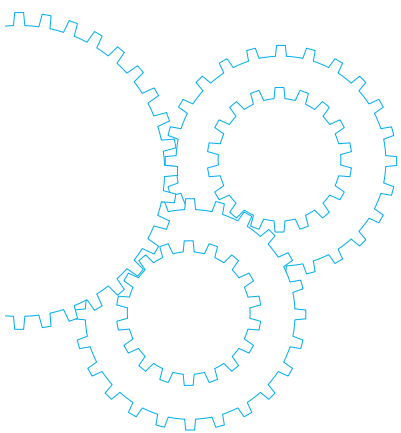




Variable Speed Induction Motor



Contents

• Motor Overview	B-224
• Model list	B-228
• Product information for each model	B-232
• Gear head combination dimensions	B-262
• Round shaft motor dimensions	B-264

Outline of variable speed induction motor

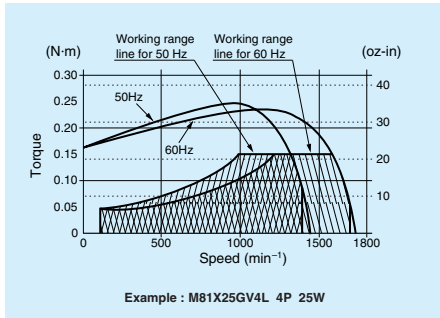
Features

- By using it together with a speed controller, you can vary the speed over a wider range (90 to 1400 min⁻¹ for 50 Hz and 90 to 1700 min⁻¹ for 60 Hz).
- Various functions such as variable speed, braking, normal/reverse run and soft-start/soft-stop are available.
- Feedback control with the built-in tachogenerator gives a constant speed despite of frequency change.
- The motor output is 3 W to 90 W.

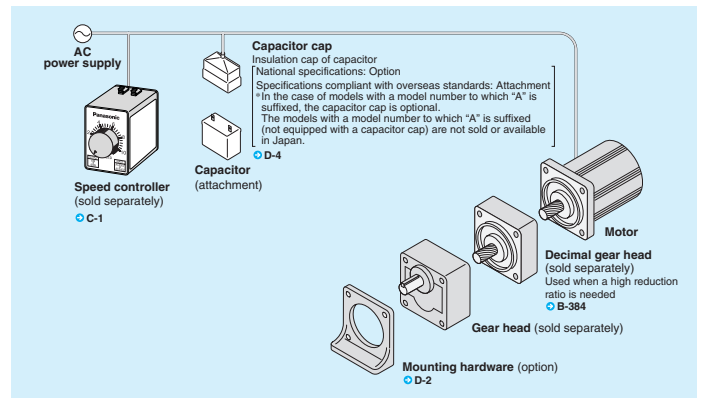
Working range

The working range line shows the working limit (at the constant rating) 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.

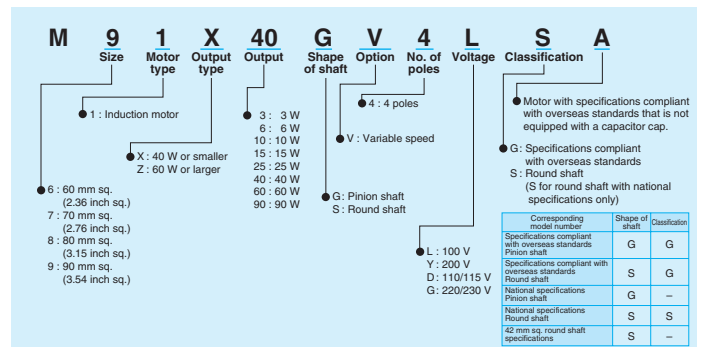
Working range line



System configuration diagram



Coding system



Fit tolerance

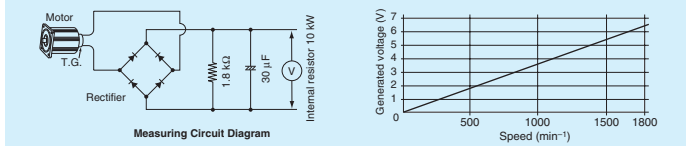
Fit tolerance symbol is used in the outside dimension diagram of motor and gear head. For further information, see "Fit tolerance" on page A-33.

Outline of variable speed induction motor

Voltage generation of tachogenerator

The tachogenerator attached directly to the variable speed motor generate a voltage almost in proportion to the motor speed as shown in the figure below. (You can measure it with an AC tester simply.)

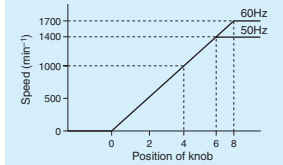
Measuring Circuit Diagram



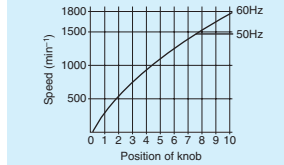
Setting of Speed

In the case of the MGSD type and SD type, the built-in speed reference is used to set the speed. In the case of the EX type, the external speed reference is used to set the speed. The figure below shows an example of the relation between the position of the speed setting knob and the speed of the motor. (Note that there is an approx. 10% fluctuation due to variations in the voltage generation of the circuit and tachogenerator.)

MGSD type



SD and EX type



Principle of closed loop system speed control

The closed loop system speed control is described below according to Fig. 1. The motor speed is converted to a corresponding voltage in the speed detection section and compared with the voltage set in the speed setting section. The difference between them is called an error voltage. Based on the error voltage, the motor is driven through the error amplifier and drive circuit. Because the error voltage is controlled practically to zero, the speed is determined by the value set in the speed setting section. Therefore the speed scarcely changes even if the load changes, and the speed changes according to the speed setting when the setting is changed.

In the case of the closed loop system speed control, as described above, the motor speed is detected and the drive voltage is controlled so as to keep the speed constant.

Fig. 1

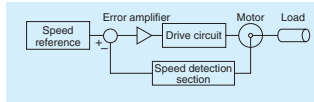
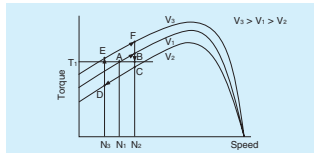


Fig. 2



Primary voltage control through closed loop

Fig. 2 shows the relation between the motor torque and speed when the voltage (primary voltage) applied to the motor is changed. Assume that the voltage is V₁, the load torque is T₁ and the resulting speed is N₁. If the motor is being accelerated at this point A, when the voltage is changed from V₁ to V₂ with the motor status at point B, the motor status moves to point C. Because load torque T₁ is larger than the motor torque at point C, the speed is reduced from N₂.

When the voltage is increased to V₃ with the speed being N₃, because the motor status moves to point E, the applied torque becomes larger than the load torque and the motor is accelerated again toward point F. By controlling the primary voltage so as to making this loop "C → D → E → F" sufficiently small and producing it continuously, a stable rotation can be obtained. In the case of the primary voltage control through closed loop, the motor speed is detected and the speed is kept constant by controlling the primary voltage according to the change of the speed.

Operation of speed controller

The operation of our speed controller is described below using Fig. 3. The motor speed is detected by the tachometer generator TG and the feedback voltage is obtained through the rectifier circuit. The difference between the voltage set with the VR and the feedback voltage is amplified by the error amplifier. Based on the saw-tooth wave obtained from the saw-tooth wave generation circuit and the error signal, the trigger signal of the triac is generated through the comparator and trigger circuit. The conduction angle of the triac is controlled with the trigger signal to adjust the voltage applied to the motor. As a result, the motor is controlled so as to keep the speed constant. (Refer to Fig. 4.)

Fig. 3

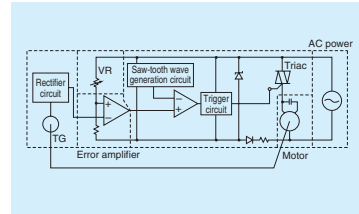
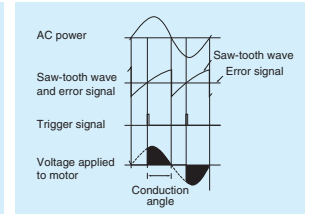


Fig. 4



Model list of variable speed induction motor

Pinion shaft motor

Applicable gear head

Motor compliant with overseas standards 

Size	Output (W)	Leadwire type		
		Model number	Specifications	Page
60 mm sq (2.36 inch sq)	3	M61X3GV4L	100V	B-232
		M61X6GV4L	100V	B-234
	6	M61X6GV4Y	200V	B-234
		M61X6GV4L(G)(A)	100V	B-236
		M61X6GV4DG(A)	110/115V	B-236
		M61X6GV4Y(G)(A)	200V	B-236
		M61X6GV4GG(A)	220/230V	B-236
70 mm sq (2.76 inch sq)	10	M71X10GV4L	100V	B-238
		M71X10GV4Y	200V	B-238
	15	M71X15GV4L	100V	B-240
		M71X15GV4Y	200V	B-240
		M71X15GV4L(G)(A)	100V	B-242
		M71X15GV4DG(A)	110/115V	B-242
		M71X15GV4Y(G)(A)	200V	B-242
M71X15GV4GG(A)	220/230V	B-242		
80 mm sq (3.15 inch sq)	15	M81X15GV4L	100V	B-244
		M81X15GV4Y	200V	B-244
	25	M81X25GV4L	100V	B-246
		M81X25GV4Y	200V	B-246
		M81X25GV4L(G)(A)	100V	B-248
		M81X25GV4DG(A)	110/115V	B-248
		M81X25GV4Y(G)(A)	200V	B-248
		M81X25GV4GG(A)	220/230V	B-248
90 mm sq (3.54 inch sq)	40	M91X40GV4L	100V	B-250
		M91X40GV4Y	200V	B-250
		M91X40GV4L(G)(A)	100V	B-252
		M91X40GV4DG(A)	110/115V	B-252
		M91X40GV4Y(G)(A)	200V	B-252
		M91X40GV4GG(A)	220/230V	B-252
	60	M91Z60GV4L	100V	B-254
		M91Z60GV4Y	200V	B-254
		M91Z60GV4L(G)(A)	100V	B-256
		M91Z60GV4DG(A)	110/115V	B-256
		M91Z60GV4Y(G)(A)	200V	B-256
90	M91Z90GV4L	100V	B-258	
	M91Z90GV4Y	200V	B-258	
	M91Z90GV4L(G)(A)	100V	B-260	
	M91Z90GV4DG(A)	110/115V	B-260	
	M91Z90GV4Y(G)(A)	200V	B-260	
M91Z90GV4GG(A)	220/230V	B-260		

* 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.

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


* 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.

 Hinge attached

Model list of variable speed induction motor

Round shaft motor



Possible combination of speed controller and motor

Motor compliant with overseas standards 

Size	Output (W)	Leadwire type	
		Model number	Specifications
60 mm sq. (2.36 inch sq.)	3	M61X3SV4LS	100V
		M61X6SV4LS	100V
	6	M61X6SV4YS	200V
		M61X6SV4LG(A)	100V
		M61X6SV4DG(A)	110/115V
		M61X6SV4YG(A)	200V
		M61X6SV4GG(A)	220/230V
70 mm sq. (2.76 inch sq.)	10	M71X10SV4LS	100V
		M71X10SV4YS	200V
	15	M71X15SV4LS	100V
		M71X15SV4YS	200V
		M71X15SV4LG(A)	100V
		M71X15SV4DG(A)	110/115V
		M71X15SV4YG(A)	200V
M71X15SV4GG(A)	220/230V		
80 mm sq. (3.15 inch sq.)	15	M81X15SV4LS	100V
		M81X15SV4YS	200V
	25	M81X25SV4LS	100V
		M81X25SV4YS	200V
		M81X25SV4LG(A)	100V
		M81X25SV4DG(A)	110/115V
		M81X25SV4YG(A)	200V
M81X25SV4GG(A)	220/230V		
90 mm sq. (3.54 inch sq.)	40	M91X40SV4LS	100V
		M91X40SV4YS	200V
		M91X40SV4LG(A)	100V
		M91X40SV4DG(A)	110/115V
		M91X40SV4YG(A)	200V
		M91X40SV4GG(A)	220/230V
		M91Z60SV4LS	100V
	60	M91Z60SV4YS	200V
		M91Z60SV4LG(A)	100V
		M91Z60SV4DG(A)	110/115V
		M91Z60SV4YG(A)	200V
		M91Z60SV4GG(A)	220/230V
		M91Z90SV4LS	100V
		90	M91Z90SV4YS
M91Z90SV4LG(A)	100V		
M91Z90SV4DG(A)	110/115V		
M91Z90SV4YG(A)	200V		
M91Z90SV4GG(A)	220/230V		
M91Z90SV4V4LS	100V		
M91Z90SV4V4YS	200V		

* 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-264.
 * 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.

Size	Output (W)	Motor			Voltage (V)	Speed controller			
		Certified	Part No.			MGSD type	EX type	SD48 type	EX48 type
60 mm sq. (2.36 inch sq.)	3	-----	M61X3GV4L	100	MGSDA1 ★	DV1131	DVSD48AL	DVEX48AL	
		-----	M61X6GV4L	100	MGSDA1 ★	DV1131	DVSD48AL	DVEX48AL	
	6	-----	M61X6GV4Y	200	MGSDA1 ★	DV1231	DVSD48AY	DVEX48AY	
		★	M61X6GV4LG(A)	100	MGSDA1 ★	-----	-----	-----	
		★	M61X6GV4DG(A)	110/115	MGSDA1 ★	-----	-----	-----	
		★	M61X6GV4YG(A)	200	MGSDA1 ★	-----	-----	-----	
		★	M61X6GV4GG(A)	220/230	MGSDA1 ★	-----	-----	-----	
		-----	M71X10GV4L	100	MGSDA1 ★	DV1131	DVSD48AL	DVEX48AL	
		-----	M71X15GV4L	100	MGSDA1 ★	DV1132	DVSD48AL	DVEX48AL	
		-----	M71X15GV4Y	200	MGSDA1 ★	DV1231	DVSD48AY	DVEX48AY	
70 mm sq. (2.76 inch sq.)	10	-----	M71X10GV4L	100	MGSDA1 ★	DV1131	DVSD48AL	DVEX48AL	
		-----	M71X15GV4L	100	MGSDA1 ★	DV1132	DVSD48AL	DVEX48AL	
	15	-----	M71X15GV4Y	200	MGSDA1 ★	DV1231	DVSD48AY	DVEX48AY	
		★	M71X15GV4LG(A)	100	MGSDA1 ★	-----	-----	-----	
		★	M71X15GV4DG(A)	110/115	MGSDA1 ★	-----	-----	-----	
		★	M71X15GV4YG(A)	200	MGSDA1 ★	-----	-----	-----	
		★	M71X15GV4GG(A)	220/230	MGSDA1 ★	-----	-----	-----	
		-----	M81X15GV4L	100	MGSDA1 ★	DV1132	DVSD48AL	DVEX48AL	
		-----	M81X25GV4L	100	MGSDA1 ★	DV1132	DVSD48BL	DVEX48BL	
		-----	M81X25GV4Y	200	MGSDA1 ★	DV1234	DVSD48BY	DVEX48BY	
80 mm sq. (3.15 inch sq.)	15	-----	M81X15GV4L	100	MGSDA1 ★	DV1132	DVSD48AL	DVEX48AL	
		-----	M81X15GV4Y	200	MGSDA1 ★	DV1231	DVSD48AY	DVEX48AY	
	25	-----	M81X25GV4L	100	MGSDA1 ★	DV1132	DVSD48BL	DVEX48BL	
		-----	M81X25GV4Y	200	MGSDA1 ★	DV1234	DVSD48BY	DVEX48BY	
		★	M81X25GV4LG(A)	100	MGSDA1 ★	-----	-----	-----	
		★	M81X25GV4DG(A)	110/115	MGSDA1 ★	-----	-----	-----	
		★	M81X25GV4YG(A)	200	MGSDA1 ★	-----	-----	-----	
		★	M81X25GV4GG(A)	220/230	MGSDA1 ★	-----	-----	-----	
		-----	M91X40GV4L	100	MGSDA1 ★	DV1132	DVSD48BL	DVEX48BL	
		-----	M91X40GV4Y	200	MGSDA1 ★	DV1234	DVSD48BY	DVEX48BY	
90 mm sq. (3.54 inch sq.)	40	-----	M91X40GV4L	100	MGSDA1 ★	DV1132	DVSD48BL	DVEX48BL	
		-----	M91X40GV4Y	200	MGSDA1 ★	DV1234	DVSD48BY	DVEX48BY	
		★	M91X40GV4LG(A)	100	MGSDA1 ★	-----	-----	-----	
		★	M91X40GV4DG(A)	110/115	MGSDA1 ★	-----	-----	-----	
		★	M91X40GV4YG(A)	200	MGSDA1 ★	-----	-----	-----	
		★	M91X40GV4GG(A)	220/230	MGSDA1 ★	-----	-----	-----	
		-----	M91Z60GV4L	100	MGSDA1 ★	DV1134	DVSD48CL	DVEX48CL	
	60	-----	M91Z60GV4Y	200	MGSDA1 ★	DV1234	DVSD48CY	DVEX48CY	
		★	M91Z60GV4LG(A)	100	MGSDA1 ★	-----	-----	-----	
		★	M91Z60GV4DG(A)	110/115	MGSDA1 ★	-----	-----	-----	
90	-----	M91Z60GV4YG(A)	200	MGSDA1 ★	-----	-----	-----		
	-----	M91Z60GV4GG(A)	220/230	MGSDA1 ★	-----	-----	-----		
	-----	M91Z90GV4L	100	MGSDA1 ★	DV1134	DVSD48CL	DVEX48CL		
	-----	M91Z90GV4Y	200	MGSDA1 ★	DV1234	DVSD48CY	DVEX48CY		
	★	M91Z90GV4LG(A)	100	MGSDA1 ★	-----	-----	-----		
	★	M91Z90GV4DG(A)	110/115	MGSDA1 ★	-----	-----	-----		
	★	M91Z90GV4YG(A)	200	MGSDA1 ★	-----	-----	-----		

* When using a speed controller operative under a wide range of supply voltage (MGSD, SD48, EX48), the mating motor should be selected according to the voltage of the power supply to be used.
 * Conforming to international standards : 
 * MGSD speed controllers are compliant with 
 * 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 induction motor (leadwire)

60 mm (2.36 inch) sq. 3 W

Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Variable speed range		Permissible Torque N·m (oz·in)		Starting current (A)	Starting torque N·m (oz·in)	Capacitor (μF) (rated voltage)
							Speed (min ⁻¹)	at 1200 min ⁻¹	at 90 min ⁻¹	at 1200 min ⁻¹			
60 mm sq.	M61X3GV4L	4	3	100	50	Cont.	90 to 1400	0.018 (2.55)	0.018 (2.55)	0.21	0.026 (3.68)	2 (200V)	
							90 to 1700	0.018 (2.55)	0.018 (2.55)	0.21	0.026 (3.68)		

* 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-264.

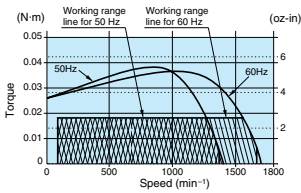
Permissible torque at output shaft of gear head

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

Applicable gear head	Bearing	Speed	Reduction ratio											Applicable decimal gear head		
			3	3.6	5	6	7.5	9	10	12.5	15	18	20		25	
MX6G□BA (ball bearing) MX6G□B (ball bearing) MX6G□MA (metal bearing) MX6G□M (metal bearing)		1200min ⁻¹	50Hz	0.044 (0.39)	0.052 (0.46)	0.073 (0.65)	0.088 (0.78)	0.11 (0.97)	0.13 (1.15)	0.14 (1.24)	0.18 (1.59)	0.22 (1.95)	0.26 (2.30)	0.29 (2.57)	0.365 (3.23)	MX6G10XB
			60Hz	0.044 (0.39)	0.052 (0.46)	0.073 (0.65)	0.088 (0.78)	0.11 (0.97)	0.13 (1.15)	0.14 (1.24)	0.18 (1.59)	0.22 (1.95)	0.26 (2.30)	0.29 (2.57)	0.365 (3.23)	
		90min ⁻¹	50Hz	0.044 (0.39)	0.052 (0.46)	0.073 (0.65)	0.088 (0.78)	0.11 (0.97)	0.13 (1.15)	0.14 (1.24)	0.18 (1.59)	0.22 (1.95)	0.26 (2.30)	0.29 (2.57)	0.365 (3.23)	
			60Hz	0.044 (0.39)	0.052 (0.46)	0.073 (0.65)	0.088 (0.78)	0.11 (0.97)	0.13 (1.15)	0.14 (1.24)	0.18 (1.59)	0.22 (1.95)	0.26 (2.30)	0.29 (2.57)	0.365 (3.23)	
		Rotational direction		Same as motor rotational direction												

Applicable gear head	Bearing	Speed	Reduction ratio											Applicable decimal gear head	
			30	36	50	60	75	90	100	120	150	180			
MX6G□BA (ball bearing) MX6G□B (ball bearing) MX6G□MA (metal bearing) MX6G□M (metal bearing)		1200min ⁻¹	50Hz	0.39 (3.45)	0.47 (4.16)	0.65 (5.75)	0.78 (6.90)	0.98 (8.67)	1.18 (10.4)	1.31 (11.6)	1.57 (13.9)	1.96 (17.3)	2.35 (20.8)	MX6G10XB	
			60Hz	0.39 (3.45)	0.47 (4.16)	0.65 (5.75)	0.78 (6.90)	0.98 (8.67)	1.18 (10.4)	1.31 (11.6)	1.57 (13.9)	1.96 (17.3)	2.35 (20.8)		
		90min ⁻¹	50Hz	0.39 (3.45)	0.47 (4.16)	0.65 (5.75)	0.78 (6.90)	0.98 (8.67)	1.18 (10.4)	1.31 (11.6)	1.57 (13.9)	1.96 (17.3)	2.35 (20.8)		
			60Hz	0.39 (3.45)	0.47 (4.16)	0.65 (5.75)	0.78 (6.90)	0.98 (8.67)	1.18 (10.4)	1.31 (11.6)	1.57 (13.9)	1.96 (17.3)	2.35 (20.8)		
		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.

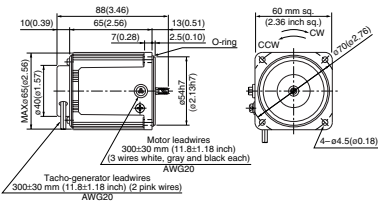
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

M61X3GV4L 4P 3W 100 V

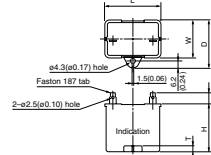
Scale: 1/3, Unit: mm (inch)

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



Capacitor (dimensions) [attachment]

Unit: mm (inch)



Capacitor dimension list

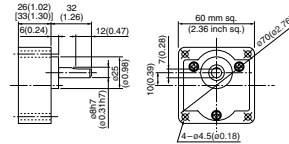
Unit: upper (mm) / lower (inch)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M61X3GV4L	M0PC2M20	38.5 (1.55)	16 (0.63)	26.5 (1.04)	30.5 (1.20)	4 (0.16)	M0PC3917

Gear head (dimensions)

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

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



* Figures in [] represent the dimensions of MX6G□B (M) (1/30 or larger reduction ratio).
(The model number of the gear head with a reduction ratio of 1/25 or smaller is MX6G□BA (MA).)

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

Gear head combination B-262 Round shaft motor B-264 Decimal gear head B-448 Gear head -inch (U.S.A.) B-449 Controls C-4 Option D-2

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

Variable speed induction motor (leadwire)

60 mm (2.36 inch) sq. 6 W

Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Variable speed range		Permissible Torque N·m (oz·in)		Starting current (A)	Starting torque N·m (oz·in)	Capacitor (μF) (rated voltage)
							Speed (min ⁻¹)	at 1200 min ⁻¹	at 90 min ⁻¹	at 90 min ⁻¹			
60	M61X6GV4L	4	6	100	50	Cont.	90 to 1400	0.032 (4.53)	0.025 (3.54)	0.30	0.037 (5.24)	2.5 (200V)	
							90 to 1700	0.032 (4.53)	0.025 (3.54)	0.30	0.037 (5.24)		
	M61X6GV4Y	4	6	200	60	Cont.	90 to 1400	0.032 (4.53)	0.025 (3.54)	0.15	0.037 (5.24)	0.6 (400V)	
							90 to 1700	0.032 (4.53)	0.025 (3.54)	0.15	0.037 (5.24)		

* 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-264.

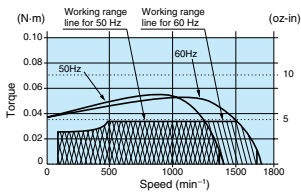
Permissible torque at output shaft of gear head

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

Applicable gear head	Bearing	Speed	Reduction ratio	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		
MX6G□BA (ball bearing)	MX6G□B (ball bearing)	MX6G□MA (metal bearing)	MX6G□M (metal bearing)	1200min ⁻¹	50Hz	0.077 (0.68)	0.093 (0.82)	0.13 (1.15)	0.15 (1.33)	0.19 (1.68)	0.23 (2.04)	0.25 (2.21)	0.32 (2.83)	0.38 (3.36)	0.46 (4.07)	0.51 (4.51)	0.64 (5.66)
					60Hz	0.077 (0.68)	0.093 (0.82)	0.13 (1.15)	0.15 (1.33)	0.19 (1.68)	0.23 (2.04)	0.25 (2.21)	0.32 (2.83)	0.38 (3.36)	0.46 (4.07)	0.51 (4.51)	0.64 (5.66)
				90min ⁻¹	0.06 (0.53)	0.07 (0.62)	0.10 (0.89)	0.12 (1.06)	0.15 (1.33)	0.18 (1.59)	0.20 (1.77)	0.25 (2.21)	0.30 (2.66)	0.36 (3.19)	0.40 (3.54)	0.50 (4.43)	
					Rotational direction: Same as motor rotational direction												

Applicable gear head	Bearing	Speed	Reduction ratio	Unit of permissible torque: upper (N·m) / lower (lb·in)												Applicable decimal gear head
				30	36	50	60	75	90	100	120	150	180			
MX6G□BA (ball bearing)	MX6G□B (ball bearing)	MX6G□MA (metal bearing)	MX6G□M (metal bearing)	1200min ⁻¹	50Hz	0.69 (6.11)	0.83 (7.35)	1.16 (10.3)	1.39 (12.3)	1.74 (15.4)	2.09 (18.5)	2.33 (20.6)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	MX6G10XB
					60Hz	0.69 (6.11)	0.83 (7.35)	1.16 (10.3)	1.39 (12.3)	1.74 (15.4)	2.09 (18.5)	2.33 (20.6)	2.45 (21.7)	2.45 (21.7)	2.45 (21.7)	
				90min ⁻¹	0.54 (4.78)	0.65 (5.75)	0.90 (7.97)	1.08 (9.56)	1.35 (11.9)	1.62 (14.3)	1.81 (16.0)	2.17 (19.2)	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.

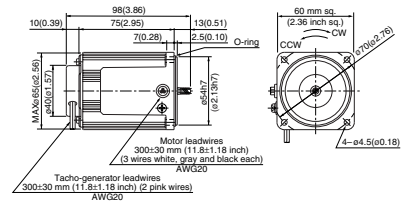
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

M61X6GV4L 4P 6W 100V
M61X6GV4Y 4P 6W 200V

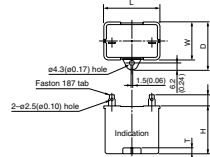
Scale: 1/3, Unit: mm (inch)

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



Capacitor (dimensions) [attachment]

Unit: mm (inch)



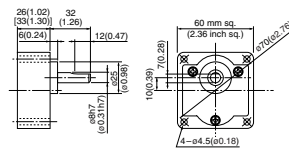
Capacitor dimension list

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M61X6GV4L	M0PC2.5M20	39.5 (1.56)	16 (0.63)	26.5 (1.04)	30.5 (1.20)	4 (0.16)	M0PC3917
M61X6GV4Y	M0PC0.6M40	39.5 (1.56)	16 (0.63)	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.

Gear head combination B-262 Round shaft motor B-264 Decimal gear head B-448 Gear head -inch (U.S.A.) B-449 Controls C-4 Option D-2

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

Variable speed induction motor (leadwire)

60 mm (2.36 inch) sq. 6 W

Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Variable speed range		Permissible Torque N·m (oz·in)		Starting current (A)	Starting torque N·m (oz·in)	Capacitor (μF) (rated voltage)
							Speed (min ⁻¹)	1200 min ⁻¹	at	at			
60 mm sq.	M61X6GV4LG M61X6GV4LGA	4	6	100	50	Cont.	90 to 1400	0.044 (1.623)	0.034 (1.211)	0.32 (1.130)	0.049 (1.744)	3.5	
							60	0.034 (1.211)	0.034 (1.211)	0.33 (1.170)	0.049 (1.744)	(250V)	
	M61X6GV4DG M61X6GV4DGA	4	6	110	60	Cont.	90 to 1700	0.034 (1.211)	0.034 (1.211)	0.33 (1.170)	0.044 (1.572)	2.5	
							60	0.034 (1.211)	0.034 (1.211)	0.34 (1.211)	0.049 (1.744)	(250V)	
	M61X6GV4YG M61X6GV4YGA	4	6	200	60	Cont.	90 to 1400	0.044 (1.623)	0.034 (1.211)	0.14 (0.492)	0.049 (1.744)	0.8	
							60	0.034 (1.211)	0.034 (1.211)	0.14 (0.492)	0.049 (1.744)	(450V)	
	M61X6GV4GG M61X6GV4GGA	4	6	220	60	Cont.	90 to 1700	0.034 (1.211)	0.034 (1.211)	0.14 (0.492)	0.042 (1.500)	0.6	
							60	0.034 (1.211)	0.034 (1.211)	0.15 (0.529)	0.049 (1.744)	(450V)	

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-264.
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 "X" is suffixed are not sold or available in Japan.

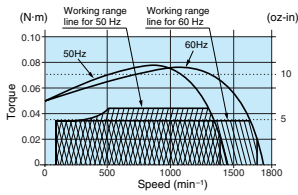
Permissible torque at output shaft of gear head

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

Applicable gear head	Bearing	Speed	Reduction ratio												
			3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	
MX6G□BA (ball bearing)	1200min ⁻¹	50Hz	0.11 (0.97)	0.13 (1.15)	0.18 (1.59)	0.21 (1.86)	0.27 (2.39)	0.32 (2.83)	0.36 (3.19)	0.45 (3.98)	0.53 (4.69)	0.64 (5.66)	0.71 (6.28)	0.89 (7.88)	
		60Hz	0.083 (0.73)	0.10 (0.89)	0.14 (1.24)	0.17 (1.5)	0.21 (1.86)	0.25 (2.21)	0.28 (2.48)	0.34 (3.01)	0.41 (3.63)	0.50 (4.43)	0.55 (4.87)	0.69 (6.11)	
		50Hz	0.08 (0.71)	0.10 (0.89)	0.14 (1.24)	0.17 (1.5)	0.21 (1.86)	0.25 (2.21)	0.28 (2.48)	0.34 (3.01)	0.41 (3.63)	0.50 (4.43)	0.55 (4.87)	0.69 (6.11)	
		60Hz	0.083 (0.73)	0.10 (0.89)	0.14 (1.24)	0.17 (1.5)	0.21 (1.86)	0.25 (2.21)	0.28 (2.48)	0.34 (3.01)	0.41 (3.63)	0.50 (4.43)	0.55 (4.87)	0.69 (6.11)	
Rotational direction			Same as motor rotational direction												

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

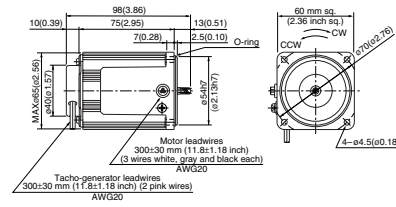
Features B-224 System configuration B-225 Coding system B-225 Model list B-228

Motor (dimensions)

Motor model No.	Output (W)	Voltage (V)
M61X6GV4LG(A)	4P 6 W	100 V
M61X6GV4DG(A)	4P 6 W	110 V / 115 V
M61X6GV4YG(A)	4P 6 W	200 V
M61X6GV4GG(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	0.5	6

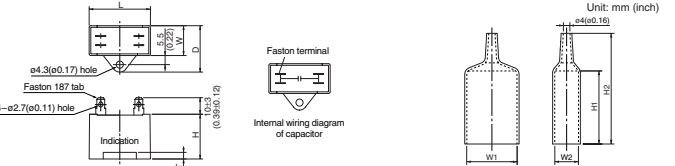


Capacitor (dimensions) [attachment]

Unit: mm (inch)

Capacitor cap (dimensions)

Unit: mm (inch)



Capacitor dimension list

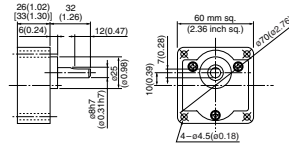
Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap	W1	W2	H1	H2
M61X6GV4LG(A)	M0PC3.5M25G	31 (1.22)	17 (0.67)	27 (1.06)	27 (1.06)	4 (0.16)	M0PC3117G	31 (1.22)	17 (0.67)	50 (1.97)	32 (1.26)
M61X6GV4DG(A)	M0PC2.5M25G	31 (1.22)	17 (0.67)	27 (1.06)	27 (1.06)	4 (0.16)	M0PC3117G	31 (1.22)	17 (0.67)	50 (1.97)	32 (1.26)
M61X6GV4YG(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)	32 (1.26)
M61X6GV4GG(A)	M0PC0.6M45G	31 (1.22)	14.5 (0.57)	24.5 (0.96)	23.5 (0.93)	4 (0.16)	M0PC3114G	31 (1.22)	14.5 (0.57)	45 (1.77)	28 (1.10)

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

Gear head (dimensions)

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

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



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

Gear head combination B-262 Round shaft motor B-264 Decimal gear head B-448 Gear head-inch (U.S.A.) B-449 Controls C-4 Option D-2

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

Variable speed induction motor (leadwire)

70 mm (2.76 inch) sq. 10 W

Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Variable speed range		Permissible Torque N·m (oz·in)		Starting current (A)	Starting torque N·m (oz·in)	Capacitor (μF) (rated voltage)
							Speed (min ⁻¹)	at 1200 min ⁻¹	at 90 min ⁻¹	at 90 min ⁻¹			
70 mm sq.	M71X10GV4L	4	10	100	50	Cont.	90 to 1400	0.059 (8.36)	0.027 (3.82)	0.40	0.064 (9.06)	4	
							90 to 1700	0.059 (8.36)	0.027 (3.82)	0.40	0.066 (9.35)	(200V)	
	M71X10GV4Y	4	10	200	60	Cont.	90 to 1400	0.059 (8.36)	0.027 (3.82)	0.20	0.064 (9.06)	1	
							90 to 1700	0.059 (8.36)	0.027 (3.82)	0.20	0.066 (9.35)	(400V)	

* 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-264.

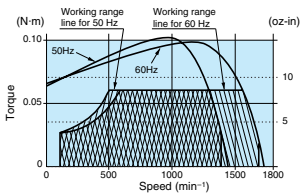
Permissible torque at output shaft of gear head

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

Applicable gear head	Bearing	Speed	Reduction ratio												Applicable decimal gear head	
			3	3.6	5	6	7.5	9	10	12.5	15	18	20	25		
MX7G□BA (ball bearing)	MX7G□B (ball bearing)	1200min ⁻¹	50Hz	0.14 (1.24)	0.17 (1.50)	0.23 (2.04)	0.28 (2.48)	0.35 (3.10)	0.43 (3.81)	0.47 (4.16)	0.59 (5.22)	0.71 (6.28)	0.86 (7.61)	0.95 (8.41)	1.19 (10.5)	MX7G10XB
			60Hz	0.14 (1.24)	0.17 (1.50)	0.23 (2.04)	0.28 (2.48)	0.35 (3.10)	0.43 (3.81)	0.47 (4.16)	0.59 (5.22)	0.71 (6.28)	0.86 (7.61)	0.95 (8.41)	1.19 (10.5)	
		90min ⁻¹	50Hz	0.065 (0.58)	0.078 (0.69)	0.11 (0.97)	0.31 (2.74)	0.16 (1.42)	0.19 (1.68)	0.21 (1.86)	0.27 (2.39)	0.32 (2.83)	0.39 (3.45)	0.43 (3.81)	0.54 (4.78)	
			60Hz	0.065 (0.58)	0.078 (0.69)	0.11 (0.97)	0.31 (2.74)	0.16 (1.42)	0.19 (1.68)	0.21 (1.86)	0.27 (2.39)	0.32 (2.83)	0.39 (3.45)	0.43 (3.81)	0.54 (4.78)	
Rotational direction		Same as motor rotational direction														

Applicable gear head	Bearing	Speed	Reduction ratio												Applicable decimal gear head
			30	36	50	60	75	90	100	120	150	180			
MX7G□BA (ball bearing)	MX7G□B (ball bearing)	1200min ⁻¹	50Hz	1.29 (11.4)	1.54 (13.6)	2.15 (19.0)	2.58 (22.8)	3.22 (28.5)	3.87 (34.3)	4.30 (38.1)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	MX7G10XB
			60Hz	1.29 (11.4)	1.54 (13.6)	2.15 (19.0)	2.58 (22.8)	3.22 (28.5)	3.87 (34.3)	4.30 (38.1)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	
		90min ⁻¹	50Hz	0.59 (5.22)	0.70 (6.20)	0.98 (8.67)	1.18 (10.4)	1.47 (13.0)	1.77 (15.7)	1.97 (17.4)	2.36 (20.9)	2.95 (26.1)	3.54 (31.3)	3.54 (31.3)	
			60Hz	0.59 (5.22)	0.70 (6.20)	0.98 (8.67)	1.18 (10.4)	1.47 (13.0)	1.77 (15.7)	1.97 (17.4)	2.36 (20.9)	2.95 (26.1)	3.54 (31.3)	3.54 (31.3)	
Rotational direction		Reverse to motor rotational direction													

Speed-torque characteristics



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

Connection diagram

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

Working range line

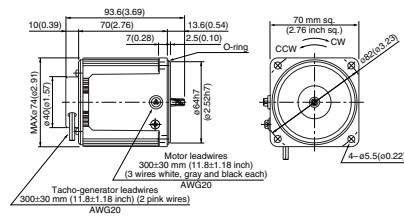
The working range line shows the working limit for the variable speed motor. The permissible torque should fall within the shaded portion. If you use the motor with the permissible torque exceeding the working range line (falling within the portion not shaded), the motor may be burned out due to a high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

Motor (dimensions)

M71X10GV4L 4P 10 W 100 V
M71X10GV4Y 4P 10 W 200 V

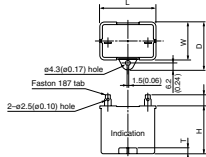
Scale: 1/3, Unit: mm (inch)

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



Capacitor (dimensions) [attachment]

Unit: mm (inch)



Capacitor dimension list

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M71X10GV4L	M0PC4M20	39.5 (1.56)	16 (0.63)	26.5 (1.04)	30.5 (1.20)	4 (0.16)	M0PC3917
M71X10GV4Y	M0PC1M40	39.5 (1.56)	16.2 (0.64)	27 (1.06)	27 (1.06)	4 (0.16)	M0PC3917

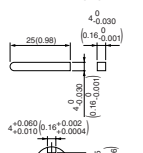
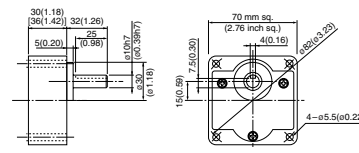
Gear head (dimensions)

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

MX7G□BA (ball bearing) / MX7G□B (ball bearing) Mass 0.39/0.45 kg (0.84/0.99 lb)
MX7G□MA (metal bearing) / MX7G□M (metal bearing) Mass 0.39/0.45 kg (0.84/0.99 lb)

Key and keyway (dimensions) [attachment]

MX7G□BA(B)
MX7G□MA(M)



* Figures in [] represent the dimensions of MX7G□B (M) (1/30 or larger reduction ratio).
(The model number of the gear head with a reduction ratio of 1/25 or smaller is MX7G□BA (MA).)
(Note) Because the dimensions may be subject to change, also check the determinate dimensions if the gear head is to be used for design.

Gear head combination B-262 Round shaft motor B-264 Decimal gear head B-448 Gear head-inch (U.S.A.) B-449 Controls C-4 Option D-2

Induction motor

Reversible motor

3-phase motor

Electromagnetic brake motor

Variable speed induction motor

Variable speed reversible motor

Variable speed synchronous motor

Variable speed unit motor

C&B motor

2-pole round shaft motor

Gear head

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

B-238

Features B-224 System configuration B-225 Coding system B-225 Model list B-228

B-239

Variable speed induction 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)
								at 1200 min ⁻¹	at 90 min ⁻¹			
70 mm sq.	M71X15GV4L	4	15	100	50	Cont.	90 to 1400	0.089 (12.6)	0.029 (4.11)	0.60	0.068 (9.63)	5 (200V)
							90 to 1700	0.089 (12.6)	0.029 (4.11)	0.56	0.068 (9.63)	
	M71X15GV4Y	4	15	200	60	Cont.	90 to 1400	0.089 (12.6)	0.029 (4.11)	0.30	0.068 (9.63)	1.3 (400V)
							90 to 1700	0.089 (12.6)	0.029 (4.11)	0.28	0.068 (9.63)	

* 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-264.

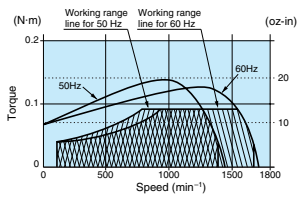
Permissible torque at output shaft of gear head

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

Applicable gear head	Bearing	Speed	Reduction ratio	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		
MX7G□BA (ball bearing)	MX7G□B (ball bearing)	MX7G□MA (metal bearing)	MX7G□M (metal bearing)	1200min ⁻¹	50Hz	0.21 (1.86)	0.25 (2.21)	0.36 (3.19)	0.43 (3.81)	0.54 (4.78)	0.64 (5.66)	0.72 (6.37)	0.86 (7.61)	1.08 (9.56)	1.29 (11.4)	1.44 (12.8)	1.80 (15.9)
					60Hz	0.21 (1.86)	0.25 (2.21)	0.36 (3.19)	0.43 (3.81)	0.54 (4.78)	0.64 (5.66)	0.72 (6.37)	0.86 (7.61)	1.08 (9.56)	1.29 (11.4)	1.44 (12.8)	1.80 (15.9)
				90min ⁻¹	0.070 (0.62)	0.084 (0.74)	0.11 (0.97)	0.14 (1.24)	0.17 (1.50)	0.21 (1.86)	0.23 (2.04)	0.28 (2.48)	0.35 (3.10)	0.42 (3.72)	0.47 (4.16)	0.58 (5.13)	
					Rotational direction: Same as motor rotational direction												

Applicable gear head	Bearing	Speed	Reduction ratio	Unit of permissible torque: upper (N·m) / lower (lb·in)												
				30	36	50	60	75	90	100	120	150	180			
MX7G□BA (ball bearing)	MX7G□B (ball bearing)	MX7G□MA (metal bearing)	MX7G□M (metal bearing)	1200min ⁻¹	50Hz	1.92 (17.0)	2.30 (20.4)	3.20 (28.3)	3.84 (34.0)	4.80 (42.5)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)
					60Hz	1.92 (17.0)	2.30 (20.4)	3.20 (28.3)	3.84 (34.0)	4.80 (42.5)	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	0.63 (5.58)	0.75 (6.64)	1.05 (9.29)	1.26 (11.2)	1.58 (14.0)	1.89 (16.7)	2.11 (18.7)	2.53 (22.4)	3.16 (28.0)	3.79 (33.5)		
					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.

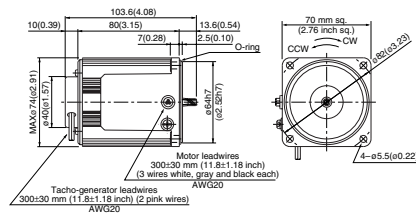
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

M71X15GV4L 4P 15 W 100 V
M71X15GV4Y 4P 15 W 200 V

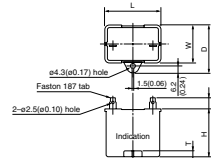
Scale: 1/3, Unit: mm (inch)

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



Capacitor (dimensions) [attachment]

Unit: mm (inch)



Capacitor dimension list

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M71X15GV4L	MOPCSM20	39.5 (1.56)	18 (0.63)	26.5 (1.04)	30.5 (1.20)	4 (0.16)	MOPC3917
M71X15GV4Y	MOPC1.3M40	39.5 (1.56)	18.5 (0.72)	29 (1.14)	29 (1.14)	4 (0.16)	MOPC3922

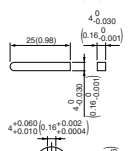
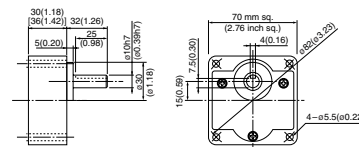
Gear head (dimensions)

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

MX7G□BA (ball bearing) / MX7G□B (ball bearing) Mass 0.39/0.45 kg (0.84/0.99 lb)
MX7G□MA (metal bearing) / MX7G□M (metal bearing) Mass 0.39/0.45 kg (0.84/0.99 lb)

Key and keyway (dimensions) [attachment]

MX7G□BA(B)
MX7G□MA(M)



* Figures in [] represent the dimensions of MX7G□B (M) (1/30 or larger reduction ratio).
(The model number of the gear head with a reduction ratio of 1/25 or smaller is MX7G□BA (MA).)
(Note) Because the dimensions may be subject to change, also check the determinate dimensions if the gear head is to be used for design.

Gear head combination B-262 Round shaft motor B-264 Decimal gear head B-448 Gear head-inch (U.S.A.) B-449 Controls C-4 Option D-2

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

Variable speed induction motor (leadwire)

70 mm (2.76 inch) sq. 15 W

Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Variable speed range		Permissible Torque N·m (oz·in)		Starting current (A)		Starting torque N·m (oz·in)		Capacitor (μF) (rated voltage)
							Speed (min ⁻¹)	at 1200 min ⁻¹	at 90 min ⁻¹	at 1200 min ⁻¹	at 90 min ⁻¹	at 1200 min ⁻¹	at 90 min ⁻¹		
70 mm sq.	M71X15GV4LG M71X15GV4LGA	4	15	100	50	Cont.	90 to 1400	0.11 (15.6)	0.049 (6.94)	0.57	0.080 (11.3)	5.5			
							60	0.088 (12.5)	0.049 (6.94)	0.56	0.080 (11.3)	(250V)			
	M71X15GV4DG M71X15GV4DGA	4	15	110	60	Cont.	90 to 1700	0.088 (12.5)	0.049 (6.94)	0.58	0.080 (11.3)	4.5			
							60	0.088 (12.5)	0.049 (6.94)	0.61	0.088 (12.5)	(250V)			
	M71X15GV4YG M71X15GV4YGA	4	15	200	50	Cont.	90 to 1400	0.11 (15.6)	0.049 (6.94)	0.24	0.080 (11.3)	1.3			
							60	0.088 (12.5)	0.049 (6.94)	0.24	0.080 (11.3)	(450V)			
	M71X15GV4GG M71X15GV4GGA	4	15	220	60	Cont.	90 to 1700	0.11 (15.6)	0.049 (6.94)	0.26	0.080 (11.3)	1.2			
							60	0.088 (12.5)	0.049 (6.94)	0.28	0.10 (14.2)	(450V)			
					230										

* 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-264.
* 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 "X" 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)

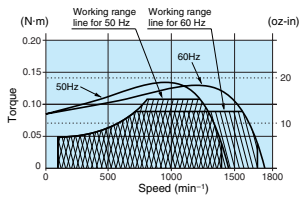
Applicable gear head	Reduction ratio	Speed												
		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	
MX7G□BA (ball bearing)	1200min ⁻¹	50Hz	0.27 (2.39)	0.32 (2.83)	0.45 (3.98)	0.53 (4.69)	0.67 (5.93)	0.80 (7.08)	0.89 (7.88)	1.11 (9.82)	1.34 (11.9)	1.60 (14.2)	1.78 (15.8)	2.23 (19.7)
		60Hz	0.21 (1.86)	0.26 (2.30)	0.36 (3.19)	0.43 (3.81)	0.53 (4.69)	0.64 (5.66)	0.71 (6.28)	0.89 (7.88)	1.07 (9.47)	1.28 (11.3)	1.43 (12.7)	1.78 (15.8)
MX7G□MA (metal bearing)	90min ⁻¹	50Hz	0.12 (1.06)	0.14 (1.24)	0.20 (1.77)	0.24 (2.12)	0.30 (2.66)	0.36 (3.19)	0.40 (3.54)	0.50 (4.43)	0.60 (5.31)	0.71 (6.28)	0.79 (6.99)	0.99 (8.76)
		60Hz	0.12 (1.06)	0.14 (1.24)	0.20 (1.77)	0.24 (2.12)	0.30 (2.66)	0.36 (3.19)	0.40 (3.54)	0.50 (4.43)	0.60 (5.31)	0.71 (6.28)	0.79 (6.99)	0.99 (8.76)

Rotational direction: Same as motor rotational direction

Applicable gear head	Reduction ratio	Speed											Applicable decimal gear head	
		30	36	50	60	75	90	100	120	150	180			
MX7G□BA (ball bearing)	1200min ⁻¹	50Hz	2.41 (21.3)	2.89 (25.6)	4.01 (35.5)	4.81 (42.6)	4.9 (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)
		60Hz	1.92 (17.0)	2.31 (20.4)	3.21 (28.4)	3.85 (34.1)	4.81 (42.6)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)
MX7G□MA (metal bearing)	90min ⁻¹	50Hz	1.07 (9.47)	1.29 (11.4)	1.79 (15.8)	2.14 (18.9)	2.68 (23.7)	3.21 (28.4)	3.57 (31.6)	4.29 (38.0)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)
		60Hz	1.07 (9.47)	1.29 (11.4)	1.79 (15.8)	2.14 (18.9)	2.68 (23.7)	3.21 (28.4)	3.57 (31.6)	4.29 (38.0)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)	4.90 (43.4)

Rotational direction: Reverse to motor rotational direction

Speed-torque characteristics



Connection diagram

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

Working range line

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

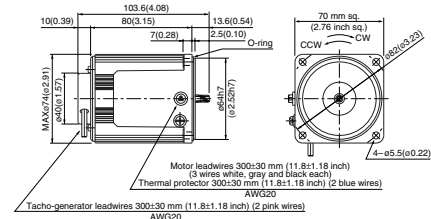
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

Motor model No.	Output (W)	Voltage (V)	Frequency (Hz)
M71X15GV4LG(A)	4P 15 W	100 V	50 / 60
M71X15GV4DG(A)	4P 15 W	110 V / 115 V	50 / 60
M71X15GV4YG(A)	4P 15 W	200 V	50 / 60
M71X15GV4GG(A)	4P 15 W	220 V / 230 V	50 / 60

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

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

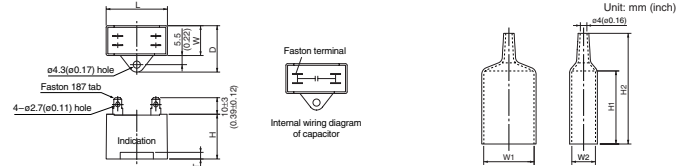


Capacitor (dimensions) [attachment]

Unit: mm (inch)

Capacitor cap (dimensions)

Unit: mm (inch)



Capacitor dimension list

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap	W1	W2	H1	H2
M71X15GV4LG(A)	M0PC5.5M25G	38 (1.50)	18 (0.83)	31 (1.22)	31 (1.22)	4 (0.16)	M0PC3821G	38 (1.50)	21 (0.83)	50 (2.17)	50 (2.07)
M71X15GV4DG(A)	M0PC4.5M25G	37 (1.46)	18 (0.71)	28 (1.10)	27 (1.06)	4 (0.16)	M0PC3718G	37 (1.46)	18 (0.71)	50 (2.07)	50 (2.07)
M71X15GV4YG(A)	M0PC1.3M45G	38 (1.50)	19 (0.75)	29 (1.14)	29 (1.14)	4 (0.16)	M0PC3819G	38 (1.50)	19 (0.75)	50 (2.07)	50 (2.07)
M71X15GV4GG(A)	M0PC1.2M45G	37 (1.46)	18 (0.71)	28 (1.10)	27 (1.06)	4 (0.16)	M0PC3718G	37 (1.46)	18 (0.71)	50 (2.07)	50 (2.07)

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

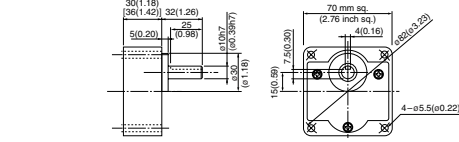
Gear head (dimensions)

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

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

Key and keyway (dimensions) [attachment]

MX7G□BA(B)	MX7G□MA(M)
4.0 (0.16)	4.0 (0.16)
0.030 (0.0012)	0.030 (0.0012)
0.010 (0.0004)	0.010 (0.0004)
0.010 (0.0004)	0.010 (0.0004)
0.010 (0.0004)	0.010 (0.0004)



* 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.

Gear head combination B-262 Round shaft motor B-264 Decimal gear head B-448 Gear head -inch (U.S.A.) B-449 Controls C-4 Option D-2

Variable speed induction motor (leadwire)

80 mm (3.15 inch) sq. 15 W

Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Variable speed range		Permissible Torque N·m (oz·in)		Starting current (A)	Starting torque N·m (oz·in)	Capacitor (μF) (rated voltage)
							Speed (min ⁻¹)	at 1200 min ⁻¹	at 90 min ⁻¹	at 1200 min ⁻¹			
80 mm sq.	M81X15GV4L	4	15	100	50	Cont.	90 to 1400	0.12 (17.0)	0.039 (5.52)	0.72	0.12 (17.0)	6 (200V)	
							90 to 1700	0.12 (17.0)	0.039 (5.52)	0.69	0.12 (17.0)		
	M81X15GV4Y	4	15	200	50	Cont.	90 to 1400	0.12 (17.0)	0.039 (5.52)	0.36	0.12 (17.0)		
							90 to 1700	0.12 (17.0)	0.039 (5.52)	0.35	0.12 (17.0)		

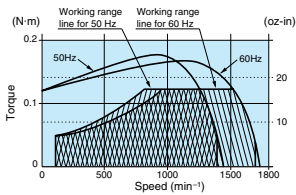
* The specifications and wire connections of the round shaft motor are the same as those of the pinion shaft type. For the dimensional outline drawing, refer to page B-264.

Permissible torque at output shaft of gear head

Applicable gear head	Bearing	Speed	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	
MX8G□B (ball bearing)	MX8G□M (metal bearing)	1200min ⁻¹	50Hz	0.29 (2.57)	0.34 (3.01)	0.48 (4.25)	0.58 (5.13)	0.72 (6.37)	0.87 (7.70)	0.97 (8.59)	1.21 (10.7)	1.45 (12.8)	1.74 (15.4)	1.94 (17.2)	2.43 (21.5)	
			60Hz	0.29 (2.57)	0.34 (3.01)	0.48 (4.25)	0.58 (5.13)	0.72 (6.37)	0.87 (7.70)	0.97 (8.59)	1.21 (10.7)	1.45 (12.8)	1.74 (15.4)	1.94 (17.2)	2.43 (21.5)	
		90min ⁻¹	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	Unit of permissible torque: upper (N·m) / lower (lb·in)												
				30	36	50	60	75	90	100	120	150	180			
MX8G□B (ball bearing)	MX8G□M (metal bearing)	1200min ⁻¹	50Hz	2.62 (23.2)	3.14 (27.8)	4.37 (38.7)	5.24 (46.4)	6.55 (58.0)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)	
			60Hz	2.62 (23.2)	3.14 (27.8)	4.37 (38.7)	5.24 (46.4)	6.55 (58.0)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)	
		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.

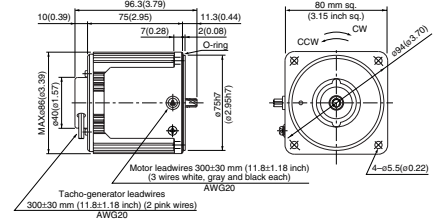
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

M81X15GV4L 4P 15 W 100 V
M81X15GV4Y 4P 15 W 200 V

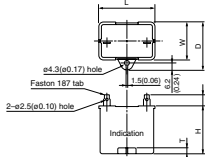
Scale: 1/3, Unit: mm (inch)

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



Capacitor (dimensions) [attachment]

Unit: mm (inch)



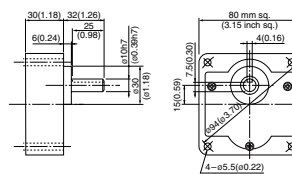
Capacitor dimension list

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M81X15GV4L	M0PC6M20	39.5 (1.56)	17.5 (0.69)	28 (1.10)	30.5 (1.20)	4 (0.16)	M0PC3917
M81X15GV4Y	M0PC1.5M40	39.5 (1.56)	25 (0.97)	32.5 (1.28)	32.5 (1.28)	4 (0.16)	M0PC3922

Gear head (dimensions)

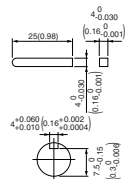
Scale: 1/3, Unit: mm (inch)

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



Key and keyway (dimensions) [attachment]

MX8G□B(M)



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

Variable speed induction motor (leadwire)

80 mm (3.15 inch) sq. 25 W

Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Variable speed range		Permissible Torque N·m (oz·in)		Starting current (A)	Starting torque N·m (oz·in)	Capacitor (μF) (rated voltage)
							Speed (min ⁻¹)	at 1200 min ⁻¹	at 90 min ⁻¹	at 1200 min ⁻¹			
80 mm sq.	M81X25GV4L	4	25	100	50	Cont.	90 to 1400	0.14 (19.8)	0.039 (5.52)	1.0	0.16 (22.7)	8 (200V)	
							90 to 1700	0.14 (19.8)	0.039 (5.52)	1.0	0.16 (22.7)		
	M81X25GV4Y	4	25	200	60	Cont.	90 to 1400	0.14 (19.8)	0.039 (5.52)	0.5	0.16 (22.7)	2 (400V)	
							90 to 1700	0.14 (19.8)	0.039 (5.52)	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-264.

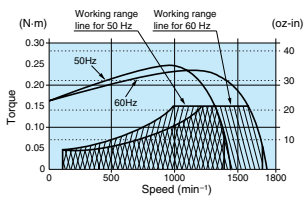
Permissible torque at output shaft of gear head

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

Applicable gear head Bearing	Speed	Reduction ratio	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	
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	Unit of permissible torque: upper (N·m) / lower (lb·in)												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)	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)	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)	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)	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.

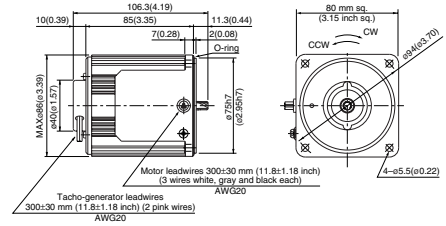
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

M81X25GV4L 4P 25 W 100 V
M81X25GV4Y 4P 25 W 200 V

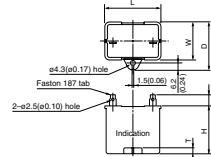
Scale: 1/3, Unit: mm (inch)

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



Capacitor (dimensions) [attachment]

Unit: mm (inch)



Capacitor dimension list

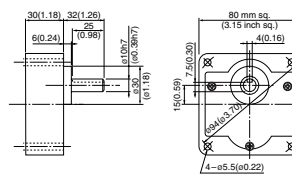
Unit: upper (mm) / lower (inch)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M81X25GV4L	M0PC8M20	39.5 (1.56)	32 (1.26)	32.5 (1.28)	30.5 (1.20)	4 (0.16)	M0PC3922
M81X25GV4Y	M0PC2M40	39.5 (1.56)	25 (0.97)	32.5 (1.28)	32.5 (1.28)	4 (0.16)	M0PC3922

Gear head (dimensions)

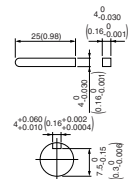
Scale: 1/3, Unit: mm (inch)

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



Key and keyway (dimensions) [attachment]

MX8G□B(M)



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

Variable speed induction motor (leadwire)

80 mm (3.15 inch) sq. 25 W

Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Variable speed range		Permissible Torque N·m (oz·in)		Starting current (A)	Starting torque N·m (oz·in)	Capacitor (μF) (rated voltage)
							Speed (min ⁻¹)	at 1200 min ⁻¹	at 90 min ⁻¹	at 1200 min ⁻¹			
80 mm sq.	M81X25GV4LG	4	25	100	50	Cont.	90 to 1400	0.19 (26.9)	0.049 (6.94)	1.1	0.13 (18.4)	8	
	M81X25GV4LGA						90 to 1700	0.15 (21.2)	0.049 (6.94)	0.98	0.13 (18.4)	(250V)	
	M81X25GV4DG	4	25	110	60	Cont.	90 to 1700	0.15 (21.2)	0.049 (6.94)	1.1	0.13 (18.4)	6	
	M81X25GV4DGA						90 to 1700	0.15 (21.2)	0.049 (6.94)	1.1	0.13 (18.4)	(250V)	
	M81X25GV4YG	4	25	200	50	Cont.	90 to 1400	0.19 (26.9)	0.049 (6.94)	0.43	0.13 (18.4)	2.1	
	M81X25GV4YGA						90 to 1700	0.15 (21.2)	0.049 (6.94)	0.42	0.13 (18.4)	(450V)	
	M81X25GV4GG	4	25	220	60	Cont.	90 to 1400	0.19 (26.9)	0.049 (6.94)	0.46	0.13 (18.4)	1.5	
							M81X25GV4GGA	90 to 1700	0.15 (21.2)	0.049 (6.94)	0.44	0.13 (18.4)	(450V)
		50	60	230	60	Cont.	90 to 1400	0.19 (26.9)	0.049 (6.94)	0.48	0.13 (18.4)	1.5	
							M81X25GV4GGA	90 to 1700	0.15 (21.2)	0.049 (6.94)	0.45	0.13 (18.4)	(450V)

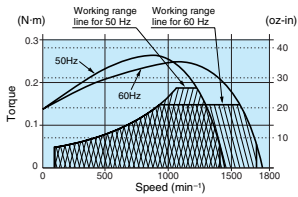
* The specifications and wire connections of the round shaft motor are the same as those of the pinion shaft type. For the dimensional outline drawing, refer to page B-264.
 * The models with a motor model number to which "A" is suffixed are not equipped with a capacitor cap.
 * The models with a motor model number to which "X" 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	
MX8G□B (ball bearing)	1200min ⁻¹	50Hz	0.46 (4.07)	0.55 (4.87)	0.77 (6.82)	0.92 (8.14)	1.15 (10.2)	1.39 (12.3)	1.54 (13.6)	1.92 (17.0)	2.31 (20.4)	2.77 (24.5)	3.08 (27.3)	3.85 (34.1)
		60Hz	0.36 (3.19)	0.44 (3.89)	0.61 (5.40)	0.73 (6.46)	0.91 (8.05)	1.09 (9.65)	1.22 (10.8)	1.52 (13.5)	1.82 (16.1)	2.19 (19.4)	2.43 (21.5)	3.04 (26.9)
	90min ⁻¹	50Hz	0.12 (1.06)	0.14 (1.24)	0.20 (1.77)	0.24 (2.12)	0.30 (2.66)	0.36 (3.19)	0.40 (3.54)	0.50 (4.43)	0.60 (5.31)	0.71 (6.28)	0.79 (7.00)	0.99 (8.76)
		60Hz	0.12 (1.06)	0.14 (1.24)	0.20 (1.77)	0.24 (2.12)	0.30 (2.66)	0.36 (3.19)	0.40 (3.54)	0.50 (4.43)	0.60 (5.31)	0.71 (6.28)	0.79 (7.00)	0.99 (8.76)

Applicable gear head	Reduction ratio	Unit of permissible torque: upper (N·m) / lower (lb·in)												
		30	36	50	60	75	90	100	120	150	180	Applicable decimal gear head		
MX8G□B (ball bearing)	1200min ⁻¹	50Hz	4.16 (36.8)	4.99 (44.2)	6.93 (61.3)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)		7.84 (69.4)	7.84 (69.4)
		60Hz	3.28 (29.0)	3.94 (34.9)	5.47 (48.4)	6.56 (58.1)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)	7.84 (69.4)	
	90min ⁻¹	50Hz	1.07 (9.47)	1.29 (11.4)	1.79 (15.8)	2.14 (18.9)	2.68 (23.7)	3.21 (28.4)	3.57 (31.6)	4.29 (38.0)	5.36 (47.4)	6.43 (56.9)	6.43 (56.9)	
		60Hz	1.07 (9.47)	1.29 (11.4)	1.79 (15.8)	2.14 (18.9)	2.68 (23.7)	3.21 (28.4)	3.57 (31.6)	4.29 (38.0)	5.36 (47.4)	6.43 (56.9)	6.43 (56.9)	

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.

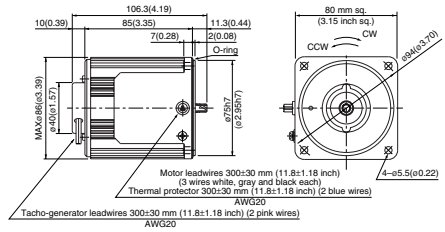
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

Motor model No.	Voltage (V)	Power (W)	Speed (min ⁻¹)
M81X25GV4LG(A)	4P 25 W	100 V	110 V / 115 V
M81X25GV4DG(A)	4P 25 W	200 V	220 V / 230 V
M81X25GV4YG(A)	4P 25 W	200 V	220 V / 230 V
M81X25GV4GG(A)	4P 25 W	220 V / 230 V	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	0.5	9

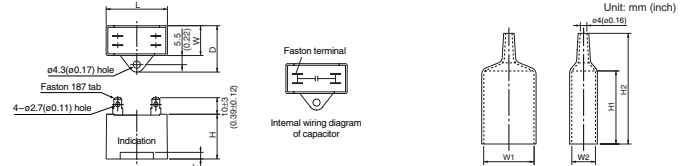


Capacitor (dimensions) [attachment]

Unit: mm (inch)

Capacitor cap (dimensions)

Unit: mm (inch)



Capacitor dimension list

Unit: upper (mm) / lower (inch)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap	W1	W2	H1	H2
M81X25GV4LG(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)
M81X25GV4DG(A)	M0PC6M25G	38 (1.50)	21 (0.83)	31 (1.22)	31 (1.22)	4 (0.16)	M0PC3821G	38 (1.50)	21 (0.83)	55 (2.17)	78 (3.07)
M81X25GV4YG(A)	M0PC2.1M45G	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)
M81X25GV4GG(A)	M0PC1.5M45G	38 (1.50)	21 (0.83)	31 (1.22)	31 (1.22)	4 (0.16)	M0PC3821G	48 (1.89)	21 (0.83)	55 (2.17)	78 (3.07)

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

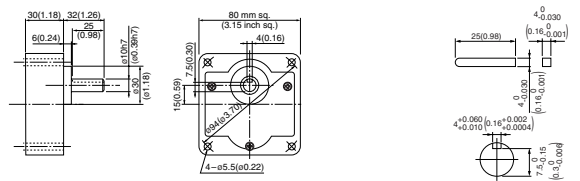
Gear head (dimensions)

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

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

Key and keyword (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 synchronous motor
Variable speed unit motor
C&B motor
2-pole round shaft motor
Gear head
Gear head-inch (U.S.A.)

Variable speed induction motor (leadwire)

90 mm (3.54 inch) sq. 40 W

Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Variable speed range		Permissible Torque N·m (oz·in)		Starting current (A)	Starting torque N·m (oz·in)	Capacitor (μF) (rated voltage)
							Speed (min ⁻¹)	at 1200 min ⁻¹	at 90 min ⁻¹	at 1200 min ⁻¹			
90 mm sq.	M91X40GV4L	4	40	100	50	Cont.	90 to 1400	0.30 (42.5)	0.049 (6.94)	1.6	0.25 (35.4)	12 (200V)	
							90 to 1700	0.24 (34.0)	0.049 (6.94)	1.6	0.25 (35.4)	3	
	M91X40GV4Y	4	40	200	60	Cont.	90 to 1400	0.30 (42.5)	0.049 (6.94)	0.8	0.25 (35.4)	3 (400V)	
							90 to 1700	0.24 (34.0)	0.049 (6.94)	0.8	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-265.

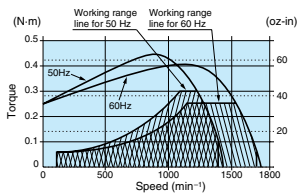
Permissible torque at output shaft of gear head

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

Applicable gear head Bearing	Speed	Reduction ratio	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					
MX9G□B (ball bearing)	1200min ⁻¹	50Hz	0.72 (6.37)	0.87 (7.70)	1.21 (10.7)	1.45 (12.8)	1.82 (16.1)	2.18 (19.3)	2.43 (21.5)	3.03 (26.8)	3.64 (32.2)	4.37 (38.7)	4.86 (43.0)	6.07 (53.7)					
		60Hz	0.58 (5.13)	0.69 (6.11)	0.97 (8.59)	1.16 (10.3)	1.45 (12.8)	1.74 (15.4)	1.92 (17.0)	2.42 (21.4)	2.91 (25.8)	3.49 (30.9)	3.88 (34.3)	4.85 (42.9)					
MX9G□M (metal bearing)	90min ⁻¹	50Hz	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)					
		60Hz	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	Unit of permissible torque: upper (N·m) / lower (lb·in)														Applicable decimal gear head
			30	36	50	60	75	90	100	120	150	180					
MX9G□B (ball bearing)	1200min ⁻¹	50Hz	6.54 (57.9)	7.84 (69.4)	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)		
		60Hz	5.23 (46.3)	6.26 (55.4)	8.70 (77.0)	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)		
MX9G□M (metal bearing)	90min ⁻¹	50Hz	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)					
		60Hz	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.

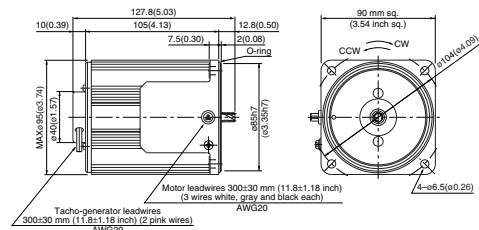
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

M91X40GV4L 4P 40 W 100 V
M91X40GV4Y 4P 40 W 200 V

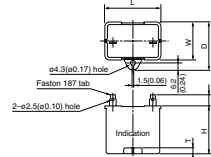
Scale: 1/3, Unit: mm (inch)

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



Capacitor (dimensions) [attachment]

Unit: mm (inch)



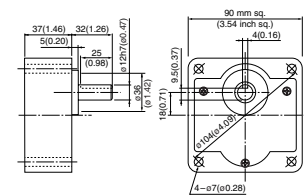
Capacitor dimension list

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M91X40GV4L	M0PC12M20	38.5 (1.55)	26.7 (1.05)	37 (1.46)	32 (1.26)	4 (0.16)	M0PC3926
M91X40GV4Y	M0PC3M40	49.7 (1.96)	24 (0.94)	34.5 (1.36)	34.5 (1.36)	4 (0.16)	M0PC5026

Gear head (dimensions)

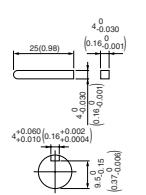
Scale: 1/3, Unit: mm (inch)

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 determine 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 synchronous motor
Variable speed unit motor
C&B motor
2-pole round shaft motor
Gear head
Gear head -inch (U.S.A.)

Variable speed induction motor (leadwire)

90 mm (3.54 inch) sq. 40 W

Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Variable speed range		Permissible Torque N·m (oz·in)		Starting current (A)	Starting torque N·m (oz·in)	Capacitor (μF) (rated voltage)
							Speed (min ⁻¹)	at 1200 min ⁻¹	at 90 min ⁻¹	at 1200 min ⁻¹			
90 mm sq.	M91X40GV4LG	4	40	100	50	Cont.	90 to 1400	0.30 (42.5)	0.078 (11.0)	1.7	0.23 (32.6)	12	
	M91X40GV4LGA						90 to 1700	0.24 (34.0)	0.078 (11.0)	1.5	0.23 (32.6)	(250V)	
	M91X40GV4DG	4	40	110	60	Cont.	90 to 1700	0.24 (34.0)	0.078 (11.0)	1.7	0.23 (32.6)	10	
	M91X40GV4DGA						90 to 1700	0.24 (34.0)	0.078 (11.0)	1.8	0.25 (35.4)	(250V)	
	M91X40GV4YG	4	40	200	60	Cont.	90 to 1400	0.30 (42.5)	0.078 (11.0)	0.64	0.23 (32.6)	3	
	M91X40GV4YGA						90 to 1700	0.24 (34.0)	0.078 (11.0)	0.62	0.23 (32.6)	(450V)	
	M91X40GV4GG	4	40	220	60	Cont.	90 to 1400	0.30 (42.5)	0.078 (11.0)	0.69	0.23 (32.6)	2.5	
							M91X40GV4GGA	90 to 1700	0.24 (34.0)	0.078 (11.0)	0.72	0.25 (35.4)	(450V)
		4	40	230	60	Cont.	90 to 1400	0.30 (42.5)	0.078 (11.0)	0.72	0.25 (35.4)	2.5	
							M91X40GV4GGA	90 to 1700	0.24 (34.0)	0.078 (11.0)	0.68	0.25 (35.4)	(450V)

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-265.
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 "X" is suffixed are not sold or available in Japan.

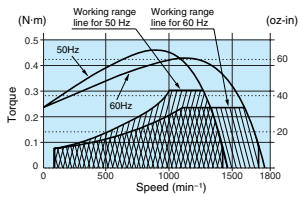
Permissible torque at output shaft of gear head

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

Applicable gear head	Reduction ratio	Speed											
		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25
MX9G□B (ball bearing)	1200min ⁻¹	0.73 (6.46)	0.87 (7.70)	1.22 (10.8)	1.46 (12.9)	1.82 (16.1)	2.19 (19.4)	2.43 (21.5)	3.04 (26.9)	3.65 (32.3)	4.37 (38.7)	4.86 (43.0)	6.08 (53.8)
	60Hz	0.58 (5.13)	0.70 (6.20)	0.97 (8.59)	1.17 (10.4)	1.46 (12.9)	1.75 (15.5)	1.94 (17.2)	2.43 (21.5)	2.92 (25.8)	3.50 (31.0)	3.89 (34.4)	4.86 (43.0)
MX9G□M (metal bearing)	90min ⁻¹	0.19 (1.68)	0.23 (2.04)	0.32 (2.83)	0.38 (3.36)	0.47 (4.16)	0.57 (5.04)	0.63 (5.58)	0.79 (6.99)	0.95 (8.41)	1.14 (10.1)	1.26 (11.2)	1.58 (14.0)
	Rotational direction	Same as motor rotational direction											

Applicable gear head	Reduction ratio	Speed										Applicable decimal gear head	
		30	36	50	60	75	90	100	120	150	180		
MX9G□B (ball bearing)	1200min ⁻¹	6.56 (58.1)	7.87 (69.7)	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)
	60Hz	5.25 (46.5)	6.30 (55.8)	8.75 (77.4)	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)
MX9G□M (metal bearing)	90min ⁻¹	1.71 (15.1)	2.05 (18.1)	2.84 (25.1)	3.41 (30.2)	4.26 (37.7)	5.12 (45.3)	5.69 (50.4)	6.82 (60.4)	8.53 (75.5)	9.80 (86.7)	9.80 (86.7)	9.80 (86.7)
	Rotational direction	Reverse to motor rotational direction											

Speed-torque characteristics



Connection diagram

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

Working range line

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

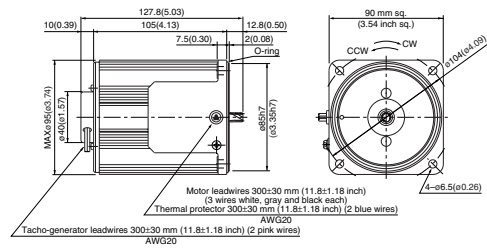
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

Motor model No.	Output (W)	Voltage (V)
M91X40GV4LG(A)	40 W	100 V
M91X40GV4DG(A)	40 W	110 V / 115 V
M91X40GV4YG(A)	40 W	200 V
M91X40GV4GG(A)	40 W	220 V / 230 V

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

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

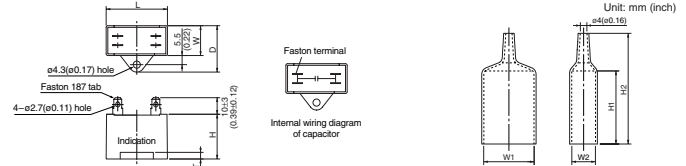


Capacitor (dimensions) [attachment]

Unit: mm (inch)

Capacitor cap (dimensions)

Unit: mm (inch)



Capacitor dimension list

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap	W1	W2	H1	H2
M91X40GV4LG(A)	M0PC12M25G	58 (2.28)	32 (1.26)	32 (1.26)	35 (1.38)	4 (0.16)	M0PC5822G	58 (2.28)	21 (0.83)	55 (2.17)	78 (3.07)
M91X40GV4DG(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)
M91X40GV4YG(A)	M0PC3M45G	58 (2.28)	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)
M91X40GV4GG(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)

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

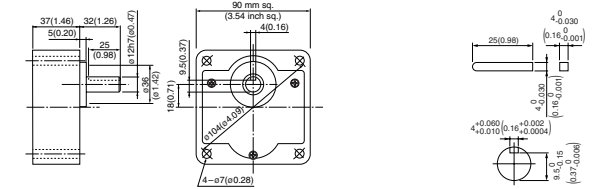
Gear head (dimensions)

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

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

Key and keyway (dimensions) [attachment]

MX9G□B(M)



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

Variable speed induction motor (leadwire)

90 mm (3.54 inch) sq. 60 W

Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Variable speed range		Permissible Torque N·m (oz·in)		Starting current (A)	Starting torque N·m (oz·in)	Capacitor (μF) (rated voltage)
							Speed (min ⁻¹)	at 1200 min ⁻¹	at 90 min ⁻¹	at 1200 min ⁻¹			
90 mm sq.	M91Z60GV4L	4	60	100	50	Cont.	90 to 1400	0.43 (60.9)	0.078 (11.0)	2.3	0.46 (65.1)	20 (200V)	
							90 to 1700	0.36 (51.0)	0.078 (11.0)	2.4	0.46 (65.1)	5 (400V)	
	M91Z60GV4Y	4	60	200	60	Cont.	90 to 1400	0.43 (60.9)	0.078 (11.0)	1.2	0.46 (65.1)	5 (400V)	
							90 to 1700	0.36 (51.0)	0.078 (11.0)	1.2	0.46 (65.1)	5 (400V)	

* 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-265.

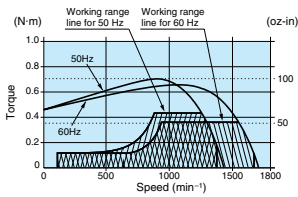
Permissible torque at output shaft of gear head

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

Applicable gear head	Bearing	Speed	Reduction ratio	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			
MZ9G□B (ball bearing hinge not attached)	1200min ⁻¹	50Hz	0.98 (8.67)	1.17 (10.4)	1.57 (13.9)	1.87 (16.6)	2.35 (20.8)	2.80 (24.8)	3.14 (27.8)	3.92 (34.7)	4.70 (41.6)	5.60 (49.6)	6.27 (55.5)	7.55 (66.8)	9.01 (79.8)				
			60Hz	0.82 (7.26)	0.98 (8.67)	1.31 (11.6)	1.57 (13.9)	1.96 (17.4)	2.35 (20.8)	2.62 (23.2)	3.28 (29.0)	3.92 (34.7)	4.70 (41.6)	5.29 (46.8)	6.32 (55.9)	7.55 (66.8)			
		90min ⁻¹	0.18 (1.59)	0.22 (1.95)	0.31 (2.74)	0.37 (3.27)	0.47 (4.16)	0.56 (4.96)	0.63 (5.58)	0.70 (6.20)	0.84 (7.43)	1.00 (8.85)	1.12 (9.91)	1.40 (12.4)	1.68 (14.9)				
			Rotational direction	Same as motor rotational direction								Reverse to motor rotational direction							

Applicable gear head	Bearing	Speed	Reduction ratio	Unit of permissible torque: upper (N·m) / lower (lb·in)															
				36	50	60	75	90	100	120	150	180	200						
MZ9G□B (ball bearing hinge not attached)	1200min ⁻¹	50Hz	10.8 (95.6)	15.2 (135)	18.1 (160)	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)				
			60Hz	9.11 (80.6)	12.7 (112)	15.2 (135)	19.0 (168)	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)			
		90min ⁻¹	1.81 (16.0)	2.50 (22.1)	3.00 (26.6)	3.75 (33.2)	4.50 (39.8)	5.00 (44.3)	5.50 (49.3)	6.00 (53.1)	7.50 (66.4)	9.00 (79.7)	10.0 (88.5)						
			Rotational direction	Same as motor rotational direction															

Speed-torque characteristics



Connection diagram

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

Working range line

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

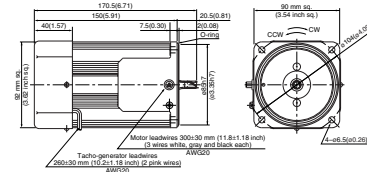
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

M91Z60GV4L 4P 60 W 100 V (with fan)
M91Z60GV4Y 4P 60 W 200 V (with fan)

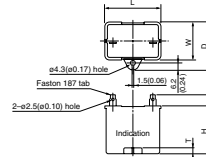
Scale: 1/4, Unit: mm (inch)

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



Capacitor (dimensions) [attachment]

Unit: mm (inch)



Capacitor dimension list

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M91Z60GV4L	M0PC20M20	50.2 (1.98)	26.7 (1.05)	37 (1.46)	36 (1.42)	5 (0.20)	M0PC5026
M91Z60GV4Y	M0PC5M40	50 (1.97)	30.5 (1.20)	41 (1.61)	41.5 (1.63)	0.16 (0.16)	M0PC5032

Gear head (dimensions)

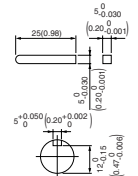
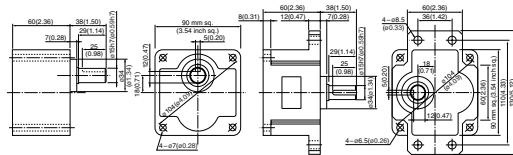
Scale: 1/4, Unit: mm (inch)

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)

Key and keyway (dimensions) [attachment]

MZ9G□B
MY9G□B



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

Note) Because the dimensions may be subject to change, also check the determine 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 synchronous motor
Variable speed unit motor
C&B motor
2-shaft round shaft
Gear head
Gear head -inch (U.S.A.)

Variable speed induction motor (leadwire)

UL US CE 90 mm (3.54 inch) sq. 60 W

Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Variable speed range		Permissible Torque N·m (oz·in)		Starting current (A)	Starting torque N·m (oz·in)	Capacitor (μF) (rated voltage)
							Speed (min ⁻¹)	at 1200 min ⁻¹	at 90 min ⁻¹	at 1200 min ⁻¹			
90 mm sq.	M91Z60GV4LG M91Z60GV4LGA	4	60	100	50	Cont.	90 to 1400	0.44 (62.3)	0.10 (14.2)	3.0	0.37 (52.4)	20	
							90 to 1700	0.35 (49.6)	0.10 (14.2)	2.7	0.37 (52.4)	(250V)	
	M91Z60GV4DG M91Z60GV4DGA	4	60	110	60	Cont.	90 to 1700	0.35 (49.6)	0.10 (14.2)	3.0	0.40 (56.6)	18	
							90 to 1700	0.35 (49.6)	0.10 (14.2)	3.1	0.43 (60.9)	(250V)	
	M91Z60GV4YG M91Z60GV4YGA	4	60	200	50	Cont.	90 to 1400	0.44 (62.3)	0.10 (14.2)	1.3	0.37 (52.4)	5	
							90 to 1700	0.35 (49.6)	0.10 (14.2)	1.2	0.37 (52.4)	(450V)	
	M91Z60GV4GG M91Z60GV4GGA	4	60	220	60	Cont.	90 to 1400	0.44 (62.3)	0.10 (14.2)	1.5	0.40 (56.6)	5	
							90 to 1700	0.35 (49.6)	0.10 (14.2)	1.3	0.40 (56.6)	(450V)	
				230	60	Cont.	90 to 1400	0.44 (62.3)	0.10 (14.2)	1.5	0.43 (60.9)	5	
							90 to 1700	0.35 (49.6)	0.10 (14.2)	1.4	0.43 (60.9)	(450V)	

* 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-265.
* 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 "X" is suffixed are not sold or available in Japan.

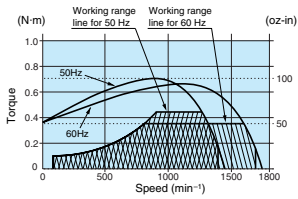
Permissible torque at output shaft of gear head

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

Applicable gear head	Reduction ratio	Speed													
		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	
MZ9G□B (ball bearing / hinge not attached)	1200min ⁻¹	50Hz	1.07 (9.47)	1.28 (11.3)	1.78 (15.8)	2.14 (18.9)	2.67 (23.6)	3.21 (28.4)	3.56 (31.5)	4.01 (35.5)	4.81 (42.6)	5.77 (51.1)	6.42 (56.8)	8.02 (71.0)	9.62 (85.1)
		60Hz	0.85 (7.52)	1.02 (9.03)	1.42 (12.6)	1.70 (15.0)	2.13 (18.9)	2.55 (22.6)	2.84 (25.1)	3.19 (28.2)	3.83 (33.9)	4.59 (40.6)	5.10 (45.1)	6.38 (56.5)	7.65 (67.7)
MY9G□B (ball bearing / hinge attached)	90min ⁻¹	50Hz	0.24 (2.12)	0.29 (2.57)	0.41 (3.63)	0.49 (4.34)	0.61 (5.40)	0.73 (6.46)	0.81 (7.17)	0.91 (8.05)	1.09 (9.65)	1.31 (11.6)	1.46 (12.9)	1.82 (16.1)	2.19 (19.4)
		60Hz	0.24 (2.12)	0.29 (2.57)	0.41 (3.63)	0.49 (4.34)	0.61 (5.40)	0.73 (6.46)	0.81 (7.17)	0.91 (8.05)	1.09 (9.65)	1.31 (11.6)	1.46 (12.9)	1.82 (16.1)	2.19 (19.4)
Rotational direction		Same as motor rotational direction						Reverse to motor rotational direction							

Applicable gear head	Reduction ratio	Speed										Applicable decimal gear head		
		36	50	60	75	90	100	120	150	180	200			
MZ9G□B (ball bearing / hinge not attached)	1200min ⁻¹	50Hz	10.4 (92.0)	14.4 (127)	17.3 (153)	19.6 (173)	19.6 (173)	19.6 (173)	19.6 (173)	19.6 (173)	19.6 (173)	19.6 (173)	19.6 (173)	19.6 (173)
		60Hz	8.27 (73.2)	11.5 (102)	13.8 (122)	17.2 (152)	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)	90min ⁻¹	50Hz	2.36 (20.9)	3.28 (29.0)	3.94 (34.9)	4.92 (43.5)	5.90 (52.2)	6.56 (58.1)	7.87 (69.7)	9.84 (87.1)	11.8 (104)	13.1 (116)	13.1 (116)	13.1 (116)
		60Hz	2.36 (20.9)	3.28 (29.0)	3.94 (34.9)	4.92 (43.5)	5.90 (52.2)	6.56 (58.1)	7.87 (69.7)	9.84 (87.1)	11.8 (104)	13.1 (116)	13.1 (116)	13.1 (116)
Rotational direction		Same as motor rotational direction										MZ9G10XB		

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.

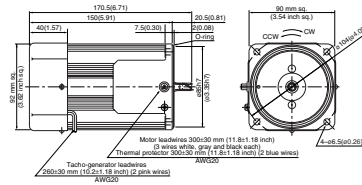
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

Motor model No.	Output (W)	Voltage (V)	Frequency (Hz)
M91Z60GV4LG(A)	60	100	50
M91Z60GV4DG(A)	60	110	60
M91Z60GV4YG(A)	60	200	50
M91Z60GV4GG(A)	60	220	60

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

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

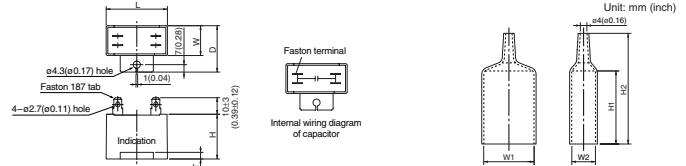


Capacitor (dimensions) [attachment]

Unit: mm (inch)

Capacitor cap (dimensions)

Unit: mm (inch)



Capacitor dimension list

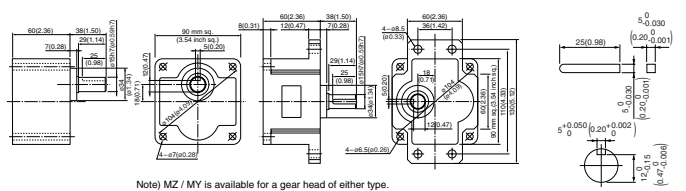
Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap	W1	W2	H1	H2
M91Z60GV4LG(A)	M0PC20M25G	58 (2.28)	29 (1.14)	44 (1.73)	41 (1.61)	4 (0.16)	M0PC5829G	58 (2.28)	29 (1.14)	55 (2.17)	78 (3.07)
M91Z60GV4DG(A)	M0PC18M25G	58 (2.28)	29 (1.14)	44 (1.73)	41 (1.61)	4 (0.16)	M0PC5829G	58 (2.28)	29 (1.14)	55 (2.17)	78 (3.07)
M91Z60GV4YG(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)
M91Z60GV4GG(A)	M0PC5M45G	58 (2.28)	29 (1.14)	44 (1.73)	41 (1.61)	4 (0.16)	M0PC5829G	58 (2.28)	29 (1.14)	55 (2.17)	78 (3.07)

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

Gear head (dimensions)

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

Model No.	Mass (kg)
MZ9G□B (ball bearing / hinge not attached)	1.4 (3.09)
MY9G□B (ball bearing / hinge attached)	1.4 (3.09)



Note) MZ / MY is available for a gear head of either type.
(Note) Because the dimensions may be subject to change, also check the determine dimensions if the gear head is to be used for design.

Variable speed induction motor (leadwire)

90 mm (3.54 inch) sq. 90 W

Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Variable speed range		Permissible Torque N·m (oz·in)		Starting current (A)	Starting torque N·m (oz·in)	Capacitor (μF) (rated voltage)
							Speed (min ⁻¹)	at 1200 min ⁻¹	at 90 min ⁻¹	at 1200 min ⁻¹			
90 mm sq.	M91Z90GV4L	4	90	100	50	Cont.	90 to 1400	0.59 (83.6)	0.25 (35.4)	2.3	0.53 (75.1)	25 (200V)	
							90 to 1700	0.54 (76.5)	0.25 (35.4)	2.2	0.56 (79.3)		
	M91Z90GV4Y	4	90	200	60	Cont.	90 to 1400	0.59 (83.6)	0.25 (35.4)	1.1	0.57 (80.7)	6.2 (375V)	
							90 to 1700	0.54 (76.5)	0.25 (35.4)	1.1	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-265.

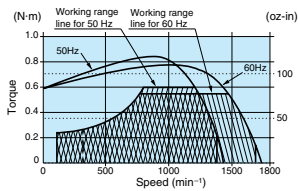
Permissible torque at output shaft of gear head

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

Applicable gear head	Bearing	Speed	Reduction ratio	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
MZ9G□B (ball bearing hinge not attached)	MZ9G□B (ball bearing hinge attached)	1200min ⁻¹	50Hz	1.43 (12.7)	1.71 (15.1)	2.38 (21.1)	2.86 (25.3)	3.57 (31.6)	4.29 (38.0)	4.77 (42.2)	5.36 (47.4)	6.43 (56.9)	7.72 (68.3)	8.58 (75.9)	10.97 (97.1)	12.8 (113)
			60Hz	1.31 (11.6)	1.57 (13.9)	2.18 (19.3)	2.62 (23.2)	3.27 (28.9)	3.93 (34.8)	4.37 (38.7)	4.91 (43.5)	5.89 (52.1)	7.07 (62.6)	7.86 (69.6)	9.82 (86.9)	11.7 (104)
		90min ⁻¹	50Hz	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)	2.26 (20.0)	2.71 (24.0)	3.25 (28.8)	3.82 (32.0)	4.52 (40.0)	5.43 (48.1)
			60Hz	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)	2.26 (20.0)	2.71 (24.0)	3.25 (28.8)	3.82 (32.0)	4.52 (40.0)	5.43 (48.1)
Rotational direction				Same as motor rotational direction						Reverse to motor rotational direction						

Applicable gear head	Bearing	Speed	Reduction ratio	Unit of permissible torque: upper (N·m) / lower (lb·in)													Applicable gear head
				36	50	60	75	90	100	120	150	180	200				
MZ9G□B (ball bearing hinge not attached)	MZ9G□B (ball bearing hinge attached)	1200min ⁻¹	50Hz	13.7 (121)	19.2 (170)	19.6 (174)	19.6 (174)	19.6 (174)	19.6 (174)	19.6 (174)	19.6 (174)	19.6 (174)	19.6 (174)	19.6 (174)	19.6 (174)	19.6 (174)	
			60Hz	12.6 (112)	17.6 (156)	19.6 (174)	19.6 (174)	19.6 (174)	19.6 (174)	19.6 (174)	19.6 (174)	19.6 (174)	19.6 (174)	19.6 (174)	19.6 (174)	19.6 (174)	
		90min ⁻¹	50Hz	5.83 (51.6)	8.10 (71.7)	9.72 (86.0)	12.1 (107)	14.5 (128)	16.2 (143)	19.4 (172)	19.6 (174)	19.6 (174)	19.6 (174)	19.6 (174)	19.6 (174)	19.6 (174)	
			60Hz	5.83 (51.6)	8.10 (71.7)	9.72 (86.0)	12.1 (107)	14.5 (128)	16.2 (143)	19.4 (172)	19.6 (174)	19.6 (174)	19.6 (174)	19.6 (174)	19.6 (174)	19.6 (174)	
Rotational direction				Same as motor rotational direction													

Speed-torque characteristics



Connection diagram

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

Working range line

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

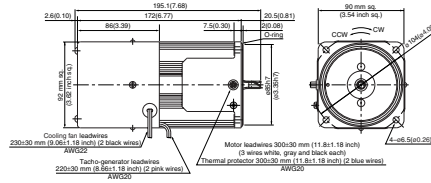
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

M91Z90GV4L 4P 90 W 100 V (Forced cooling fan)
M91Z90GV4Y 4P 90 W 200 V (Forced cooling fan)

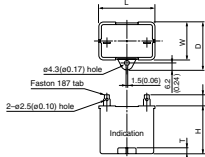
Scale: 1/4, Unit: mm (inch)

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



Capacitor (dimensions) [attachment]

Unit: mm (inch)



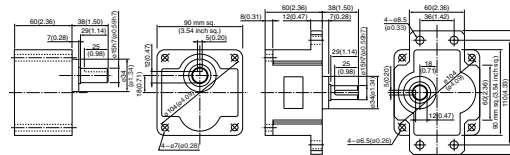
Capacitor dimension list

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M91Z90GV4L	M0PC25M20	50.2 (1.98)	31 (1.22)	41 (1.61)	42 (1.65)	5 (0.20)	M0PC5032
M91Z90GV4Y	M0PC6.2M38	50 (1.97)	30.5 (1.20)	41 (1.61)	41.5 (1.63)	(0.16)	M0PC5032

Gear head (dimensions)

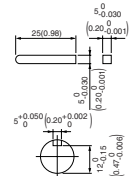
Scale: 1/4, Unit: mm (inch)

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)



Key and keyway (dimensions) [attachment]

MZ9G□B
MY9G□B



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

(Note) Because the dimensions may be subject to change, also check the determine 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 servo motor
Variable speed unit motor
C&B motor
2-shaft round shaft
Gear head
Gear head -inch (U.S.A.)

Variable speed induction motor (leadwire)

90 mm (3.54 inch) sq. 90 W

Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Variable speed range		Permissible Torque N·m (oz·in)		Starting current (A)	Starting torque N·m (oz·in)	Capacitor (μF) (rated voltage)
							Speed (min ⁻¹)	at 1200 min ⁻¹	at 90 min ⁻¹	at 1200 min ⁻¹			
90 mm sq.	M91Z90GV4LG M91Z90GV4LGA	4	90	100	50	Cont.	90 to 1400	0.69 (97.7)	0.29 (41.1)	3.0	0.61 (86.4)	30	
							90 to 1700	0.54 (76.5)	0.29 (41.1)	2.8	0.61 (86.4)	(250V)	
	M91Z90GV4DG M91Z90GV4DGA	4	90	110	60	Cont.	90 to 1700	0.54 (76.5)	0.29 (41.1)	3.0	0.61 (86.4)	25	
							90 to 1700	0.54 (76.5)	0.29 (41.1)	3.1	0.65 (92.0)	(250V)	
	M91Z90GV4YG M91Z90GV4YGA	4	90	200	60	Cont.	90 to 1400	0.69 (97.7)	0.29 (41.1)	1.4	0.61 (86.4)	7.5	
							90 to 1700	0.54 (76.5)	0.29 (41.1)	1.4	0.61 (86.4)	(450V)	
	M91Z90GV4GG M91Z90GV4GGA	4	90	220	60	Cont.	90 to 1400	0.69 (97.7)	0.29 (41.1)	1.5	0.60 (85.0)	6	
							90 to 1700	0.54 (76.5)	0.29 (41.1)	1.5	0.65 (92.0)	(450V)	
								90 to 1400	0.69 (97.7)	0.29 (41.1)	1.5	0.65 (92.0)	
								90 to 1700	0.54 (76.5)	0.29 (41.1)	1.5	0.65 (92.0)	

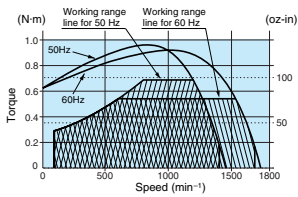
* The specifications and wire connections of the round shaft motor are the same as those of the pinion shaft type. For the dimensional outline drawing, refer to page B-265.
 * The models with a motor model number to which "A" is suffixed are not equipped with a capacitor cap.
 * The models with a motor model number to which "X" 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	
MZ9G□B (ball bearing / hinge not attached)	1200min ⁻¹	50Hz	1.68 (14.9)	2.01 (17.8)	2.79 (24.7)	3.35 (29.7)	4.19 (37.1)	5.03 (44.5)	5.59 (49.5)	6.29 (55.7)	7.55 (66.8)	9.05 (80.1)	10.1 (89.4)	12.6 (112)	15.1 (134)
		60Hz	1.31 (11.6)	1.57 (13.9)	2.19 (19.4)	2.62 (23.2)	3.28 (29.0)	3.94 (34.9)	4.37 (38.7)	4.92 (43.5)	5.90 (52.2)	7.09 (62.8)	7.87 (69.7)	9.84 (87.1)	11.8 (104)
MY9G□B (ball bearing / hinge attached)	90min ⁻¹	50Hz	0.70 (6.20)	0.85 (7.52)	1.17 (10.4)	1.41 (12.5)	1.76 (15.6)	2.11 (18.7)	2.35 (20.8)	2.64 (23.4)	3.17 (28.1)	3.81 (33.7)	4.23 (37.4)	5.29 (46.9)	6.34 (56.1)
		60Hz	0.70 (6.20)	0.85 (7.52)	1.17 (10.4)	1.41 (12.5)	1.76 (15.6)	2.11 (18.7)	2.35 (20.8)	2.64 (23.4)	3.17 (28.1)	3.81 (33.7)	4.23 (37.4)	5.29 (46.9)	6.34 (56.1)
Rotational direction		Same as motor rotational direction						Reverse to motor rotational direction							

Applicable gear head	Reduction ratio	Unit of permissible torque: upper (N·m) / lower (lb·in)														
		36	50	60	75	90	100	120	150	180	200	Applicable decimal gear head				
MZ9G□B (ball bearing / hinge not attached)	1200min ⁻¹	50Hz	16.3 (144)	19.6 (173)	19.6 (173)	19.6 (173)	19.6 (173)	19.6 (173)	19.6 (173)	19.6 (173)	19.6 (173)	19.6 (173)	19.6 (173)	19.6 (173)	19.6 (173)	MZ9G10XB
		60Hz	12.8 (113)	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)	
MY9G□B (ball bearing / hinge attached)	90min ⁻¹	50Hz	6.85 (60.6)	9.51 (84.2)	11.4 (101)	14.3 (127)	17.1 (151)	19.0 (168)	19.6 (173)	19.6 (173)	19.6 (173)	19.6 (173)	19.6 (173)	19.6 (173)	19.6 (173)	MZ9G10XB
		60Hz	6.85 (60.6)	9.51 (84.2)	11.4 (101)	14.3 (127)	17.1 (151)	19.0 (168)	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-35.

Working range line

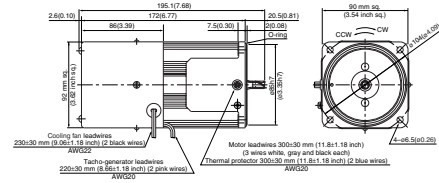
The working range line shows the working limit for the variable speed motor. The permissible torque should fall within the shaded portion. If you use the motor with the permissible torque exceeding the working range line (falling within the portion not shaded), the motor may be burned out due to a high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

Motor (dimensions)

Motor model No.	Output (W)	Voltage (V)	Cooling fan
M91Z90GV4LG(A)	90 W	100 V	(Forced cooling fan)
M91Z90GV4DG(A)	90 W	110 V / 115 V	(Forced cooling fan)
M91Z90GV4YG(A)	90 W	200 V	(Forced cooling fan)
M91Z90GV4GG(A)	90 W	220 V / 230 V	(Forced cooling fan)

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

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

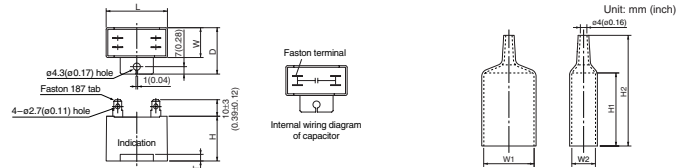


Capacitor (dimensions) [attachment]

Unit: mm (inch)

Capacitor cap (dimensions)

Unit: mm (inch)



Capacitor dimension list

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap	W1	W2	H1	H2
M91Z90GV4LG(A)	M0PC30M25G	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)
M91Z90GV4DG(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)
M91Z90GV4YG(A)	M0PC7.5M45G	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)
M91Z90GV4GG(A)	M0PC6M45G	58 (2.28)	35 (1.38)	50 (1.97)	50 (1.97)	4 (0.16)	M0PC5829G	58 (2.28)	29 (1.14)	55 (2.17)	78 (3.07)

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

Gear head (dimensions)

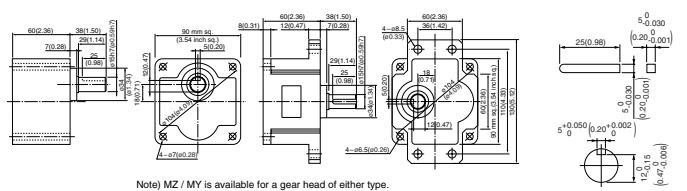
Scale: 1/4, Unit: mm (inch)

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

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

Key and keyway (dimensions) [attachment]

MZ9G□B
MY9G□B



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

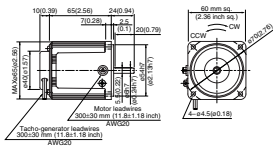
Note) Because the dimensions may be subject to change, also check the determine dimensions if the gear head is to be used for design.

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

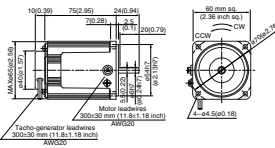
Variable speed induction motor (4-pole round shaft / leadwire)

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

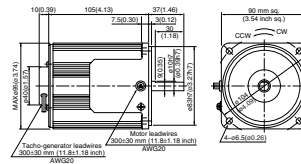
60 mm sq. (2.36 inch sq.) 3 W Mass 0.6 kg (1.32 lb)
M61X3SV4LS



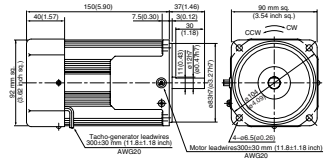
60 mm sq. (2.36 inch sq.) 6 W Mass 0.71 kg (1.57 lb)
M61X6SV4LS
M61X6SV4YS
M61X6SV4LG(A)
M61X6SV4YG(A)
M61X6SV4DG(A)
M61X6SV4GG(A)



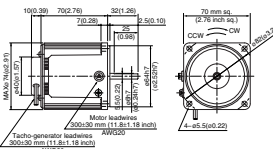
90 mm sq. (3.54 inch sq.) 40 W Mass 2.4 kg (5.29 lb)
M91X40SV4LS
M91X40SV4YS
M91X40SV4LG(A)
M91X40SV4YG(A)
M91X40SV4DG(A)
M91X40SV4GG(A)



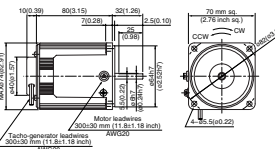
90 mm sq. (3.54 inch sq.) 60 W Mass 2.7 kg (5.95 lb)
M91Z60SV4LS (with fan)
M91Z60SV4YS (with fan)
M91Z60SV4LG(A) (with fan)
M91Z60SV4DG(A) (with fan)
M91Z60SV4YG(A) (with fan)
M91Z60SV4GG(A) (with fan)



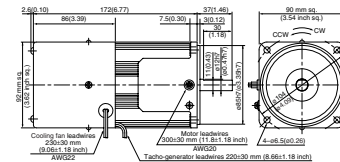
70 mm sq. (2.76 inch sq.) 10 W Mass 0.88 kg (1.94 lb)
M71X10SV4LS
M71X10SV4YS



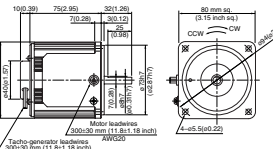
70 mm sq. (2.76 inch sq.) 15 W Mass 1.1 kg (2.43 lb)
M71X15SV4LS
M71X15SV4YS
M71X15SV4LG(A)
M71X15SV4YG(A)
M71X15SV4DG(A)
M71X15SV4GG(A)



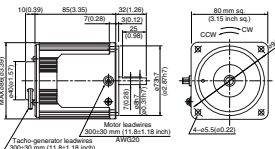
90 mm sq. (3.54 inch sq.) 90 W Mass 3.5 kg (7.72 lb)
M91Z90SV4LS (Forced cooling fan)
M91Z90SV4YS (Forced cooling fan)
M91Z90SV4LG(A) (Forced cooling fan)
M91Z90SV4DG(A) (Forced cooling fan)
M91Z90SV4YG(A) (Forced cooling fan)
M91Z90SV4GG(A) (Forced cooling fan)



80 mm sq. (3.15 inch sq.) 15 W Mass 1.2 kg (2.65 lb)
M81X15SV4LS
M81X15SV4YS



80 mm sq. (3.15 inch sq.) 25 W Mass 1.5 kg (3.31 lb)
M81X25SV4LS
M81X25SV4YS
M81X25SV4LG(A)
M81X25SV4YG(A)
M81X25SV4DG(A)
M81X25SV4GG(A)



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

* 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 determine 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 unit motor
Variable speed induction motor
C&B motor
2-pole round shaft motor
Gear head
Gear head -high (U.S.A.)

