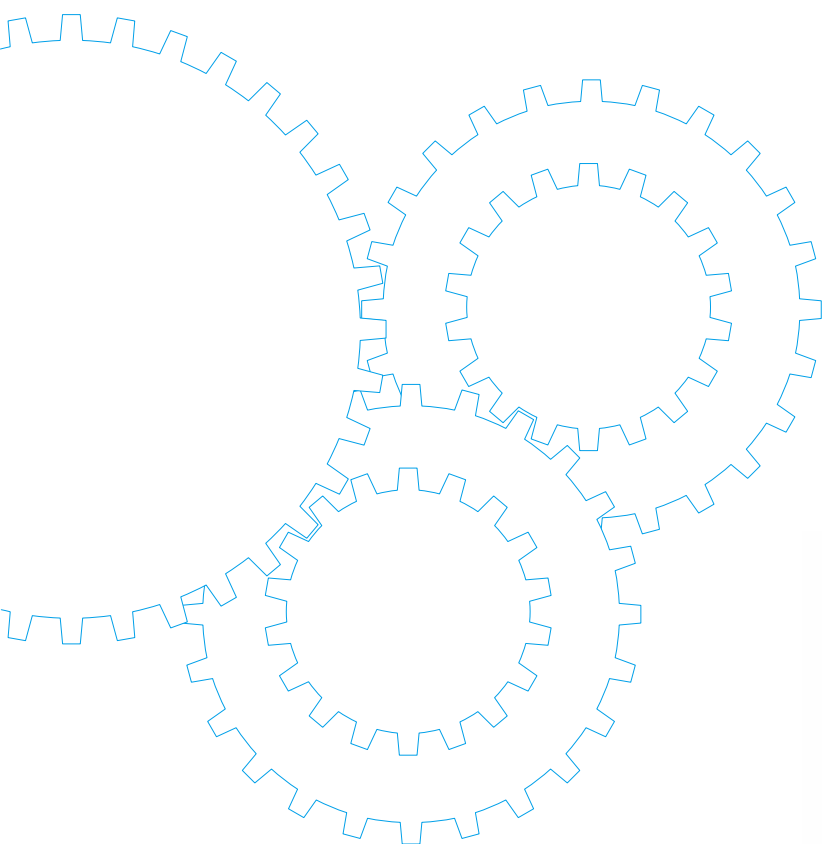


Variable Speed Reversible Motor



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. <Single-phase motor>
- 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 r/min to 1400 r/min for 50 Hz and 90 r/min to 1700 r/min 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.

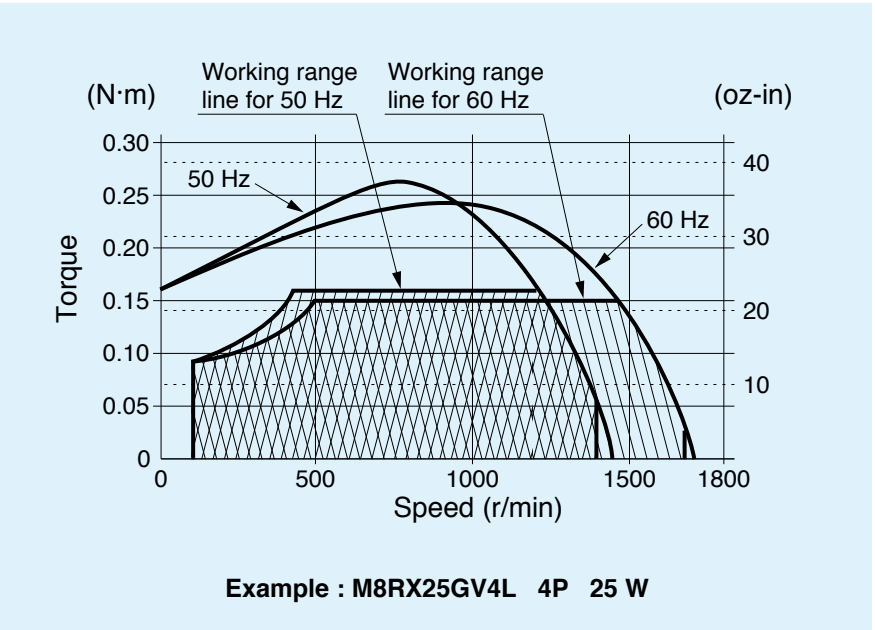
Note) Variable speed reversible motor start-stop operation must not exceed 6-cycles per minute or damage may occur.

Working range

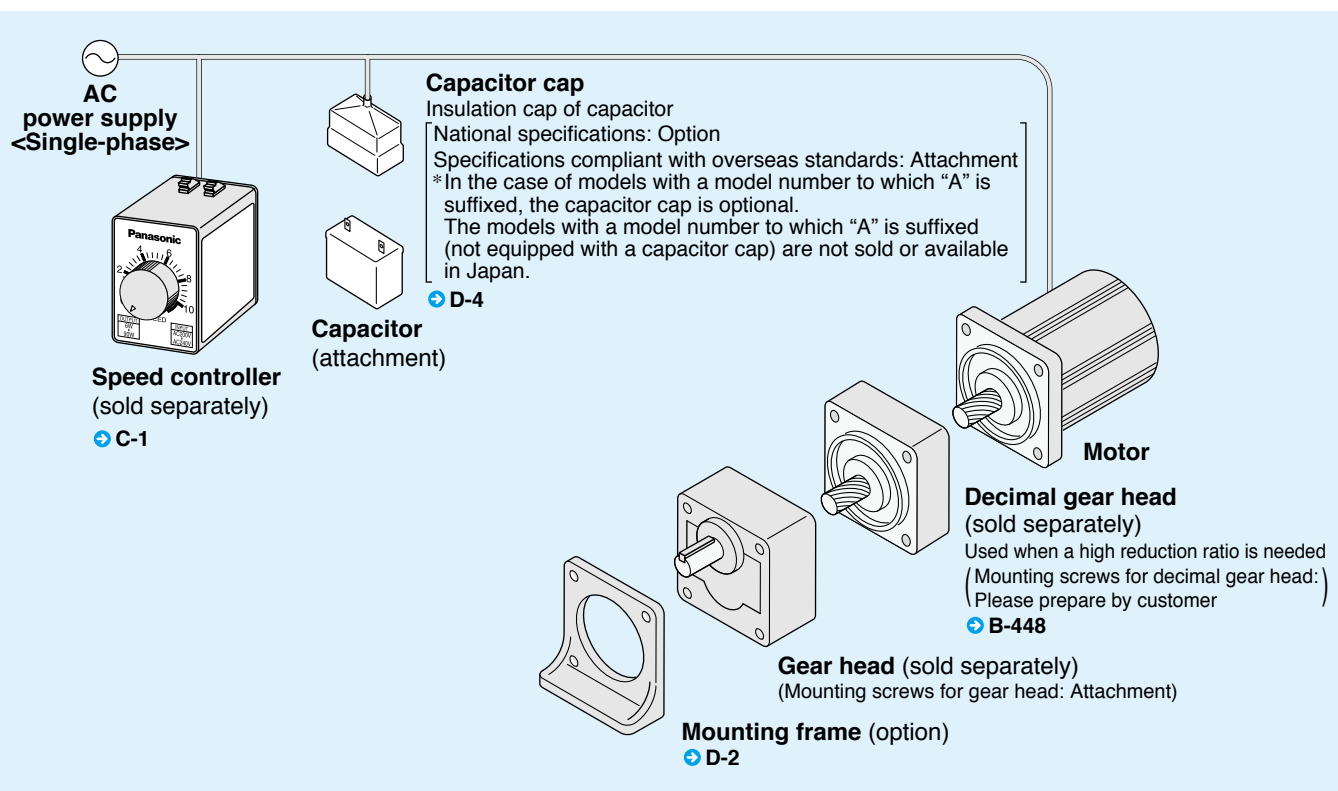
The working range line shows the working limit for the variable speed motor. (The time rating is 30 minutes.) The permissible torque should fall within the shaded portion.

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.

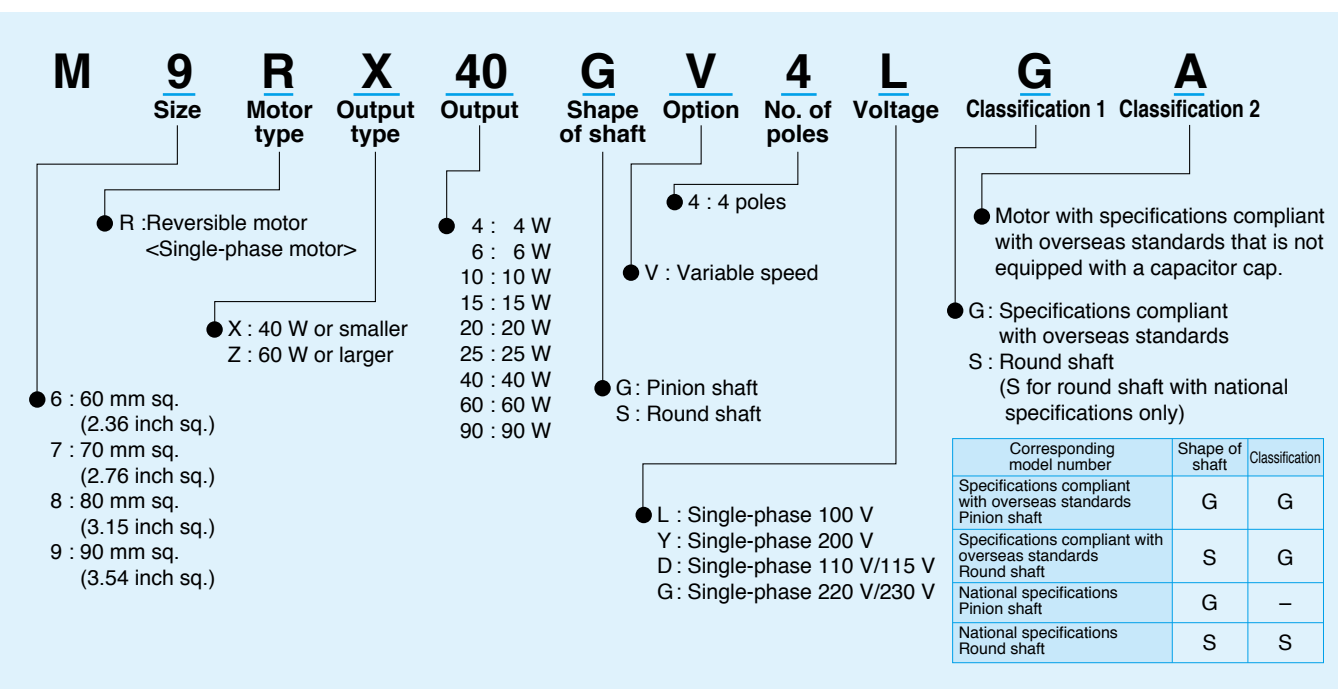
Working range line



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

UL

US

CE

CCC

Size	Output (W)	Leadwire type			Standard gear head		High torque gear head	Right-angle gear head	Gear head -Inch (U.S.A.)	Decimal gear head		
		Model number	Specifications	Page	Ball bearing	metal bearing						
60 mm sq. (2.36 inch sq.)	4	M6RX4GV4L	100 V	B-274	MX6G□BA MX6G□B	MX6G□MA MX6G□M	—	—	MX6G□BU	MX6G10XB		
	6	M6RX6GV4L	100 V	B-276								
		M6RX6GV4Y	200 V	B-276								
		M6RX6GV4LG(A)	100 V ★	B-278								
		M6RX6GV4DG(A)	110 V/115 V ★	B-278								
		M6RX6GV4YG(A)	200 V ★	B-278								
		M6RX6GV4GG(A)	220 V/230 V ★	B-278								
70 mm sq. (2.76 inch sq.)	10	M7RX10GV4L	100 V	B-280	MX7G□BA MX7G□B	MX7G□MA MX7G□M	—	—	MX7G□BU	MX7G10XB		
	15	M7RX10GV4Y	200 V	B-280								
		M7RX15GV4L	100 V	B-282								
		M7RX15GV4Y	200 V	B-282								
		M7RX15GV4LG(A)	100 V ★	B-284								
		M7RX15GV4DG(A)	110 V/115 V ★	B-284								
		M7RX15GV4YG(A)	200 V ★	B-284								
80 mm sq. (3.15 inch sq.)	20	M8RX20GV4L	100 V	B-286	MX8G□B	MX8G□M	—	—	MX8G□BU	MX8G10XB		
		M8RX20GV4Y	200 V	B-286								
	25	M8RX25GV4L	100 V	B-288								
		M8RX25GV4Y	200 V	B-288								
		M8RX25GV4LG(A)	100 V ★	B-290								
		M8RX25GV4DG(A)	110 V/115 V ★	B-290								
		M8RX25GV4YG(A)	200 V ★	B-290								
M8RX25GV4GG(A)	220 V/230 V ★	B-290										
90 mm sq. (3.54 inch sq.)	40	M9RX40GV4L	100 V	B-292	MX9G□B	MX9G□M	—	MX9G□R	MX9G□BU	MX9G10XB		
		M9RX40GV4Y	200 V	B-292								
		M9RX40GV4LG(A)	100 V ★	B-294								
		M9RX40GV4DG(A)	110 V/115 V ★	B-294								
		M9RX40GV4YG(A)	200 V ★	B-294								
		M9RX40GV4GG(A)	220 V/230 V ★	B-294								
	60	M9RZ60GV4L	100 V	B-296	MZ9G□B	MR9G□B	MZ9G□R	MZ9G□BU	MZ9G10XB			
		M9RZ60GV4Y	200 V	B-296								
		M9RZ60GV4LG(A)	100 V ★	B-298								
		M9RZ60GV4DG(A)	110 V/115 V ★	B-298								
		M9RZ60GV4YG(A)	200 V ★	B-298								
		M9RZ60GV4GG(A)	220 V/230 V ★	B-298								
	90	M9RZ90GV4L	100 V	B-300	MY9G□B	MP9G□B						
		M9RZ90GV4Y	200 V	B-300								
M9RZ90GV4LG(A)		100 V ★	B-302									
M9RZ90GV4DG(A)		110 V/115 V ★	B-302									
M9RZ90GV4YG(A)		200 V ★	B-302									
M9RZ90GV4GG(A)		220 V/230 V ★	B-302									

* 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.

* Refer to page B-444 for dimensions and permissible torque of high torque gear head.
Refer to page B-446 for dimensions and permissible torque of right-angle gear head.
Refer to page B-451 for dimensions and permissible torque of gear head -Inch (U.S.A.).
Refer to page B-448 for dimensions of decimal gear head.

Model list of variable speed reversible motor

Round shaft motor

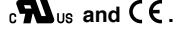
★ Motor compliant with overseas standards 

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

* 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	Pinion shaft type	Round shaft type		MGSD type	EX type
60 mm sq. (2.36 inch sq.)	4	-----	M6RX4GV4L	M6RX4SV4LS	100	MGSDA1 ★	DV1131
	6	-----	M6RX6GV4L	M6RX6SV4LS	100	MGSDA1 ★	DV1131
		-----	M6RX6GV4Y	M6RX6SV4YS	200	MGSDB2 ★	DV1231
		★	M6RX6GV4LG(A)	M6RX6SV4LG(A)	100	MGSDA1 ★	-----
		★	M6RX6GV4DG(A)	M6RX6SV4DG(A)	110/115	MGSDA1 ★	-----
		★	M6RX6GV4YG(A)	M6RX6SV4YG(A)	200	MGSDB2 ★	-----
		★	M6RX6GV4GG(A)	M6RX6SV4GG(A)	220/230	MGSDB2 ★	-----
70 mm sq. (2.76 inch sq.)	10	-----	M7RX10GV4L	M7RX10SV4LS	100	MGSDA1 ★	DV1131
	15	-----	M7RX10GV4Y	M7RX10SV4YS	200	MGSDB2 ★	DV1231
		-----	M7RX15GV4L	M7RX15SV4LS	100	MGSDA1 ★	DV1132
		-----	M7RX15GV4Y	M7RX15SV4YS	200	MGSDB2 ★	DV1231
		★	M7RX15GV4LG(A)	M7RX15SV4LG(A)	100	MGSDA1 ★	-----
		★	M7RX15GV4DG(A)	M7RX15SV4DG(A)	110/115	MGSDA1 ★	-----
		★	M7RX15GV4YG(A)	M7RX15SV4YG(A)	200	MGSDB2 ★	-----
		★	M7RX15GV4GG(A)	M7RX15SV4GG(A)	220/230	MGSDB2 ★	-----
80 mm sq. (3.15 inch sq.)	20	-----	M8RX20GV4L	M8RX20SV4LS	100	MGSDA1 ★	DV1132
	25	-----	M8RX20GV4Y	M8RX20SV4YS	200	MGSDB2 ★	DV1231
		-----	M8RX25GV4L	M8RX25SV4LS	100	MGSDA1 ★	DV1132
		-----	M8RX25GV4Y	M8RX25SV4YS	200	MGSDB2 ★	DV1234
		★	M8RX25GV4LG(A)	M8RX25SV4LG(A)	100	MGSDA1 ★	-----
		★	M8RX25GV4DG(A)	M8RX25SV4DG(A)	110/115	MGSDA1 ★	-----
		★	M8RX25GV4YG(A)	M8RX25SV4YG(A)	200	MGSDB2 ★	-----
		★	M8RX25GV4GG(A)	M8RX25SV4GG(A)	220/230	MGSDB2 ★	-----
90 mm sq. (3.54 inch sq.)	40	-----	M9RX40GV4L	M9RX40SV4LS	100	MGSDA1 ★	DV1132
		-----	M9RX40GV4Y	M9RX40SV4YS	200	MGSDB2 ★	DV1234
		★	M9RX40GV4LG(A)	M9RX40SV4LG(A)	100	MGSDA1 ★	-----
		★	M9RX40GV4DG(A)	M9RX40SV4DG(A)	110/115	MGSDA1 ★	-----
		★	M9RX40GV4YG(A)	M9RX40SV4YG(A)	200	MGSDB2 ★	-----
		★	M9RX40GV4GG(A)	M9RX40SV4GG(A)	220/230	MGSDB2 ★	-----
	60	-----	M9RZ60GV4L	M9RZ60SV4LS	100	MGSDB1 ★	DV1134
		-----	M9RZ60GV4Y	M9RZ60SV4YS	200	MGSDB2 ★	DV1234
		★	M9RZ60GV4LG(A)	M9RZ60SV4LG(A)	100	MGSDB1 ★	-----
		★	M9RZ60GV4DG(A)	M9RZ60SV4DG(A)	110/115	MGSDB1 ★	-----
		★	M9RZ60GV4YG(A)	M9RZ60SV4YG(A)	200	MGSDB2 ★	-----
		★	M9RZ60GV4GG(A)	M9RZ60SV4GG(A)	220/230	MGSDB2 ★	-----
	90	-----	M9RZ90GV4L	M9RZ90SV4LS	100	MGSDB1 ★	DV1134
		-----	M9RZ90GV4Y	M9RZ90SV4YS	200	MGSDB2 ★	DV1234
		★	M9RZ90GV4LG(A)	M9RZ90SV4LG(A)	100	MGSDB1 ★	-----
		★	M9RZ90GV4DG(A)	M9RZ90SV4DG(A)	110/115	MGSDB1 ★	-----
		★	M9RZ90GV4YG(A)	M9RZ90SV4YG(A)	200	MGSDB2 ★	-----
		★	M9RZ90GV4GG(A)	M9RZ90SV4GG(A)	220/230	MGSDB2 ★	-----

* When using a speed controller operative under a wide range of supply voltage (MGSD), 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 (r/min)	at 1200 r/min	at 90 r/min			
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 (200 V)
					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

The part number of reduction gear ratio less than 1/25 is MX6G□BA (MA).

Applicable gear head		Reduction Ratio		Unit of permissible torque: upper (N·m) / lower (lb·in)																					
Bearing		Speed		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180
MX6G□BA (ball bearing)	1200 r/min	50 Hz	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)	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)	
MX6G□B (ball bearing)		60 Hz	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)	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)	
MX6G□MA (metal bearing)	90 r/min		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)	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)	
MX6G□M (metal bearing)			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)	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		Same as motor rotational direction													Reverse to motor rotational direction										

Permissible torque at output shaft of gear head using decimal gear head

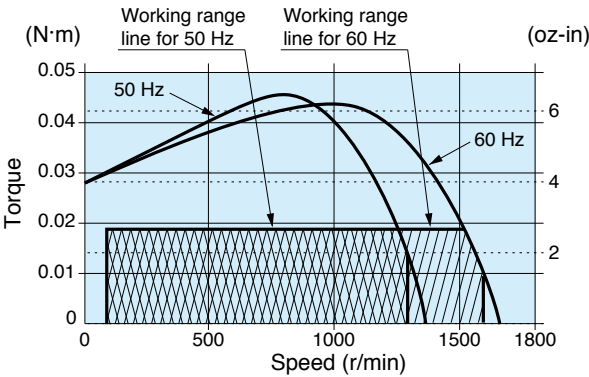
For external dimensions of the decimal gear head, refer to page B-448.

* For external dimensions of the decimal gear head, refer to page B-448.

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

Applicable gear head		Reduction Ratio		200	250	300	360	500	600	750	900	1000	1200	1500	1800
Bearing	Decimal gear head														
MX6G□BA (ball bearing)	MX6G10XB	1200 r/min	50 Hz	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)
MX6G□B (ball bearing)			60 Hz	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)
MX6G□MA (metal bearing)		90 r/min		2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)
MX6G□M (metal bearing)				2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)
		Rotational direction		Same as motor 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-20.

Working range line

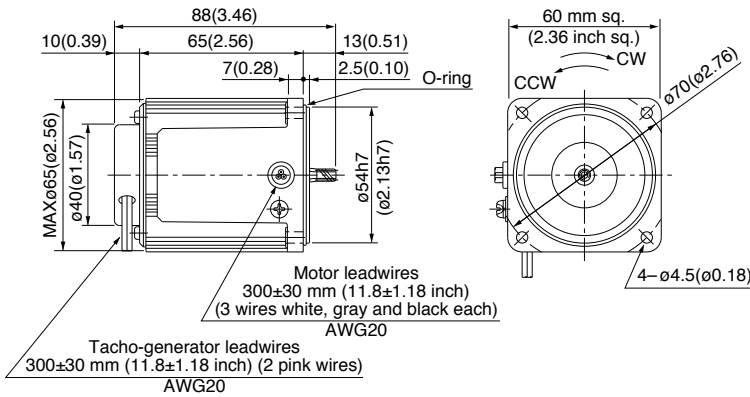
The working range line shows the working limit for the variable speed motor. The permissible torque should fall within the shaded portion. If you use the motor with the permissible torque exceeding the working range line (falling within the portion not shaded), the motor may be burned out due to a high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

Motor (dimensions)

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

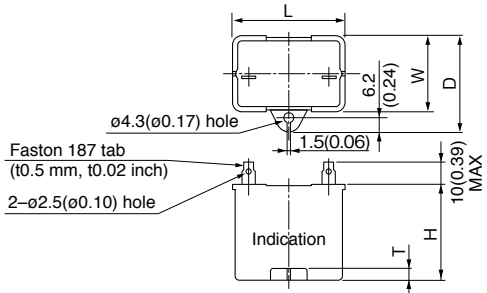
M6RX4GV4L 4P 4 W 100 V

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



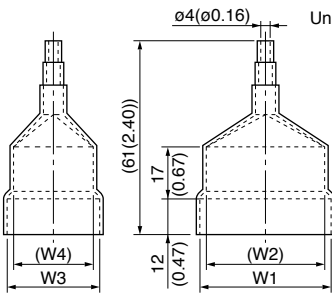
Capacitor (dimensions) [attachment]

Unit: mm (inch)



Capacitor cap (dimensions) [option]

Unit: mm (inch)



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

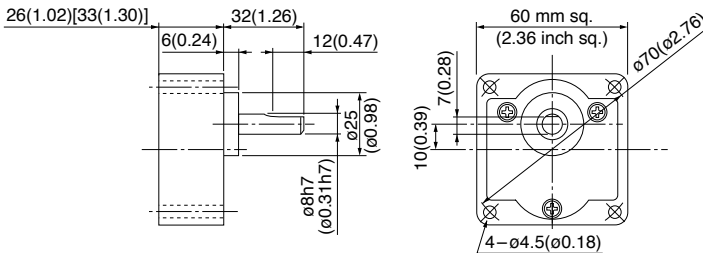
Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)	W1	W2	W3	W4
M6RX4GV4L	M0PC2.5M20	39.5 (1.56)	16 (0.63)	26.5 (1.04)	30.5 (1.20)	4 (0.16)	M0PC3917	39.5 (1.56)	37.5 (1.48)	17 (0.67)	15 (0.59)

Capacitors (single item) can also be purchased.

Gear head (dimensions)

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

< □ is 25 or less > MX6G□BA (ball bearing) Mass 0.24 kg(0.53 lb): Output shaft D cut MX6G□MA (metal bearing) Mass 0.24 kg(0.53 lb): Output shaft D cut
< □ is 30 or more > MX6G□B (ball bearing) Mass 0.3 kg(0.66 lb): Output shaft D cut MX6G□M (metal bearing) Mass 0.3 kg(0.66 lb): Output shaft D cut



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

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

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

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 (r/min)	at 1200 r/min	at 90 r/min			
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 (200 V)
					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 (400 V)
					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

The part number of reduction gear ratio less than 1/25 is MX6G□BA (MA).

* The part number of reduction gear ratio less than 1/25 is MX6G□BA (MA).

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

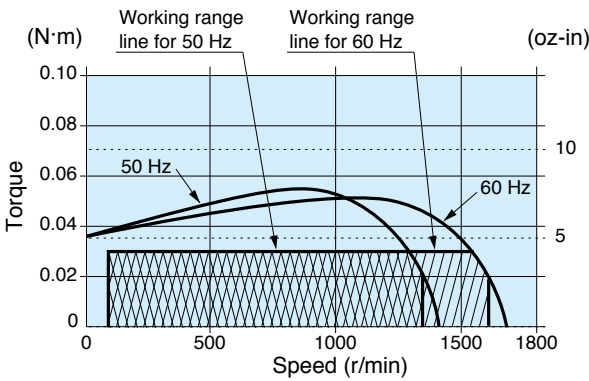
Applicable gear head		Reduction Ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180		
Bearing		Speed																									
MX6G□BA (ball bearing)	1200 r/min	50 Hz		0.072 (0.64)	0.087 (0.77)	0.12 (1.06)	0.14 (1.24)	0.18 (1.59)	0.21 (1.86)	0.24 (2.12)	0.29 (2.57)	0.36 (3.19)	0.43 (3.81)	0.48 (4.25)	0.60 (5.31)	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)		
		60 Hz		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)	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)		
MX6G□B (ball bearing)	90 r/min	50 Hz		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)	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)		
60 Hz			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)	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)			
MX6G□MA (metal bearing)	90 r/min	50 Hz		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)	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)		
60 Hz			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)	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)			
MX6G□M (metal bearing)	90 r/min	50 Hz		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)	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)		
60 Hz			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)	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		Same as motor rotational direction												Reverse to motor rotational direction											

Permissible torque at output shaft of gear head using decimal gear head

For external dimensions of the decimal gear head, refer to page B-448.

* For external dimensions of the decimal gear head, refer to page B-448.						Unit of permissible torque: upper (N·m) / lower (lb·in)									
Applicable gear head		Reduction Ratio Speed		200	250	300	360	500	600	750	900	1000	1200	1500	1800
Bearing	Decimal gear head														
MX6G□BA (ball bearing) MX6G□B (ball bearing) MX6G□MA (metal bearing) MX6G□M (metal bearing)	MX6G10XB	1200 r/min	50 Hz	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)
			60 Hz	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	
		90 r/min		2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)
			Rotational direction	Same as motor 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-20.

Working range line

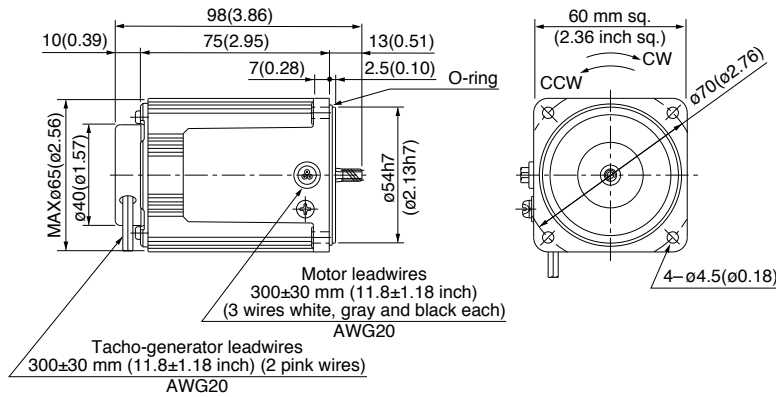
The working range line shows the working limit for the variable speed motor. The permissible torque should fall within the shaded portion. If you use the motor with the permissible torque exceeding the working range line (falling within the portion not shaded), the motor may be burned out due to a high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

Motor (dimensions)

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

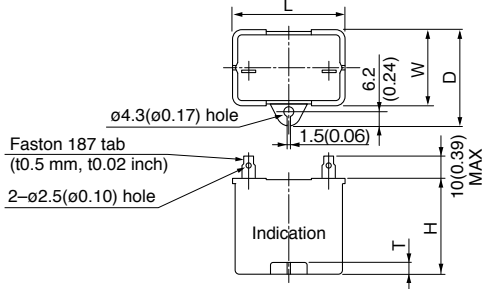
Scale: 1/3, Unit: mm (inch)

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



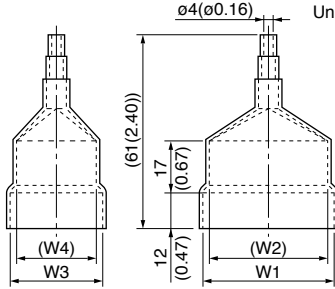
Capacitor (dimensions) [attachment]

Unit: mm (inch)



Capacitor cap (dimensions) [option]

Unit: mm (inch)



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

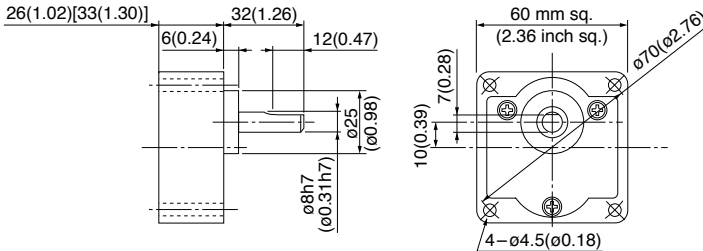
Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)	W1	W2	W3	W4
M6RX6GV4L	M0PC3M20	39.5 (1.56)	16 (0.63)	26.5 (1.04)	30.5 (1.20)	4 (0.16)	M0PC3917	39.5 (1.56)	37.5 (1.48)	17 (0.67)	15 (0.59)
M6RX6GV4Y	M0PC0.8M40	39.5 (1.56)	16.2 (0.64)	27 (1.06)	27 (1.06)	4 (0.16)	M0PC3917	39.5 (1.56)	37.5 (1.48)	17 (0.67)	15 (0.59)

Capacitors (single item) can also be purchased.

Gear head (dimensions)

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

< □ is 25 or less >	Mass 0.24 kg(0.53 lb): Output shaft D cut
MX6G□BA (ball bearing)	
MX6G□MA (metal bearing)	Mass 0.24 kg(0.53 lb): Output shaft D cut
MX6G□B (ball bearing)	Mass 0.3 kg(0.66 lb): Output shaft D cut
MX6G□M (metal bearing)	Mass 0.3 kg(0.66 lb): Output shaft D cut



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

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

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
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Variable speed reversible motor (leadwire)

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 (r/min)	at 1200 r/min	at 90 r/min			
60 mm sq.	M6RX6GV4LG M6RX6GV4LGA	4	6	100	50	30	90 to 1400	0.044 (6.23)	0.044 (6.23)	0.33	0.057 (8.07)	4
					60		90 to 1700	0.034 (4.81)	0.034 (4.81)	0.35	0.057 (8.07)	(250 V)
	M6RX6GV4DG M6RX6GV4DGA	4	6	110	60	30	90 to 1700	0.034 (4.81)	0.034 (4.81)	0.34	0.051 (7.22)	3
				115	60		90 to 1700	0.034 (4.81)	0.034 (4.81)	0.35	0.057 (8.07)	(250 V)
	M6RX6GV4YG M6RX6GV4YGA	4	6	200	50	30	90 to 1400	0.044 (6.23)	0.044 (6.23)	0.15	0.057 (8.07)	1
					60		90 to 1700	0.034 (4.81)	0.034 (4.81)	0.16	0.057 (8.07)	(450 V)
	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
					60		90 to 1700	0.034 (4.81)	0.034 (4.81)	0.15	0.056 (7.93)	
					50		90 to 1400	0.044 (6.23)	0.044 (6.23)	0.15	0.057 (8.07)	
					60		90 to 1700	0.034 (4.81)	0.034 (4.81)	0.16	0.057 (8.07)	

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

The part number of reduction gear ratio less than 1/25 is MX6G□BA (MA).

Applicable gear head Bearing		Reduction Ratio		Unit of permissible torque: upper (N·m) / lower (lb·in)																				
		Speed	3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180
MX6G□BA (ball bearing)	1200 r/min	50 Hz	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)	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)	2.45 (21.7)
		60 Hz	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)	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)	2.45 (21.7)
MX6G□MA (metal bearing)	90 r/min	50 Hz	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)	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)	2.45 (21.7)
		60 Hz	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)	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)	2.45 (21.7)
MX6G□M (metal bearing)	Rotational direction		Same as motor rotational direction												Reverse to motor rotational direction									

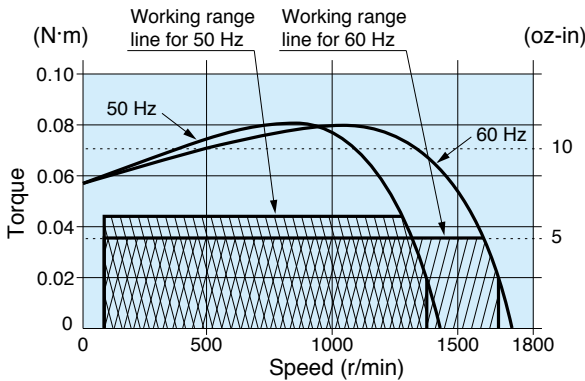
Permissible torque at output shaft of gear head using decimal gear head

For external dimensions of the decimal gear head, refer to page B-448.

* For external dimensions of the decimal gear head, refer to page B-448.

Applicable gear head		Reduction Ratio		Unit of permissible torque: upper (N·m) / lower (lb-in)											
Bearing	Decimal gear head			Speed	200	250	300	360	500	600	750	900	1000	1200	1500
MX6G□BA (ball bearing)	MX6G10XB	1200 r/min	50 Hz	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)
			60 Hz	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	
90 r/min		50 Hz	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	
		60 Hz	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)		
Rotational direction		Same as motor 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-20.

Working range line

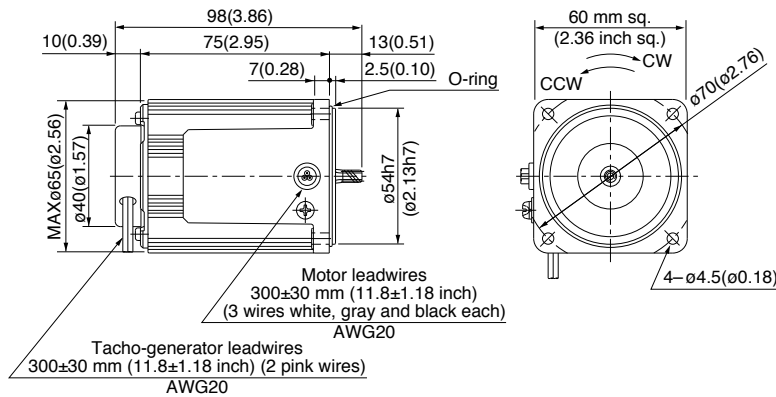
The working range line shows the working limit for the variable speed motor. The permissible torque should fall within the shaded portion. If you use the motor with the permissible torque exceeding the working range line (falling within the portion not shaded), the motor may be burned out due to a high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

Motor (dimensions)

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

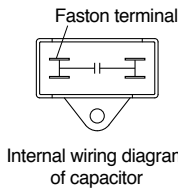
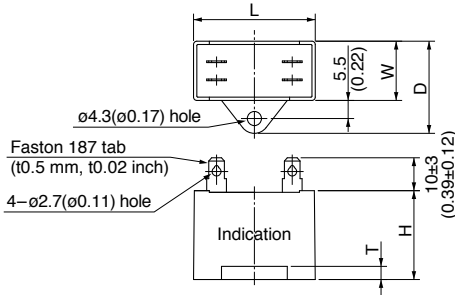
Scale: 1/3, Unit: mm (inch)

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



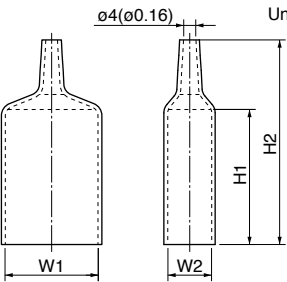
Capacitor (dimensions) [attachment]

Unit: mm (inch)



Capacitor cap (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 (attachment)	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.
Capacitors (single item), capacitors cap (single item) can also be purchased.

Gear head (dimensions)

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

<□ is 25 or less >

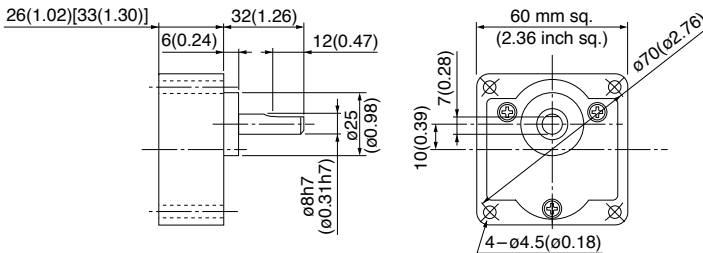
MX6G□BA (ball bearing) Mass 0.24 kg(0.53 lb): Output shaft D cut

MX6G□MA (metal bearing) Mass 0.24 kg(0.53 lb): Output shaft D cut

<□ is 30 or more >

MX6G□B (ball bearing) Mass 0.3 kg(0.66 lb): Output shaft D cut

MX6G□M (metal bearing) Mass 0.3 kg(0.66 lb): Output shaft D cut



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

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

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

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 (r/min)	at 1200 r/min	at 90 r/min			
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 (200 V)
					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 (400 V)
					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

The part number of reduction gear ratio less than 1/25 is MX7G□BA (MA).

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	36	50	60	75	90	100	120	150	180
	Speed																							
Bearing																								
MX7G□BA (ball bearing)	1200 r/min	50 Hz	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)	1.19 (10.5)	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)
MX7G□B (ball bearing)		60 Hz	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)	1.19 (10.5)	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)
MX7G□MA (metal bearing)	90 r/min		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)	0.68 (6.02)	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)
MX7G□M (metal bearing)																								
Rotational direction			Same as motor rotational direction												Reverse to motor rotational direction									

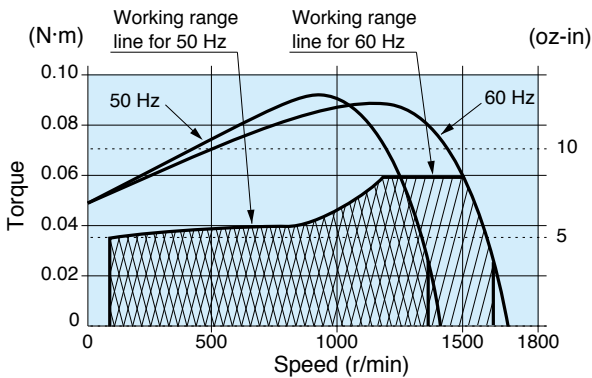
Permissible torque at output shaft of gear head using decimal gear head

For external dimensions of the decimal gear head, refer to page B-448.

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

Applicable gear head		Reduction Ratio		200	250	300	360	500	600	750	900	1000	1200	1500	1800
Bearing	Decimal gear head														
MX7G□BA (ball bearing)	MX7G10XB	1200 r/min	50 Hz	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)
MX7G□B (ball bearing)			60 Hz	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)
MX7G□MA (metal bearing)		90 r/min		4.42 (39.1)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)
MX7G□M (metal bearing)															
		Rotational direction		Same as motor 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.

Features B-268

System configuration B-269

Coding system B-269

Model list B-270

Connection diagram

For the connection diagram showing wiring with the speed controller, refer to pages C-6 to C-20.

Working range line

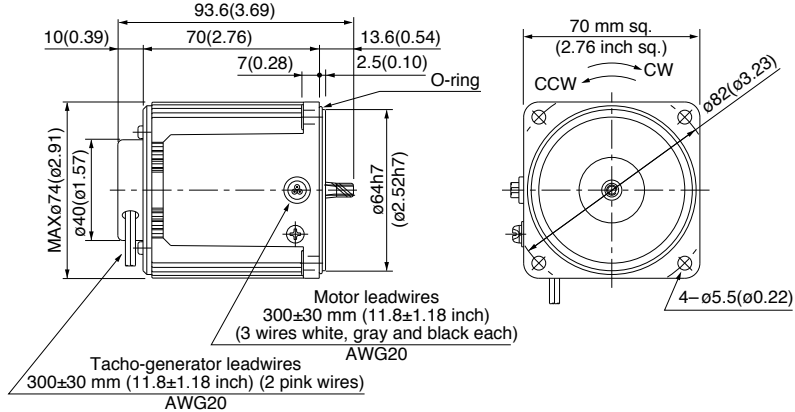
The working range line shows the working limit for the variable speed motor. The permissible torque should fall within the shaded portion. If you use the motor with the permissible torque exceeding the working range line (falling within the portion not shaded), the motor may be burned out due to a high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

Motor (dimensions)

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

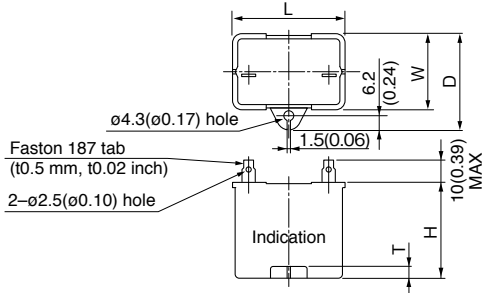
M7RX10GV4L 4P 10 W 100 V
M7RX10GV4Y 4P 10 W 200 V

Mass 0.8 kg 1.76 lb
Helical gear
Module 0.5
Number of teeth 7



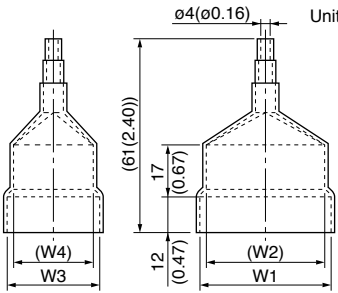
Capacitor (dimensions) [attachment]

Unit: mm (inch)



Capacitor cap (dimensions) [option]

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)	W1	W2	W3	W4
M7RX10GV4L	M0PC4.5M20	39.5 (1.56)	16 (0.63)	26.5 (1.04)	30.5 (1.20)	4 (0.16)	M0PC3917	39.5 (1.56)	37.5 (1.48)	17 (0.67)	15 (0.59)
M7RX10GV4Y	M0PC1.2M40	39.5 (1.56)	18.3 (0.72)	29 (1.14)	29 (1.14)	4 (0.16)	M0PC3922	39.5 (1.56)	37.5 (1.48)	22 (0.87)	20 (0.79)

Capacitors (single item) can also be purchased.

Gear head (dimensions)

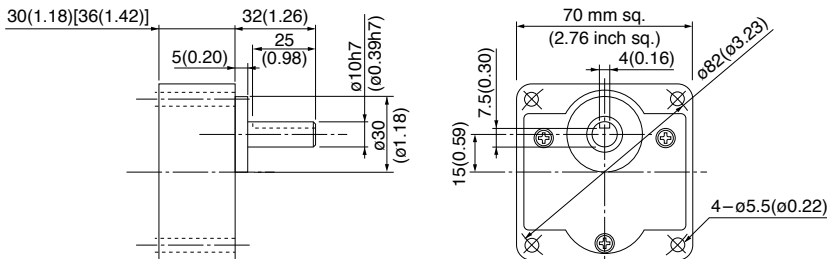
Scale: 1/3, Unit: mm (inch)

< □ is 25 or less >

MX7G□BA (ball bearing) Mass 0.38 kg(0.84 lb)
MX7G□MA (metal bearing) Mass 0.38 kg(0.84 lb)

< □ is 30 or more >

MX7G□B (ball bearing) Mass 0.45 kg(0.99 lb)
MX7G□M (metal bearing) Mass 0.45 kg(0.99 lb)



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

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

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

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 (r/min)	at 1200 r/min	at 90 r/min			
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 (200 V)
					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 (400 V)
					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

The part number of reduction gear ratio less than 1/25 is MX7G□BA (MA).

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	36	50	60	75	90	100	120	150	180
	Speed																							
Bearing																								
MX7G□BA (ball bearing)	1200 r/min	50 Hz	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)	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)
MX7G□B (ball bearing)		60 Hz	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)	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)
MX7G□MA (metal bearing)	90 r/min		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)	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)
MX7G□M (metal bearing)																								
Rotational direction			Same as motor rotational direction												Reverse to motor rotational direction									

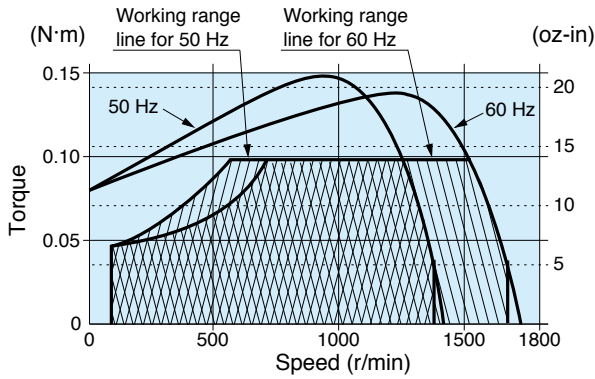
Permissible torque at output shaft of gear head using decimal gear head

For external dimensions of the decimal gear head, refer to page B-448.

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

Applicable gear head		Reduction Ratio		200	250	300	360	500	600	750	900	1000	1200	1500	1800
Bearing	Decimal gear head														
MX7G□BA (ball bearing)	MX7G10XB	1200 r/min	50 Hz	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)
MX7G□B (ball bearing)			60 Hz	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)
MX7G□MA (metal bearing)		90 r/min	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	
MX7G□M (metal bearing)			4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	
		Rotational direction		Same as motor 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.

Features B-268

System configuration B-269

Coding system B-269

Model list B-270

Connection diagram

For the connection diagram showing wiring with the speed controller, refer to pages C-6 to C-20.

Working range line

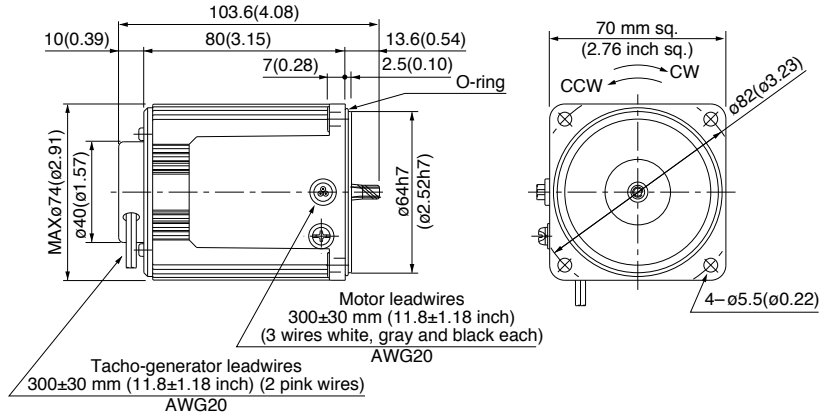
The working range line shows the working limit for the variable speed motor. The permissible torque should fall within the shaded portion. If you use the motor with the permissible torque exceeding the working range line (falling within the portion not shaded), the motor may be burned out due to a high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

Motor (dimensions)

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

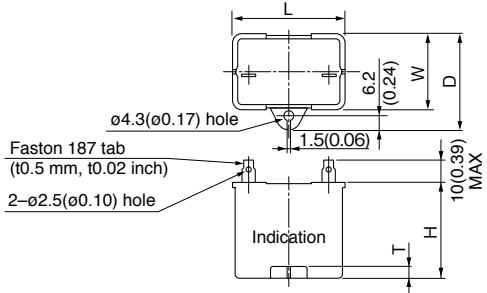
M7RX15GV4L	4P	15 W	100 V
M7RX15GV4Y	4P	15 W	200 V

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



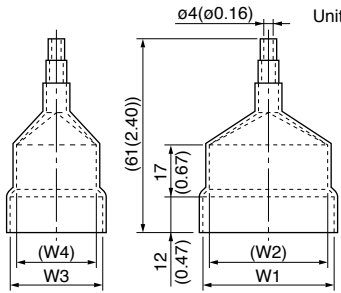
Capacitor (dimensions) [attachment]

Unit: mm (inch)



Capacitor cap (dimensions) [option]

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)	W1	W2	W3	W4
M7RX15GV4L	M0PC6M20	39.5 (1.56)	17.5 (0.69)	28 (1.10)	30.5 (1.20)	4 (0.16)	M0PC3917	39.5 (1.56)	37.5 (1.48)	17 (0.67)	15 (0.59)
M7RX15GV4Y	M0PC1.5M40	39.5 (1.56)	22 (0.87)	32.5 (1.28)	32.5 (1.28)	4 (0.16)	M0PC3922	39.5 (1.56)	37.5 (1.48)	22 (0.87)	20 (0.79)

Capacitors (single item) can also be purchased.

Gear head (dimensions)

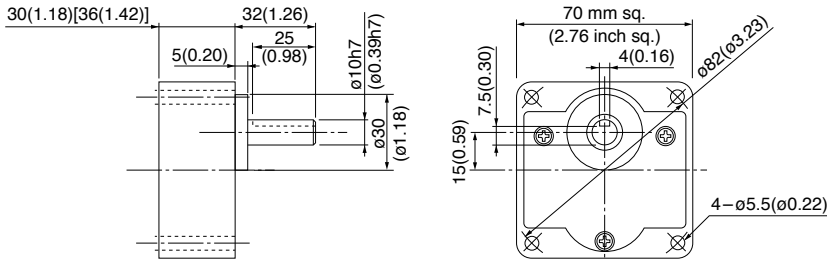
Scale: 1/3, Unit: mm (inch)

< □ is 25 or less >

MX7G□BA (ball bearing)	Mass 0.38 kg(0.84 lb)
MX7G□MA (metal bearing)	Mass 0.38 kg(0.84 lb)

< □ is 30 or more >

MX7G□B (ball bearing)	Mass 0.45 kg(0.99 lb)
MX7G□M (metal bearing)	Mass 0.45 kg(0.99 lb)



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

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

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

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 (r/min)	at 1200 r/min	at 90 r/min			
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 (200 V)
					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 (400 V)
					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

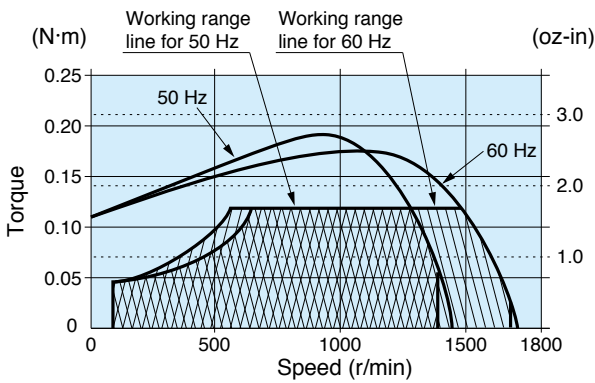
Applicable gear head		Reduction Ratio	Unit of permissible torque: upper (N·m) / lower (lb·in)															
			3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60
MX8G□B (ball bearing)	MX8G□M (metal bearing)	Speed																
		1200 r/min																
		50 Hz	0.29 (2.57)	0.34 (3.01)	0.48 (4.25)	0.58 (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)	2.62 (23.2)	3.14 (27.8)	4.37 (38.7)	5.24 (46.4)

Permissible torque at output shaft of gear head using decimal gear head

For external dimensions of the decimal gear head, refer to page B-448.

Applicable gear head		Reduction Ratio	Unit of permissible torque: upper (N·m) / lower (lb·in)											
			200	250	300	360	500	600	750	900	1000	1200	1500	1800
MX8G□B (ball bearing)	MX8G□M (metal bearing)	Speed												
		1200 r/min												
		50 Hz	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)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)

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-20.

Working range line

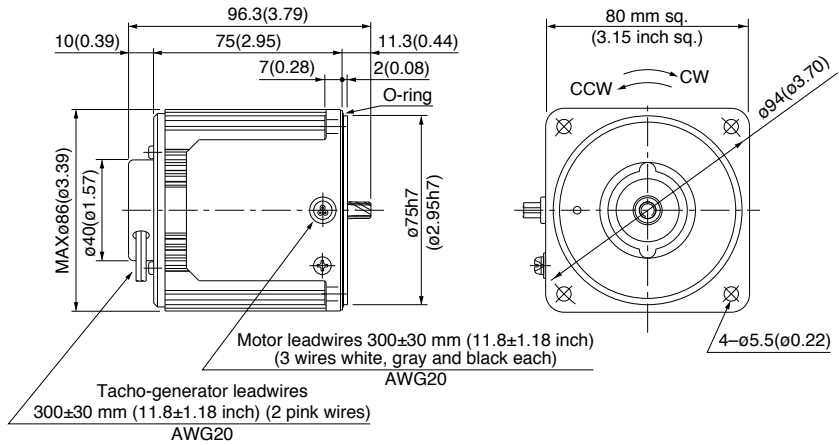
The working range line shows the working limit for the variable speed motor. The permissible torque should fall within the shaded portion. If you use the motor with the permissible torque exceeding the working range line (falling within the portion not shaded), the motor may be burned out due to a high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

Motor (dimensions)

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

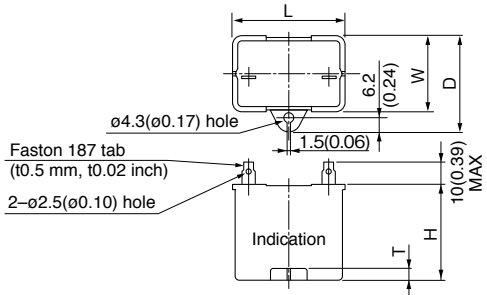
M8RX20GV4L	4P	20 W	100 V
M8RX20GV4Y	4P	20 W	200 V

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



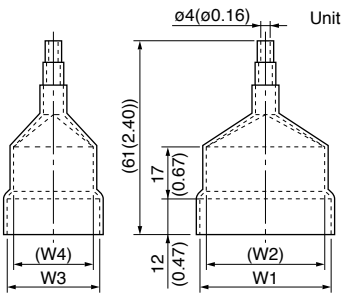
Capacitor (dimensions) [attachment]

Unit: mm (inch)



Capacitor cap (dimensions) [option]

Unit: mm (inch)



Capacitor dimension list

Unit: upper (mm) / lower (inch)

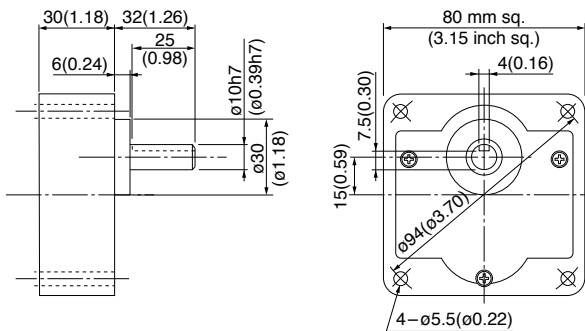
Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)	W1	W2	W3	W4
M8RX20GV4L	M0PC7M20	39.5 (1.56)	22 (0.87)	32.5 (1.28)	30.5 (1.20)	4 (0.16)	M0PC3922	39.5 (1.56)	37.5 (1.48)	22 (0.87)	20 (0.79)
M8RX20GV4Y	M0PC1.8M40	39.5 (1.56)	22 (0.87)	32.5 (1.28)	32.5 (1.28)	4 (0.16)	M0PC3922	39.5 (1.56)	37.5 (1.48)	22 (0.87)	20 (0.79)

Capacitors (single item) can also be purchased.

Gear head (dimensions)

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

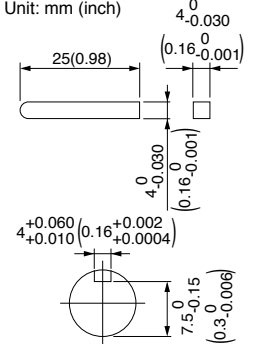
MX8G□B (ball bearing)	Mass 0.6 kg (1.32 lb)	MX8G□M (metal bearing)	Mass 0.6 kg (1.32 lb)
-----------------------	-----------------------	------------------------	-----------------------



Key and keyway (dimensions) [attachment]

MX8G□B(M)

Unit: mm (inch)



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

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
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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 (r/min)	at 1200 r/min	at 90 r/min			
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 (200 V)
					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 (400 V)
					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

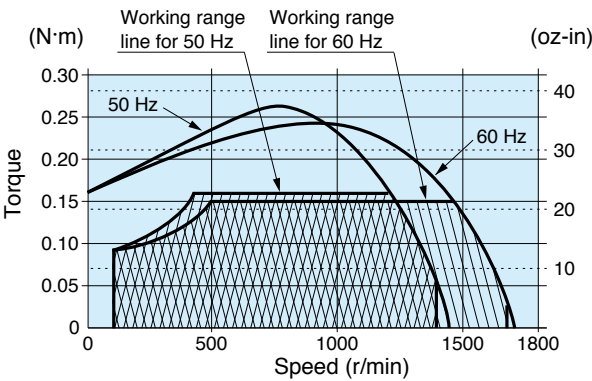
Applicable gear head		Reduction Ratio		Unit of permissible torque: upper (N·m) / lower (lb·in)																					
				3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180
Bearing		Speed																							
MX8G□B (ball bearing)	1200 r/min	50 Hz	0.34 (3.01)	0.40 (3.54)	0.56 (4.96)	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)	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)	
		60 Hz	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)	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)	
	90 r/min		0.21 (1.86)	0.25 (2.21)	0.35 (3.10)	0.42 (3.72)	0.53 (4.69)	0.64 (5.66)	0.71 (6.28)	0.89 (7.88)	1.06 (9.38)	1.28 (11.3)	1.42 (12.6)	1.78 (15.8)	2.13 (18.9)	2.56 (22.7)	3.56 (31.5)	4.27 (37.8)	5.34 (47.3)	6.41 (56.7)	7.12 (63.0)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)	
		Rotational direction	Same as motor rotational direction												Reverse to motor rotational direction										

Permissible torque at output shaft of gear head using decimal gear head

For external dimensions of the decimal gear head, refer to page B-448.

Applicable gear head		Reduction Ratio		200	250	300	360	500	600	750	900	1000	1200	1500	1800
Bearing	Decimal gear head														
MX8G□B (ball bearing) MX8G□M (metal bearing)	MX8G10XB	1200 r/min	50 Hz	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)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)
			60 Hz	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)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)	
		90 r/min	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)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)		
		Rotational direction	Same as motor 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-20.

Working range line

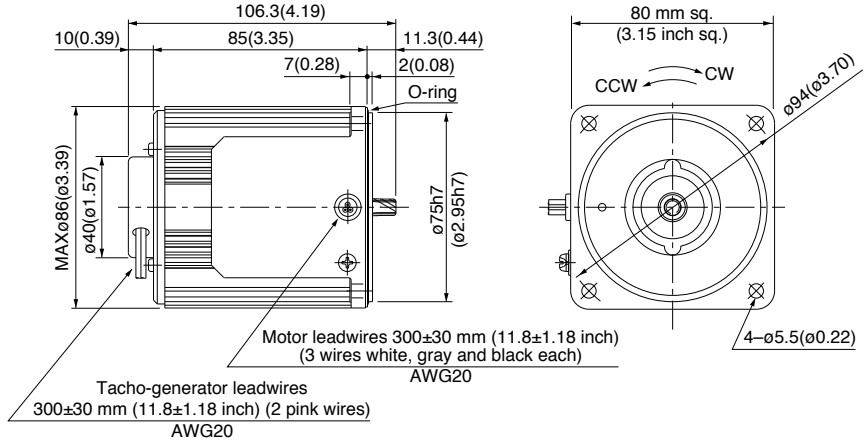
The working range line shows the working limit for the variable speed motor. The permissible torque should fall within the shaded portion. If you use the motor with the permissible torque exceeding the working range line (falling within the portion not shaded), the motor may be burned out due to a high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

Motor (dimensions)

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

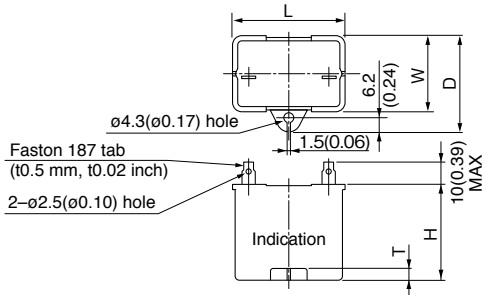
Scale: 1/3, Unit: mm (inch)

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



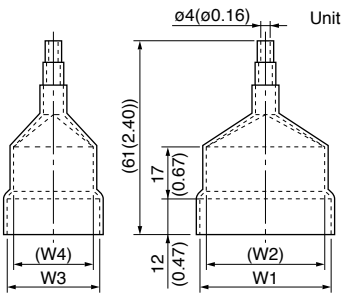
Capacitor (dimensions) [attachment]

Unit: mm (inch)



Capacitor cap (dimensions) [option]

Unit: mm (inch)



Capacitor dimension list

Unit: upper (mm) / lower (inch)

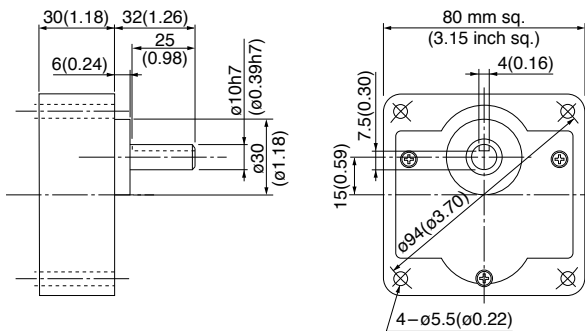
Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)	W1	W2	W3	W4
M8RX25GV4L	M0PC9.5M20	39.5 (1.56)	22 (0.87)	32.5 (1.28)	30.5 (1.20)	4 (0.16)	M0PC3922	39.5 (1.56)	37.5 (1.48)	22 (0.87)	20 (0.79)
M8RX25GV4Y	M0PC2.4M40	49.7 (1.96)	24 (0.94)	34.5 (1.36)	34.5 (1.36)	4 (0.16)	M0PC5026	50 (1.97)	48 (1.89)	26 (1.02)	22 (0.87)

Capacitors (single item) can also be purchased.

Gear head (dimensions)

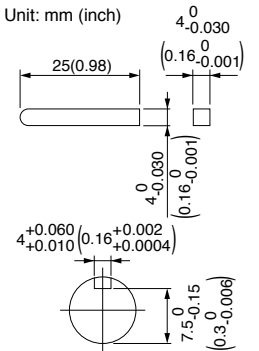
Scale: 1/3, Unit: mm (inch)

MX8G□B (ball bearing)	Mass 0.6 kg(1.32 lb)	MX8G□M (metal bearing)	Mass 0.6 kg(1.32 lb)
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Key and keyway (dimensions) [attachment]

MX8G□B(M)



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

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
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Variable speed reversible motor (leadwire)

US CE CCC 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 (r/min)	at 1200 r/min	at 90 r/min			
80 mm sq.	M8RX25GV4LG(A) M8RX25GV4LGA	4	25	100	50	30	90 to 1400	0.19 (26.9)	0.11 (15.6)	1.1	0.17 (24.1)	10
					60		90 to 1700	0.15 (21.2)	0.11 (15.6)	1.1	0.17 (24.1)	(250 V)
	M8RX25GV4DG(A) M8RX25GV4DGA	4	25	110	60	30	90 to 1700	0.15 (21.2)	0.11 (15.6)	1.1	0.16 (22.7)	8
					60		90 to 1700	0.15 (21.2)	0.11 (15.6)	1.2	0.17 (24.1)	(250 V)
	M8RX25GV4YG(A) M8RX25GV4YGA	4	25	200	50	30	90 to 1400	0.19 (26.9)	0.11 (15.6)	0.45	0.17 (24.1)	2.5
					60		90 to 1700	0.15 (21.2)	0.11 (15.6)	0.46	0.17 (24.1)	(450 V)
	M8RX25GV4GG(A) M8RX25GV4GGA	4	25	220	50	30	90 to 1400	0.19 (26.9)	0.11 (15.6)	0.47	0.16 (22.7)	2
					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)	

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

Applicable gear head		Reduction Ratio	Unit of permissible torque: upper (N·m) / lower (lb·in)																						
			3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180	
Bearing		Speed																							
MX8G□B (ball bearing)	1200 r/min	50 Hz	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)	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)	
		60 Hz	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)	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)	
	90 r/min		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)	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	Same as motor rotational direction												Reverse to motor rotational direction										

Permissible torque at output shaft of gear head using decimal gear head

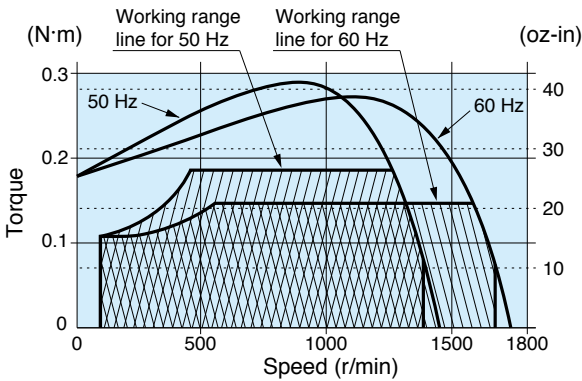
* For external dimensions of the decimal gear head, refer to page B-448.

* For external dimensions of the decimal gear head, refer to page B-448.

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

Applicable gear head		Reduction Ratio		200	250	300	360	500	600	750	900	1000	1200	1500	1800
Bearing	Decimal gear head														
MX8G□B (ball bearing) MX8G□M (metal bearing)	MX8G10XB	1200 r/min	50 Hz	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)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)
			60 Hz	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)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)
		90 r/min		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)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)
		Rotational direction		Same as motor 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-20.

Working range line

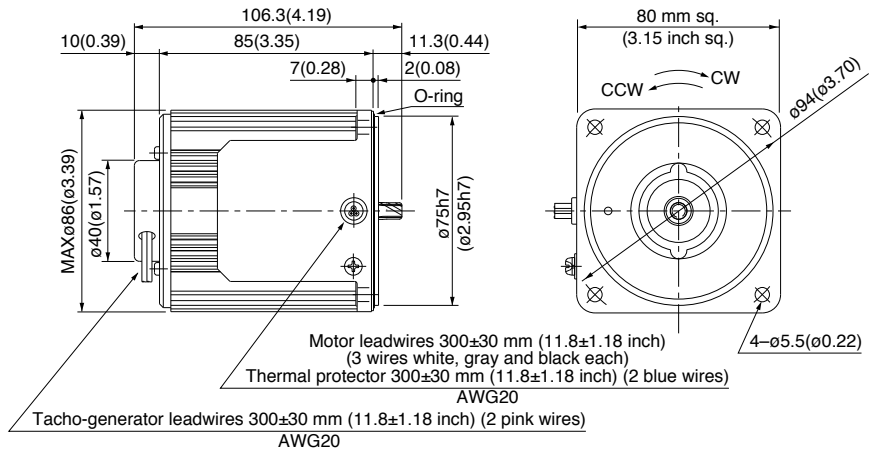
The working range line shows the working limit for the variable speed motor. The permissible torque should fall within the shaded portion. If you use the motor with the permissible torque exceeding the working range line (falling within the portion not shaded), the motor may be burned out due to a high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

Motor (dimensions)

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

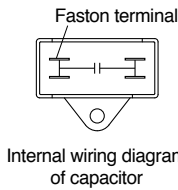
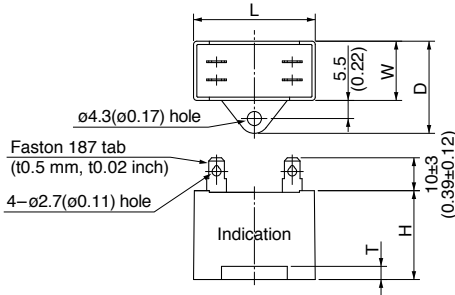
Scale: 1/3, Unit: mm (inch)

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



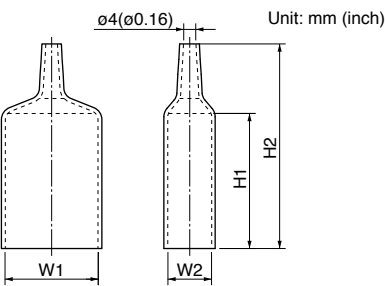
Capacitor (dimensions) [attachment]

Unit: mm (inch)



Capacitor cap (dimensions) [attachment]

Unit: mm (inch)



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

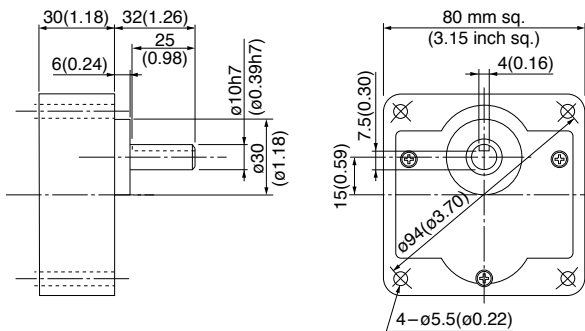
Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (attachment)	W1	W2	H1	H2
M8RX25GV4LG(A)	M0PC10M25G	58 (2.28)	21 (0.83)	31 (1.22)	31 (1.22)	4 (0.16)	M0PC5821G	58 (2.28)	21 (0.83)	55 (2.17)	78 (3.07)
M8RX25GV4DG(A)	M0PC8M25G	48 (1.89)	21 (0.83)	31 (1.22)	31 (1.22)	4 (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.
* Capacitors (single item), capacitors cap (single item) can also be purchased.

Gear head (dimensions)

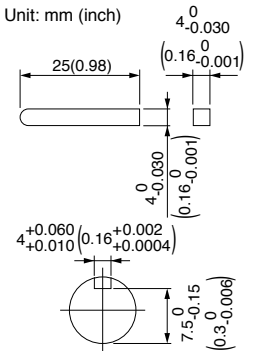
Scale: 1/3, Unit: mm (inch)

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



Key and keyway (dimensions) [attachment]

MX8G□B(M)



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

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

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 (r/min)	at 1200 r/min	at 90 r/min			
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 (210 V)
					60		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 (400 V)
					60		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

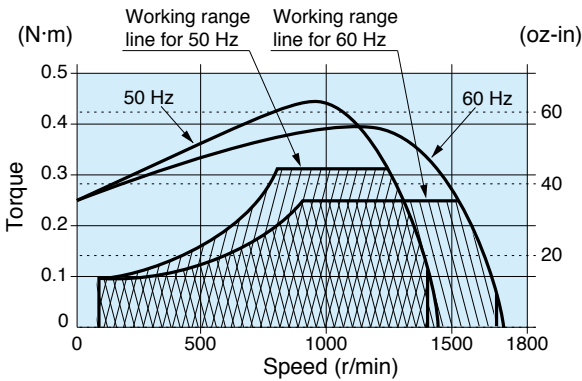
Applicable gear head		Reduction Ratio	Unit of permissible torque: upper (N·m) / lower (lb·in)																					
			3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180
Bearing		Speed																						
MX9G□B (ball bearing)	1200 r/min	50 Hz	0.66 (5.84)	0.84 (7.43)	1.08 (9.56)	1.38 (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)	6.37 (56.4)	8.15 (72.1)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)
		60 Hz	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)	5.29 (46.8)	6.37 (56.4)	8.80 (77.9)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)
	90 r/min		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)	2.38 (21.1)	2.85 (25.2)	3.96 (35.0)	4.76 (42.1)	5.95 (52.7)	7.14 (63.2)	7.93 (70.2)	9.52 (84.3)	9.80 (86.7)	9.80 (86.7)
		Rotational direction	Same as motor rotational direction												Reverse to motor rotational direction									

Permissible torque at output shaft of gear head using decimal gear head

For external dimensions of the decimal gear head, refer to page B-448.

Applicable gear head		Reduction Ratio		200	250	300	360	500	600	750	900	1000	1200	1500	1800
Bearing	Decimal gear head														
MX9G□B (ball bearing) MX9G□M (metal bearing)	MX9G10XB	1200 r/min	50 Hz	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)
			60 Hz	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	
		90 r/min		9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	
		Rotational direction		Same as motor 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-20.

Working range line

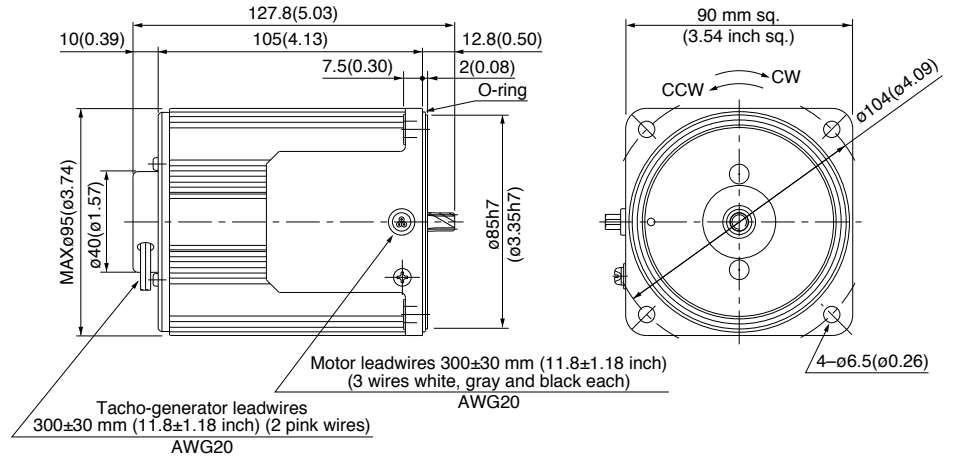
The working range line shows the working limit for the variable speed motor. The permissible torque should fall within the shaded portion. If you use the motor with the permissible torque exceeding the working range line (falling within the portion not shaded), the motor may be burned out due to a high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

Motor (dimensions)

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

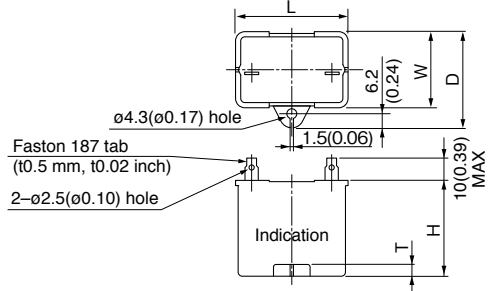
Scale: 1/3, Unit: mm (inch)

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



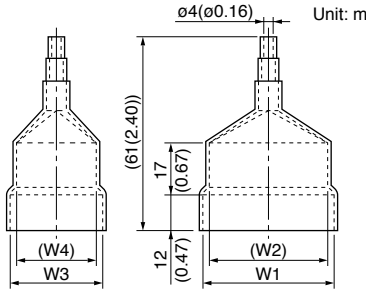
Capacitor (dimensions) [attachment]

Unit: mm (inch)



Capacitor cap (dimensions) [option]

Unit: mm (inch)



Capacitor dimension list

Unit: upper (mm) / lower (inch)

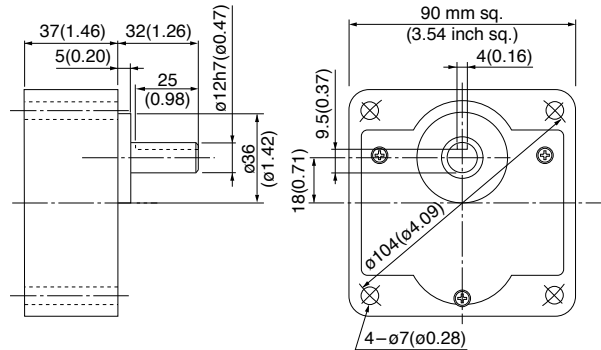
Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)	W1	W2	W3	W4
M9RX40GV4L	M0PC15M20	39.5 (1.56)	26.7 (1.05)	37 (1.46)	41 (1.61)	4 (0.16)	M0PC3926	39.5 (1.56)	37.5 (1.48)	26 (1.02)	25 (0.98)
M9RX40GV4Y	M0PC3.8M40	50 (1.97)	26.7 (1.05)	37.5 (1.48)	38 (1.50)	4 (0.16)	M0PC5026	50 (1.97)	48 (1.89)	26 (1.02)	22 (0.87)

Capacitors (single item) can also be purchased.

Gear head (dimensions)

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

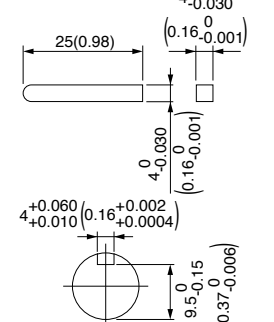
MX9G□B (ball bearing)	Mass 0.8 kg (1.76 lb)	MX9G□M (metal bearing)	Mass 0.8 kg (1.76 lb)
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Key and keyway (dimensions) [attachment]

MX9G□B(M)

Unit: mm (inch)



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

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
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Variable speed reversible motor (leadwire)

US CE 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 (r/min)	at 1200 r/min	at 90 r/min			
90 mm sq.	M9RX40GV4LG(A) M9RX40GV4LGA	4	40	100	50	30	90 to 1400	0.30 (42.5)	0.12 (17.0)	1.7	0.27 (38.2)	16 (250 V)
					60		90 to 1700	0.25 (35.4)	0.12 (17.0)	1.6	0.27 (38.2)	
	M9RX40GV4DG(A) M9RX40GV4DGA	4	40	110	60	30	90 to 1700	0.25 (35.4)	0.12 (17.0)	1.7	0.23 (32.6)	12 (250 V)
					60		90 to 1700	0.25 (35.4)	0.12 (17.0)	1.8	0.25 (35.4)	
	M9RX40GV4YG(A) M9RX40GV4YGA	4	40	200	50	30	90 to 1400	0.30 (42.5)	0.12 (17.0)	0.67	0.27 (38.2)	4 (450 V)
					60		90 to 1700	0.25 (35.4)	0.12 (17.0)	0.70	0.27 (38.2)	
	M9RX40GV4GG(A) M9RX40GV4GGA	4	40	220	50	30	90 to 1400	0.30 (42.5)	0.12 (17.0)	0.71	0.27 (38.2)	3.5 (450 V)
					60		90 to 1700	0.25 (35.4)	0.12 (17.0)	0.71	0.27 (38.2)	
					50		90 to 1400	0.30 (42.5)	0.12 (17.0)	0.74	0.30 (42.5)	
					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

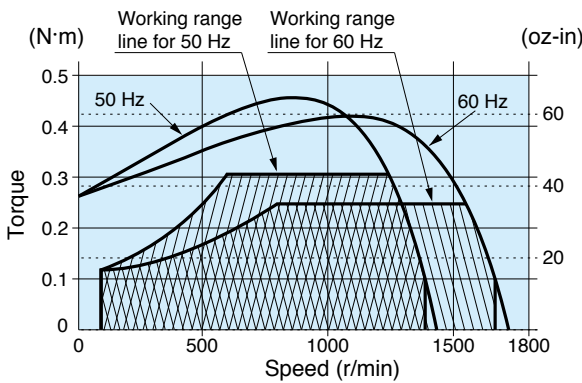
Applicable gear head		Reduction Ratio	Unit of permissible torque: upper (N·m) / lower (lb·in)															
			3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60
MX9G□B (ball bearing)	MX9G□M (metal bearing)	Speed	50 Hz	0.73 (6.46)	0.87 (7.7)	1.22 (10.8)	1.46 (12.9)	1.82 (16.1)	2.19 (19.4)	2.43 (21.5)	3.04 (26.9)	3.65 (32.3)	4.37 (38.7)	4.86 (43.0)	6.08 (53.8)	6.56 (58.1)	7.87 (69.7)	9.80 (86.7)
			60 Hz	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)	5.47 (48.4)	6.56 (58.1)	9.80 (86.7)
		Rotational direction	90 r/min	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)	2.62 (23.2)	3.15 (27.9)	4.37 (38.7)
				Same as motor rotational direction										Reverse to motor rotational direction				

Permissible torque at output shaft of gear head using decimal gear head

* For external dimensions of the decimal gear head, refer to page B-448.

Applicable gear head		Reduction Ratio	Unit of permissible torque: upper (N·m) / lower (lb·in)											
			200	250	300	360	500	600	750	900	1000	1200	1500	1800
MX9G□B (ball bearing)	MX9G□M (metal bearing)	Speed	50 Hz	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)
			60 Hz	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)
		Rotational direction	90 r/min	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)
				Same as 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-20.

Working range line

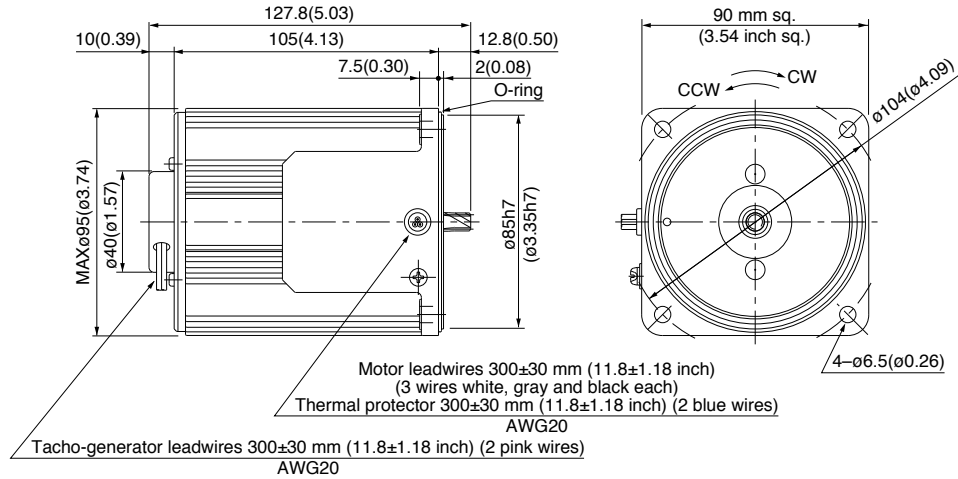
The working range line shows the working limit for the variable speed motor. The permissible torque should fall within the shaded portion. If you use the motor with the permissible torque exceeding the working range line (falling within the portion not shaded), the motor may be burned out due to a high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

Motor (dimensions)

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

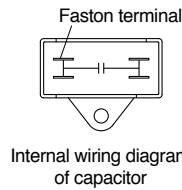
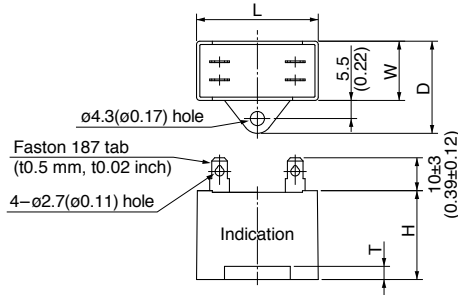
M9RX40GV4LG(A) 4P 40 W 100 V
M9RX40GV4DG(A) 4P 40 W 110 V / 115 V
M9RX40GV4YG(A) 4P 40 W 200 V
M9RX40GV4GG(A) 4P 40 W 220 V / 230 V

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



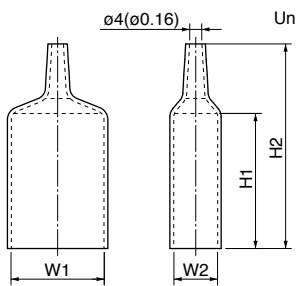
Capacitor (dimensions) [attachment]

Unit: mm (inch)



Capacitor cap (dimensions) [attachment]

Unit: mm (inch)



Capacitor dimension list

Unit: upper (mm) / lower (inch)

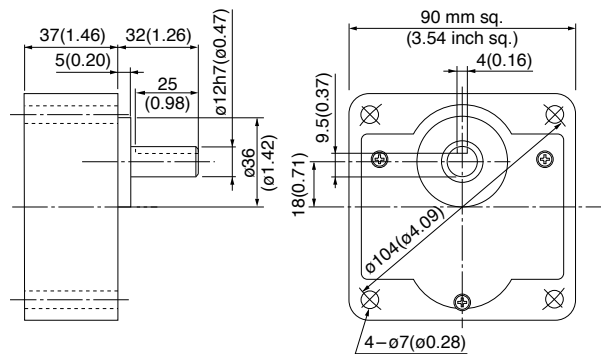
Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (attachment)	W1	W2	H1	H2
M9RX40GV4LG(A)	M0PC16M25G	58 (2.28)	23.5 (0.93)	38.5 (1.52)	37 (1.46)	4 (0.16)	M0PC5823G	58 (2.28)	23.5 (0.93)	55 (2.17)	78 (3.07)
M9RX40GV4DG(A)	M0PC12M25G	58 (2.28)	22 (0.87)	32 (1.26)	35 (1.38)	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.
* Capacitors (single item), capacitors cap (single item) can also be purchased.

Gear head (dimensions)

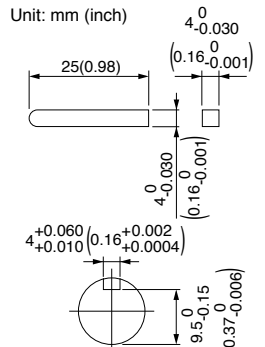
Scale: 1/3, Unit: mm (inch)

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



Key and keyway (dimensions) [attachment]

MX9G□B(M)



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

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

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 (r/min)	at 1200 r/min	at 90 r/min			
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 (200 V)
					60		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 (375 V)
					60		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

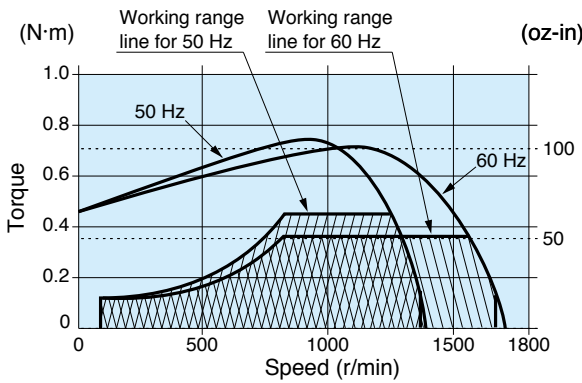
Unit of permissible torque: upper (N·m) / lower (lb·in)																										
Applicable gear head	Reduction Ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180	200	
			Speed																							
Bearing																										
MZ9G□B (ball bearing hinge not attached)	1200 r/min	50 Hz	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)	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)	
		60 Hz	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)	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)	19.6 (173)
MY9G□B (ball bearing hinge attached)	90 r/min		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 (8.58)	1.12 (9.91)	1.35 (11.9)	1.62 (14.3)	1.80 (15.9)	2.25 (19.9)	2.70 (23.9)	3.02 (26.7)	4.20 (37.2)	5.04 (44.6)	6.30 (55.8)	7.56 (66.9)	8.40 (74.3)	10 (88.5)	12.6 (112)	15.1 (134)	16.8 (149)	
		Rotational direction	Same as motor rotational direction									Reverse to motor rotational direction						Same as motor rotational direction								

Permissible torque at output shaft of gear head using decimal gear head

For external dimensions of the decimal gear head, refer to page B-448.

Applicable gear head		Reduction Ratio	Unit of permissible torque: upper (N·m) / lower (lb·in)											
			250	300	360	500	600	750	900	1000	1200	1500	1800	2000
Bearing	Decimal gear head	50 Hz	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)	19.6 (173)	19.6 (173)	19.6 (173)
		60 Hz	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)	19.6 (173)	19.6 (173)	19.6 (173)
MZ9G□B (ball bearing / hinge not attached)	MZ9G10XB	90 r/min	17.7 (157)	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)	19.6 (173)	19.6 (173)
		Rotational direction	Same as 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-20.

Working range line

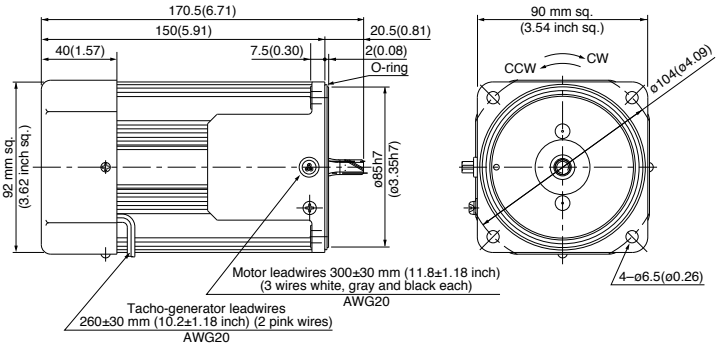
The working range line shows the working limit for the variable speed motor. The permissible torque should fall within the shaded portion. If you use the motor with the permissible torque exceeding the working range line (falling within the portion not shaded), the motor may be burned out due to a high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

Motor (dimensions)

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

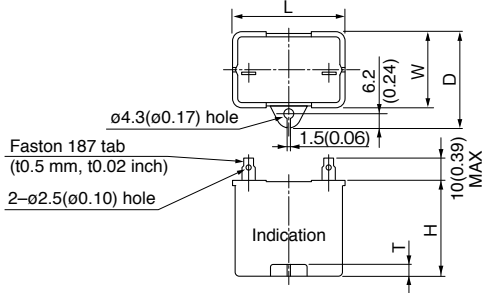
Scale: 1/4, Unit: mm (inch)

Mass	Helical gear	Module	Number of teeth
3.2 kg (7.05 lb)		0.6	9



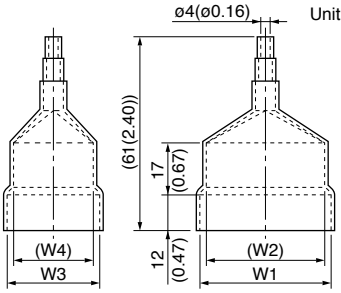
Capacitor (dimensions) [attachment]

Unit: mm (inch)



Capacitor cap (dimensions) [option]

Unit: mm (inch)



Capacitor dimension list

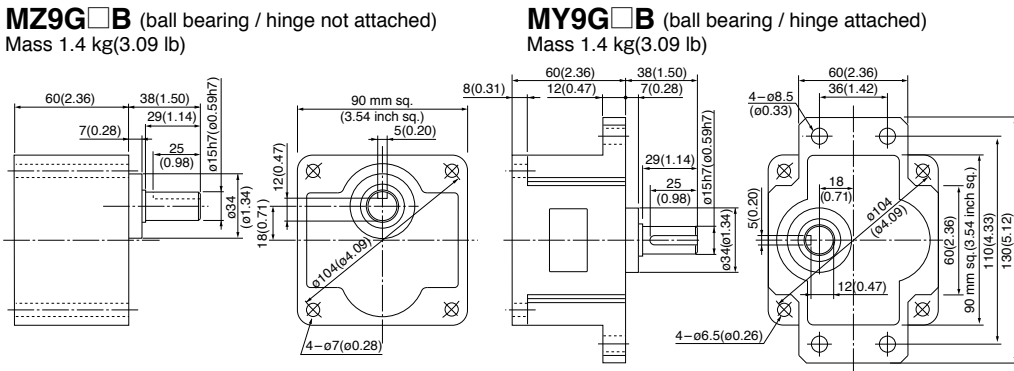
Unit: upper (mm) / lower (inch)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)	W1	W2	W3	W4
M9RZ60GV4L	M0PC25M20	50.2 (1.98)	31 (1.22)	41 (1.61)	42 (1.65)	5 (0.20)	M0PC5032	50 (1.97)	48 (1.89)	32.5 (1.28)	29.5 (1.16)
M9RZ60GV4Y	M0PC6.2M38	50 (1.97)	30.5 (1.20)	41 (1.61)	41.5 (1.63)	4 (0.16)	M0PC5032	50 (1.97)	48 (1.89)	32.5 (1.28)	29.5 (1.16)

Capacitors (single item) can also be purchased.

Gear head (dimensions)

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



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.

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
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Variable speed reversible motor (leadwire)

US CE CCC 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 (r/min)	at 1200 r/min	at 90 r/min			
90 mm sq.	M9RZ60GV4LG(A) M9RZ60GV4LGA	4	60	100	50	30	90 to 1400	0.45 (63.7)	0.14 (19.8)	3.0	0.46 (65.1)	25
					60		90 to 1700	0.36 (51.0)	0.14 (19.8)	2.8	0.48 (68.0)	(250 V)
	M9RZ60GV4DG M9RZ60GV4DGA	4	60	110	60	30	90 to 1700	0.36 (51.0)	0.14 (19.8)	3.0	0.43 (60.9)	20
					60		90 to 1700	0.36 (51.0)	0.14 (19.8)	3.1	0.48 (68.0)	(250 V)
	M9RZ60GV4YG M9RZ60GV4YGA	4	60	200	50	30	90 to 1400	0.45 (63.7)	0.14 (19.8)	1.3	0.46 (65.1)	6
					60		90 to 1700	0.36 (51.0)	0.14 (19.8)	1.2	0.48 (68.0)	(450 V)
	M9RZ60GV4GG M9RZ60GV4GGA	4	60	220	50	30	90 to 1400	0.45 (63.7)	0.14 (19.8)	1.4	0.43 (60.9)	5 (450 V)
					60		90 to 1700	0.36 (51.0)	0.14 (19.8)	1.3	0.43 (60.9)	
					50		90 to 1400	0.45 (63.7)	0.14 (19.8)	1.5	0.48 (68.0)	
					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

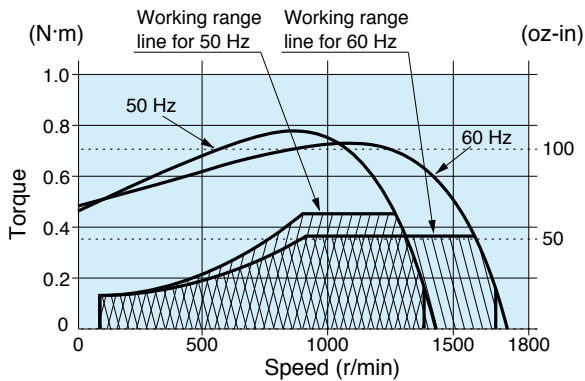
		Unit of permissible torque: upper (N·m) / lower (lb·in)																							
Applicable gear head	Reduction Ratio	3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180	200	
Bearing	Speed																								
MZ9G□B (ball bearing hinge not attached)	1200 r/min	50 Hz	1.09 (9.65)	1.31 (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)	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)	
		60 Hz	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)	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)
MY9G□B (ball bearing hinge attached)	90 r/min		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)	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							Reverse to motor rotational direction							Same as motor rotational direction								

Permissible torque at output shaft of gear head using decimal gear head

* For external dimensions of the decimal gear head, refer to page B-448.

		Unit of permissible torque: upper (N·m) / lower (lb·in)											
Applicable gear head	Reduction Ratio	250	300	360	500	600	750	900	1000	1200	1500	1800	2000
Bearing	Decimal gear head												
MZ9G□B (ball bearing hinge not attached)	MZ9G10XB	1200 r/min	50 Hz	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)	19.6 (173)
			60 Hz	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)	19.6 (173)
		90 r/min		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)	19.6 (173)
			Rotational direction	Same as motor 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.

Features B-268

System configuration B-269

Coding system B-269

Model list B-270

Connection diagram

* For the connection diagram showing wiring with the speed controller, refer to pages C-6 to C-20.

Working range line

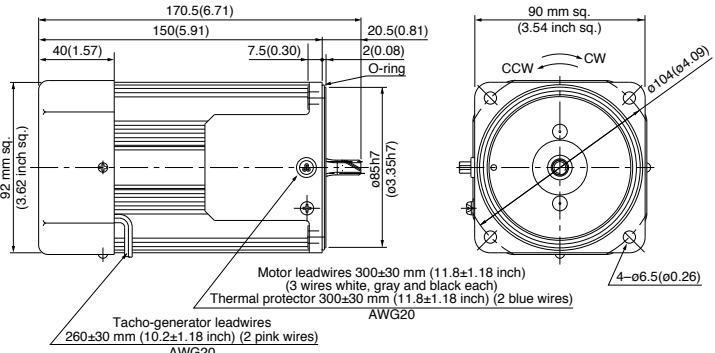
The working range line shows the working limit for the variable speed motor. The permissible torque should fall within the shaded portion. If you use the motor with the permissible torque exceeding the working range line (falling within the portion not shaded), the motor may be burned out due to a high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

Motor (dimensions)

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)

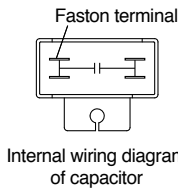
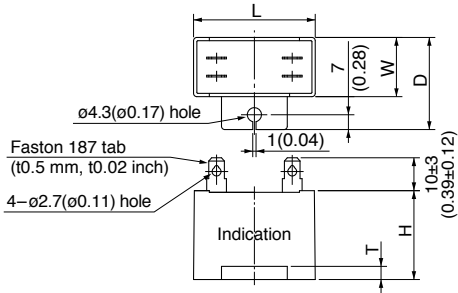
Scale: 1/4, Unit: mm (inch)

Mass	Helical gear	Module	Number of teeth
3.2 kg 7.05 lb		0.6	9



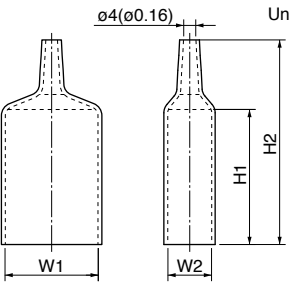
Capacitor (dimensions) [attachment]

Unit: mm (inch)



Capacitor cap (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 (attachment)	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)

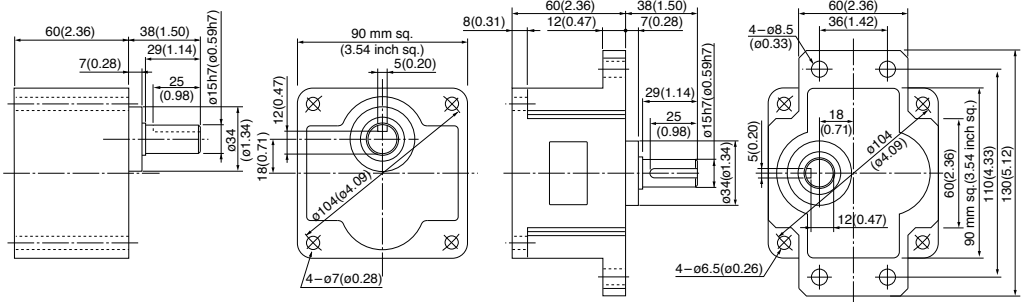
* The models with a motor model number to which "A" is suffixed are not equipped with a capacitor cap.
* Capacitors (single item), capacitors cap (single item) can also be purchased.

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.

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

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 (r/min)	at 1200 r/min	at 90 r/min			
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 (200 V)
					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 (370 V)
					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

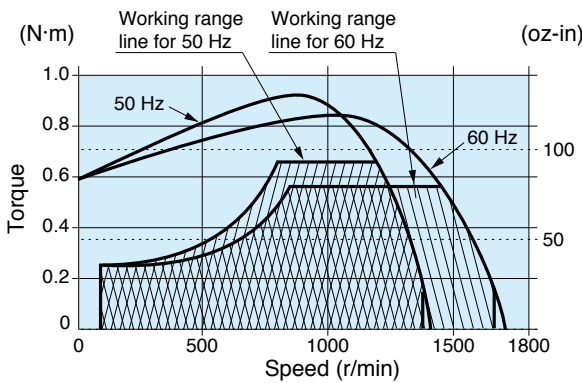
Applicable gear head		Reduction Ratio	Unit of permissible torque: upper (N·m) / lower (lb·in)																						
			3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180	200
Bearing		Speed																							
MZ9G□B (ball bearing hinge not attached)	1200 r/min	50 Hz	1.43 (12.7)	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)	10.7 (94.7)	12.8 (113)	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)
		60 Hz	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)	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)
MY9G□B (ball bearing hinge attached)	90 r/min		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)	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								Reverse to motor rotational direction				Same as motor rotational direction										

Permissible torque at output shaft of gear head using decimal gear head

For external dimensions of the decimal gear head, refer to page B-448.

Applicable gear head		Reduction Ratio	Unit of permissible torque: upper (N·m) / lower (lb·in)											
			250	300	360	500	600	750	900	1000	1200	1500	1800	2000
Bearing	Decimal gear head	50 Hz	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)	19.6 (173)	19.6 (173)	19.6 (173)
		60 Hz	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)	19.6 (173)	19.6 (173)	19.6 (173)
Bearing	Decimal gear head	90 r/min	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)	19.6 (173)	19.6 (173)	19.6 (173)
		Rotational direction	Same as motor 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-20.

Working range line

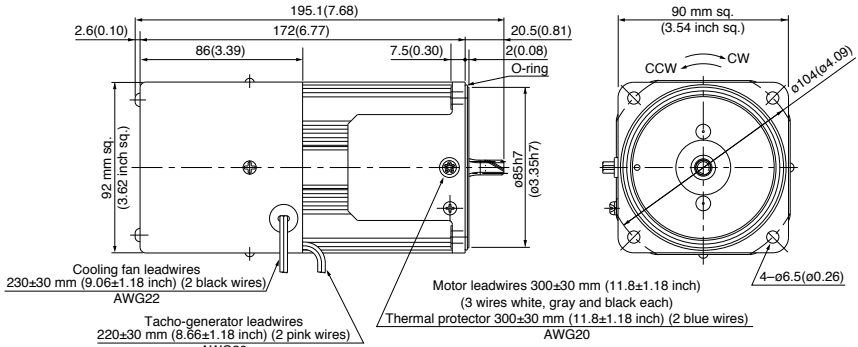
The working range line shows the working limit for the variable speed motor. The permissible torque should fall within the shaded portion. If you use the motor with the permissible torque exceeding the working range line (falling within the portion not shaded), the motor may be burned out due to a high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

Motor (dimensions)

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

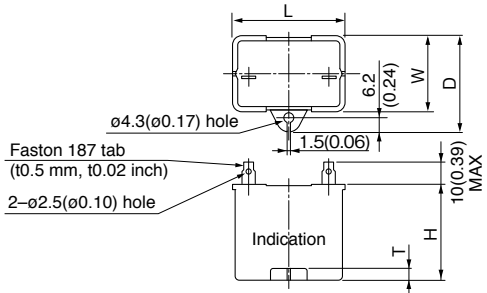
Scale: 1/4, Unit: mm (inch)

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



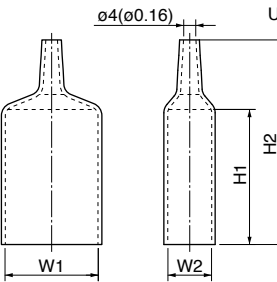
Capacitor (dimensions) [attachment]

Unit: mm (inch)



Capacitor cap (dimensions) [option]

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)	W1	W2	H1	H2
M9RZ90GV4L	M0PC30M20A	50.2 (1.98)	35 (1.38)	45.5 (1.79)	47 (1.85)	5 (0.20)	M0PC5835G	58 (2.28)	35 (1.38)	55 (2.17)	78 (3.07)
M9RZ90GV4Y	M0PC7.5M37	50 (1.97)	34 (1.34)	45 (1.77)	45 (1.77)	6 (0.24)	M0PC5835G	58 (2.28)	35 (1.38)	55 (2.17)	78 (3.07)

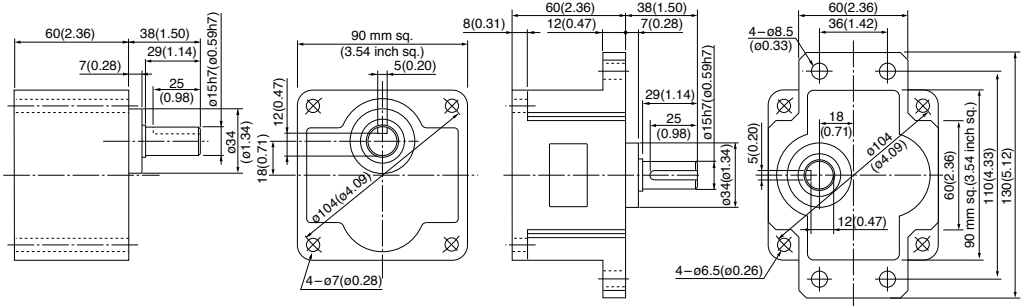
Capacitors (single item) can also be purchased.

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.

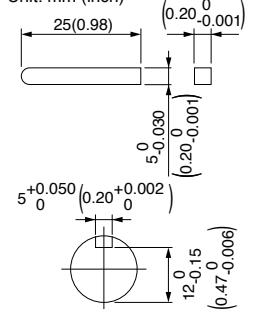
Gear head combination B-305	Round shaft motor B-307	Decimal gear head B-448	Gear head -inch (U.S.A.) B-449	Controls C-4	Option D-2
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Key and keyway (dimensions) [attachment]

MZ9G□B

MY9G□B

Unit: mm (inch)



C_{UL} US **CE** **CCC** **90 mm (3.54 inch) sq.** **90 W**

Motor (dimensions)

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

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

Capacitor (dimensions) [attachment]

Unit: mm (inch)

ø4(ø0.16) Unit: mm (inch)

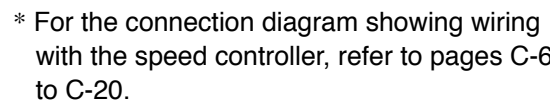


Unit of permissible torque: upper (N·m) / lower (lb-in)

Model number	Model number of capacitor	...	...	...	...
--------------	---------------------------	-----	-----	-----	-----

* Capacitors (single item), capacitors cap (single item) can also be purchased.

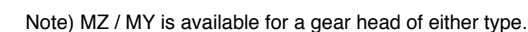
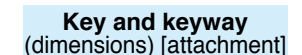
Connection diagram



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

Gear head (dimensions)

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



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

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

Variable speed reversible motor (leadwire)

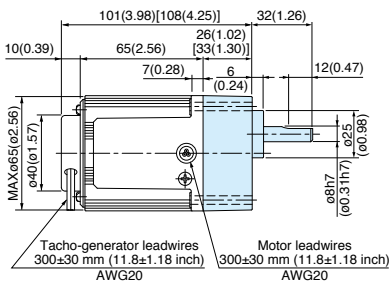
Gear head combination dimensions

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

* Gear head is sold separately.

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

M6RX4GV4L + MX6G□BA(MA) / MX6G□B(M)

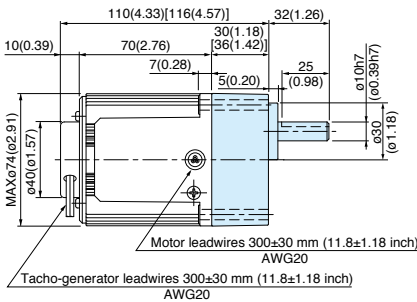


* Figures in [] represent the dimensions of MX6G□B (M) (1/30 or larger reduction ratio).

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

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

M7RX10GV4L + MX7G□BA(MA) / MX7G□B(M)
M7RX10GV4Y + MX7G□BA(MA) / MX7G□B(M)

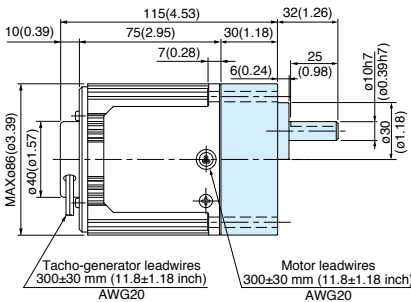


* Figures in [] represent the dimensions of MX7G□B (M) (1/30 or larger reduction ratio).

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

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

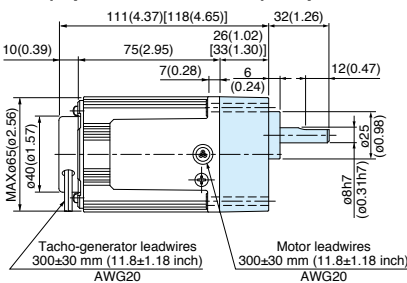
M8RX20GV4L + MX8G□B(M)
M8RX20GV4Y + MX8G□B(M)



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

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)

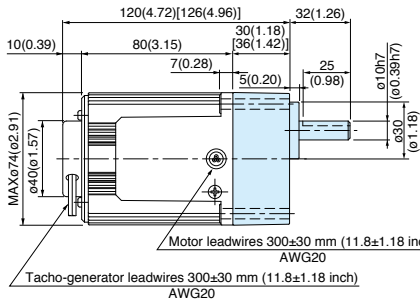


* Figures in [] represent the dimensions of MX6G□B (M) (1/30 or larger reduction ratio).

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

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)

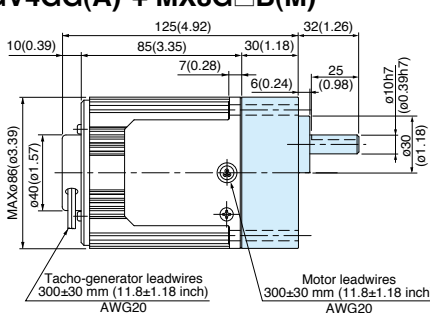


* Figures in [] represent the dimensions of MX7G□B (M) (1/30 or larger reduction ratio).

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

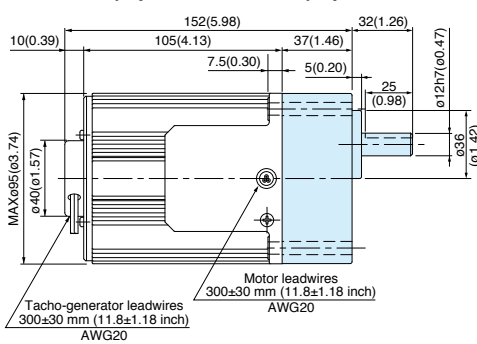
80 mm sq. (3.15 inch sq.) 25 W

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)



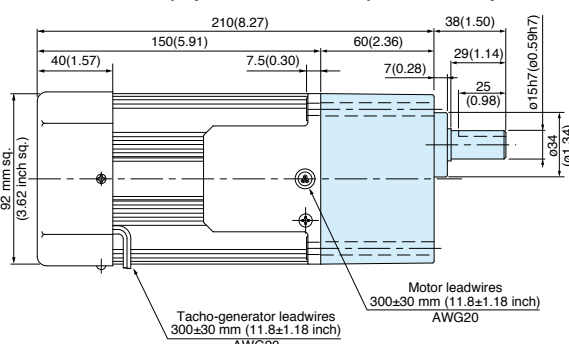
90 mm sq. (3.54 inch sq.) 40 W

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.) 60 W

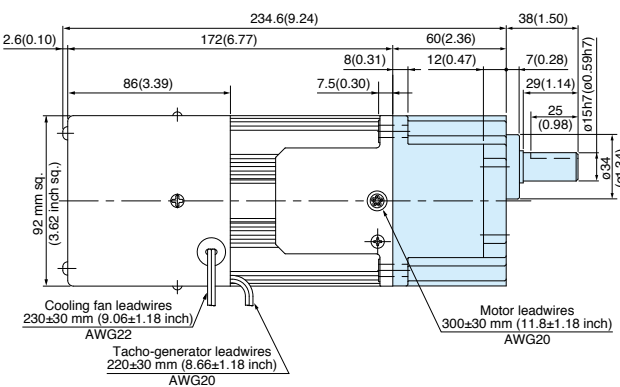
M9RZ60GV4L + MZ9G□B (MY9G□B)
M9RZ60GV4Y + MZ9G□B (MY9G□B)
M9RZ60GV4LG(A) + MZ9G□B (MY9G□B)
M9RZ60GV4DG(A) + MZ9G□B (MY9G□B)
M9RZ60GV4YG(A) + MZ9G□B (MY9G□B)
M9RZ60GV4GG(A) + MZ9G□B (MY9G□B)



* Refer to page B-444 for high torque gear head.

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)



* Refer to page B-444 for high torque gear head.

*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.

