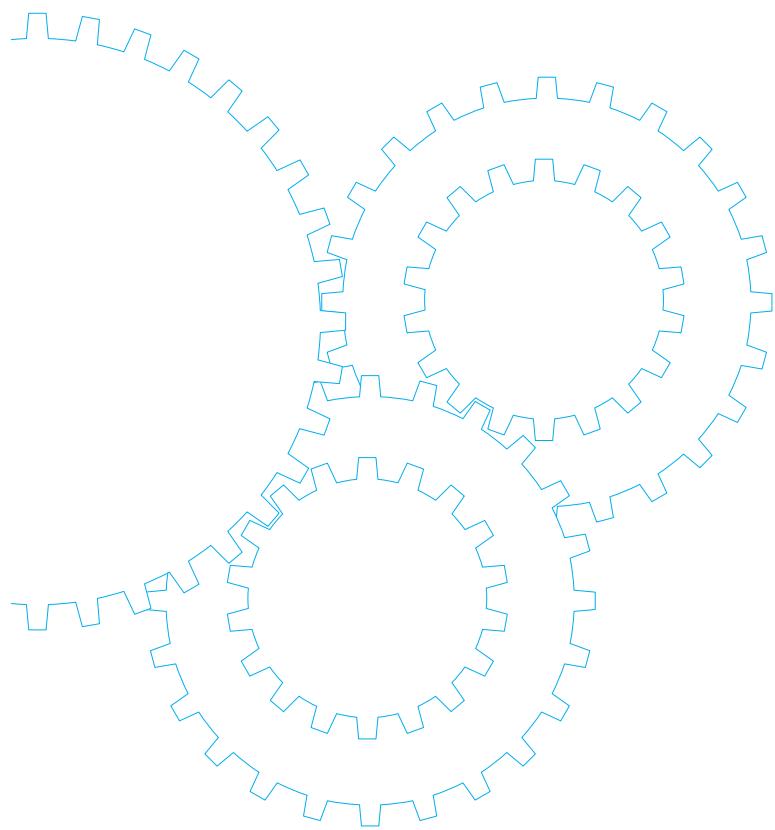


Variable Speed Electromagnetic Brake Single-phase Motor



Contents

- Motor Overview B-310
- Model list B-312
- Product information for each model B-314
- Gear head combination dimensions B-322

Outline of Variable speed electromagnetic brake single-phase motor

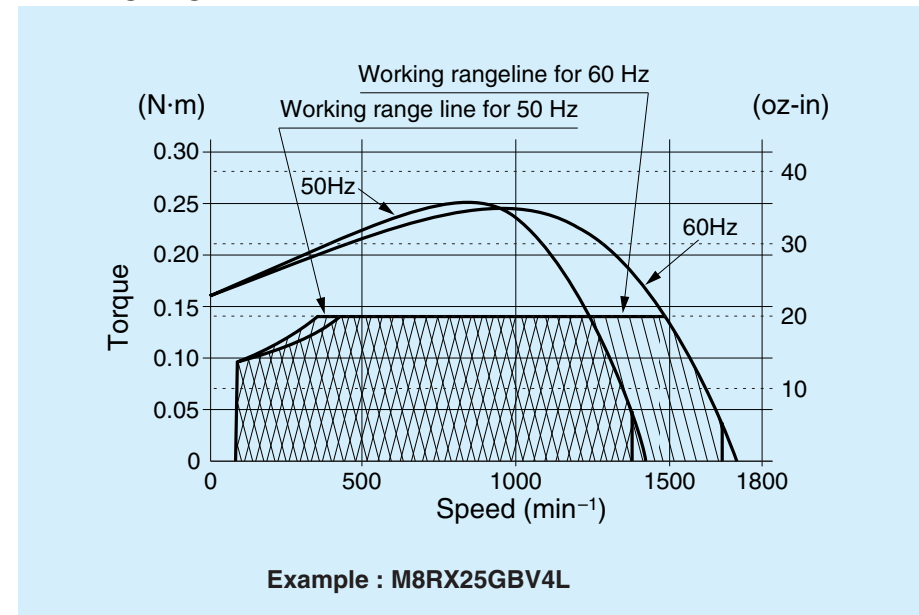
Features

- It is an electromagnetic brake variable speed motor.
- By using it together with a speed controller, you can vary the speed over a wider range (90 to 1400 min⁻¹ for 50 Hz and 90 to 1700 min⁻¹ for 60 Hz).
- Various functions such as variable speed, braking, normal/reverse run and soft-start/soft-down stop are available by using it together with a speed controller.
- Feedback control with the built-in tachogenerator gives a constant speed despite of frequency change.
- The motor output is 6 W to 40 W.
- * For the method of using the electromagnetic brake, refer to the electromagnetic brake motor (page B-168).

Working range

- * The working range of the electromagnetic brake variable speed motor is shown in the figure below. (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.

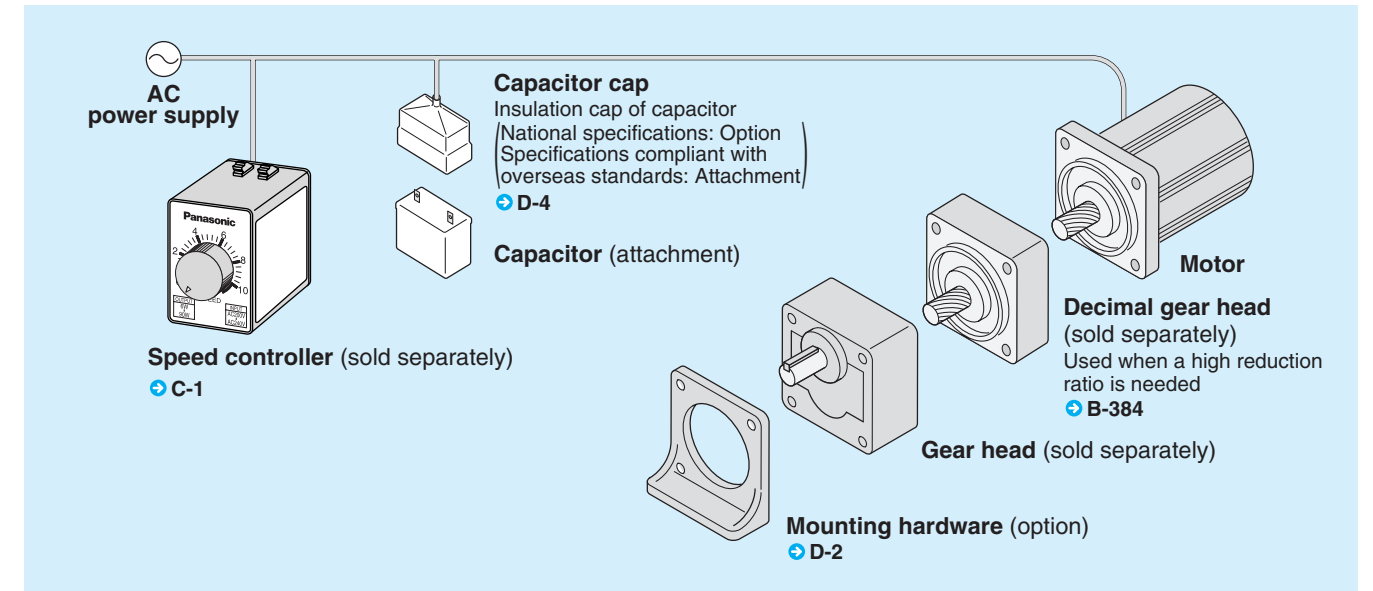
Working range line



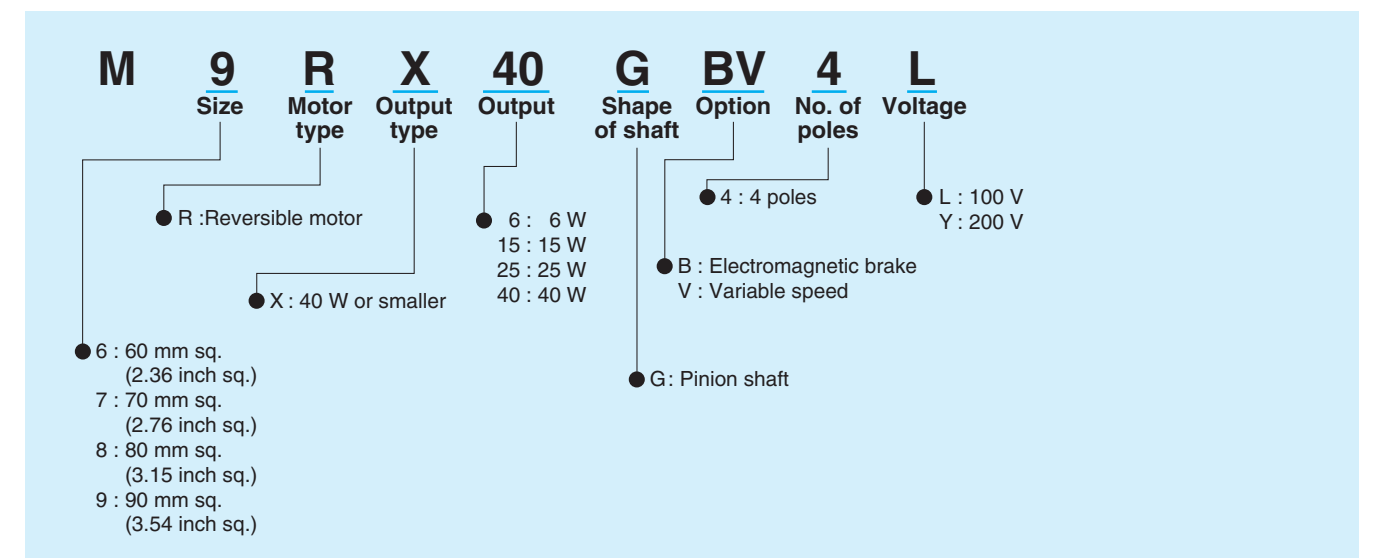
Others

For the principle of operation etc., refer to page B-226.

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 electromagnetic brake single-phase motor

Pinion shaft motor

Applicable gear head

Possible combination of speed controller and motor

Size	Output (W)	Leadwire type		
		Model number	Specifications	Page
60 mm sq. (2.36 inch sq.)	6	M6RX6GBV4L	100V	B-314
		M6RX6GBV4Y	200V	B-314
70 mm sq. (2.76 inch sq.)	15	M7RX15GBV4L	100V	B-316
		M7RX15GBV4Y	200V	B-316
80 mm sq. (3.15 inch sq.)	25	M8RX25GBV4L	100V	B-318
		M8RX25GBV4Y	200V	B-318
90 mm sq. (3.54 inch sq.)	40	M9RX40GBV4L	100V	B-320
		M9RX40GBV4Y	200V	B-320

Standard gear head		Decimal gear head
Ball bearing	metal bearing	
MX6G□BA MX6G□B	MX6G□MA MX6G□M	MX6G10XB
MX7G□BA MX7G□B	MX7G□MA MX7G□M	MX7G10XB
MX8G□B	MX8G□M	MX8G10XB
MX9G□B	MX9G□M	MX9G10XB

* Refer to page B-384 for dimensions of decimal gear head.

Size	Output (W)	Motor		Voltage (V)	Speed controller			
		Certified	Part No.		MGSD type	EX type	SD48 type	EX48 type
60 mm sq. (2.36 inch sq.)	6	-----	M6RX6GBV4L	100	MGSDA1	DV1131	DVSD48AL	DVEX48AL
		-----	M6RX6GBV4Y	200	MGSDB2	DV1231	DVSD48AY	DVEX48AY
70 mm sq. (2.76 inch sq.)	15	-----	M7RX15GBV4L	100	MGSDA1	DV1132	DVSD48AL	DVEX48AL
		-----	M7RX15GBV4Y	200	MGSDB2	DV1231	DVSD48AY	DVEX48AY
80 mm sq. (3.15 inch sq.)	25	-----	M8RX25GBV4L	100	MGSDA1	DV1132	DVSD48BL	DVEX48BL
		-----	M8RX25GBV4Y	200	MGSDB2	DV1234	DVSD48BY	DVEX48BY
90 mm sq. (3.54 inch sq.)	40	-----	M9RX40GBV4L	100	MGSDA1	DV1132	DVSD48BL	DVEX48BL
		-----	M9RX40GBV4Y	200	MGSDB2	DV1234	DVSD48BY	DVEX48BY

* When using a speed controller operative under a wide range of supply voltage (MGSD, SD48, EX48), the mating motor should be selected according to the voltage of the power supply to be used.

• 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)	Brake Input (W)	Brake Current (A)	Brake Friction Torque N·m (oz·in)	Capacitor (μF) (rated voltage)
							Speed (min ⁻¹)	at 1200 min ⁻¹	at 90 min ⁻¹	at 1200 min ⁻¹						
60 mm sq.	M6RX6GBV4L	4	6	100	50	30	90 to 1400	0.030 (4.25)	0.030 (4.25)	0.31	0.038 (5.38)	4	0.04	0.049 (6.94)	3 (200V)	
							90 to 1700	0.030 (4.25)	0.030 (4.25)	0.31	0.038 (5.38)	4	0.04	0.049 (6.94)		
	M6RX6GBV4Y	4	6	200	50	30	90 to 1400	0.030 (4.25)	0.030 (4.25)	0.16	0.038 (5.38)	4	0.02	0.049 (6.94)	0.8 (400V)	
							90 to 1700	0.030 (4.25)	0.030 (4.25)	0.16	0.038 (5.38)	4	0.02	0.049 (6.94)		

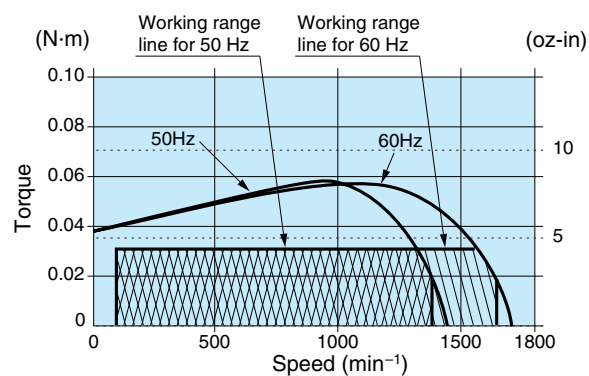
• Permissible torque at output shaft of gear head

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

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

Applicable gear head Bearing	Speed	Reduction ratio	Permissible torque										Applicable decimal gear head
			30	36	50	60	75	90	100	120	150	180	
MX6G□BA (ball bearing) MX6G□B (bearing) MX6G□MA (metal bearing) MX6G□M (bearing)	1200min ⁻¹	50Hz	0.65 (5.75)	0.78 (6.90)	1.09 (9.65)	1.30 (11.5)	1.63 (14.4)	1.98 (17.5)	2.18 (19.3)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	MX6G10XB
		60Hz	0.65 (5.75)	0.78 (6.90)	1.09 (9.65)	1.30 (11.5)	1.63 (14.4)	1.98 (17.5)	2.18 (19.3)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	
	90min ⁻¹	50Hz	0.65 (5.75)	0.78 (6.90)	1.09 (9.65)	1.30 (11.5)	1.63 (14.4)	1.98 (17.5)	2.18 (19.3)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	
		60Hz	0.65 (5.75)	0.78 (6.90)	1.09 (9.65)	1.30 (11.5)	1.63 (14.4)	1.98 (17.5)	2.18 (19.3)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	
Rotational direction		Reverse to motor rotational direction											

Speed-torque characteristics



Connection diagram

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

* Working range line

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

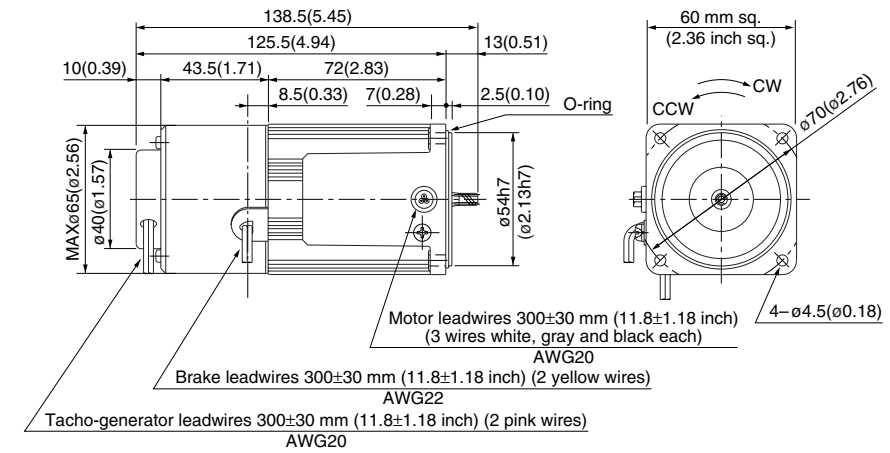
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

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

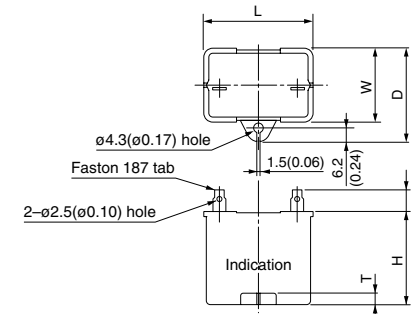
M6RX6GBV4L	4P 6 W 100 V
M6RX6GBV4Y	4P 6 W 200 V

Mass	Helical gear	Module	Number of teeth
0.9 kg 1.98 lb		0.5	6



Capacitor (dimensions) [attachment]

Unit: mm (inch)



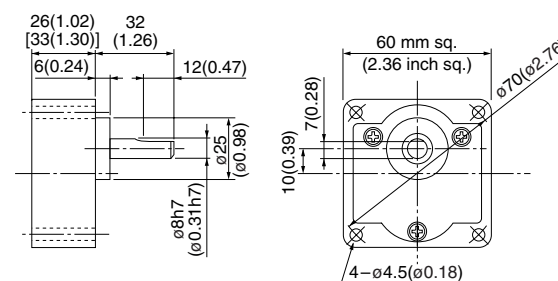
• Capacitor dimension list Unit: upper (mm) / lower (inch)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M6RX6GBV4L	M0PC3M20	39.5 (1.56)	16 (0.63)	26.5 (1.04)	30.5 (1.20)	4 (0.16)	M0PC3917
M6RX6GBV4Y	M0PC0.8M40	39.5 (1.56)	16.2 (0.64)	27 (1.06)	27 (1.06)	4 (0.16)	M0PC3917

Gear head (dimensions)

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

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



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

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

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

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

• 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)	Brake Input (W)	Brake Current (A)	Brake Friction Torque N·m (oz·in)	Capacitor (μF) (rated voltage)
								at 1200 min ⁻¹	at 90 min ⁻¹						
70 mm sq.	M7RX15GBV4L	4	15	100	50	30	90 to 1400	0.098 (13.9)	0.046 (6.51)	0.59	0.080 (11.3)	4	0.05	0.078 (11.0)	6 (200V)
							90 to 1700	0.098 (13.9)	0.046 (6.51)	0.57	0.080 (11.3)	4	0.05	0.078 (11.0)	
	M7RX15GBV4Y	4	15	200	50	30	90 to 1400	0.098 (13.9)	0.046 (6.51)	0.30	0.080 (11.3)	4	0.03	0.078 (11.0)	1.5 (400V)
							90 to 1700	0.098 (13.9)	0.046 (6.51)	0.30	0.080 (11.3)	4	0.03	0.078 (11.0)	

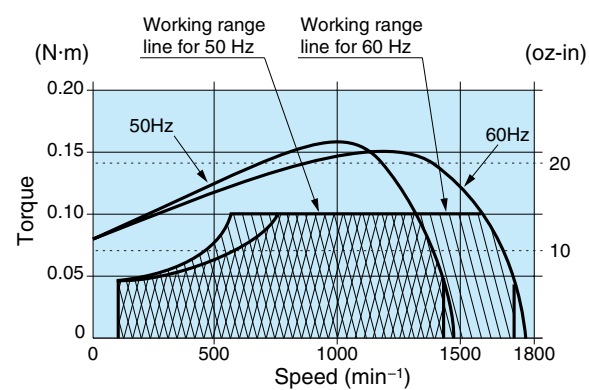
• Permissible torque at output shaft of gear head

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

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

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

Speed-torque characteristics



Connection diagram

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

* Working range line

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

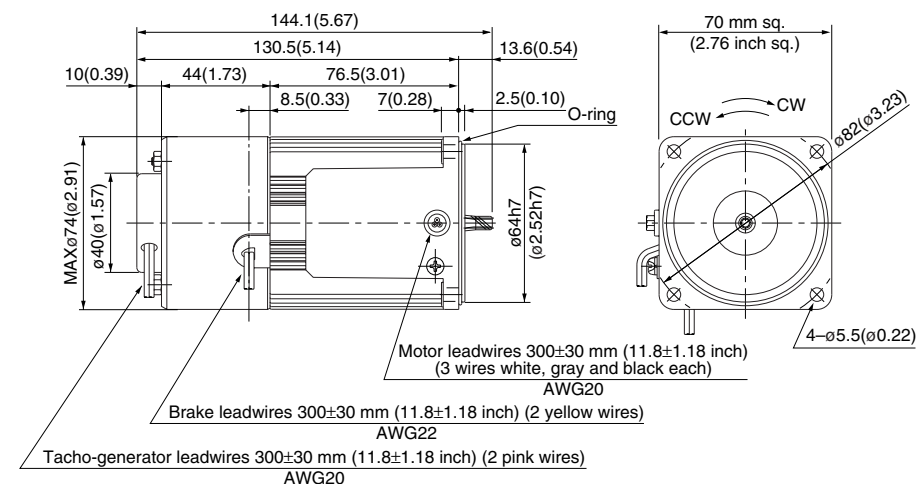
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

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

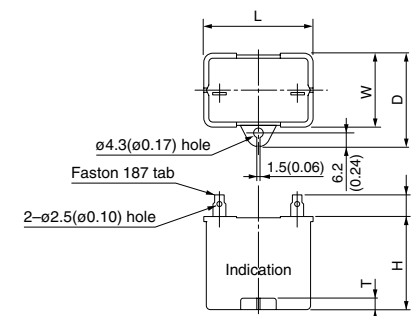
M7RX15GBV4L	4P 15 W 100 V
M7RX15GBV4Y	4P 15 W 200 V

Mass	Helical gear	Module	Number of teeth
1.4 kg 3.09 lb		0.5	7



Capacitor (dimensions) [attachment]

Unit: mm (inch)



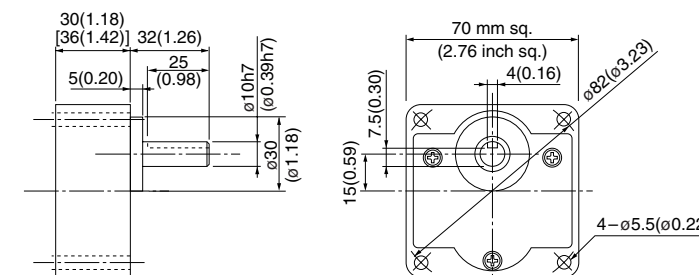
• Capacitor dimension list Unit: upper (mm) / lower (inch)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M7RX15GBV4L	M0PC6M20	39.5 (1.56)	17.5 (0.69)	28 (1.10)	30.5 (1.20)	4 (0.16)	M0PC3917
M7RX15GBV4Y	M0PC1.5M40	39.5 (1.56)	22 (0.87)	32.5 (1.28)	32.5 (1.28)	4 (0.16)	M0PC3922

Gear head (dimensions)

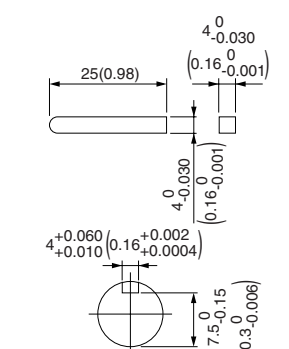
Scale: 1/3, Unit: mm (inch)

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



Key and keyway (dimensions) [attachment]

MX7G□BA(B)	4 ^{+0.030} _{-0.001}
MX7G□MA(M)	4 ^{+0.030} _{-0.001}



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

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

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

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

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Variable speed range Speed (min ⁻¹)	Permissible Torque N·m (oz·in)		Starting current (A)	Starting torque N·m (oz·in)	Brake Input (W)	Brake Current (A)	Brake Friction Torque N·m (oz·in)	Capacitor (μF) (rated voltage)
								at 1200 min ⁻¹	at 90 min ⁻¹						
80 mm sq.	M8RX25GBV4L	4	25	100	50	30	90 to 1400	0.15 (21.2)	0.088 (12.5)	1.0	0.16 (22.7)	6	0.06	0.10 (14.2)	9.5 (200V)
							90 to 1700	0.15 (21.2)	0.088 (12.5)	1.0	0.16 (22.7)	6	0.06	0.10 (14.2)	
	M8RX25GBV4Y	4	25	200	50	30	90 to 1400	0.15 (21.2)	0.088 (12.5)	0.5	0.16 (22.7)	6	0.03	0.10 (14.2)	2.4 (400V)
							90 to 1700	0.15 (21.2)	0.088 (12.5)	0.5	0.16 (22.7)	6	0.03	0.10 (14.2)	

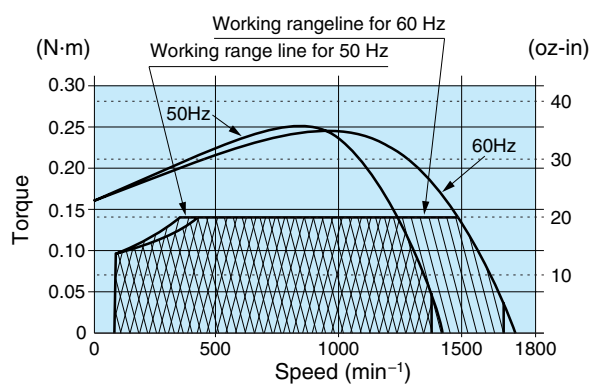
• Permissible torque at output shaft of gear head

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

Applicable gear head Bearing	Speed	Reduction ratio	Reduction ratio											
			3	3.6	5	6	7.5	9	10	12.5	15	18	20	25
MX8G□B (ball bearing)	1200min ⁻¹	50Hz	0.34 (3.01)	0.40 (3.54)	0.56 (4.96)	0.68 (6.02)	0.85 (7.52)	1.02 (9.03)	1.13 (10.0)	1.41 (12.5)	1.70 (15.0)	2.04 (18.1)	2.26 (20.0)	2.83 (25.0)
		60Hz	0.34 (3.01)	0.40 (3.54)	0.56 (4.96)	0.68 (6.02)	0.85 (7.52)	1.02 (9.03)	1.13 (10.0)	1.41 (12.5)	1.70 (15.0)	2.04 (18.1)	2.26 (20.0)	2.83 (25.0)
MX8G□M (metal bearing)	90min ⁻¹	50Hz	0.094 (0.83)	0.11 (0.97)	0.15 (1.33)	0.18 (1.59)	0.23 (2.04)	0.28 (2.48)	0.31 (2.74)	0.39 (3.45)	0.47 (4.16)	0.56 (4.96)	0.63 (5.58)	0.78 (6.90)
		60Hz	0.094 (0.83)	0.11 (0.97)	0.15 (1.33)	0.18 (1.59)	0.23 (2.04)	0.28 (2.48)	0.31 (2.74)	0.39 (3.45)	0.47 (4.16)	0.56 (4.96)	0.63 (5.58)	0.78 (6.90)
Rotational direction		Same as motor rotational direction												

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

Speed-torque characteristics



Connection diagram

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

* Working range line

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

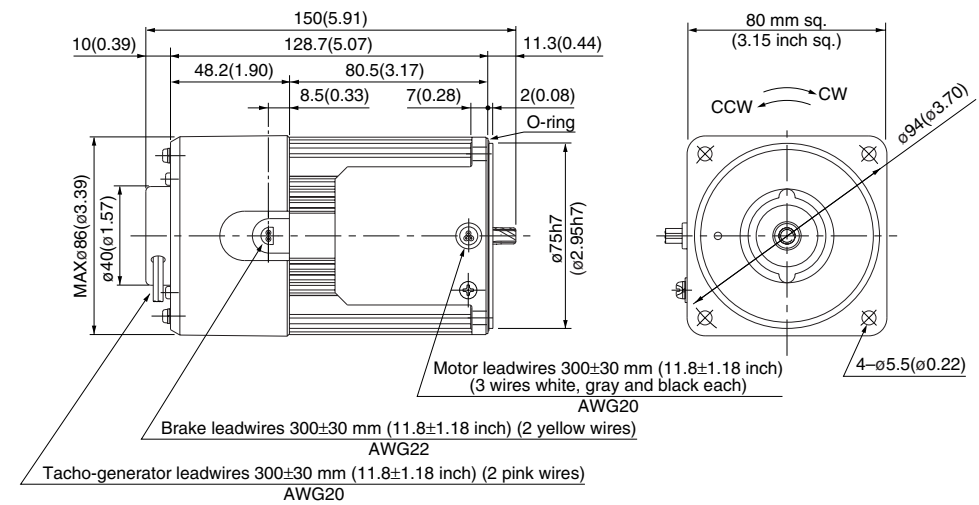
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

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

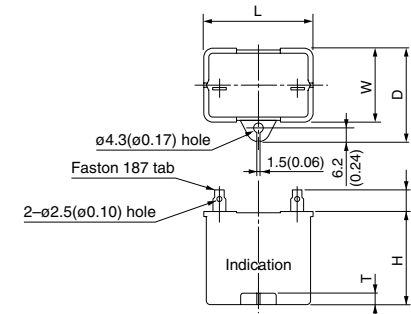
M8RX25GBV4L 4P 25 W 100 V
M8RX25GBV4Y 4P 25 W 200 V

Mass 1.8 kg 3.97 lb
Helical gear
Module 0.5
Number of teeth 9



Capacitor (dimensions) [attachment]

Unit: mm (inch)



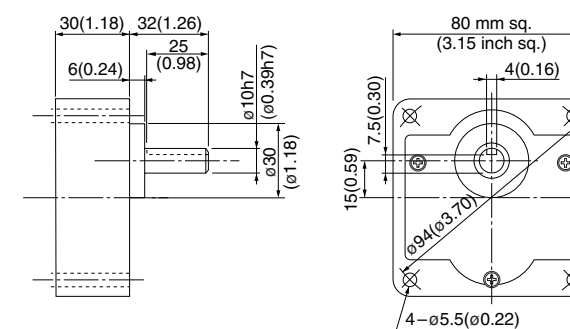
• Capacitor dimension list Unit: upper (mm) / lower (inch)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M8RX25GBV4L	M0PC9.5M20	39.5 (1.56)	22 (0.87)	32.5 (1.28)	30.5 (1.20)	4 (0.16)	M0PC3922
M8RX25GBV4Y	M0PC2.4M40	49.7 (1.96)	24 (0.94)	34.5 (1.36)	34.5 (1.36)	4 (0.16)	M0PC5026

Gear head (dimensions)

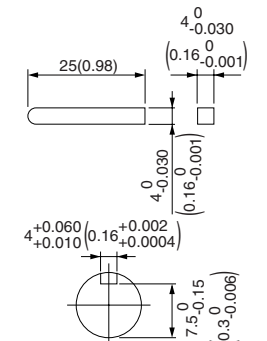
Scale: 1/3, Unit: mm (inch)

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



Key and keyway (dimensions) [attachment]

MX8G□B(M)



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

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

• 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)	Brake Input (W)	Brake Current (A)	Brake Friction Torque N·m (oz·in)	Capacitor (μF) (rated voltage)
								at 1200 min ⁻¹	at 90 min ⁻¹						
90 mm sq.	M9RX40GBV4L	4	40	100	50	30	90 to 1400	0.30 (42.5)	0.098 (13.9)	1.60	0.25 (35.4)	7	0.09	0.20 (28.3)	15 (210V)
							90 to 1700	0.24 (34.0)	0.098 (13.9)	1.60	0.25 (35.4)	7	0.09	0.20 (28.3)	
	M9RX40GBV4Y	4	40	200	50	30	90 to 1400	0.30 (42.5)	0.098 (13.9)	0.80	0.25 (35.4)	7	0.05	0.20 (28.3)	3.8 (400V)
							90 to 1700	0.24 (34.0)	0.098 (13.9)	0.76	0.25 (35.4)	7	0.05	0.20 (28.3)	

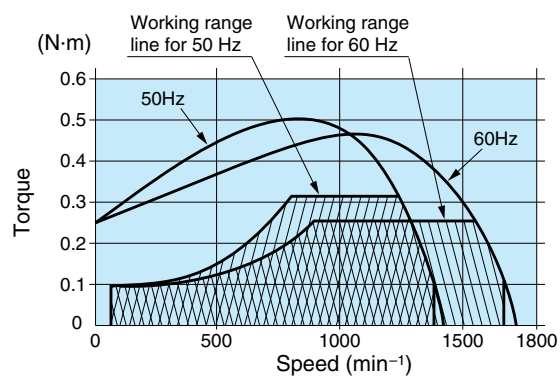
• Permissible torque at output shaft of gear head

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

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

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

Speed-torque characteristics



Connection diagram

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

* Working range line

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

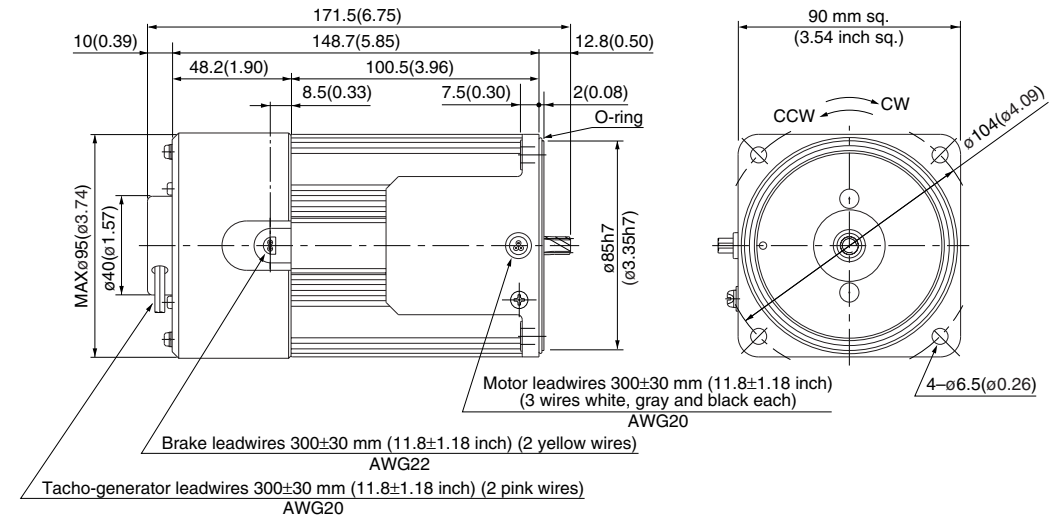
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

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

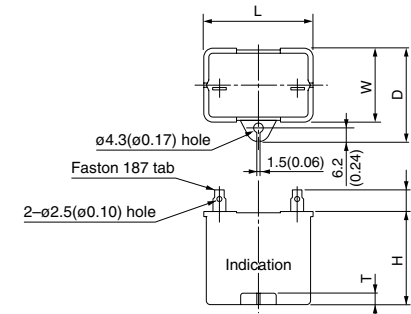
M9RX40GBV4L	4P	40 W	100 V
M9RX40GBV4Y	4P	40 W	200 V

Mass	Helical gear	Module	Number of teeth
2.9 kg 6.39 lb		0.55	9



Capacitor (dimensions) [attachment]

Unit: mm (inch)



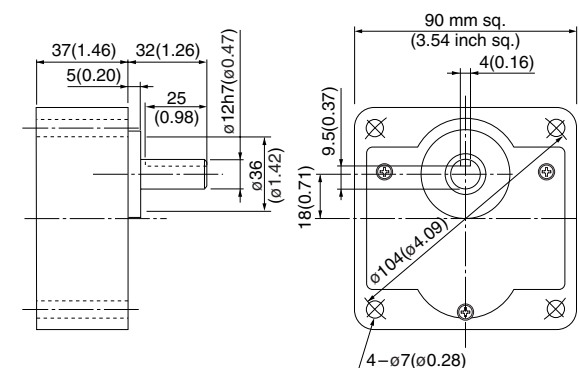
• Capacitor dimension list Unit: upper (mm) / lower (inch)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M9RX40GBV4L	M0PC15M20	39.5 (1.56)	26.7 (1.05)	37 (1.46)	41 (1.61)	4 (0.16)	M0PC3926
M9RX40GBV4Y	M0PC3.8M40	50 (1.97)	26.7 (1.05)	37.5 (1.48)	38 (1.50)	4 (0.16)	M0PC5026

Gear head (dimensions)

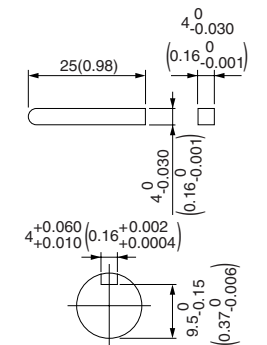
Scale: 1/3, Unit: mm (inch)

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



Key and keyway (dimensions) [attachment]

MX9G□B(M)



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

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

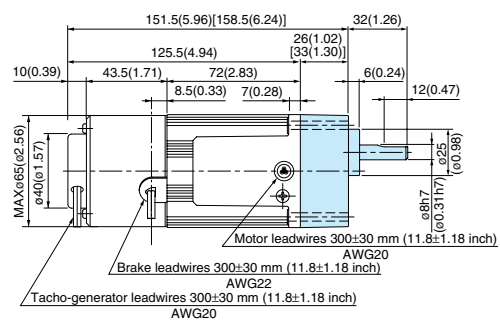
Variable speed electromagnetic brake single-phase motor (leadwire)

Gear head combination dimensions

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

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

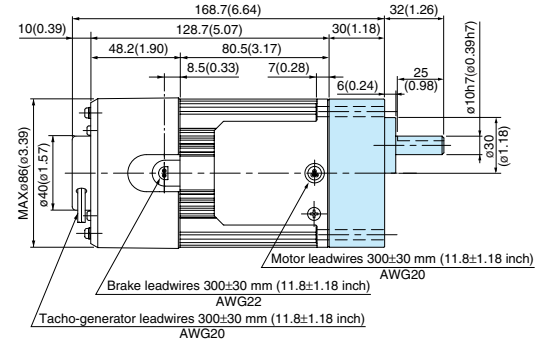
M6RX6GBV4L + MX6G□BA(MA) / MX6G□B(M)
M6RX6GBV4Y + MX6G□BA(MA) / MX6G□B(M)



* 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).

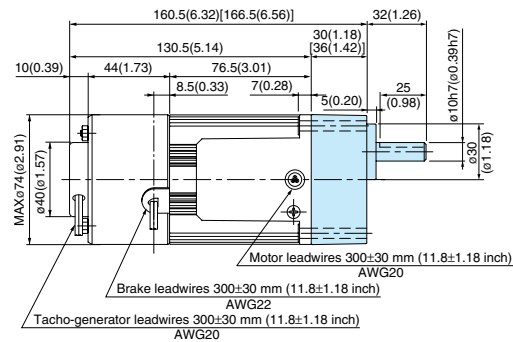
80 mm sq. (3.15 inch sq.) 25 W

M8RX25GBV4L + MX8G□B(M)
M8RX25GBV4Y + MX8G□B(M)



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

M7RX15GBV4L + MX7G□BA(MA) / MX7G□B(M)
M7RX15GBV4Y + MX7G□BA(MA) / MX7G□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 MX7G□BA (MA).

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

M9RX40GBV4L + MX9G□B(M)
M9RX40GBV4Y + MX9G□B(M)

