

Motor Specifications and Ratings **200V** MHMA

500W to 1.5kW High inertia, Medium Capacity

			AC200V							
Motor model			MHMA		052P1□	052S1□	102P1□	102S1□	152P1□	152S1□
Applicable driver	Model No.	A4 series	MCDDT3520			MDDDT3530		MDDDT5540		
		A4F series	MCDDT3520F			MDDDT3530F		MDDDT5540F		
		A4P series	MCDDT3520P			MDDDT3530P		MDDDT5540P		
	Frame symbol		Frame C			Frame D				
Power supply capacity (kVA)			1.1			1.8		2.3		
Rated output (W)			500			1000		1500		
Rated torque (N · m)			2.38			4.8		7.15		
Momentary Max. peak torque (N · m)			6.0			14.4		21.5		
Rated current (Arms)			3.2			5.6		9.4		
Max. current (Ao-p)			11.5			24.0		40.0		
Regenerative brake frequency (times/min) Note)1	Without option		No limit	Note)2	33		25			
	DV0P4283		No limit	Note)2	_____					
	DV0P4284		_____							

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)		4.9
Engaging time (ms)		80
Releasing time (ms) Note)4		70 (200)
Exciting current (DC) (A)		0.59
Releasing voltage		DC2V or more
Exciting voltage		DC 24 V $\pm 10\%$

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

For motor dimensions, refer to page A4-129, and for the diver, refer to pages A4-23, 49 and 74.

Model designation MHMA series, 500W to 1.5kW

e.g.)

M H M A 0 5 2 S 1 G

Symbol	Type
MHMA	High inertia (500W-1.5kW)

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).

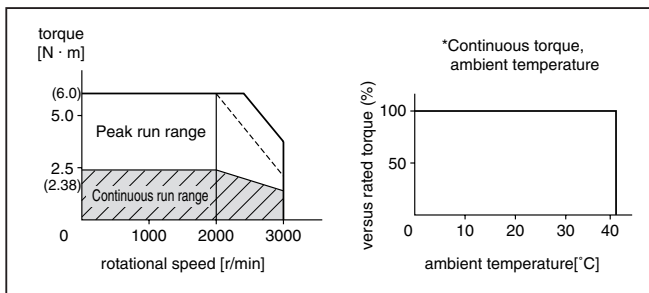
Motor rated output	
Symbol	Rated output
05	0.5kW
10	1.0kW
15	1.5kW

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

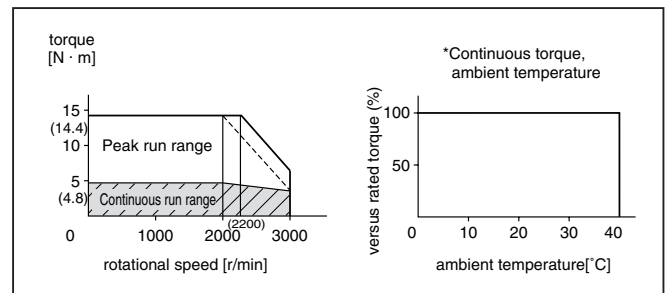
Torque characteristics at AC200V of power voltage

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

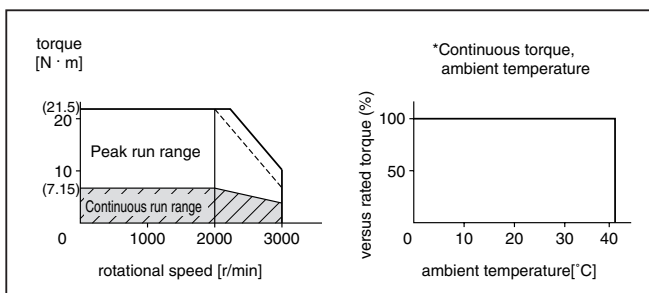
MHMA052□1□



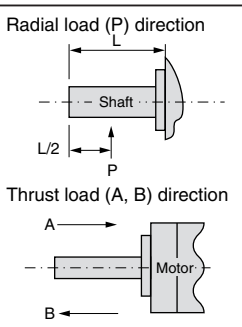
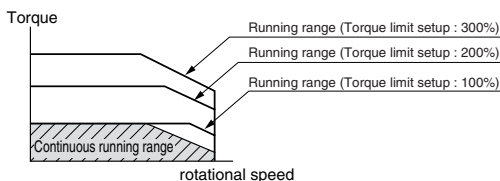
MHMA102□1□



MHMA152□1□



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



- 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 defined 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** MHMA

2.0kW to 5.0kW High inertia, Medium Capacity

			AC200V							
Motor model MHMA			202P1□	202S1□	302P1□	302S1□	402P1□	402S1□	502P1□	502S1□
Applicable driver	Model No.	A4 series	MEDDT7364		MFDDTA390		MFDDTB3A2			
		A4F series	MEDDT7364F		MFDDTA390F		MFDDTB3A2F			
		A4P series	MEDDT7364P		MFDDTA390P		MFDDTB3A2P			
	Frame symbol		Frame E		Frame F					
Power supply capacity (kVA)			3.3		4.5		6.0		7.5	
Rated output (W)			2000		3000		4000		5000	
Rated torque (N · m)			9.54		14.3		18.8		23.8	
Momentary Max. peak torque (N · m)			28.5		42.9		56.4		71.4	
Rated current (Arms)			12.3		17.8		23.4		28.0	
Max. current (Ao-p)			52.0		76.0		100.0		120.0	
Regenerative brake frequency (times/min) Note)1	Without option		38		43		32		20	
	DV0P4285		100							
	DV0P4285 x 2				No limit Note)2		200		150	
Rated rotational speed (r/min)			2000							
Max. rotational speed (r/min)			3000							
Moment of inertia of rotor (x10 ⁻⁴ kg · m²)	Without brake		62.0		94.1		120.0		170.0	
	With brake		67.9		100.0		126.0		176.0	
Recommended moment of inertia ratio of the load and the rotor Note)3			5 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	2500P/r Incremental	17-bit Absolute/ Incremental
			Resolution per single turn	10000	131072	10000	131072	10000	131072	10000
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/s² or less							
Mass (kg), () represents holding brake type			16.0 (19.5)		18.2 (21.7)		22.0 (25.5)		26.7 (30.2)	

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)	24.5
Engaging time (ms)	80
Releasing time (ms) Note)4	25 (200)
Exciting current (DC) (A)	1.30
Releasing voltage	DC2V or more
Exciting voltage	DC 24 V ±10%

Permissible load		
During assembly	Radial load P-direction (N)	1666
	Thrust load A-direction (N)	784
	Thrust load B-direction (N)	980
During operation	Radial load P-direction (N)	784
	Thrust load A-direction (N)	343
	Thrust load B-direction (N)	343

For motor dimensions, refer to page A4-130, and for the diver, refer to pages A4-24, 50 and 75.

Model designation MHMA series, 2.0kW to 5.0kW

e.g.)

M H M A 2 0 2 S 1 G

Symbol	Type
MHMA	High inertia (2.0kW-5.0kW)

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
20	2.0kW
30	3.0kW
40	4.0kW
50	5.0kW

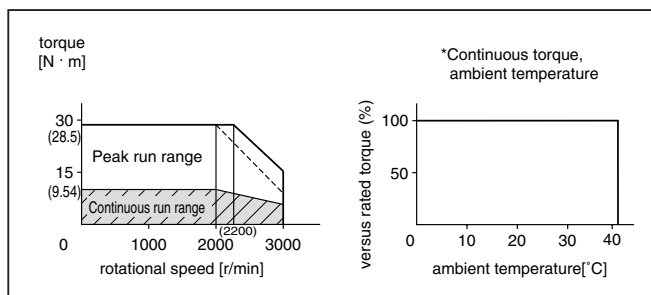
Rotary encoder specifications

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

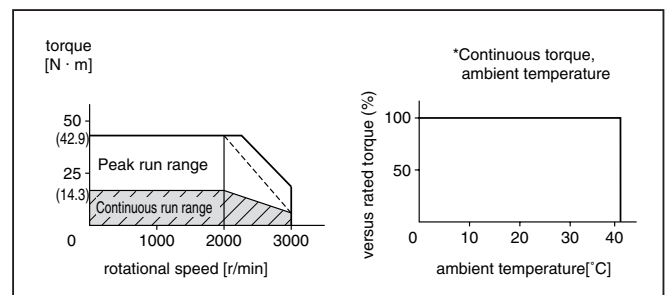
Torque characteristics at AC200V of power voltage

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

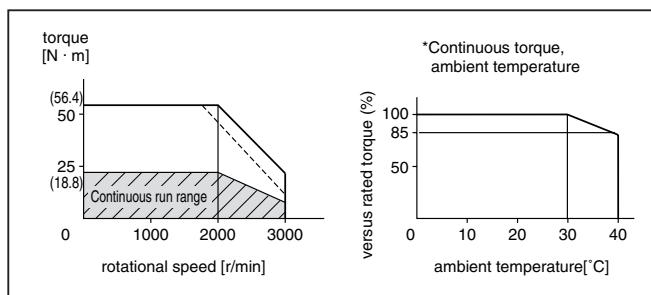
MHMA202□1□



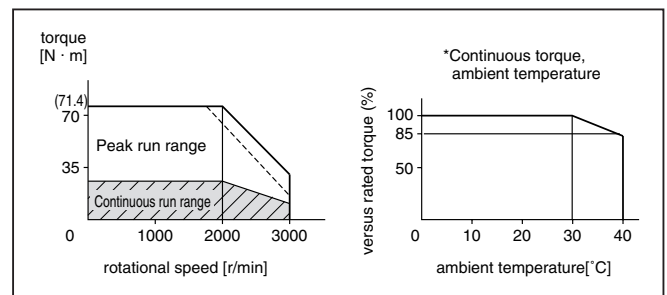
MHMA302□1□



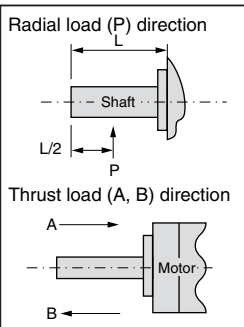
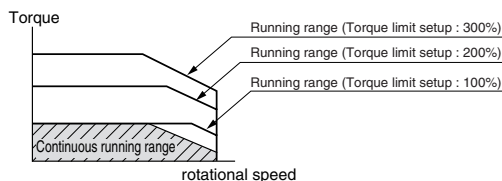
MHMA402□1□



MHMA502□1□



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



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 defined 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 regenerative 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** MHMA

7.5kW High inertia, Large Capacity

			AC200V	
Motor model			MHMA	
			752P1□	752S1□
Applicable driver	Model No.	A4 series	MGDDTC3B4	
		A4F series	MGDDTC3B4F	
		A4P series	—	
	Frame symbol		Frame G	
Power supply capacity (kVA)			11	
Rated output (W)			7500	
Rated torque (N · m)			48	
Momentary Max. peak torque (N · m)			119	
Rated current (Arms)			46.6	
Max. current (Ao-p)			165.0	
Regenerative brake frequency (times/min) Note)1	Without option		0	
	DV0P4285 x 4		No limit	Note)2
Rated rotational speed (r/min)			1500	
Max. rotational speed (r/min)			3000	
Moment of inertia of rotor (x10 ⁻⁴ kg · m ²)	Without brake		282	
	With brake		288	
Recommended moment of inertia ratio of the load and the rotor Note)3			5 times or less	
Rotary encoder specifications			2500P/r Incremental	17-bit Absolute/ Incremental
	Resolution per single turn		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		24m/s ² or less	
Mass (kg), () represents holding brake type			43.5 (47.5)	

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
	Thrust load A-direction (N)	980
	Thrust load B-direction (N)	1176
During operation	Radial load P-direction (N)	1176
	Thrust load A-direction (N)	490
	Thrust load B-direction (N)	490

For motor dimensions, refer to page A4-131, and for the diver, refer to pages A4-25 and 51.

Model designation MHMA series, 7.5kW

e.g.)

M H M A 7 5 2 S 1 G

Symbol	Type
MHMA	High inertia (7.5kW)

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
75	7.5kW

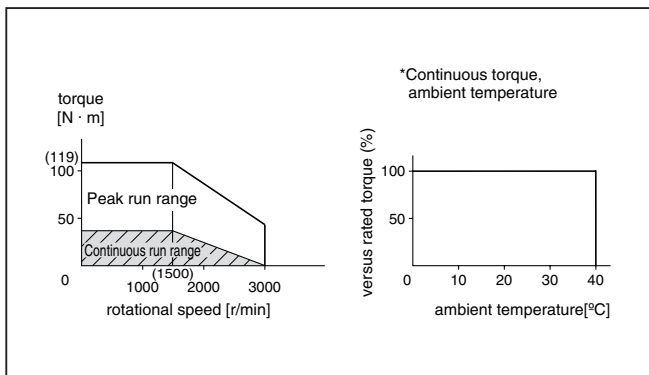
Rotary encoder specifications

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

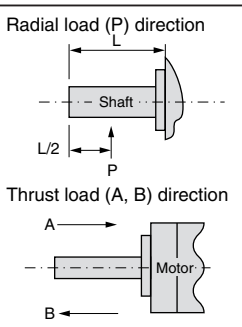
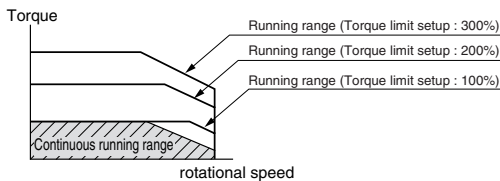
Torque characteristics at AC200V of power voltage

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

MHMA752□1□



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



- 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 defined 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).
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 - 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)