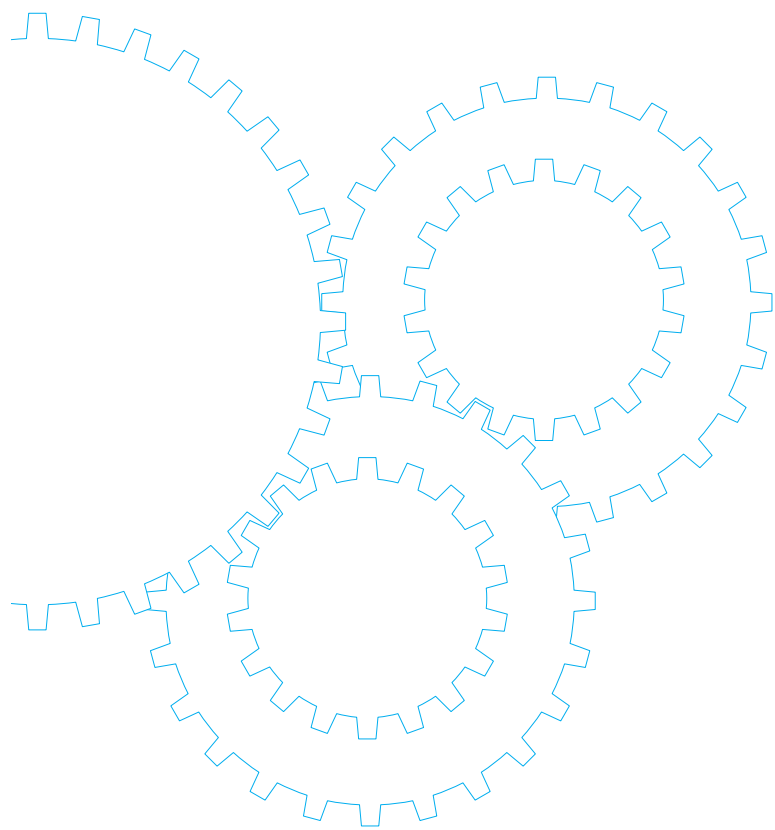


Variable Speed Reversible Motor



Contents

- Motor Overview B-268
- Model list B-270
- Product information for each model B-274
- Gear head combination dimensions B-304
- Round shaft motor dimensions B-306

Outline of variable speed reversible motor

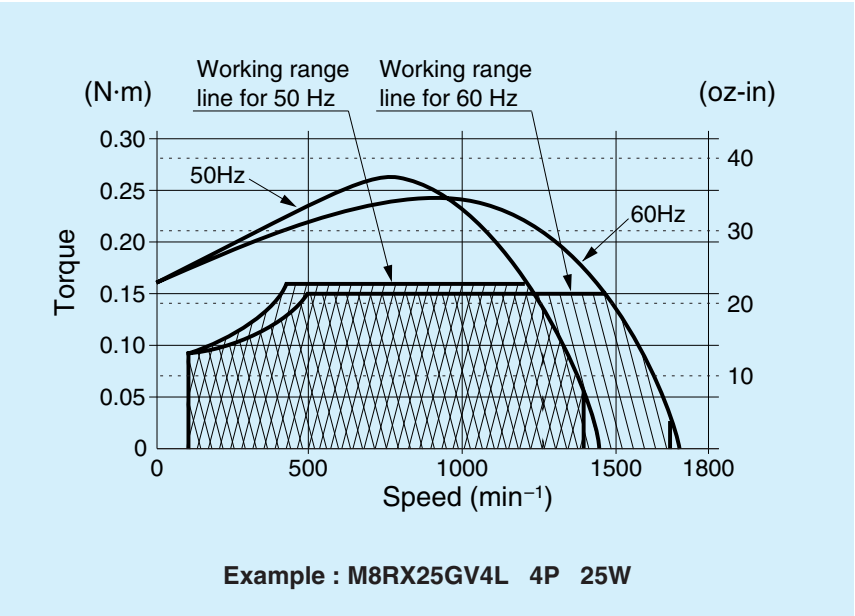
Features

- It is a variable speed motor containing a simple brake mechanism.
- The built-in simple brake mechanism makes the overrun small as compared with the induction motor, enabling a quick-reversal run.
- The time rating is 30 minutes.
- By using it together with a speed controller, you can vary the speed over a wider range (90 to 1400 min⁻¹ for 50 Hz and 90 to 1700 min⁻¹ for 60 Hz).
- Various functions such as variable speed, braking, normal/reverse run and soft-start/soft-stop are available.
- Feedback control with the built-in tachogenerator gives a constant speed despite of frequency change.
- The motor output is 4 W to 90 W.

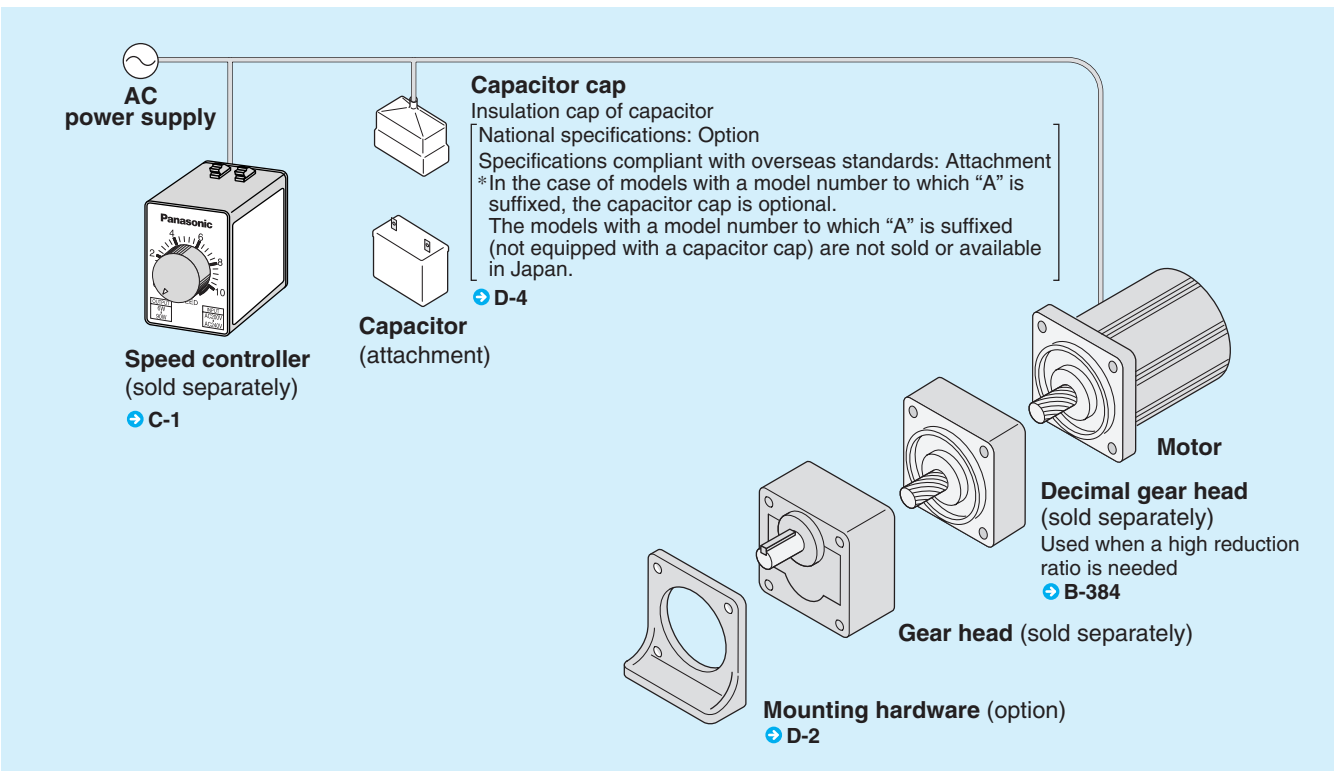
Working range

The working range line shows the working limit for the variable speed motor. (The time rating is 30 minutes.) The permissible torque should fall within the shaded portion. If you use the motor with the permissible torque exceeding the working range line (falling within the portion not shaded), the motor may be burned out due to a high temperature rise or the gear tooth may be damaged.

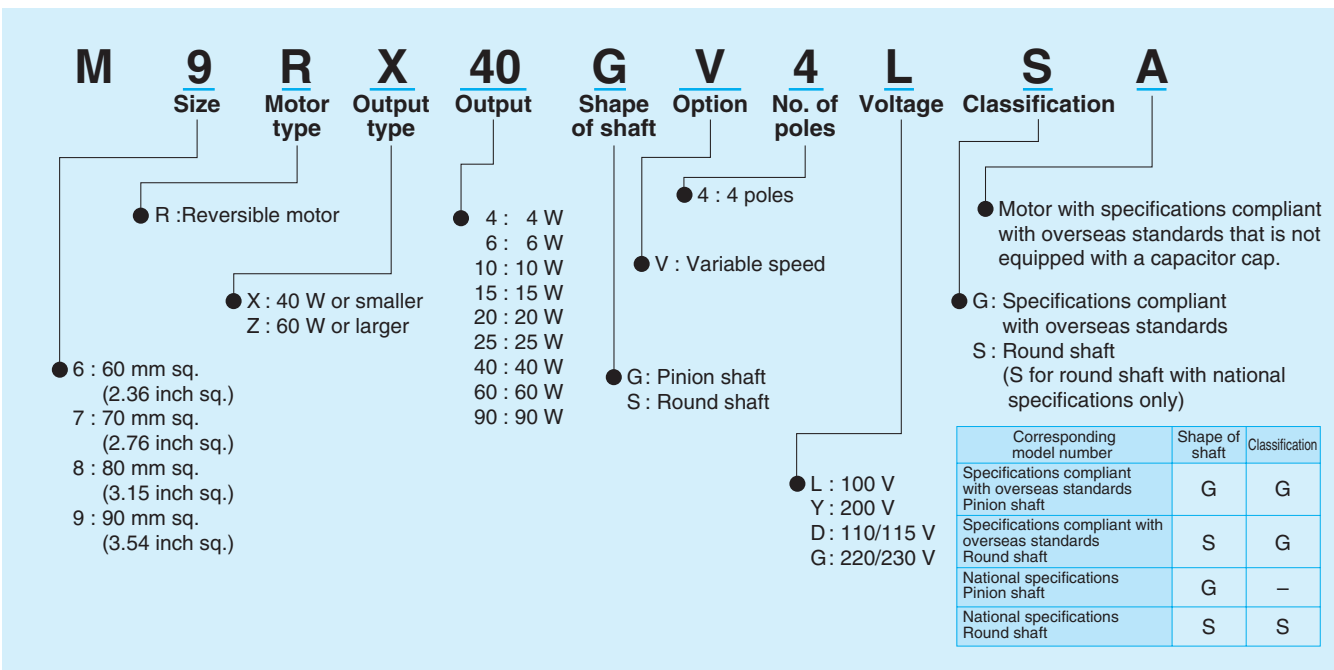
Working range line



System configuration diagram



Coding system



Fit tolerance

Fit tolerance symbol is used in the outside dimension diagram of motor and gear head. For further information, see "Fit tolerance" on page A-33.

Model list of variable speed reversible motor

Pinion shaft motor

Applicable gear head

★ Motor compliant with overseas standards   

Size	Output (W)	Leadwire type		
		Model number	Specifications	Page
60 mm sq. (2.36 inch sq.)	4	M6RX4GV4L	100V	B-274
	6	M6RX6GV4L	100V	B-276
		M6RX6GV4Y	200V	B-276
		M6RX6GV4LG(A)	100V ★	B-278
		M6RX6GV4DG(A)	110/115V ★	B-278
		M6RX6GV4YG(A)	200V ★	B-278
		M6RX6GV4GG(A)	220/230V ★	B-278
70 mm sq. (2.76 inch sq.)	10	M7RX10GV4L	100V	B-280
	15	M7RX10GV4Y	200V	B-280
		M7RX15GV4L	100V	B-282
		M7RX15GV4Y	200V	B-282
		M7RX15GV4LG(A)	100V ★	B-284
		M7RX15GV4DG(A)	110/115V ★	B-284
		M7RX15GV4YG(A)	200V ★	B-284
		M7RX15GV4GG(A)	220/230V ★	B-284
80 mm sq. (3.15 inch sq.)	20	M8RX20GV4L	100V	B-286
	25	M8RX20GV4Y	200V	B-286
		M8RX25GV4L	100V	B-288
		M8RX25GV4Y	200V	B-288
		M8RX25GV4LG(A)	100V ★	B-290
		M8RX25GV4DG(A)	110/115V ★	B-290
		M8RX25GV4YG(A)	200V ★	B-290
		M8RX25GV4GG(A)	220/230V ★	B-290
90 mm sq. (3.54 inch sq.)	40	M9RX40GV4L	100V	B-292
	40	M9RX40GV4Y	200V	B-292
		M9RX40GV4LG(A)	100V ★	B-294
		M9RX40GV4DG(A)	110/115V ★	B-294
		M9RX40GV4YG(A)	200V ★	B-294
		M9RX40GV4GG(A)	220/230V ★	B-294
	60	M9RZ60GV4L	100V	B-296
		M9RZ60GV4Y	200V	B-296
		M9RZ60GV4LG(A)	100V ★	B-298
		M9RZ60GV4DG(A)	110/115V ★	B-298
		M9RZ60GV4YG(A)	200V ★	B-298
		M9RZ60GV4GG(A)	220/230V ★	B-298
	90	M9RZ90GV4L	100V	B-300
		M9RZ90GV4Y	200V	B-300
		M9RZ90GV4LG(A)	100V ★	B-302
		M9RZ90GV4DG(A)	110/115V ★	B-302
		M9RZ90GV4YG(A)	200V ★	B-302
		M9RZ90GV4GG(A)	220/230V ★	B-302

■ Hinge attached

Standard gear head		High torque gear head	Right-angle gear head	Gear head -Inch (U.S.A.)	Decimal gear head
Ball bearing	metal bearing				
MX6G□BA MX6G□B	MX6G□MA MX6G□M	—	—	MX6G□BU	MX6G10XB
MX7G□BA MX7G□B	MX7G□MA MX7G□M	—	—	MX7G□BU	MX7G10XB
MX8G□B	MX8G□M	—	—	MX8G□BU	MX8G10XB
MX9G□B	MX9G□M	—	MX9G□R	MX9G□BU	MX9G10XB
MZ9G□B MY9G□B	—	MR9G□B MP9G□B	MZ9G□R	MZ9G□BU	MZ9G10XB

* The models with a motor model number to which “A” is suffixed are not equipped with a capacitor cap.
The models with a motor model number to which “A” is suffixed are not sold or available in Japan.

Model list of variable speed reversible motor

Round shaft motor

★ Motor compliant with overseas standards   

Size	Output (W)	Leadwire type	
		Model number	Specifications
60 mm sq. (2.36 inch sq.)	4	M6RX4SV4LS	100V
	6	M6RX6SV4LS	100V
		M6RX6SV4YS	200V
		M6RX6SV4LG(A)	100V ★
		M6RX6SV4DG(A)	110/115V ★
		M6RX6SV4YG(A)	200V ★
		M6RX6SV4GG(A)	220/230V ★
70 mm sq. (2.76 inch sq.)	10	M7RX10SV4LS	100V
		M7RX10SV4YS	200V
	15	M7RX15SV4LS	100V
		M7RX15SV4YS	200V
		M7RX15SV4LG(A)	100V ★
		M7RX15SV4DG(A)	110/115V ★
		M7RX15SV4YG(A)	200V ★
		M7RX15SV4GG(A)	220/230V ★
80 mm sq. (3.15 inch sq.)	20	M8RX20SV4LS	100V
		M8RX20SV4YS	200V
	25	M8RX25SV4LS	100V
		M8RX25SV4YS	200V
		M8RX25SV4LG(A)	100V ★
		M8RX25SV4DG(A)	110/115V ★
		M8RX25SV4YG(A)	200V ★
		M8RX25SV4GG(A)	220/230V ★
90 mm sq. (3.54 inch sq.)	40	M9RX40SV4LS	100V
		M9RX40SV4YS	200V
		M9RX40SV4LG(A)	100V ★
		M9RX40SV4DG(A)	110/115V ★
		M9RX40SV4YG(A)	200V ★
		M9RX40SV4GG(A)	220/230V ★
	60	M9RZ60SV4LS	100V
		M9RZ60SV4YS	200V
		M9RZ60SV4LG(A)	100V ★
		M9RZ60SV4DG(A)	110/115V ★
		M9RZ60SV4YG(A)	200V ★
		M9RZ60SV4GG(A)	220/230V ★
	90	M9RZ90SV4LS	100V
		M9RZ90SV4YS	200V
		M9RZ90SV4LG(A)	100V ★
		M9RZ90SV4DG(A)	110/115V ★
		M9RZ90SV4YG(A)	200V ★
		M9RZ90SV4GG(A)	220/230V ★

* The specifications and wire connections of the round shaft motor are the same as those of the pinion shaft motor.
Dimensional outline drawing Page B-306.
* The models with a motor model number to which “A” is suffixed are not equipped with a capacitor cap.
The models with a motor model number to which “A” is suffixed are not sold or available in Japan.

Possible combination of speed controller and motor

Size	Output (W)	Motor		Voltage (V)	Speed controller			
		Certified	Part No.		MGSD type	EX type	SD48 type	EX48 type
60 mm sq. (2.36 inch sq.)	3	-----	M6RX4GV4L	100	MGSDA1 ★	DV1131	DVSD48AL	DVEX48AL
	6	-----	M6RX6GV4L	100	MGSDA1 ★	DV1131	DVSD48AL	DVEX48AL
		-----	M6RX6GV4Y	200	MGSDA1 ★	DV1231	DVSD48AY	DVEX48AY
		★	M6RX6GV4LG(A)	100	MGSDA1 ★	-----	-----	-----
		★	M6RX6GV4DG(A)	110/115	MGSDA1 ★	-----	-----	-----
		★	M6RX6GV4YG(A)	200	MGSDA1 ★	-----	-----	-----
		★	M6RX6GV4GG(A)	220/230	MGSDA1 ★	-----	-----	-----
70 mm sq. (2.76 inch sq.)	10	-----	M7RX10GV4L	100	MGSDA1 ★	DV1131	DVSD48AL	DVEX48AL
		-----	M7RX10GV4Y	200	MGSDA1 ★	DV1231	DVSD48AY	DVEX48AY
	15	-----	M7RX15GV4L	100	MGSDA1 ★	DV1132	DVSD48AL	DVEX48AL
		-----	M7RX15GV4Y	200	MGSDA1 ★	DV1231	DVSD48AY	DVEX48AY
		★	M7RX15GV4LG(A)	100	MGSDA1 ★	-----	-----	-----
		★	M7RX15GV4DG(A)	110/115	MGSDA1 ★	-----	-----	-----
		★	M7RX15GV4YG(A)	200	MGSDA1 ★	-----	-----	-----
		★	M7RX15GV4GG(A)	220/230	MGSDA1 ★	-----	-----	-----
80 mm sq. (3.15 inch sq.)	15	-----	M8RX20GV4L	100	MGSDA1 ★	DV1132	DVSD48AL	DVEX48AL
		-----	M8RX20GV4Y	200	MGSDA1 ★	DV1231	DVSD48AY	DVEX48AY
	25	-----	M8RX25GV4L	100	MGSDA1 ★	DV1132	DVSD48BL	DVEX48BL
		-----	M8RX25GV4Y	200	MGSDA1 ★	DV1234	DVSD48BY	DVEX48BY
		★	M8RX25GV4LG(A)	100	MGSDA1 ★	-----	-----	-----
		★	M8RX25GV4DG(A)	110/115	MGSDA1 ★	-----	-----	-----
		★	M8RX25GV4YG(A)	200	MGSDA1 ★	-----	-----	-----
		★	M8RX25GV4GG(A)	220/230	MGSDA1 ★	-----	-----	-----
90 mm sq. (3.54 inch sq.)	40	-----	M9RX40GV4L	100	MGSDA1 ★	DV1132	DVSD48BL	DVEX48BL
		-----	M9RX40GV4Y	200	MGSDA1 ★	DV1234	DVSD48BY	DVEX48BY
		★	M9RX40GV4LG(A)	100	MGSDA1 ★	-----	-----	-----
		★	M9RX40GV4DG(A)	110/115	MGSDA1 ★	-----	-----	-----
		★	M9RX40GV4YG(A)	200	MGSDA1 ★	-----	-----	-----
		★	M9RX40GV4GG(A)	220/230	MGSDA1 ★	-----	-----	-----
	60	-----	M9RZ60GV4L	100	MGSDA1 ★	DV1134	DVSD48CL	DVEX48CL
		-----	M9RZ60GV4Y	200	MGSDA1 ★	DV1234	DVSD48CY	DVEX48CY
		★	M9RZ60GV4LG(A)	100	MGSDA1 ★	-----	-----	-----
		★	M9RZ60GV4DG(A)	110/115	MGSDA1 ★	-----	-----	-----
		★	M9RZ60GV4YG(A)	200	MGSDA1 ★	-----	-----	-----
		★	M9RZ60GV4GG(A)	220/230	MGSDA1 ★	-----	-----	-----
	90	-----	M9RZ90GV4L	100	MGSDA1 ★	DV1134	DVSD48CL	DVEX48CL
		-----	M9RZ90GV4Y	200	MGSDA1 ★	DV1234	DVSD48CY	DVEX48CY
		★	M9RZ90GV4LG(A)	100	MGSDA1 ★	-----	-----	-----
		★	M9RZ90GV4DG(A)	110/115	MGSDA1 ★	-----	-----	-----
		★	M9RZ90GV4YG(A)	200	MGSDA1 ★	-----	-----	-----
		★	M9RZ90GV4GG(A)	220/230	MGSDA1 ★	-----	-----	-----

* When using a speed controller operative under a wide range of supply voltage (MGSD, SD48, EX48), the mating motor should be selected according to the voltage of the power supply to be used.
★ Conforming to international standards :   
★ MGSD speed controllers are compliant with  and .
* The models with a motor model number to which “A” is suffixed are not equipped with a capacitor cap.
The models with a motor model number to which “A” is suffixed are not sold or available in Japan.

Variable speed reversible motor (leadwire)

60 mm (2.36 inch) sq.4 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Variable speed range	Permissible Torque N·m (oz·in)		Starting current (A)	Starting torque N·m (oz·in)	Capacitor (μF) (rated voltage)
							Speed (min ⁻¹)	at 1200 min ⁻¹	at 90 min ⁻¹			
60 mm sq.	M6RX4GV4L	4	4	100	50	30	90 to 1400	0.019 (2.69)	0.019 (2.69)	0.22	0.028 (3.97)	2.5 (200V)
					60		90 to 1700	0.019 (2.69)	0.019 (2.69)	0.23	0.028 (3.97)	

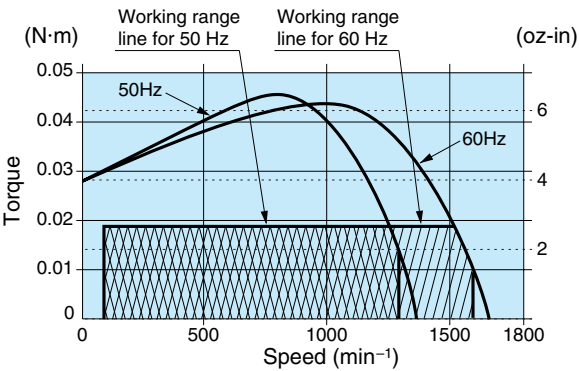
• The specifications and wire connections of the round shaft motor are the same as those of the pinion shaft type. For the dimensional outline drawing, refer to page B-306.

• Permissible torque at output shaft of gear head

Unit of permissible torque: upper (N·m) / lower (lb·in)														
Applicable gear head	Reduction ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25
Bearing														
MX6G□BA (ball bearing) MX6G□B (bearing) MX6G□MA (metal bearing) MX6G□M (bearing)	1200min ⁻¹	50Hz	0.046 (0.41)	0.055 (0.49)	0.077 (0.68)	0.092 (0.81)	0.11 (0.97)	0.13 (1.15)	0.15 (1.33)	0.19 (1.68)	0.23 (2.04)	0.27 (2.39)	0.30 (2.66)	0.38 (3.36)
		60Hz	0.046 (0.41)	0.055 (0.49)	0.077 (0.68)	0.092 (0.81)	0.11 (0.97)	0.13 (1.15)	0.15 (1.33)	0.19 (1.68)	0.23 (2.04)	0.27 (2.39)	0.30 (2.66)	0.38 (3.36)
	90min ⁻¹		0.046 (0.41)	0.055 (0.49)	0.077 (0.68)	0.092 (0.81)	0.11 (0.97)	0.13 (1.15)	0.15 (1.33)	0.19 (1.68)	0.23 (2.04)	0.27 (2.39)	0.30 (2.66)	0.38 (3.36)
	Rotational direction		Same as motor rotational direction											

Applicable gear head	Reduction ratio		30	36	50	60	75	90	100	120	150	180	Applicable decimal gear head
Bearing	Speed												
MX6G□BA (ball bearing) MX6G□B (bearing) MX6G□MA (metal bearing) MX6G□M (bearing)	1200min ⁻¹	50Hz	0.41 (3.63)	0.49 (4.34)	0.69 (6.11)	0.82 (7.26)	1.03 (9.12)	1.24 (11.0)	1.38 (12.2)	1.65 (14.6)	2.07 (18.3)	2.45 (21.7)	MX6G10XB
		60Hz	0.41 (3.63)	0.49 (4.34)	0.69 (6.11)	0.82 (7.26)	1.03 (9.12)	1.24 (11.0)	1.38 (12.2)	1.65 (14.6)	2.07 (18.3)	2.45 (21.7)	
	90min ⁻¹		0.41 (3.63)	0.49 (4.34)	0.69 (6.11)	0.82 (7.26)	1.03 (9.12)	1.24 (11.0)	1.38 (12.2)	1.65 (14.6)	2.07 (18.3)	2.45 (21.7)	
	Rotational direction		Reverse to motor rotational direction										

Speed-torque characteristics



Connection diagram

* For the connection diagram showing wiring with the speed controller, refer to pages C-6 to C-35.

* Working range line

The working range line shows the working limit for the variable speed motor. The permissible torque should fall within the shaded portion. If you use the motor with the permissible torque exceeding the working range line (falling within the portion not shaded), the motor may be burned out due to a high temperature rise or the gear tooth may be damaged.

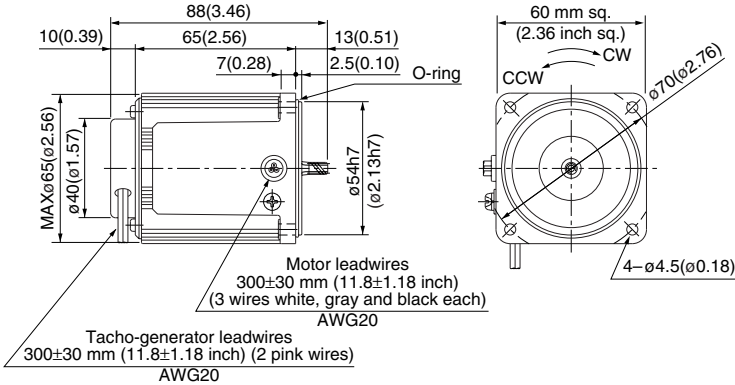
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

Scale: 1/3, Unit: mm (inch)

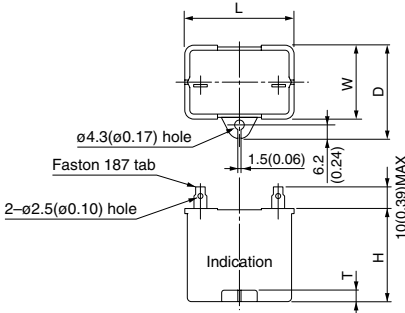
M6RX4GV4L 4P 4 W 100 V

Mass	Helical gear	Module	Number of teeth
0.60 kg 1.32 lb		0.5	6



Capacitor (dimensions) [attachment]

Unit: mm (inch)



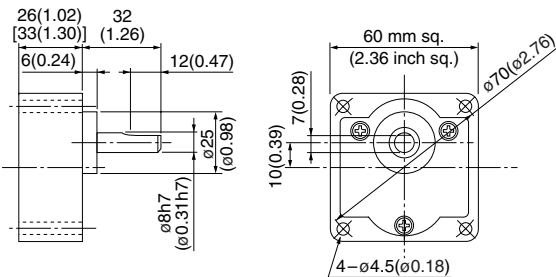
• Capacitor dimension list Unit: upper (mm) / lower (inch)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M6RX4GV4L	M0PC2.5M20	39.5 (1.56)	16 (0.63)	26.5 (1.04)	30.5 (1.20)	4 (0.16)	M0PC3917

Gear head (dimensions)

Scale: 1/3, Unit: mm (inch)

MX6G□BA (ball bearing) / MX6G□B (ball bearing) Mass 0.24/0.3 kg (0.53/0.66 lb): Output shaft D cut
MX6G□MA (metal bearing) / MX6G□M (metal bearing) Mass 0.24/0.3 kg (0.53/0.66 lb): Output shaft D cut



* Figures in [] represent the dimensions of MX6G□B (M) (1/30 or larger reduction ratio).

(The model number of the gear head with a reduction ratio of 1/25 or smaller is MX6G□BA (MA).)

(Note) Because the dimensions may be subject to change, also check the determinate dimensions if the gear head is to be used for design.

Variable speed reversible motor (leadwire)

60 mm (2.36 inch) sq.6 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Variable speed range	Permissible Torque N·m (oz·in)		Starting current (A)	Starting torque N·m (oz·in)	Capacitor (μF) (rated voltage)
							Speed (min ⁻¹)	at 1200 min ⁻¹	at 90 min ⁻¹			
60 mm sq.	M6RX6GV4L	4	6	100	50	30	90 to 1400	0.030 (4.25)	0.030 (4.25)	0.31	0.038 (5.38)	3 (200V)
					60		90 to 1700	0.030 (4.25)	0.030 (4.25)	0.31	0.038 (5.38)	
	M6RX6GV4Y	4	6	200	50	30	90 to 1400	0.030 (4.25)	0.030 (4.25)	0.16	0.038 (5.38)	0.8 (400V)
					60		90 to 1700	0.030 (4.25)	0.030 (4.25)	0.16	0.038 (5.38)	

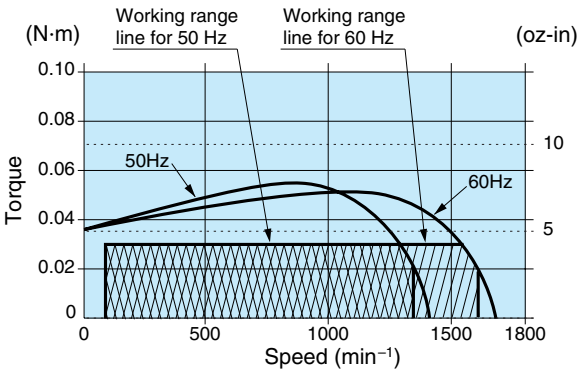
• The specifications and wire connections of the round shaft motor are the same as those of the pinion shaft type. For the dimensional outline drawing, refer to page B-306.

• Permissible torque at output shaft of gear head

Unit of permissible torque: upper (N·m) / lower (lb·in)														
Applicable gear head	Reduction ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25
Bearing														
MX6G□BA (ball bearing) MX6G□B (bearing) MX6G□MA (metal bearing) MX6G□M (bearing)	1200min ⁻¹	50Hz	0.072 (0.64)	0.087 (0.77)	0.12 (1.06)	0.14 (1.24)	0.18 (1.59)	0.21 (1.86)	0.24 (2.12)	0.29 (2.57)	0.36 (3.19)	0.43 (3.81)	0.48 (4.25)	0.60 (5.31)
		60Hz	0.072 (0.64)	0.087 (0.77)	0.12 (1.06)	0.14 (1.24)	0.18 (1.59)	0.21 (1.86)	0.24 (2.12)	0.29 (2.57)	0.36 (3.19)	0.43 (3.81)	0.48 (4.25)	0.60 (5.31)
	90min ⁻¹		0.072 (0.64)	0.087 (0.77)	0.12 (1.06)	0.14 (1.24)	0.18 (1.59)	0.21 (1.86)	0.24 (2.12)	0.29 (2.57)	0.36 (3.19)	0.43 (3.81)	0.48 (4.25)	0.60 (5.31)
	Rotational direction		Same as motor rotational direction											

Unit of permissible torque: upper (N·m) / lower (lb·in)													
Applicable gear head	Reduction ratio												Applicable decimal gear head
Bearing			Speed	30	36	50	60	75	90	100	120	150	180
MX6G□BA (ball bearing) MX6G□B (bearing) MX6G□MA (metal bearing) MX6G□M (bearing)	1200min ⁻¹	50Hz		0.65 (5.75)	0.78 (6.90)	1.09 (9.65)	1.30 (11.5)	1.63 (14.4)	1.98 (17.5)	2.18 (19.3)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)
		60Hz		0.65 (5.75)	0.78 (6.90)	1.09 (9.65)	1.30 (11.5)	1.63 (14.4)	1.98 (17.5)	2.18 (19.3)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)
	90min ⁻¹			0.65 (5.75)	0.78 (6.90)	1.09 (9.65)	1.30 (11.5)	1.63 (14.4)	1.98 (17.5)	2.18 (19.3)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)
	Rotational direction		Reverse to motor rotational direction										

Speed-torque characteristics



Connection diagram

* For the connection diagram showing wiring with the speed controller, refer to pages C-6 to C-35.

* Working range line

The working range line shows the working limit for the variable speed motor. The permissible torque should fall within the shaded portion. If you use the motor with the permissible torque exceeding the working range line (falling within the portion not shaded), the motor may be burned out due to a high temperature rise or the gear tooth may be damaged.

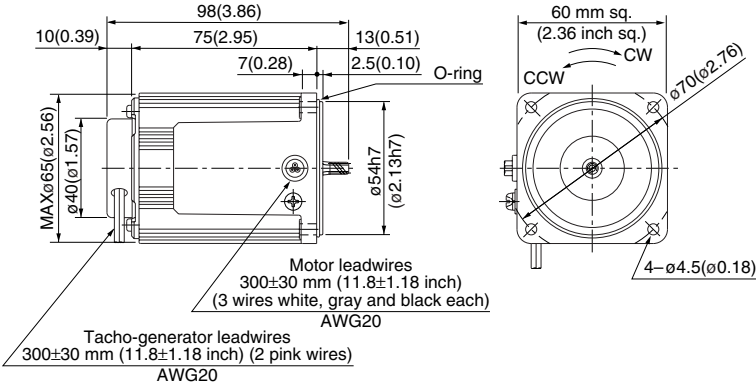
• Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

Scale: 1/3, Unit: mm (inch)

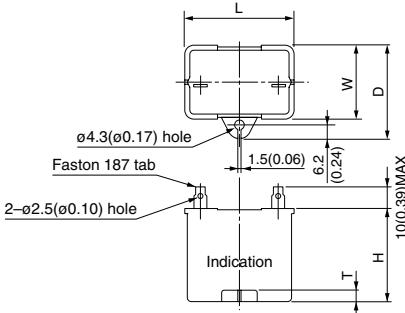
M6RX6GV4L	4P	6 W	100 V
M6RX6GV4Y	4P	6 W	200 V

Mass	Helical gear	Module	Number of teeth
0.71 kg 1.57 lb		0.5	6



Capacitor (dimensions) [attachment]

Unit: mm (inch)



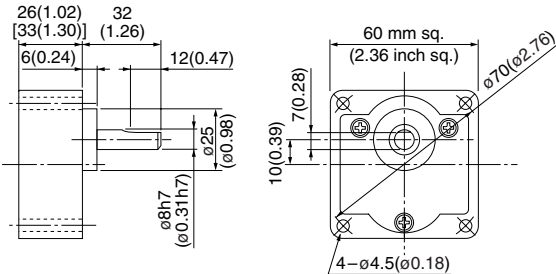
• Capacitor dimension list Unit: upper (mm) / lower (inch)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M6RX6GV4L	M0PC3M20	39.5 (1.56)	16 (0.63)	26.5 (1.04)	30.5 (1.20)	4 (0.16)	M0PC3917
M6RX6GV4Y	M0PC0.8M40	39.5 (1.56)	16.2 (0.64)	27 (1.06)	27 (1.06)	4 (0.16)	M0PC3917

Gear head (dimensions)

Scale: 1/3, Unit: mm (inch)

MX6G□BA (ball bearing) / MX6G□B (ball bearing)	Mass 0.24/0.3 kg (0.53/0.66 lb): Output shaft D cut
MX6G□MA (metal bearing) / MX6G□M (metal bearing)	Mass 0.24/0.3 kg (0.53/0.66 lb): Output shaft D cut



* Figures in [] represent the dimensions of MX6G□B (M) (1/30 or larger reduction ratio).
(The model number of the gear head with a reduction ratio of 1/25 or smaller is MX6G□BA (MA).)
(Note) Because the dimensions may be subject to change, also check the determinate dimensions if the gear head is to be used for design.

Variable speed reversible motor (leadwire)

c

60 mm (2.36 inch) sq.

6W

Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Variable speed range	Permissible Torque N·m (oz·in)		Starting current (A)	Starting torque N·m (oz·in)	Capacitor (μF) (rated voltage)
							Speed (min ⁻¹)	at 1200 min ⁻¹	at 90 min ⁻¹			
60 mm sq.	M6RX6GV4LG	4	6	100	50	30	90 to 1400	0.044 (6.23)	0.044 (6.23)	0.33	0.057 (8.07)	4 (250V)
	M6RX6GV4LGA				60		90 to 1700	0.034 (4.81)	0.034 (4.81)			
	M6RX6GV4DG	4	6	110	60	30	90 to 1700	0.034 (4.81)	0.034 (4.81)	0.34	0.051 (7.22)	3 (250V)
	M6RX6GV4DGA				60		90 to 1700	0.034 (4.81)	0.034 (4.81)			
	M6RX6GV4YG	4	6	200	50	30	90 to 1400	0.044 (6.23)	0.044 (6.23)	0.15	0.057 (8.07)	1 (450V)
	M6RX6GV4YGA				60		90 to 1700	0.034 (4.81)	0.034 (4.81)			
	M6RX6GV4GG M6RX6GV4GGA	4	6	220	50	30	90 to 1400	0.044 (6.23)	0.044 (6.23)	0.15	0.056 (7.93)	0.8 (450V)
					60		90 to 1700	0.034 (4.81)	0.034 (4.81)			
					50		90 to 1400	0.044 (6.23)	0.044 (6.23)			
					60		90 to 1700	0.034 (4.81)	0.034 (4.81)			
					50		90 to 1400	0.044 (6.23)	0.044 (6.23)			
					60		90 to 1700	0.034 (4.81)	0.034 (4.81)			

- The specifications and wire connections of the round shaft motor are the same as those of the pinion shaft type. For the dimensional outline drawing, refer to page B-306.
- The models with a motor model number to which "A" is suffixed are not equipped with a capacitor cap.
The models with a motor model number to which "A" is suffixed are not sold or available in Japan.

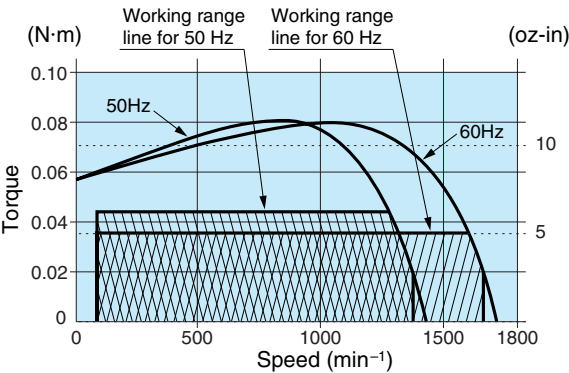
Permissible torque at output shaft of gear head

Unit of permissible torque: upper (N·m) / lower (lb·in)

Applicable gear head	Reduction ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25
Bearing														
MX6G□BA MX6G□B (ball bearing) MX6G□MA MX6G□M (metal bearing)	1200min ⁻¹	50Hz	0.11 (0.97)	0.13 (1.15)	0.18 (1.59)	0.21 (1.86)	0.27 (2.39)	0.32 (2.83)	0.36 (3.19)	0.45 (3.98)	0.53 (4.69)	0.64 (5.66)	0.71 (6.28)	0.89 (7.88)
		60Hz	0.083 (0.73)	0.10 (0.89)	0.14 (1.24)	0.17 (1.5)	0.21 (1.86)	0.25 (2.21)	0.28 (2.48)	0.34 (3.01)	0.41 (3.63)	0.50 (4.43)	0.55 (4.87)	0.69 (6.10)
	90min ⁻¹	50Hz	0.08 (0.71)	0.10 (0.89)	0.14 (1.24)	0.17 (1.5)	0.21 (1.86)	0.25 (2.21)	0.28 (2.48)	0.34 (3.01)	0.41 (3.63)	0.50 (4.43)	0.55 (4.87)	0.69 (6.10)
		60Hz	0.083 (0.73)	0.10 (0.89)	0.14 (1.24)	0.17 (1.5)	0.21 (1.86)	0.25 (2.21)	0.28 (2.48)	0.34 (3.01)	0.41 (3.63)	0.50 (4.43)	0.55 (4.87)	0.69 (6.10)
Rotational direction		Same as motor rotational direction												

Applicable gear head		Reduction ratio		30	36	50	60	75	90	100	120	150	180	Applicable decimal gear head
Bearing														
MX6G□BA MX6G□B MX6G□MA MX6G□M	(ball bearing) (bearing) (metal bearing) (bearing)	1200min ⁻¹	50Hz	0.96 (8.50)	1.15 (10.2)	1.60 (14.2)	1.92 (17.0)	2.41 (21.3)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	MX6G10XB	
			60Hz	0.74 (6.55)	0.89 (7.88)	1.24 (11.0)	1.49 (13.2)	1.86 (16.5)	2.23 (19.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)		
		90min ⁻¹	50Hz	0.74 (6.55)	0.89 (7.88)	1.24 (11.0)	1.49 (13.2)	1.86 (16.5)	2.23 (19.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)		
			60Hz	0.74 (6.55)	0.89 (7.88)	1.24 (11.0)	1.49 (13.2)	1.86 (16.5)	2.23 (19.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)		
	Rotational direction		Reverse to motor rotational direction											

Speed-torque characteristics



Connection diagram

* For the connection diagram showing wiring with the speed controller, refer to pages C-6 to C-35.

Working range line

The working range line shows the working limit for the variable speed motor. The permissible torque should fall within the shaded portion. If you use the motor with the permissible torque exceeding the working range line (falling within the portion not shaded), the motor may be burned out due to a high temperature rise or the gear tooth may be damaged.

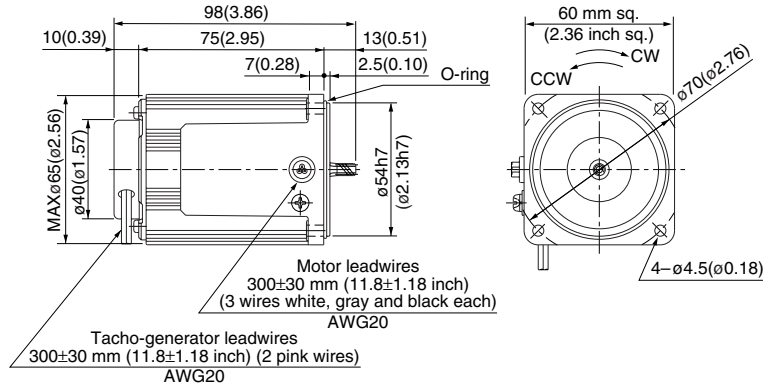
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

Scale: 1/3, Unit: mm (inch)

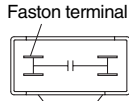
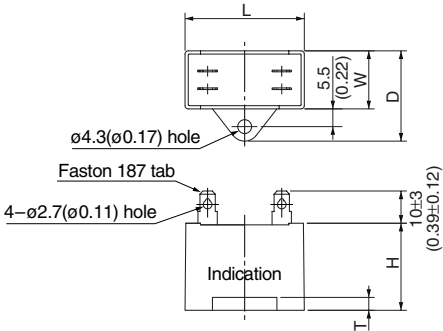
M6RX6GV4LG(A)	4P	6 W	100 V
M6RX6GV4DG(A)	4P	6 W	110 V / 115 V
M6RX6GV4YG(A)	4P	6 W	200 V
M6RX6GV4GG(A)	4P	6 W	220 V / 230 V

Mass	Helical gear	Module	Number of teeth
0.71 kg 1.57 lb		0.5	6



Capacitor (dimensions) [attachment]

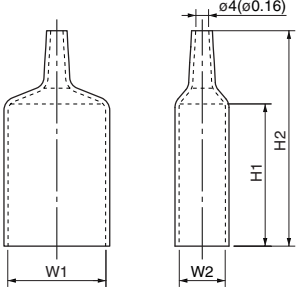
Unit: mm (inch)



Internal wiring diagram of capacitor

Capacitor cap (dimensions)

Unit: mm (inch)



Capacitor dimension list

Unit: upper (mm) / lower (inch)

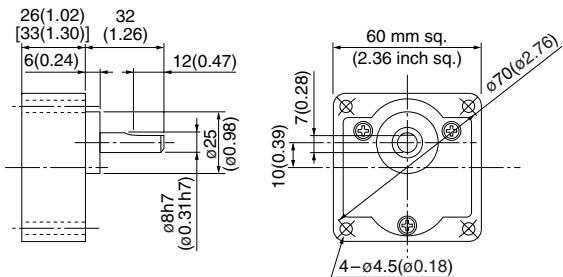
Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap	W1	W2	H1	H2
M6RX6GV4LG(A)	M0PC4M25G	37 (1.46)	18 (0.71)	28 (1.10)	27 (1.06)	4 (0.16)	M0PC3718G	37 (1.46)	18 (0.71)	50 (1.97)	73 (2.87)
M6RX6GV4DG(A)	M0PC3M25G	31 (1.22)	17 (0.67)	27 (1.06)	27 (1.06)	4 (0.16)	M0PC3117G	31 (1.22)	17 (0.67)	50 (1.97)	73 (2.87)
M6RX6GV4YG(A)	M0PC1M45G	37 (1.46)	18 (0.71)	28 (1.10)	27 (1.06)	4 (0.16)	M0PC3718G	37 (1.46)	18 (0.71)	50 (1.97)	73 (2.87)
M6RX6GV4GG(A)	M0PC0.8M45G	31 (1.22)	17 (0.67)	27 (1.06)	27 (1.06)	4 (0.16)	M0PC3117G	31 (1.22)	17 (0.67)	50 (1.97)	73 (2.87)

* The models with a motor model number to which "A" is suffixed are not equipped with a capacitor cap.

Gear head (dimensions)

Scale: 1/3, Unit: mm (inch)

MX6G□BA (ball bearing) / MX6G□B (ball bearing)	Mass 0.24/0.3 kg (0.53/0.66 lb): Output shaft D cut
MX6G□MA (metal bearing) / MX6G□M (metal bearing)	Mass 0.24/0.3 kg (0.53/0.66 lb): Output shaft D cut



* Figures in [] represent the dimensions of MX6G□B (M) (1/30 or larger reduction ratio).

(The model number of the gear head with a reduction ratio of 1/25 or smaller is MX6G□BA (MA).)

(Note) Because the dimensions may be subject to change, also check the determinate dimensions if the gear head is to be used for design.

Variable speed reversible motor (leadwire)

70 mm (2.76 inch) sq.10 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Variable speed range	Permissible Torque N·m (oz·in)		Starting current (A)	Starting torque N·m (oz·in)	Capacitor (μF) (rated voltage)
							Speed (min ⁻¹)	at 1200 min ⁻¹	at 90 min ⁻¹			
70 mm sq.	M7RX10GV4L	4	10	100	50	30	90 to 1400	0.059 (8.36)	0.034 (4.81)	0.41	0.049 (6.94)	4.5 (200V)
					60		90 to 1700	0.059 (8.36)	0.034 (4.81)	0.40	0.049 (6.94)	
	M7RX10GV4Y	4	10	200	50	30	90 to 1400	0.059 (8.36)	0.034 (4.81)	0.20	0.049 (6.94)	1.2 (400V)
					60		90 to 1700	0.059 (8.36)	0.034 (4.81)	0.21	0.049 (6.94)	

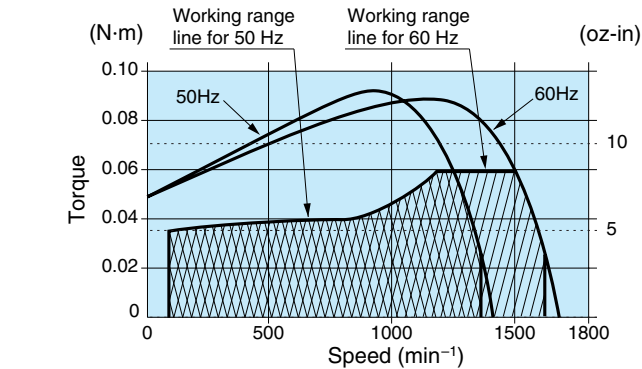
• The specifications and wire connections of the round shaft motor are the same as those of the pinion shaft type. For the dimensional outline drawing, refer to page B-306.

• Permissible torque at output shaft of gear head

Unit of permissible torque: upper (N·m) / lower (lb·in)														
Applicable gear head	Reduction ratio													
Bearing			Speed											
MX7G□BA (ball bearing) MX7G□B (bearing) MX7G□MA (metal bearing) MX7G□M (bearing)	1200min ⁻¹	50Hz		0.14 (1.24)	0.17 (1.50)	0.23 (2.04)	0.28 (2.48)	0.35 (3.10)	0.43 (3.81)	0.47 (4.16)	0.59 (5.22)	0.71 (6.28)	0.86 (7.61)	0.95 (8.41)
		60Hz		0.14 (1.24)	0.17 (1.50)	0.23 (2.04)	0.28 (2.48)	0.35 (3.10)	0.43 (3.81)	0.47 (4.16)	0.59 (5.22)	0.71 (6.28)	0.86 (7.61)	0.95 (8.41)
	90min ⁻¹			0.082 (0.73)	0.099 (0.88)	0.13 (1.15)	0.16 (1.42)	0.20 (1.77)	0.24 (2.12)	0.27 (2.39)	0.34 (3.01)	0.41 (3.63)	0.49 (4.34)	0.55 (4.87)
	Rotational direction		Same as motor rotational direction											

Applicable gear head		Reduction ratio		30	36	50	60	75	90	100	120	150	180	Applicable decimal gear head
Bearing														
MX7G□BA (ball bearing) MX7G□B (bearing) MX7G□MA (metal bearing) MX7G□M (bearing)	1200min ⁻¹	50Hz	1.29 (11.4)	1.54 (13.6)	2.15 (19.0)	2.58 (22.8)	3.22 (28.5)	3.87 (34.2)	4.30 (38.1)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	MX7G10XB	
		60Hz	1.29 (11.4)	1.54 (13.6)	2.15 (19.0)	2.58 (22.8)	3.22 (28.5)	3.87 (34.2)	4.30 (38.1)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)		
	90min ⁻¹		0.74 (6.55)	0.98 (8.67)	1.23 (10.9)	1.48 (13.1)	1.85 (16.4)	2.22 (19.6)	2.47 (21.9)	2.96 (26.2)	3.70 (32.7)	4.44 (39.3)		
	Rotational direction		Reverse to motor rotational direction											

Speed-torque characteristics



• Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Connection diagram

* For the connection diagram showing wiring with the speed controller, refer to pages C-6 to C-35.

* Working range line

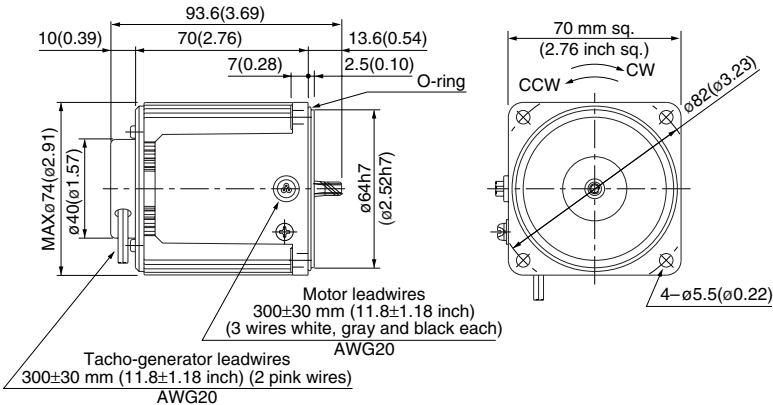
The working range line shows the working limit for the variable speed motor. The permissible torque should fall within the shaded portion. If you use the motor with the permissible torque exceeding the working range line (falling within the portion not shaded), the motor may be burned out due to a high temperature rise or the gear tooth may be damaged.

Motor (dimensions)

M7RX10GV4L	4P	10 W	100 V
M7RX10GV4Y	4P	10 W	200 V

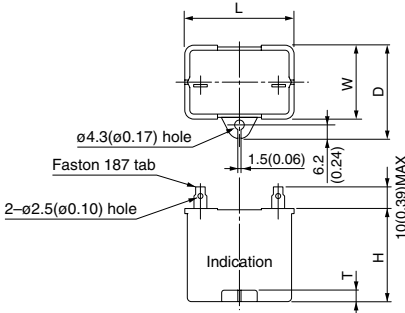
Scale: 1/3, Unit: mm (inch)

Mass	Helical gear	Module	Number of teeth
0.88 kg 1.94 lb		0.5	7



Capacitor (dimensions) [attachment]

Unit: mm (inch)



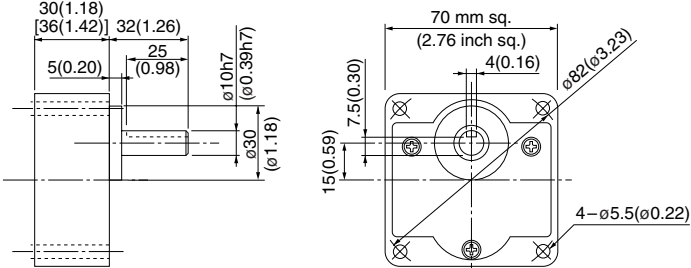
• Capacitor dimension list Unit: upper (mm) / lower (inch)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M7RX10GV4L	M0PC4.5M20	39.5 (1.56)	16 (0.63)	26.5 (1.04)	30.5 (1.20)	4 (0.16)	M0PC3917
M7RX10GV4Y	M0PC1.2M40	39.5 (1.56)	18.3 (0.72)	29 (1.14)	29 (1.14)	4 (0.16)	M0PC3922

Gear head (dimensions)

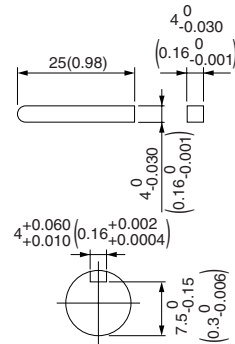
Scale: 1/3, Unit: mm (inch)

MX7G□BA (ball bearing) / MX7G□B (ball bearing)	Mass 0.38/0.45 kg (0.84/0.99 lb)
MX7G□MA (metal bearing) / MX7G□M (metal bearing)	Mass 0.38/0.45 kg (0.84/0.99 lb)



Key and keyway (dimensions) [attachment]

MX7G□BA(B)	4 0 0.030 0 0.16 -0.001
MX7G□MA(M)	4 0 0.030 0 0.16 -0.001



* Figures in [] represent the dimensions of MX7G□B (M) (1/30 or larger reduction ratio).

(The model number of the gear head with a reduction ratio of 1/25 or smaller is MX7G□BA (MA).)

(Note) Because the dimensions may be subject to change, also check the determinate dimensions if the gear head is to be used for design.

Variable speed reversible motor (leadwire)

70 mm (2.76 inch) sq.15 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Variable speed range	Permissible Torque N·m (oz·in)		Starting current (A)	Starting torque N·m (oz·in)	Capacitor (μF) (rated voltage)
							Speed (min ⁻¹)	at 1200 min ⁻¹	at 90 min ⁻¹			
70 mm sq.	M7RX15GV4L	4	15	100	50	30	90 to 1400	0.098 (13.9)	0.046 (6.51)	0.59	0.080 (11.3)	6 (200V)
					60		90 to 1700	0.098 (13.9)	0.046 (6.51)	0.57	0.080 (11.3)	
	M7RX15GV4Y	4	15	200	50	30	90 to 1400	0.098 (13.9)	0.046 (6.51)	0.30	0.080 (11.3)	1.5 (400V)
					60		90 to 1700	0.098 (13.9)	0.046 (6.51)	0.30	0.080 (11.3)	

• The specifications and wire connections of the round shaft motor are the same as those of the pinion shaft type. For the dimensional outline drawing, refer to page B-306.

• Permissible torque at output shaft of gear head

Unit of permissible torque: upper (N·m) / lower (lb·in)														
Applicable gear head	Reduction ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25
Bearing														
MX7G□BA (ball bearing) MX7G□B (bearing) MX7G□MA (metal bearing) MX7G□M (bearing)	1200min ⁻¹	50Hz	0.23 (2.04)	0.28 (2.48)	0.39 (3.45)	0.47 (4.16)	0.59 (5.22)	0.71 (6.28)	0.79 (6.99)	0.99 (8.76)	1.19 (10.5)	1.42 (12.6)	1.58 (14.0)	1.98 (17.5)
		60Hz	0.23 (2.04)	0.28 (2.48)	0.39 (3.45)	0.47 (4.16)	0.59 (5.22)	0.71 (6.28)	0.79 (6.99)	0.99 (8.76)	1.19 (10.5)	1.42 (12.6)	1.58 (14.0)	1.98 (17.5)
	90min ⁻¹		0.11 (0.97)	0.13 (1.15)	0.18 (1.59)	0.22 (1.95)	0.27 (2.39)	0.33 (2.92)	0.37 (3.27)	0.46 (4.07)	0.55 (4.87)	0.66 (5.84)	0.74 (6.55)	0.93 (8.23)
	Rotational direction		Same as motor rotational direction											

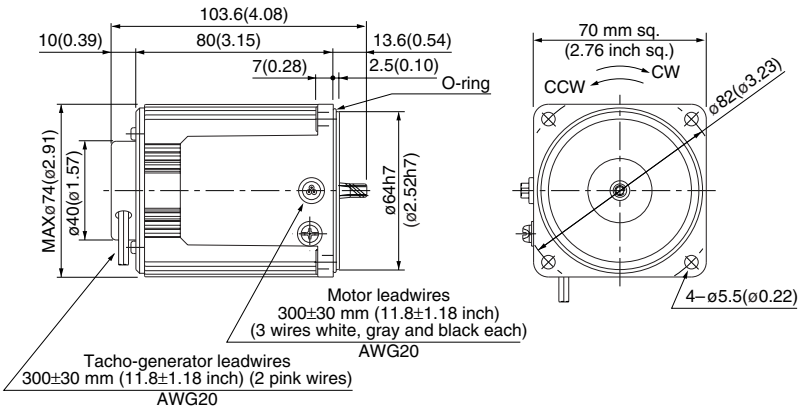
Applicable gear head	Reduction ratio		30	36	50	60	75	90	100	120	150	180	Applicable decimal gear head
Bearing	Speed												
MX7G□BA (ball bearing) MX7G□B (bearing) MX7G□MA (metal bearing) MX7G□M (bearing)	1200min ⁻¹	50Hz	2.13 (18.9)	2.56 (22.7)	3.56 (31.5)	4.27 (37.8)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	MX7G10XB
		60Hz	2.13 (18.9)	2.56 (22.7)	3.56 (31.5)	4.27 (37.8)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	
	90min ⁻¹		1.00 (8.85)	1.20 (10.6)	1.67 (14.8)	2.00 (17.7)	2.50 (22.1)	3.00 (26.6)	3.34 (29.6)	4.00 (35.4)	4.90 (43.4)	4.90 (43.4)	
	Rotational direction		Reverse to motor rotational direction										

Motor (dimensions)

Scale: 1/3, Unit: mm (inch)

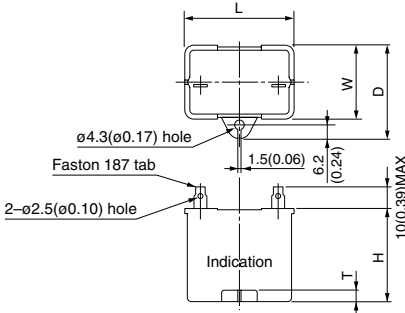
M7RX15GV4L	4P	15 W	100 V
M7RX15GV4Y	4P	15 W	200 V

Mass	Helical gear	Module	Number of teeth
1.1 kg 2.43 lb		0.5	7



Capacitor (dimensions) [attachment]

Unit: mm (inch)



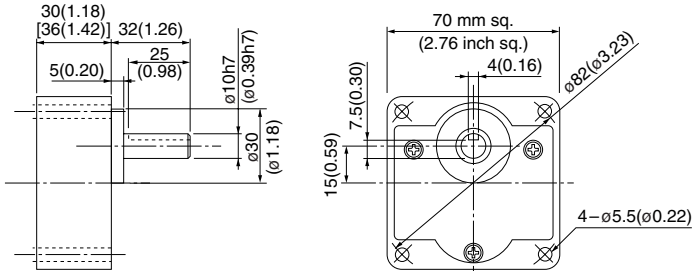
• Capacitor dimension list Unit: upper (mm) / lower (inch)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M7RX15GV4L	M0PC6M20	39.5 (1.56)	17.5 (0.69)	28 (1.10)	30.5 (1.20)	4 (0.16)	M0PC3917
M7RX15GV4Y	M0PC1.5M40	39.5 (1.56)	22 (0.87)	32.5 (1.28)	32.5 (1.28)	4 (0.16)	M0PC3922

Gear head (dimensions)

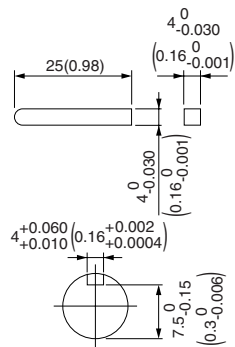
Scale: 1/3, Unit: mm (inch)

MX7G□BA (ball bearing) / MX7G□B (ball bearing)	Mass 0.38/0.45 kg (0.84/0.99 lb)
MX7G□MA (metal bearing) / MX7G□M (metal bearing)	Mass 0.38/0.45 kg (0.84/0.99 lb)



Key and keyway (dimensions) [attachment]

MX7G□BA(B)
MX7G□MA(M)

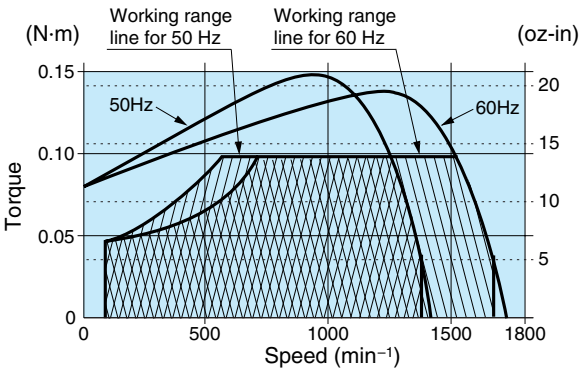


* Figures in [] represent the dimensions of MX7G□B (M) (1/30 or larger reduction ratio).

(The model number of the gear head with a reduction ratio of 1/25 or smaller is MX7G□BA (MA).)

(Note) Because the dimensions may be subject to change, also check the determinate dimensions if the gear head is to be used for design.

Speed-torque characteristics



Connection diagram

* For the connection diagram showing wiring with the speed controller, refer to pages C-6 to C-35.

* Working range line

The working range line shows the working limit for the variable speed motor. The permissible torque should fall within the shaded portion. If you use the motor with the permissible torque exceeding the working range line (falling within the portion not shaded), the motor may be burned out due to a high temperature rise or the gear tooth may be damaged.

* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Variable speed reversible motor (leadwire)

c

70 mm (2.76 inch) sq.

15 W

Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Variable speed range	Permissible Torque N-m (oz-in)		Starting current (A)	Starting torque N-m (oz-in)	Capacitor (μF) (rated voltage)	
							Speed (min ⁻¹)	at 1200 min ⁻¹	at 90 min ⁻¹				
70 mm sq.	M7RX15GV4LG	4	15	100	50	30	90 to 1400	0.11 (15.6)	0.069 (9.77)	0.58	0.088 (12.5)	6.5 (250V)	
	M7RX15GV4LGA			60	90 to 1700		0.088 (12.5)	0.069 (9.77)					
	M7RX15GV4DG	4	15	110	60	30	90 to 1700	0.088 (12.5)	0.069 (9.77)	0.60	0.088 (12.5)	5.5 (250V)	
	M7RX15GV4DGA			115	60		90 to 1700	0.088 (12.5)	0.069 (9.77)				
	M7RX15GV4YG	4	15	200	50	30	90 to 1400	0.11 (15.6)	0.069 (9.77)	0.27	0.088 (12.5)	1.7 (450V)	
	M7RX15GV4YGA			60	90 to 1700		0.088 (12.5)	0.069 (9.77)					
	M7RX15GV4GG M7RX15GV4GGA	4	15	220	50	30	90 to 1400	0.11 (15.6)	0.069 (9.77)	0.27	0.082 (11.6)	1.3 (450V)	
				60	90 to 1700		0.088 (12.5)	0.069 (9.77)					
				230	50		90 to 1400	0.11 (15.6)	0.069 (9.77)	0.28	0.10 (14.2)		
					60		90 to 1700	0.088 (12.5)	0.069 (9.77)				
					50		90 to 1400	0.11 (15.6)	0.069 (9.77)				
					60		90 to 1700	0.088 (12.5)	0.069 (9.77)				

- The specifications and wire connections of the round shaft motor are the same as those of the pinion shaft type. For the dimensional outline drawing, refer to page B-306.
- The models with a motor model number to which "A" is suffixed are not equipped with a capacitor cap.
The models with a motor model number to which "A" is suffixed are not sold or available in Japan.

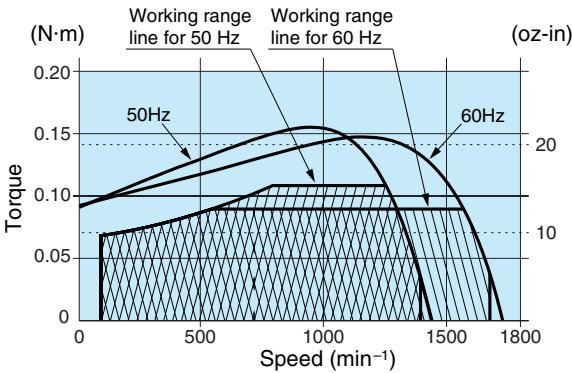
Permissible torque at output shaft of gear head

Unit of permissible torque: upper (N·m) / lower (lb·in)

Applicable gear head	Reduction ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25
MX7G□BA (ball bearing) MX7G□B (bearing) MX7G□MA (metal bearing) MX7G□M (bearing)	1200min ⁻¹	50Hz	0.27 (2.39)	0.32 (2.83)	0.45 (3.98)	0.53 (4.69)	0.67 (5.93)	0.80 (7.08)	0.89 (7.88)	1.11 (9.82)	1.34 (11.9)	1.60 (14.2)	1.78 (15.8)	2.23 (19.7)
		60Hz	0.21 (1.86)	0.26 (2.30)	0.36 (3.19)	0.43 (3.81)	0.53 (4.69)	0.64 (5.66)	0.71 (6.28)	0.89 (7.88)	1.07 (9.47)	1.28 (11.3)	1.43 (12.7)	1.78 (15.8)
	90min ⁻¹		0.17 (1.50)	0.20 (1.77)	0.28 (2.48)	0.34 (3.01)	0.42 (3.72)	0.50 (4.43)	0.56 (4.96)	0.70 (6.20)	0.84 (7.43)	1.01 (8.94)	1.12 (9.91)	1.40 (12.4)
	Rotational direction		Same as motor rotational direction											

Applicable gear head	Reduction ratio		30	36	50	60	75	90	100	120	150	180	Applicable decimal gear head
Bearing	Speed												
MX7G□BA (ball bearing) MX7G□B (bearing) MX7G□MA (metal bearing) MX7G□M (bearing)	1200min ⁻¹	50Hz	2.41 (21.3)	2.89 (25.6)	4.01 (35.5)	4.81 (42.6)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	MX7G10XB
		60Hz	1.92 (17.0)	2.31 (20.4)	3.21 (28.4)	3.85 (34.1)	4.81 (42.6)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	
	90min ⁻¹		1.51 (13.4)	1.81 (16.0)	2.52 (22.3)	3.02 (26.7)	3.77 (33.4)	4.53 (40.1)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	
	Rotational direction		Reverse to motor rotational direction										

Speed-torque characteristics



Connection diagram

* For the connection diagram showing wiring with the speed controller, refer to pages C-6 to C-35.

Working range line

The working range line shows the working limit for the variable speed motor. The permissible torque should fall within the shaded portion. If you use the motor with the permissible torque exceeding the working range line (falling within the portion not shaded), the motor may be burned out due to a high temperature rise or the gear tooth may be damaged.

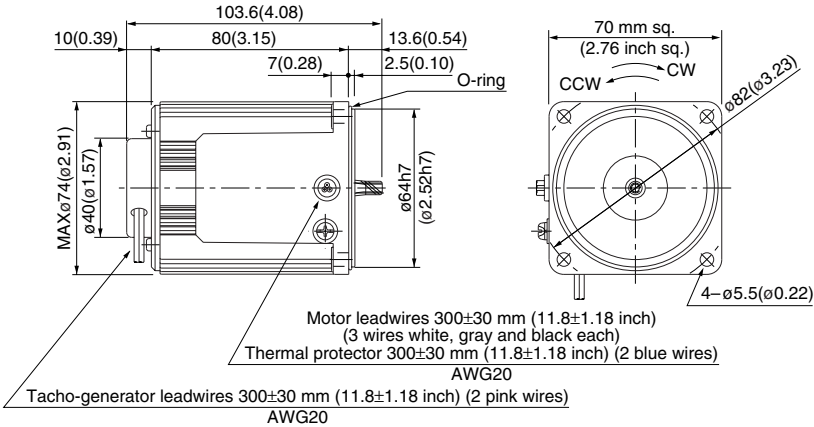
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

Scale: 1/3, Unit: mm (inch)

M7RX15GV4LG(A)	4P	15 W	100 V
M7RX15GV4DG(A)	4P	15 W	110 V / 115 V
M7RX15GV4YG(A)	4P	15 W	200 V
M7RX15GV4GG(A)	4P	15 W	220 V / 230 V

Mass	Helical gear	Module	Number of teeth
1.1 kg 2.43 lb		0.5	7

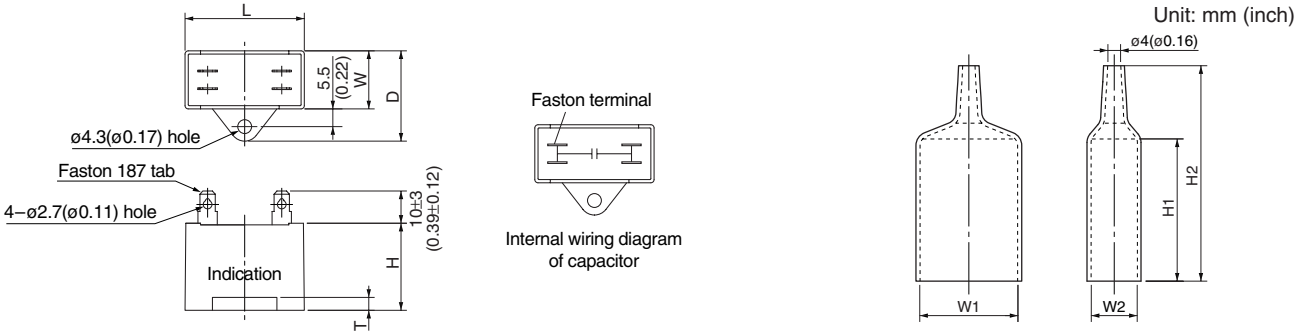


Capacitor (dimensions) [attachment]

Unit: mm (inch)

Capacitor cap (dimensions)

Unit: mm (inch)



Capacitor dimension list

Unit: upper (mm) / lower (inch)

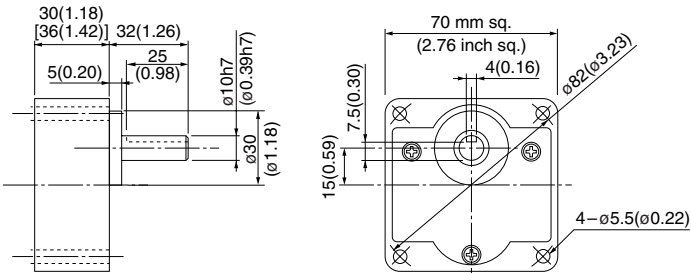
Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap	W1	W2	H1	H2
M7RX15GV4LG(A)	M0PC6.5M25G	48 (1.89)	19 (0.75)	29 (1.14)	29 (1.14)	4 (0.16)	M0PC4819G	48 (1.89)	19 (0.75)	55 (2.17)	78 (3.07)
M7RX15GV4DG(A)	M0PC5.5M25G	38 (1.50)	21 (0.83)	31 (1.22)	31 (1.22)	4 (0.16)	M0PC3821G	38 (1.50)	21 (0.83)	55 (2.17)	78 (3.07)
M7RX15GV4YG(A)	M0PC1.7M45G	38 (1.50)	21 (0.83)	31 (1.22)	31 (1.22)	4 (0.16)	M0PC3821G	38 (1.50)	21 (0.83)	55 (2.17)	78 (3.07)
M7RX15GV4GG(A)	M0PC1.3M45G	38 (1.50)	19 (0.75)	29 (1.14)	29 (1.14)	4 (0.16)	M0PC3819G	38 (1.50)	19 (0.75)	50 (1.97)	73 (2.87)

* The models with a motor model number to which "A" is suffixed are not equipped with a capacitor cap.

Gear head (dimensions)

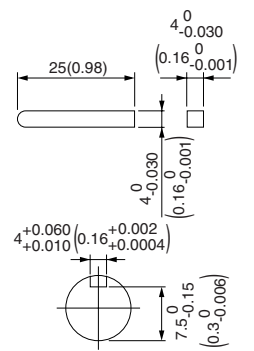
Scale: 1/3, Unit: mm (inch)

MX7G□BA (ball bearing) / MX7G□B (ball bearing)	Mass 0.38/0.45 kg (0.84/0.99 lb)
MX7G□MA (metal bearing) / MX7G□M (metal bearing)	Mass 0.38/0.45 kg (0.84/0.99 lb)



Key and keyway (dimensions) [attachment]

MX7G□BA(B)
MX7G□MA(M)



* Figures in [] represent the dimensions of MX7G□B (M) (1/30 or larger reduction ratio).

(The model number of the gear head with a reduction ratio of 1/25 or smaller is MX7G□BA (MA).)

(Note) Because the dimensions may be subject to change, also check the determinate dimensions if the gear head is to be used for design.

Variable speed reversible motor (leadwire)

80 mm (3.15 inch) sq.20 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Variable speed range	Permissible Torque N·m (oz·in)		Starting current (A)	Starting torque N·m (oz·in)	Capacitor (μF) (rated voltage)
							Speed (min ⁻¹)	at 1200 min ⁻¹	at 90 min ⁻¹			
80 mm sq.	M8RX20GV4L	4	20	100	50	30	90 to 1400	0.12 (17.0)	0.049 (6.94)	0.73	0.12 (17.0)	7 (200V)
					60		90 to 1700	0.12 (17.0)	0.049 (6.94)	0.71	0.12 (17.0)	
	M8RX20GV4Y	4	20	200	50	30	90 to 1400	0.12 (17.0)	0.049 (6.94)	0.36	0.12 (17.0)	1.8 (400V)
					60		90 to 1700	0.12 (17.0)	0.049 (6.94)	0.36	0.12 (17.0)	

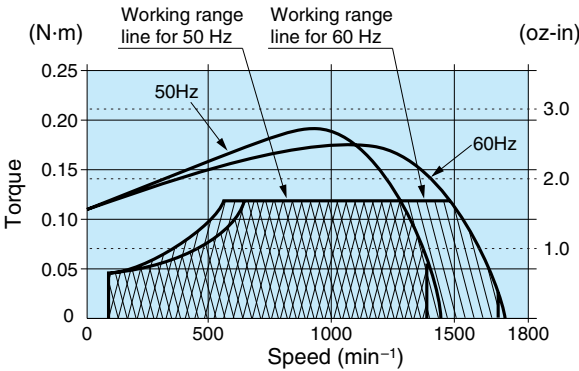
• The specifications and wire connections of the round shaft motor are the same as those of the pinion shaft type. For the dimensional outline drawing, refer to page B-306.

• Permissible torque at output shaft of gear head

Unit of permissible torque: upper (N·m) / lower (lb·in)														
Applicable gear head	Reduction ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25
Bearing														
MX8G□B (ball bearing) MX8G□M (metal bearing)	1200min ⁻¹	50Hz	0.29 (2.57)	0.34 (3.01)	0.48 (4.25)	0.58 (5.13)	0.72 (6.37)	0.87 (7.70)	0.97 (8.59)	1.21 (10.7)	1.45 (12.8)	1.74 (15.4)	1.94 (17.2)	2.43 (21.5)
		60Hz	0.29 (2.57)	0.34 (3.01)	0.48 (4.25)	0.58 (5.13)	0.72 (6.37)	0.87 (7.70)	0.97 (8.59)	1.21 (10.7)	1.45 (12.8)	1.74 (15.4)	1.94 (17.2)	2.43 (21.5)
	90min ⁻¹		0.11 (0.97)	0.14 (1.24)	0.19 (1.68)	0.23 (2.04)	0.29 (2.57)	0.35 (3.10)	0.39 (3.45)	0.49 (4.34)	0.59 (5.22)	0.71 (6.28)	0.79 (6.99)	0.99 (8.76)
	Rotational direction		Same as motor rotational direction											

Applicable gear head	Reduction ratio												Applicable decimal gear head
Bearing	Speed		30	36	50	60	75	90	100	120	150	180	
MX8G□B (ball bearing) MX8G□M (metal bearing)	1200min ⁻¹	50Hz	2.62 (23.2)	3.14 (27.8)	4.37 (38.7)	5.24 (46.4)	6.55 (58.0)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)	MX8G10XB
		60Hz	2.62 (23.2)	3.14 (27.8)	4.37 (38.7)	5.24 (46.4)	6.55 (58.0)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)	
	90min ⁻¹		1.19 (10.5)	1.42 (12.6)	1.98 (17.5)	2.38 (21.1)	2.97 (26.3)	3.57 (31.6)	3.97 (35.1)	4.76 (42.1)	5.95 (52.7)	7.14 (63.2)	
	Rotational direction		Reverse to motor rotational direction										

Speed-torque characteristics



Connection diagram

* For the connection diagram showing wiring with the speed controller, refer to pages C-6 to C-35.

* Working range line

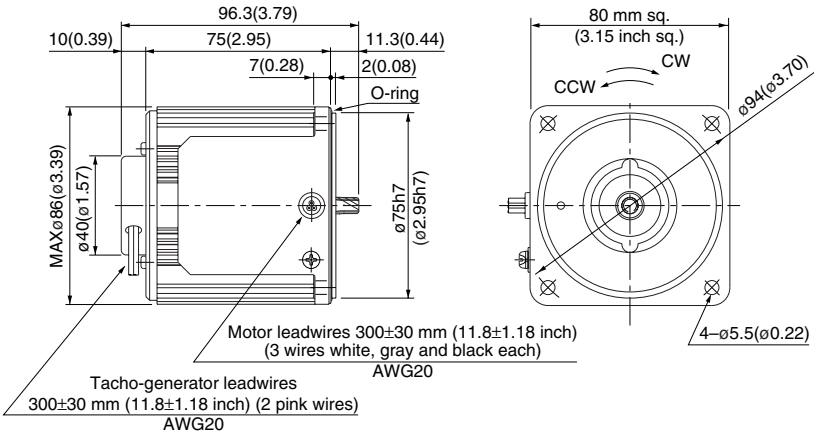
The working range line shows the working limit for the variable speed motor. The permissible torque should fall within the shaded portion. If you use the motor with the permissible torque exceeding the working range line (falling within the portion not shaded), the motor may be burned out due to a high temperature rise or the gear tooth may be damaged.

Motor (dimensions)

M8RX20GV4L	4P	20 W	100 V
M8RX20GV4Y	4P	20 W	200 V

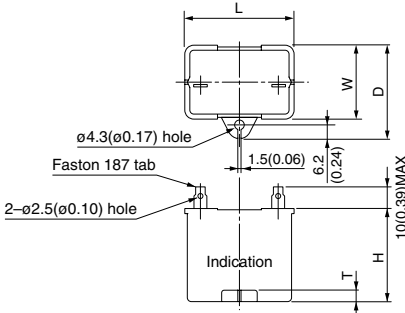
Scale: 1/3, Unit: mm (inch)

Mass	Helical gear	Module	Number of teeth
1.2 kg 2.65 lb		0.5	9



Capacitor (dimensions) [attachment]

Unit: mm (inch)



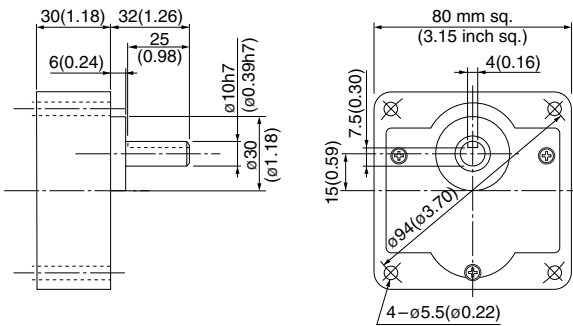
• Capacitor dimension list Unit: upper (mm) / lower (inch)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M8RX20GV4L	M0PC7M20	39.5 (1.56)	22 (0.87)	32.5 (1.28)	30.5 (1.20)	4 (0.16)	M0PC3922
M8RX20GV4Y	M0PC1.8M40	39.5 (1.56)	22 (0.87)	32.5 (1.28)	32.5 (1.28)	4 (0.16)	M0PC3922

Gear head (dimensions)

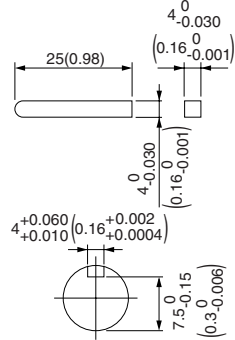
Scale: 1/3, Unit: mm (inch)

MX8G□B (ball bearing) / MX8G□M (metal bearing) Mass 0.6 kg (1.32 lb)



Key and keyway (dimensions) [attachment]

MX8G□B(M)



* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

(Note) Because the dimensions may be subject to change, also check the determinate dimensions if the gear head is to be used for design.

Variable speed reversible motor (leadwire)

80 mm (3.15 inch) sq.25 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Variable speed range	Permissible Torque N·m (oz·in)		Starting current (A)	Starting torque N·m (oz·in)	Capacitor (μF) (rated voltage)
							Speed (min ⁻¹)	at 1200 min ⁻¹	at 90 min ⁻¹			
80 mm sq.	M8RX25GV4L	4	25	100	50	30	90 to 1400	0.15 (21.2)	0.088 (12.5)	1.0	0.16 (22.7)	9.5 (200V)
					60		90 to 1700	0.15 (21.2)	0.088 (12.5)	1.0	0.16 (22.7)	
	M8RX25GV4Y	4	25	200	50	30	90 to 1400	0.15 (21.2)	0.088 (12.5)	0.5	0.16 (22.7)	2.4 (400V)
					60		90 to 1700	0.15 (21.2)	0.088 (12.5)	0.5	0.16 (22.7)	

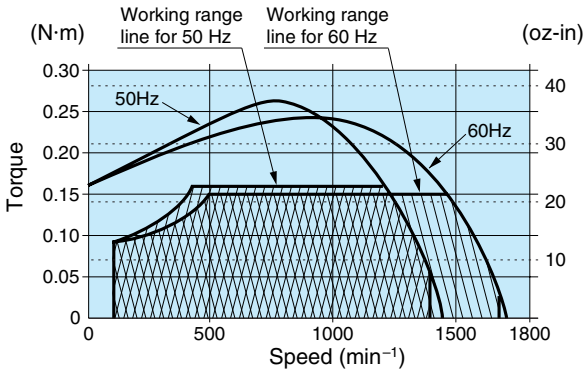
• The specifications and wire connections of the round shaft motor are the same as those of the pinion shaft type. For the dimensional outline drawing, refer to page B-306.

• Permissible torque at output shaft of gear head

Unit of permissible torque: upper (N·m) / lower (lb·in)														
Applicable gear head	Reduction ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25
Bearing														
MX8G□B (ball bearing) MX8G□M (metal bearing)	1200min ⁻¹	50Hz	0.34 (3.01)	0.40 (3.54)	0.56 (4.96)	0.68 (6.02)	0.85 (7.52)	1.02 (9.03)	1.13 (10.0)	1.41 (12.5)	1.70 (15.0)	2.04 (18.1)	2.26 (20.0)	2.83 (25.1)
		60Hz	0.34 (3.01)	0.40 (3.54)	0.56 (4.96)	0.68 (6.02)	0.85 (7.52)	1.02 (9.03)	1.13 (10.0)	1.41 (12.5)	1.70 (15.0)	2.04 (8.1)	2.26 (20.0)	2.83 (25.1)
	90min ⁻¹		0.094 (0.83)	0.11 (0.97)	0.15 (1.33)	0.18 (1.59)	0.23 (2.04)	0.28 (2.48)	0.31 (2.74)	0.39 (3.45)	0.47 (4.16)	0.56 (4.96)	0.63 (5.58)	0.78 (6.90)
	Rotational direction		Same as motor rotational direction											

Applicable gear head	Reduction ratio		30	36	50	60	75	90	100	120	150	180	Applicable decimal gear head	
Bearing	Speed													
MX8G□B (ball bearing) MX8G□M (metal bearing)	1200min ⁻¹	50Hz	3.06 (27.1)	3.67 (32.5)	5.10 (45.1)	6.12 (54.2)	7.65 (67.7)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)		MX8G10XB
		60Hz	3.06 (27.1)	3.67 (32.5)	5.10 (45.1)	6.12 (54.2)	7.65 (67.7)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)		
	90min ⁻¹		0.84 (7.43)	1.01 (8.94)	1.41 (12.5)	1.69 (15.0)	2.12 (18.8)	2.54 (22.5)	2.83 (25.0)	3.39 (30.0)	4.24 (37.5)	5.09 (45.1)		
	Rotational direction		Reverse to motor rotational direction											

Speed-torque characteristics



Connection diagram

* For the connection diagram showing wiring with the speed controller, refer to pages C-6 to C-35.

* Working range line

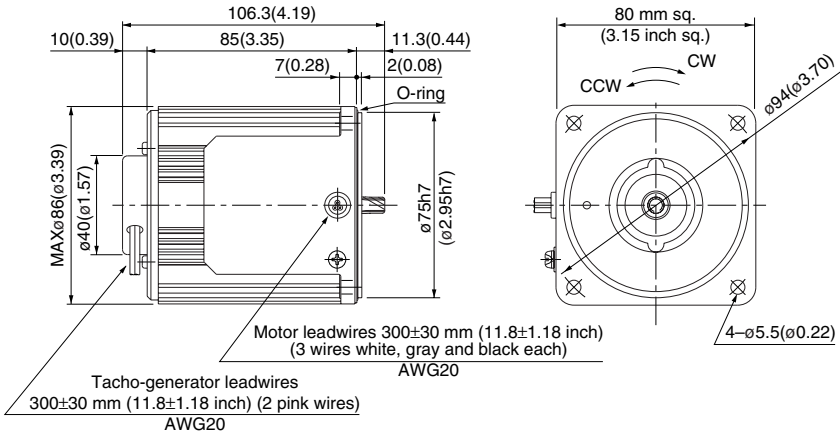
The working range line shows the working limit for the variable speed motor. The permissible torque should fall within the shaded portion. If you use the motor with the permissible torque exceeding the working range line (falling within the portion not shaded), the motor may be burned out due to a high temperature rise or the gear tooth may be damaged.

Motor (dimensions)

Scale: 1/3, Unit: mm (inch)

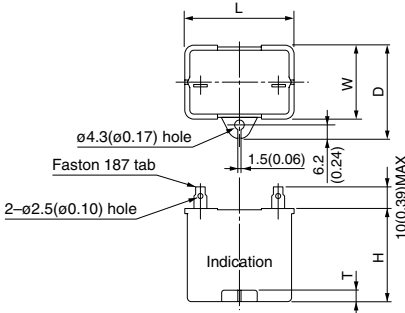
M8RX25GV4L	4P	25 W	100 V
M8RX25GV4Y	4P	25 W	200 V

Mass	Helical gear	Module	Number of teeth
1.5 kg 3.31 lb		0.5	9



Capacitor (dimensions) [attachment]

Unit: mm (inch)



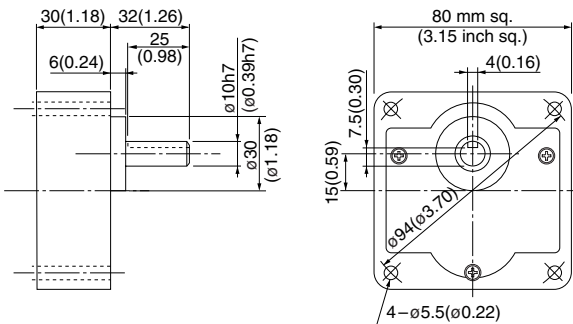
• Capacitor dimension list Unit: upper (mm) / lower (inch)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M8RX25GV4L	M0PC9.5M20	39.5 (1.56)	22 (0.87)	32.5 (1.28)	30.5 (1.20)	4 (0.16)	M0PC3922
M8RX25GV4Y	M0PC2.4M40	49.7 (1.96)	24 (0.94)	34.5 (1.36)	34.5 (1.36)	4 (0.16)	M0PC5026

Gear head (dimensions)

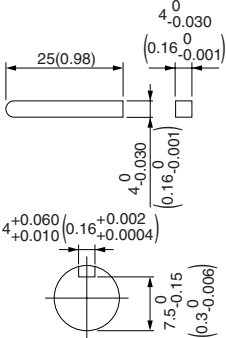
Scale: 1/3, Unit: mm (inch)

MX8G□B (ball bearing) / MX8G□M (metal bearing) Mass 0.6 kg (1.32 lb)



Key and keyway (dimensions) [attachment]

MX8G□B(M)



* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

(Note) Because the dimensions may be subject to change, also check the determinate dimensions if the gear head is to be used for design.

Variable speed reversible motor (leadwire)

US

80 mm (3.15 inch) sq.

25 W

Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Variable speed range	Permissible Torque N·m (oz·in)		Starting current (A)	Starting torque N·m (oz·in)	Capacitor (μF) (rated voltage)
							Speed (min ⁻¹)	at 1200 min ⁻¹	at 90 min ⁻¹			
80 mm sq.	M8RX25GV4LG M8RX25GV4LGA	4	25	100	50	30	90 to 1400	0.19 (26.9)	0.11 (15.6)	1.1	0.17 (24.1)	10 (250V)
					60		90 to 1700	0.15 (21.2)	0.11 (15.6)	1.1	0.17 (24.1)	8 (250V)
	M8RX25GV4DG M8RX25GV4DGA	4	25	110	60	30	90 to 1700	0.15 (21.2)	0.11 (15.6)	1.1	0.16 (22.7)	8 (250V)
					60		90 to 1700	0.15 (21.2)	0.11 (15.6)	1.2	0.17 (24.1)	2.5 (450V)
	M8RX25GV4YG M8RX25GV4YGA	4	25	200	50	30	90 to 1400	0.19 (26.9)	0.11 (15.6)	0.45	0.17 (24.1)	2 (450V)
					60		90 to 1700	0.15 (21.2)	0.11 (15.6)	0.46	0.17 (24.1)	2 (450V)
	M8RX25GV4GG M8RX25GV4GGA	4	25	220	50	30	90 to 1400	0.19 (26.9)	0.11 (15.6)	0.47	0.16 (22.7)	2 (450V)
					60		90 to 1700	0.15 (21.2)	0.11 (15.6)	0.46	0.16 (22.7)	
					50		90 to 1400	0.19 (26.9)	0.11 (15.6)	0.49	0.17 (24.1)	
					60		90 to 1700	0.15 (21.2)	0.11 (15.6)	0.48	0.17 (24.1)	
					50		90 to 1700	0.15 (21.2)	0.11 (15.6)			
					60		90 to 1700	0.15 (21.2)	0.11 (15.6)			

• The specifications and wire connections of the round shaft motor are the same as those of the pinion shaft type. For the dimensional outline drawing, refer to page B-306.

• The models with a motor model number to which "A" is suffixed are not equipped with a capacitor cap.

The models with a motor model number to which "A" is suffixed are not sold or available in Japan.

Permissible torque at output shaft of gear head

Unit of permissible torque: upper (N·m) / lower (lb·in)

Applicable gear head	Reduction ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25
Bearing	Speed													
MX8G□B (ball bearing)	1200min ⁻¹	50Hz	0.46 (4.07)	0.55 (4.87)	0.77 (6.82)	0.92 (8.14)	1.15 (10.2)	1.39 (12.3)	1.54 (13.6)	1.92 (17.0)	2.31 (20.4)	2.77 (24.5)	3.08 (27.3)	3.85 (34.1)
		60Hz	0.36 (3.19)	0.44 (3.89)	0.61 (5.40)	0.73 (6.46)	0.91 (8.05)	1.09 (9.65)	1.22 (10.8)	1.52 (13.5)	1.82 (16.1)	2.19 (19.4)	2.43 (21.5)	3.04 (26.9)
MX8G□M (metal bearing)	90min ⁻¹		0.27 (2.39)	0.32 (2.83)	0.45 (3.98)	0.53 (4.69)	0.67 (5.93)	0.80 (7.08)	0.89 (7.88)	1.11 (9.82)	1.34 (11.9)	1.60 (14.2)	1.78 (15.8)	2.23 (19.7)
	Rotational direction		Same as motor rotational direction											

Applicable gear head	Reduction ratio		30	36	50	60	75	90	100	120	150	180	Applicable decimal gear head
Bearing	Speed												
MX8G□B (ball bearing)	1200min ⁻¹	50Hz	4.16 (36.8)	4.99 (44.2)	6.93 (61.3)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)	MX8G10XB
		60Hz	3.28 (29.0)	3.94 (34.9)	5.47 (48.4)	6.56 (58.1)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)	
MX8G□M (metal bearing)	90min ⁻¹		2.41 (21.3)	2.89 (25.6)	4.01 (35.5)	4.81 (42.6)	6.01 (53.2)	7.22 (63.9)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)	
	Rotational direction		Reverse to motor rotational direction										

Speed-torque characteristics

Connection diagram

* For the connection diagram showing wiring with the speed controller, refer to pages C-6 to C-35.

Working range line

The working range line shows the working limit for the variable speed motor. The permissible torque should fall within the shaded portion. If you use the motor with the permissible torque exceeding the working range line (falling within the portion not shaded), the motor may be burned out due to a high temperature rise or the gear tooth may be damaged.

Motor (dimensions)

Scale: 1/3, Unit: mm (inch)

M8RX25GV4LG(A)	4P	25 W	100 V
M8RX25GV4DG(A)	4P	25 W	110 V / 115 V
M8RX25GV4YG(A)	4P	25 W	200 V
M8RX25GV4GG(A)	4P	25 W	220 V / 230 V

Mass	Helical gear	Module	Number of teeth
1.5 kg 3.31 lb		0.5	9

Capacitor (dimensions) [attachment]

Unit: mm (inch)

Capacitor cap (dimensions)

Unit: mm (inch)

Capacitor dimension list

Unit: upper (mm) / lower (inch)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap	W1	W2	H1	H2
M8RX25GV4LG(A)	M0PC10M25G	58 (2.28)	21 (0.83)	31 (1.22)	31 (1.22)	4 (0.16)	M0PC5821G	58 (2.28)	21 (0.83)	55 (2.17)	78 (3.07)
M8RX25GV4DG(A)	M0PC8M25G	48 (1.89)	21 (0.83)	31 (1.22)	31 (1.22)	4 (0.16)	M0PC4821G	48 (1.89)	21 (0.83)	55 (2.17)	78 (3.07)
M8RX25GV4YG(A)	M0PC2.5M45G	48 (1.89)	21 (0.83)	31 (1.22)	31 (1.22)	4 (0.16)	M0PC4821G	48 (1.89)	21 (0.83)	55 (2.17)	78 (3.07)
M8RX25GV4GG(A)	M0PC2M45G	48 (1.89)	19 (0.75)	29 (1.14)	29 (1.14)	4 (0.16)	M0PC4819G	48 (1.89)	19 (0.75)	55 (2.17)	78 (3.07)

* The models with a motor model number to which "A" is suffixed are not equipped with a capacitor cap.

Gear head (dimensions)

Scale: 1/3, Unit: mm (inch)

MX8G□B (ball bearing) / MX8G□M (metal bearing) Mass 0.6 kg (1.32 lb)

Key and keyway (dimensions) [attachment]

MX8G□B(M)

* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

B-290

Features B-268

System configuration B-269

Coding system B-269

Model list B-270

Gear head combination B-304

Round shaft motor B-306

Decimal gear head B-448

Gear head -inch (U.S.A.) B-449

Controls C-4

Option D-2

B-291

Variable speed reversible motor (leadwire)

90 mm (3.54 inch) sq.40 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Variable speed range	Permissible Torque N·m (oz·in)		Starting current (A)	Starting torque N·m (oz·in)	Capacitor (μF) (rated voltage)
							Speed (min ⁻¹)	at 1200 min ⁻¹	at 90 min ⁻¹			
90 mm sq.	M9RX40GV4L	4	40	100	50	30	90 to 1400	0.30 (42.5)	0.098 (13.9)	1.60	0.25 (35.4)	15 (210V)
					60	30	90 to 1700	0.24 (34.0)	0.098 (13.9)	1.60	0.25 (35.4)	
	M9RX40GV4Y	4	40	200	50	30	90 to 1400	0.30 (42.5)	0.098 (13.9)	0.80	0.25 (35.4)	3.8 (400V)
					60	30	90 to 1700	0.24 (34.0)	0.098 (13.9)	0.76	0.25 (35.4)	

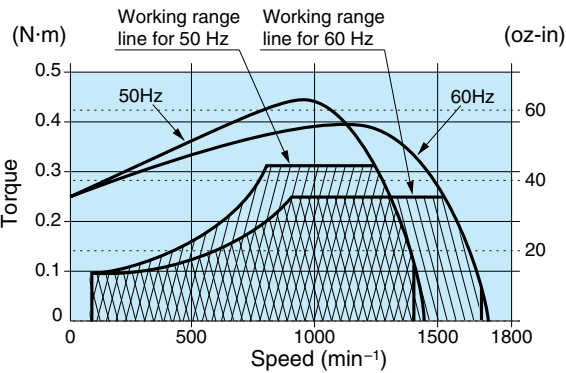
• The specifications and wire connections of the round shaft motor are the same as those of the pinion shaft type. For the dimensional outline drawing, refer to page B-307.

• Permissible torque at output shaft of gear head

Unit of permissible torque: upper (N·m) / lower (lb·in)														
Applicable gear head	Reduction ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25
Bearing														
MX9G□B (ball bearing) MX9G□M (metal bearing)	1200min ⁻¹	50Hz	0.66 (5.84)	0.84 (7.43)	1.08 (9.56)	1.38 (12.2)	1.57 (13.9)	2.00 (17.7)	2.25 (19.9)	2.74 (24.3)	3.23 (28.6)	4.13 (36.6)	4.41 (39.0)	5.29 (46.8)
		60Hz	0.51 (4.51)	0.66 (5.84)	0.84 (7.43)	1.08 (9.56)	1.22 (10.8)	1.57 (13.9)	1.76 (15.6)	2.14 (18.9)	2.74 (24.3)	3.23 (28.6)	3.53 (31.2)	4.13 (36.6)
	90min ⁻¹		0.11 (0.97)	0.14 (1.24)	0.19 (1.68)	0.23 (2.04)	0.29 (2.57)	0.35 (3.10)	0.39 (3.45)	0.49 (4.34)	0.59 (5.22)	0.71 (6.28)	0.79 (6.99)	0.99 (8.76)
	Rotational direction		Same as motor rotational direction											

Applicable gear head	Reduction ratio		30	36	50	60	75	90	100	120	150	180	Applicable decimal gear head
Bearing													
MX9G□B (ball bearing) MX9G□M (metal bearing)	1200min ⁻¹	50Hz	6.37 (56.4)	8.15 (72.1)	9.8 (86.7)	9.8 (86.7)	9.8 (86.7)	9.8 (86.7)	9.8 (86.7)	9.8 (86.7)	9.8 (86.7)	MX9G10XB	
		60Hz	5.29 (46.8)	6.37 (56.4)	8.8 (77.9)	9.8 (86.7)	9.8 (86.7)	9.8 (86.7)	9.8 (86.7)	9.8 (86.7)	9.8 (86.7)		
	90min ⁻¹		1.06 (9.38)	1.28 (11.3)	1.78 (15.8)	2.13 (18.9)	2.67 (23.6)	3.20 (28.3)	3.56 (31.5)	4.27 (37.8)	5.34 (47.3)		6.40 (56.6)
	Rotational direction		Reverse to motor rotational direction										

Speed-torque characteristics



Connection diagram

* For the connection diagram showing wiring with the speed controller, refer to pages C-6 to C-35.

* Working range line

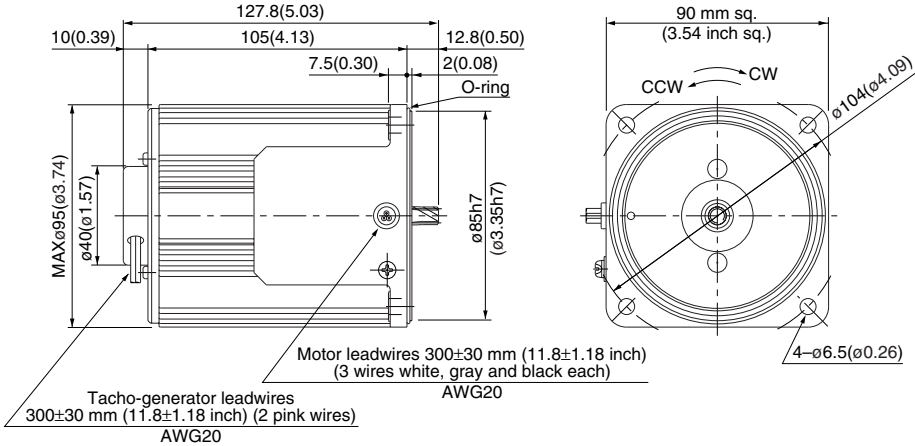
The working range line shows the working limit for the variable speed motor. The permissible torque should fall within the shaded portion. If you use the motor with the permissible torque exceeding the working range line (falling within the portion not shaded), the motor may be burned out due to a high temperature rise or the gear tooth may be damaged.

Motor (dimensions)

Scale: 1/3, Unit: mm (inch)

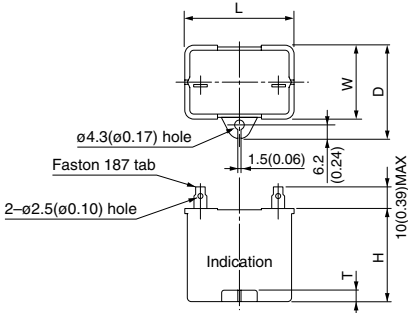
M9RX40GV4L	4P	40 W	100 V
M9RX40GV4Y	4P	40 W	200 V

Mass	Helical gear	Module	Number of teeth
2.4 kg 5.29 lb		0.55	9



Capacitor (dimensions) [attachment]

Unit: mm (inch)



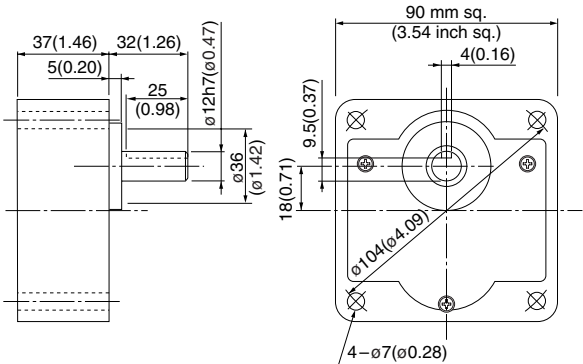
• Capacitor dimension list Unit: upper (mm) / lower (inch)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M9RX40GV4L	M0PC15M20	39.5 (1.56)	26.7 (1.05)	37 (1.46)	41 (1.61)	4 (0.16)	M0PC3926
M9RX40GV4Y	M0PC3.8M40	50 (1.97)	26.7 (1.05)	37.5 (1.48)	38 (1.50)	4 (0.16)	M0PC5026

Gear head (dimensions)

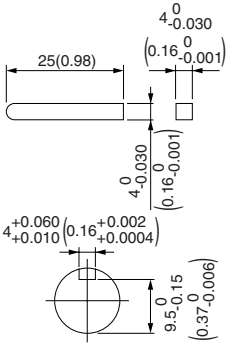
Scale: 1/3, Unit: mm (inch)

MX9G□B (ball bearing) / MX9G□M (metal bearing) Mass 0.8 kg (1.76 lb)



Key and keyway (dimensions) [attachment]

MX9G□B(M)



* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

(Note) Because the dimensions may be subject to change, also check the determinate dimensions if the gear head is to be used for design.

Variable speed reversible motor (leadwire)

c

90 mm (3.54 inch) sq.

40 W

Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Variable speed range	Permissible Torque N·m (oz·in)		Starting current (A)	Starting torque N·m (oz·in)	Capacitor (μF) (rated voltage)
							Speed (min ⁻¹)	at 1200 min ⁻¹	at 90 min ⁻¹			
90 mm sq.	M9RX40GV4LG	4	40	100	50	30	90 to 1400	0.30 (42.5)	0.12 (17.0)	1.7	0.27 (38.2)	16 (250V)
	M9RX40GV4LGA			60	60		90 to 1700	0.25 (35.4)	0.12 (17.0)	1.6	0.27 (38.2)	
	M9RX40GV4DG	4	40	110	60	30	90 to 1700	0.25 (35.4)	0.12 (17.0)	1.7	0.23 (32.6)	12 (250V)
	M9RX40GV4DGA			115	60		90 to 1700	0.25 (35.4)	0.12 (17.0)	1.8	0.25 (35.4)	
	M9RX40GV4YG	4	40	200	50	30	90 to 1400	0.30 (42.5)	0.12 (17.0)	0.67	0.27 (38.2)	4 (450V)
	M9RX40GV4YGA			60	60		90 to 1700	0.25 (35.4)	0.12 (17.0)	0.70	0.27 (38.2)	
	M9RX40GV4GG	4	40	220	50	30	90 to 1400	0.30 (42.5)	0.12 (17.0)	0.71	0.27 (38.2)	3.5 (450V)
				60	60		90 to 1700	0.25 (35.4)	0.12 (17.0)	0.71	0.27 (38.2)	
				230	50		90 to 1400	0.30 (42.5)	0.12 (17.0)	0.74	0.30 (42.5)	
				60	60		90 to 1700	0.25 (35.4)	0.12 (17.0)	0.74	0.30 (42.5)	

- The specifications and wire connections of the round shaft motor are the same as those of the pinion shaft type. For the dimensional outline drawing, refer to page B-307.
- The models with a motor model number to which "A" is suffixed are not equipped with a capacitor cap. The models with a motor model number to which "A" is suffixed are not sold or available in Japan.

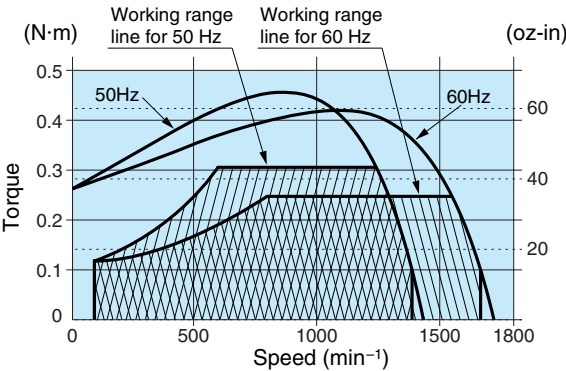
Permissible torque at output shaft of gear head

Unit of permissible torque: upper (N·m) / lower (lb·in)

Applicable gear head	Reduction ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25
			Speed											
MX9G□B (ball bearing)	1200min ⁻¹	50Hz	0.73 (6.46)	0.87 (7.7)	1.22 (10.8)	1.46 (12.9)	1.82 (16.1)	2.19 (19.4)	2.43 (21.5)	3.04 (26.9)	3.65 (32.3)	4.37 (38.7)	4.86 (43.0)	6.08 (53.8)
		60Hz	0.61 (5.40)	0.73 (6.46)	1.01 (8.94)	1.22 (10.8)	1.52 (13.5)	1.82 (16.1)	2.03 (18.0)	2.53 (22.4)	3.04 (26.9)	3.65 (32.3)	4.05 (35.8)	5.06 (44.8)
MX9G□M (metal bearing)	90min ⁻¹		0.29 (2.57)	0.35 (3.10)	0.49 (4.34)	0.58 (5.13)	0.73 (6.46)	0.87 (7.70)	0.97 (8.59)	1.22 (10.8)	1.46 (12.9)	1.75 (15.5)	1.94 (17.2)	2.43 (21.5)
	Rotational direction		Same as motor rotational direction											

Applicable gear head	Reduction ratio		30	36	50	60	75	90	100	120	150	180	Applicable decimal gear head
Bearing													
MX9G□B (ball bearing)	1200min ⁻¹	50Hz	6.56 (58.1)	7.87 (69.7)	9.8 (86.7)	9.8 (86.7)	9.8 (86.7)	9.8 (86.7)	9.8 (86.7)	9.8 (86.7)	9.8 (86.7)	9.8 (86.7)	MX9G10XB
		60Hz	5.47 (48.4)	6.56 (58.1)	9.11 (80.6)	9.8 (86.7)	9.8 (86.7)	9.8 (86.7)	9.8 (86.7)	9.8 (86.7)	9.8 (86.7)	9.8 (86.7)	
MX9G□M (metal bearing)	90min ⁻¹		2.62 (23.2)	3.15 (27.9)	4.37 (38.7)	5.25 (46.5)	6.56 (58.1)	7.87 (69.7)	8.75 (77.4)	9.8 (86.7)	9.8 (86.7)	9.8 (86.7)	
	Rotational direction		Reverse to motor rotational direction										

Speed-torque characteristics



Connection diagram

* For the connection diagram showing wiring with the speed controller, refer to pages C-6 to C-35.

Working range line

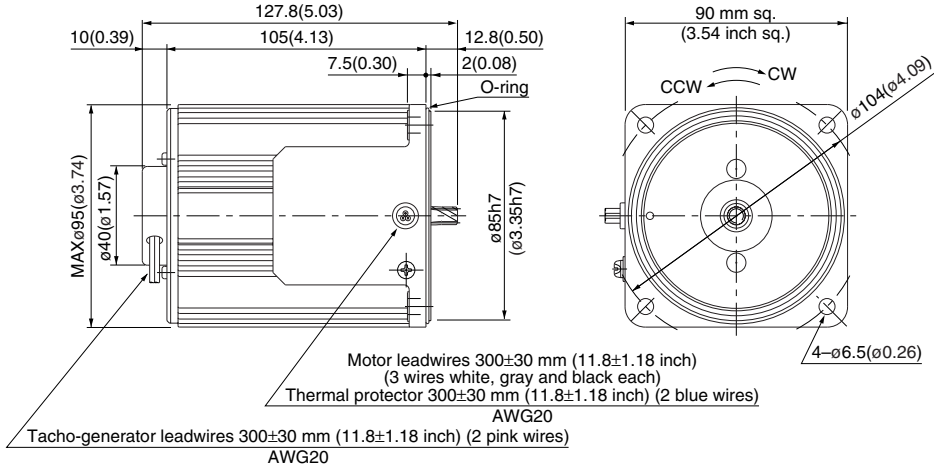
The working range line shows the working limit for the variable speed motor. The permissible torque should fall within the shaded portion. If you use the motor with the permissible torque exceeding the working range line (falling within the portion not shaded), the motor may be burned out due to a high temperature rise or the gear tooth may be damaged.

Motor (dimensions)

Scale: 1/3, Unit: mm (inch)

M9RX40GV4LG(A)	4P	40 W	100 V
M9RX40GV4DG(A)	4P	40 W	110 V / 115 V
M9RX40GV4YG(A)	4P	40 W	200 V
M9RX40GV4GG(A)	4P	40 W	220 V / 230 V

Mass	Helical gear	Module	Number of teeth
2.4 kg 5.29 lb		0.55	9

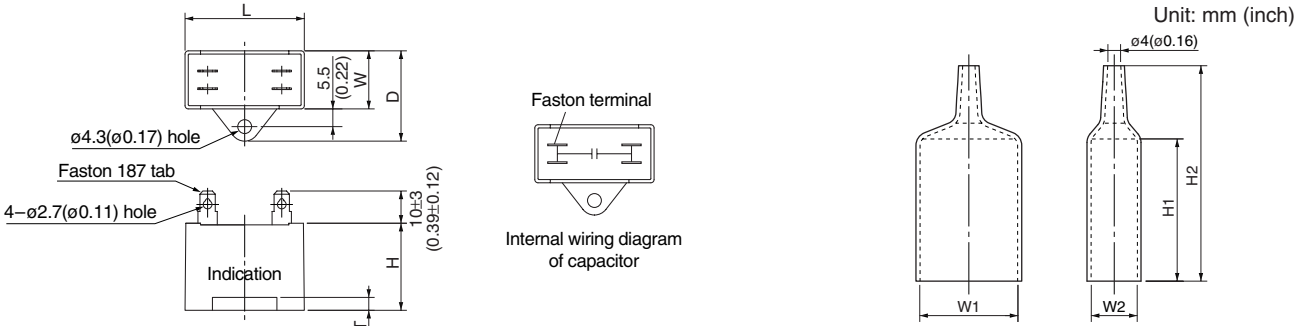


Capacitor (dimensions) [attachment]

Unit: mm (inch)

Capacitor cap (dimensions)

Unit: mm (inch)



Capacitor dimension list

Unit: upper (mm) / lower (inch)

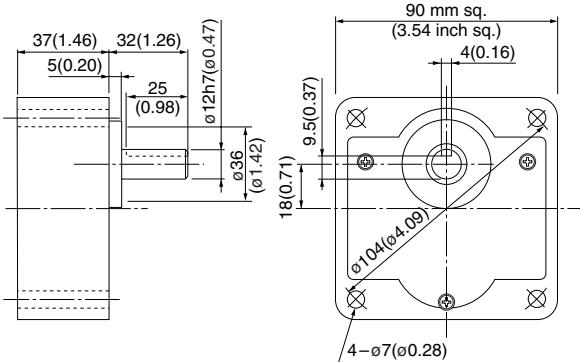
Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap	W1	W2	H1	H2
M9RX40GV4LG(A)	M0PC16M25G	58 (2.28)	23.5 (0.93)	38.5 (1.52)	37 (1.46)	4 (0.16)	M0PC5823G	58 (2.28)	23.5 (0.93)	55 (2.17)	78 (3.07)
M9RX40GV4DG(A)	M0PC12M25G	58 (2.28)	22 (0.87)	32 (1.26)	35 (1.38)	4 (0.16)	M0PC5822G	58 (2.28)	22 (0.87)	55 (2.17)	78 (3.07)
M9RX40GV4YG(A)	M0PC4M45G	58 (2.28)	23.5 (0.93)	38.5 (1.52)	37 (1.46)	4 (0.16)	M0PC5823G	58 (2.28)	23.5 (0.93)	55 (2.17)	78 (3.07)
M9RX40GV4GG(A)	M0PC3.5M45G	58 (2.28)	22 (0.87)	32 (1.26)	35 (1.38)	4 (0.16)	M0PC5822G	58 (2.28)	22 (0.87)	55 (2.17)	78 (3.07)

* The models with a motor model number to which "A" is suffixed are not equipped with a capacitor cap.

Gear head (dimensions)

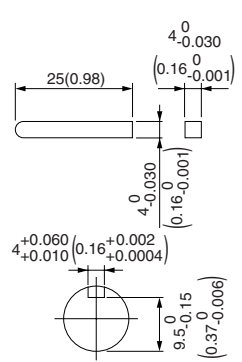
Scale: 1/3, Unit: mm (inch)

MX9G□B (ball bearing) / MX9G□M (metal bearing) Mass 0.8 kg (1.76 lb)



Key and keyway (dimensions) [attachment]

MX9G□B(M)



* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Variable speed reversible motor (leadwire)

90 mm (3.54 inch) sq.60 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Variable speed range	Permissible Torque N·m (oz·in)		Starting current (A)	Starting torque N·m (oz·in)	Capacitor (μF) (rated voltage)
							Speed (min ⁻¹)	at 1200 min ⁻¹	at 90 min ⁻¹			
90 mm sq.	M9RZ60GV4L	4	60	100	50	30	90 to 1400	0.43 (60.9)	0.12 (17.0)	3.0	0.46 (65.1)	25 (200V)
					60	30	90 to 1700	0.36 (51.0)	0.12 (17.0)	2.8	0.46 (65.1)	
	M9RZ60GV4Y	4	60	200	50	30	90 to 1400	0.43 (60.9)	0.12 (17.0)	1.4	0.46 (65.1)	6.2 (375V)
					60	30	90 to 1700	0.36 (51.0)	0.12 (17.0)	1.3	0.46 (65.1)	

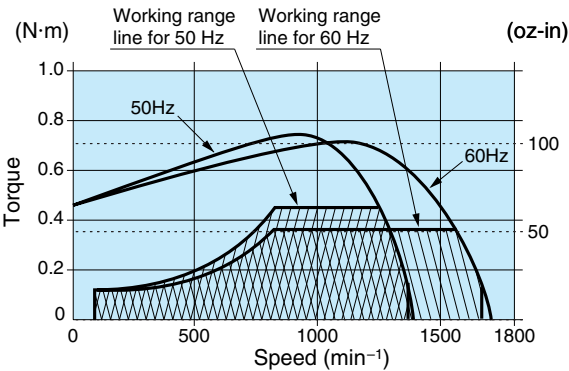
• The specifications and wire connections of the round shaft motor are the same as those of the pinion shaft type. For the dimensional outline drawing, refer to page B-307.

• Permissible torque at output shaft of gear head

Unit of permissible torque: upper (N·m) / lower (lb·in)																
Applicable gear head	Reduction ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	
Bearing																Speed
MZ9G□B （ball bearing hinge not attached） MY9G□B （ball bearing hinge attached）	1200min ⁻¹	50Hz	1.04 (9.20)	1.25 (11.1)	1.74 (15.4)	2.08 (18.4)	2.61 (23.1)	3.13 (27.7)	3.48 (30.8)	3.91 (34.6)	4.69 (41.5)	5.63 (49.8)	6.26 (55.4)	7.82 (69.2)	9.39 (83.1)	
		60Hz	0.87 (7.70)	1.04 (9.20)	1.45 (12.8)	1.74 (15.4)	2.18 (19.3)	2.61 (23.1)	2.91 (25.8)	3.27 (28.9)	3.91 (34.6)	4.69 (41.5)	5.22 (46.2)	6.52 (57.7)	7.83 (69.3)	
	90min ⁻¹		0.18 (1.59)	0.22 (1.95)	0.31 (2.74)	0.37 (3.27)	0.47 (4.16)	0.56 (4.96)	0.63 (5.58)	0.70 (6.20)	0.85 (7.52)	1.02 (9.03)	1.13 (10.0)	1.41 (12.5)	1.71 (15.1)	
	Rotational direction		Same as motor rotational direction								Reverse to motor rotational direction					

Applicable gear head	Reduction ratio		36	50	60	75	90	100	120	150	180	200	Applicable decimal gear head
Bearing													
MZ9G□B (ball bearing hinge not attached) MY9G□B (ball bearing hinge attached)	1200min ⁻¹	50Hz	10.1 (89.4)	14.0 (124)	16.8 (149)	19.6 (173)	19.6 (173)	19.6 (173)	19.6 (173)	19.6 (173)	19.6 (173)	19.6 (173)	MZ9G10XB
		60Hz	8.42 (74.5)	11.7 (104)	14.0 (124)	17.5 (155)	19.6 (173)	19.6 (173)	19.6 (173)	19.6 (173)	19.6 (173)	19.6 (173)	
	90min ⁻¹		1.83 (16.2)	2.55 (22.6)	3.06 (27.1)	3.82 (33.8)	4.59 (40.6)	5.10 (45.1)	6.12 (54.2)	7.65 (67.7)	9.18 (81.2)	10.2 (90.3)	
	Rotational direction		Same as motor rotational direction										

Speed-torque characteristics



Connection diagram

* For the connection diagram showing wiring with the speed controller, refer to pages C-6 to C-35.

* Working range line

The working range line shows the working limit for the variable speed motor. The permissible torque should fall within the shaded portion. If you use the motor with the permissible torque exceeding the working range line (falling within the portion not shaded), the motor may be burned out due to a high temperature rise or the gear tooth may be damaged.

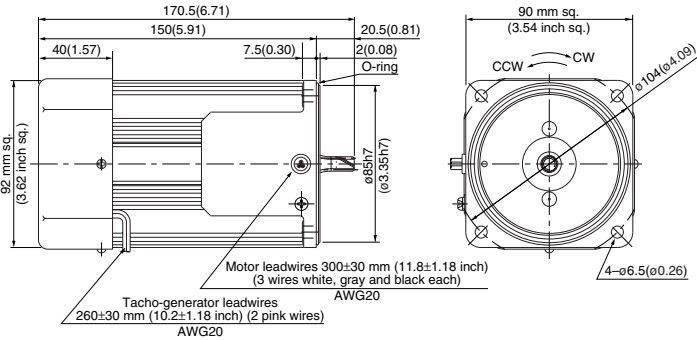
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

Scale: 1/4, Unit: mm (inch)

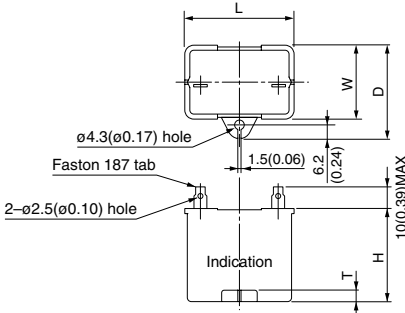
M9RZ60GV4L	4P	60 W	100 V (with fan)
M9RZ60GV4Y	4P	60 W	200 V (with fan)

Mass	Helical gear	Module	Number of teeth
2.7 kg 5.95 lb		0.6	9



Capacitor (dimensions) [attachment]

Unit: mm (inch)



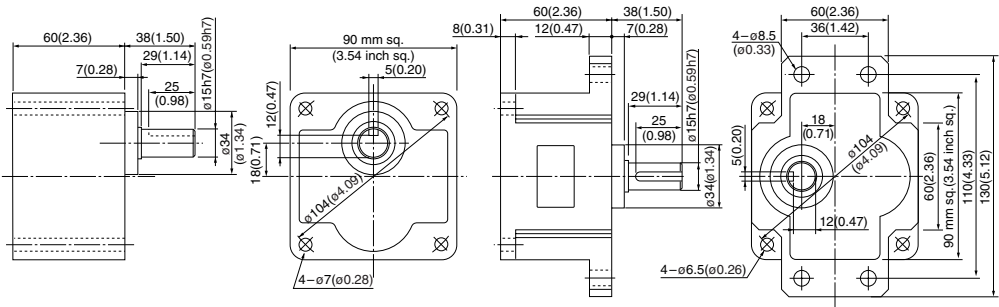
• Capacitor dimension list Unit: upper (mm) / lower (inch)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M9RZ60GV4L	M0PC25M20	50.2 (1.98)	31 (1.22)	41 (1.61)	42 (1.65)	5 (0.20)	M0PC5032
M9RZ60GV4Y	M0PC6.2M38	50 (1.97)	30.5 (1.20)	41 (1.61)	41.5 (1.63)	4 (0.16)	M0PC5032

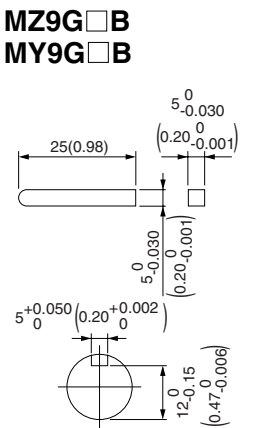
Gear head (dimensions)

Scale: 1/4, Unit: mm (inch)

MZ9G□B (ball bearing / hinge not attached)	MY9G□B (ball bearing / hinge attached)
Mass 1.4 kg (3.09 lb)	Mass 1.4 kg (3.09 lb)



Key and keyway (dimensions) [attachment]



Note) MZ / MY is available for a gear head of either type.

(Note) Because the dimensions may be subject to change, also check the determinate dimensions if the gear head is to be used for design.

Variable speed reversible motor (leadwire)

US

90 mm (3.54 inch) sq.

60 W

Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Variable speed range	Permissible Torque N·m (oz·in)		Starting current (A)	Starting torque N·m (oz·in)	Capacitor (μF) (rated voltage)
							Speed (min ⁻¹)	at 1200 min ⁻¹	at 90 min ⁻¹			
90 mm sq.	M9RZ60GV4LG	4	60	100	50	30	90 to 1400	0.45 (63.7)	0.14 (19.8)	3.0	0.46 (65.1)	25
	M9RZ60GV4LGA			60	60		90 to 1700	0.36 (51.0)	0.14 (19.8)	2.8	0.48 (68.0)	(250V)
	M9RZ60GV4DG	4	60	110	60	30	90 to 1700	0.36 (51.0)	0.14 (19.8)	3.0	0.43 (60.9)	20
	M9RZ60GV4DGA			115	60		90 to 1700	0.36 (51.0)	0.14 (19.8)	3.1	0.48 (68.0)	(250V)
	M9RZ60GV4YG	4	60	200	50	30	90 to 1400	0.45 (63.7)	0.14 (19.8)	1.3	0.46 (65.1)	6
	M9RZ60GV4YGA			60	60		90 to 1700	0.36 (51.0)	0.14 (19.8)	1.2	0.48 (68.0)	(450V)
	M9RZ60GV4GG	4	60	220	50	30	90 to 1400	0.45 (63.7)	0.14 (19.8)	1.4	0.43 (60.9)	5
				60	60		90 to 1700	0.36 (51.0)	0.14 (19.8)	1.3	0.43 (60.9)	
				230	50		90 to 1400	0.45 (63.7)	0.14 (19.8)	1.5	0.48 (68.0)	
				60	60		90 to 1700	0.36 (51.0)	0.14 (19.8)	1.4	0.48 (68.0)	

• The specifications and wire connections of the round shaft motor are the same as those of the pinion shaft type. For the dimensional outline drawing, refer to page B-307.

• The models with a motor model number to which "A" is suffixed are not equipped with a capacitor cap.

The models with a motor model number to which "A" is suffixed are not sold or available in Japan.

Permissible torque at output shaft of gear head

Unit of permissible torque: upper (N·m) / lower (lb·in)

Applicable gear head	Reduction ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30
			Speed												
Bearing	1200min ⁻¹	50Hz	1.09 (9.65)	1.31 (11.6)	1.82 (16.1)	2.19 (19.4)	2.73 (24.2)	3.28 (29.0)	3.65 (32.3)	4.10 (36.3)	4.92 (43.5)	5.90 (52.2)	6.56 (58.1)	8.20 (72.6)	9.84 (87.1)
		60Hz	0.87 (7.70)	1.05 (9.29)	1.46 (12.9)	1.75 (15.5)	2.19 (19.4)	2.62 (23.2)	2.92 (25.8)	3.28 (29.0)	3.94 (34.9)	4.72 (41.8)	5.25 (46.5)	6.56 (58.1)	7.87 (69.7)
	90min ⁻¹		0.34 (3.01)	0.41 (3.63)	0.57 (5.04)	0.68 (6.02)	0.85 (7.52)	1.02 (9.03)	1.13 (10.0)	1.28 (11.3)	1.53 (13.5)	1.84 (16.3)	2.04 (18.1)	2.55 (22.6)	3.06 (27.1)
	Rotational direction		Same as motor rotational direction						Reverse to motor rotational direction						

Applicable gear head	Reduction ratio		36	50	60	75	90	100	120	150	180	200	Applicable decimal gear head
			Speed										
Bearing	1200min ⁻¹	50Hz	10.6 (93.8)	14.8 (131)	17.7 (157)	19.6 (173)	19.6 (173)	19.6 (173)	19.6 (173)	19.6 (173)	19.6 (173)	19.6 (173)	MZ9G10XB
		60Hz	8.50 (75.2)	11.8 (104)	14.2 (126)	17.7 (157)	19.6 (173)	19.6 (173)	19.6 (173)	19.6 (173)	19.6 (173)	19.6 (173)	
	90min ⁻¹		3.31 (29.3)	4.59 (40.6)	5.51 (48.8)	6.89 (61.0)	8.27 (73.2)	9.19 (81.3)	11.0 (97.4)	13.8 (122)	16.5 (146)	18.4 (163)	
	Rotational direction		Same as motor rotational direction										

Speed-torque characteristics

Connection diagram

* For the connection diagram showing wiring with the speed controller, refer to pages C-6 to C-35.

Working range line

The working range line shows the working limit for the variable speed motor. The permissible torque should fall within the shaded portion. If you use the motor with the permissible torque exceeding the working range line (falling within the portion not shaded), the motor may be burned out due to a high temperature rise or the gear tooth may be damaged.

* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

Scale: 1/4, Unit: mm (inch)

M9RZ60GV4LG(A)	4P	60 W	100 V (with fan)
M9RZ60GV4DG(A)	4P	60 W	110 V / 115 V (with fan)
M9RZ60GV4YG(A)	4P	60 W	200 V (with fan)
M9RZ60GV4GG(A)	4P	60 W	220 V / 230 V (with fan)

Mass	Helical gear	Module	Number of teeth
2.7 kg 5.95 lb		0.6	9

Capacitor (dimensions) [attachment]

Unit: mm (inch)

Capacitor cap (dimensions)

Unit: mm (inch)

Capacitor dimension list

Unit: upper (mm) / lower (inch)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap	W1	W2	H1	H2
M9RZ60GV4LG(A)	M0PC25M25G	58 (2.28)	35 (1.38)	50 (1.97)	50 (1.97)	4 (0.16)	M0PC5835G	58 (2.28)	35 (1.38)	55 (2.17)	78 (3.07)
M9RZ60GV4DG(A)	M0PC20M25G	58 (2.28)	29 (1.14)	44 (1.73)	41 (1.61)	4 (0.16)	M0PC5829G	58 (2.28)	29 (1.14)	55 (2.17)	78 (3.07)
M9RZ60GV4YG(A)	M0PC6M45G	58 (2.28)	29 (1.14)	44 (1.73)	41 (1.61)	4 (0.16)	M0PC5829G	58 (2.28)	29 (1.14)	55 (2.17)	78 (3.07)
M9RZ60GV4GG(A)	M0PC5M45G	58 (2.28)	29 (1.14)	44 (1.73)	41 (1.61)	4 (0.16)	M0PC5829G	58 (2.28)	29 (1.14)	55 (2.17)	78 (3.07)

* The models with a motor model number to which "A" is suffixed are not equipped with a capacitor cap.

Gear head (dimensions)

Scale: 1/4, Unit: mm (inch)

MZ9G□B (ball bearing / hinge not attached)	MY9G□B (ball bearing / hinge attached)
Mass 1.4 kg (3.09 lb)	Mass 1.4 kg (3.09 lb)

Key and keyway (dimensions) [attachment]

MZ9G□B	MY9G□B
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Note) MZ / MY is available for a gear head of either type.

(Note) Because the dimensions may be subject to change, also check the determinate dimensions if the gear head is to be used for design.

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Features B-268

System configuration B-269

Coding system B-269

Model list B-270

Gear head combination B-305

Round shaft motor B-307

Decimal gear head B-448

Gear head -inch (U.S.A.) B-449

Controls C-4

Option D-2

B-299

Variable speed reversible motor (leadwire)

90 mm (3.54 inch) sq. 90 W

- **Specifications**

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Variable speed range	Permissible Torque N-m (oz-in)		Starting current (A)	Starting torque N-m (oz-in)	Capacitor (μF) (rated voltage)
							Speed (min ⁻¹)	at 1200 min ⁻¹	at 90 min ⁻¹			
90 mm Sq.	M9RZ90GV4L	4	90	100	50	30	90 to 1400	0.59 (83.6)	0.25 (35.4)	2.9	0.61 (86.4)	30 (200V)
					60		90 to 1700	0.54 (76.5)	0.25 (35.4)	2.9	0.61 (86.4)	
	M9RZ90GV4Y	4	90	200	50	30	90 to 1400	0.59 (83.6)	0.25 (35.4)	1.6	0.59 (83.6)	7.5 (370V)
					60		90 to 1700	0.54 (76.5)	0.25 (35.4)	1.5	0.59 (83.6)	

- The specifications and wire connections of the round shaft motor are the same as those of the pinion shaft type. For the dimensional outline drawing, refer to page B-307.

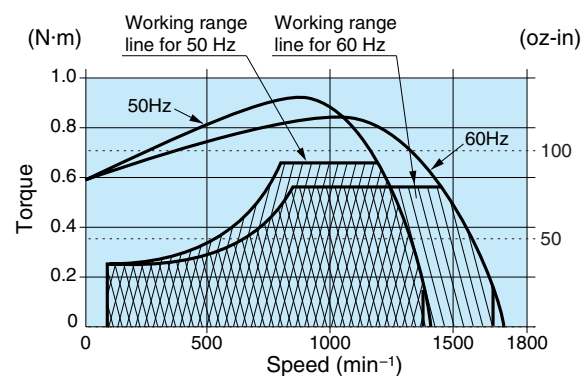
- **Permissible torque at output shaft of gear head**

Unit of permissible torque: upper (N·m) / lower (lb-in)

Applicable gear head	Reduction ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30
Bearing															
MZ9G□B (ball bearing hinge not attached) MY9G□B (ball bearing hinge attached)	1200min ⁻¹	50Hz	1.43 (12.7)	1.71 (15.1)	2.38 (21.1)	2.86 (25.3)	3.57 (31.6)	4.29 (38.0)	4.77 (42.2)	5.36 (47.4)	6.43 (56.9)	7.72 (68.3)	8.58 (75.9)	10.97 (97.1)	12.8 (113)
		60Hz	1.31 (11.6)	1.57 (13.9)	2.18 (19.3)	2.62 (23.2)	3.27 (28.9)	3.93 (34.8)	4.37 (38.7)	4.91 (43.5)	5.89 (52.1)	7.07 (62.6)	7.86 (69.6)	9.82 (86.9)	11.7 (104)
	90min ⁻¹		0.60 (5.31)	0.72 (6.37)	1.01 (8.94)	1.21 (10.7)	1.51 (13.4)	1.81 (16.0)	2.02 (17.9)	2.27 (20.1)	2.70 (23.9)	2.89 (25.6)	3.62 (32.0)	4.52 (40.0)	5.43 (48.1)
	Rotational direction		Same as motor rotational direction								Reverse to motor rotational direction				

Applicable gear head	Reduction ratio		36	50	60	75	90	100	120	150	180	200	Applicable decimal gear head
Bearing	Speed												
MZ9G□B (ball bearing hinge not attached) MY9G□B (ball bearing hinge attached)	1200min ⁻¹	50Hz	13.8 (122)	19.3 (171)	19.6 (173)	19.6 (173)	19.6 (173)	19.6 (173)	19.6 (173)	19.6 (173)	19.6 (173)	19.6 (173)	MZ9G10XB
		60Hz	12.7 (112)	17.6 (156)	19.6 (173)	19.6 (173)	19.6 (173)	19.6 (173)	19.6 (173)	19.6 (173)	19.6 (173)	19.6 (173)	
	90min ⁻¹		5.86 (51.9)	8.10 (71.7)	9.72 (86.0)	12.1 (107)	14.5 (128)	16.2 (143)	19.4 (172)	19.6 (173)	19.6 (173)	19.6 (173)	
	Rotational direction		Same as motor rotational direction										

Speed-torque characteristics



Connection diagram

* For the connection diagram showing wiring with the speed controller, refer to pages C-6 to C-35.

* Working range line

The working range line shows the working limit for the variable speed motor. The permissible torque should fall within the shaded portion. If you use the motor with the permissible torque exceeding the working range line (falling within the portion not shaded), the motor may be burned out due to a high temperature rise or the gear tooth may be damaged.

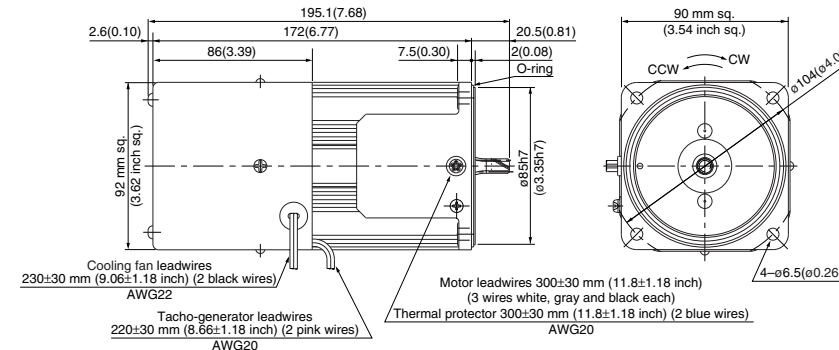
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

Scale: 1/4, Unit: mm (inch)

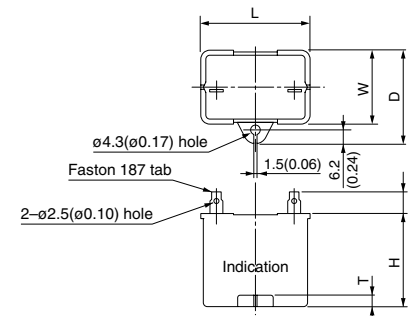
M9RZ90GV4L	4P 90 W 100 V (Forced cooling fan)
M9RZ90GV4Y	4P 90 W 200 V (Forced cooling fan)

Mass 3.5 kg 7.72 lb	Helical gear	Module 0.6	Number of teeth 9
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Capacitor (dimensions) [attachment]

Unit: mm (inch)



• **Capacitor dimension list** Unit: upper (mm) / lower (inch)

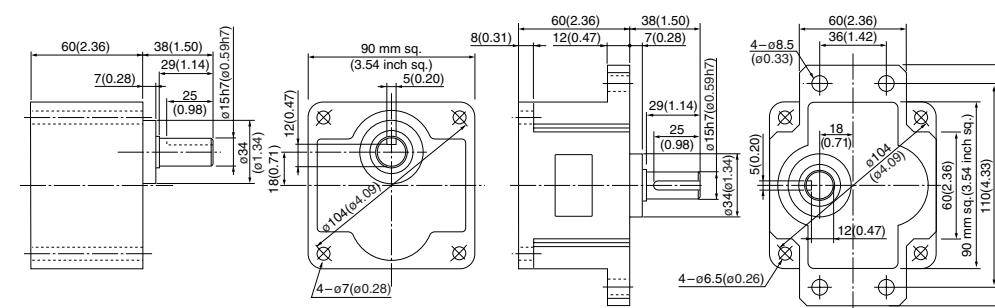
Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M9RZ90GV4L	M0PC30M20	50.2 (1.98)	31 (1.22)	41 (1.61)	42 (1.65)	5 (0.20)	M0PC5032
M9RZ90GV4Y	M0PC7.5M37	50 (1.97)	34 (1.34)	45 (1.77)	45 (1.77)	6 (0.24)	—

Gear head (dimensions)

Scale: 1/4, Unit: mm (inch)

MZ9G□B (ball bearing / hinge not attached)
Mass 1.4 kg (3.09 lb)

MY9G ☐ **B** (ball bearing / hinge attached)
Mass 1.4 kg (3.09 lb)

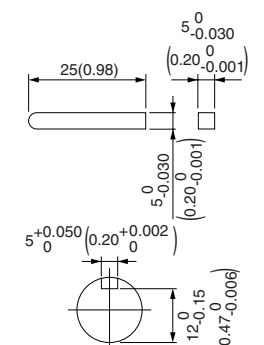


Note) MZ / MY is available for a gear head of either type.

(Note) Because the dimensions may be subject to change, also check the determinate dimensions if the gear head is to be used for design.

Key and keyway
(dimensions) [attachment]

MZ9G ☐ B
MY9G ☐ B



Variable speed reversible motor (leadwire)

US

90 mm (3.54 inch) sq.

90 W

Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Variable speed range	Permissible Torque N·m (oz·in)		Starting current (A)	Starting torque N·m (oz·in)	Capacitor (μF) (rated voltage)
							Speed (min ⁻¹)	at 1200 min ⁻¹	at 90 min ⁻¹			
90 mm sq.	M9RZ90GV4LG	4	90	100	50	30	90 to 1400	0.69 (97.7)	0.39 (55.2)	3.0	0.66 (93.5)	32 (250V)
	M9RZ90GV4LGA				60		90 to 1700	0.55 (77.9)	0.39 (55.2)	2.9	0.66 (93.5)	
	M9RZ90GV4DG	4	90	110	60	30	90 to 1700	0.55 (77.9)	0.39 (55.2)	3.1	0.66 (93.5)	28 (250V)
	M9RZ90GV4DGA			115	60		90 to 1700	0.55 (77.9)	0.39 (55.2)	3.2	0.72 (102)	
	M9RZ90GV4YG	4	90	200	50	30	90 to 1400	0.69 (97.7)	0.39 (55.2)	1.4	0.66 (93.5)	8 (450V)
	M9RZ90GV4YGA				60		90 to 1700	0.55 (77.9)	0.39 (55.2)	1.4	0.66 (93.5)	
	M9RZ90GV4GG	4	90	220	50	30	90 to 1400	0.69 (97.7)	0.39 (55.2)	1.5	0.66 (93.5)	7 (450V)
				60			90 to 1700	0.55 (77.9)	0.39 (55.2)	1.4	0.66 (93.5)	
				230	50		90 to 1400	0.69 (97.7)	0.39 (55.2)	1.6	0.72 (102)	
					60		90 to 1700	0.55 (77.9)	0.39 (55.2)	1.5	0.72 (102)	

- The specifications and wire connections of the round shaft motor are the same as those of the pinion shaft type. For the dimensional outline drawing, refer to page B-307.
- The models with a motor model number to which "A" is suffixed are not equipped with a capacitor cap. The models with a motor model number to which "A" is suffixed are not sold or available in Japan.

Permissible torque at output shaft of gear head

Unit of permissible torque: upper (N·m) / lower (lb·in)

Applicable gear head	Reduction ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30
			Speed												
MZ9G□B (ball bearing hinge not attached)	1200min ⁻¹	50Hz	1.68 (14.9)	2.01 (17.8)	2.79 (24.7)	3.35 (29.7)	4.19 (37.1)	5.03 (44.5)	5.59 (49.5)	6.29 (55.7)	7.55 (66.8)	9.05 (80.1)	10.1 (89.4)	12.6 (112)	15.1 (134)
		60Hz	1.34 (11.9)	1.60 (14.2)	2.23 (19.7)	2.67 (23.6)	3.34 (29.6)	4.01 (35.5)	4.46 (39.5)	5.01 (44.3)	6.01 (53.2)	7.22 (63.9)	8.02 (71.0)	10.0 (88.5)	12.0 (106)
	90min ⁻¹		0.95 (8.41)	1.14 (10.1)	1.58 (14.0)	1.90 (16.8)	2.37 (21.0)	2.84 (25.1)	3.16 (28.0)	3.55 (31.4)	4.26 (37.7)	5.12 (45.3)	5.69 (50.4)	7.11 (62.9)	8.53 (75.5)
	Rotational direction		Same as motor rotational direction						Reverse to motor rotational direction						

Applicable gear head	Reduction ratio		36	50	60	75	90	100	120	150	180	200	Applicable decimal gear head
			Speed										
MZ9G□B (ball bearing hinge not attached)	1200min ⁻¹	50Hz	16.3 (144)	19.6 (173)	19.6 (173)	19.6 (173)	19.6 (173)	19.6 (173)	19.6 (173)	19.6 (173)	19.6 (173)	19.6 (173)	
		60Hz	13.0 (115)	18.0 (159)	19.6 (173)	19.6 (173)	19.6 (173)	19.6 (173)	19.6 (173)	19.6 (173)	19.6 (173)	19.6 (173)	
	90min ⁻¹		9.21 (81.5)	12.8 (113)	15.4 (136)	19.2 (170)	19.6 (173)	19.6 (173)	19.6 (173)	19.6 (173)	19.6 (173)	19.6 (173)	
	Rotational direction		Same as motor rotational direction										

Speed-torque characteristics

Connection diagram

* For the connection diagram showing wiring with the speed controller, refer to pages C-6 to C-35.

Working range line

The working range line shows the working limit for the variable speed motor. The permissible torque should fall within the shaded portion. If you use the motor with the permissible torque exceeding the working range line (falling within the portion not shaded), the motor may be burned out due to a high temperature rise or the gear tooth may be damaged.

* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

Scale: 1/4, Unit: mm (inch)

M9RZ90GV4LG(A)	4P	90 W	100 V (Forced cooling fan)
M9RZ90GV4DG(A)	4P	90 W	110 V / 115 V (Forced cooling fan)
M9RZ90GV4YG(A)	4P	90 W	200 V (Forced cooling fan)
M9RZ90GV4GG(A)	4P	90 W	220 V / 230 V (Forced cooling fan)

Mass	Helical gear	Module	Number of teeth
3.5 kg 7.72 lb		0.6	9

Capacitor (dimensions) [attachment]

Unit: mm (inch)

Capacitor cap (dimensions)

Unit: mm (inch)

Capacitor dimension list

Unit: upper (mm) / lower (inch)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap	W1	W2	H1	H2
M9RZ90GV4LG(A)	M0PC32M25G	58 (2.28)	35 (1.38)	50 (1.97)	50 (1.97)	4 (0.16)	M0PC5835G	58 (2.28)	35 (1.38)	55 (2.17)	78 (3.07)
M9RZ90GV4DG(A)	M0PC28M25G	58 (2.28)	35 (1.38)	50 (1.97)	50 (1.97)	4 (0.16)	M0PC5835G	58 (2.28)	35 (1.38)	55 (2.17)	78 (3.07)
M9RZ90GV4YG(A)	M0PC8M45G	58 (2.28)	35 (1.38)	50 (1.97)	50 (1.97)	4 (0.16)	M0PC5835G	58 (2.28)	35 (1.38)	55 (2.17)	78 (3.07)
M9RZ90GV4GG(A)	M0PC7M45G	58 (2.28)	35 (1.38)	50 (1.97)	50 (1.97)	4 (0.16)	M0PC5835G	58 (2.28)	35 (1.38)	55 (2.17)	78 (3.07)

* The models with a motor model number to which "A" is suffixed are not equipped with a capacitor cap.

Gear head (dimensions)

Scale: 1/4, Unit: mm (inch)

MZ9G□B (ball bearing / hinge not attached)	MY9G□B (ball bearing / hinge attached)
Mass 1.4 kg (3.09 lb)	Mass 1.4 kg (3.09 lb)

Key and keyway (dimensions) [attachment]

MZ9G□B
MY9G□B

Note) MZ / MY is available for a gear head of either type.

(Note) Because the dimensions may be subject to change, also check the determinate dimensions if the gear head is to be used for design.

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Features B-268

System configuration B-269

Coding system B-269

Model list B-270

Gear head combination B-305

Round shaft motor B-307

Decimal gear head B-448

Gear head -inch (U.S.A.) B-449

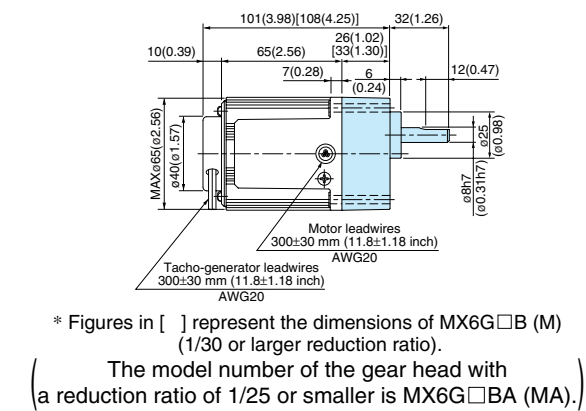
Controls C-4

Option D-2

B-303

60 mm sq. (2.36 inch sq.)4 W

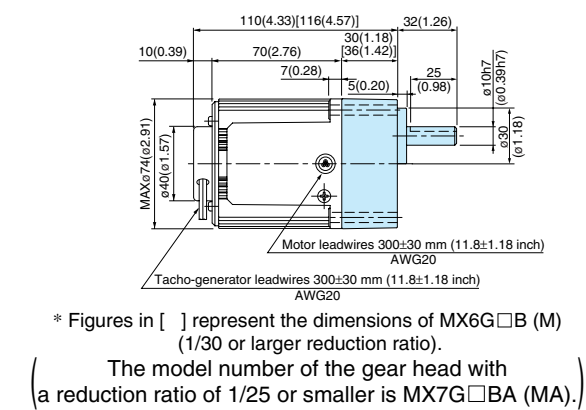
M6RX4GV4L + MX6G□BA(MA) / MX6G□B(M)



70 mm sq. (2.76 inch sq.)10 W

M7RX10GV4L + MX7G□BA(MA) / MX7G□B(M)

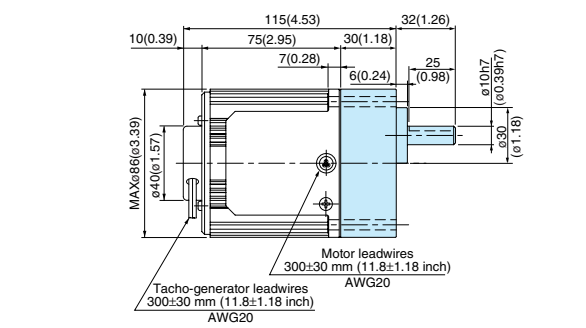
M7RX10GV4Y + MX7G□BA(MA) / MX7G□B(M)



80 mm sq. (3.15 inch sq.)20 W

M8RX20GV4L + MX8G□B(M)

M8RX20GV4Y + MX8G□B(M)



60 mm sq. (2.36 inch sq.)6 W

M6RX6GV4L + MX6G□BA(MA) / MX6G□B(M)

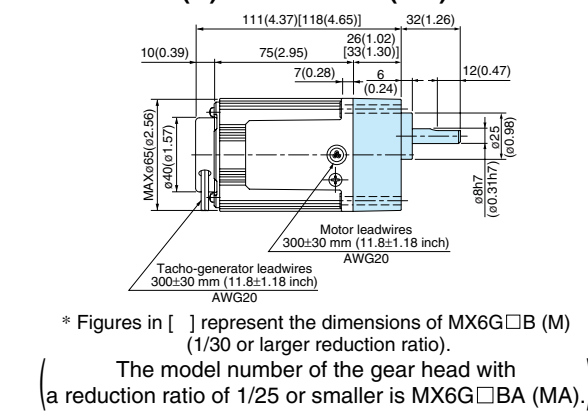
M6RX6GV4Y + MX6G□BA(MA) / MX6G□B(M)

M6RX6GV4LG(A) + MX6G□BA(MA) / MX6G□B(M)

M6RX6GV4DG(A) + MX6G□BA(MA) / MX6G□B(M)

M6RX6GV4YG(A) + MX6G□BA(MA) / MX6G□B(M)

M6RX6GV4GG(A) + MX6G□BA(MA) / MX6G□B(M)



70 mm sq. (2.76 inch sq.)15 W

M7RX15GV4L + MX7G□BA(MA) / MX7G□B(M)

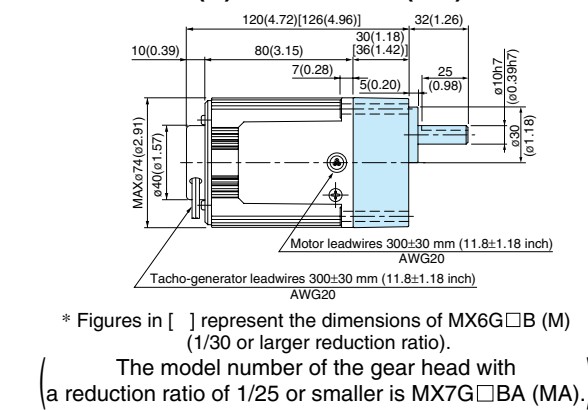
M7RX15GV4Y + MX7G□BA(MA) / MX7G□B(M)

M7RX15GV4LG(A) + MX7G□BA(MA) / MX7G□B(M)

M7RX15GV4DG(A) + MX7G□BA(MA) / MX7G□B(M)

M7RX15GV4YG(A) + MX7G□BA(MA) / MX7G□B(M)

M7RX15GV4GG(A) + MX7G□BA(MA) / MX7G□B(M)



80 mm sq. (3.15 inch sq.)25 W

M8RX25GV4L + MX8G□B(M)

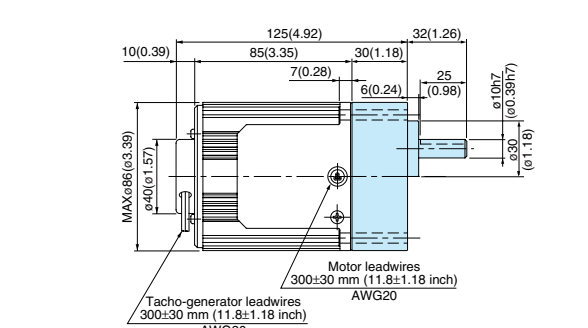
M8RX25GV4Y + MX8G□B(M)

M8RX25GV4LG(A) + MX8G□B(M)

M8RX25GV4DG(A) + MX8G□B(M)

M8RX25GV4YG(A) + MX8G□B(M)

M8RX25GV4GG(A) + MX8G□B(M)



90 mm sq. (3.54 inch sq.)40 W

M9RX40GV4L + MX9G□B(M)

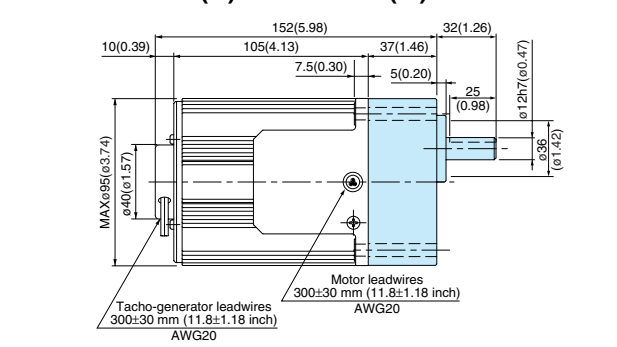
M9RX40GV4Y + MX9G□B(M)

M9RX40GV4LG(A) + MX9G□B(M)

M9RX40GV4DG(A) + MX9G□B(M)

M9RX40GV4YG(A) + MX9G□B(M)

M9RX40GV4GG(A) + MX9G□B(M)



90 mm sq. (3.54 inch sq.)90 W

M9RZ90GV4L + MY9G□B (MZ9G□B)

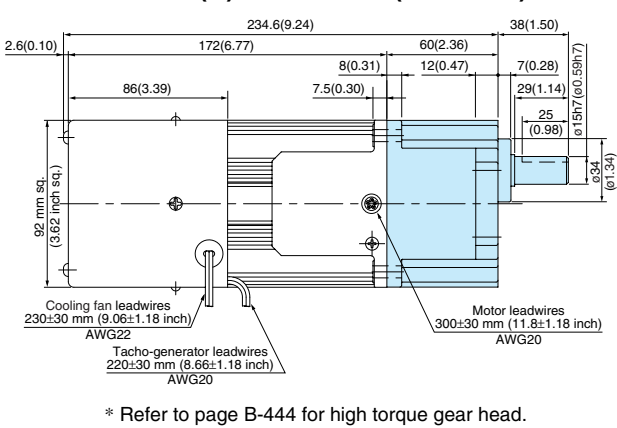
M9RZ90GV4Y + MY9G□B (MZ9G□B)

M9RZ90GV4LG(A) + MY9G□B (MZ9G□B)

M9RZ90GV4DG(A) + MY9G□B (MZ9G□B)

M9RZ90GV4YG(A) + MY9G□B (MZ9G□B)

M9RZ90GV4GG(A) + MY9G□B (MZ9G□B)



90 mm sq. (3.54 inch sq.)60 W

M9RZ60GV4L + MZ9G□B (MY9G□B)

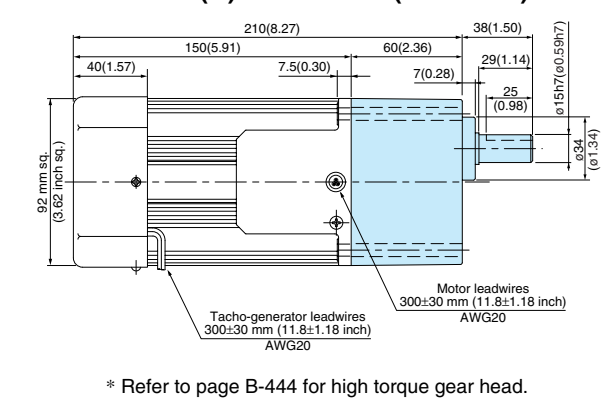
M9RZ60GV4Y + MZ9G□B (MY9G□B)

M9RZ60GV4LG(A) + MZ9G□B (MY9G□B)

M9RZ60GV4DG(A) + MZ9G□B (MY9G□B)

M9RZ60GV4YG(A) + MZ9G□B (MY9G□B)

M9RZ60GV4GG(A) + MZ9G□B (MY9G□B)



*The models with a motor model number to which "A" is suffixed are not equipped with a capacitor cap.

*The models with a motor model number to which "A" is suffixed are not sold or available in Japan.

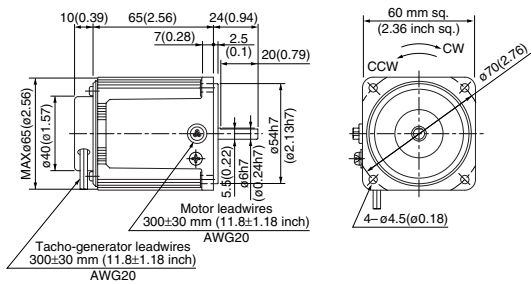
(Note) Because the dimensions may be subject to change, also check the determinate dimensions if the gear head is to be used for design.

Induction motor	Reversible motor	3-phase motor	Electromagnetic brake motor	Variable speed induction motor	Variable speed reversible motor	Variable speed electromagnetic brake single-phase motor	Variable speed unit motor	C&B motor	2-pole round shaft motor	Gear head	Gear head -inch (U.S.A.)
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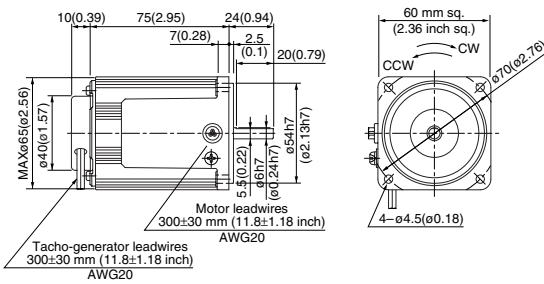
Variable speed reversible motor (4-pole round shaft / leadwire)

Dimensions
Scale: 1/4, Unit: mm (inch)

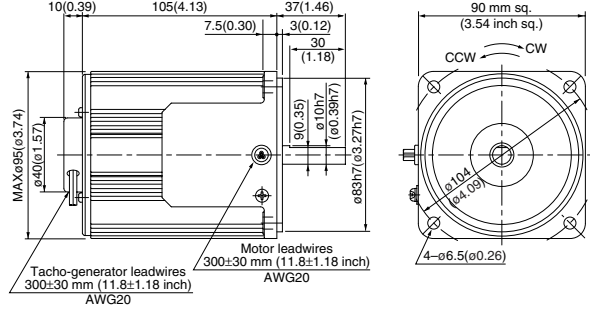
60 mm sq. (2.36 inch sq.) 4 W Mass 0.6 kg (1.32 lb)
M6RX4SV4LS



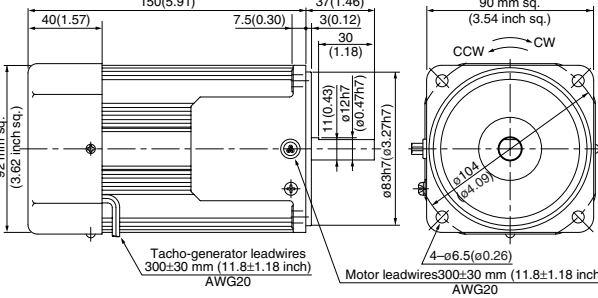
60 mm sq. (2.36 inch sq.) 6 W Mass 0.71 kg (1.57 lb)
M6RX6SV4LS
M6RX6SV4YS
M6RX6SV4LG(A)
M6RX6SV4YG(A)
M6RX6SV4DG(A)
M6RX6SV4GG(A)



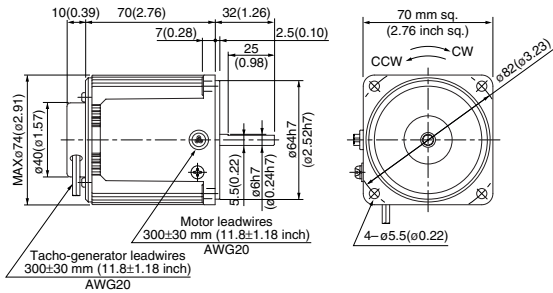
90 mm sq. (3.54 inch sq.) 40 W Mass 2.4 kg (5.29 lb)
M9RX40SV4LS
M9RX40SV4YS
M9RX40SV4LG(A)
M9RX40SV4YG(A)
M9RX40SV4DG(A)
M9RX40SV4GG(A)



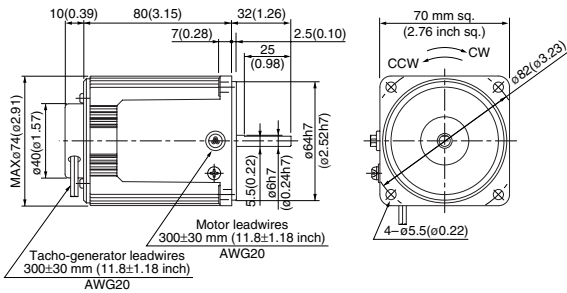
90 mm sq. (3.54 inch sq.) 60 W Mass 2.7 kg (5.95 lb)
M9RZ60SV4LS (with fan)
M9RZ60SV4YS (with fan)
M9RZ60SV4LG(A) (with fan)
M9RZ60SV4DG(A) (with fan)
M9RZ60SV4YG(A) (with fan)
M9RZ60SV4GG(A) (with fan)



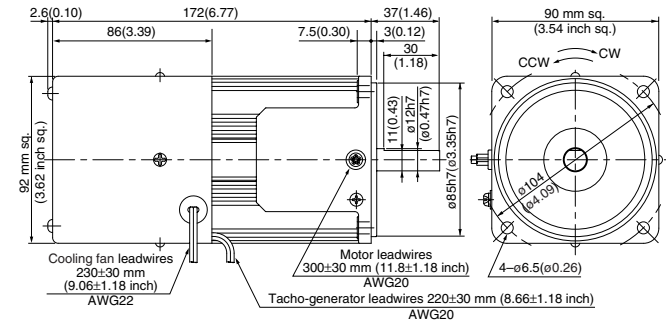
70 mm sq. (2.76 inch sq.) 10 W Mass 0.88 kg (1.94 lb)
M7RX10SV4LS
M7RX10SV4YS



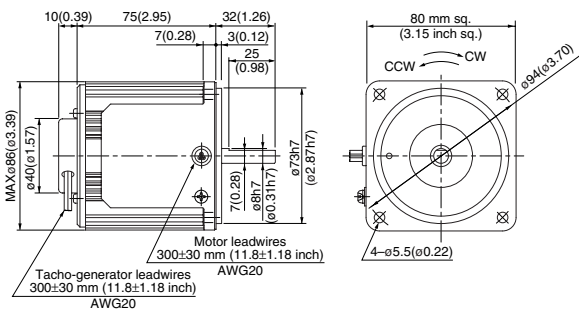
70 mm sq. (2.76 inch sq.) 15 W Mass 1.1 kg (2.43 lb)
M7RX15SV4LS
M7RX15SV4YS
M7RX15SV4LG(A)
M7RX15SV4YG(A)
M7RX15SV4DG(A)
M7RX15SV4GG(A)



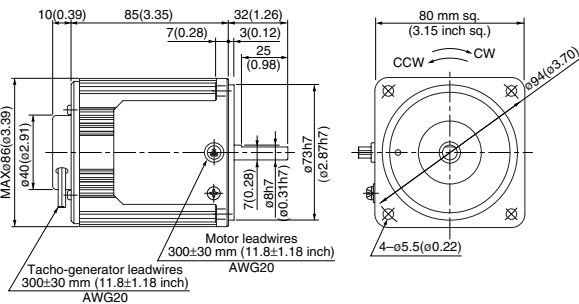
90 mm sq. (3.54 inch sq.) 90 W Mass 3.5 kg (7.72 lb)
M9RZ90SV4LS (Forced cooling fan)
M9RZ90SV4YS (Forced cooling fan)
M9RZ90SV4LG(A) (Forced cooling fan)
M9RZ90SV4DG(A) (Forced cooling fan)
M9RZ90SV4YG(A) (Forced cooling fan)
M9RZ90SV4GG(A) (Forced cooling fan)



80 mm sq. (3.15 inch sq.) 20 W Mass 1.2 kg (2.65 lb)
M8RX20SV4LS
M8RX20SV4YS



80 mm sq. (3.15 inch sq.) 25 W Mass 1.5 kg (3.31 lb)
M8RX25SV4LS
M8RX25SV4YS
M8RX25SV4LG(A)
M8RX25SV4YG(A)
M8RX25SV4DG(A)
M8RX25SV4GG(A)

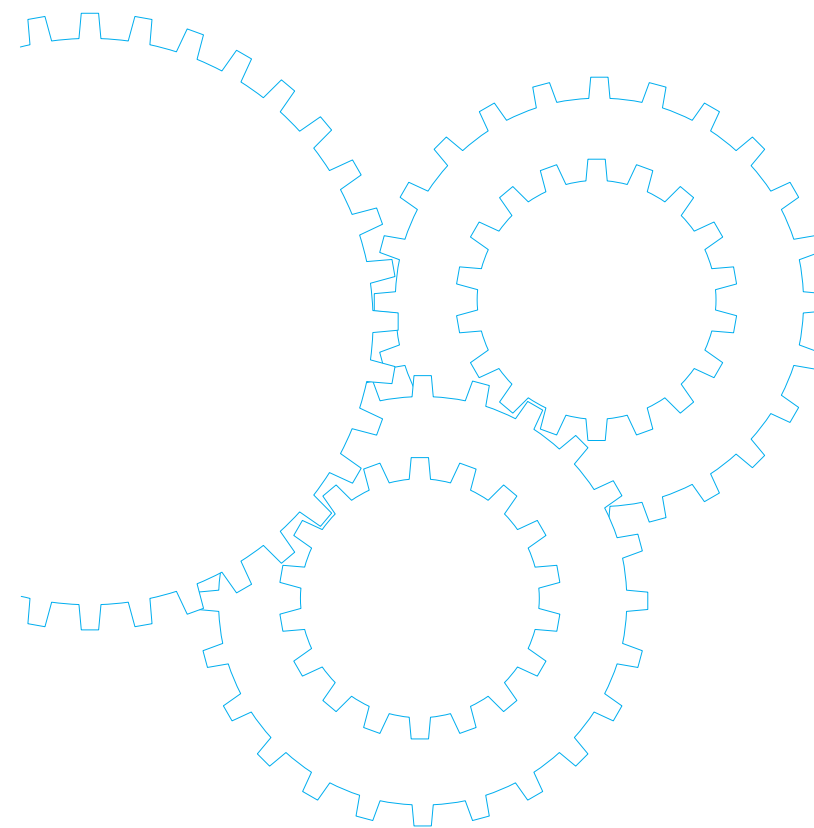


*The models with a motor model number to which "A" is suffixed are not equipped with a capacitor cap.
*The models with a motor model number to which "A" is suffixed are not sold or available in Japan.
(Note) Because the dimensions may be subject to change, also check the determinate dimensions if the gear head is to be used for design.

* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Induction motor	Reversible motor	3-phase motor	Electromagnetic brake motor	Variable speed induction motor	Variable speed reversible motor	Variable speed electromagnetic brake single-phase motor	Variable speed unit motor	C&B motor	2-pole round shaft motor	Gear head	Gear head -inch (U.S.A.)
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Variable Speed Electromagnetic Brake Single-phase Motor



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- Motor Overview B-310
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