Motor Specifications and Ratings 200V MGMA

900W to 2.0kW Middle inertia, Medium Capacity

			AC200V			
Motor model		MGMA	092P1□	092S1□	202P1□	202S1□
Applicable driver	Model No.	A4 series	MDDDT5540		MFDDTA390	
		A4F series	MDDDT5540F		MFDDTA390F	
		A4P series	MDDDT5540P		MFDDTA390P	
	Frame symbol		Frame D		Frame F	
Power supply capacity (kVA)			1.8		3.8	
Rated output (W)			900		2000	
Rated torque (N · m)			8.62		19.1	
Momentary Max. peak torque (N · m)			19.3		44	
Rated current (Arms)			7.6		18.5	
Max. current (Ao-p)			24.0		60.0	
Regenerative brake frequency (times/min) Note)1	Without option		No limit Note)2			
	DV0P4284		No limit Note)2		———	
	DV0P4285 x 2		———		No limit Note)2	
Rated rotational speed (r/min)			1000			
Max. rotational speed (r/min)			2000			
Moment of inertia of rotor ($x10^{-4}$ kg · m^2)	Without brake		11.2		35.5	
	With brake		12.3		41.4	
Recommended moment of inertia ratio of the load and the rotor Note)3			10 times or less			
Rotary encoder specifications			2500P/r Incremental	17-bit Absolute/ Incremental	2500P/r Incremental	17-bit Absolute/ Incremental
	Resolution per single turn		10000	131072	10000	131072
Protective enclosure rating			IP65 (except rotating portion of output shaft and lead wire end)			
Environment	Ambient temperature		0 to 40˚C (free from freezing), Storage : –20 to +65˚C (Max.temperature guarantee 80˚C for 72 hours <Nomal temperature>)			
	Ambient humidity		85%RH or lower (free from condensing)			
	Installation location		Indoors (no direct sunlight), free from corrosive gas, inflammable gas, oil mist and dust			
	Altitude		1000m or lower			
	Vibration resistance		49m/s^2 or less			
Mass (kg), ( ) represents holding brake type			8.5 (10.0)		17.5 (21.0)	

Brake specifications (This brake will be released when it is energized. Do not use this for braking the motor in motion.)		
Static friction torque (N · m)	13.7	24.5
Engaging time (ms)	100	80
Releasing time (ms) Note)4	50 (130)	25 (200)
Exciting current (DC) (A)	0.79	1.30
Releasing voltage	DC2V or more	
Exciting voltage	DC 24 V ±10%	

Permissible load			
During assembly	Radial load P-direction (N)	980	1666
	Thrust load A-direction (N)	588	784
	Thrust load B-direction (N)	686	980
During operation	Radial load P-direction (N)	686	1176
	Thrust load A-direction (N)	196	490
	Thrust load B-direction (N)	196	490

For motor dimensions, refer to page A4-124, and for the diver, refer to pages A4-23, 24, 49, 50, 74 and 75.

Model designation MGMA series, 900W to 2.0kW

e.g.) M G M A 0 9 2 S 1 G

Symbol	Type
MGMA	Middle inertia (900W-2.0kW)

Motor rated output

Symbol	Rated output
09	900W
20	2.0kW

Voltage specifications

Symbol	Specifications
2	200V

Rotary encoder specifications

Symbol	Format	Pulse counts	Resolution	Wires
P	Incremental	2500P/r	10000	5
S	Absolute/Incremental	17-bit	131072	7

Design order
1 : Standard

Motor structure

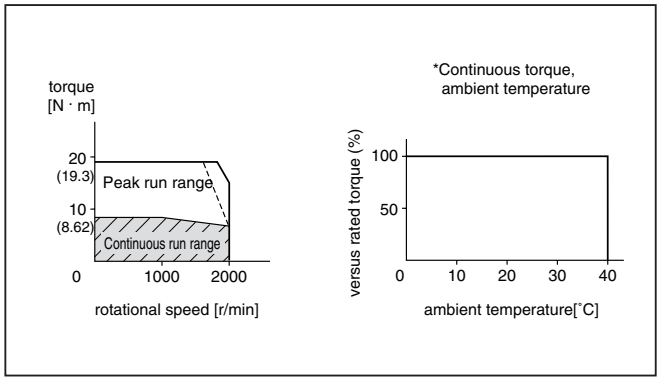
Symbol	Shaft		Holding brake		Oil seal	
	Round	Key-way	without	with	without	with
C	●		●			●
D	●			●		●
G		●	●			●
H		●		●		●

Products are standard stock items or build to order items. See index (page F31).

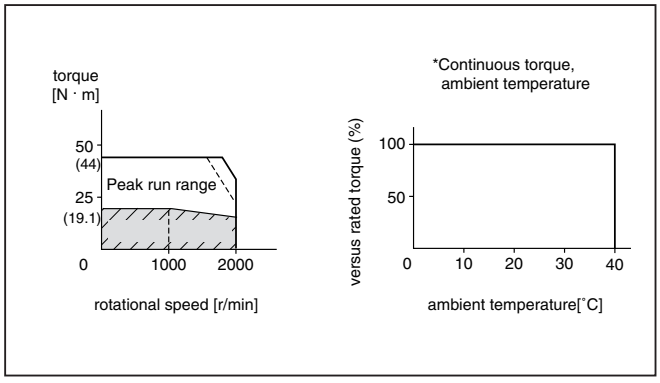
Torque characteristics at AC200V of power voltage

(Dotted line represents the torque at 10% less supply voltage.)

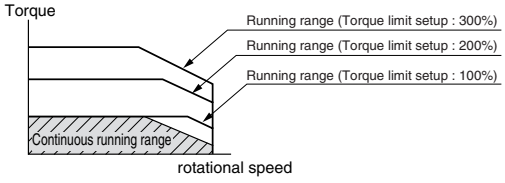
MGMA092□1□



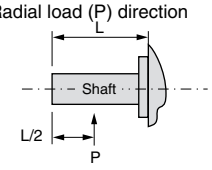
MGMA202□1□



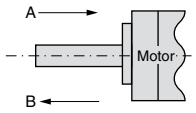
*When you lower the torque limit setup (Pr5E and 5F), running range at high speed might be lowered as well.



Radial load (P) direction



Thrust load (A, B) direction



Note) 1. Regenerative brake frequency represents the frequency of the motor's stops from the rated speed with deceleration without load.
- If the load is connected, frequency will be defines as 1/(m+1), where m=load moment of inertia/rotor moment of inertia.
- When the motor speed exceeds the rated speed, regenerative brake frequency is in inverse proportion to the square of (running speed/rated speed).
- Power supply voltage is AC230V (at 200V of the main voltage). If the supply voltage fluctuates, frequency is in inverse proportion to the square of (Running supply voltage/230) relative to the value in the table.
- When regeneration occurs continuously such cases as running speed frequently changes or vertical feeding, consult us or a dealer.

2. If the effective torque is within the rated torque, there is no limit in generative brake.
3. Consult us or a dealer if the load moment of inertia exceeds the specified value.
4. Specified releasing time is obtained with the use of surge absorber for brake (Z15D151 by Ishizuka Electronic or equivalent). ( ) represents the actually measured value using a diode (200V, 1A or equivalent)

Motor Specifications and Ratings 200V MGMA

3.0kW to 6.0kW Middle inertia, Medium Capacity

			AC200V					
Motor model		MGMA	302P1□	302S1□	452P1□	452S1□	602P1□	602S1□
Applicable driver	Model No.	A4 series	MFDDTB3A2				MGDDTC3B4	
		A4F series	MFDDTB3A2F				MGDDTC3B4F	
		A4P series	MFDDTB3A2P				——	
	Frame symbol		Frame F				Frame G	
Power supply capacity (kVA)			4.5		7.5		11	
Rated output (W)			3000		4500		6000	
Rated torque (N · m)			28.4		42.9		57.2	
Momentary Max. peak torque (N · m)			63.7		107		137	
Rated current (Arms)			24		33		47.0	
Max. current (Ao-p)			80.0		118		170.0	
Regenerative brake frequency (times/min) Note)1	Without option		No limit Note)2					
	DV0P4285 x 2		No limit Note)2				———	
	DV0P4285 x 4		———				No limit Note)2	
Rated rotational speed (r/min)			1000					
Max. rotational speed (r/min)			2000					
Moment of inertia of rotor ($x10^{-4}$ kg · m^2)	Without brake		55.7		80.9		99	
	With brake		61.7		86.9		108	
Recommended moment of inertia ratio of the load and the rotor Note)3			10 times or less					
Rotary encoder specifications			2500P/r Incremental	17-bit Absolute/ Incremental	2500P/r Incremental	17-bit Absolute/ Incremental	2500P/r Incremental	17-bit Absolute/ Incremental
	Resolution per single turn		10000	131072	10000	131072	10000	131072
Protective enclosure rating			IP65 (except rotating portion of output shaft and lead wire end)					
Environment	Ambient temperature		0 to 40˚C (free from freezing), Storage : –20 to +65˚C (Max.temperature guarantee 80˚C for 72 hours <Nomal temperature>)					
	Ambient humidity		85%RH or lower (free from condensing)					
	Installation location		Indoors (no direct sunlight), free from corrosive gas, inflammable gas, oil mist and dust					
	Altitude		1000m or lower					
	Vibration resistance		49m/s^2 or less				24m/s^2 or less	
Mass (kg), ( ) represents holding brake type			25.0 (28.5)		34.0 (39.5)		41.0 (45.0)	

Brake specifications (This brake will be released when it is energized. Do not use this for braking the motor in motion.)	
Static friction torque (N · m)	58.8
Engaging time (ms)	150
Releasing time (ms) Note)4	50 (130)
Exciting current (DC) (A)	1.40
Releasing voltage	DC2V or more
Exciting voltage	DC 24 V ±10%

Permissible load			
During assembly	Radial load P-direction (N)	2058	2058
	Thrust load A-direction (N)	980	980
	Thrust load B-direction (N)	1176	1176
During operation	Radial load P-direction (N)	1470	1764
	Thrust load A-direction (N)	490	588
	Thrust load B-direction (N)	490	588

For motor dimensions, refer to page A4-125, 128 and for the diver, refer to pages A4-24, 25, 50, 51 and 75.

Model designation MGMA series, 3.0kW to 6.0kW

e.g.) M G M A 3 0 2 S 1 G

Symbol	Type
MGMA	Middle inertia (3.0kW-6.0kW)

Voltage specifications

Symbol	Specifications
2	200V

Design order
1 : Standard

Motor structure

Symbol	Shaft		Holding brake		Oil seal	
	Round	Key-way	without	with	without	with
C	●		●			●
D	●			●		●
G		●	●			●
H		●		●		●

Products are standard stock items or build to order items. See index (page F31).

Motor rated output

Symbol	Rated output
30	3.0kW
45	4.5kW
60	6.0kW

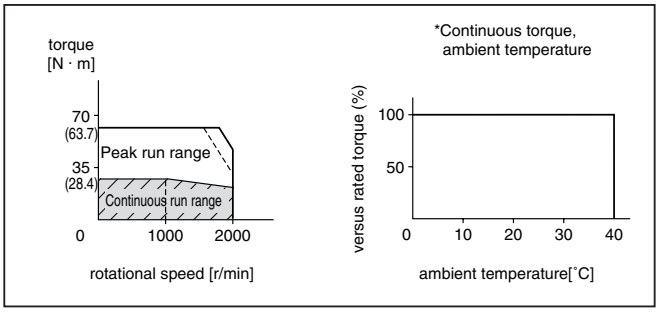
Rotary encoder specifications

Symbol	Format	Pulse counts	Resolution	Wires
P	Incremental	2500P/r	10000	5
S	Absolute/Incremental	17-bit	131072	7

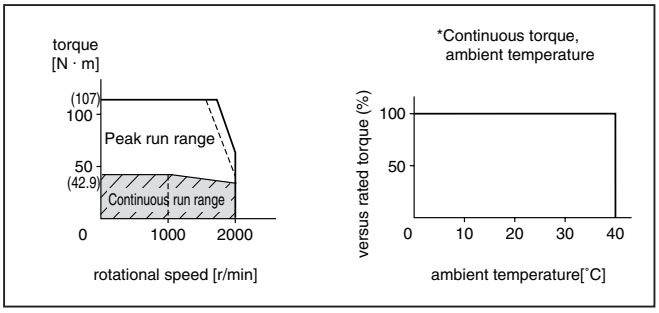
Torque characteristics at AC200V of power voltage

(Dotted line represents the torque at 10% less supply voltage.)

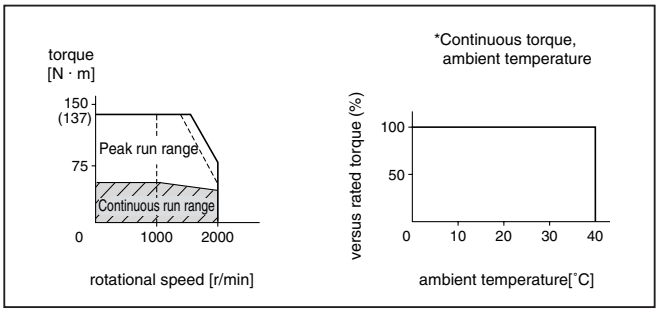
MGMA302□1□



MGMA452□1□



MGMA602□1□



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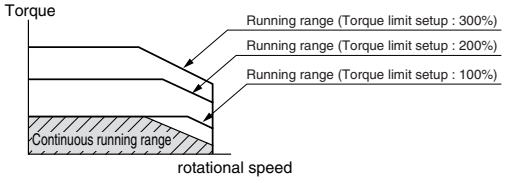
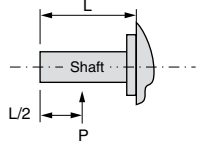
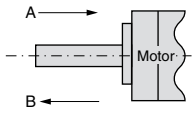


Radial load (P) direction



Thrust load (A, B) direction



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