
	20		1/20		75	90	10.3	{1.05}	8.62	{0.88}	637	{ 65}			
	25		1/25		60	72	12.2	{1.24}	10.1	{1.03}	686	{ 70}			
	30		1/30		50	60	14.6	{1.49}	12.2	{1.24}	686	{ 70}			
	GMM S90		40	1/40	2	37.5	45	20.6	{2.10}	17.2	{1.75}	735			{ 75}
50			1/50	30		36	25.8	{2.63}	21.5	{2.19}	735	{ 75}			
60			1/60	25		30	31.0	{3.16}	25.8	{2.63}	735	{ 75}			
80			1/80	3	18.8	22.5	38.9	{3.97}	32.4	{3.31}	1270	{130}	150- 6 (GMMS90)		
100			1/100		15	18	48.7	{4.97}	40.6	{4.14}	1270	{130}			
120			1/120		12.5	15	58.4	{5.96}	48.7	{4.97}	1370	{140}			

Note 1: The actual reduction ratio is shown as the reduction ratio. (They are all integer ratios.)

Note 2: The output shaft revolution rate is calculated by dividing the synchronous motor revolution rate by the reduction ratio. Calculate the actual output revolution rate from the motor's rated revolution rate (page 145).

Note 3: The models marked with ※ are ones for which torque is limited.

Motor Specifications

Output	Number of phases	Number of poles	Frequency Hz	Voltage V 50/60/60Hz	Rated current A 50/60/60Hz	Rated revolution r/min 50/60/60Hz	Starting torque N·m(kgf·m) (Nominal torque ratio %)	Protection	Cooling method	Rating	Insulation	Brake actuating method
40W	Three-phase	4	50/60/60	200/200/220	0.33/0.30/0.30	1370/1640/1640	0.54/0.38/0.48 {0.055/0.039/0.049} (194/165/212)	Totally enclosed (IP30)	Self-cooled (IC410)	Continuous	120 (E)	Non-excitation
	Single-phase	4	50/60	100	0.89/0.82	1411/1711	0.21/0.21 {0.022/0.022} (79.7/96.6)					

Note: A single-phase motor uses the capacitor-start method. For capacitor dimensions, see page 150.

Specification Chart

Model number		Motor output	Actual reduction ratio	Number of reduction steps	Output shaft revolution r/min		Allowable output shaft torque				Allowable output shaft O.H.L.		Drawing number of outline dimensions	Moment of inertia		
							N · m		{kgf · m}		N · m			{kgf · m}		kg · m²
					50Hz	60Hz	50Hz		60Hz		N	{kgf}		{GD2 kgf · m²}		
GMM T40	5	40 W	1/5	2	300	360	1.18	{0.12}	0.98	{0.10}	441	{ 45}	Non-brake 1	Three-phase non-brake 1.84×10 ⁻⁴ {7.35×10 ⁻⁴ }		
	8		1/8		187.5	225	1.86	{0.19}	1.57	{0.16}	490	{ 50}				
	10		1/10		150	180	2.25	{0.23}	1.86	{0.19}	539	{ 55}				
	15		1/15		100	120	3.43	{0.35}	2.84	{0.29}	588	{ 60}				
	20		1/20		75	90	4.61	{0.47}	3.82	{0.39}	637	{ 65}				
	25		1/25		60	72	5.68	{0.58}	4.80	{0.49}	686	{ 70}				
	30		1/30		50	60	6.86	{0.70}	5.68	{0.58}	686	{ 70}				
GMM S40	40		1/40	3	37.5	45	8.62	{0.88}	7.25	{0.74}	735	{ 75}	Brake 3	Single-phase non-brake 2.07×10 ⁻⁴ {8.27×10 ⁻⁴ }		
	50		1/50		30	36	10.8	{1.10}	9.02	{0.92}	735	{ 75}				
	60		1/60		25	30	12.9	{1.32}	10.8	{1.10}	735	{ 75}				
	80		1/80		18.8	22.5	17.3	{1.77}	14.4	{1.47}	735	{ 75}				
	100		1/100		15	18	21.7	{2.21}	18.0	{1.84}	735	{ 75}	Non-brake 2 Brake 4	Single-phase brake 2.09×10 ⁻⁴ {8.37×10 ⁻⁴ }		
	120		1/120		12.5	15	26.0	{2.65}	21.7	{2.21}	735	{ 75}				
	160		1/160		9.4	11.3	34.6	{3.53}	28.8	{2.94}	1370	{140}				
	200	1/200	7.5		9	43.3	{4.42}	36.1	{3.68}	1370	{140}					
	240	1/240		6.2	7.5	51.9	{5.30}	43.3	{4.42}	1370	{140}					

Note 1: The actual reduction ratio is shown as the reduction ratio. (They are all integer ratios.)

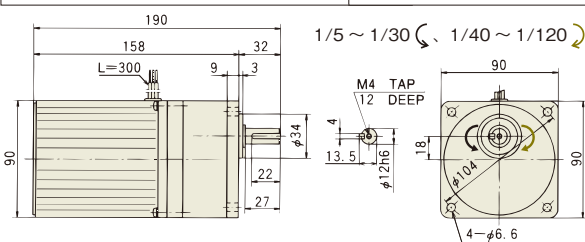
Note 2: The output shaft revolution rate is calculated by dividing the synchronous motor revolution rate by the reduction ratio. Calculate the actual output revolution rate from the motor's rated revolution rate.

Three-phase/single-phase non-brake type

GMM^T40F5~120

1

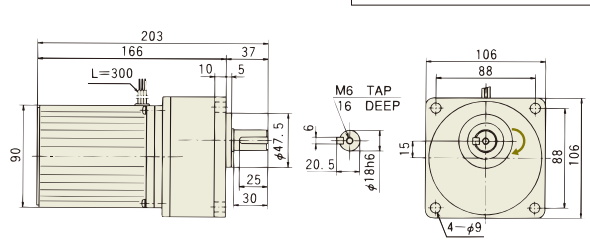
Reduction ratio : 5, 8, 10, 15, 20, 25, 30, 40, 50, 60, 80, 100, 120
Approx. weight : Three-phase 3.2kg
Single-phase 3.4kg



GMM^T40F160~240

2

Reduction ratio : 160, 200, 240
Approx. weight : Three-phase 3.8kg
Single-phase 4.0kg

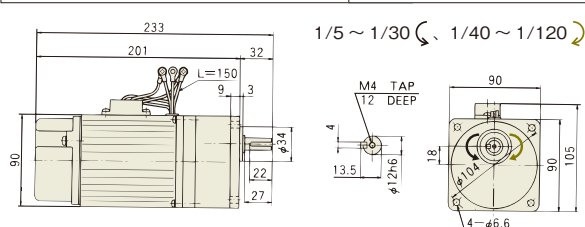


Three-phase/single-phase brake type

GMM^T40F5~120B

3

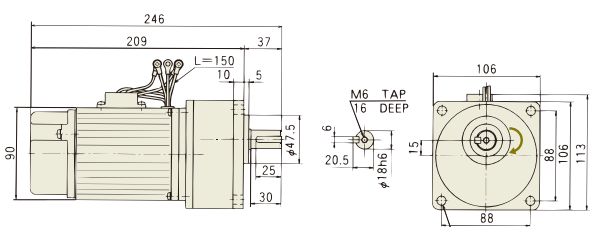
Reduction ratio : 5, 8, 10, 15, 20, 25, 30, 40, 50, 60, 80, 100, 120
Approx. weight : Three-phase 3.8kg
Single-phase 4.0kg



GMM^T40F160~240B

4

Reduction ratio : 160, 200, 240
Approx. weight : Three-phase 4.4kg
Single-phase 4.6kg



Note: The direction of rotation of the output shaft is based on direction of rotation A shown on page 189.

Motor Specifications

Output	Number of phases	Number of poles	Frequency Hz	Voltage V 50/60/60Hz	Rated current A 50/60/60Hz	Rated revolution r/min 50/60/60Hz	Starting torque N·m(kgf·m) (Nominal torque ratio %)	Protection	Cooling method	Rating	Insulation	Brake actuating method
60W	Three-phase	4	50/60/60	200/200/220	0.45/0.40/0.42	1321/1598/1622	0.83/0.62/0.75 {0.085/0.063/0.076} (192/172/211)	Totally enclosed (IP30)	Self-cooled (IC410)	Continuous	120 (E)	Non-excitation
	Single phase	4	50/60	100	1.17/1.06	1293/1625	0.25/0.25 {0.026/0.026} (57.5/69.5)					

Note: A single-phase motor uses the capacitor-start method. For capacitor dimensions, see page 150.

Specification Chart

Model number		Motor output	Actual reduction ratio	Number of reduction steps	Output shaft revolution r/min		Allowable output shaft torque				Allowable output shaft O.H.L.		Drawing number of outline dimensions	Moment of inertia kg · m²
					50Hz	60Hz	N · m		{kgf · m}		N	{kgf}		{GD2 kgf · m²}
GMM T60 GMM S60	5	60 W	1/5	2	300	360	1.76	{0.18}	1.47	{0.15}	490	{ 50}	Non-brake 1	Three-phase non-brake 1.62×10 ⁻⁴ {6.46×10 ⁻⁴ }
	8		1/8		187.5	225	2.74	{0.28}	2.25	{0.23}	490	{ 50}		
	10		1/10		150	180	3.43	{0.35}	2.84	{0.29}	539	{ 55}		
	15		1/15		100	120	5.19	{0.53}	4.31	{0.44}	588	{ 60}		
	20		1/20	75	90	6.86	{0.70}	5.68	{0.58}	637	{ 65}			
	25		1/25	60	72	8.62	{0.88}	7.15	{0.73}	686	{ 70}			
	30		1/30	50	60	10.3	{1.05}	8.62	{0.88}	686	{ 70}			
	40		1/40	37.5	45	12.9	{1.32}	10.8	{1.10}	735	{ 75}			
	50		1/50	30	36	16.3	{1.66}	13.5	{1.38}	735	{ 75}			
	60		1/60	25	30	19.5	{1.99}	16.3	{1.66}	735	{ 75}			
	80		1/80	18.8	22.5	26.0	{2.65}	21.7	{2.21}	735	{ 75}			
	100		1/100	15	18	32.4	{3.31}	27.0	{2.76}	735	{ 75}			
	120		1/120	12.5	15	38.9	{3.97}	32.4	{3.31}	735	{ 75}			
	160		1/160	9.4	11.3	51.9	{5.30}	43.3	{4.42}	1370	{140}			
	200		1/200	7.5	9	64.9	{6.62}	54.1	{5.52}	1370	{140}			
	240		1/240	6.2	7.5	※64.9	※{6.62}	※54.1	※{5.52}	1370	{140}			
													Non-brake 2	Single-phase brake 1.96×10 ⁻⁴ {7.83×10 ⁻⁴ }
													Brake 4	

Note 1: The actual reduction ratio is shown as the reduction ratio. (They are all integer ratios.)

Note 2: The output shaft revolution rate is calculated by dividing the synchronous motor revolution rate by the reduction ratio. Calculate the actual output revolution rate from the motor's rated revolution rate.

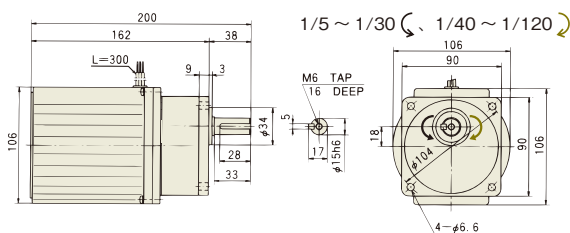
Note 3: The models marked with ※ are ones for which torque is limited.

Three-phase/single-phase non-brake type

GMM_S60F5~120

1

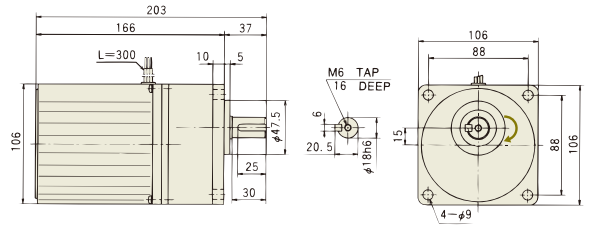
Reduction ratio : 5, 8, 10, 15, 20, 25, 30, 40, 50, 60, 80, 100, 120
Approx. weight : Three-phase 3.4kg
Single-phase 4.4kg



GMM_S60F160~240

2

Reduction ratio : 160, 200, 240
Approx. weight : Three-phase 4.0kg
Single-phase 5.0kg

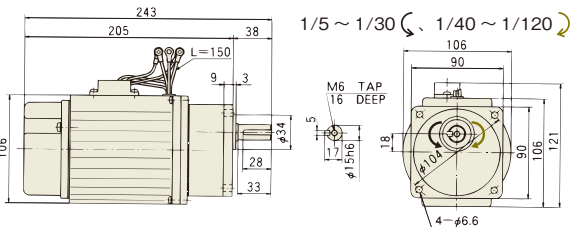


Three-phase/single-phase brake type

GMM_S60F5~120B

3

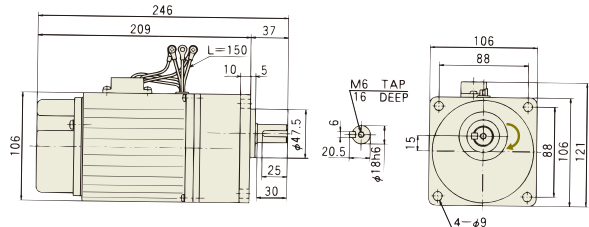
Reduction ratio : 5, 8, 10, 15, 20, 25, 30, 40, 50, 60, 80, 100, 120
Approx. weight : Three-phase 4.0kg
Single-phase 5.0kg



GMM_S60F160~240B

4

Reduction ratio : 160, 200, 240
Approx. weight : Three-phase 4.7kg
Single-phase 5.6kg



Note: The direction of rotation of the output shaft is based on direction of rotation A shown on page 189.

Motor Specifications

Output	Number of phases	Number of poles	Frequency Hz	Voltage V 50/60/60Hz	Rated current A 50/60/60Hz	Rated revolution r/min 50/60/60Hz	Starting torque N·m{kgf·m} (Nominal torque ratio %)	Protection	Cooling method	Rating	Insulation	Brake actuating method
90W	Three-phase	4	50/60/60	200/200/220	0.60/0.55/0.55	1313/1586/1622	1.13/0.87/1.01 {0.115/0.089/0.103} (172/161/191)	Totally enclosed (IP30)	Self-cooled (IC410)	Continuous	120 (E)	Non-excitation
	Single phase	4	50/60	100	1.73/1.60	1274/1614	0.40/0.40 {0.041/0.041} (59.6/75.5)	Totally enclosed external fan (IP30)	Self-managed (IC411)			—

Note: A single-phase motor uses the capacitor-start method. For capacitor dimensions, see page 150.

Specification Chart

Model number		Motor output	Actual reduction ratio	Number of reduction steps	Output shaft revolution r/min		Allowable output shaft torque				Allowable output shaft O.H.L.		Drawing number of outline dimensions	Moment of inertia kg · m ²
					50Hz	60Hz	N · m {kgf · m}		N · m {kgf · m}		shaft O.H.L.			{GD2 kgf · m ² }
							50Hz	60Hz	N	{kgf}				
GMM T90	5	90 W	1/5	2	300	360	2.55	{0.26}	2.16	{0.22}	490	{ 50}	Three-phase non-brake 1 Three-phase brake 3	Three-phase non-brake 2.15 × 10 ⁻⁴ {8.61 × 10 ⁻⁴ }
	8		1/8		187.5	225	4.12	{0.42}	3.43	{0.35}	490	{ 50}		
	10		1/10		150	180	5.19	{0.53}	4.31	{0.44}	539	{ 55}		
	15		1/15		100	120	7.74	{0.79}	6.47	{0.66}	588	{ 60}		
	20		1/20	3	75	90	10.3	{1.05}	8.62	{0.88}	637	{ 65}	Single-phase non-brake 5	Three-phase brake 2.18 × 10 ⁻⁴ {8.71 × 10 ⁻⁴ }
25	1/25		60		72	12.2	{1.24}	10.1	{1.03}	686	{ 70}			
30	1/30		50		60	14.6	{1.49}	12.2	{1.24}	686	{ 70}	Three-phase non-brake 2 Three-phase brake 4 Single-phase non-brake 6	Single-phase non-brake 1.93 × 10 ⁻⁴ {7.73 × 10 ⁻⁴ }	
GMM S90	40		1/40	2	37.5	45	20.6	{2.10}	17.2	{1.75}	735			{ 75}
	50		1/50		30	36	25.8	{2.63}	21.5	{2.19}	735			{ 75}
	60		1/60	3	25	30	31.0	{3.16}	25.8	{2.63}	735			{ 75}
	80		1/80		18.8	22.5	38.9	{3.97}	32.4	{3.31}	1270			{130}
100	1/100		15		18	48.7	{4.97}	40.6	{4.14}	1270	{130}			
	120		1/120		12.5	15	58.4	{5.96}	48.7	{4.97}	1370	{140}		

Note 1: The actual reduction ratio is shown as the reduction ratio. (They are all integer ratios.)

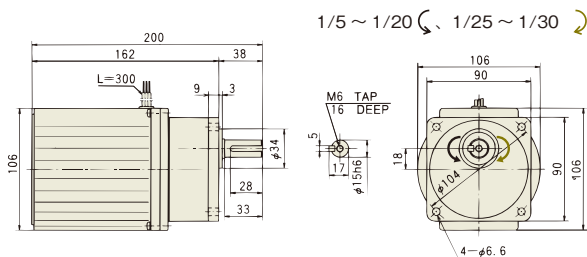
Note 2: The output shaft revolution rate is calculated by dividing the synchronous motor revolution rate by the reduction ratio. Calculate the actual output revolution rate from the motor's rated revolution rate.

Three-phase non-brake type

GMMT90F5~30

1

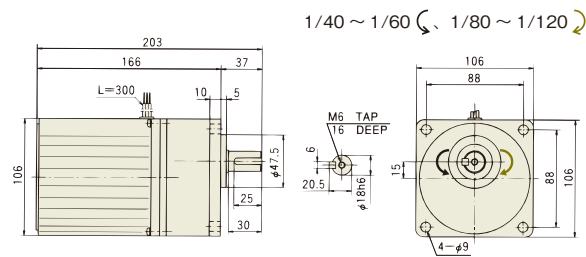
Reduction ratio : 5, 8, 10, 15, 20, 25, 30 Approx. weight : Three-phase 3.9kg



GMMT90F40~120

2

Reduction ratio : 40, 50, 60, 80, 100, 120 Approx. weight : Three-phase 4.5kg

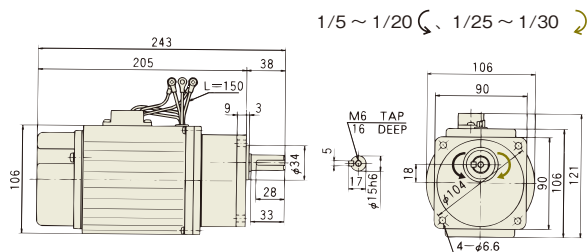


Three-phase brake type

GMMT90F5~30B

3

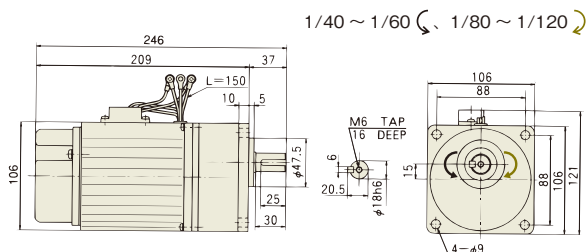
Reduction ratio : 5, 8, 10, 15, 20, 25, 30 Approx. weight : Three-phase 4.5kg



GMMT90F40~120B

4

Reduction ratio : 40, 50, 60, 80, 100, 120 Approx. weight : Three-phase 5.1kg

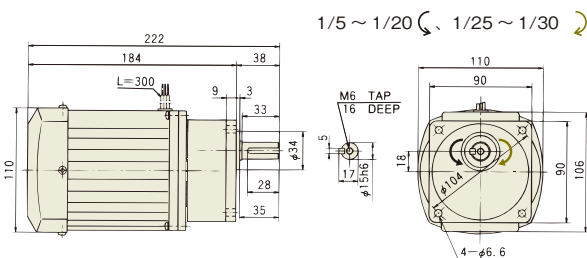


Single-phase non-brake type

GMMS90F5~30

5

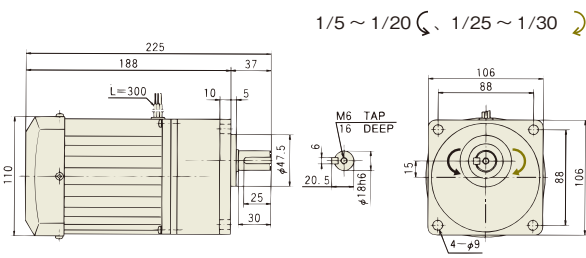
Reduction ratio : 5, 8, 10, 15, 20, 25, 30 Approx. weight : Single-phase 4.4kg



GMMS90F40~120

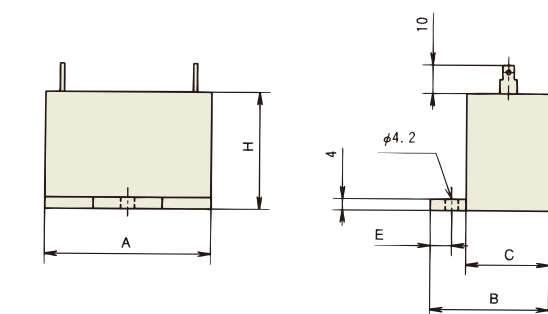
6

Reduction ratio : 40, 50, 60, 80, 100, 120 Approx. weight : Single-phase 5.0kg



Note: The direction of rotation of the output shaft is based on direction of rotation A shown on page 189.

Operation Capacitor for Single-Phase Motor



Applicable motor	Output	A	B	C	E	H	Withstand voltage
40W	15μF	48	31	21	4.5	33	220V
60W	18μF	59	33	23	4.5	34.5	
90W	27μF	59	38	28	4.5	40	

Note: For both brake and non-brake motors. Connect and use the capacitor that is included with the product.