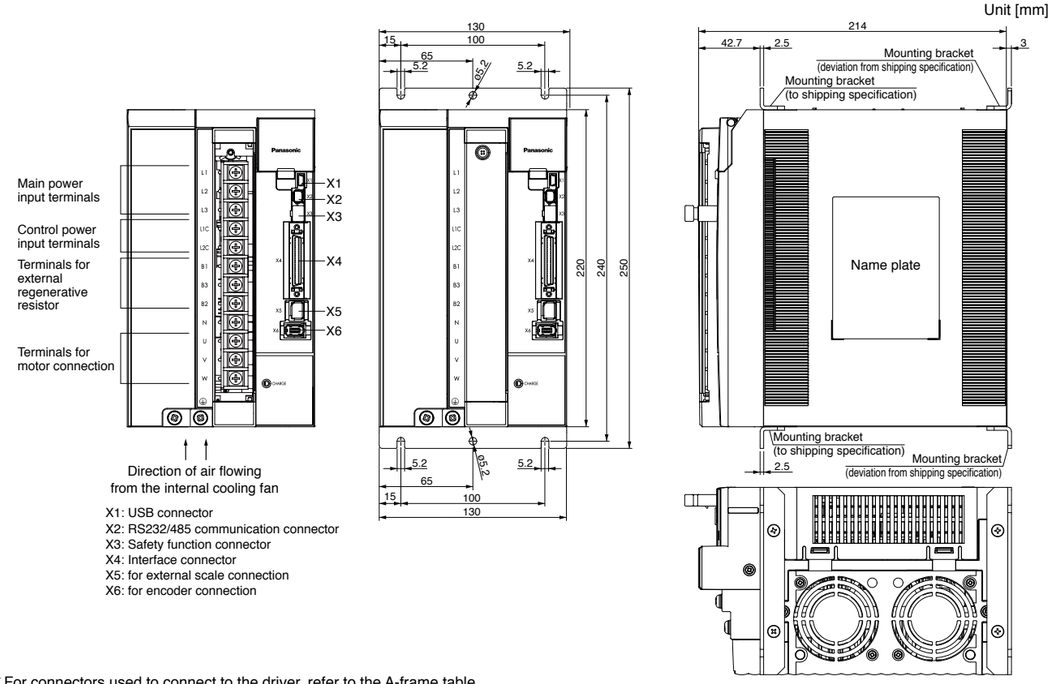
## F-frame (200V)

Unit [mm]



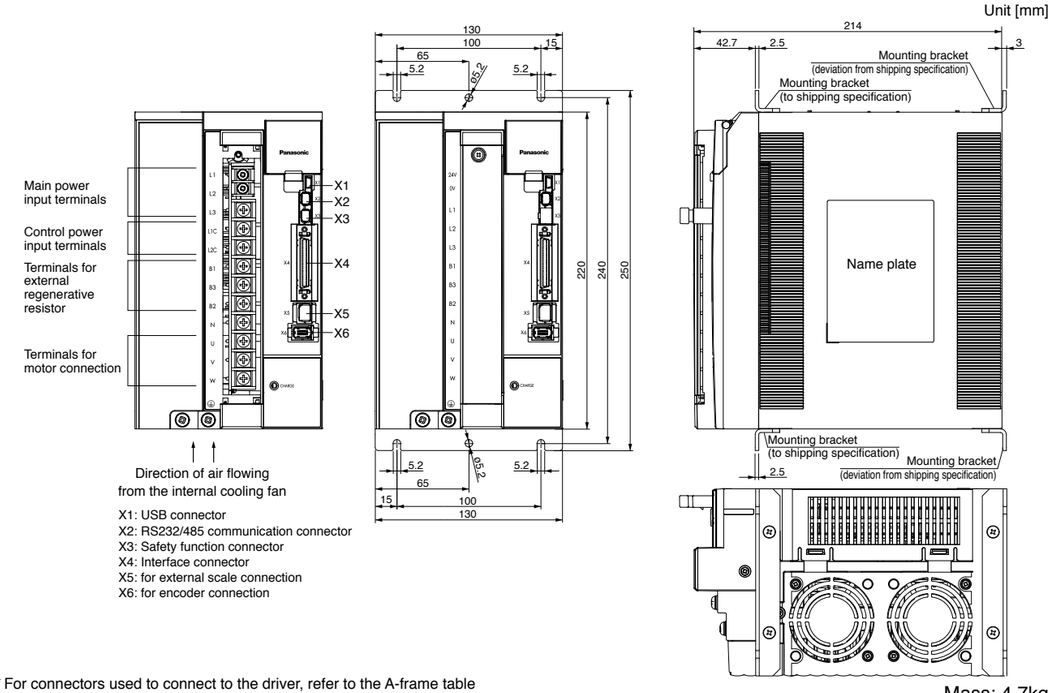

X1: USB connector
X2: RS232/485 communication connector
X3: Safety function connector
X4: Interface connector
X5: for external scale connection
X6: for encoder connection

* For connectors used to connect to the driver, refer to the A-frame table because both frames use the same connectors.

Mass: 4.8kg

## F-frame (400V)

Unit [mm]




X1: USB connector
X2: RS232/485 communication connector
X3: Safety function connector
X4: Interface connector
X5: for external scale connection
X6: for encoder connection

* For connectors used to connect to the driver, refer to the A-frame table because both frames use the same connectors.

Mass: 4.7kg





## Features

- Line-up: 50W to 5.0kW
- Max speed: 6000r/min (MSME 50W to 750W)
- Low inertia (MSME) to High inertia (MHME).
- Low cogging torque: Rated torque ratio 0.5% (typical value).
- 20-bit incremental encoder (1,048,576 pulse)
- 17-bit absolute encoder (131,072 pulse).
- Enclosure rating: IP67 (M*ME), IP65 (M*MD)
- Compact & Light weight

Small capacity type

[MSME (50W to 750W)]

Middle capacity type

[MSME (1.0kW to 5.0kW)]

**Motor (Scheduled to be released.)**

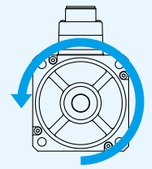
- MDME 7.5kW, 11kW, 15kW
- MHME 7.5kW
- MGME 4.5kW, 6.0kW
- MFME 1.5kW, 2.5kW, 4.5kW
- Motor with Gear Reduce: 100W, 200W, 400W, 750W

## Environmental Conditions

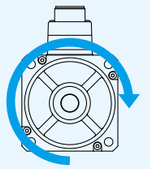
| Item | | Conditions |
|---|---|---|
| Ambient temperature *1 | | 0˚C to 40˚C (free from freezing) |
| Ambient humidity | | 20% to 85% RH (free from condensation) |
| Storage temperature *2 | | –20˚C to 65˚C (Max.temperature guarantee: 80˚C for 72 hours) |
| Storage humidity | | 20% to 85% RH (free from condensation) |
| Vibration | Motor only | Lower than 49m/s$^2$ (5G) at running, 24.5m/s$^2$ (2.5G) at stall |
| Impact | Motor only | Lower than 98m/s$^2$ (10G) |
| Enclosure rating (Motor only) | Leadwire type *3 | IP65 (except rotating portion of output shaft and readwire end.) |
| | Connector type*3*4 | IP67 (except rotating portion of output shaft and connecting pin part of the motor connector and the encoder connector) |
| Altitude | | Lower than 1000m |

*1 Ambient temperature to be measured at 5cm away from the motor.
*2 Permissible temperature for short duration such as transportation.
*3 These motors conform to the test conditions specified in EN standards (EN60529, EN60034-5). Do not use these motors in application where water proof performance is required such as continuous wash-down operation.
*4 This condition is applied when the connector mounting screw in case of motor 750W or less are tightened to the recommended tightening torque (Refer to 1-16, 2-18, 2-00). Be sure to use mounting screw supplied with the connector.

**<Note>**
Initial setup of rotational direction: positive = CCW and negative = CW.
Pay an extra attention.



**Positive direction (CCW)**



**Negative direction (CW)**

## Specifications

| | | | AC100V | |
|---|---|---|---|---|
| Motor model *1 | | MSME | 5AZG1□ | 5AZS1□ |
| Applicable driver *2 | Model No. | A5 series | MADHT1105 | |
| | | A5E series | MADHT1105E | |
| | Frame symbol | | A-frame | |
| Power supply capacity | | (kVA) | 0.4 | |
| Rated output | | (W) | 50 | |
| Rated torque | | (N·m) | 0.16 | |
| Momentary Max. peak torque | | (N·m) | 0.48 | |
| Rated current | | (A(rms)) | 1.1 | |
| Max. current | | (A(o-p)) | 4.7 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | No limit Note)2 | |
| | DV0P4280 | | No limit Note)2 | |
| Rated rotational speed | | (r/min) | 3000 | |
| Max. rotational speed | | (r/min) | 6000 | |
| Moment of inertia of rotor ($\times10^{-4}$kg·m$^2$) | Without brake | | 0.025 | |
| | With brake | | 0.027 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 30 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)

(This brake will be released when it is energized. Do not use this for braking the motor in motion.)

| | |
|---|---|
| Static friction torque (N·m) | 0.29 or more |
| Engaging time (ms) | 35 or less |
| Releasing time (ms) Note)4 | 20 or less |
| Exciting current (DC) (A) | 0.3 |
| Releasing voltage (DC) (V) | 1 or more |
| Exciting voltage (DC) (V) | 24±1.2 |

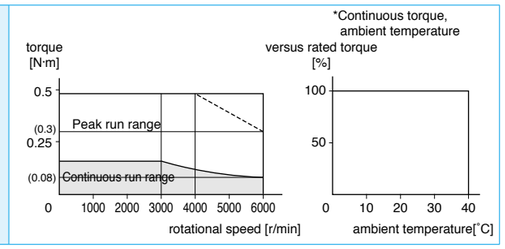
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| During assembly | Radial load P-direction (N) | 147 |
| | Thrust load A-direction (N) | 88 |
| | Thrust load B-direction (N) | 117.6 |
| During operation | Radial load P-direction (N) | 68.6 |
| | Thrust load A, B-direction (N) | 58.8 |

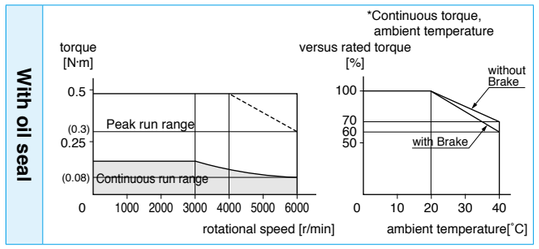
• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.30.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

## Torque characteristics (at AC100V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

Without oil seal



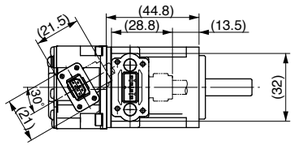

With oil seal



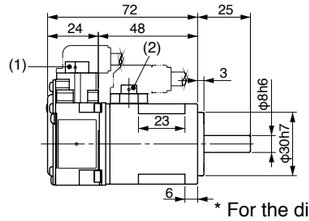

## Dimensions

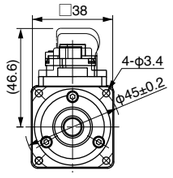
<Without Brake>

Mass (kg)/ 0.32

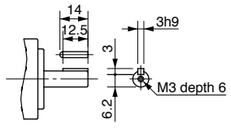



(1) Encoder connector
(2) Motor connector




Key way dimensions




* For the dimensions of with brake, refer to the right page.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.





## Specifications

| | | | AC200V | |
|---|---|---|---|---|
| Motor model *1 | | MSME | 5AZG1□ | 5AZS1□ |
| Applicable driver *2 | Model No. | A5 series | MADHT1505 | |
| | | A5E series | MADHT1505E | |
| | Frame symbol | | A-frame | |
| Power supply capacity | | (kVA) | 0.5 | |
| Rated output | | (W) | 50 | |
| Rated torque | | (N·m) | 0.16 | |
| Momentary Max. peak torque | | (N·m) | 0.48 | |
| Rated current | | (A(rms)) | 1.1 | |
| Max. current | | (A(o-p)) | 4.7 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | No limit Note)2 | |
| | DV0P4280 | | No limit Note)2 | |
| Rated rotational speed | | (r/min) | 3000 | |
| Max. rotational speed | | (r/min) | 6000 | |
| Moment of inertia of rotor ($\times10^{-4}$kg·m$^2$) | Without brake | | 0.025 | |
| | With brake | | 0.027 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 30 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)

(This brake will be released when it is energized. Do not use this for braking the motor in motion.)

| | |
|---|---|
| Static friction torque (N·m) | 0.29 or more |
| Engaging time (ms) | 35 or less |
| Releasing time (ms) Note)4 | 20 or less |
| Exciting current (DC) (A) | 0.3 |
| Releasing voltage (DC) (V) | 1 or more |
| Exciting voltage (DC) (V) | 24±1.2 |

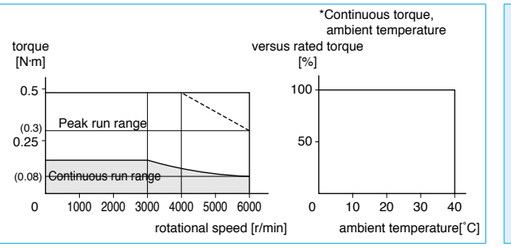
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| During assembly | Radial load P-direction (N) | 147 |
| | Thrust load A-direction (N) | 88 |
| | Thrust load B-direction (N) | 117.6 |
| During operation | Radial load P-direction (N) | 68.6 |
| | Thrust load A, B-direction (N) | 58.8 |

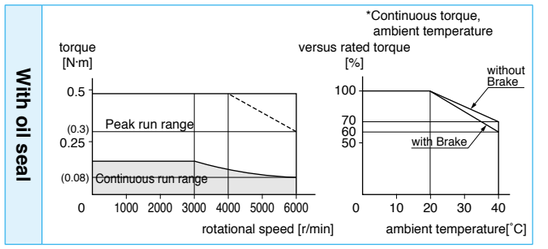
• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.30.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

## Torque characteristics (at AC200V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

Without oil seal



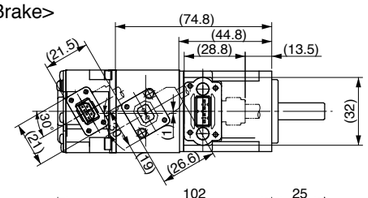

With oil seal



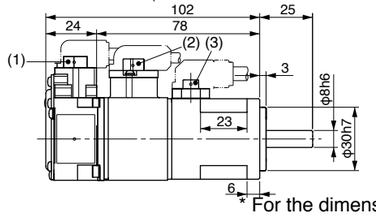

## Dimensions

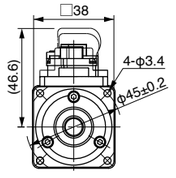
<With Brake>

Mass (kg)/ 0.53

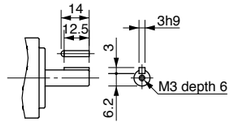



(1) Encoder connector
(2) Brake connector
(3) Motor connector




Key way dimensions




* For the dimensions of without brake, refer to the left page.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.

## Specifications

| | | | AC100V | |
|---|---|---|---|---|
| Motor model *1 | | MSME | 011G1□ | 011S1□ |
| Applicable driver *2 | Model No. | A5 series | MADHT1107 | |
| | | A5E series | MADHT1107E | |
| | Frame symbol | | A-frame | |
| Power supply capacity | | (kVA) | 0.4 | |
| Rated output | | (W) | 100 | |
| Rated torque | | (N·m) | 0.32 | |
| Momentary Max. peak torque | | (N·m) | 0.95 | |
| Rated current | | (A(rms)) | 1.6 | |
| Max. current | | (A(o-p)) | 6.9 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | No limit Note)2 | |
| | DV0P4280 | | No limit Note)2 | |
| Rated rotational speed | | (r/min) | 3000 | |
| Max. rotational speed | | (r/min) | 6000 | |
| Moment of inertia of rotor ($\times10^{-4}$kg·m$^2$) | Without brake | | 0.051 | |
| | With brake | | 0.054 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 30 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)

(This brake will be released when it is energized. Do not use this for braking the motor in motion.)

| | |
|---|---|
| Static friction torque (N·m) | 0.29 or more |
| Engaging time (ms) | 35 or less |
| Releasing time (ms) Note)4 | 20 or less |
| Exciting current (DC) (A) | 0.3 |
| Releasing voltage (DC) (V) | 1 or more |
| Exciting voltage (DC) (V) | 24±1.2 |

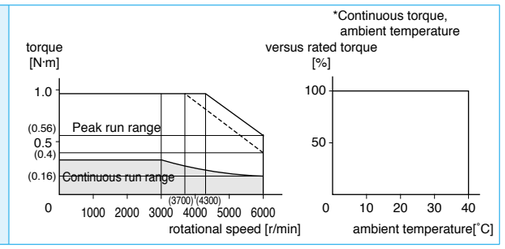
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| During assembly | Radial load P-direction (N) | 147 |
| | Thrust load A-direction (N) | 88 |
| | Thrust load B-direction (N) | 117.6 |
| During operation | Radial load P-direction (N) | 68.6 |
| | Thrust load A, B-direction (N) | 58.8 |

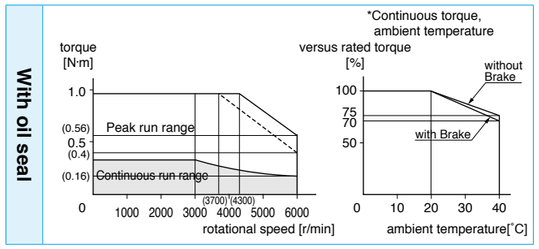
• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.30.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

## Torque characteristics (at AC100V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

Without oil seal



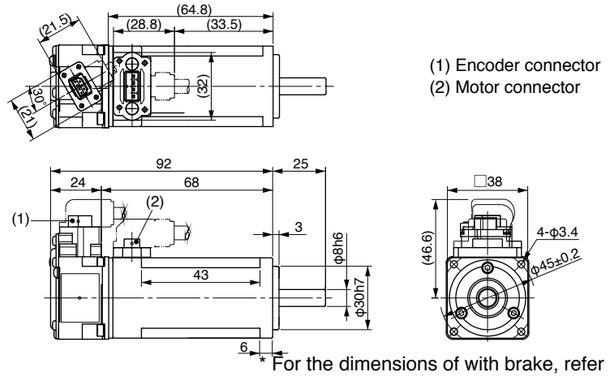

With oil seal




## Dimensions

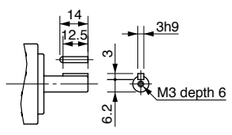
<Without Brake>

Mass (kg)/ 0.47




(1) Encoder connector
(2) Motor connector

Key way dimensions




* For the dimensions of with brake, refer to the right page.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.





## Specifications

| | | | AC200V | |
|---|---|---|---|---|
| Motor model *1 | | MSME | 012G1□ | 012S1□ |
| Applicable driver *2 | Model No. | A5 series | MADHT1505 | |
| | | A5E series | MADHT1505E | |
| | Frame symbol | | A-frame | |
| Power supply capacity | | (kVA) | 0.5 | |
| Rated output | | (W) | 100 | |
| Rated torque | | (N·m) | 0.32 | |
| Momentary Max. peak torque | | (N·m) | 0.95 | |
| Rated current | | (A(rms)) | 1.1 | |
| Max. current | | (A(o-p)) | 4.7 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | No limit Note)2 | |
| | DV0P4280 | | No limit Note)2 | |
| Rated rotational speed | | (r/min) | 3000 | |
| Max. rotational speed | | (r/min) | 6000 | |
| Moment of inertia of rotor ($\times10^{-4}$kg·m$^2$) | Without brake | | 0.051 | |
| | With brake | | 0.054 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 30 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)

(This brake will be released when it is energized. Do not use this for braking the motor in motion.)

| | |
|---|---|
| Static friction torque (N·m) | 0.29 or more |
| Engaging time (ms) | 35 or less |
| Releasing time (ms) Note)4 | 20 or less |
| Exciting current (DC) (A) | 0.3 |
| Releasing voltage (DC) (V) | 1 or more |
| Exciting voltage (DC) (V) | 24±1.2 |

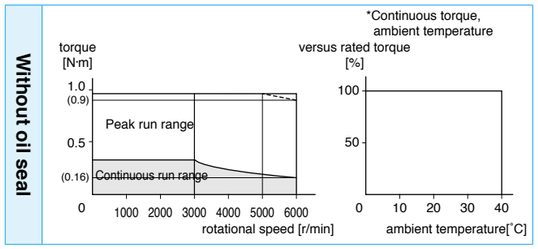
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| During assembly | Radial load P-direction (N) | 147 |
| | Thrust load A-direction (N) | 88 |
| | Thrust load B-direction (N) | 117.6 |
| During operation | Radial load P-direction (N) | 68.6 |
| | Thrust load A, B-direction (N) | 58.8 |

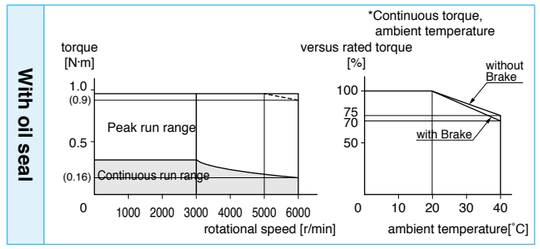
• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.30.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

## Torque characteristics (at AC200V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

Without oil seal



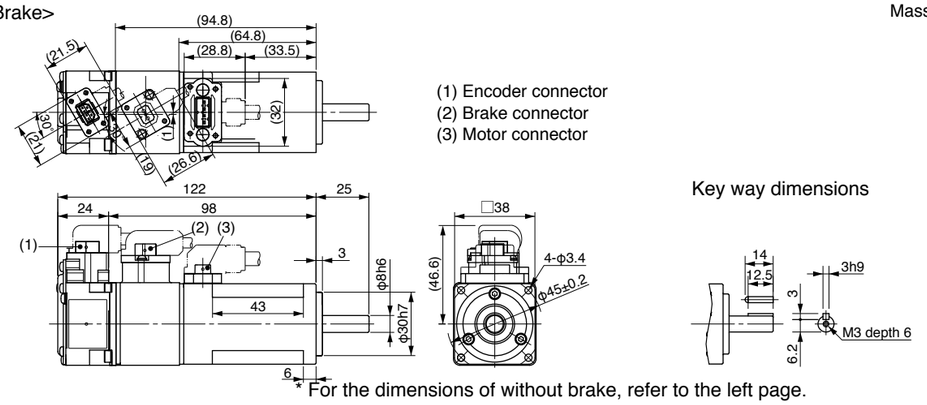

With oil seal




## Dimensions

<With Brake>

Mass (kg)/ 0.68




(1) Encoder connector
(2) Brake connector
(3) Motor connector

Key way dimensions




* For the dimensions of without brake, refer to the left page.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.

## Specifications

| | | | AC100V | |
|---|---|---|---|---|
| Motor model *1 | | MSME | 021G1□ | 021S1□ |
| Applicable driver *2 | Model No. | A5 series | MBDHT2110 | |
| | | A5E series | MBDHT2110E | |
| | Frame symbol | | B-frame | |
| Power supply capacity | | (kVA) | 0.5 | |
| Rated output | | (W) | 200 | |
| Rated torque | | (N·m) | 0.64 | |
| Momentary Max. peak torque | | (N·m) | 1.91 | |
| Rated current | | (A(rms)) | 2.5 | |
| Max. current | | (A(o-p)) | 10.6 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | No limit Note)2 | |
| | DV0P4283 | | No limit Note)2 | |
| Rated rotational speed | | (r/min) | 3000 | |
| Max. rotational speed | | (r/min) | 6000 | |
| Moment of inertia of rotor ($\times10^{-4}$kg·m$^2$) | Without brake | | 0.14 | |
| | With brake | | 0.16 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 30 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)
(This brake will be released when it is energized.
Do not use this for braking the motor in motion.)

| | |
|---|---|
| Static friction torque (N·m) | 1.27 or more |
| Engaging time (ms) | 50 or less |
| Releasing time (ms) Note)4 | 15 or less |
| Exciting current (DC) (A) | 0.36 |
| Releasing voltage (DC) (V) | 1 or more |
| Exciting voltage (DC) (V) | 24±1.2 |

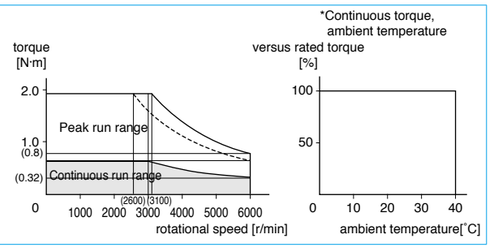
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| During assembly | Radial load P-direction (N) | 392 |
| | Thrust load A-direction (N) | 147 |
| | Thrust load B-direction (N) | 196 |
| During operation | Radial load P-direction (N) | 245 |
| | Thrust load A, B-direction (N) | 98 |

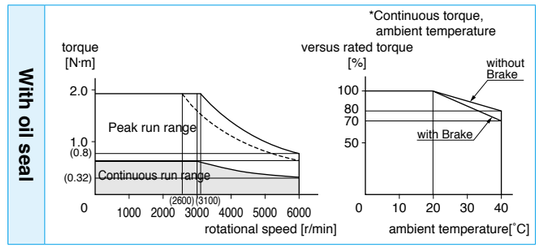
• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.30.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

## Torque characteristics (at AC100V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

Without oil seal



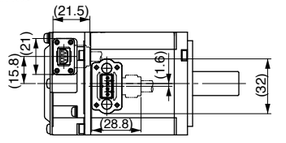

With oil seal



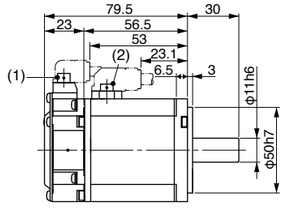

## Dimensions

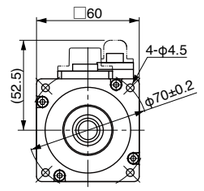
<Without Brake>

Mass (kg)/ 0.82

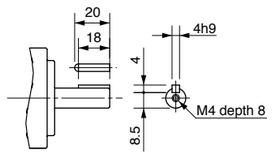



(1) Encoder connector
(2) Motor connector




Key way dimensions




* For the dimensions of with brake, refer to the right page.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.





## Specifications

| | | | AC200V | |
|---|---|---|---|---|
| Motor model *1 | | MSME | 022G1□ | 022S1□ |
| Applicable driver *2 | Model No. | A5 series | MADHT1507 | |
| | | A5E series | MADHT1507E | |
| | Frame symbol | | A-frame | |
| Power supply capacity | | (kVA) | 0.5 | |
| Rated output | | (W) | 200 | |
| Rated torque | | (N·m) | 0.64 | |
| Momentary Max. peak torque | | (N·m) | 1.91 | |
| Rated current | | (A(rms)) | 1.5 | |
| Max. current | | (A(o-p)) | 6.5 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | No limit Note)2 | |
| | DV0P4283 | | No limit Note)2 | |
| Rated rotational speed | | (r/min) | 3000 | |
| Max. rotational speed | | (r/min) | 6000 | |
| Moment of inertia of rotor ($\times10^{-4}$kg·m$^2$) | Without brake | | 0.14 | |
| | With brake | | 0.16 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 30 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)
(This brake will be released when it is energized.
Do not use this for braking the motor in motion.)

| | |
|---|---|
| Static friction torque (N·m) | 1.27 or more |
| Engaging time (ms) | 50 or less |
| Releasing time (ms) Note)4 | 15 or less |
| Exciting current (DC) (A) | 0.36 |
| Releasing voltage (DC) (V) | 1 or more |
| Exciting voltage (DC) (V) | 24±1.2 |

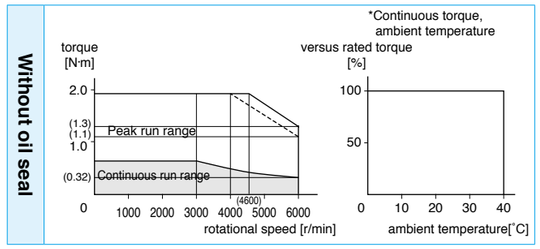
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| During assembly | Radial load P-direction (N) | 392 |
| | Thrust load A-direction (N) | 147 |
| | Thrust load B-direction (N) | 196 |
| During operation | Radial load P-direction (N) | 245 |
| | Thrust load A, B-direction (N) | 98 |

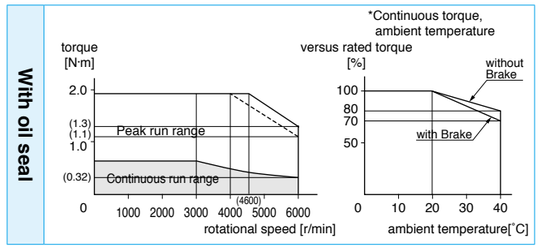
• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.30.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

## Torque characteristics (at AC200V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

Without oil seal



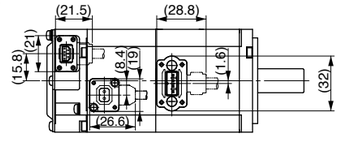

With oil seal



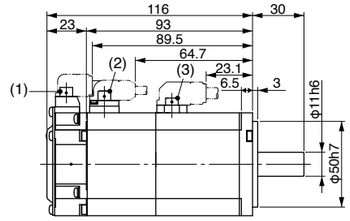

## Dimensions

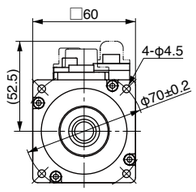
<With Brake>

Mass (kg)/ 1.30

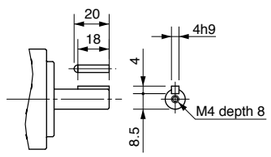



(1) Encoder connector
(2) Brake connector
(3) Motor connector




Key way dimensions




* For the dimensions of without brake, refer to the left page.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.

# Motor Specifications 100V MSME 400W [Low inertia, Small capacity]

## Specifications

| | | | AC100V | |
|---|---|---|---|---|
| Motor model *1 | | MSME | 041G1□ | 041S1□ |
| Applicable driver *2 | Model No. | A5 series | MCDHT3120 | |
| | | A5E series | MCDHT3120E | |
| | Frame symbol | | C-frame | |
| Power supply capacity | | (kVA) | 0.9 | |
| Rated output | | (W) | 400 | |
| Rated torque | | (N·m) | 1.3 | |
| Momentary Max. peak torque | | (N·m) | 3.8 | |
| Rated current | | (A(rms)) | 4.6 | |
| Max. current | | (A(o-p)) | 19.5 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | No limit Note)2 | |
| | DV0P4282 | | No limit Note)2 | |
| Rated rotational speed | | (r/min) | 3000 | |
| Max. rotational speed | | (r/min) | 6000 | |
| Moment of inertia of rotor ($\times10^{-4}$kg·m$^2$) | Without brake | | 0.26 | |
| | With brake | | 0.28 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 30 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)

(This brake will be released when it is energized. Do not use this for braking the motor in motion.)

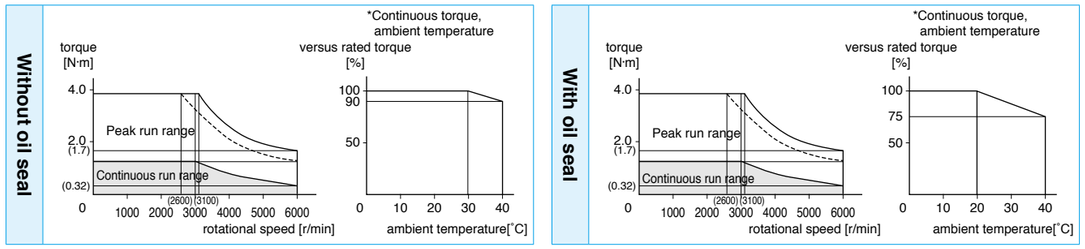
| | |
|---|---|
| Static friction torque (N·m) | 1.27 or more |
| Engaging time (ms) | 50 or less |
| Releasing time (ms) Note)4 | 15 or less |
| Exciting current (DC) (A) | 0.36 |
| Releasing voltage (DC) (V) | 1 or more |
| Exciting voltage (DC) (V) | 24±1.2 |

**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| During assembly | Radial load P-direction (N) | 392 |
| | Thrust load A-direction (N) | 147 |
| | Thrust load B-direction (N) | 196 |
| During operation | Radial load P-direction (N) | 245 |
| | Thrust load A, B-direction (N) | 98 |

• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.31.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

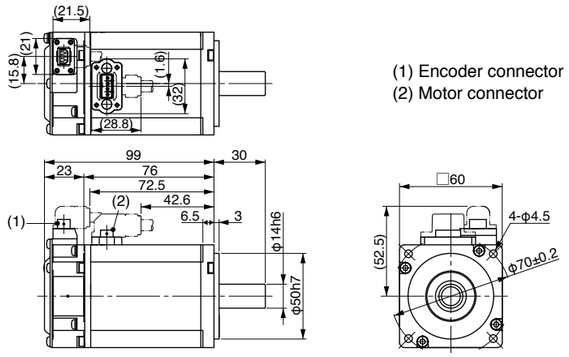
## Torque characteristics (at AC100V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)




## Dimensions

<Without Brake>

Mass (kg)/ 1.2




(1) Encoder connector
(2) Motor connector

Key way dimensions

* For the dimensions of with brake, refer to the right page.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.



# Motor Specifications 200V MSME 400W [Low inertia, Small capacity]

## Specifications

| | | | AC200V | |
|---|---|---|---|---|
| Motor model *1 | | MSME | 042G1□ | 042S1□ |
| Applicable driver *2 | Model No. | A5 series | MBDHT2510 | |
| | | A5E series | MBDHT2510E | |
| | Frame symbol | | B-frame | |
| Power supply capacity | | (kVA) | 0.9 | |
| Rated output | | (W) | 400 | |
| Rated torque | | (N·m) | 1.3 | |
| Momentary Max. peak torque | | (N·m) | 3.8 | |
| Rated current | | (A(rms)) | 2.4 | |
| Max. current | | (A(o-p)) | 10.2 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | No limit Note)2 | |
| | DV0P4283 | | No limit Note)2 | |
| Rated rotational speed | | (r/min) | 3000 | |
| Max. rotational speed | | (r/min) | 6000 | |
| Moment of inertia of rotor ($\times10^{-4}$kg·m$^2$) | Without brake | | 0.26 | |
| | With brake | | 0.28 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 30 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)

(This brake will be released when it is energized. Do not use this for braking the motor in motion.)

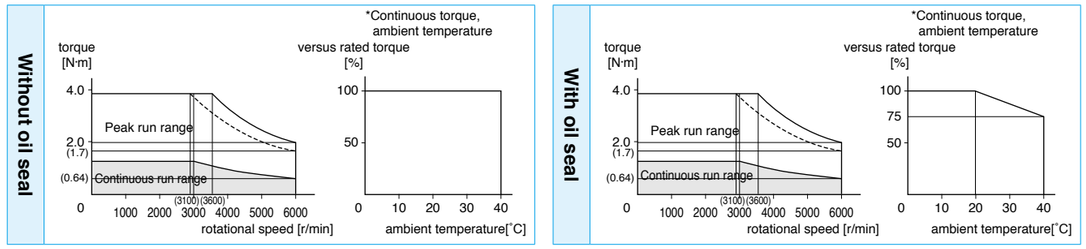
| | |
|---|---|
| Static friction torque (N·m) | 1.27 or more |
| Engaging time (ms) | 50 or less |
| Releasing time (ms) Note)4 | 15 or less |
| Exciting current (DC) (A) | 0.36 |
| Releasing voltage (DC) (V) | 1 or more |
| Exciting voltage (DC) (V) | 24±1.2 |

**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| During assembly | Radial load P-direction (N) | 392 |
| | Thrust load A-direction (N) | 147 |
| | Thrust load B-direction (N) | 196 |
| During operation | Radial load P-direction (N) | 245 |
| | Thrust load A, B-direction (N) | 98 |

• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.30.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

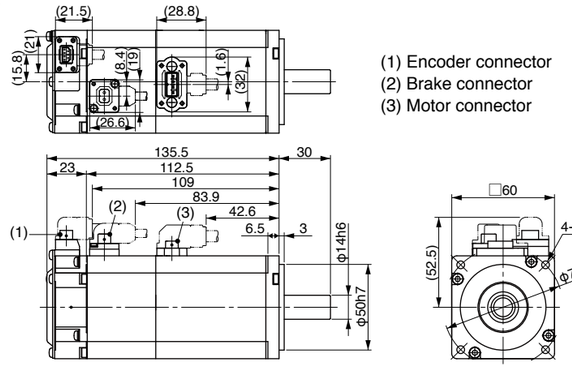
## Torque characteristics (at AC200V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)




## Dimensions

<With Brake>

Mass (kg)/ 1.7




(1) Encoder connector
(2) Brake connector
(3) Motor connector

Key way dimensions

* For the dimensions of without brake, refer to the left page.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.

# Motor Specifications 200V MSME 750W [Low inertia, Small capacity]

## Specifications

| | | | AC200V | |
|---|---|---|---|---|
| Motor model *1 | | MSME | 082G1□ | 082S1□ |
| Applicable driver *2 | Model No. | A5 series | MCDHT3520 | |
| | | A5E series | MCDHT3520E | |
| | Frame symbol | | C-frame | |
| Power supply capacity | | (kVA) | 1.3 | |
| Rated output | | (W) | 750 | |
| Rated torque | | (N·m) | 2.4 | |
| Momentary Max. peak torque | | (N·m) | 7.1 | |
| Rated current | | (A(rms)) | 4.1 | |
| Max. current | | (A(o-p)) | 17.4 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | No limit Note)2 | |
| | DV0P4283 | | No limit Note)2 | |
| Rated rotational speed | | (r/min) | 3000 | |
| Max. rotational speed | | (r/min) | 6000 | |
| Moment of inertia of rotor ($\times10^{-4}$kg·m$^2$) | Without brake | | 0.87 | |
| | With brake | | 0.97 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 20 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)
(This brake will be released when it is energized.
Do not use this for braking the motor in motion.)

| | |
|---|---|
| Static friction torque (N·m) | 2.45 or more |
| Engaging time (ms) | 70 or less |
| Releasing time (ms) Note)4 | 20 or less |
| Exciting current (DC) (A) | 0.42 |
| Releasing voltage (DC) (V) | 1 or more |
| Exciting voltage (DC) (V) | 24±1.2 |

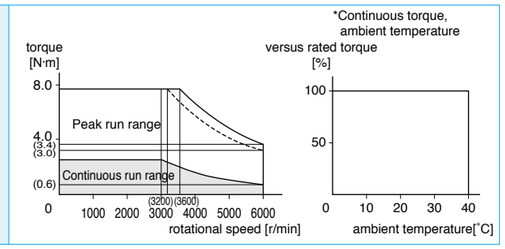
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| During assembly | Radial load P-direction (N) | 686 |
| | Thrust load A-direction (N) | 294 |
| | Thrust load B-direction (N) | 392 |
| During operation | Radial load P-direction (N) | 392 |
| | Thrust load A, B-direction (N) | 147 |

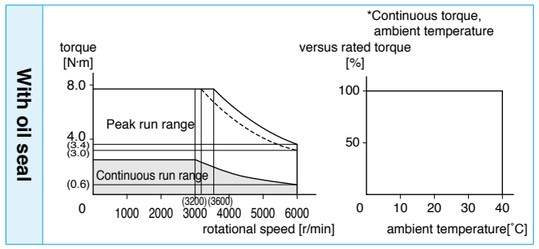
• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.31.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

## Torque characteristics (at AC200V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

Without oil seal

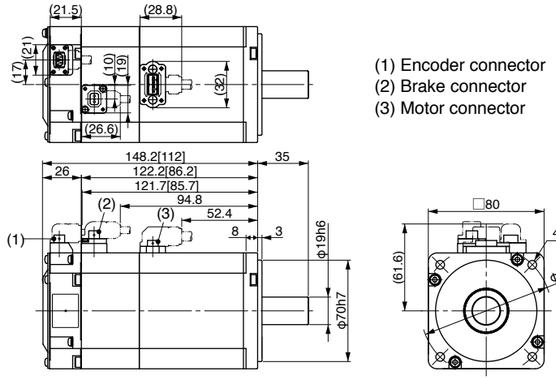



With oil seal




## Dimensions

<With Brake>




Mass (kg)/ Without brake: 2.3
With brake: 3.1

(1) Encoder connector
(2) Brake connector
(3) Motor connector

Key way dimensions

* Figures in [ ] represent the dimensions of with brake.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.



# Motor Specifications 200V MSME 1.0kW [Low inertia, Middle capacity]

## Specifications

| | | | AC200V | |
|---|---|---|---|---|
| Motor model *1 | | MSME | 102G1□ | 102S1□ |
| Applicable driver *2 | Model No. | A5 series | MDDHT5540 | |
| | | A5E series | MDDHT5540E | |
| | Frame symbol | | D-frame | |
| Power supply capacity | | (kVA) | 1.8 | |
| Rated output | | (W) | 1.0 | |
| Rated torque | | (N·m) | 3.18 | |
| Momentary Max. peak torque | | (N·m) | 9.55 | |
| Rated current | | (A(rms)) | 6.6 | |
| Max. current | | (A(o-p)) | 28 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | No limit Note)2 | |
| | DV0P4284 | | No limit Note)2 | |
| Rated rotational speed | | (r/min) | 3000 | |
| Max. rotational speed | | (r/min) | 5000 | |
| Moment of inertia of rotor ($\times10^{-4}$kg·m$^2$) | Without brake | | 2.03 | |
| | With brake | | 2.35 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 15 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)
(This brake will be released when it is energized.
Do not use this for braking the motor in motion.)

| | |
|---|---|
| Static friction torque (N·m) | 7.8 or more |
| Engaging time (ms) | 50 or less |
| Releasing time (ms) Note)4 | 15 or less |
| Exciting current (DC) (A) | 0.81±10% |
| Releasing voltage (DC) (V) | 2 or more |
| Exciting voltage (DC) (V) | 24±2.4 |

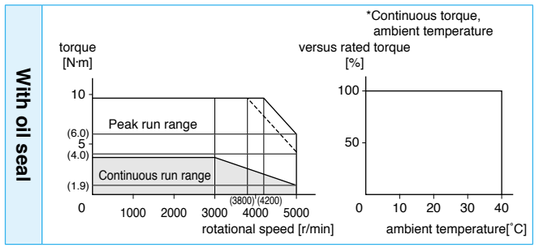
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| 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, B-direction (N) | 196 |

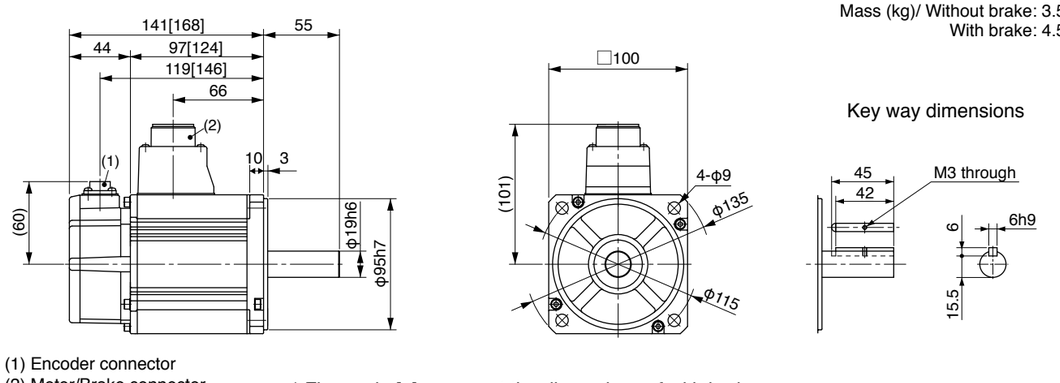
• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.32.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

## Torque characteristics (at AC200V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

With oil seal




## Dimensions




Mass (kg)/ Without brake: 3.5
With brake: 4.5

Key way dimensions

(1) Encoder connector
(2) Motor/Brake connector

* Figures in [ ] represent the dimensions of with brake.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.

# Motor Specifications 200V MSME 1.5kW [Low inertia, Middle capacity]

## Specifications

| | | | AC200V | |
|---|---|---|---|---|
| Motor model *1 | | MSME | 152G1□ | 152S1□ |
| Applicable driver *2 | Model No. | A5 series | MDDHT5540 | |
| | | A5E series | MDDHT5540E | |
| | Frame symbol | | D-frame | |
| Power supply capacity | | (kVA) | 2.3 | |
| Rated output | | (W) | 1.5 | |
| Rated torque | | (N·m) | 4.77 | |
| Momentary Max. peak torque | | (N·m) | 14.3 | |
| Rated current | | (A(rms)) | 8.2 | |
| Max. current | | (A(o-p)) | 35 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | No limit Note)2 | |
| | DV0P4284 | | No limit Note)2 | |
| Rated rotational speed | | (r/min) | 3000 | |
| Max. rotational speed | | (r/min) | 5000 | |
| Moment of inertia of rotor ($\times10^{-4}$kg·m$^2$) | Without brake | | 2.84 | |
| | With brake | | 3.17 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 15 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)

(This brake will be released when it is energized. Do not use this for braking the motor in motion.)

| | |
|---|---|
| Static friction torque (N·m) | 7.8 or more |
| Engaging time (ms) | 50 or less |
| Releasing time (ms) Note)4 | 15 or less |
| Exciting current (DC) (A) | 0.81±10% |
| Releasing voltage (DC) (V) | 2 or more |
| Exciting voltage (DC) (V) | 24±2.4 |

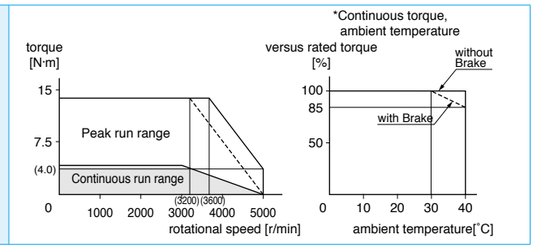
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| 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, B-direction (N) | 196 |

• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.32.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

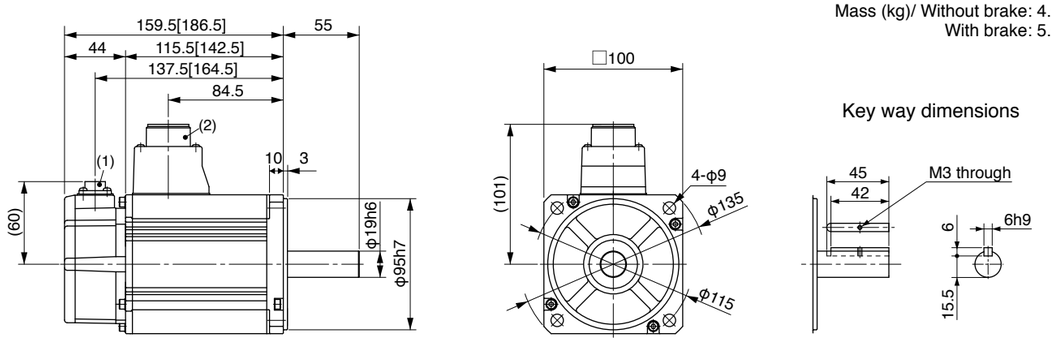
## Torque characteristics (at AC200V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

With oil seal




## Dimensions

Mass (kg)/ Without brake: 4.4
With brake: 5.4




(1) Encoder connector
(2) Motor/Brake connector

* Figures in [ ] represent the dimensions of with brake.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.



# Motor Specifications 200V MSME 2.0kW [Low inertia, Middle capacity]

## Specifications

| | | | AC200V | |
|---|---|---|---|---|
| Motor model *1 | | MSME | 202G1□ | 202S1□ |
| Applicable driver *2 | Model No. | A5 series | MEDHT7364 | |
| | | A5E series | MEDHT7364E | |
| | Frame symbol | | E-frame | |
| Power supply capacity | | (kVA) | 3.3 | |
| Rated output | | (W) | 2.0 | |
| Rated torque | | (N·m) | 6.37 | |
| Momentary Max. peak torque | | (N·m) | 19.1 | |
| Rated current | | (A(rms)) | 11.3 | |
| Max. current | | (A(o-p)) | 48 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | No limit Note)2 | |
| | DV0P4285 | | No limit Note)2 | |
| Rated rotational speed | | (r/min) | 3000 | |
| Max. rotational speed | | (r/min) | 5000 | |
| Moment of inertia of rotor ($\times10^{-4}$kg·m$^2$) | Without brake | | 3.68 | |
| | With brake | | 4.01 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 15 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)

(This brake will be released when it is energized. Do not use this for braking the motor in motion.)

| | |
|---|---|
| Static friction torque (N·m) | 7.8 or more |
| Engaging time (ms) | 50 or less |
| Releasing time (ms) Note)4 | 15 or less |
| Exciting current (DC) (A) | 0.81±10% |
| Releasing voltage (DC) (V) | 2 or more |
| Exciting voltage (DC) (V) | 24±2.4 |

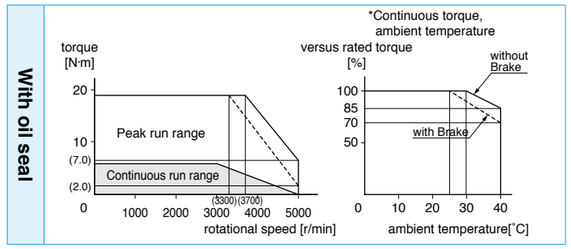
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| 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, B-direction (N) | 196 |

• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.33.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

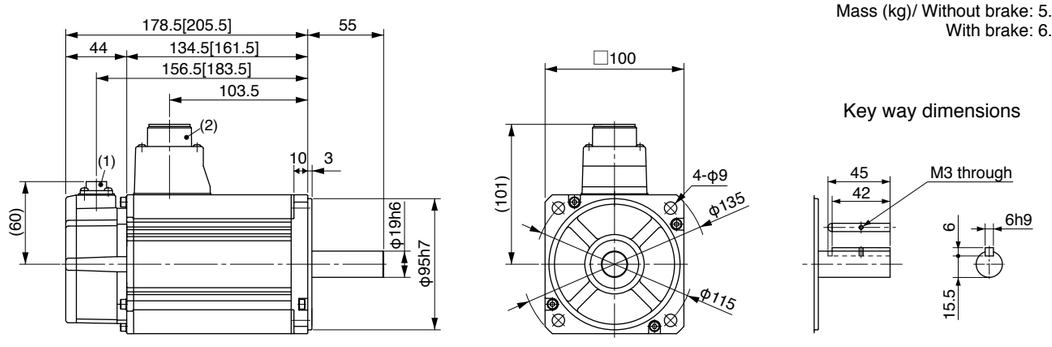
## Torque characteristics (at AC200V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

With oil seal




## Dimensions

Mass (kg)/ Without brake: 5.3
With brake: 6.3




(1) Encoder connector
(2) Motor/Brake connector

* Figures in [ ] represent the dimensions of with brake.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.

# Motor Specifications 200V MSME 3.0kW [Low inertia, Middle capacity]

## Specifications

| | | | AC200V | |
|---|---|---|---|---|
| Motor model *1 | | MSME | 302G1□ | 302S1□ |
| Applicable driver *2 | Model No. | A5 series | MFDHTA390 | |
| | | A5E series | MFDHTA390E | |
| | Frame symbol | | F-frame | |
| Power supply capacity | | (kVA) | 4.5 | |
| Rated output | | (W) | 3.0 | |
| Rated torque | | (N·m) | 9.55 | |
| Momentary Max. peak torque | | (N·m) | 28.6 | |
| Rated current | | (A(rms)) | 18.1 | |
| Max. current | | (A(o-p)) | 77 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | No limit Note)2 | |
| | DV0P4285×2 | | No limit Note)2 | |
| Rated rotational speed | | (r/min) | 3000 | |
| Max. rotational speed | | (r/min) | 5000 | |
| Moment of inertia of rotor ($\times10^{-4}$kg·m$^2$) | Without brake | | 6.50 | |
| | With brake | | 7.85 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 15 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)

(This brake will be released when it is energized. Do not use this for braking the motor in motion.)

| | |
|---|---|
| Static friction torque (N·m) | 11.8 or more |
| Engaging time (ms) | 80 or less |
| Releasing time (ms) Note)4 | 15 or less |
| Exciting current (DC) (A) | 0.81±10% |
| Releasing voltage (DC) (V) | 2 or more |
| Exciting voltage (DC) (V) | 24±2.4 |

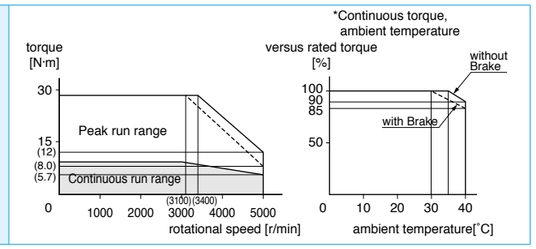
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| 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, B-direction (N) | 196 |

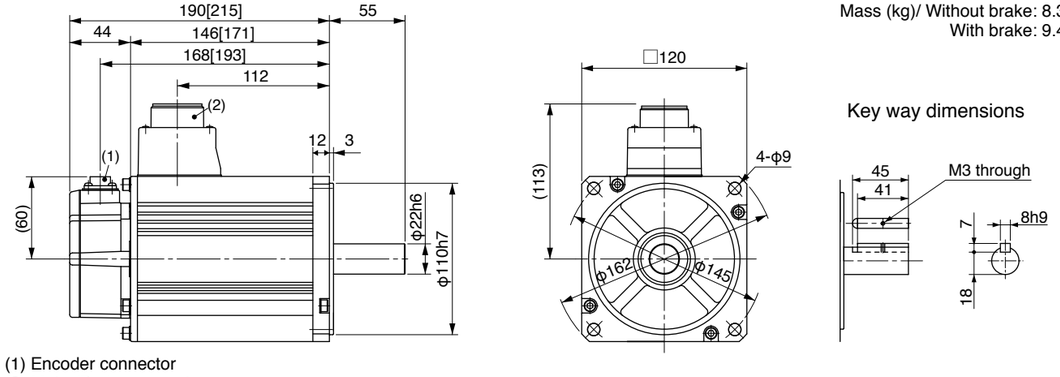
• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.34.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

## Torque characteristics (at AC200V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

With oil seal




## Dimensions




Mass (kg)/ Without brake: 8.3
With brake: 9.4

(1) Encoder connector
(2) Motor/Brake connector

* Figures in [ ] represent the dimensions of with brake.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.



# Motor Specifications 200V MSME 4.0kW [Low inertia, Middle capacity]

## Specifications

| | | | AC200V | |
|---|---|---|---|---|
| Motor model *1 | | MSME | 402G1□ | 402S1□ |
| Applicable driver *2 | Model No. | A5 series | MFDHTB3A2 | |
| | | A5E series | MFDHTB3A2E | |
| | Frame symbol | | F-frame | |
| Power supply capacity | | (kVA) | 6.0 | |
| Rated output | | (W) | 4.0 | |
| Rated torque | | (N·m) | 12.7 | |
| Momentary Max. peak torque | | (N·m) | 38.2 | |
| Rated current | | (A(rms)) | 19.6 | |
| Max. current | | (A(o-p)) | 83 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | No limit Note)2 | |
| | DV0P4285×2 | | No limit Note)2 | |
| Rated rotational speed | | (r/min) | 3000 | |
| Max. rotational speed | | (r/min) | 4500 | |
| Moment of inertia of rotor ($\times10^{-4}$kg·m$^2$) | Without brake | | 12.9 | |
| | With brake | | 14.2 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 15 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)

(This brake will be released when it is energized. Do not use this for braking the motor in motion.)

| | |
|---|---|
| Static friction torque (N·m) | 16.1 or more |
| Engaging time (ms) | 110 or less |
| Releasing time (ms) Note)4 | 50 or less |
| Exciting current (DC) (A) | 0.90±10% |
| Releasing voltage (DC) (V) | 2 or more |
| Exciting voltage (DC) (V) | 24±2.4 |

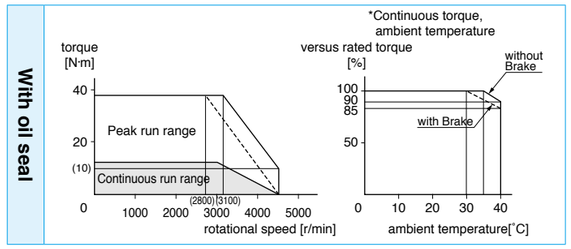
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| 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) | 784 |
| | Thrust load A, B-direction (N) | 343 |

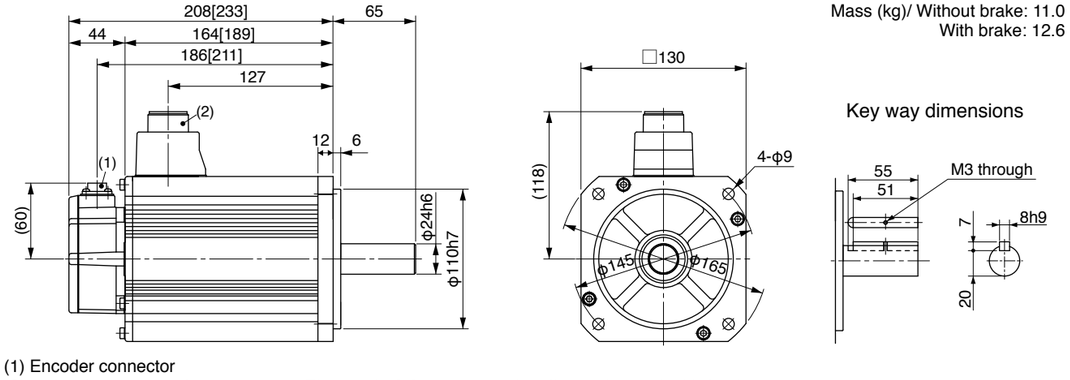
• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.34.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

## Torque characteristics (at AC200V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

With oil seal




## Dimensions




Mass (kg)/ Without brake: 11.0
With brake: 12.6

(1) Encoder connector
(2) Motor/Brake connector

* Figures in [ ] represent the dimensions of with brake.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.

# Motor Specifications 200V MSME 5.0kW [Low inertia, Middle capacity]

## Specifications

| | | | AC200V | |
|---|---|---|---|---|
| Motor model *1 | | MSME | 502G1□ | 502S1□ |
| Applicable driver *2 | Model No. | A5 series | MFDHTB3A2 | |
| | | A5E series | MFDHTB3A2E | |
| | Frame symbol | | F-frame | |
| Power supply capacity (kVA) | | | 7.5 | |
| Rated output (W) | | | 5.0 | |
| Rated torque (N·m) | | | 15.9 | |
| Momentary Max. peak torque (N·m) | | | 47.7 | |
| Rated current (A(rms)) | | | 24.0 | |
| Max. current (A(o-p)) | | | 102 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | 357 | |
| | DV0P4285×2 | | No limit Note)2 | |
| Rated rotational speed (r/min) | | | 3000 | |
| Max. rotational speed (r/min) | | | 4500 | |
| Moment of inertia of rotor ($\times10^{-4}$kg·m$^2$) | Without brake | | 17.4 | |
| | With brake | | 18.6 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 15 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)

(This brake will be released when it is energized. Do not use this for braking the motor in motion.)

| | |
|---|---|
| Static friction torque (N·m) | 16.1 or more |
| Engaging time (ms) | 110 or less |
| Releasing time (ms) Note)4 | 50 or less |
| Exciting current (DC) (A) | 0.90±10% |
| Releasing voltage (DC) (V) | 2 or more |
| Exciting voltage (DC) (V) | 24±2.4 |

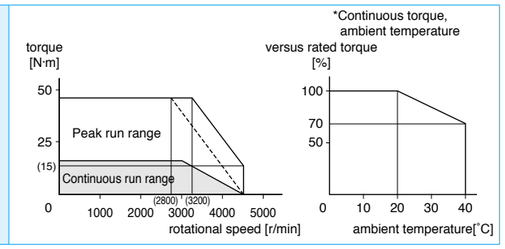
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| 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) | 784 |
| | Thrust load A, B-direction (N) | 343 |

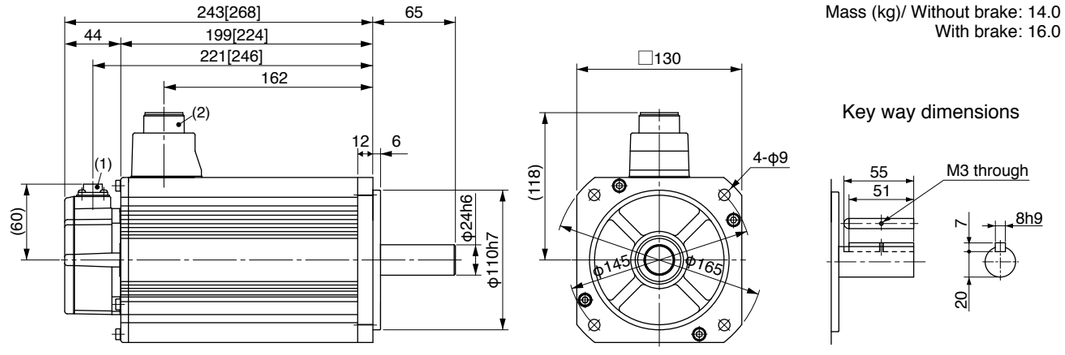
• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.34.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

## Torque characteristics (at AC200V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

With oil seal




## Dimensions




Mass (kg)/ Without brake: 14.0
With brake: 16.0

(1) Encoder connector
(2) Motor/Brake connector

* Figures in [ ] represent the dimensions of with brake.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.



# Motor Specifications 200V MDME 1.0kW [Middle inertia, Middle capacity]

## Specifications

| | | | AC200V | |
|---|---|---|---|---|
| Motor model *1 | | MDME | 102G1□ | 102S1□ |
| Applicable driver *2 | Model No. | A5 series | MDDHT3530 | |
| | | A5E series | MDDHT3530E | |
| | Frame symbol | | D-frame | |
| Power supply capacity (kVA) | | | 1.8 | |
| Rated output (W) | | | 1.0 | |
| Rated torque (N·m) | | | 4.77 | |
| Momentary Max. peak torque (N·m) | | | 14.3 | |
| Rated current (A(rms)) | | | 5.7 | |
| Max. current (A(o-p)) | | | 24 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | No limit Note)2 | |
| | DV0P4284 | | No limit Note)2 | |
| Rated rotational speed (r/min) | | | 2000 | |
| Max. rotational speed (r/min) | | | 3000 | |
| Moment of inertia of rotor ($\times10^{-4}$kg·m$^2$) | Without brake | | 4.60 | |
| | With brake | | 5.90 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 10 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)

(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 or more |
| Engaging time (ms) | 80 or less |
| Releasing time (ms) Note)4 | 70 or less |
| Exciting current (DC) (A) | 0.59±10% |
| Releasing voltage (DC) (V) | 2 or more |
| Exciting voltage (DC) (V) | 24±2.4 |

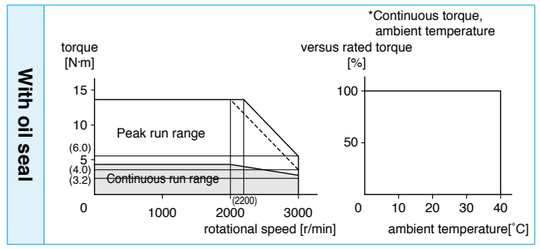
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| 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, B-direction (N) | 196 |

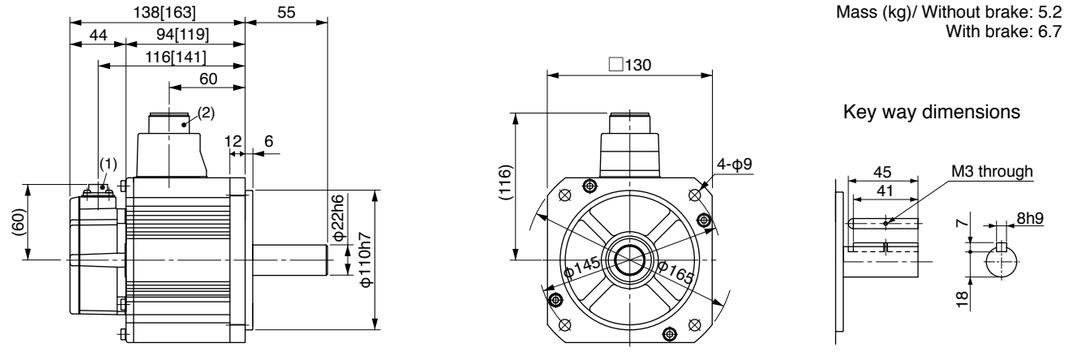
• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.32.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

## Torque characteristics (at AC200V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

With oil seal




## Dimensions




Mass (kg)/ Without brake: 5.2
With brake: 6.7

(1) Encoder connector
(2) Motor/Brake connector

* Figures in [ ] represent the dimensions of with brake.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.

# Motor Specifications 200V MDME 1.5kW [Middle inertia, Middle capacity]

## Specifications

| | | | AC200V | |
|---|---|---|---|---|
| Motor model *1 | | MDME | 152G1□ | 152S1□ |
| Applicable driver *2 | Model No. | A5 series | MDDHT5540 | |
| | | A5E series | MDDHT5540E | |
| | Frame symbol | | D-frame | |
| Power supply capacity (kVA) | | | 2.3 | |
| Rated output (W) | | | 1.5 | |
| Rated torque (N·m) | | | 7.16 | |
| Momentary Max. peak torque (N·m) | | | 21.5 | |
| Rated current (A(rms)) | | | 9.4 | |
| Max. current (A(o-p)) | | | 40 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | No limit Note)2 | |
| | DV0P4284 | | No limit Note)2 | |
| Rated rotational speed (r/min) | | | 2000 | |
| Max. rotational speed (r/min) | | | 3000 | |
| Moment of inertia of rotor ($\times10^{-4}$kg·m$^2$) | Without brake | | 6.70 | |
| | With brake | | 7.99 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 10 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)
(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 or more |
| Engaging time (ms) | 100 or less |
| Releasing time (ms) Note)4 | 50 or less |
| Exciting current (DC) (A) | 0.79±10% |
| Releasing voltage (DC) (V) | 2 or more |
| Exciting voltage (DC) (V) | 24±2.4 |

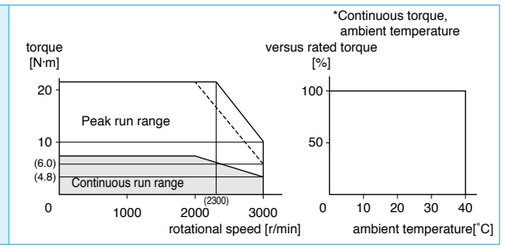
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| 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, B-direction (N) | 196 |

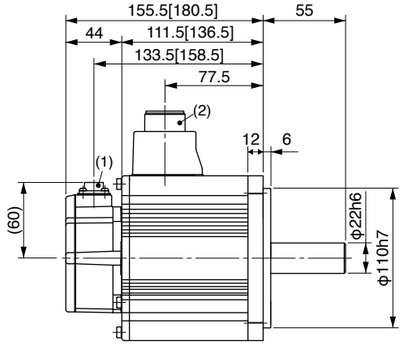
• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.32.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

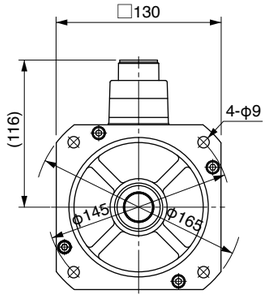
## Torque characteristics (at AC200V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

With oil seal



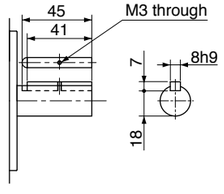

## Dimensions




Mass (kg)/ Without brake: 6.7
With brake: 8.2

Key way dimensions




(1) Encoder connector
(2) Motor/Brake connector

* Figures in [ ] represent the dimensions of with brake.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.



# Motor Specifications 200V MDME 2.0kW [Middle inertia, Middle capacity]

## Specifications

| | | | AC200V | |
|---|---|---|---|---|
| Motor model *1 | | MDME | 202G1□ | 202S1□ |
| Applicable driver *2 | Model No. | A5 series | MEDHT7364 | |
| | | A5E series | MEDHT7364E | |
| | Frame symbol | | E-frame | |
| Power supply capacity (kVA) | | | 3.3 | |
| Rated output (W) | | | 2.0 | |
| Rated torque (N·m) | | | 9.55 | |
| Momentary Max. peak torque (N·m) | | | 28.6 | |
| Rated current (A(rms)) | | | 11.5 | |
| Max. current (A(o-p)) | | | 49 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | No limit Note)2 | |
| | DV0P4285 | | No limit Note)2 | |
| Rated rotational speed (r/min) | | | 2000 | |
| Max. rotational speed (r/min) | | | 3000 | |
| Moment of inertia of rotor ($\times10^{-4}$kg·m$^2$) | Without brake | | 8.72 | |
| | With brake | | 10.0 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 10 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)
(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 or more |
| Engaging time (ms) | 100 or less |
| Releasing time (ms) Note)4 | 50 or less |
| Exciting current (DC) (A) | 0.79±10% |
| Releasing voltage (DC) (V) | 2 or more |
| Exciting voltage (DC) (V) | 24±2.4 |

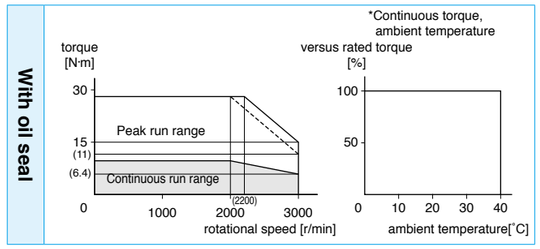
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| 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, B-direction (N) | 196 |

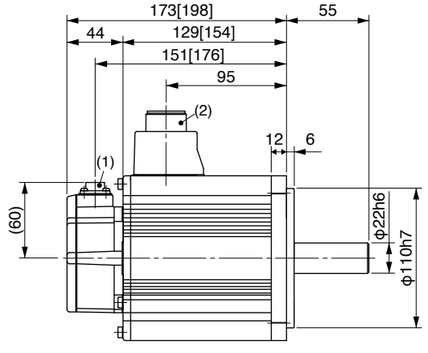
• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.33.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

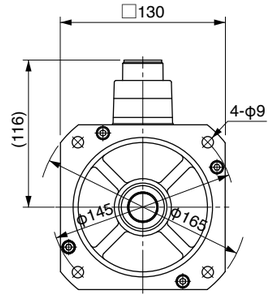
## Torque characteristics (at AC200V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

With oil seal



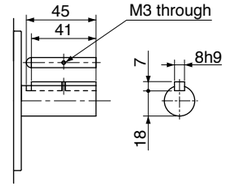

## Dimensions




Mass (kg)/ Without brake: 8.0
With brake: 9.5

Key way dimensions




(1) Encoder connector
(2) Motor/Brake connector

* Figures in [ ] represent the dimensions of with brake.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.

# Motor Specifications 200V MDME 3.0kW [Middle inertia, Middle capacity]

## Specifications

| | | | AC200V | |
|---|---|---|---|---|
| Motor model *1 | | MDME | 302G1□ | 302S1□ |
| Applicable driver *2 | Model No. | A5 series | MFDHTA390 | |
| | | A5E series | MFDHTA390E | |
| | Frame symbol | | F-frame | |
| Power supply capacity | | (kVA) | 4.5 | |
| Rated output | | (W) | 3.0 | |
| Rated torque | | (N·m) | 14.3 | |
| Momentary Max. peak torque | | (N·m) | 43.0 | |
| Rated current | | (A(rms)) | 17.4 | |
| Max. current | | (A(o-p)) | 74 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | No limit Note)2 | |
| | DV0P4285×2 | | No limit Note)2 | |
| Rated rotational speed | | (r/min) | 2000 | |
| Max. rotational speed | | (r/min) | 3000 | |
| Moment of inertia of rotor ($\times10^{-4}$kg·m$^2$) | Without brake | | 12.9 | |
| | With brake | | 14.2 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 10 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)
(This brake will be released when it is energized.
Do not use this for braking the motor in motion.)

| | |
|---|---|
| Static friction torque (N·m) | 16.2 or more |
| Engaging time (ms) | 110 or less |
| Releasing time (ms) Note)4 | 50 or less |
| Exciting current (DC) (A) | 0.90±10% |
| Releasing voltage (DC) (V) | 2 or more |
| Exciting voltage (DC) (V) | 24±2.4 |

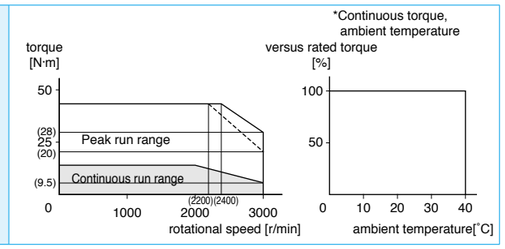
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| 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) | 784 |
| | Thrust load A, B-direction (N) | 343 |

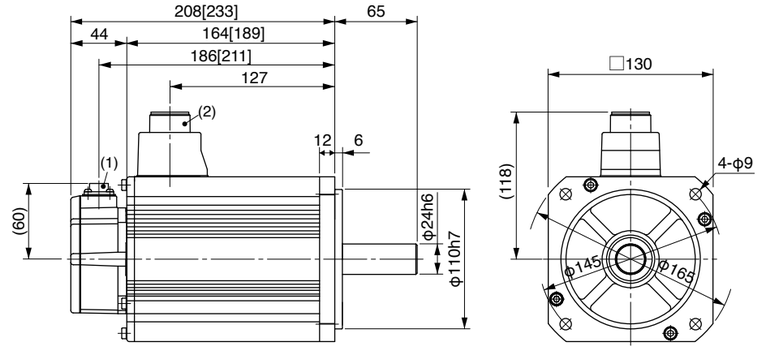
• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.34.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

## Torque characteristics (at AC200V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

With oil seal

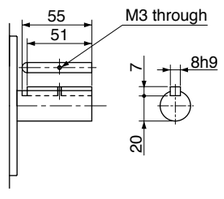



## Dimensions




Mass (kg)/ Without brake: 11.0
With brake: 12.6

Key way dimensions




(1) Encoder connector
(2) Motor/Brake connector

* Figures in [ ] represent the dimensions of with brake.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.



# Motor Specifications 200V MDME 4.0kW [Middle inertia, Middle capacity]

## Specifications

| | | | AC200V | |
|---|---|---|---|---|
| Motor model *1 | | MDME | 402G1□ | 402S1□ |
| Applicable driver *2 | Model No. | A5 series | MFDHTB3A2 | |
| | | A5E series | MFDHTB3A2E | |
| | Frame symbol | | F-frame | |
| Power supply capacity | | (kVA) | 6.0 | |
| Rated output | | (W) | 4.0 | |
| Rated torque | | (N·m) | 19.1 | |
| Momentary Max. peak torque | | (N·m) | 57.3 | |
| Rated current | | (A(rms)) | 21.0 | |
| Max. current | | (A(o-p)) | 89 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | No limit Note)2 | |
| | DV0P4285×2 | | No limit Note)2 | |
| Rated rotational speed | | (r/min) | 2000 | |
| Max. rotational speed | | (r/min) | 3000 | |
| Moment of inertia of rotor ($\times10^{-4}$kg·m$^2$) | Without brake | | 37.6 | |
| | With brake | | 38.6 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 10 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)
(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 or more |
| Engaging time (ms) | 80 or less |
| Releasing time (ms) Note)4 | 25 or less |
| Exciting current (DC) (A) | 1.3±10% |
| Releasing voltage (DC) (V) | 2 or more |
| Exciting voltage (DC) (V) | 24±2.4 |

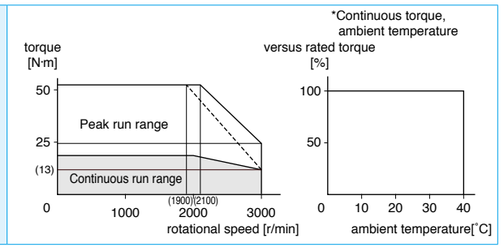
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| 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, B-direction (N) | 343 |

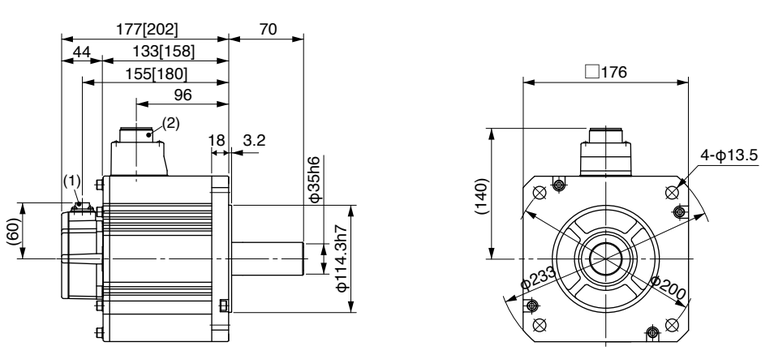
• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.34.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

## Torque characteristics (at AC200V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

With oil seal

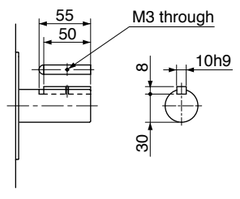



## Dimensions




Mass (kg)/ Without brake: 15.5
With brake: 18.7

Key way dimensions




(1) Encoder connector
(2) Motor/Brake connector

* Figures in [ ] represent the dimensions of with brake.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.

# Motor Specifications 200V MDME 5.0kW [Middle inertia, Middle capacity]

## Specifications

| | | | AC200V | |
|---|---|---|---|---|
| Motor model *1 | | MDME | 502G1□ | 502S1□ |
| Applicable driver *2 | Model No. | A5 series | MFDHTB3A2 | |
| | | A5E series | MFDHTB3A2E | |
| | Frame symbol | | F-frame | |
| Power supply capacity (kVA) | | | 7.5 | |
| Rated output (W) | | | 5.0 | |
| Rated torque (N·m) | | | 23.9 | |
| Momentary Max. peak torque (N·m) | | | 71.6 | |
| Rated current (A(rms)) | | | 25.9 | |
| Max. current (A(o-p)) | | | 110 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | 120 | |
| | DV0P4285×2 | | No limit Note)2 | |
| Rated rotational speed (r/min) | | | 2000 | |
| Max. rotational speed (r/min) | | | 3000 | |
| Moment of inertia of rotor ($\times10^{-4}$kg·m$^2$) | Without brake | | 48.0 | |
| | With brake | | 48.8 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 10 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)

(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 or more |
| Engaging time (ms) | 80 or less |
| Releasing time (ms) Note)4 | 25 or less |
| Exciting current (DC) (A) | 1.3±10% |
| Releasing voltage (DC) (V) | 2 or more |
| Exciting voltage (DC) (V) | 24±2.4 |

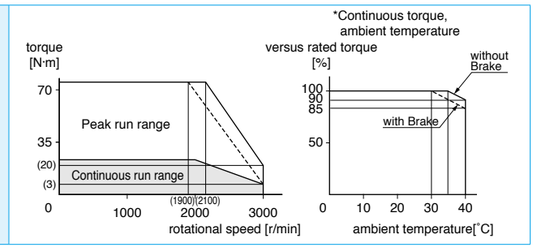
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| 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, B-direction (N) | 343 |

• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.34.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

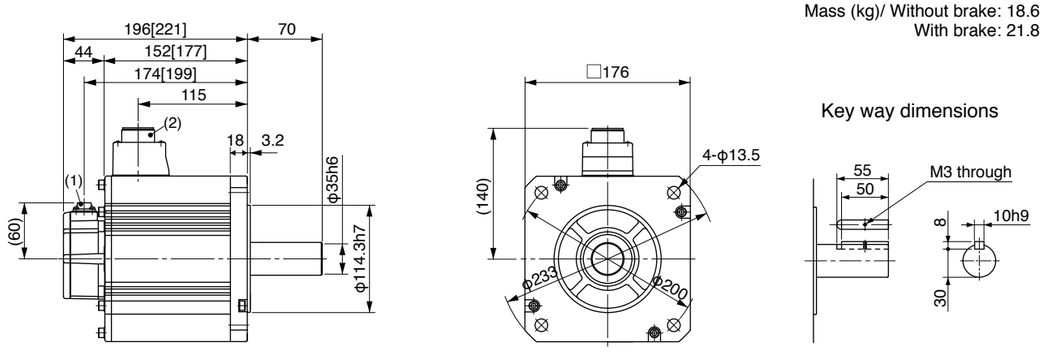
## Torque characteristics (at AC200V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

With oil seal




## Dimensions

Mass (kg)/ Without brake: 18.6
With brake: 21.8




(1) Encoder connector
(2) Motor/Brake connector

* Figures in [ ] represent the dimensions of with brake.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.



# Motor Specifications 200V MGME 0.9kW [Middle inertia, Middle capacity]

## Specifications

| | | | AC200V | |
|---|---|---|---|---|
| Motor model *1 | | MGME | 092G1□ | 092S1□ |
| Applicable driver *2 | Model No. | A5 series | MDDHT5540 | |
| | | A5E series | MDDHT5540E | |
| | Frame symbol | | D-frame | |
| Power supply capacity (kVA) | | | 1.8 | |
| Rated output (W) | | | 0.9 | |
| Rated torque (N·m) | | | 8.59 | |
| Momentary Max. peak torque (N·m) | | | 19.3 | |
| Rated current (A(rms)) | | | 7.6 | |
| Max. current (A(o-p)) | | | 24 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | No limit Note)2 | |
| | DV0P4284 | | No limit Note)2 | |
| Rated rotational speed (r/min) | | | 1000 | |
| Max. rotational speed (r/min) | | | 2000 | |
| Moment of inertia of rotor ($\times10^{-4}$kg·m$^2$) | Without brake | | 6.70 | |
| | With brake | | 7.99 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 10 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)

(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 or more |
| Engaging time (ms) | 100 or less |
| Releasing time (ms) Note)4 | 50 or less |
| Exciting current (DC) (A) | 0.79±10% |
| Releasing voltage (DC) (V) | 2 or more |
| Exciting voltage (DC) (V) | 24±2.4 |

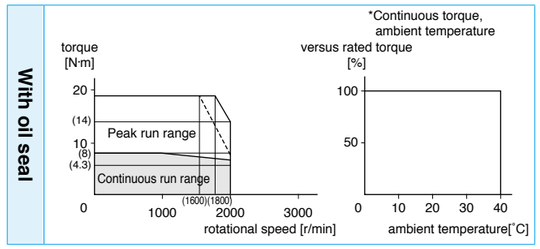
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| 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) | 686 |
| | Thrust load A, B-direction (N) | 196 |

• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.32.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

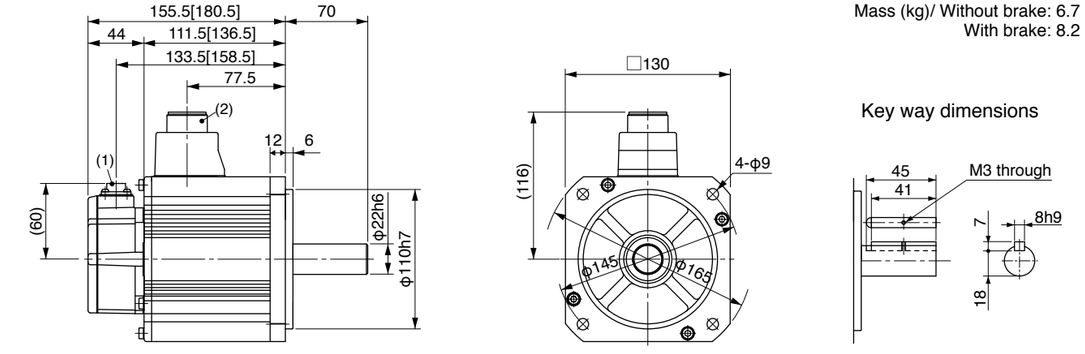
## Torque characteristics (at AC200V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

With oil seal




## Dimensions

Mass (kg)/ Without brake: 6.7
With brake: 8.2




(1) Encoder connector
(2) Motor/Brake connector

* Figures in [ ] represent the dimensions of with brake.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.

# Motor Specifications 200V MGME 2.0kW [Middle inertia, Middle capacity]

## Specifications

| | | | AC200V | |
|---|---|---|---|---|
| Motor model *1 | | MGME | 202G1□ | 202S1□ |
| Applicable driver *2 | Model No. | A5 series | MFDHTA390 | |
| | | A5E series | MFDHTA390E | |
| | Frame symbol | | F-frame | |
| Power supply capacity | | (kVA) | 3.8 | |
| Rated output | | (W) | 2.0 | |
| Rated torque | | (N·m) | 19.1 | |
| Momentary Max. peak torque | | (N·m) | 47.7 | |
| Rated current | | (A(rms)) | 17.0 | |
| Max. current | | (A(o-p)) | 60 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | No limit Note)2 | |
| | DV0P4285×2 | | No limit Note)2 | |
| Rated rotational speed | | (r/min) | 1000 | |
| Max. rotational speed | | (r/min) | 2000 | |
| Moment of inertia of rotor ($\times10^{-4}$kg·m$^2$) | Without brake | | 30.3 | |
| | With brake | | 31.4 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 10 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)
(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 or more |
| Engaging time (ms) | 80 or less |
| Releasing time (ms) Note)4 | 25 or less |
| Exciting current (DC) (A) | 1.3±10% |
| Releasing voltage (DC) (V) | 2 or more |
| Exciting voltage (DC) (V) | 24±2.4 |

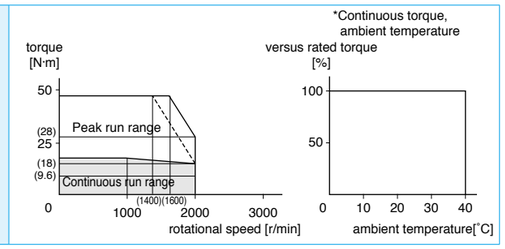
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| 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) | 1176 |
| | Thrust load A, B-direction (N) | 490 |

• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.34.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

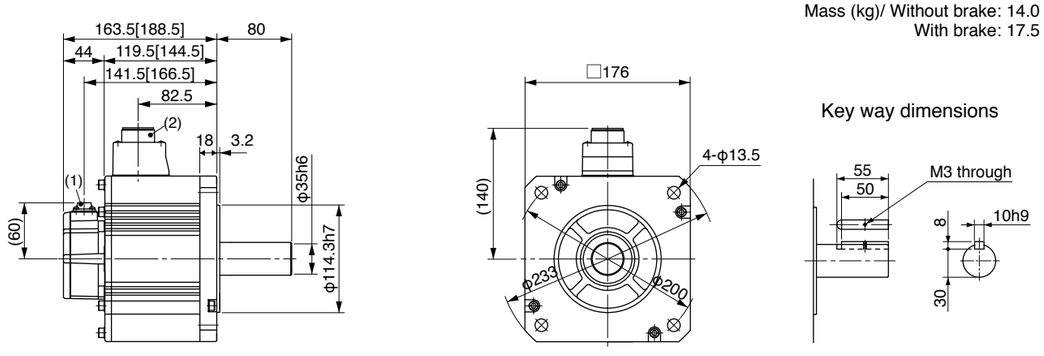
## Torque characteristics (at AC200V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

With oil seal




## Dimensions

Mass (kg)/ Without brake: 14.0
With brake: 17.5




(1) Encoder connector
(2) Motor/Brake connector

* Figures in [ ] represent the dimensions of with brake.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.



# Motor Specifications 200V MGME 3.0kW [Middle inertia, Middle capacity]

## Specifications

| | | | AC200V | |
|---|---|---|---|---|
| Motor model *1 | | MGME | 302G1□ | 302S1□ |
| Applicable driver *2 | Model No. | A5 series | MFDHTB3A2 | |
| | | A5E series | MFDHTB3A2E | |
| | Frame symbol | | F-frame | |
| Power supply capacity | | (kVA) | 4.5 | |
| Rated output | | (W) | 3.0 | |
| Rated torque | | (N·m) | 28.7 | |
| Momentary Max. peak torque | | (N·m) | 71.7 | |
| Rated current | | (A(rms)) | 22.6 | |
| Max. current | | (A(o-p)) | 80 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | No limit Note)2 | |
| | DV0P4285×2 | | No limit Note)2 | |
| Rated rotational speed | | (r/min) | 1000 | |
| Max. rotational speed | | (r/min) | 2000 | |
| Moment of inertia of rotor ($\times10^{-4}$kg·m$^2$) | Without brake | | 48.4 | |
| | With brake | | 49.2 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 10 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)
(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 or more |
| Engaging time (ms) | 150 or less |
| Releasing time (ms) Note)4 | 50 or less |
| Exciting current (DC) (A) | 1.4±10% |
| Releasing voltage (DC) (V) | 2 or more |
| Exciting voltage (DC) (V) | 24±2.4 |

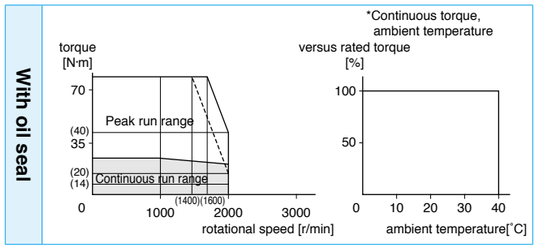
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| 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) | 1470 |
| | Thrust load A, B-direction (N) | 490 |

• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.34.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

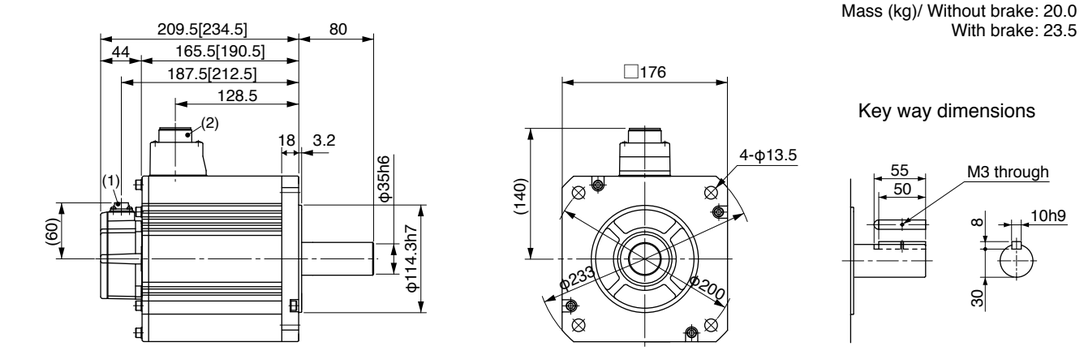
## Torque characteristics (at AC200V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

With oil seal




## Dimensions

Mass (kg)/ Without brake: 20.0
With brake: 23.5




(1) Encoder connector
(2) Motor/Brake connector

* Figures in [ ] represent the dimensions of with brake.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.

# Motor Specifications 200V MHME 1.0kW [High inertia, Middle capacity]

## Specifications

| | | | AC200V | |
|---|---|---|---|---|
| Motor model *1 | | MHME | 102G1□ | 102S1□ |
| Applicable driver *2 | Model No. | A5 series | MDDHT3530 | |
| | | A5E series | MDDHT3530E | |
| | Frame symbol | | D-frame | |
| Power supply capacity | | (kVA) | 1.8 | |
| Rated output | | (W) | 1.0 | |
| Rated torque | | (N·m) | 4.77 | |
| Momentary Max. peak torque | | (N·m) | 14.3 | |
| Rated current | | (A(rms)) | 5.7 | |
| Max. current | | (A(o-p)) | 24 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | 83 | |
| | DV0P4284 | | No limit Note)2 | |
| Rated rotational speed | | (r/min) | 2000 | |
| Max. rotational speed | | (r/min) | 3000 | |
| Moment of inertia of rotor ($\times 10^{-4}$kg·m$^2$) | Without brake | | 24.7 | |
| | With brake | | 26.0 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 5 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)

(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 or less |
| Releasing time (ms) Note)4 | 70 or less |
| Exciting current (DC) (A) | 0.59±10% |
| Releasing voltage (DC) (V) | 2 or more |
| Exciting voltage (DC) (V) | 24±2.4 |

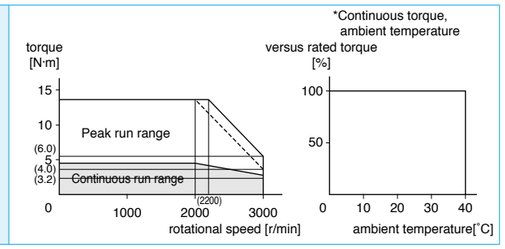
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| 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, B-direction (N) | 196 |

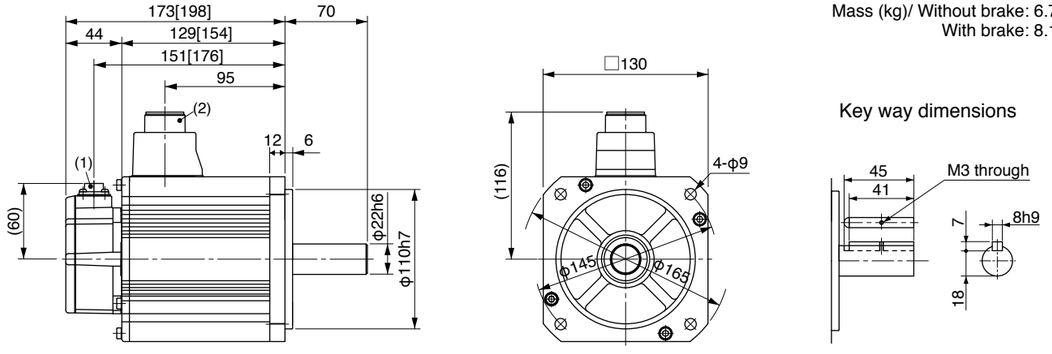
• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.32.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

## Torque characteristics (at AC200V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

With oil seal




## Dimensions




Mass (kg)/ Without brake: 6.7
With brake: 8.1

(1) Encoder connector
(2) Motor/Brake connector

* Figures in [ ] represent the dimensions of with brake.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.



# Motor Specifications 200V MHME 1.5kW [High inertia, Middle capacity]

## Specifications

| | | | AC200V | |
|---|---|---|---|---|
| Motor model *1 | | MHME | 152G1□ | 152S1□ |
| Applicable driver *2 | Model No. | A5 series | MDDHT5540 | |
| | | A5E series | MDDHT5540E | |
| | Frame symbol | | D-frame | |
| Power supply capacity | | (kVA) | 2.3 | |
| Rated output | | (W) | 1.5 | |
| Rated torque | | (N·m) | 7.16 | |
| Momentary Max. peak torque | | (N·m) | 21.5 | |
| Rated current | | (A(rms)) | 9.4 | |
| Max. current | | (A(o-p)) | 40 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | 22 | |
| | DV0P4284 | | 130 | |
| Rated rotational speed | | (r/min) | 2000 | |
| Max. rotational speed | | (r/min) | 3000 | |
| Moment of inertia of rotor ($\times 10^{-4}$kg·m$^2$) | Without brake | | 37.1 | |
| | With brake | | 38.4 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 5 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)

(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 or more |
| Engaging time (ms) | 100 or less |
| Releasing time (ms) Note)4 | 50 or less |
| Exciting current (DC) (A) | 0.79±10% |
| Releasing voltage (DC) (V) | 2 or more |
| Exciting voltage (DC) (V) | 24±2.4 |

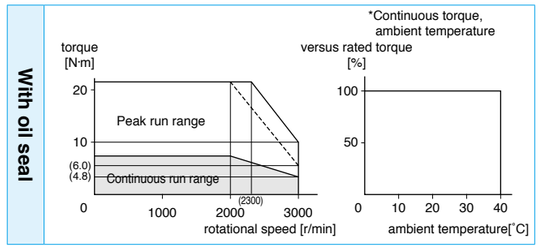
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| 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, B-direction (N) | 196 |

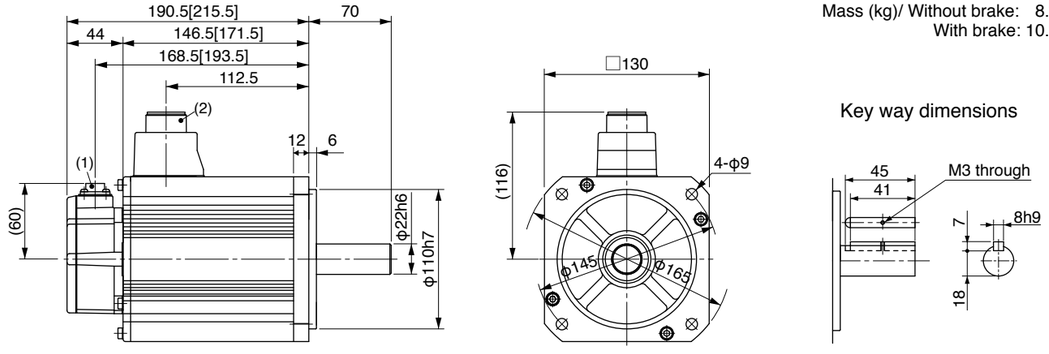
• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.32.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

## Torque characteristics (at AC200V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

With oil seal




## Dimensions




Mass (kg)/ Without brake: 8.6
With brake: 10.1

(1) Encoder connector
(2) Motor/Brake connector

* Figures in [ ] represent the dimensions of with brake.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.

# Motor Specifications 200V MHME 2.0kW [High inertia, Middle capacity]

## Specifications

| | | | AC200V | |
|---|---|---|---|---|
| Motor model *1 | | MHME | 202G1□ | 202S1□ |
| Applicable driver *2 | Model No. | A5 series | MEDHT7364 | |
| | | A5E series | MEDHT7364E | |
| | Frame symbol | | E-frame | |
| Power supply capacity | | (kVA) | 3.3 | |
| Rated output | | (W) | 2.0 | |
| Rated torque | | (N·m) | 9.55 | |
| Momentary Max. peak torque | | (N·m) | 28.6 | |
| Rated current | | (A(rms)) | 11.1 | |
| Max. current | | (A(o-p)) | 47 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | 45 | |
| | DV0P4285 | | 142 | |
| Rated rotational speed | | (r/min) | 2000 | |
| Max. rotational speed | | (r/min) | 3000 | |
| Moment of inertia of rotor ($\times10^{-4}$kg·m$^2$) | Without brake | | 57.8 | |
| | With brake | | 59.6 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 5 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)

(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 or more |
| Engaging time (ms) | 80 or less |
| Releasing time (ms) Note)4 | 25 or less |
| Exciting current (DC) (A) | 1.3±10% |
| Releasing voltage (DC) (V) | 2 or more |
| Exciting voltage (DC) (V) | 24±2.4 |

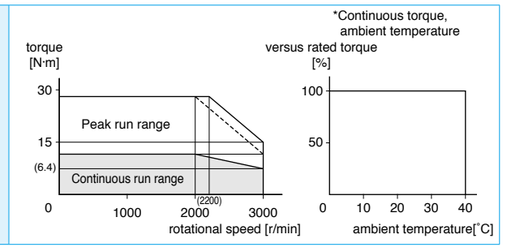
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| 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, B-direction (N) | 343 |

• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.33.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

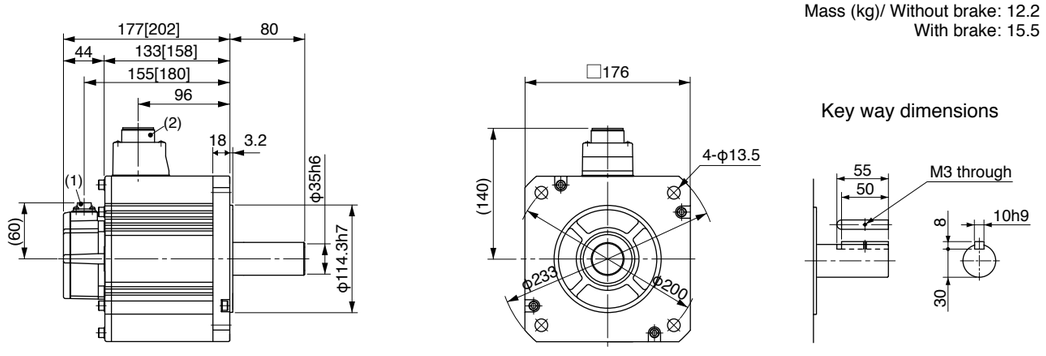
## Torque characteristics (at AC200V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

With oil seal




## Dimensions

Mass (kg)/ Without brake: 12.2
With brake: 15.5




(1) Encoder connector
(2) Motor/Brake connector

* Figures in [ ] represent the dimensions of with brake.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.



# Motor Specifications 200V MHME 3.0kW [High inertia, Middle capacity]

## Specifications

| | | | AC200V | |
|---|---|---|---|---|
| Motor model *1 | | MHME | 302G1□ | 302S1□ |
| Applicable driver *2 | Model No. | A5 series | MFDHTA390 | |
| | | A5E series | MFDHTA390E | |
| | Frame symbol | | F-frame | |
| Power supply capacity | | (kVA) | 4.5 | |
| Rated output | | (W) | 3.0 | |
| Rated torque | | (N·m) | 14.3 | |
| Momentary Max. peak torque | | (N·m) | 43.0 | |
| Rated current | | (A(rms)) | 16.0 | |
| Max. current | | (A(o-p)) | 68 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | 19 | |
| | DV0P4285×2 | | 142 | |
| Rated rotational speed | | (r/min) | 2000 | |
| Max. rotational speed | | (r/min) | 3000 | |
| Moment of inertia of rotor ($\times10^{-4}$kg·m$^2$) | Without brake | | 90.5 | |
| | With brake | | 92.1 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 5 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)

(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 or more |
| Engaging time (ms) | 80 or less |
| Releasing time (ms) Note)4 | 25 or less |
| Exciting current (DC) (A) | 1.3±10% |
| Releasing voltage (DC) (V) | 2 or more |
| Exciting voltage (DC) (V) | 24±2.4 |

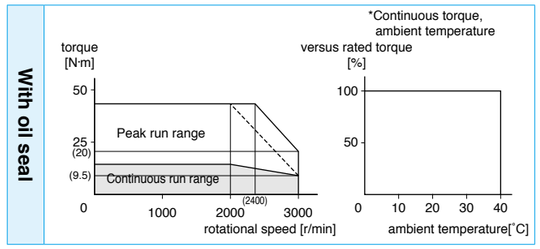
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| 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, B-direction (N) | 343 |

• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.34.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

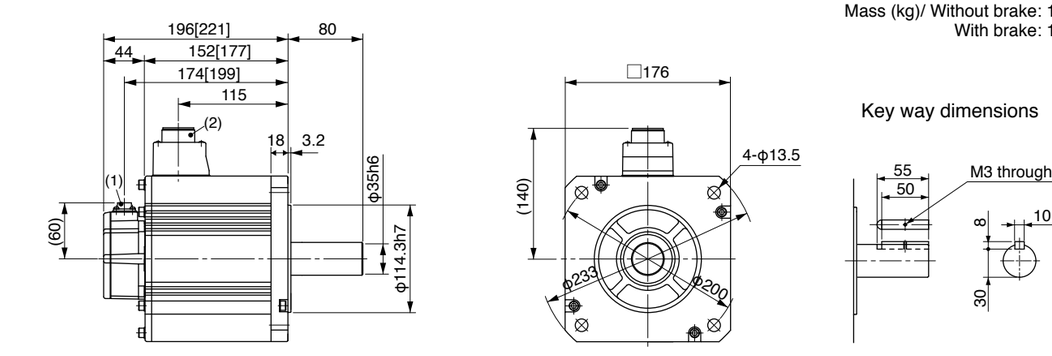
## Torque characteristics (at AC200V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

With oil seal




## Dimensions

Mass (kg)/ Without brake: 16.0
With brake: 19.2




(1) Encoder connector
(2) Motor/Brake connector

* Figures in [ ] represent the dimensions of with brake.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.

# Motor Specifications 200V MHME 4.0kW [High inertia, Middle capacity]

## Specifications

| | | | AC200V | |
|---|---|---|---|---|
| Motor model *1 | | MHME | 402G1□ | 402S1□ |
| Applicable driver *2 | Model No. | A5 series | MFDHTB3A2 | |
| | | A5E series | MFDHTB3A2E | |
| | Frame symbol | | F-frame | |
| Power supply capacity | | (kVA) | 6.0 | |
| Rated output | | (W) | 4.0 | |
| Rated torque | | (N·m) | 19.1 | |
| Momentary Max. peak torque | | (N·m) | 57.3 | |
| Rated current | | (A(rms)) | 21.0 | |
| Max. current | | (A(o-p)) | 89 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | 17 | |
| | DV0P4285×2 | | 125 | |
| Rated rotational speed | | (r/min) | 2000 | |
| Max. rotational speed | | (r/min) | 3000 | |
| Moment of inertia of rotor ($\times10^{-4}$kg·m$^2$) | Without brake | | 112 | |
| | With brake | | 114 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 5 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)

(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 or more |
| Engaging time (ms) | 80 or less |
| Releasing time (ms) Note)4 | 25 or less |
| Exciting current (DC) (A) | 1.3±10% |
| Releasing voltage (DC) (V) | 2 or more |
| Exciting voltage (DC) (V) | 24±2.4 |

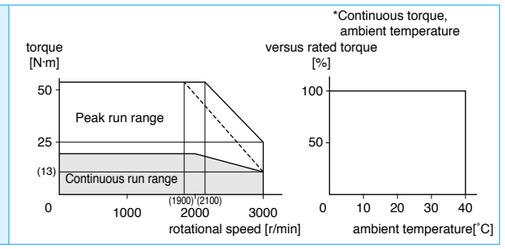
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| 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, B-direction (N) | 343 |

• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.34.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

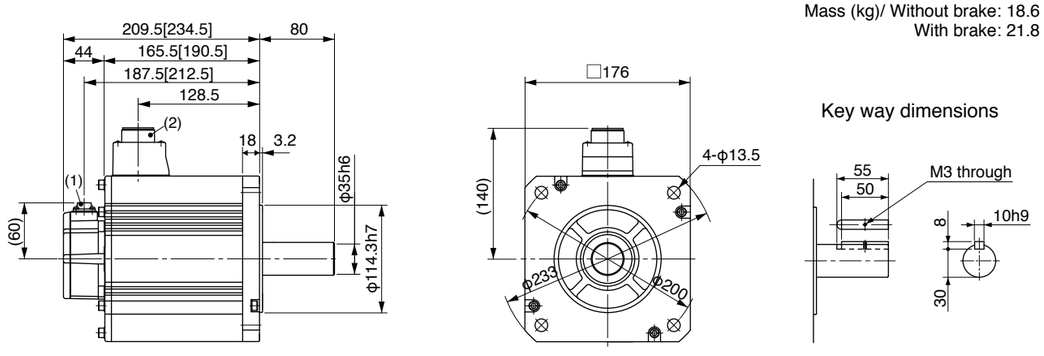
## Torque characteristics (at AC200V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

With oil seal




## Dimensions

Mass (kg)/ Without brake: 18.6
With brake: 21.8




(1) Encoder connector
(2) Motor/Brake connector

* Figures in [ ] represent the dimensions of with brake.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.



# Motor Specifications 200V MHME 5.0kW [High inertia, Middle capacity]

## Specifications

| | | | AC200V | |
|---|---|---|---|---|
| Motor model *1 | | MHME | 502G1□ | 502S1□ |
| Applicable driver *2 | Model No. | A5 series | MFDHTB3A2 | |
| | | A5E series | MFDHTB3A2E | |
| | Frame symbol | | F-frame | |
| Power supply capacity | | (kVA) | 7.5 | |
| Rated output | | (W) | 5.0 | |
| Rated torque | | (N·m) | 23.9 | |
| Momentary Max. peak torque | | (N·m) | 71.6 | |
| Rated current | | (A(rms)) | 25.9 | |
| Max. current | | (A(o-p)) | 110 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | 10 | |
| | DV0P4285×2 | | 76 | |
| Rated rotational speed | | (r/min) | 2000 | |
| Max. rotational speed | | (r/min) | 3000 | |
| Moment of inertia of rotor ($\times10^{-4}$kg·m$^2$) | Without brake | | 162 | |
| | With brake | | 164 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 5 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)

(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 or more |
| Engaging time (ms) | 80 or less |
| Releasing time (ms) Note)4 | 25 or less |
| Exciting current (DC) (A) | 1.3±10% |
| Releasing voltage (DC) (V) | 2 or more |
| Exciting voltage (DC) (V) | 24±2.4 |

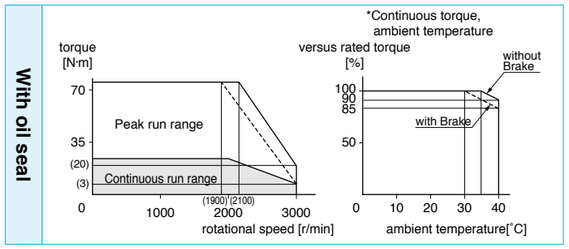
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| 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, B-direction (N) | 343 |

• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.34.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

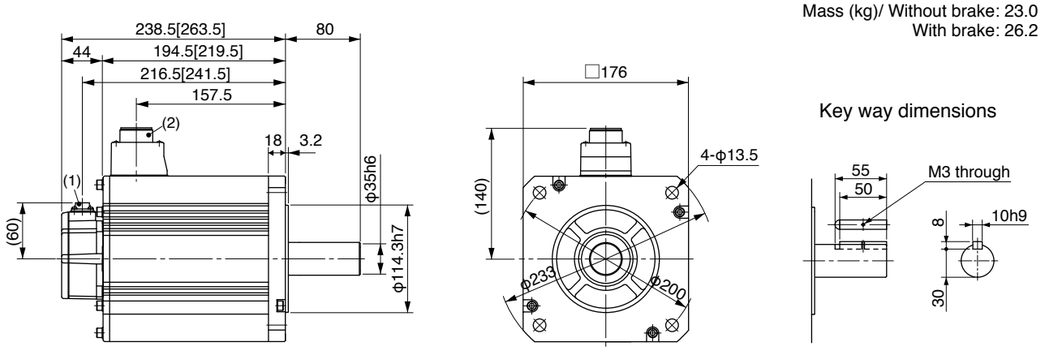
## Torque characteristics (at AC200V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

With oil seal




## Dimensions

Mass (kg)/ Without brake: 23.0
With brake: 26.2




(1) Encoder connector
(2) Motor/Brake connector

* Figures in [ ] represent the dimensions of with brake.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.

## Specifications

| | | | AC100V | |
|---|---|---|---|---|
| Motor model *1 | | MSMD | 5AZG1□ | 5AZS1□ |
| Applicable driver *2 | Model No. | A5 series | MADHT1105 | |
| | | A5E series | MADHT1105E | |
| | Frame symbol | | A-frame | |
| Power supply capacity | | (kVA) | 0.5 | |
| Rated output | | (W) | 50 | |
| Rated torque | | (N·m) | 0.16 | |
| Momentary Max. peak torque | | (N·m) | 0.48 | |
| Rated current | | (A(rms)) | 1.1 | |
| Max. current | | (A(o-p)) | 4.7 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | No limit Note)2 | |
| | DV0P4280 | | No limit Note)2 | |
| Rated rotational speed | | (r/min) | 3000 | |
| Max. rotational speed | | (r/min) | 5000 | |
| Moment of inertia of rotor ($\times10^{-4}$kg·m$^2$) | Without brake | | 0.025 | |
| | With brake | | 0.027 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 30 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)
(This brake will be released when it is energized.
Do not use this for braking the motor in motion.)

| | |
|---|---|
| Static friction torque (N·m) | 0.29 or more |
| Engaging time (ms) | 35 or less |
| Releasing time (ms) Note)4 | 20 or less |
| Exciting current (DC) (A) | 0.3 |
| Releasing voltage (DC) (V) | 1 or more |
| Exciting voltage (DC) (V) | 24±1.2 |

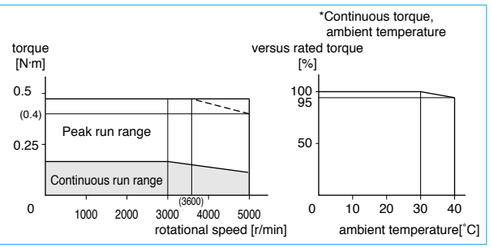
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| During assembly | Radial load P-direction (N) | 147 |
| | Thrust load A-direction (N) | 88 |
| | Thrust load B-direction (N) | 117.6 |
| During operation | Radial load P-direction (N) | 68.6 |
| | Thrust load A, B-direction (N) | 58.8 |

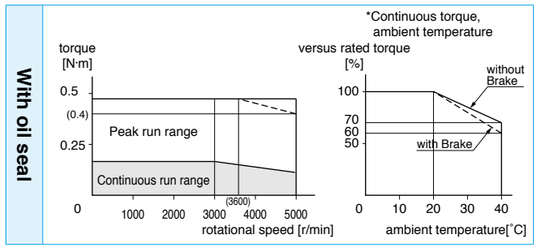
• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.30.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

## Torque characteristics (at AC100V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

Without oil seal



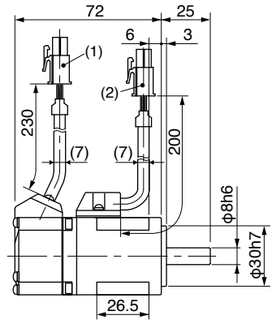

With oil seal



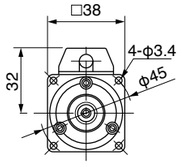

## Dimensions

<Without Brake>

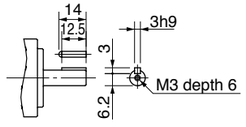
Mass (kg)/ 0.32




(1) Encoder connector
(2) Motor connector




Key way dimensions




* For the dimensions of with brake, refer to the right page.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.





## Specifications

| | | | AC200V | |
|---|---|---|---|---|
| Motor model *1 | | MSMD | 5AZG1□ | 5AZS1□ |
| Applicable driver *2 | Model No. | A5 series | MADHT1505 | |
| | | A5E series | MADHT1505E | |
| | Frame symbol | | A-frame | |
| Power supply capacity | | (kVA) | 0.5 | |
| Rated output | | (W) | 50 | |
| Rated torque | | (N·m) | 0.16 | |
| Momentary Max. peak torque | | (N·m) | 0.48 | |
| Rated current | | (A(rms)) | 1.1 | |
| Max. current | | (A(o-p)) | 4.7 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | No limit Note)2 | |
| | DV0P4281 | | No limit Note)2 | |
| Rated rotational speed | | (r/min) | 3000 | |
| Max. rotational speed | | (r/min) | 5000 | |
| Moment of inertia of rotor ($\times10^{-4}$kg·m$^2$) | Without brake | | 0.025 | |
| | With brake | | 0.027 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 30 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)
(This brake will be released when it is energized.
Do not use this for braking the motor in motion.)

| | |
|---|---|
| Static friction torque (N·m) | 0.29 or more |
| Engaging time (ms) | 35 or less |
| Releasing time (ms) Note)4 | 20 or less |
| Exciting current (DC) (A) | 0.3 |
| Releasing voltage (DC) (V) | 1 or more |
| Exciting voltage (DC) (V) | 24±1.2 |

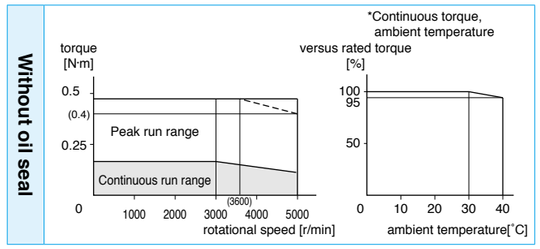
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| During assembly | Radial load P-direction (N) | 147 |
| | Thrust load A-direction (N) | 88 |
| | Thrust load B-direction (N) | 117.6 |
| During operation | Radial load P-direction (N) | 68.6 |
| | Thrust load A, B-direction (N) | 58.8 |

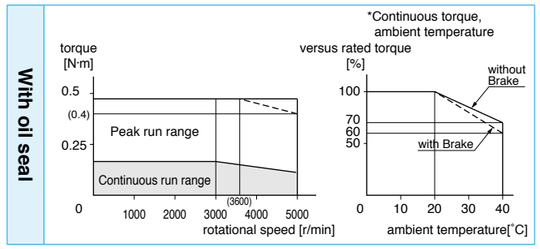
• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.30.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

## Torque characteristics (at AC200V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

Without oil seal



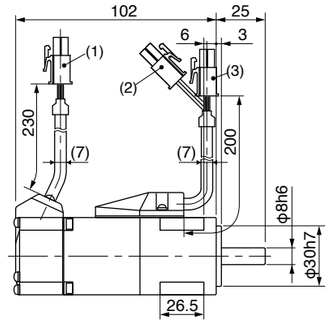

With oil seal



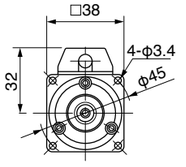

## Dimensions

<With Brake>

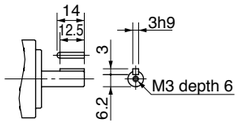
Mass (kg)/ 0.53




(1) Encoder connector
(2) Brake connector
(3) Motor connector




Key way dimensions




* For the dimensions of without brake, refer to the left page.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.

# Motor Specifications 100V MSMD 100W [Low inertia, Small capacity]

## Specifications

| | | | AC100V | |
|---|---|---|---|---|
| Motor model *1 | | MSMD | 011G1□ | 011S1□ |
| Applicable driver *2 | Model No. | A5 series | MADHT1107 | |
| | | A5E series | MADHT1107E | |
| | Frame symbol | | A-frame | |
| Power supply capacity | | (kVA) | 0.4 | |
| Rated output | | (W) | 100 | |
| Rated torque | | (N·m) | 0.32 | |
| Momentary Max. peak torque | | (N·m) | 0.95 | |
| Rated current | | (A(rms)) | 1.7 | |
| Max. current | | (A(o-p)) | 7.2 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | No limit Note)2 | |
| | DV0P4280 | | No limit Note)2 | |
| Rated rotational speed | | (r/min) | 3000 | |
| Max. rotational speed | | (r/min) | 5000 | |
| Moment of inertia of rotor ($\times 10^{-4}$kg·m$^2$) | Without brake | | 0.051 | |
| | With brake | | 0.054 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 30 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)

(This brake will be released when it is energized. Do not use this for braking the motor in motion.)

| | |
|---|---|
| Static friction torque (N·m) | 0.29 or more |
| Engaging time (ms) | 35 or less |
| Releasing time (ms) Note)4 | 20 or less |
| Exciting current (DC) (A) | 0.3 |
| Releasing voltage (DC) (V) | 1 or more |
| Exciting voltage (DC) (V) | 24±1.2 |

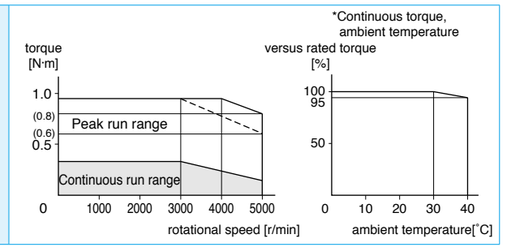
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| During assembly | Radial load P-direction (N) | 147 |
| | Thrust load A-direction (N) | 88 |
| | Thrust load B-direction (N) | 117.6 |
| During operation | Radial load P-direction (N) | 68.6 |
| | Thrust load A, B-direction (N) | 58.8 |

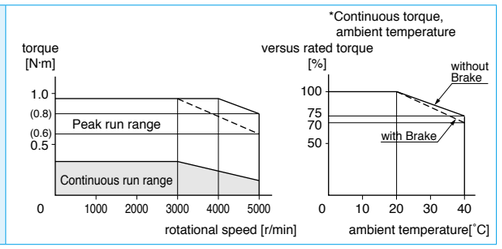
• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.30.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

## Torque characteristics (at AC100V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

Without oil seal



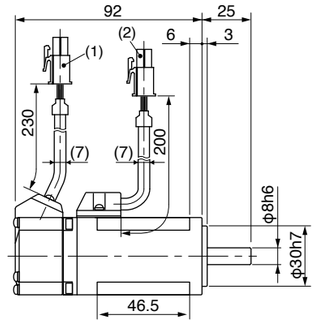

With oil seal



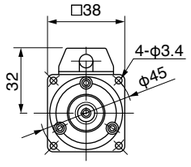

## Dimensions

<Without Brake>

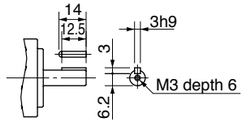
Mass (kg)/ 0.47




(1) Encoder connector
(2) Motor connector




Key way dimensions




* For the dimensions of with brake, refer to the right page.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.



# Motor Specifications 200V MSMD 100W [Low inertia, Small capacity]

## Specifications

| | | | AC200V | |
|---|---|---|---|---|
| Motor model *1 | | MSMD | 012G1□ | 012S1□ |
| Applicable driver *2 | Model No. | A5 series | MADHT1505 | |
| | | A5E series | MADHT1505E | |
| | Frame symbol | | A-frame | |
| Power supply capacity | | (kVA) | 0.5 | |
| Rated output | | (W) | 100 | |
| Rated torque | | (N·m) | 0.32 | |
| Momentary Max. peak torque | | (N·m) | 0.95 | |
| Rated current | | (A(rms)) | 1.1 | |
| Max. current | | (A(o-p)) | 4.7 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | No limit Note)2 | |
| | DV0P4281 | | No limit Note)2 | |
| Rated rotational speed | | (r/min) | 3000 | |
| Max. rotational speed | | (r/min) | 5000 | |
| Moment of inertia of rotor ($\times 10^{-4}$kg·m$^2$) | Without brake | | 0.051 | |
| | With brake | | 0.054 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 30 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)

(This brake will be released when it is energized. Do not use this for braking the motor in motion.)

| | |
|---|---|
| Static friction torque (N·m) | 0.29 or more |
| Engaging time (ms) | 35 or less |
| Releasing time (ms) Note)4 | 20 or less |
| Exciting current (DC) (A) | 0.3 |
| Releasing voltage (DC) (V) | 1 or more |
| Exciting voltage (DC) (V) | 24±1.2 |

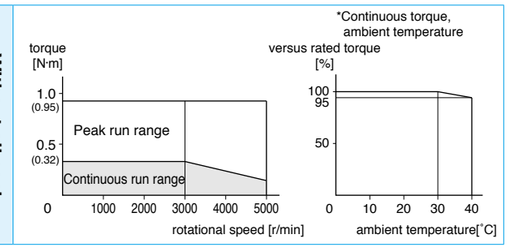
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| During assembly | Radial load P-direction (N) | 147 |
| | Thrust load A-direction (N) | 88 |
| | Thrust load B-direction (N) | 117.6 |
| During operation | Radial load P-direction (N) | 68.6 |
| | Thrust load A, B-direction (N) | 58.8 |

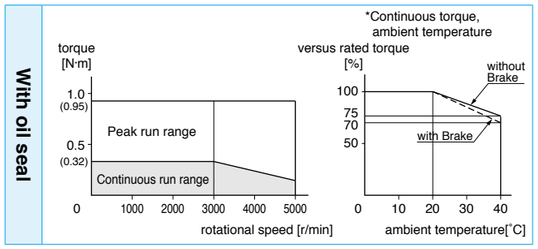
• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.30.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

## Torque characteristics (at AC200V of power voltage)

Without oil seal



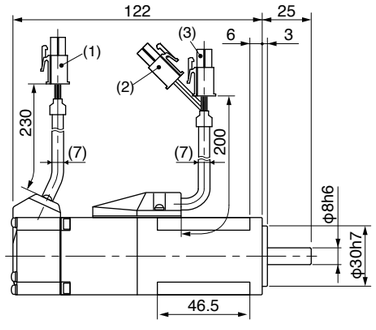

With oil seal



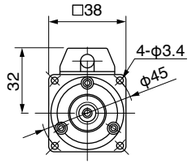

## Dimensions

<With Brake>

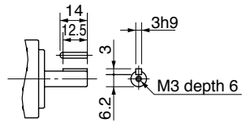
Mass (kg)/ 0.68




(1) Encoder connector
(2) Brake connector
(3) Motor connector




Key way dimensions




* For the dimensions of without brake, refer to the left page.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.

# Motor Specifications 100V MSMD 200W [Low inertia, Small capacity]

## Specifications

| | | | AC100V | |
|---|---|---|---|---|
| Motor model *1 | | MSMD | 021G1□ | 021S1□ |
| Applicable driver *2 | Model No. | A5 series | MBDHT2110 | |
| | | A5E series | MBDHT2110E | |
| | Frame symbol | | B-frame | |
| Power supply capacity (kVA) | | | 0.5 | |
| Rated output (W) | | | 200 | |
| Rated torque (N·m) | | | 0.64 | |
| Momentary Max. peak torque (N·m) | | | 1.91 | |
| Rated current (A(rms)) | | | 2.5 | |
| Max. current (A(o-p)) | | | 10.6 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | No limit Note)2 | |
| | DV0P4283 | | No limit Note)2 | |
| Rated rotational speed (r/min) | | | 3000 | |
| Max. rotational speed (r/min) | | | 5000 | |
| Moment of inertia of rotor ($\times10^{-4}$kg·m$^2$) | Without brake | | 0.14 | |
| | With brake | | 0.16 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 30 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)

(This brake will be released when it is energized. Do not use this for braking the motor in motion.)

| | |
|---|---|
| Static friction torque (N·m) | 1.27 or more |
| Engaging time (ms) | 50 or less |
| Releasing time (ms) Note)4 | 15 or less |
| Exciting current (DC) (A) | 0.36 |
| Releasing voltage (DC) (V) | 1 or more |
| Exciting voltage (DC) (V) | 24±1.2 |

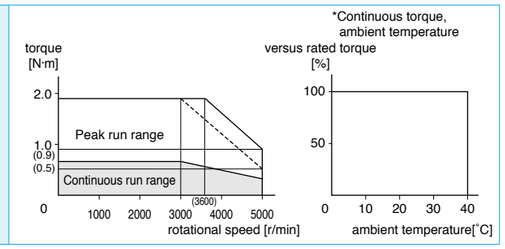
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| During assembly | Radial load P-direction (N) | 392 |
| | Thrust load A-direction (N) | 147 |
| | Thrust load B-direction (N) | 196 |
| During operation | Radial load P-direction (N) | 245 |
| | Thrust load A, B-direction (N) | 98 |

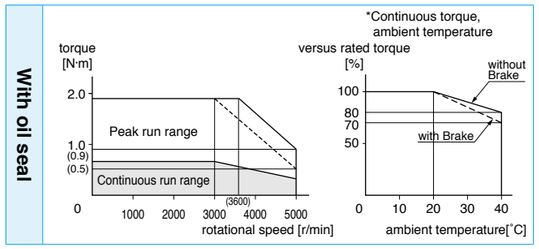
• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.30.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

## Torque characteristics (at AC100V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

Without oil seal



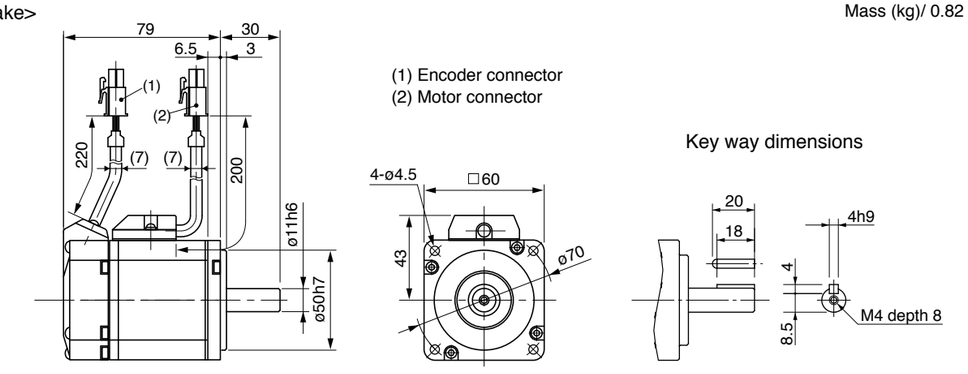

With oil seal




## Dimensions

<Without Brake>

Mass (kg)/ 0.82




* For the dimensions of with brake, refer to the right page.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.



# Motor Specifications 200V MSMD 200W [Low inertia, Small capacity]

## Specifications

| | | | AC200V | |
|---|---|---|---|---|
| Motor model *1 | | MSMD | 022G1□ | 022S1□ |
| Applicable driver *2 | Model No. | A5 series | MADHT1507 | |
| | | A5E series | MADHT1507E | |
| | Frame symbol | | A-frame | |
| Power supply capacity (kVA) | | | 0.5 | |
| Rated output (W) | | | 200 | |
| Rated torque (N·m) | | | 0.64 | |
| Momentary Max. peak torque (N·m) | | | 1.91 | |
| Rated current (A(rms)) | | | 1.6 | |
| Max. current (A(o-p)) | | | 6.9 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | No limit Note)2 | |
| | DV0P4283 | | No limit Note)2 | |
| Rated rotational speed (r/min) | | | 3000 | |
| Max. rotational speed (r/min) | | | 5000 | |
| Moment of inertia of rotor ($\times10^{-4}$kg·m$^2$) | Without brake | | 0.14 | |
| | With brake | | 0.16 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 30 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)

(This brake will be released when it is energized. Do not use this for braking the motor in motion.)

| | |
|---|---|
| Static friction torque (N·m) | 1.27 or more |
| Engaging time (ms) | 50 or less |
| Releasing time (ms) Note)4 | 15 or less |
| Exciting current (DC) (A) | 0.36 |
| Releasing voltage (DC) (V) | 1 or more |
| Exciting voltage (DC) (V) | 24±1.2 |

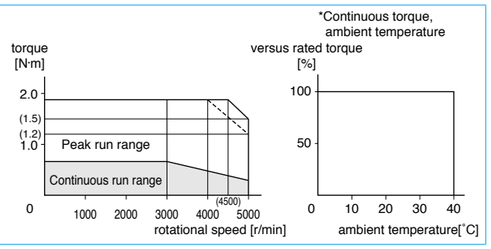
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| During assembly | Radial load P-direction (N) | 392 |
| | Thrust load A-direction (N) | 147 |
| | Thrust load B-direction (N) | 196 |
| During operation | Radial load P-direction (N) | 245 |
| | Thrust load A, B-direction (N) | 98 |

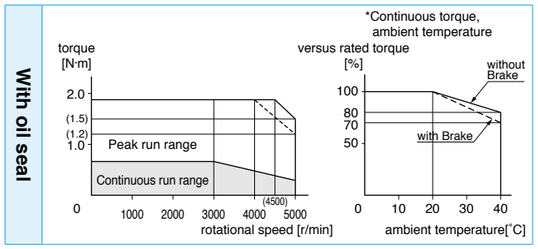
• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.30.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

## Torque characteristics (at AC200V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

Without oil seal



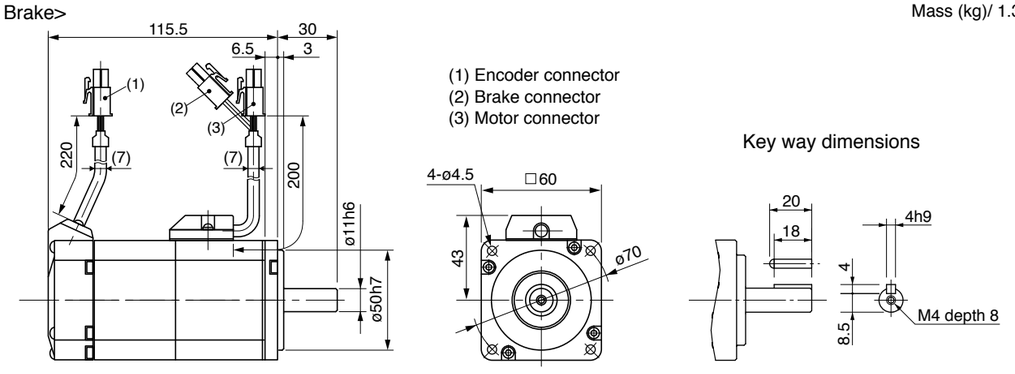

With oil seal




## Dimensions

<With Brake>

Mass (kg)/ 1.3




* For the dimensions of without brake, refer to the left page.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.

# Motor Specifications 100V MSMD 400W [Low inertia, Small capacity]

## Specifications

| | | | AC100V | |
|---|---|---|---|---|
| Motor model *1 | | MSMD | 041G1□ | 041S1□ |
| Applicable driver *2 | Model No. | A5 series | MCDHT3120 | |
| | | A5E series | MCDHT3120E | |
| | Frame symbol | | C-frame | |
| Power supply capacity | | (kVA) | 0.9 | |
| Rated output | | (W) | 400 | |
| Rated torque | | (N·m) | 1.3 | |
| Momentary Max. peak torque | | (N·m) | 3.8 | |
| Rated current | | (A(rms)) | 4.6 | |
| Max. current | | (A(o-p)) | 19.5 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | No limit Note)2 | |
| | DV0P4282 | | No limit Note)2 | |
| Rated rotational speed | | (r/min) | 3000 | |
| Max. rotational speed | | (r/min) | 5000 | |
| Moment of inertia of rotor ($\times 10^{-4}$kg·m$^2$) | Without brake | | 0.26 | |
| | With brake | | 0.28 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 30 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)

(This brake will be released when it is energized. Do not use this for braking the motor in motion.)

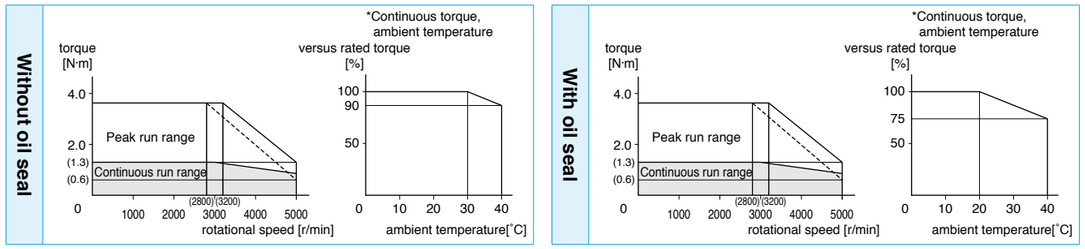
| | |
|---|---|
| Static friction torque (N·m) | 1.27 or more |
| Engaging time (ms) | 50 or less |
| Releasing time (ms) Note)4 | 15 or less |
| Exciting current (DC) (A) | 0.36 |
| Releasing voltage (DC) (V) | 1 or more |
| Exciting voltage (DC) (V) | 24±1.2 |

**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| During assembly | Radial load P-direction (N) | 392 |
| | Thrust load A-direction (N) | 147 |
| | Thrust load B-direction (N) | 196 |
| During operation | Radial load P-direction (N) | 245 |
| | Thrust load A, B-direction (N) | 98 |

• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.31.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

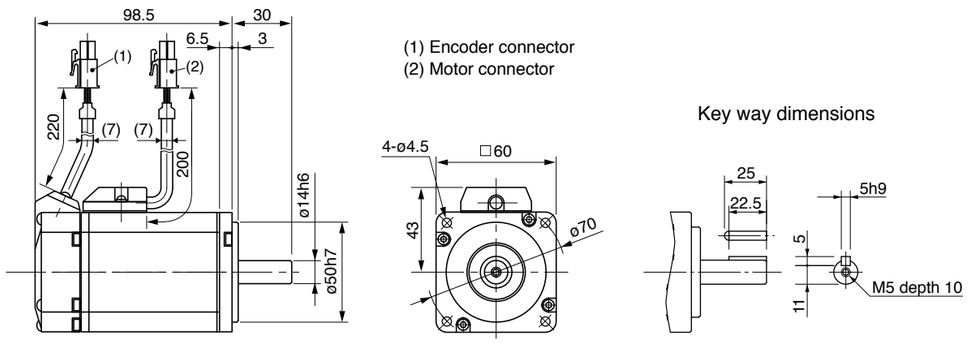
## Torque characteristics (at AC100V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)




## Dimensions

<With Brake>

Mass (kg)/ 1.2




* For the dimensions of with brake, refer to the right page.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.



# Motor Specifications 200V MSMD 400W [Low inertia, Small capacity]

## Specifications

| | | | AC200V | |
|---|---|---|---|---|
| Motor model *1 | | MSMD | 042G1□ | 042S1□ |
| Applicable driver *2 | Model No. | A5 series | MBDHT2510 | |
| | | A5E series | MBDHT2510E | |
| | Frame symbol | | B-frame | |
| Power supply capacity | | (kVA) | 0.9 | |
| Rated output | | (W) | 400 | |
| Rated torque | | (N·m) | 1.3 | |
| Momentary Max. peak torque | | (N·m) | 3.8 | |
| Rated current | | (A(rms)) | 2.6 | |
| Max. current | | (A(o-p)) | 11.0 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | No limit Note)2 | |
| | DV0P4283 | | No limit Note)2 | |
| Rated rotational speed | | (r/min) | 3000 | |
| Max. rotational speed | | (r/min) | 5000 | |
| Moment of inertia of rotor ($\times 10^{-4}$kg·m$^2$) | Without brake | | 0.26 | |
| | With brake | | 0.28 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 30 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)

(This brake will be released when it is energized. Do not use this for braking the motor in motion.)

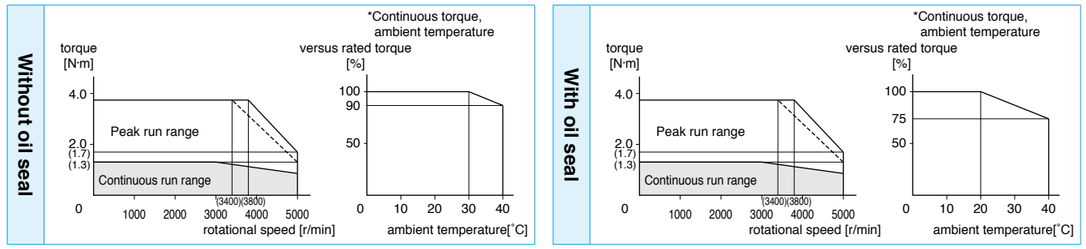
| | |
|---|---|
| Static friction torque (N·m) | 1.27 or more |
| Engaging time (ms) | 50 or less |
| Releasing time (ms) Note)4 | 15 or less |
| Exciting current (DC) (A) | 0.36 |
| Releasing voltage (DC) (V) | 1 or more |
| Exciting voltage (DC) (V) | 24±1.2 |

**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| During assembly | Radial load P-direction (N) | 392 |
| | Thrust load A-direction (N) | 147 |
| | Thrust load B-direction (N) | 196 |
| During operation | Radial load P-direction (N) | 245 |
| | Thrust load A, B-direction (N) | 98 |

• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.30.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

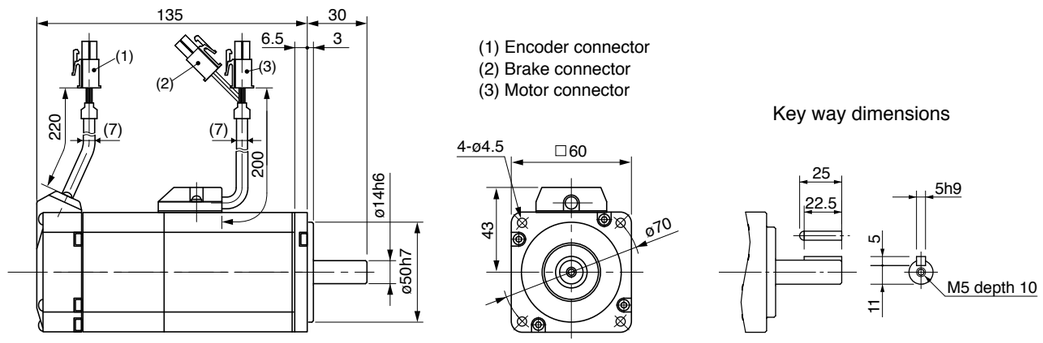
## Torque characteristics (at AC200V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)




## Dimensions

<With Brake>

Mass (kg)/ 1.7




* For the dimensions of without brake, refer to the left page.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.

# 200V MSMD 750W [Low inertia, Small capacity]

## Specifications

| | | | AC200V | |
|---|---|---|---|---|
| Motor model *1 | | MSMD | 082G1□ | 082S1□ |
| Applicable driver *2 | Model No. | A5 series | MCDHT3520 | |
| | | A5E series | MCDHT3520E | |
| | Frame symbol | | C-frame | |
| Power supply capacity | | (kVA) | 1.3 | |
| Rated output | | (W) | 750 | |
| Rated torque | | (N·m) | 2.4 | |
| Momentary Max. peak torque | | (N·m) | 7.1 | |
| Rated current | | (A(rms)) | 4.0 | |
| Max. current | | (A(o-p)) | 17.0 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | No limit Note)2 | |
| | DV0P4283 | | No limit Note)2 | |
| Rated rotational speed | | (r/min) | 3000 | |
| Max. rotational speed | | (r/min) | 4500 | |
| Moment of inertia of rotor ($\times10^{-4}$kg·m$^2$) | Without brake | | 0.87 | |
| | With brake | | 0.97 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 20 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)

(This brake will be released when it is energized.
Do not use this for braking the motor in motion.)

| | |
|---|---|
| Static friction torque (N·m) | 2.45 or more |
| Engaging time (ms) | 70 or less |
| Releasing time (ms) Note)4 | 20 or less |
| Exciting current (DC) (A) | 0.42 |
| Releasing voltage (DC) (V) | 1 or more |
| Exciting voltage (DC) (V) | 24±1.2 |

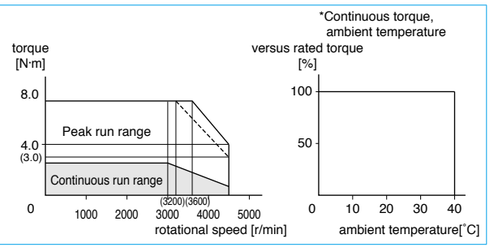
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| During assembly | Radial load P-direction (N) | 686 |
| | Thrust load A-direction (N) | 294 |
| | Thrust load B-direction (N) | 392 |
| During operation | Radial load P-direction (N) | 392 |
| | Thrust load A, B-direction (N) | 147 |

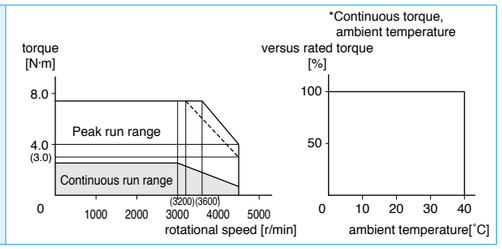
• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.31.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has “E” is “positioning type”.
Detail of model designation, refer to P.11.

## Torque characteristics (at AC200V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

Without oil seal

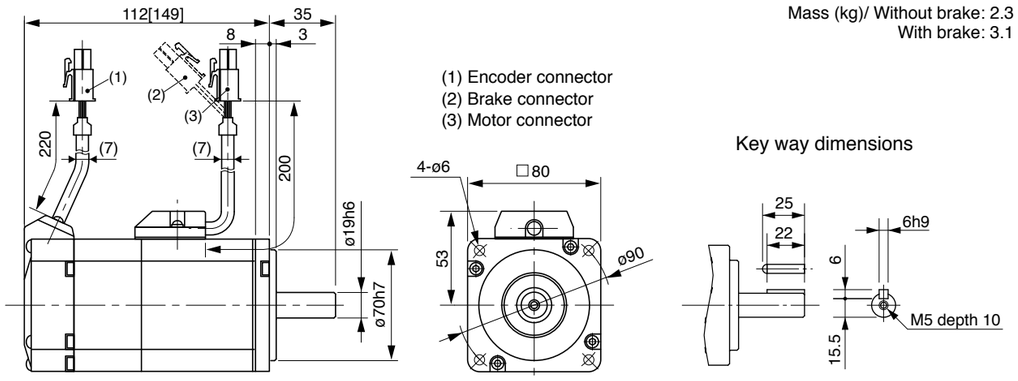



With oil seal




## Dimensions

Mass (kg)/ Without brake: 2.3
With brake: 3.1




* Figures in [ ] represent the dimensions of with brake.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.

MEMO

## Specifications

| | | | AC100V | |
|---|---|---|---|---|
| Motor model *1 | | MHMD | 021G1□ | 021S1□ |
| Applicable driver *2 | Model No. | A5 series | MBDHT2110 | |
| | | A5E series | MBDHT2110E | |
| | Frame symbol | | B-frame | |
| Power supply capacity | | (kVA) | 0.5 | |
| Rated output | | (W) | 200 | |
| Rated torque | | (N·m) | 0.64 | |
| Momentary Max. peak torque | | (N·m) | 1.91 | |
| Rated current | | (A(rms)) | 2.5 | |
| Max. current | | (A(o-p)) | 10.6 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | No limit Note)2 | |
| | DV0P4283 | | No limit Note)2 | |
| Rated rotational speed | | (r/min) | 3000 | |
| Max. rotational speed | | (r/min) | 5000 | |
| Moment of inertia of rotor ($\times10^{-4}$kg·m$^2$) | Without brake | | 0.42 | |
| | With brake | | 0.45 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 10 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)
(This brake will be released when it is energized.
Do not use this for braking the motor in motion.)

| | |
|---|---|
| Static friction torque (N·m) | 1.27 or more |
| Engaging time (ms) | 50 or less |
| Releasing time (ms) Note)4 | 15 or less |
| Exciting current (DC) (A) | 0.36 |
| Releasing voltage (DC) (V) | 1 or more |
| Exciting voltage (DC) (V) | 24±1.2 |

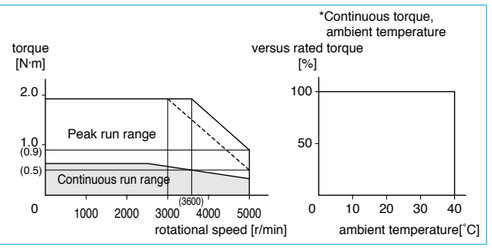
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| During assembly | Radial load P-direction (N) | 392 |
| | Thrust load A-direction (N) | 147 |
| | Thrust load B-direction (N) | 196 |
| During operation | Radial load P-direction (N) | 245 |
| | Thrust load A, B-direction (N) | 98 |

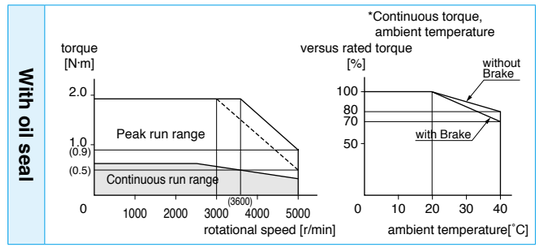
• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.30.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

## Torque characteristics (at AC100V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

Without oil seal



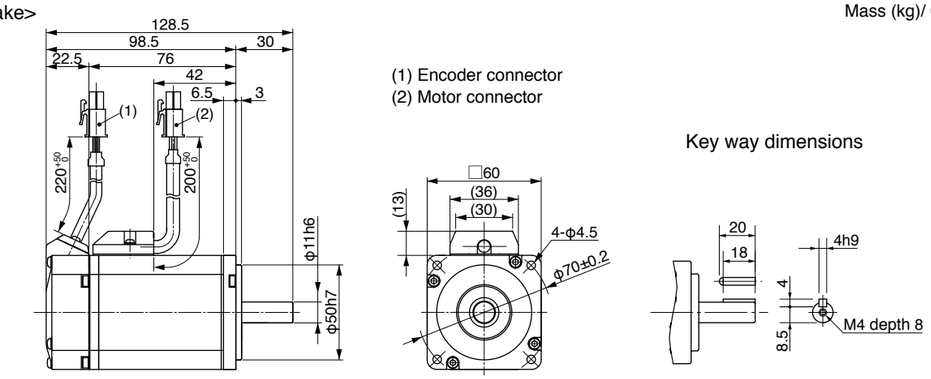

With oil seal




## Dimensions

<Without Brake>

Mass (kg)/ 0.96




* For the dimensions of with brake, refer to the right page.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.





## Specifications

| | | | AC200V | |
|---|---|---|---|---|
| Motor model *1 | | MHMD | 022G1□ | 022S1□ |
| Applicable driver *2 | Model No. | A5 series | MADHT1507 | |
| | | A5E series | MADHT1507E | |
| | Frame symbol | | A-frame | |
| Power supply capacity | | (kVA) | 0.5 | |
| Rated output | | (W) | 200 | |
| Rated torque | | (N·m) | 0.64 | |
| Momentary Max. peak torque | | (N·m) | 1.91 | |
| Rated current | | (A(rms)) | 1.6 | |
| Max. current | | (A(o-p)) | 6.9 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | No limit Note)2 | |
| | DV0P4283 | | No limit Note)2 | |
| Rated rotational speed | | (r/min) | 3000 | |
| Max. rotational speed | | (r/min) | 5000 | |
| Moment of inertia of rotor ($\times10^{-4}$kg·m$^2$) | Without brake | | 0.42 | |
| | With brake | | 0.45 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 10 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)
(This brake will be released when it is energized.
Do not use this for braking the motor in motion.)

| | |
|---|---|
| Static friction torque (N·m) | 1.27 or more |
| Engaging time (ms) | 50 or less |
| Releasing time (ms) Note)4 | 15 or less |
| Exciting current (DC) (A) | 0.36 |
| Releasing voltage (DC) (V) | 1 or more |
| Exciting voltage (DC) (V) | 24±1.2 |

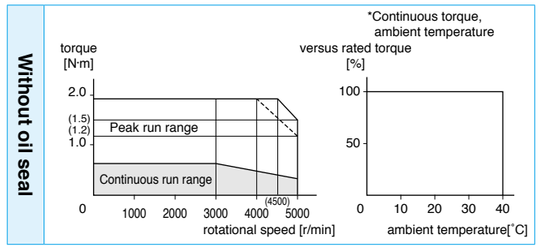
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| During assembly | Radial load P-direction (N) | 392 |
| | Thrust load A-direction (N) | 147 |
| | Thrust load B-direction (N) | 196 |
| During operation | Radial load P-direction (N) | 245 |
| | Thrust load A, B-direction (N) | 98 |

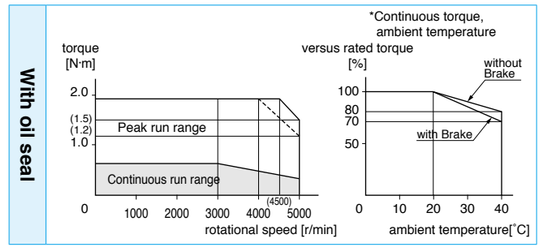
• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.30.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

## Torque characteristics (at AC200V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

Without oil seal



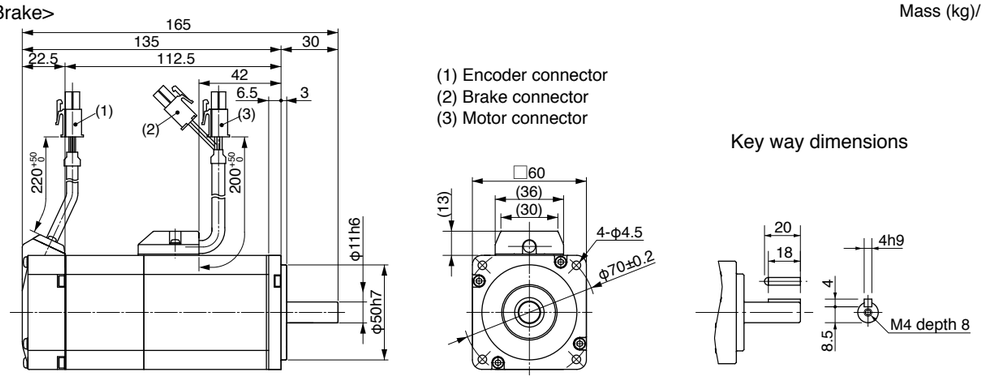

With oil seal




## Dimensions

<With Brake>

Mass (kg)/ 1.4




* For the dimensions of without brake, refer to the left page.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.

# Motor Specifications 100V MHMD 400W [High inertia, Small capacity]

## Specifications

| | | | AC100V | |
|---|---|---|---|---|
| Motor model *1 | | MHMD | 041G1□ | 041S1□ |
| Applicable driver *2 | Model No. | A5 series | MCDHT3120 | |
| | | A5E series | MCDHT3120E | |
| | Frame symbol | | C-frame | |
| Power supply capacity | | (kVA) | 0.9 | |
| Rated output | | (W) | 400 | |
| Rated torque | | (N·m) | 1.3 | |
| Momentary Max. peak torque | | (N·m) | 3.8 | |
| Rated current | | (A(rms)) | 4.6 | |
| Max. current | | (A(o-p)) | 19.5 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | No limit Note)2 | |
| | DV0P4282 | | No limit Note)2 | |
| Rated rotational speed | | (r/min) | 3000 | |
| Max. rotational speed | | (r/min) | 5000 | |
| Moment of inertia of rotor ($\times 10^{-4}$kg·m$^2$) | Without brake | | 0.67 | |
| | With brake | | 0.70 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 10 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)
(This brake will be released when it is energized.
Do not use this for braking the motor in motion.)

| | |
|---|---|
| Static friction torque (N·m) | 1.27 or more |
| Engaging time (ms) | 50 or less |
| Releasing time (ms) Note)4 | 15 or less |
| Exciting current (DC) (A) | 0.36 |
| Releasing voltage (DC) (V) | 1 or more |
| Exciting voltage (DC) (V) | 24±1.2 |

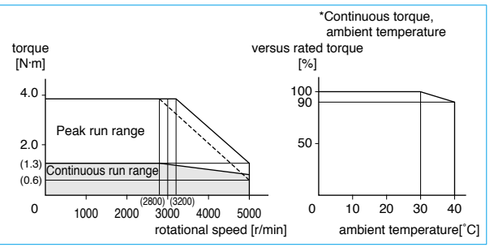
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| During assembly | Radial load P-direction (N) | 392 |
| | Thrust load A-direction (N) | 147 |
| | Thrust load B-direction (N) | 196 |
| During operation | Radial load P-direction (N) | 245 |
| | Thrust load A, B-direction (N) | 98 |

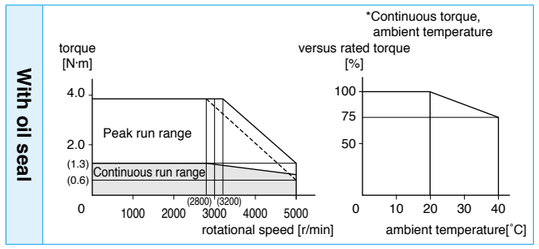
• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.31.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

## Torque characteristics (at AC100V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

Without oil seal



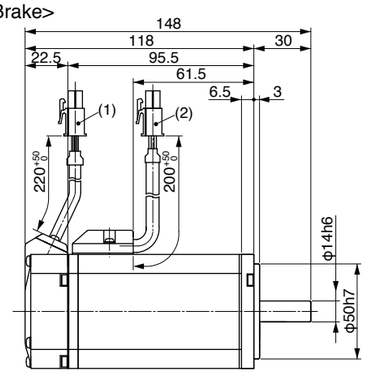

With oil seal



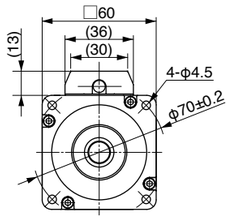

## Dimensions

<Without Brake>

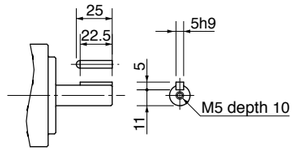
Mass (kg)/ 1.4




(1) Encoder connector
(2) Brake connector
(3) Motor connector




Key way dimensions




* For the dimensions of with brake, refer to the right page.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.



# Motor Specifications 200V MHMD 400W [High inertia, Small capacity]

## Specifications

| | | | AC200V | |
|---|---|---|---|---|
| Motor model *1 | | MHMD | 042G1□ | 042S1□ |
| Applicable driver *2 | Model No. | A5 series | MBDHT2510 | |
| | | A5E series | MBDHT2510E | |
| | Frame symbol | | B-frame | |
| Power supply capacity | | (kVA) | 0.9 | |
| Rated output | | (W) | 400 | |
| Rated torque | | (N·m) | 1.3 | |
| Momentary Max. peak torque | | (N·m) | 3.8 | |
| Rated current | | (A(rms)) | 2.6 | |
| Max. current | | (A(o-p)) | 11.0 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | No limit Note)2 | |
| | DV0P4283 | | No limit Note)2 | |
| Rated rotational speed | | (r/min) | 3000 | |
| Max. rotational speed | | (r/min) | 5000 | |
| Moment of inertia of rotor ($\times 10^{-4}$kg·m$^2$) | Without brake | | 0.67 | |
| | With brake | | 0.70 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 10 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)
(This brake will be released when it is energized.
Do not use this for braking the motor in motion.)

| | |
|---|---|
| Static friction torque (N·m) | 1.27 or more |
| Engaging time (ms) | 50 or less |
| Releasing time (ms) Note)4 | 15 or less |
| Exciting current (DC) (A) | 0.36 |
| Releasing voltage (DC) (V) | 1 or more |
| Exciting voltage (DC) (V) | 24±1.2 |

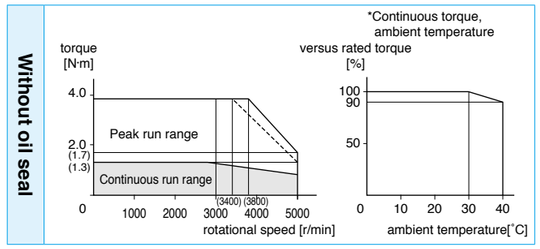
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| During assembly | Radial load P-direction (N) | 392 |
| | Thrust load A-direction (N) | 147 |
| | Thrust load B-direction (N) | 196 |
| During operation | Radial load P-direction (N) | 245 |
| | Thrust load A, B-direction (N) | 98 |

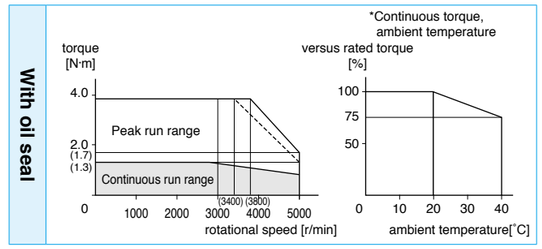
• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.30.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

## Torque characteristics (at AC200V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

Without oil seal



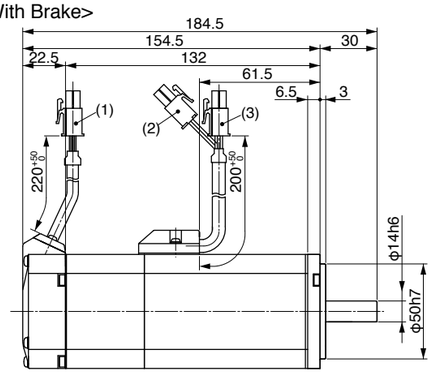

With oil seal



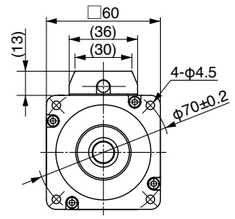

## Dimensions

<With Brake>

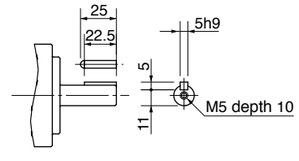
Mass (kg)/ 1.8




(1) Encoder connector
(2) Brake connector
(3) Motor connector




Key way dimensions




* For the dimensions of without brake, refer to the left page.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.

# 200V MHMD 750W [High inertia, Small capacity]

## Specifications

| | | | AC200V | |
|---|---|---|---|---|
| Motor model *1 | | | MHMD | 082G1□ | 082S1□ |
| Applicable driver *2 | Model No. | A5 series | MCDHT3520 | |
| | | A5E series | MCDHT3520E | |
| | Frame symbol | | C-frame | |
| Power supply capacity | | (kVA) | 1.3 | |
| Rated output | | (W) | 750 | |
| Rated torque | | (N·m) | 2.4 | |
| Momentary Max. peak torque | | (N·m) | 7.1 | |
| Rated current | | (A(rms)) | 4.0 | |
| Max. current | | (A(o-p)) | 17.0 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | No limit Note)2 | |
| | DV0P4283 | | No limit Note)2 | |
| Rated rotational speed | | (r/min) | 3000 | |
| Max. rotational speed | | (r/min) | 4500 | |
| Moment of inertia of rotor ($\times10^{-4}$kg·m$^2$) | Without brake | | 1.51 | |
| | With brake | | 1.61 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 10 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)

(This brake will be released when it is energized.
Do not use this for braking the motor in motion.)

| | |
|---|---|
| Static friction torque (N·m) | 2.45 or more |
| Engaging time (ms) | 70 or less |
| Releasing time (ms) Note)4 | 20 or less |
| Exciting current (DC) (A) | 0.42 |
| Releasing voltage (DC) (V) | 1 or more |
| Exciting voltage (DC) (V) | 24±1.2 |

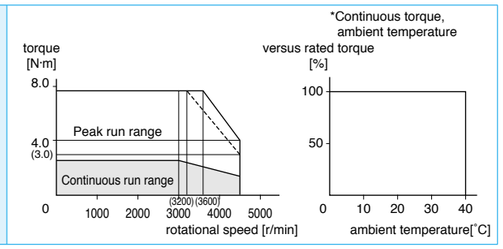
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| During assembly | Radial load P-direction (N) | 686 |
| | Thrust load A-direction (N) | 294 |
| | Thrust load B-direction (N) | 392 |
| During operation | Radial load P-direction (N) | 392 |
| | Thrust load A, B-direction (N) | 147 |

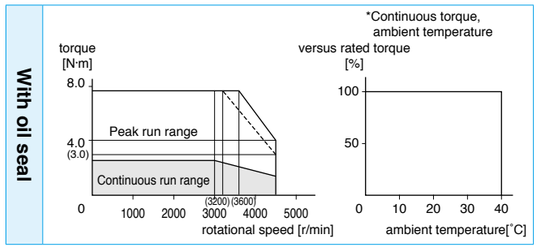
• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.31.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has “E” is “positioning type”.
Detail of model designation, refer to P.11.

## Torque characteristics (at AC200V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

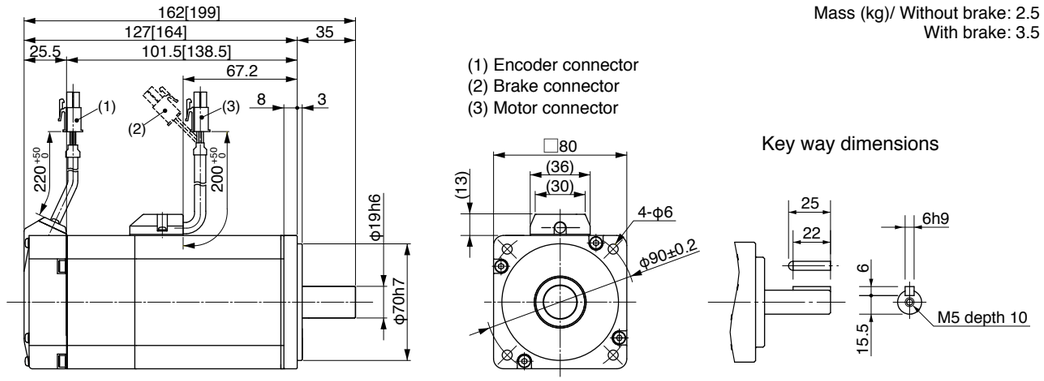
Without oil seal




With oil seal




## Dimensions




Mass (kg)/ Without brake: 2.5
With brake: 3.5

* Figures in [ ] represent the dimensions of with brake.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.

MEMO

# Motor Specifications 400V MSME 1.0kW [Low inertia, Middle capacity]

## Specifications

| | | | AC400V | |
|---|---|---|---|---|
| Motor model *1 | | MSME | 104G1□ | 104S1□ |
| Applicable driver *2 | Model No. | A5 series | MDDHT3420 | |
| | | A5E series | MDDHT3420E | |
| | Frame symbol | | D-frame | |
| Power supply capacity | | (kVA) | 1.8 | |
| Rated output | | (W) | 1.0 | |
| Rated torque | | (N·m) | 3.18 | |
| Momentary Max. peak torque | | (N·m) | 9.55 | |
| Rated current | | (A(rms)) | 3.3 | |
| Max. current | | (A(o-p)) | 14 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | No limit Note)2 | |
| | DV0PM20048 | | No limit Note)2 | |
| Rated rotational speed | | (r/min) | 3000 | |
| Max. rotational speed | | (r/min) | 5000 | |
| Moment of inertia of rotor ($\times10^{-4}$kg·m$^2$) | Without brake | | 2.03 | |
| | With brake | | 2.35 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 15 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)

(This brake will be released when it is energized. Do not use this for braking the motor in motion.)

| | |
|---|---|
| Static friction torque (N·m) | 7.8 or more |
| Engaging time (ms) | 50 or less |
| Releasing time (ms) Note)4 | 15 or less |
| Exciting current (DC) (A) | 0.81±10% |
| Releasing voltage (DC) (V) | 2 or more |
| Exciting voltage (DC) (V) | 24±2.4 |

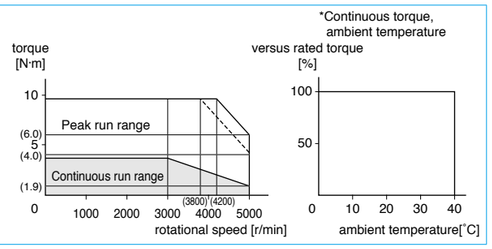
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| 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, B-direction (N) | 196 |

• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.32.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

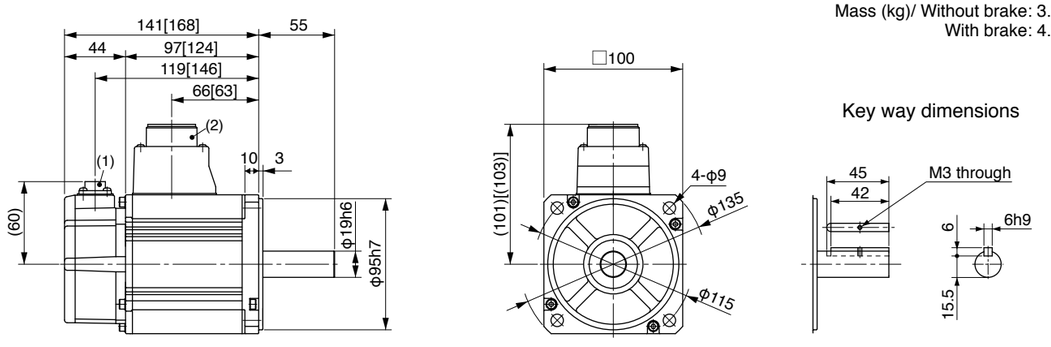
## Torque characteristics (at AC400V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

With oil seal




## Dimensions

Mass (kg)/ Without brake: 3.5
With brake: 4.5




(1) Encoder connector
(2) Motor/Brake connector

* Figures in [ ] represent the dimensions of with brake.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.



# Motor Specifications 400V MSME 1.5kW [Low inertia, Middle capacity]

## Specifications

| | | | AC400V | |
|---|---|---|---|---|
| Motor model *1 | | MSME | 154G1□ | 154S1□ |
| Applicable driver *2 | Model No. | A5 series | MDDHT3420 | |
| | | A5E series | MDDHT3420E | |
| | Frame symbol | | D-frame | |
| Power supply capacity | | (kVA) | 2.3 | |
| Rated output | | (W) | 1.5 | |
| Rated torque | | (N·m) | 4.77 | |
| Momentary Max. peak torque | | (N·m) | 14.3 | |
| Rated current | | (A(rms)) | 4.2 | |
| Max. current | | (A(o-p)) | 18 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | No limit Note)2 | |
| | DV0PM20048 | | No limit Note)2 | |
| Rated rotational speed | | (r/min) | 3000 | |
| Max. rotational speed | | (r/min) | 5000 | |
| Moment of inertia of rotor ($\times10^{-4}$kg·m$^2$) | Without brake | | 2.84 | |
| | With brake | | 3.17 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 15 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)

(This brake will be released when it is energized. Do not use this for braking the motor in motion.)

| | |
|---|---|
| Static friction torque (N·m) | 7.8 or more |
| Engaging time (ms) | 50 or less |
| Releasing time (ms) Note)4 | 15 or less |
| Exciting current (DC) (A) | 0.81±10% |
| Releasing voltage (DC) (V) | 2 or more |
| Exciting voltage (DC) (V) | 24±2.4 |

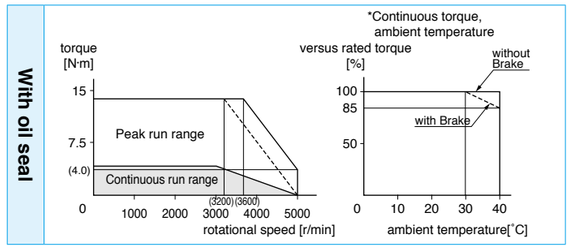
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| 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, B-direction (N) | 196 |

• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.32.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

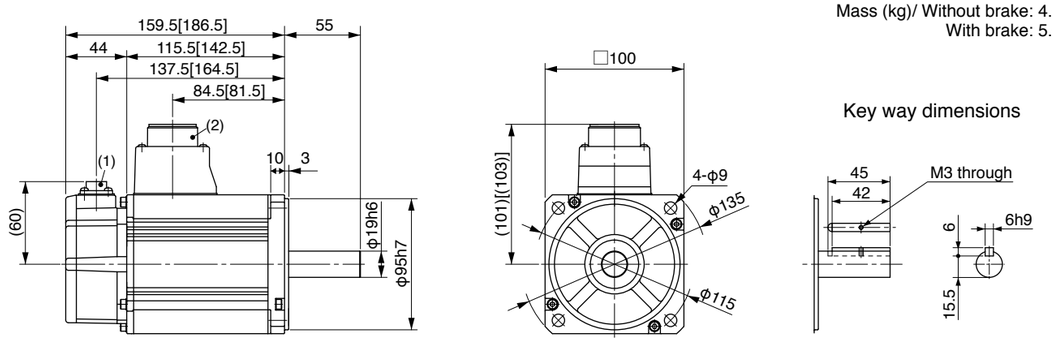
## Torque characteristics (at AC400V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

With oil seal




## Dimensions

Mass (kg)/ Without brake: 4.4
With brake: 5.4




(1) Encoder connector
(2) Motor/Brake connector

* Figures in [ ] represent the dimensions of with brake.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.

# Motor Specifications 400V MSME 2.0kW [Low inertia, Middle capacity]

## Specifications

| | | | AC400V | |
|---|---|---|---|---|
| Motor model *1 | | MSME | 204G1□ | 204S1□ |
| Applicable driver *2 | Model No. | A5 series | MEDHT4430 | |
| | | A5E series | MEDHT4430E | |
| | Frame symbol | | E-frame | |
| Power supply capacity | | (kVA) | 3.3 | |
| Rated output | | (W) | 2.0 | |
| Rated torque | | (N·m) | 6.37 | |
| Momentary Max. peak torque | | (N·m) | 19.1 | |
| Rated current | | (A(rms)) | 5.7 | |
| Max. current | | (A(o-p)) | 24 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | No limit Note)2 | |
| | DV0PM20049 | | No limit Note)2 | |
| Rated rotational speed | | (r/min) | 3000 | |
| Max. rotational speed | | (r/min) | 5000 | |
| Moment of inertia of rotor ($\times10^{-4}$kg·m$^2$) | Without brake | | 3.68 | |
| | With brake | | 4.01 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 15 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)

(This brake will be released when it is energized. Do not use this for braking the motor in motion.)

| | |
|---|---|
| Static friction torque (N·m) | 7.8 or more |
| Engaging time (ms) | 50 or less |
| Releasing time (ms) Note)4 | 15 or less |
| Exciting current (DC) (A) | 0.81±10% |
| Releasing voltage (DC) (V) | 2 or more |
| Exciting voltage (DC) (V) | 24±2.4 |

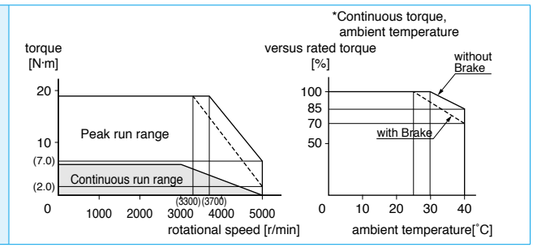
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| 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, B-direction (N) | 196 |

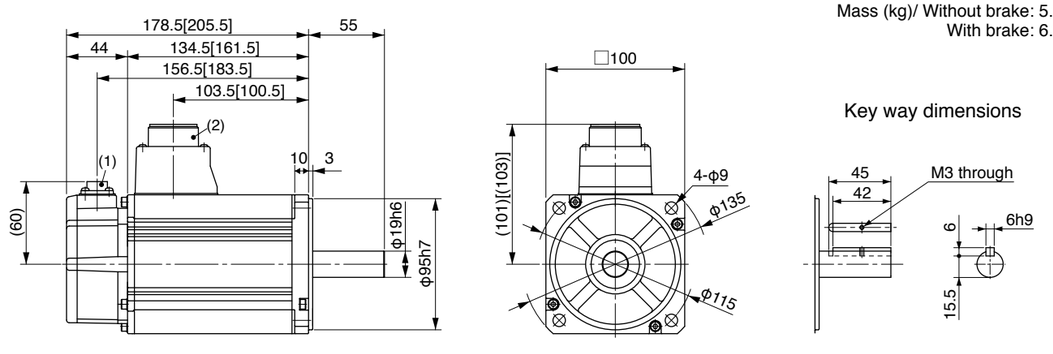
• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.33.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

## Torque characteristics (at AC400V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

With oil seal




## Dimensions




Mass (kg)/ Without brake: 5.3
With brake: 6.3

(1) Encoder connector
(2) Motor/Brake connector

* Figures in [ ] represent the dimensions of with brake.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.



# Motor Specifications 400V MSME 3.0kW [Low inertia, Middle capacity]

## Specifications

| | | | AC400V | |
|---|---|---|---|---|
| Motor model *1 | | MSME | 304G1□ | 304S1□ |
| Applicable driver *2 | Model No. | A5 series | MFDHT5440 | |
| | | A5E series | MFDHT5440E | |
| | Frame symbol | | F-frame | |
| Power supply capacity | | (kVA) | 4.5 | |
| Rated output | | (kW) | 3.0 | |
| Rated torque | | (N·m) | 9.55 | |
| Momentary Max. peak torque | | (N·m) | 28.6 | |
| Rated current | | (A(rms)) | 9.2 | |
| Max. current | | (A(o-p)) | 39 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | No limit Note)2 | |
| | DV0PM20049×2 | | No limit Note)2 | |
| Rated rotational speed | | (r/min) | 3000 | |
| Max. rotational speed | | (r/min) | 5000 | |
| Moment of inertia of rotor ($\times10^{-4}$kg·m$^2$) | Without brake | | 6.50 | |
| | With brake | | 7.85 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 15 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)

(This brake will be released when it is energized. Do not use this for braking the motor in motion.)

| | |
|---|---|
| Static friction torque (N·m) | 11.8 or more |
| Engaging time (ms) | 80 or less |
| Releasing time (ms) Note)4 | 15 or less |
| Exciting current (DC) (A) | 0.81±10% |
| Releasing voltage (DC) (V) | 2 or more |
| Exciting voltage (DC) (V) | 24±2.4 |

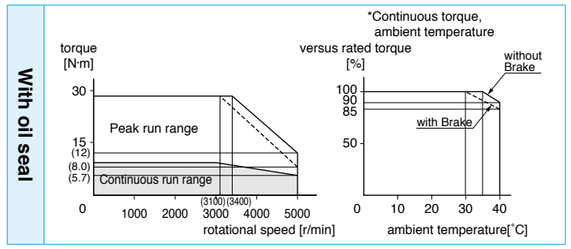
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| 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, B-direction (N) | 196 |

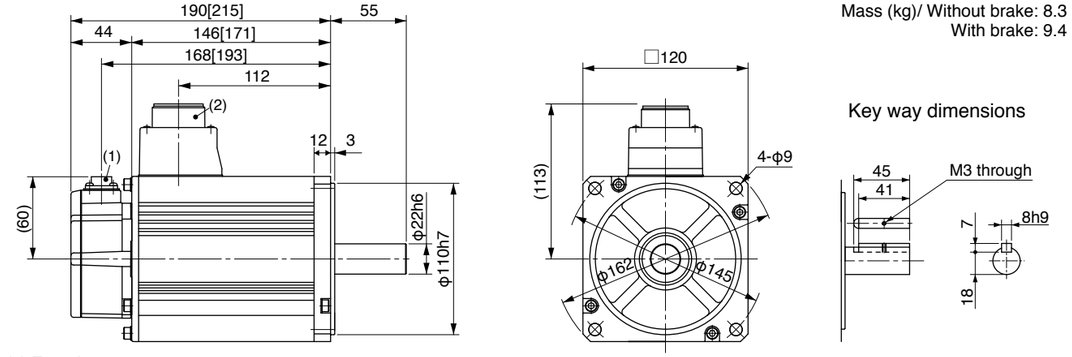
• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.34.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

## Torque characteristics (at AC400V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

With oil seal




## Dimensions




Mass (kg)/ Without brake: 8.3
With brake: 9.4

(1) Encoder connector
(2) Motor/Brake connector

* Figures in [ ] represent the dimensions of with brake.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.

# Motor Specifications 400V MSME 4.0kW [Low inertia, Middle capacity]

## Specifications

| | | | AC400V | |
|---|---|---|---|---|
| Motor model *1 | | MSME | 404G1□ | 404S1□ |
| Applicable driver *2 | Model No. | A5 series | MFDHTA464 | |
| | | A5E series | MFDHTA464E | |
| | Frame symbol | | F-frame | |
| Power supply capacity | | (kVA) | 6.8 | |
| Rated output | | (kW) | 4.0 | |
| Rated torque | | (N·m) | 12.7 | |
| Momentary Max. peak torque | | (N·m) | 38.2 | |
| Rated current | | (A(rms)) | 9.9 | |
| Max. current | | (A(o-p)) | 42 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | No limit Note)2 | |
| | DV0PM20049×2 | | No limit Note)2 | |
| Rated rotational speed | | (r/min) | 3000 | |
| Max. rotational speed | | (r/min) | 4500 | |
| Moment of inertia of rotor ($\times10^{-4}$kg·m$^2$) | Without brake | | 12.9 | |
| | With brake | | 14.2 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 15 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)

(This brake will be released when it is energized. Do not use this for braking the motor in motion.)

| | |
|---|---|
| Static friction torque (N·m) | 16.1 or more |
| Engaging time (ms) | 110 or less |
| Releasing time (ms) Note)4 | 50 or less |
| Exciting current (DC) (A) | 0.90±10% |
| Releasing voltage (DC) (V) | 2 or more |
| Exciting voltage (DC) (V) | 24±2.4 |

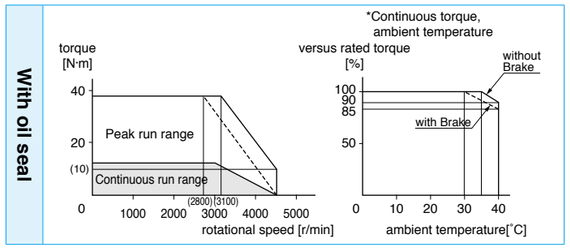
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| 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) | 784 |
| | Thrust load A, B-direction (N) | 343 |

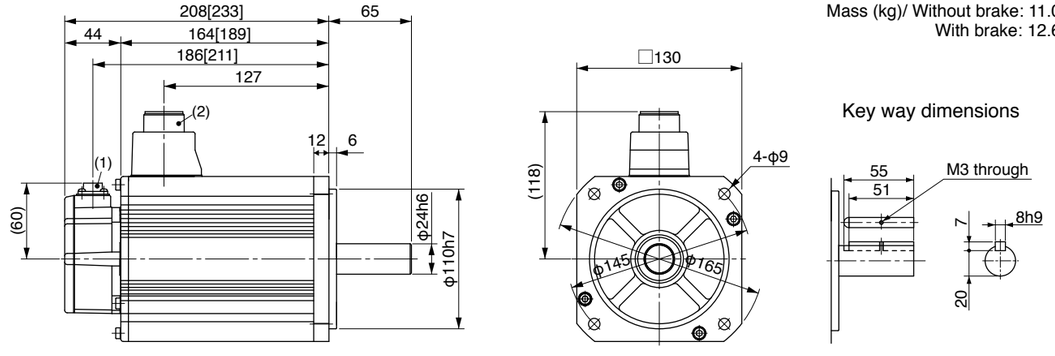
• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.34.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

## Torque characteristics (at AC400V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

With oil seal




## Dimensions




Mass (kg)/ Without brake: 11.0
With brake: 12.6

(1) Encoder connector
(2) Motor/Brake connector

* Figures in [ ] represent the dimensions of with brake.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.



# Motor Specifications 400V MSME 5.0kW [Low inertia, Middle capacity]

## Specifications

| | | | AC400V | |
|---|---|---|---|---|
| Motor model *1 | | MSME | 504G1□ | 504S1□ |
| Applicable driver *2 | Model No. | A5 series | MFDHTA464 | |
| | | A5E series | MFDHTA464E | |
| | Frame symbol | | F-frame | |
| Power supply capacity | | (kVA) | 7.5 | |
| Rated output | | (kW) | 5.0 | |
| Rated torque | | (N·m) | 15.9 | |
| Momentary Max. peak torque | | (N·m) | 47.7 | |
| Rated current | | (A(rms)) | 12.0 | |
| Max. current | | (A(o-p)) | 51 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | 357 | |
| | DV0PM20049×2 | | No limit Note)2 | |
| Rated rotational speed | | (r/min) | 3000 | |
| Max. rotational speed | | (r/min) | 4500 | |
| Moment of inertia of rotor ($\times10^{-4}$kg·m$^2$) | Without brake | | 17.4 | |
| | With brake | | 18.6 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 15 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)

(This brake will be released when it is energized. Do not use this for braking the motor in motion.)

| | |
|---|---|
| Static friction torque (N·m) | 16.1 or more |
| Engaging time (ms) | 110 or less |
| Releasing time (ms) Note)4 | 50 or less |
| Exciting current (DC) (A) | 0.90±10% |
| Releasing voltage (DC) (V) | 2 or more |
| Exciting voltage (DC) (V) | 24±2.4 |

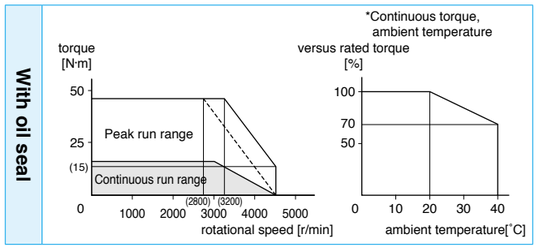
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| 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) | 784 |
| | Thrust load A, B-direction (N) | 343 |

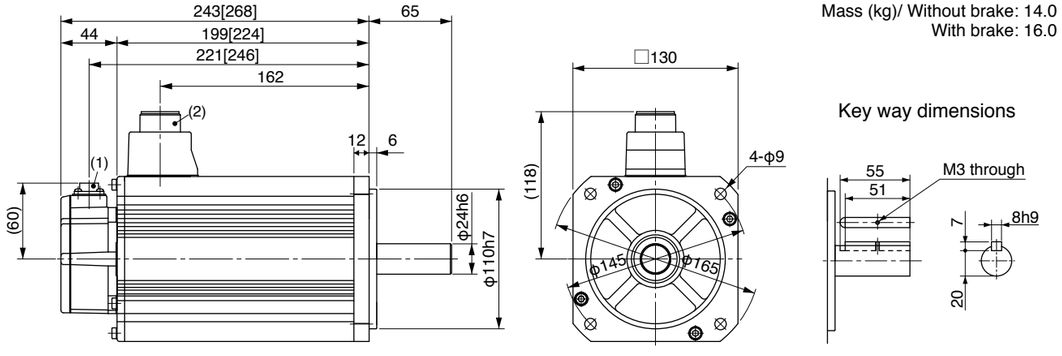
• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.34.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

## Torque characteristics (at AC400V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

With oil seal




## Dimensions




Mass (kg)/ Without brake: 14.0
With brake: 16.0

(1) Encoder connector
(2) Motor/Brake connector

* Figures in [ ] represent the dimensions of with brake.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.

# Motor Specifications 400V MDME 1.0kW [Middle inertia, Middle capacity]

## Specifications

| | | | AC400V | |
|---|---|---|---|---|
| Motor model *1 | | MDME | 104G1□ | 104S1□ |
| Applicable driver *2 | Model No. | A5 series | MDDHT2412 | |
| | | A5E series | MDDHT2412E | |
| | Frame symbol | | D-frame | |
| Power supply capacity | | (kVA) | 1.8 | |
| Rated output | | (W) | 1.0 | |
| Rated torque | | (N·m) | 4.77 | |
| Momentary Max. peak torque | | (N·m) | 14.3 | |
| Rated current | | (A(rms)) | 2.8 | |
| Max. current | | (A(o-p)) | 12 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | No limit Note)2 | |
| | DV0PM20048 | | No limit Note)2 | |
| Rated rotational speed | | (r/min) | 2000 | |
| Max. rotational speed | | (r/min) | 3000 | |
| Moment of inertia of rotor ($\times10^{-4}$kg·m$^2$) | Without brake | | 4.60 | |
| | With brake | | 5.90 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 10 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)

(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 or more |
| Engaging time (ms) | 80 or less |
| Releasing time (ms) Note)4 | 70 or less |
| Exciting current (DC) (A) | 0.59±10% |
| Releasing voltage (DC) (V) | 2 or more |
| Exciting voltage (DC) (V) | 24±2.4 |

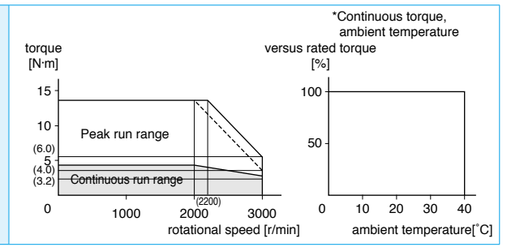
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| 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, B-direction (N) | 196 |

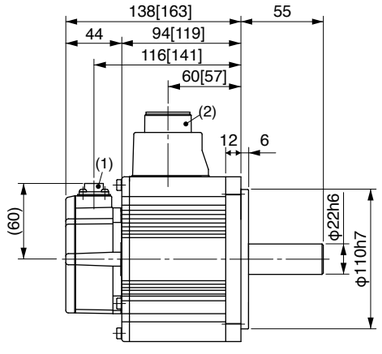
• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.32.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

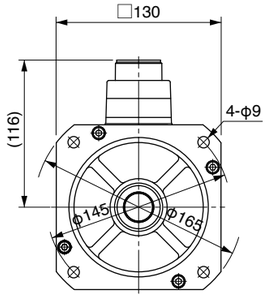
## Torque characteristics (at AC400V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

With oil seal



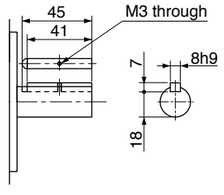

## Dimensions




Mass (kg)/ Without brake: 5.2
With brake: 6.7

Key way dimensions




(1) Encoder connector
(2) Motor/Brake connector

* Figures in [ ] represent the dimensions of with brake.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.



# Motor Specifications 400V MDME 1.5kW [Middle inertia, Middle capacity]

## Specifications

| | | | AC400V | |
|---|---|---|---|---|
| Motor model *1 | | MDME | 154G1□ | 154S1□ |
| Applicable driver *2 | Model No. | A5 series | MDDHT3420 | |
| | | A5E series | MDDHT3420E | |
| | Frame symbol | | D-frame | |
| Power supply capacity | | (kVA) | 2.3 | |
| Rated output | | (W) | 1.5 | |
| Rated torque | | (N·m) | 7.16 | |
| Momentary Max. peak torque | | (N·m) | 21.5 | |
| Rated current | | (A(rms)) | 4.7 | |
| Max. current | | (A(o-p)) | 20 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | No limit Note)2 | |
| | DV0PM20048 | | No limit Note)2 | |
| Rated rotational speed | | (r/min) | 2000 | |
| Max. rotational speed | | (r/min) | 3000 | |
| Moment of inertia of rotor ($\times10^{-4}$kg·m$^2$) | Without brake | | 6.70 | |
| | With brake | | 7.99 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 10 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)

(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 or more |
| Engaging time (ms) | 100 or less |
| Releasing time (ms) Note)4 | 50 or less |
| Exciting current (DC) (A) | 0.79±10% |
| Releasing voltage (DC) (V) | 2 or more |
| Exciting voltage (DC) (V) | 24±2.4 |

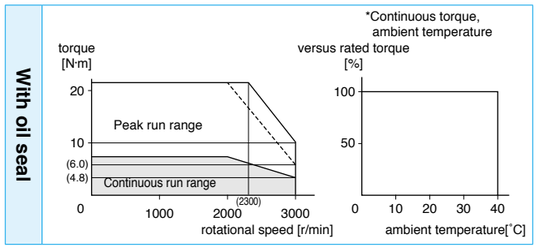
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| 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, B-direction (N) | 196 |

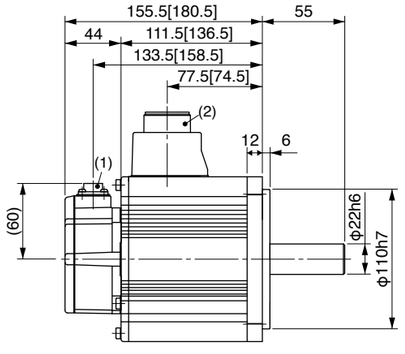
• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.32.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

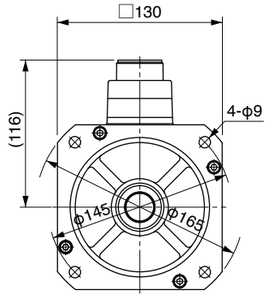
## Torque characteristics (at AC400V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

With oil seal



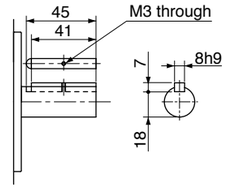

## Dimensions




Mass (kg)/ Without brake: 6.7
With brake: 8.2

Key way dimensions




(1) Encoder connector
(2) Motor/Brake connector

* Figures in [ ] represent the dimensions of with brake.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.

# Motor Specifications 400V MDME 2.0kW [Middle inertia, Middle capacity]

## Specifications

| | | | AC400V | |
|---|---|---|---|---|
| Motor model *1 | | MDME | 204G1□ | 204S1□ |
| Applicable driver *2 | Model No. | A5 series | MEDHT4430 | |
| | | A5E series | MEDHT4430E | |
| | Frame symbol | | E-frame | |
| Power supply capacity | | (kVA) | 3.3 | |
| Rated output | | (W) | 2.0 | |
| Rated torque | | (N·m) | 9.55 | |
| Momentary Max. peak torque | | (N·m) | 28.6 | |
| Rated current | | (A(rms)) | 5.9 | |
| Max. current | | (A(o-p)) | 25 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | No limit Note)2 | |
| | DV0PM20049 | | No limit Note)2 | |
| Rated rotational speed | | (r/min) | 2000 | |
| Max. rotational speed | | (r/min) | 3000 | |
| Moment of inertia of rotor ($\times10^{-4}$kg·m$^2$) | Without brake | | 8.72 | |
| | With brake | | 10.0 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 10 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)
(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 or more |
| Engaging time (ms) | 100 or less |
| Releasing time (ms) Note)4 | 50 or less |
| Exciting current (DC) (A) | 0.79±10% |
| Releasing voltage (DC) (V) | 2 or more |
| Exciting voltage (DC) (V) | 24±2.4 |

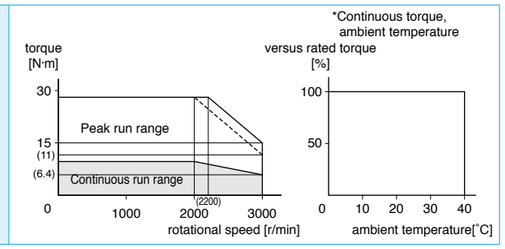
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| 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, B-direction (N) | 196 |

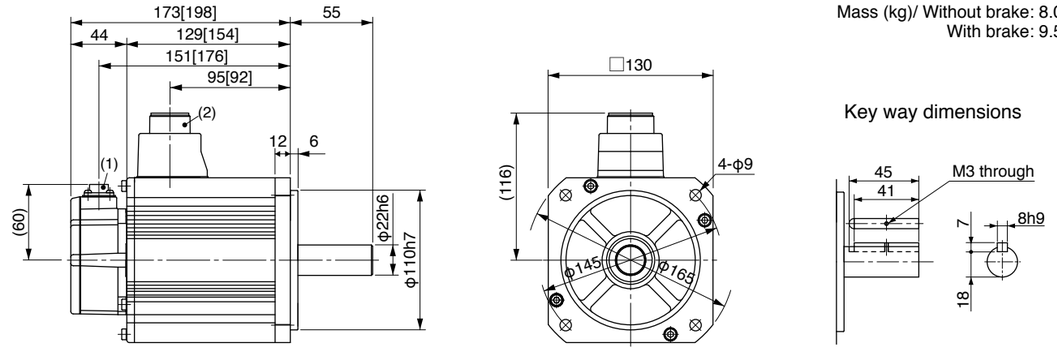
• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.33.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

## Torque characteristics (at AC400V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

With oil seal




## Dimensions




Mass (kg)/ Without brake: 8.0
With brake: 9.5

(1) Encoder connector
(2) Motor/Brake connector

* Figures in [ ] represent the dimensions of with brake.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.



# Motor Specifications 400V MDME 3.0kW [Middle inertia, Middle capacity]

## Specifications

| | | | AC400V | |
|---|---|---|---|---|
| Motor model *1 | | MDME | 304G1□ | 304S1□ |
| Applicable driver *2 | Model No. | A5 series | MFDHT5440 | |
| | | A5E series | MFDHT5440E | |
| | Frame symbol | | F-frame | |
| Power supply capacity | | (kVA) | 4.5 | |
| Rated output | | (W) | 3.0 | |
| Rated torque | | (N·m) | 14.3 | |
| Momentary Max. peak torque | | (N·m) | 43.0 | |
| Rated current | | (A(rms)) | 8.7 | |
| Max. current | | (A(o-p)) | 37 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | No limit Note)2 | |
| | DV0PM20049×2 | | No limit Note)2 | |
| Rated rotational speed | | (r/min) | 2000 | |
| Max. rotational speed | | (r/min) | 3000 | |
| Moment of inertia of rotor ($\times10^{-4}$kg·m$^2$) | Without brake | | 12.9 | |
| | With brake | | 14.2 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 10 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)
(This brake will be released when it is energized.
Do not use this for braking the motor in motion.)

| | |
|---|---|
| Static friction torque (N·m) | 16.2 or more |
| Engaging time (ms) | 110 or less |
| Releasing time (ms) Note)4 | 50 or less |
| Exciting current (DC) (A) | 0.90±10% |
| Releasing voltage (DC) (V) | 2 or more |
| Exciting voltage (DC) (V) | 24±2.4 |

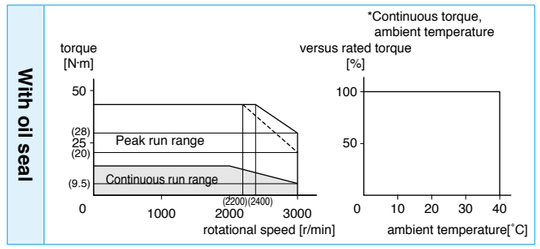
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| 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) | 784 |
| | Thrust load A, B-direction (N) | 343 |

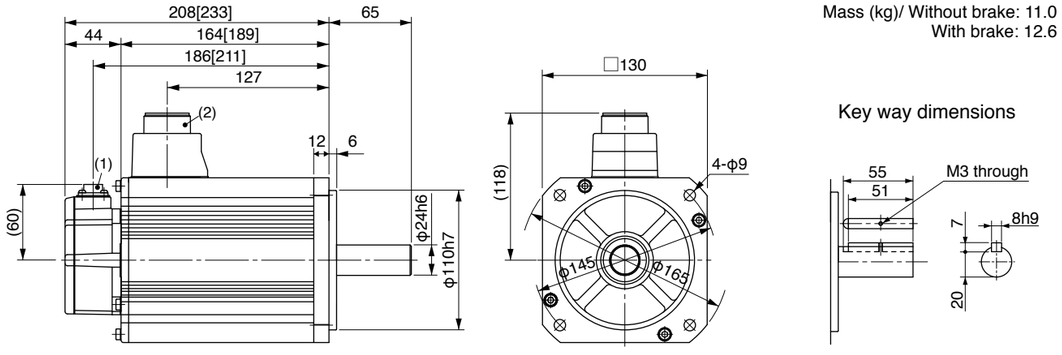
• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.34.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

## Torque characteristics (at AC400V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

With oil seal




## Dimensions




Mass (kg)/ Without brake: 11.0
With brake: 12.6

(1) Encoder connector
(2) Motor/Brake connector

* Figures in [ ] represent the dimensions of with brake.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.

# Motor Specifications 400V MDME 4.0kW [Middle inertia, Middle capacity]

## Specifications

| | | | AC400V | |
|---|---|---|---|---|
| Motor model *1 | | MDME | 404G1□ | 404S1□ |
| Applicable driver *2 | Model No. | A5 series | MFDHTA464 | |
| | | A5E series | MFDHTA464E | |
| | Frame symbol | | F-frame | |
| Power supply capacity | | (kVA) | 6.8 | |
| Rated output | | (W) | 4.0 | |
| Rated torque | | (N·m) | 19.1 | |
| Momentary Max. peak torque | | (N·m) | 57.3 | |
| Rated current | | (A(rms)) | 10.6 | |
| Max. current | | (A(o-p)) | 45 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | No limit Note)2 | |
| | DV0PM20049×2 | | No limit Note)2 | |
| Rated rotational speed | | (r/min) | 2000 | |
| Max. rotational speed | | (r/min) | 3000 | |
| Moment of inertia of rotor ($\times10^{-4}$kg·m$^2$) | Without brake | | 37.6 | |
| | With brake | | 38.6 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 10 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)

(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 or more |
| Engaging time (ms) | 80 or less |
| Releasing time (ms) Note)4 | 25 or less |
| Exciting current (DC) (A) | 1.3±10% |
| Releasing voltage (DC) (V) | 2 or more |
| Exciting voltage (DC) (V) | 24±2.4 |

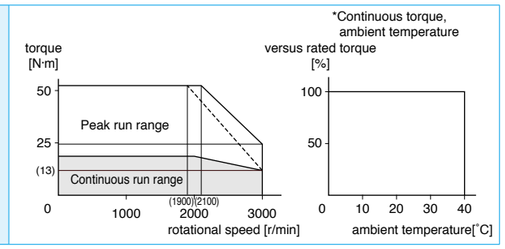
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| 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, B-direction (N) | 343 |

• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.34.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

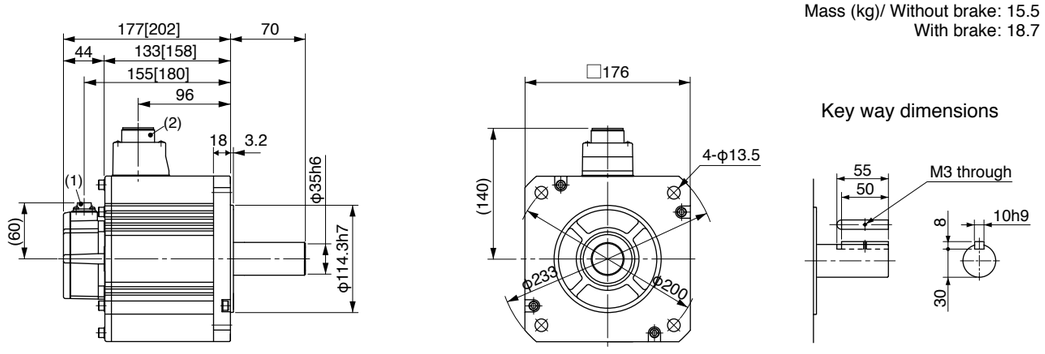
## Torque characteristics (at AC400V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

With oil seal




## Dimensions

Mass (kg)/ Without brake: 15.5
With brake: 18.7




(1) Encoder connector
(2) Motor/Brake connector

* Figures in [ ] represent the dimensions of with brake.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.



# Motor Specifications 400V MDME 5.0kW [Middle inertia, Middle capacity]

## Specifications

| | | | AC400V | |
|---|---|---|---|---|
| Motor model *1 | | MDME | 504G1□ | 504S1□ |
| Applicable driver *2 | Model No. | A5 series | MFDHTA464 | |
| | | A5E series | MFDHTA464E | |
| | Frame symbol | | F-frame | |
| Power supply capacity | | (kVA) | 7.5 | |
| Rated output | | (W) | 5.0 | |
| Rated torque | | (N·m) | 23.9 | |
| Momentary Max. peak torque | | (N·m) | 71.6 | |
| Rated current | | (A(rms)) | 13.0 | |
| Max. current | | (A(o-p)) | 55 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | 120 | |
| | DV0PM20049×2 | | No limit Note)2 | |
| Rated rotational speed | | (r/min) | 2000 | |
| Max. rotational speed | | (r/min) | 3000 | |
| Moment of inertia of rotor ($\times10^{-4}$kg·m$^2$) | Without brake | | 48.0 | |
| | With brake | | 48.8 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 10 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)

(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 or more |
| Engaging time (ms) | 80 or less |
| Releasing time (ms) Note)4 | 25 or less |
| Exciting current (DC) (A) | 1.3±10% |
| Releasing voltage (DC) (V) | 2 or more |
| Exciting voltage (DC) (V) | 24±2.4 |

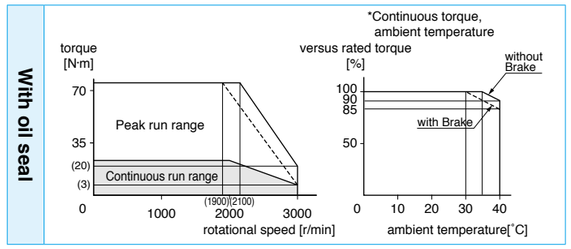
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| 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, B-direction (N) | 343 |

• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.34.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

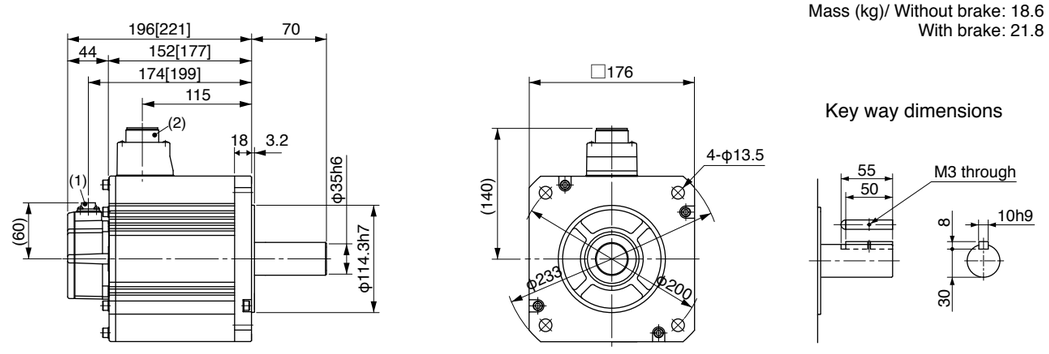
## Torque characteristics (at AC400V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

With oil seal




## Dimensions

Mass (kg)/ Without brake: 18.6
With brake: 21.8




(1) Encoder connector
(2) Motor/Brake connector

* Figures in [ ] represent the dimensions of with brake.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.

# Motor Specifications 400V MGME 0.9kW [Middle inertia, Middle capacity]

## Specifications

| | | | AC400V | |
|---|---|---|---|---|
| Motor model *1 | | MGME | 094G1□ | 094S1□ |
| Applicable driver *2 | Model No. | A5 series | MDDHT3420 | |
| | | A5E series | MDDHT3420E | |
| | Frame symbol | | D-frame | |
| Power supply capacity | | (kVA) | 1.8 | |
| Rated output | | (W) | 0.9 | |
| Rated torque | | (N·m) | 8.59 | |
| Momentary Max. peak torque | | (N·m) | 19.3 | |
| Rated current | | (A(rms)) | 3.8 | |
| Max. current | | (A(o-p)) | 12 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | No limit Note)2 | |
| | DV0PM20048 | | No limit Note)2 | |
| Rated rotational speed | | (r/min) | 1000 | |
| Max. rotational speed | | (r/min) | 2000 | |
| Moment of inertia of rotor ($\times10^{-4}$kg·m$^2$) | Without brake | | 6.70 | |
| | With brake | | 7.99 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 10 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)

(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 or more |
| Engaging time (ms) | 100 or less |
| Releasing time (ms) Note)4 | 50 or less |
| Exciting current (DC) (A) | 0.79±10% |
| Releasing voltage (DC) (V) | 2 or more |
| Exciting voltage (DC) (V) | 24±2.4 |

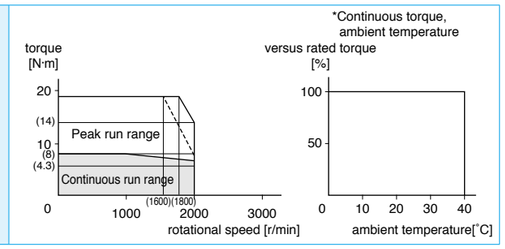
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| 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) | 686 |
| | Thrust load A, B-direction (N) | 196 |

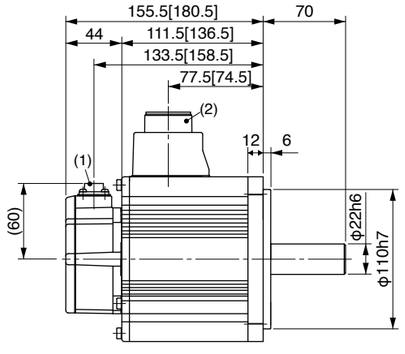
• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.32.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

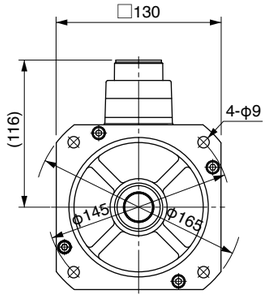
## Torque characteristics (at AC400V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

With oil seal



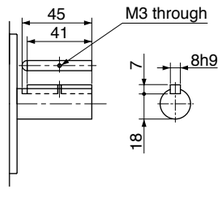

## Dimensions




Mass (kg)/ Without brake: 6.7
With brake: 8.2

Key way dimensions




(1) Encoder connector
(2) Motor/Brake connector

* Figures in [ ] represent the dimensions of with brake.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.



# Motor Specifications 400V MGME 2.0kW [Middle inertia, Middle capacity]

## Specifications

| | | | AC400V | |
|---|---|---|---|---|
| Motor model *1 | | MGME | 204G1□ | 204S1□ |
| Applicable driver *2 | Model No. | A5 series | MFDHT5440 | |
| | | A5E series | MFDHT5440E | |
| | Frame symbol | | F-frame | |
| Power supply capacity | | (kVA) | 3.8 | |
| Rated output | | (W) | 2.0 | |
| Rated torque | | (N·m) | 19.1 | |
| Momentary Max. peak torque | | (N·m) | 47.7 | |
| Rated current | | (A(rms)) | 8.5 | |
| Max. current | | (A(o-p)) | 30 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | No limit Note)2 | |
| | DV0PM20049×2 | | No limit Note)2 | |
| Rated rotational speed | | (r/min) | 1000 | |
| Max. rotational speed | | (r/min) | 2000 | |
| Moment of inertia of rotor ($\times10^{-4}$kg·m$^2$) | Without brake | | 30.3 | |
| | With brake | | 31.4 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 10 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)

(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 or more |
| Engaging time (ms) | 80 or less |
| Releasing time (ms) Note)4 | 25 or less |
| Exciting current (DC) (A) | 1.3±10% |
| Releasing voltage (DC) (V) | 2 or more |
| Exciting voltage (DC) (V) | 24±2.4 |

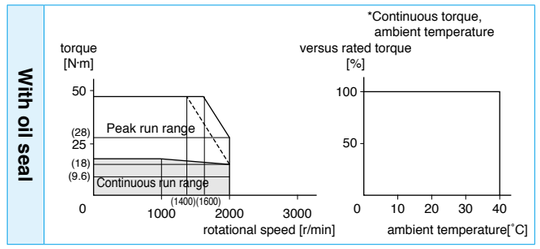
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| 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) | 1176 |
| | Thrust load A, B-direction (N) | 490 |

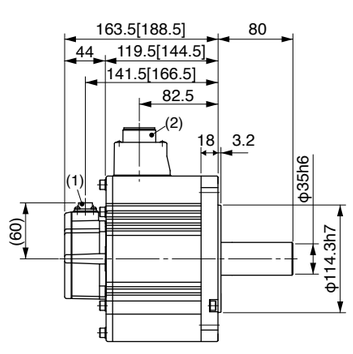
• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.34.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

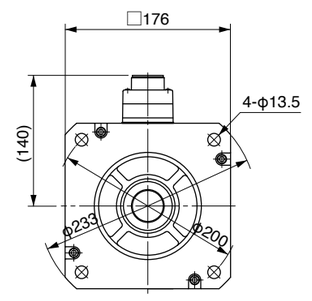
## Torque characteristics (at AC400V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

With oil seal



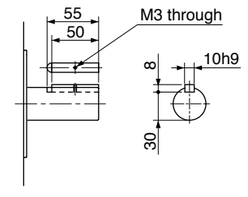

## Dimensions




Mass (kg)/ Without brake: 14.0
With brake: 17.5

Key way dimensions




(1) Encoder connector
(2) Motor/Brake connector

* Figures in [ ] represent the dimensions of with brake.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.

# 400V MGME 3.0kW [Middle inertia, Middle capacity]

## Specifications

| | | | AC400V | |
|---|---|---|---|---|
| Motor model *1 | | MGME | 304G1□ | 304S1□ |
| Applicable driver *2 | Model No. | A5 series | MFDHTA464 | |
| | | A5E series | MFDHTA464E | |
| | Frame symbol | | F-frame | |
| Power supply capacity | | (kVA) | 4.5 | |
| Rated output | | (W) | 3.0 | |
| Rated torque | | (N·m) | 28.7 | |
| Momentary Max. peak torque | | (N·m) | 71.7 | |
| Rated current | | (A(rms)) | 11.3 | |
| Max. current | | (A(o-p)) | 40 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | No limit Note)2 | |
| | DV0PM20049×2 | | No limit Note)2 | |
| Rated rotational speed | | (r/min) | 1000 | |
| Max. rotational speed | | (r/min) | 2000 | |
| Moment of inertia of rotor (×10$^{-4}$kg·m$^2$) | Without brake | | 48.4 | |
| | With brake | | 49.2 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 10 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)

(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 or more |
| Engaging time (ms) | 150 or less |
| Releasing time (ms) Note)4 | 50 or less |
| Exciting current (DC) (A) | 1.4±10% |
| Releasing voltage (DC) (V) | 2 or more |
| Exciting voltage (DC) (V) | 24±2.4 |

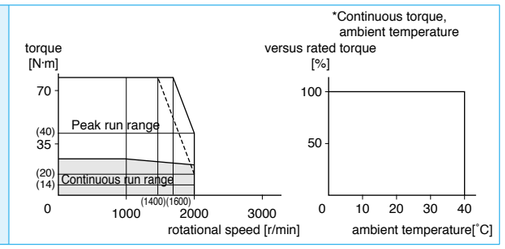
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| 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) | 1470 |
| | Thrust load A, B-direction (N) | 490 |

• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.34.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has “E” is “positioning type”.
Detail of model designation, refer to P.11.

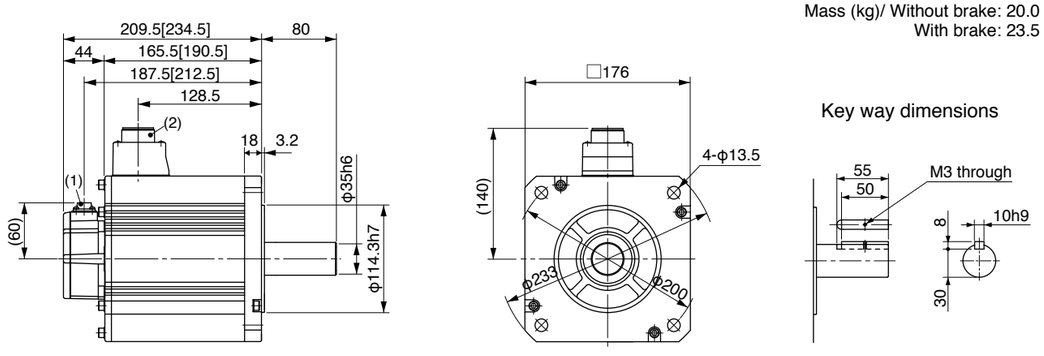
## Torque characteristics (at AC400V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

With oil seal




## Dimensions

Mass (kg)/ Without brake: 20.0
With brake: 23.5




Key way dimensions




(1) Encoder connector
(2) Motor/Brake connector

* Figures in [ ] represent the dimensions of with brake.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.

MEMO

# Motor Specifications 400V MHME 1.0kW [High inertia, Middle capacity]

## Specifications

| | | | AC400V | |
|---|---|---|---|---|
| Motor model *1 | | MHME | 104G1□ | 104S1□ |
| Applicable driver *2 | Model No. | A5 series | MDDHT2412 | |
| | | A5E series | MDDHT2412E | |
| | Frame symbol | | D-frame | |
| Power supply capacity | | (kVA) | 1.8 | |
| Rated output | | (W) | 1.0 | |
| Rated torque | | (N·m) | 4.77 | |
| Momentary Max. peak torque | | (N·m) | 14.3 | |
| Rated current | | (A(rms)) | 2.9 | |
| Max. current | | (A(o-p)) | 12 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | 83 | |
| | DV0PM20048 | | No limit Note)2 | |
| Rated rotational speed | | (r/min) | 2000 | |
| Max. rotational speed | | (r/min) | 3000 | |
| Moment of inertia of rotor ($\times10^{-4}$kg·m$^2$) | Without brake | | 24.7 | |
| | With brake | | 26.0 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 5 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)

(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 or more |
| Engaging time (ms) | 80 or less |
| Releasing time (ms) Note)4 | 70 or less |
| Exciting current (DC) (A) | 0.59±10% |
| Releasing voltage (DC) (V) | 2 or more |
| Exciting voltage (DC) (V) | 24±2.4 |

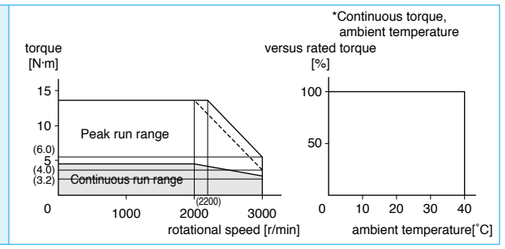
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| 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, B-direction (N) | 196 |

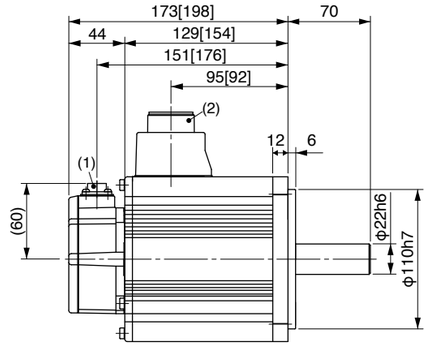
• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.32.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

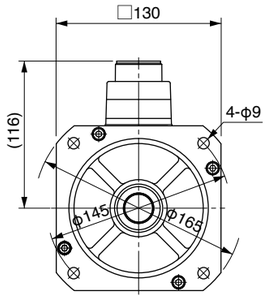
## Torque characteristics (at AC400V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

With oil seal



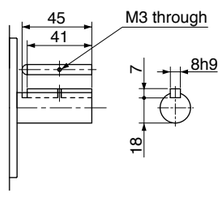

## Dimensions




Mass (kg)/ Without brake: 6.7
With brake: 8.1

Key way dimensions




(1) Encoder connector
(2) Motor/Brake connector

* Figures in [ ] represent the dimensions of with brake.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.



# Motor Specifications 400V MHME 1.5kW [High inertia, Middle capacity]

## Specifications

| | | | AC400V | |
|---|---|---|---|---|
| Motor model *1 | | MHME | 154G1□ | 154S1□ |
| Applicable driver *2 | Model No. | A5 series | MDDHT3420 | |
| | | A5E series | MDDHT3420E | |
| | Frame symbol | | D-frame | |
| Power supply capacity | | (kVA) | 2.3 | |
| Rated output | | (W) | 1.5 | |
| Rated torque | | (N·m) | 7.16 | |
| Momentary Max. peak torque | | (N·m) | 21.5 | |
| Rated current | | (A(rms)) | 4.7 | |
| Max. current | | (A(o-p)) | 20 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | 22 | |
| | DV0PM20048 | | 130 | |
| Rated rotational speed | | (r/min) | 2000 | |
| Max. rotational speed | | (r/min) | 3000 | |
| Moment of inertia of rotor ($\times10^{-4}$kg·m$^2$) | Without brake | | 37.1 | |
| | With brake | | 38.4 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 5 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)

(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 or more |
| Engaging time (ms) | 100 or less |
| Releasing time (ms) Note)4 | 50 or less |
| Exciting current (DC) (A) | 0.79±10% |
| Releasing voltage (DC) (V) | 2 or more |
| Exciting voltage (DC) (V) | 24±2.4 |

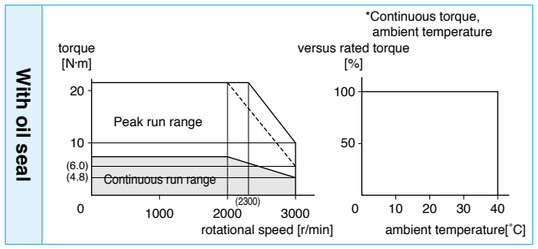
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| 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, B-direction (N) | 196 |

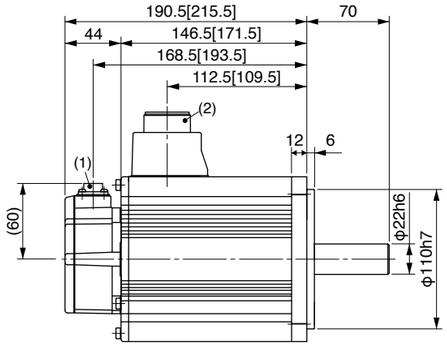
• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.32.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

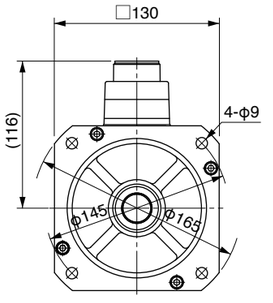
## Torque characteristics (at AC400V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

With oil seal



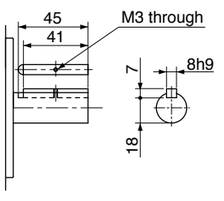

## Dimensions




Mass (kg)/ Without brake: 8.6
With brake: 10.1

Key way dimensions




(1) Encoder connector
(2) Motor/Brake connector

* Figures in [ ] represent the dimensions of with brake.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.

# Motor Specifications 400V MHME 2.0kW [High inertia, Middle capacity]

## Specifications

| | | | AC400V | |
|---|---|---|---|---|
| Motor model *1 | | MHME | 204G1□ | 204S1□ |
| Applicable driver *2 | Model No. | A5 series | MEDHT4430 | |
| | | A5E series | MEDHT4430E | |
| | Frame symbol | | E-frame | |
| Power supply capacity | | (kVA) | 3.3 | |
| Rated output | | (W) | 2.0 | |
| Rated torque | | (N·m) | 9.55 | |
| Momentary Max. peak torque | | (N·m) | 28.6 | |
| Rated current | | (A(rms)) | 5.5 | |
| Max. current | | (A(o-p)) | 24 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | 45 | |
| | DV0PM20048 | | 142 | |
| Rated rotational speed | | (r/min) | 2000 | |
| Max. rotational speed | | (r/min) | 3000 | |
| Moment of inertia of rotor ($\times10^{-4}$kg·m$^2$) | Without brake | | 57.8 | |
| | With brake | | 59.6 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 5 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)

(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 or more |
| Engaging time (ms) | 80 or less |
| Releasing time (ms) Note)4 | 25 or less |
| Exciting current (DC) (A) | 1.3±10% |
| Releasing voltage (DC) (V) | 2 or more |
| Exciting voltage (DC) (V) | 24±2.4 |

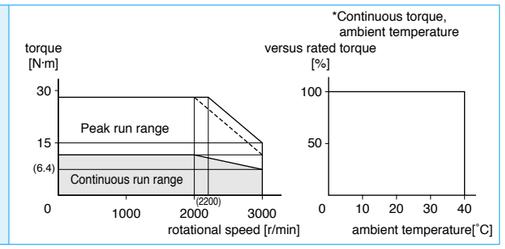
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| 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, B-direction (N) | 343 |

• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.33.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

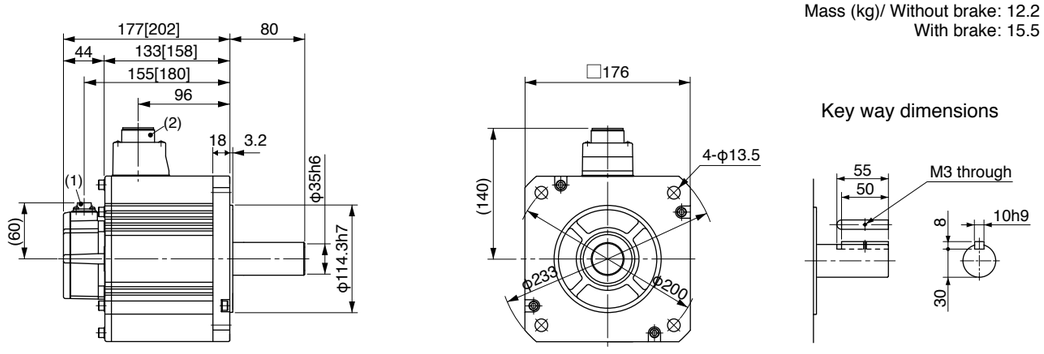
## Torque characteristics (at AC400V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

With oil seal




## Dimensions

Mass (kg)/ Without brake: 12.2
With brake: 15.5




(1) Encoder connector
(2) Motor/Brake connector

* Figures in [ ] represent the dimensions of with brake.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.



# Motor Specifications 400V MHME 3.0kW [High inertia, Middle capacity]

## Specifications

| | | | AC400V | |
|---|---|---|---|---|
| Motor model *1 | | MHME | 304G1□ | 304S1□ |
| Applicable driver *2 | Model No. | A5 series | MFDHT5440 | |
| | | A5E series | MFDHT5440E | |
| | Frame symbol | | F-frame | |
| Power supply capacity | | (kVA) | 4.5 | |
| Rated output | | (W) | 3.0 | |
| Rated torque | | (N·m) | 14.3 | |
| Momentary Max. peak torque | | (N·m) | 43.0 | |
| Rated current | | (A(rms)) | 8.0 | |
| Max. current | | (A(o-p)) | 34 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | 19 | |
| | DV0PM20049×2 | | 142 | |
| Rated rotational speed | | (r/min) | 2000 | |
| Max. rotational speed | | (r/min) | 3000 | |
| Moment of inertia of rotor ($\times10^{-4}$kg·m$^2$) | Without brake | | 90.5 | |
| | With brake | | 92.1 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 5 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)

(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 or more |
| Engaging time (ms) | 80 or less |
| Releasing time (ms) Note)4 | 25 or less |
| Exciting current (DC) (A) | 1.3±10% |
| Releasing voltage (DC) (V) | 2 or more |
| Exciting voltage (DC) (V) | 24±2.4 |

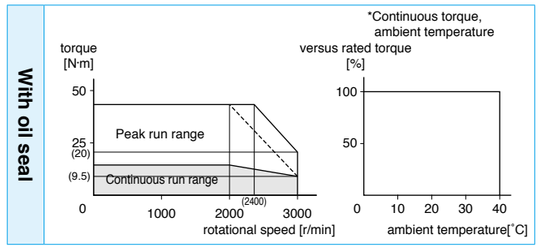
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| 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, B-direction (N) | 343 |

• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.34.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

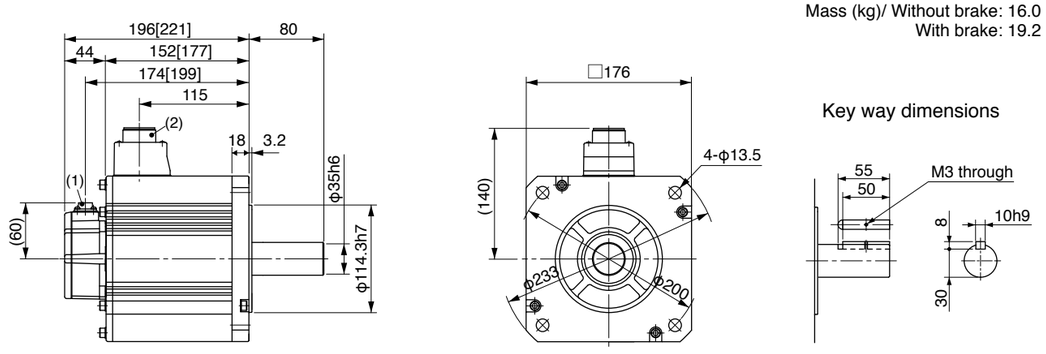
## Torque characteristics (at AC400V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

With oil seal




## Dimensions

Mass (kg)/ Without brake: 16.0
With brake: 19.2




(1) Encoder connector
(2) Motor/Brake connector

* Figures in [ ] represent the dimensions of with brake.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.

# Motor Specifications 400V MHME 4.0kW [High inertia, Middle capacity]

## Specifications

| | | | AC400V | |
|---|---|---|---|---|
| Motor model *1 | | MHME | 404G1□ | 404S1□ |
| Applicable driver *2 | Model No. | A5 series | MFDHTA464 | |
| | | A5E series | MFDHTA464E | |
| | Frame symbol | | F-frame | |
| Power supply capacity | | (kVA) | 6.8 | |
| Rated output | | (W) | 4.0 | |
| Rated torque | | (N·m) | 19.1 | |
| Momentary Max. peak torque | | (N·m) | 57.3 | |
| Rated current | | (A(rms)) | 10.5 | |
| Max. current | | (A(o-p)) | 45 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | 17 | |
| | DV0PM20049×2 | | 125 | |
| Rated rotational speed | | (r/min) | 2000 | |
| Max. rotational speed | | (r/min) | 3000 | |
| Moment of inertia of rotor ($\times10^{-4}$kg·m$^2$) | Without brake | | 112 | |
| | With brake | | 114 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 5 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)

(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 or more |
| Engaging time (ms) | 80 or less |
| Releasing time (ms) Note)4 | 25 or less |
| Exciting current (DC) (A) | 1.3±10% |
| Releasing voltage (DC) (V) | 2 or more |
| Exciting voltage (DC) (V) | 24±2.4 |

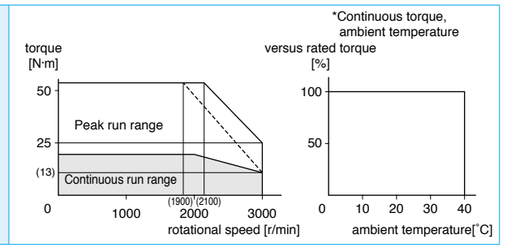
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| 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, B-direction (N) | 343 |

• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.34.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

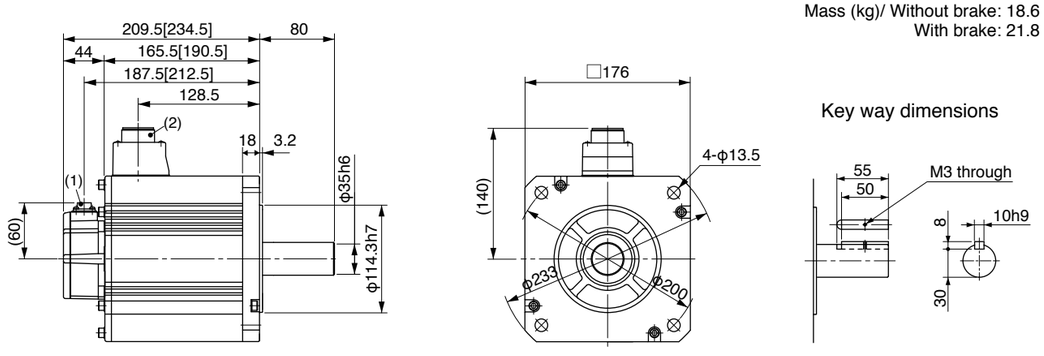
## Torque characteristics (at AC400V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

With oil seal




## Dimensions

Mass (kg)/ Without brake: 18.6
With brake: 21.8




(1) Encoder connector
(2) Motor/Brake connector

* Figures in [ ] represent the dimensions of with brake.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.



# Motor Specifications 400V MHME 5.0kW [High inertia, Middle capacity]

## Specifications

| | | | AC400V | |
|---|---|---|---|---|
| Motor model *1 | | MHME | 504G1□ | 504S1□ |
| Applicable driver *2 | Model No. | A5 series | MFDHTA464 | |
| | | A5E series | MFDHTA464E | |
| | Frame symbol | | F-frame | |
| Power supply capacity | | (kVA) | 7.5 | |
| Rated output | | (W) | 5.0 | |
| Rated torque | | (N·m) | 23.9 | |
| Momentary Max. peak torque | | (N·m) | 71.6 | |
| Rated current | | (A(rms)) | 13.0 | |
| Max. current | | (A(o-p)) | 55 | |
| Regenerative brake frequency (times/min) Note)1 | Without option | | 10 | |
| | DV0PM20049×2 | | 76 | |
| Rated rotational speed | | (r/min) | 2000 | |
| Max. rotational speed | | (r/min) | 3000 | |
| Moment of inertia of rotor ($\times10^{-4}$kg·m$^2$) | Without brake | | 162 | |
| | With brake | | 164 | |
| Recommended moment of inertia ratio of the load and the rotor Note)3 | | | 5 times or less | |
| Rotary encoder specifications Note)5 | | | 20-bit Incremental | 17-bit Absolute |
| | Resolution per single turn | | 1,048,576 | 131,072 |

**• Brake specifications** (For details, refer to P.105)

(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 or more |
| Engaging time (ms) | 80 or less |
| Releasing time (ms) Note)4 | 25 or less |
| Exciting current (DC) (A) | 1.3±10% |
| Releasing voltage (DC) (V) | 2 or more |
| Exciting voltage (DC) (V) | 24±2.4 |

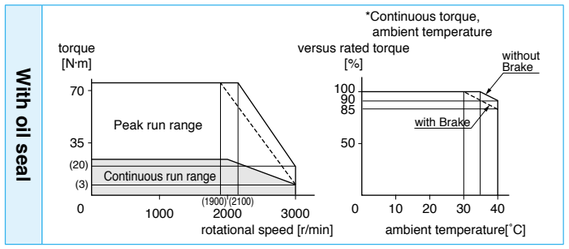
**• Permissible load** (For details, refer to P.104)

| | | |
|---|---|---|
| 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, B-direction (N) | 343 |

• For details of Note 1 to Note 5, refer to P.104.
• Dimensions of Driver, refer to P.34.
*1 Rotary encoder specifications: □
*2 The product that the end of driver model designation has "E" is "positioning type".
Detail of model designation, refer to P.11.

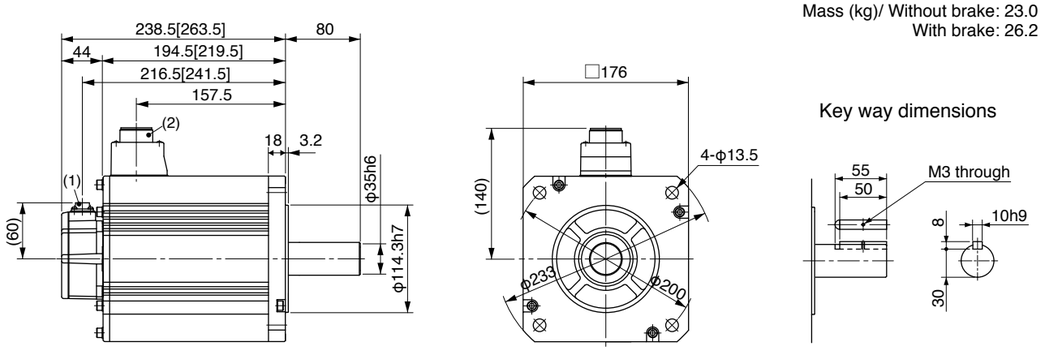
## Torque characteristics (at AC400V of power voltage <Dotted line represents the torque at 10% less supply voltage.>)

With oil seal




## Dimensions

Mass (kg)/ Without brake: 23.0
With brake: 26.2




(1) Encoder connector
(2) Motor/Brake connector

* Figures in [ ] represent the dimensions of with brake.

**<Cautions>** Reduce the moment of inertia ratio if high speed response operation is required.
Dimensions are subject to change without notice. Contact us or a dealer for the latest information.
Read the Instruction Manual carefully and understand all precautions and remarks before using the products.

## Notes on [Motor specification] page

Note) 1. **[At AC100V of power voltage]**
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 AC115V (at 100V of the main voltage).
  If the supply voltage fluctuates, frequency is in inverse proportion to the square of (Running supply voltage/115) 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.

**[At AC200V of power voltage]**
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.

**[At AC400V of power voltage]**
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 AC460V (at 400V of the main voltage).
  If the supply voltage fluctuates, frequency is in inverse proportion to the square of (Running supply voltage/460) 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.

Note) 2. If the effective torque is within the rated torque, there is no limit in generative brake.

Note) 3. Consult us or a dealer if the load moment of inertia exceeds the specified value.

Note) 4. Releasing time values represent the ones with DC-cutoff using a varistor.

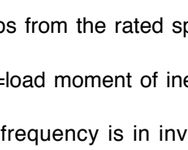
Note) 5. The 17-bit absolute encoder can also be used as a 17-bit incremental encoder.

## Permissible Load at Output Shaft

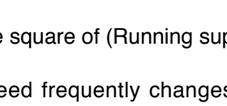
The radial load is defined as a load applied to the output shaft in the right-angle direction. This load is generated when the gear head is coupled to the machine using a chain, belt, etc., but not when the gear head is directly connected to the coupling. As shown in the right figure, the permissible value is determined based on the load applied to the L/2 position of the output shaft. The thrust load is defined as a load applied to the output shaft in the axial direction.

**Because the radial load and thrust load significantly affect the life of the bearing, take care not to allow the load during operation to exceed the permissible radial load and thrust load shown in the table below.**

Radial load (P) direction




Thrust load (A and B) direction




## Built-in Holding Brake

In the applications where the motor drives the vertical axis, this brake would be used to hold and prevent the work (moving load) from falling by gravity while the power to the servo is shut off.

**Use this built-in brake for "Holding" purpose only, that is to hold the stalling status. Never use this for "Brake" purpose to stop the load in motion.**

- **Output Timing of BRK-OFF Signal**
  - For the brake release timing at power-on, or braking timing at Servo-OFF/Servo-Alarm while the motor is in motion, refer to the Operating Instructions (Overall).
  - With the parameter, Pr4.38 (Setup of mechanical brake action while the motor is in motion), you can set up a time between when the motor enters to a free-run from energized status and when BRK-OFF signal turns off (brake will be engaged), when the Servo-OFF or alarm occurs while the motor is in motion. For details, download a copy of the instruction manual from our website.

**<Note>**
1. The lining sound of the brake (chattering and etc.) might be generated while running the motor with built-in brake, however this does not affect any functionality.
2. Magnetic flux might be generated through the motor shaft while the brake coil is energized (brake is open). Pay an extra attention when magnetic sensors are used nearby the motor.

- **Specifications of Built-in Holding Brake**

| Motor series | Motor output | Static friction torque N·m | Rotor inertia x $10^{-4}$ kg·m$^2$ | Engaging time ms | Releasing time ms | Exciting current DC A (at cool-off) | Releasing voltage | Permissible work (J) per one braking | Permissible total work x $10^3$J | Permissible angular acceleration rad/s$^2$ |
|---|---|---|---|---|---|---|---|---|---|---|
| MSMD | 50W, 100W | 0.29 or more | 0.002 | 35 or less | 20 or less | 0.3 | DC1V or more | 39.2 | 4.9 | 30000 |
| | 200W, 400W | 1.27 or more | 0.018 | 50 or less | 15 or less | 0.36 | | 137 | 44.1 | |
| | 750W | 2.45 or more | 0.075 | 70 or less | 20 or less | 0.42 | | 196 | 147 | |
| MSME | 50W, 100W | 0.29 or more | 0.002 | 35 or less | 20 or less | 0.3 | DC1V or more | 39.2 | 4.9 | 30000 |
| | 200W, 400W | 1.27 or more | 0.018 | 50 or less | 15 or less | 0.36 | | 137 | 44.1 | |
| | 750W | 2.45 or more | 0.075 | 70 or less | 20 or less | 0.42 | | 196 | 147 | |
| | 1.0kW, 1.5kW, 2.0kW | 7.8 or more | 0.33 | 50 or less | 15 or less (100) | 0.81 | DC2V or more | 392 | 490 | 10000 |
| | 3.0kW | 11.8 or more | | 80 or less | | | | | | |
| | 4.0kW, 5.0kW | 16.1 or more | 1.35 | 110 or less | 50 or less (130) | 0.9 | | 1470 | 2200 | |
| MDME | 1.0kW | 4.9 or more | 1.35 | 80 or less | 70 or less (200) | 0.59 | DC2V or more | 588 | 780 | 10000 |
| | 1.5kW, 2.0kW | 13.7 or more | | 100 or less | 50 or less (130) | 0.79 | | 1176 | 1500 | |
| | 3.0kW | 16.2 or more | | 110 or less | | 0.9 | | 1470 | 2200 | |
| | 4.0kW, 5.0kW | 24.5 or more | 4.7 | 80 or less | 25 or less (200) | 1.3 | | 1372 | 2900 | 5440 |
| MGME | 900W | 13.7 or more | 1.35 | 100 or less | 50 or less (130) | 0.79 | DC2V or more | 1176 | 1500 | 10000 |
| | 2.0kW | 24.5 or more | 4.7 | 80 or less | 25 or less (200) | 1.3 | | 1372 | 2900 | 5440 |
| | 3.0kW | 58.8 or more | | 150 or less | 50 or less (130) | 1.4 | | | | |
| MHMD | 200W, 400W | 1.27 or more | 0.018 | 50 or less | 15 or less | 0.36 | DC1V or more | 137 | 44.1 | 30000 |
| | 750W | 2.45 or more | 0.075 | 70 or less | 20 or less | 0.42 | | 196 | 147 | |
| MHME | 1.0kW | 4.9 or more | 1.35 | 80 or less | 70 or less (200) | 0.59 | DC2V or more | 588 | 780 | 10000 |
| | 1.5kW | 13.7 or more | | 100 or less | 50 or less (130) | 0.79 | | 1176 | 1500 | |
| | 2.0kW to 5.0kW | 24.5 or more | 4.7 | 80 or less | 25 or less (200) | 1.3 | | 1372 | 2900 | 5440 |

- Excitation voltage is DC24V±10% (Large type motor) and DC24V±5% (Small type motor).
- Releasing time values represent the ones with DC-cutoff using a varistor.
  Values in ( ) represent those measured by using a diode (V03C by Hitachi, Ltd.)
- Above values (except static friction torque, releasing voltage and excitation current) represent typical values.
- Backlash of the built-in holding brake is kept ±1˚or smaller at ex-factory point.
- Service life of the number of acceleration/deceleration with the above permissible angular acceleration is more than 10 million times. (Life end is defined as when the brake backlash drastically changes.)