Induction Motor

Contents

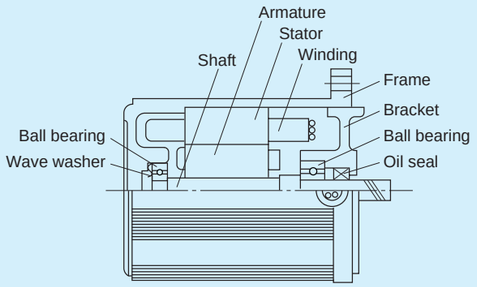
• Motor Overview	B- 2
• Model list	B- 4
• Product information for each model	B- 8
• Gear head combination dimensions	B-58
• Round shaft motor dimensions	B-61

Outline of induction motor

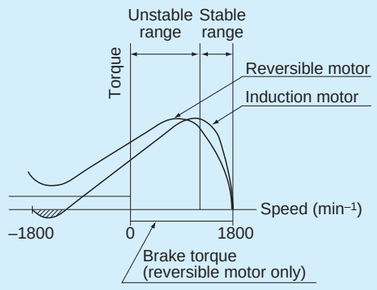
Features

- It is fitted for continuous running in one direction.
- Continuous time rating
- The motor with national specifications is of heatproof class 120 (E); the motor with specifications compliant with overseas standards is of heatproof class 130 (B).
- Because it is a capacitor-type induction motor, it has a high power factor and runs with a low noise level.
- Caution
  The induction motor cannot make a quick-reversal run because of the torque acting in the opposite direction. Therefore stop the induction motor once, change the wire connections and make a reverse run.

Construction

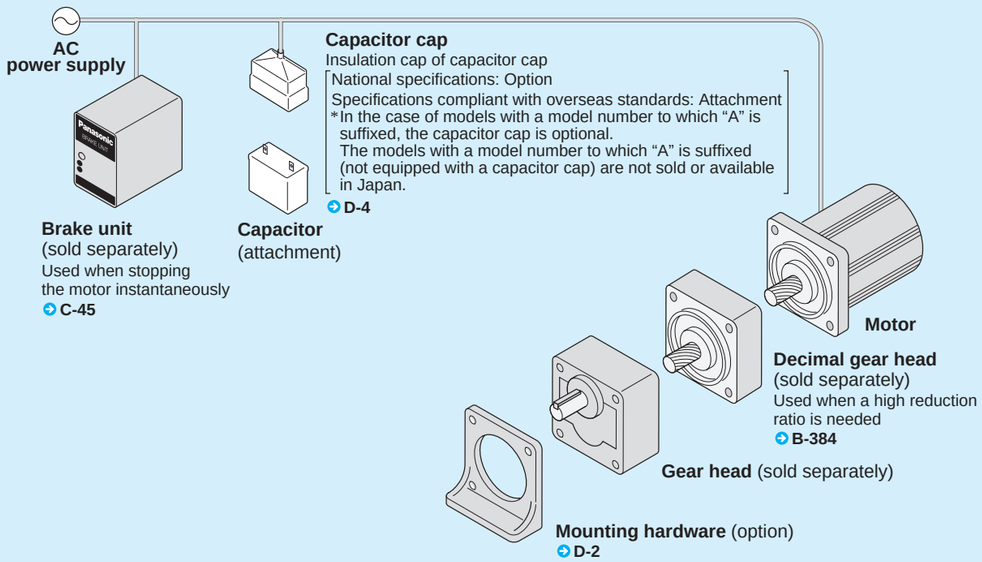


Characteristics



Note) Operation at 60 Hz

System configuration diagram



Coding system

M 9 1 X 40 G ___ 4 L S A

	Size	Motor type	Output type	Output	Shape of shaft	Option	No. of poles	Voltage	Classification	
	4 : 42 mm sq. 6 : 60 mm sq. 7 : 70 mm sq. 8 : 80 mm sq. 9 : 90 mm sq.	1 : Induction Motor	A : 42mm sq. only X : 40 W or smaller Z : 60 W or larger	1 : 1 W 3 : 3 W 6 : 6 W 10 : 10 W 15 : 15 W 25 : 25 W 40 : 40 W 60 : 60 W 90 : 90 W	G : Pinion shaft S : Round shaft	K : Sealed connector (Left aligned when no option is used)	4 : 4 poles 2 : 2 poles (42 mm sq. only)	L : 100 V Y : 200 V D : 110/115 V G : 220/230 V	G : Specifications compliant with overseas standards S : Round shaft (S for round shaft with national specifications only)	Motor with specifications compliant with overseas standards that is not equipped with a capacitor cap.

Corresponding model number	Shape of shaft	Classification
Specifications compliant with overseas standards Pinion shaft	G	G
Specifications compliant with overseas standards Round shaft	S	G
National specifications Pinion shaft	G	–
National specifications Round shaft	S	S
42 mm sq. round shaft specifications	S	–

Model list of induction motor

Pinion shaft motor

Applicable gear head

✪ Motor compliant with overseas standards

Hinge attached

Size	Output (W)	Leadwire type				Sealed connector type				Standard gear head			High torque gear head	Right-angle gear head	Decimal gear head
		Model number	Specifications		Page	Model number	Specifications		Page	Ball bearing	metal bearing	Ball and metal bearing			
42 mm sq.	3	M41A3G2L	100V		B- 8					–	–	M4G□F	–	–	–
	1	M41A1G4L	100V		B-10										
60 mm sq.	3	M61X3G4L	100V		B-12					MX6G□BA MX6G□B	MX6G□MA MX6G□M	–	–	–	MX6G10XB
	6	M61X6G4L	100V		B-14										
		M61X6G4Y	200V		B-14										
		M61X6G4LG(A)	100V	✪	B-16										
		M61X6G4DG(A)	110/115V	✪	B-16										
		M61X6G4YG(A)	200V	✪	B-16										
		M61X6G4GG(A)	220/230V	✪	B-16										
70 mm sq.	10	M71X10G4L	100V		B-18					MX7G□BA MX7G□B	MX7G□MA MX7G□M	–	–	–	MX7G10XB
		M71X10G4Y	200V		B-18										
	15	M71X15G4L	100V		B-20										
		M71X15G4Y	200V		B-20										
		M71X15G4LG(A)	100V	✪	B-22										
		M71X15G4DG(A)	110/115V	✪	B-22										
		M71X15G4YG(A)	200V	✪	B-22										
		M71X15G4GG(A)	220/230V	✪	B-22										
80 mm sq.	15	M81X15G4L	100V		B-24					MX8G□B	MX8G□M	–	–	–	MX8G10XB
		M81X15G4Y	200V		B-24										
	25	M81X25G4L	100V		B-26	M81X25GK4L	100V		B-42						
		M81X25G4Y	200V		B-26	M81X25GK4Y	200V		B-42						
		M81X25G4LG(A)	100V	✪	B-28	M81X25GK4LG(A)	100V	✪	B-44						
		M81X25G4DG(A)	110/115V	✪	B-28	M81X25GK4DG(A)	110/115V	✪	B-44						
		M81X25G4YG(A)	200V	✪	B-28	M81X25GK4YG(A)	200V	✪	B-44						
		M81X25G4GG(A)	220/230V	✪	B-28	M81X25GK4GG(A)	220/230V	✪	B-44						
90 mm sq.	40	M91X40G4L	100V		B-30	M91X40GK4L	100V		B-46	MX9G□B	MX9G□M	–	–	MX9G□R	MX9G10XB
		M91X40G4Y	200V		B-30	M91X40GK4Y	200V		B-46						
		M91X40G4LG(A)	100V	✪	B-32	M91X40GK4LG(A)	100V	✪	B-48						
		M91X40G4DG(A)	110/115V	✪	B-32	M91X40GK4DG(A)	110/115V	✪	B-48						
		M91X40G4YG(A)	200V	✪	B-32	M91X40GK4YG(A)	200V	✪	B-48						
		M91X40G4GG(A)	220/230V	✪	B-32	M91X40GK4GG(A)	220/230V	✪	B-48						
	60	M91Z60G4L	100V		B-34	M91Z60GK4L	100V		B-50	MZ9G□B	–	–	MR9G□B	MZ9G□R	MZ9G10XB
		M91Z60G4Y	200V		B-34	M91Z60GK4Y	200V		B-50						
		M91Z60G4LG(A)	100V	✪	B-36	M91Z60GK4LG(A)	100V	✪	B-52						
		M91Z60G4DG(A)	110/115V	✪	B-36	M91Z60GK4DG(A)	110/115V	✪	B-52						
		M91Z60G4YG(A)	200V	✪	B-36	M91Z60GK4YG(A)	200V	✪	B-52						
		M91Z60G4GG(A)	220/230V	✪	B-36	M91Z60GK4GG(A)	220/230V	✪	B-52						
	90	M91Z90G4L	100V		B-38	M91Z90GK4L	100V		B-54	MY9G□B			MP9G□B		
		M91Z90G4Y	200V		B-38	M91Z90GK4Y	200V		B-54						
		M91Z90G4LG(A)	100V	✪	B-40	M91Z90GK4LG(A)	100V	✪	B-56						
		M91Z90G4DG(A)	110/115V	✪	B-40	M91Z90GK4DG(A)	110/115V	✪	B-56						
		M91Z90G4YG(A)	200V	✪	B-40	M91Z90GK4YG(A)	200V	✪	B-56						
		M91Z90G4GG(A)	220/230V	✪	B-40	M91Z90GK4GG(A)	220/230V	✪	B-56						

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

* Refer to page B-380 for dimensions and permissible torque of high torque gear head.
Refer to page B-382 for dimensions and permissible torque of right-angle gear head.
Refer to page B-384 for dimensions of decimal gear head.

Model list of induction motor

Round shaft motor

✪ Motor compliant with overseas standards
Ⓟ Electrical Appliance and Material Safety Law

Size	Output (W)	Leadwire type		Sealed connector type		
		Model number	Specifications	Model number	Specifications	
42 mm sq.	3	**M41A3S2L**	100V			
	1	**M41A1S4L**	100V			
60 mm sq.	3	**M61X3S4LS**	100V			
	6	**M61X6S4LS**	100V			
		M61X6S4YS	200V			
		M61X6S4LG(A)	100V ✪			
		M61X6S4DG(A)	110/115V ✪			
		M61X6S4YG(A)	200V ✪			
		M61X6S4GG(A)	220/230V ✪			
70 mm sq.	10	**M71X10S4LS**	100V			
		M71X10S4YS	200V			
	15	**M71X15S4LS**	100V			
		M71X15S4YS	200V			
		M71X15S4LG(A)	100V ✪			
		M71X15S4DG(A)	110/115V ✪			
		M71X15S4YG(A)	200V ✪			
		M71X15S4GG(A)	220/230V ✪			
80 mm sq.	15	**M81X15S4LS**	100V			
		M81X15S4YS	200V			
	25	**M81X25S4LS**	100V	**M81X25SK4LS**	100V	Ⓟ
		M81X25S4YS	200V	**M81X25SK4YS**	200V	Ⓟ
		M81X25S4LG(A)	100V ✪	**M81X25SK4LG(A)**	100V ✪	Ⓟ
		M81X25S4DG(A)	110/115V ✪	**M81X25SK4DG(A)**	110/115V ✪	
		M81X25S4YG(A)	200V ✪	**M81X25SK4YG(A)**	200V ✪	Ⓟ
		M81X25S4GG(A)	220/230V ✪	**M81X25SK4GG(A)**	220/230V ✪	
90 mm sq.	40	**M91X40S4LS**	100V	**M91X40SK4LS**	100V	Ⓟ
		M91X40S4YS	200V	**M91X40SK4YS**	200V	Ⓟ
		M91X40S4LG(A)	100V ✪	**M91X40SK4LG(A)**	100V ✪	Ⓟ
		M91X40S4DG(A)	110/115V ✪	**M91X40SK4DG(A)**	110/115V ✪	
		M91X40S4YG(A)	200V ✪	**M91X40SK4YG(A)**	200V ✪	Ⓟ
		M91X40S4GG(A)	220/230V ✪	**M91X40SK4GG(A)**	220/230V ✪	
	60	**M91Z60S4LS**	100V	**M91Z60SK4LS**	100V	Ⓟ
		M91Z60S4YS	200V	**M91Z60SK4YS**	200V	Ⓟ
		M91Z60S4LG(A)	100V ✪	**M91Z60SK4LG(A)**	100V ✪	Ⓟ
		M91Z60S4DG(A)	110/115V ✪	**M91Z60SK4DG(A)**	110/115V ✪	
		M91Z60S4YG(A)	200V ✪	**M91Z60SK4YG(A)**	200V ✪	Ⓟ
		M91Z60S4GG(A)	220/230V ✪	**M91Z60SK4GG(A)**	220/230V ✪	
	90	**M91Z90S4LS**	100V	**M91Z90SK4LS**	100V	Ⓟ
		M91Z90S4YS	200V	**M91Z90SK4YS**	200V	Ⓟ
		M91Z90S4LG(A)	100V ✪	**M91Z90SK4LG(A)**	100V ✪	Ⓟ
		M91Z90S4DG(A)	110/115V ✪	**M91Z90SK4DG(A)**	110/115V ✪	
		M91Z90S4YG(A)	200V ✪	**M91Z90SK4YG(A)**	200V ✪	Ⓟ
		M91Z90S4GG(A)	220/230V ✪	**M91Z90SK4GG(A)**	220/230V ✪	

* The specifications and wire connections of the round shaft motor are the same as those of the pinion shaft motor.
Dimensional outline drawing → Page B-61.
* 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.

Induction motor (leadwire)

42 mm sq. 3 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min⁻¹)	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)	Capacitor (μF) (rated voltage)
42 mm sq.	M41A3G2L	2	3	100	50	Cont.	10	0.10	2625	0.011 (0.11)	0.15	0.011 (0.11)	1.5 (200V)
					60		9	0.10	3250	0.009 (0.09)	0.15	0.011 (0.11)	

• 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-61.

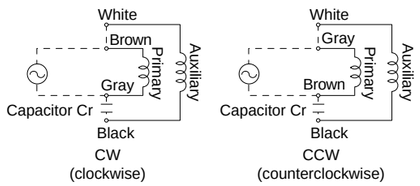
• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

Unit of permissible torque: upper **(mN·m)** / lower **(gf·cm)**

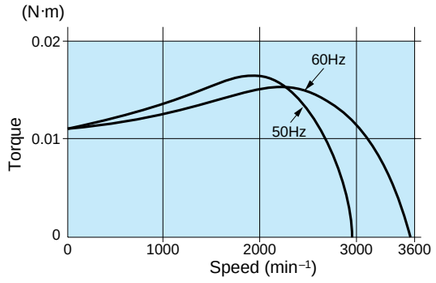
Reduction ratio			3	3.6	5	6	7.5	9	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180
Speed (min⁻¹)		50Hz	1000	833	600	500	400	333	240	200	167	120	100	83.3	60	50	40	33.3	30	25	20	16.7
		60Hz	1200	1000	720	600	480	400	288	240	200	144	120	100	72	60	48	40	36	30	24	20
Applicable gear head	M4GA3F to M4GA180F (metal+ball bearing)	50Hz	28 (286)	34 (347)	47 (479)	57 (581)	71 (724)	84 (857)	98 (1000)	127 (1295)	157 (1601)	186 (1897)	225 (2295)	274 (2795)	382 (3896)	461 (4702)	490 (4998)					
		60Hz	24 (245)	28 (286)	39 (398)	47 (479)	59 (602)	71 (724)	81 (826)	98 (1000)	127 (1295)	176 (1795)	186 (1897)	225 (2295)	313 (3192)	382 (3896)	490 (4998)					
Rotational direction			Same as motor rotational direction						Reverse to motor rotational direction			Same as motor rotational direction					Reverse to motor rotational direction					

Connection diagram



Speed-torque characteristics

M41A3G2L

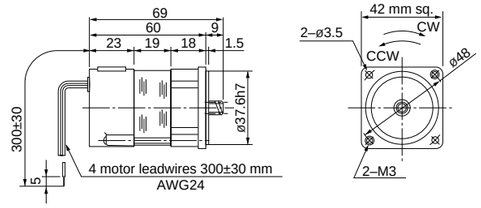


Motor (dimensions)

Scale: 1/3, Unit: mm

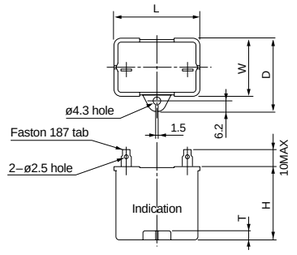
M41A3G2L 2P 3 W 100 V

Mass	Spur gear	Module	Number of teeth
0.3 kg		0.4	10



Capacitor (dimensions) [attachment]

Unit: mm



• Capacitor dimension list (mm)

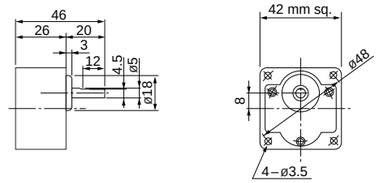
Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M41A3G2L	M0PC1.5M20	39.5	16	26.5	30.5	4	M0PC3917

Gear head (dimensions)

Scale: 1/3, Unit: mm

M4GA□F (ball + metal bearing) Mass 0.2 kg: Output shaft D cut

* In the case of 42 mm sq., a ball bearing is used for the output shaft only.



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

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

Induction motor (leadwire)

42 mm sq. 1 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min⁻¹)	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)	Capacitor (μF) (rated voltage)
42 mm sq.	M41A1G4L	4	1	100	50	Cont.	10	0.11	1175	0.0078 (0.08)	0.11	0.015 (0.15)	1.3 (200V)
					60		10	0.11	1575	0.0059 (0.06)	0.11	0.016 (0.16)	

• 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-61.

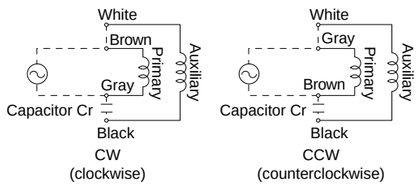
• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

Unit of permissible torque: upper **(mN·m)** / lower **(gf·cm)**

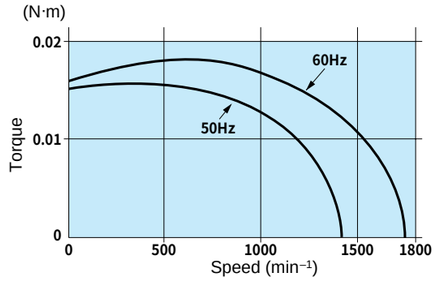
Reduction ratio			3	3.6	5	6	7.5	9	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180
Speed (min⁻¹)		50Hz	500	416.7	300	250	200	166.7	120	100	83.3	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3
		60Hz	600	500	360	300	240	200	144	120	100	72	60	50	36	30	24	20	18	15	12	10
Applicable gear head	M4GA3F to M4GA180F (metal+ball bearing)	50Hz	23 (235)	27 (275)	37 (377)	45 (459)	56 (571)	67 (683)	84 (857)	98 (1000)	118 (1204)	147 (1499)	176 (1795)	216 (2203)	303 (3091)	363 (3703)	411 (4192)	490 (4998)				
		60Hz	19 (194)	23 (235)	31 (316)	37 (377)	47 (479)	56 (571)	77 (785)	84 (857)	98 (1000)	137 (1397)	147 (1499)	176 (1795)	245 (2499)	303 (3091)	303 (3091)	411 (4192)	490 (4998)			
Rotational direction			Same as motor rotational direction						Reverse to motor rotational direction			Same as motor rotational direction					Reverse to motor rotational direction					

Connection diagram



Speed-torque characteristics

M41A1G4L

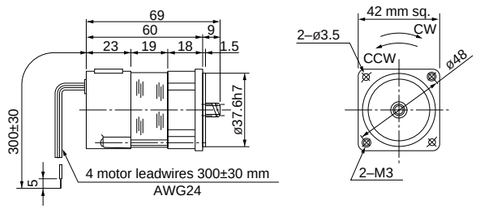


Motor (dimensions)

Scale: 1/3, Unit: mm

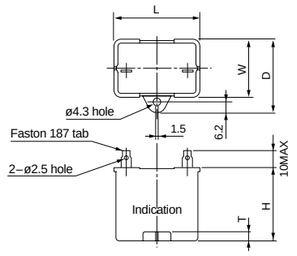
M41A1G4L 4P 1 W 100 V

Mass	Spur gear	Module	Number of teeth
0.3 kg		0.4	10



Capacitor (dimensions) [attachment]

Unit: mm



• Capacitor dimension list (mm)

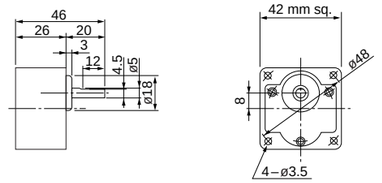
Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M41A1G4L	M0PC1.3M20	39.5	16	26.5	30.5	4	M0PC3917

Gear head (dimensions)

Scale: 1/3, Unit: mm

M4GA□F (ball + metal bearing) Mass 0.2 kg: Output shaft D cut

* In the case of 42 mm sq., a ball bearing is used for the output shaft only.



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

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

Induction motor (leadwire)

60 mm sq. 3 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min⁻¹)	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)	Capacitor (μF) (rated voltage)
60 mm sq.	M61X3G4L	4	3	100	50	Cont.	15	0.15	1250	0.022 (0.22)	0.18	0.031 (0.31)	2.0 (200V)
					60		15	0.15	1575	0.018 (0.18)	0.19	0.031 (0.31)	

• 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-61.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

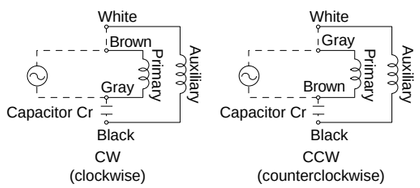
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio			3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180
Speed (min⁻¹)		50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3
		60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10
Applicable gear head	MX6G3BA to MX6G180B (ball bearing)	50Hz	0.048 (0.49)	0.058 (0.59)	0.079 (0.81)	0.095 (0.97)	0.12 (1.2)	0.14 (1.4)	0.16 (1.6)	0.20 (2.0)	0.24 (2.5)	0.28 (2.9)	0.31 (3.2)	0.38 (3.9)	0.46 (4.7)	0.55 (5.6)	0.76 (7.8)	0.92 (9.4)	1.08 (11)	1.27 (13)	1.47 (15)	1.76 (18)	2.16 (22)	2.45 (25)
	MX6G3MA to MX6G180M (metal bearing)	60Hz	0.040 (0.41)	0.048 (0.49)	0.067 (0.68)	0.097 (0.99)	0.098 (1.0)	0.12 (1.2)	0.13 (1.3)	0.17 (1.7)	0.20 (2.0)	0.24 (2.5)	0.25 (2.6)	0.32 (3.3)	0.38 (3.9)	0.46 (4.7)	0.64 (6.5)	0.76 (7.8)	0.90 (9.2)	1.08 (11)	1.27 (13)	1.47 (15)	1.76 (18)	2.16 (22)
Rotational direction			Same as motor rotational direction												Reverse to motor rotational direction									

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

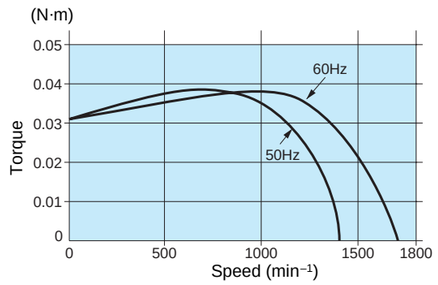
Applicable gear head			Reduction ratio		200	250	300	360	500	600	750	900	1000	1200	1500	1800
Bearing	Decimal gear head		Speed (min⁻¹)	50Hz	7.5	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
				60Hz	9	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
MX6G□BA (ball bearing) MX6G□B	MX6G10XB		Permissible torque	N·m (kgf·cm)	2.45 (25)	2.45 (25)	2.45 (25)	2.45 (25)	2.45 (25)	2.45 (25)	2.45 (25)	2.45 (25)	2.45 (25)	2.45 (25)	2.45 (25)	2.45 (25)
MX6G□MA (metal bearing) MX6G□M			Rotational direction		Same as motor rotational direction	Reverse to motor rotational direction										

Connection diagram



Speed-torque characteristics

M61X3G4L



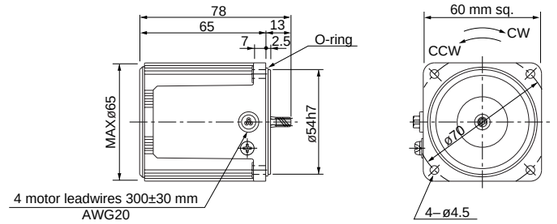
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

Scale: 1/3, Unit: mm

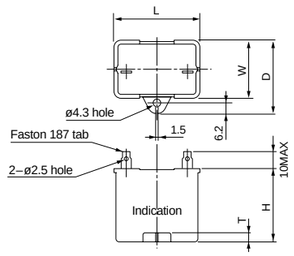
M61X3G4L 4P 3 W 100 V

Mass	Helical gear	Module	Number of teeth
0.56 kg		0.5	6



Capacitor (dimensions) [attachment]

Unit: mm



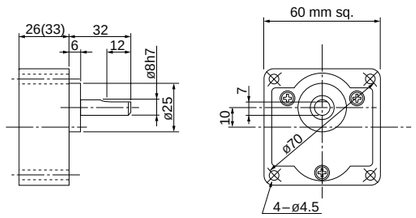
• Capacitor dimension list (mm)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M61X3G4L	M0PC2M20	39.5	16	26.5	30.5	4	M0PC3917

Gear head (dimensions)

Scale: 1/3, Unit: mm

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



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

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

Induction motor (leadwire)

60 mm sq. 6 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min⁻¹)	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)	Capacitor (μF) (rated voltage)
60 mm sq.	M61X6G4L	4	6	100	50	Cont.	20	0.21	1250	0.048 (0.48)	0.30	0.049 (0.5)	2.5 (200V)
					60		20	0.20	1575	0.038 (0.38)	0.30	0.049 (0.5)	
	M61X6G4Y	4	6	200	50	Cont.	20	0.11	1250	0.048 (0.48)	0.15	0.049 (0.5)	0.7 (400V)
					60		20	0.10	1600	0.037 (0.37)	0.15	0.049 (0.5)	

• The specifications and wire connections of the round shaft motor are the same as those of the pinion shaft type. For the dimensional outline drawing, refer to page B-61.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

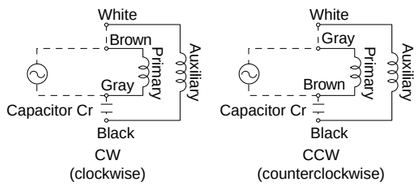
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180
Speed (min⁻¹)	50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3
	60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10
Applicable gear head: MX6G3BA to MX6G180B (ball bearing)	50Hz	0.098 (1.0)	0.12 (1.2)	0.16 (1.6)	0.19 (1.9)	0.25 (2.6)	0.29 (3.0)	0.33 (3.4)	0.40 (4.1)	0.49 (5.0)	0.59 (6.0)	0.66 (6.7)	0.79 (8.1)	0.95 (9.7)	1.18 (12)	1.57 (16)	1.86 (19)	2.25 (23)	2.45 (25)	2.45 (25)			
Applicable gear head: MX6G3MA to MX6G180M (metal bearing)	60Hz	0.081 (0.83)	0.098 (1.0)	0.13 (1.3)	0.16 (1.6)	0.21 (2.1)	0.25 (2.6)	0.26 (2.7)	0.33 (3.4)	0.40 (4.1)	0.49 (5.0)	0.53 (5.4)	0.66 (6.7)	0.79 (8.1)	0.95 (9.7)	1.27 (13)	1.57 (16)	1.86 (19)	2.25 (23)	2.45 (25)			
Rotational direction		Same as motor rotational direction												Reverse to motor rotational direction									

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

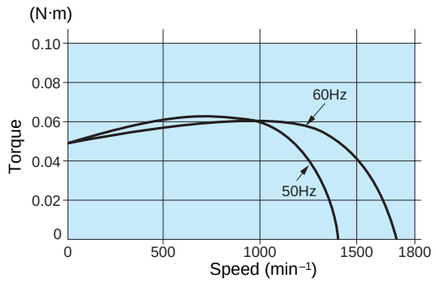
Applicable gear head: Bearing	Decimal gear head	Reduction ratio		200	250	300	360	500	600	750	900	1000	1200	1500	1800
MX6G□BA (ball bearing) MX6G□B	MX6G10XB	Speed (min⁻¹)	50Hz	7.5	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
MX6G□MA (metal bearing) MX6G□M			60Hz	9	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
		Permissible torque	N·m	2.45	2.45	2.45	2.45	2.45	2.45	2.45	2.45	2.45	2.45	2.45	2.45
			(kgf·cm)	(25)	(25)	(25)	(25)	(25)	(25)	(25)	(25)	(25)	(25)	(25)	(25)
		Rotational direction		Same as motor rotational direction		Reverse to motor rotational direction									

Connection diagram



Speed-torque characteristics

M61X6G4L



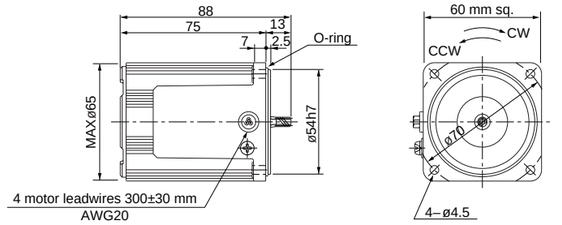
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

Scale: 1/3, Unit: mm

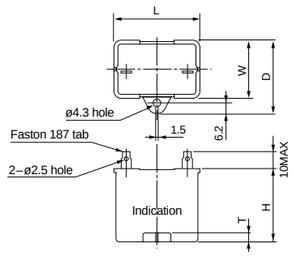
M61X6G4L 4P 6 W 100 V
M61X6G4Y 4P 6 W 200 V

Mass	Helical gear	Module	Number of teeth
0.67 kg		0.5	6



Capacitor (dimensions) [attachment]

Unit: mm



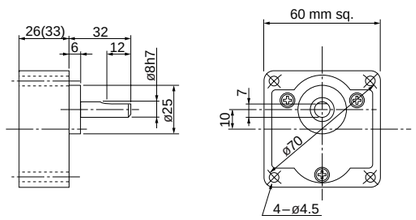
• Capacitor dimension list (mm)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M61X6G4L	M0PC2.5M20	39.5	16	26.5	30.5	4	M0PC3917
M61X6G4Y	M0PC0.7M40	39.5	16.2	27	27	4	M0PC3917

Gear head (dimensions)

Scale: 1/3, Unit: mm

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



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

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

Induction motor (leadwire)

60 mm sq. 6 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min⁻¹)	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)	Capacitor (μF) (rated voltage)
60 mm sq.	M61X6G4LG M61X6G4LGA	4	6	100	50	Cont.	22	0.23	1275	0.045 (0.46)	0.32	0.051 (0.52)	3.5 (250V)
					60		23	0.23	1600	0.036 (0.37)	0.33	0.051 (0.52)	
	M61X6G4DG M61X6G4DGA	4	6	110 115	60 60	Cont.	21 23	0.20 0.21	1600 1625	0.036 (0.37) 0.035 (0.36)	0.33 0.34	0.047 (0.48) 0.051 (0.52)	2.5 (250V)
	M61X6G4YG M61X6G4YGA	4	6	200	50 60	Cont.	21 22	0.11 0.11	1225 1550	0.047 (0.48) 0.037 (0.38)	0.14 0.14	0.051 (0.52) 0.051 (0.52)	0.8 (450V)
	M61X6G4GG M61X6G4GGA	4	6	220 230	50 60 50 60	Cont.	22 21 23 22	0.11 0.10 0.11 0.10	1200 1550 1250 1575	0.048 (0.49) 0.037 (0.38) 0.046 (0.47) 0.036 (0.37)	0.14 0.14 0.15 0.15	0.045 (0.46) 0.045 (0.46) 0.050 (0.51) 0.051 (0.52)	0.6 (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-61.
• The models with a motor model number to which “A” is suffixed are not equipped with a capacitor cap.
The models with a motor model number to which “A” is suffixed are not sold or available in Japan.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

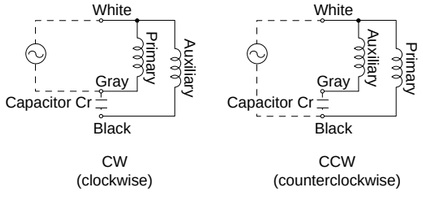
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180
Speed (min⁻¹)	50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3
	60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10
Applicable gear head: MX6G3BA to MX6G180B (ball bearing)	50Hz	0.098 (1.0)	0.12 (1.2)	0.16 (1.6)	0.19 (1.9)	0.25 (2.6)	0.29 (3.0)	0.33 (3.4)	0.40 (4.1)	0.49 (5.0)	0.59 (6.0)	0.66 (6.7)	0.79 (8.1)	0.95 (9.7)	1.18 (12)	1.57 (16)	1.86 (19)	2.25 (23)	2.45 (25)	2.45 (25)			
Applicable gear head: MX6G3MA to MX6G180M (metal bearing)	60Hz	0.081 (0.83)	0.098 (1.0)	0.13 (1.3)	0.16 (1.6)	0.21 (2.1)	0.25 (2.6)	0.26 (2.7)	0.33 (3.4)	0.40 (4.1)	0.49 (5.0)	0.53 (5.4)	0.66 (6.7)	0.79 (8.1)	0.95 (9.7)	1.27 (13)	1.57 (16)	1.86 (19)	2.25 (23)	2.45 (25)			
Rotational direction		Same as motor rotational direction												Reverse to motor rotational direction									

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

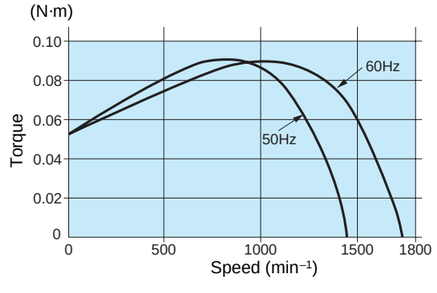
Applicable gear head		Reduction ratio		200	250	300	360	500	600	750	900	1000	1200	1500	1800
Bearing	Decimal gear head	Speed (min⁻¹)	50Hz	7.5	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
			60Hz	9	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
MX6G□BA (ball bearing) MX6G□B (ball bearing) MX6G□MA (metal bearing) MX6G□M (metal bearing)	MX6G10XB	Permissible torque	N·m	2.45	2.45	2.45	2.45	2.45	2.45	2.45	2.45	2.45	2.45	2.45	2.45
			(kgf·cm)	(25)	(25)	(25)	(25)	(25)	(25)	(25)	(25)	(25)	(25)	(25)	(25)
		Rotational direction		Same as motor rotational direction		Reverse to motor rotational direction									

Connection diagram



Speed-torque characteristics

M61X6G4LG(A)



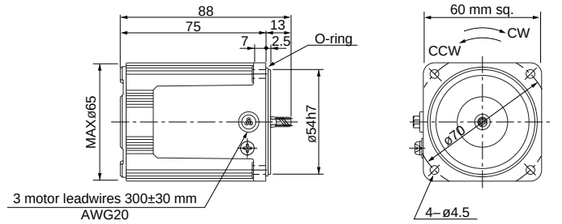
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

Scale: 1/3, Unit: mm

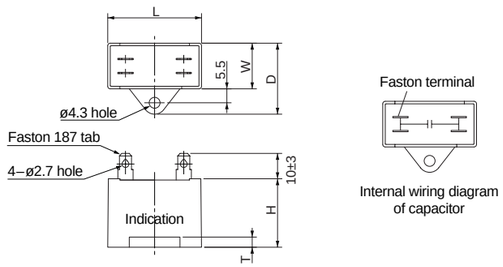
M61X6G4LG(A) 4P 6 W 100 V
M61X6G4DG(A) 4P 6 W 110 V / 115 V
M61X6G4YG(A) 4P 6 W 200 V
M61X6G4GG(A) 4P 6 W 220 V / 230 V

Mass	Helical	Module	Number of teeth
0.67 kg	gear	0.5	6



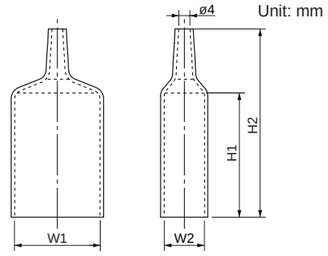
Capacitor (dimensions) [attachment]

Unit: mm



Capacitor cap (dimensions) [attachment]

Unit: mm



• Capacitor dimension list (mm)

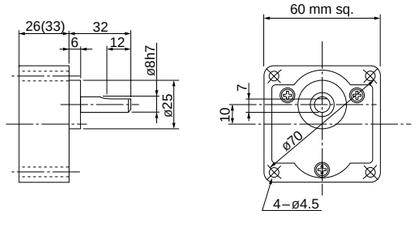
Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (attachment)	W1	W2	H1	H2
M61X6G4LG(A)	M0PC3.5M25G	31	17	27	27	4	M0PC3117G	31	17	50	73
M61X6G4DG(A)	M0PC2.5M25G	31	17	27	27	4	M0PC3117G	31	17	50	73
M61X6G4YG(A)	M0PC0.8M45G	31	17	27	27	4	M0PC3117G	31	17	50	73
M61X6G4GG(A)	M0PC0.6M45G	31	14.5	24.5	23.5	4	M0PC3114G	31	14.5	45	68

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

Gear head (dimensions)

Scale: 1/3, Unit: mm

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



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

Induction motor (leadwire)

70 mm sq. 10 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min⁻¹)	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)	Capacitor (μF) (rated voltage)
70 mm sq.	M71X10G4L	4	10	100	50	Cont.	26	0.27	1250	0.074 (0.76)	0.42	0.062 (0.63)	3 (200V)
					60		26	0.26	1575	0.059 (0.60)	0.40	0.062 (0.63)	
	M71X10G4Y	4	10	200	50	Cont.	27	0.14	1250	0.075 (0.77)	0.20	0.064 (0.65)	1 (400V)
					60		27	0.13	1575	0.060 (0.61)	0.20	0.064 (0.65)	

• 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-61.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

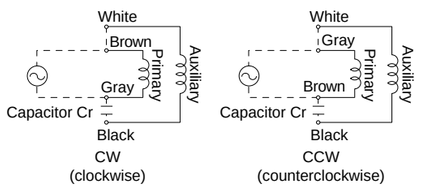
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180
Speed (min⁻¹)	50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3
	60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10
Applicable gear head: MX7G3BA to MX7G180B (ball bearing)	50Hz	0.16 (1.6)	0.19 (19)	0.25 (2.0)	0.30 (3.1)	0.38 (3.9)	0.46 (4.7)	0.51 (5.2)	0.64 (6.5)	0.77 (7.9)	0.93 (9.5)	0.98 (10)	1.27 (13)	1.47 (15)	1.76 (18)	2.55 (26)	3.04 (31)	3.63 (37)	4.31 (44)	4.80 (49)	4.90 (50)	4.90 (50)		
Applicable gear head: MX7G3MA to MX7G180M (metal bearing)	60Hz	0.13 (1.3)	0.16 (1.6)	0.22 (2.2)	0.25 (2.6)	0.32 (3.3)	0.38 (3.9)	0.44 (4.5)	0.53 (5.4)	0.64 (7.9)	0.77 (7.9)	0.85 (8.7)	1.08 (11)	1.27 (13)	1.47 (15)	2.16 (22)	2.55 (26)	3.04 (31)	3.63 (37)	4.03 (41)	4.80 (49)	4.90 (50)		
Rotational direction		Same as motor rotational direction												Reverse to motor rotational direction									

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

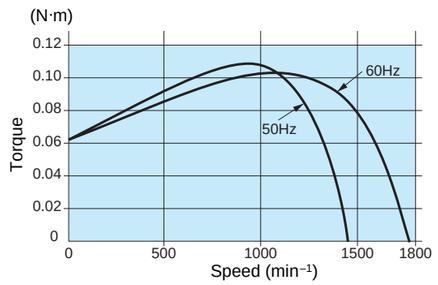
Applicable gear head: Bearing	Decimal gear head	Reduction ratio		200	250	300	360	500	600	750	900	1000	1200	1500	1800
MX7G□BA (ball bearing) / MX7G□B	MX7G10XB	Speed (min⁻¹)	50Hz	7.5	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
			60Hz	9	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
MX7G□MA (metal bearing) / MX7G□M		Permissible torque	N·m (kgf·cm)	4.90 (50)	4.90 (50)	4.90 (50)	4.90 (50)	4.90 (50)	4.90 (50)	4.90 (50)	4.90 (50)	4.90 (50)	4.90 (50)	4.90 (50)	4.90 (50)
		Rotational direction		Same as motor rotational direction	Reverse to motor rotational direction										

Connection diagram



Speed-torque characteristics

M71X10G4L



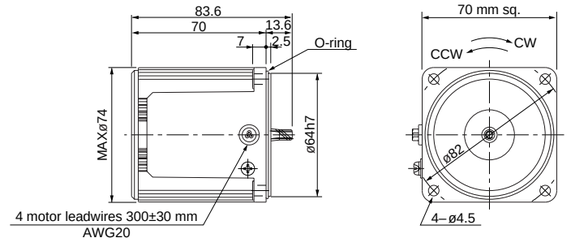
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

Scale: 1/3, Unit: mm

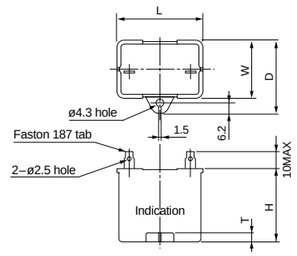
M71X10G4L 4P 10 W 100 V
M71X10G4Y 4P 10 W 200 V

Mass	Helical gear	Module	Number of teeth
0.84 kg		0.5	7



Capacitor (dimensions) [attachment]

Unit: mm



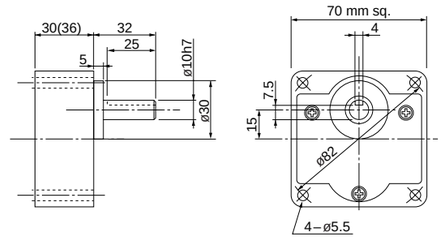
• Capacitor dimension list (mm)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M71X10G4L	M0PC3M20	39.5	16	26.5	30.5	4	M0PC3917
M71X10G4Y	M0PC1M40	39.5	16.2	27	27	4	M0PC3917

Gear head (dimensions)

Scale: 1/3, Unit: mm

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

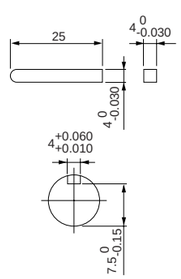


* Figures in ( ) represent the dimensions of MX7G□B (M) (1/30 or larger reduction ratio).
(The model number of the gear head with a reduction ratio of 1/25 or smaller is MX7G□BA (MA).)

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

Key and keyway (dimensions) [attachment]

MX7G□BA(B)
MX7G□MA(M)



Induction motor (leadwire)

70 mm sq. 15 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min⁻¹)	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)	Capacitor (μF) (rated voltage)
70 mm sq.	M71X15G4L	4	15	100	50	Cont.	34	0.37	1250	0.11 (1.1)	0.61	0.077 (0.79)	4 (200V)
					60		33	0.33	1575	0.088 (0.89)	0.57	0.077 (0.79)	
	M71X15G4Y	4	15	200	50	Cont.	33	0.18	1300	0.11 (1.1)	0.30	0.077 (0.79)	1 (400V)
					60		34	0.17	1600	0.088 (0.89)	0.29	0.077 (0.79)	

• 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-61.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

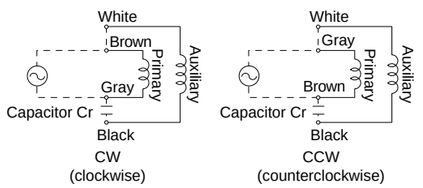
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180
Speed (min⁻¹)	50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3
	60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10
Applicable gear head: MX7G3BA to MX7G180B (ball bearing)	50Hz	0.24 (2.5)	0.28 (2.9)	0.39 (4.0)	0.47 (4.8)	0.59 (6.0)	0.71 (7.2)	0.80 (8.2)	0.98 (10)	1.18 (12)	1.37 (14)	1.57 (16)	1.86 (19)	2.25 (23)	2.74 (28)	3.82 (39)	4.61 (47)	4.90 (50)	4.90 (50)				
Applicable gear head: MX7G3MA to MX7G180M (metal bearing)	60Hz	0.20 (2.0)	0.24 (2.5)	0.32 (3.3)	0.39 (4.0)	0.49 (5.0)	0.59 (6.0)	0.66 (6.7)	0.81 (8.3)	0.98 (10)	1.18 (12)	1.27 (13)	1.57 (16)	1.86 (19)	2.25 (23)	3.23 (33)	3.82 (39)	4.80 (49)	4.90 (50)				
Rotational direction		Same as motor rotational direction												Reverse to motor rotational direction									

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

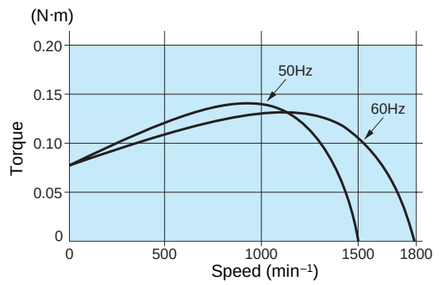
Applicable gear head: Bearing	Decimal gear head	Reduction ratio		200	250	300	360	500	600	750	900	1000	1200	1500	1800
MX7G□BA (ball bearing) / MX7G□B	MX7G10XB	Speed (min⁻¹)	50Hz	7.5	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
MX7G□MA (metal bearing) / MX7G□M			60Hz	9	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
		Permissible torque	N·m (kgf·cm)	4.90 (50)	4.90 (50)	4.90 (50)	4.90 (50)	4.90 (50)	4.90 (50)	4.90 (50)	4.90 (50)	4.90 (50)	4.90 (50)	4.90 (50)	4.90 (50)
		Rotational direction		Same as motor rotational direction	Reverse to motor rotational direction										

Connection diagram



Speed-torque characteristics

M71X15G4L



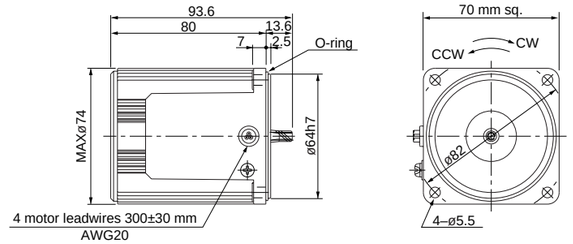
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

Scale: 1/3, Unit: mm

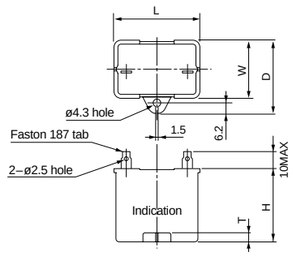
M71X15G4L 4P 15 W 100 V
M71X15G4Y 4P 15 W 200 V

Mass	Helical	Module	Number of teeth
1.1 kg	gear	0.5	7



Capacitor (dimensions) [attachment]

Unit: mm



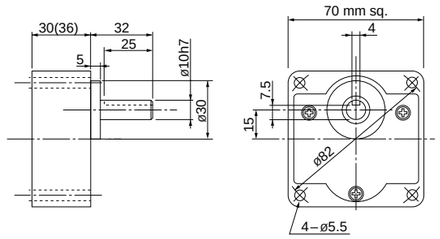
• Capacitor dimension list (mm)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M71X15G4L	M0PC4M20	39.5	16	26.5	30.5	4	M0PC3917
M71X15G4Y	M0PC1M40	39.5	16.2	27	27	4	M0PC3917

Gear head (dimensions)

Scale: 1/3, Unit: mm

MX7G□BA (ball bearing) / **MX7G□B** (ball bearing) Mass 0.38/0.45 kg: Output shaft D cut
MX7G□MA (metal bearing) / **MX7G□M** (metal bearing) Mass 0.38/0.45 kg: Output shaft D cut

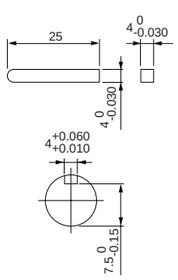


* Figures in ( ) represent the dimensions of MX7G□B (M) (1/30 or larger reduction ratio).
(The model number of the gear head with a reduction ratio of 1/25 or smaller is MX7G□BA (MA).)

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

Key and keyway (dimensions) [attachment]

MX7G□BA(B)
MX7G□MA(M)



Induction motor (leadwire)

70 mm sq. 15 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min⁻¹)	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)	Capacitor (μF) (rated voltage)
70 mm sq.	M71X15G4LG M71X15G4LGA	4	15	100	50	Cont.	34	0.35	1250	0.11 (1.2)	0.57	0.090 (0.92)	5.5 (250V)
					60		35	0.35	1600	0.090 (0.91)	0.56	0.090 (0.92)	
	M71X15G4DG M71X15G4DGA	4	15	110 115	60 60	Cont.	34 36	0.31 0.32	1600 1625	0.090 (0.91) 0.088 (0.90)	0.58 0.61	0.090 (0.92) 0.10 (1.0)	4.5 (250V)
	M71X15G4YG M71X15G4YGA	4	15	200	50 60	Cont.	34 35	0.17 0.18	1175 1550	0.12 (1.2) 0.092 (0.94)	0.24 0.24	0.090 (0.92) 0.090 (0.92)	1.3 (450V)
	M71X15G4GG M71X15G4GGA	4	15	220 230	50 60 50 60	Cont.	35 37 36 38	0.16 0.17 0.16 0.17	1275 1600 1300 1625	0.11 (1.1) 0.090 (0.91) 0.11 (1.1) 0.088 (0.90)	0.27 0.26 0.28 0.27	0.10 (1.0) 0.10 (1.0) 0.11 (1.1) 0.11 (1.1)	1.2 (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-61.
• The models with a motor model number to which "A" is suffixed are not equipped with a capacitor cap.
The models with a motor model number to which "A" is suffixed are not sold or available in Japan.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

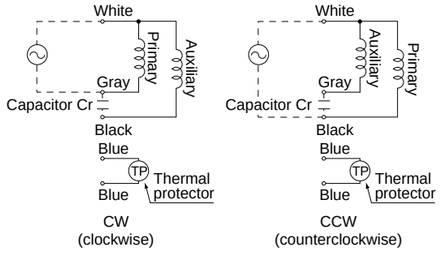
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180
Speed (min⁻¹)	50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3
	60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10
Applicable gear head: MX7G3BA to MX7G180B (ball bearing)	50Hz	0.24 (2.5)	0.28 (2.9)	0.39 (4.0)	0.47 (4.8)	0.59 (6.0)	0.71 (7.2)	0.80 (8.2)	0.98 (10)	1.18 (12)	1.37 (14)	1.57 (16)	1.86 (19)	2.25 (23)	2.74 (28)	3.82 (39)	4.61 (47)	4.90 (50)	4.90 (50)				
Applicable gear head: MX7G3MA to MX7G180M (metal bearing)	60Hz	0.20 (2.0)	0.24 (2.5)	0.32 (3.3)	0.39 (4.0)	0.49 (5.0)	0.59 (6.0)	0.66 (6.7)	0.81 (8.3)	0.98 (10)	1.18 (12)	1.27 (13)	1.57 (16)	1.86 (19)	2.25 (23)	3.23 (33)	3.82 (39)	4.80 (49)	4.90 (50)				
Rotational direction		Same as motor rotational direction												Reverse to motor rotational direction									

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

Applicable gear head: Bearing	Decimal gear head	Reduction ratio		200	250	300	360	500	600	750	900	1000	1200	1500	1800
MX7G□BA (ball bearing) MX7G□B (ball bearing) MX7G□MA (metal bearing) MX7G□M (metal bearing)	MX7G10XB	Speed (min⁻¹)	50Hz	7.5	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
			60Hz	9	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
		Permissible torque	N·m	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90
			(kgf·cm)	(50)	(50)	(50)	(50)	(50)	(50)	(50)	(50)	(50)	(50)	(50)	(50)
		Rotational direction		Same as motor rotational direction		Reverse to motor rotational direction									

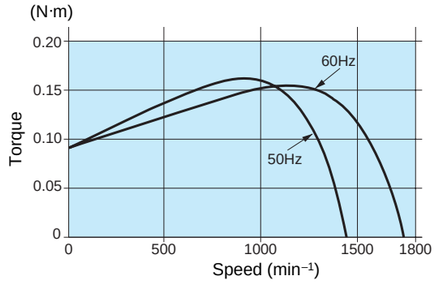
Connection diagram



(Refer to page A-58 for connection of thermal protector.)

Speed-torque characteristics

M71X15G4LG(A)



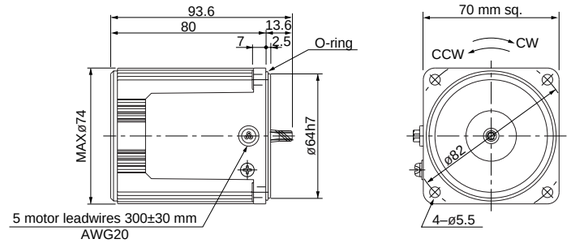
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

Scale: 1/3, Unit: mm

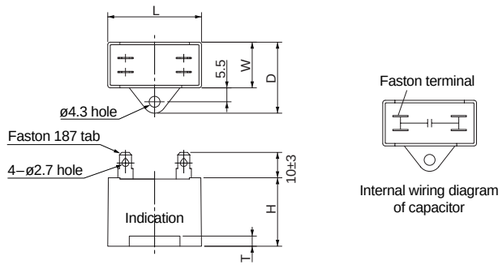
M71X15G4LG(A) 4P 15W 100 V
M71X15G4DG(A) 4P 15W 110 V / 115 V
M71X15G4YG(A) 4P 15W 200 V
M71X15G4GG(A) 4P 15W 220 V / 230 V

Mass	Helical gear	Module	Number of teeth
1.1 kg		0.5	7



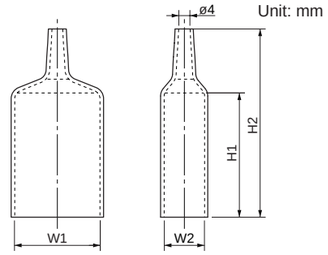
Capacitor (dimensions) [attachment]

Unit: mm



Capacitor cap (dimensions) [attachment]

Unit: mm



• Capacitor dimension list (mm)

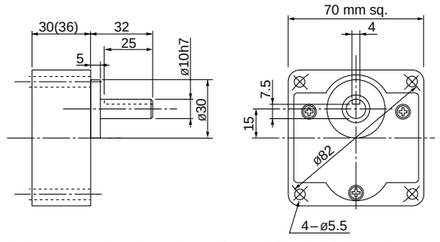
Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (attachment)	W1	W2	H1	H2
M71X15G4LG(A)	M0PC5.5M25G	38	21	31	31	4	M0PC3821G	38	21	55	78
M71X15G4DG(A)	M0PC4.5M25G	37	18	28	27	4	M0PC3718G	37	18	50	73
M71X15G4YG(A)	M0PC1.3M45G	38	19	29	29	4	M0PC3819G	38	19	50	73
M71X15G4GG(A)	M0PC1.2M45G	37	18	28	27	4	M0PC3718G	37	18	50	73

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

Gear head (dimensions)

Scale: 1/3, Unit: mm

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

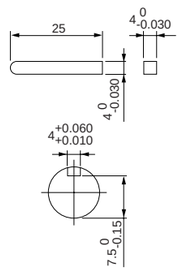


* Figures in ( ) represent the dimensions of MX7G□B (M) (1/30 or larger reduction ratio).
(The model number of the gear head with a reduction ratio of 1/25 or smaller is MX7G□BA (MA).)

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

Key and keyway (dimensions) [attachment]

MX7G□BA(B)
MX7G□MA(M)



Induction motor (leadwire)

80 mm sq. 15 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min^{-1})	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)	Capacitor (μF) (rated voltage)
80 mm sq.	M81X15G4L	4	15	100	50	Cont.	36	0.39	1225	0.12 (1.2)	0.62	0.10 (1.0)	4 (200V)
					60		35	0.35	1550	0.09 (0.93)	0.60	0.10 (1.0)	
	M81X15G4Y	4	15	200	50	Cont.	36	0.19	1225	0.12 (1.2)	0.30	0.10 (1.0)	1 (400V)
					60		35	0.18	1550	0.09 (0.95)	0.30	0.10 (1.0)	

• 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-61.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

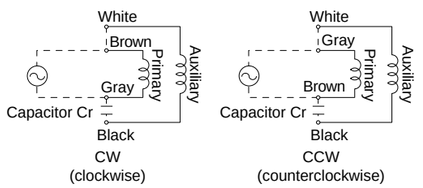
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio			3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180
Speed (min^{-1})		50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3
		60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10
Applicable gear head	MX8G3B to MX8G180B (ball bearing)	50Hz	0.24 (2.4)	0.28 (2.9)	0.39 (4.0)	0.47 (4.8)	0.59 (6.0)	0.71 (7.2)	0.80 (8.2)	0.98 (10)	1.18 (12)	1.37 (14)	1.57 (16)	1.86 (19)	2.25 (23)	2.74 (28)	3.82 (39)	4.61 (47)	5.49 (56)	6.57 (68)	7.35 (75)	7.84 (80)	7.84 (80)	
	MX8G3M to MX8G180M (metal bearing)	60Hz	0.20 (2.0)	0.24 (2.4)	0.32 (3.3)	0.39 (4.0)	0.49 (5.0)	0.59 (6.0)	0.66 (6.7)	0.81 (8.3)	0.98 (10)	1.18 (12)	1.27 (13)	1.57 (16)	1.86 (19)	2.25 (23)	3.23 (33)	3.82 (39)	4.61 (47)	5.49 (56)	6.17 (63)	7.35 (75)	7.84 (80)	
Rotational direction			Same as motor rotational direction												Reverse to motor rotational direction									

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

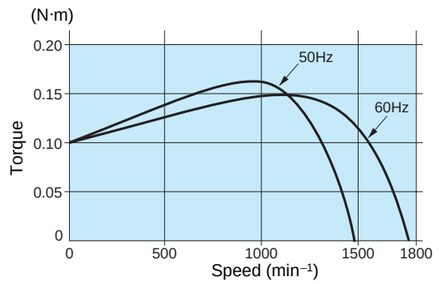
Applicable gear head		Reduction ratio		200	250	300	360	500	600	750	900	1000	1200	1500	1800
Bearing	Decimal gear head	Speed (min^{-1})	50Hz	7.5	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
			60Hz	9	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
MX8G□B (ball bearing) MX8G□M (metal bearing)	MX8G10XB	Permissible torque	N·m (kgf·cm)	7.84 (80)	7.84 (80)	7.84 (80)	7.84 (80)	7.84 (80)	7.84 (80)	7.84 (80)	7.84 (80)	7.84 (80)	7.84 (80)	7.84 (80)	7.84 (80)
		Rotational direction		Same as motor rotational direction	Reverse to motor rotational direction										

Connection diagram



Speed-torque characteristics

M81X15G4L



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

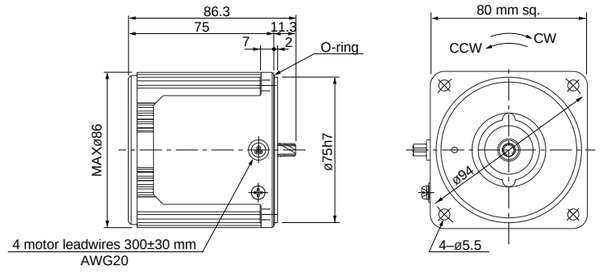
Features B-2 | System configuration B-3 | Coding system B-3 | Model list B-4

Motor (dimensions)

Scale: 1/3, Unit: mm

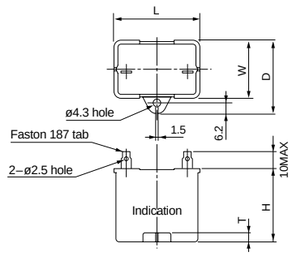
M81X15G4L 4P 15 W 100 V
M81X15G4Y 4P 15 W 200 V

Mass	Helical gear	Module	Number of teeth
1.2 kg		0.5	9



Capacitor (dimensions) [attachment]

Unit: mm



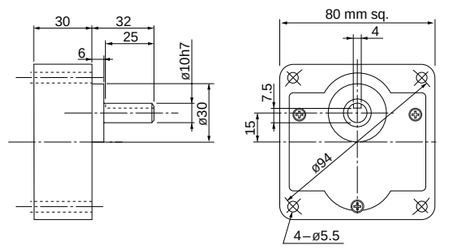
• Capacitor dimension list (mm)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M81X15G4L	M0PC4M20	39.5	16	26.5	30.5	4	M0PC3917
M81X15G4Y	M0PC1M40	39.5	16.2	27	27	4	M0PC3917

Gear head (dimensions)

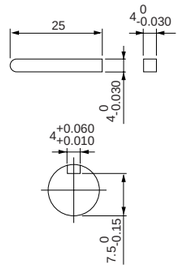
Scale: 1/3, Unit: mm

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



Key and keyway (dimensions) [attachment]

MX8G□B(M)



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

Gear head combination B-59 | Round shaft motor dimensions B-61 | Decimal gear head B-384 | Control related product C-4 | Option D-2

Induction motor (leadwire)

80 mm sq. 25 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min⁻¹)	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)	Capacitor (μF) (rated voltage)
80 mm sq.	M81X25G4L	4	25	100	50	Cont.	51	0.55	1250	0.19 (1.9)	0.98	0.16 (1.6)	6 (200V)
					60		49	0.48	1550	0.15 (1.5)	0.94	0.16 (1.6)	
	M81X25G4Y	4	25	200	50	Cont.	51	0.27	1250	0.19 (1.9)	0.50	0.16 (1.6)	1.5 (400V)
					60		49	0.24	1575	0.15 (1.5)	0.47	0.16 (1.6)	

• 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-61.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

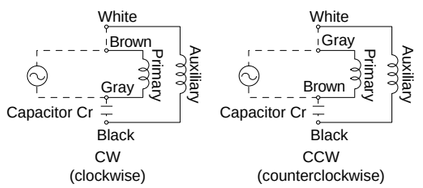
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180
Speed (min⁻¹)	50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3
	60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10
Applicable gear head: MX8G3B to MX8G180B (ball bearing)	50Hz	0.39 (4.0)	0.47 (4.8)	0.66 (6.7)	0.78 (8.0)	0.98 (10)	1.18 (12)	1.27 (13)	1.57 (16)	1.96 (20)	2.35 (24)	2.55 (26)	3.14 (32)	3.82 (39)	4.61 (47)	6.37 (65)	7.64 (78)	7.84 (80)					
Applicable gear head: MX8G3M to MX8G180M (metal bearing)	60Hz	0.32 (3.3)	0.39 (4.0)	0.55 (5.6)	0.66 (6.7)	0.81 (8.3)	0.98 (10)	1.08 (11)	1.27 (13)	1.57 (16)	1.96 (20)	2.06 (21)	2.65 (27)	3.14 (32)	3.82 (39)	5.29 (54)	6.37 (65)	7.84 (80)					
Rotational direction		Same as motor rotational direction												Reverse to motor rotational direction									

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

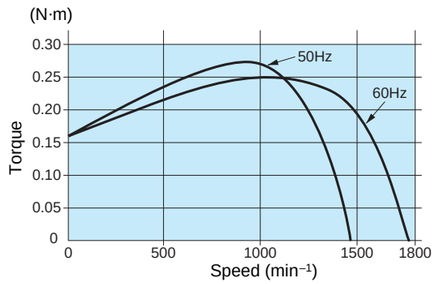
Applicable gear head: Bearing	Decimal gear head	Reduction ratio		200	250	300	360	500	600	750	900	1000	1200	1500	1800
MX8G□B (ball bearing) MX8G□M (metal bearing)	MX8G10XB	Speed (min⁻¹)	50Hz	7.5	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
			60Hz	9	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
		Permissible torque	N·m	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84
			(kgf·cm)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)
		Rotational direction		Same as motor rotational direction		Reverse to motor rotational direction									

Connection diagram



Speed-torque characteristics

M81X25G4L



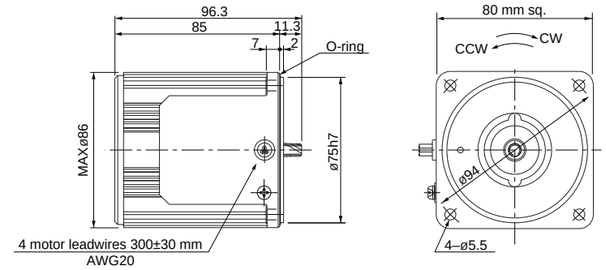
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

Scale: 1/3, Unit: mm

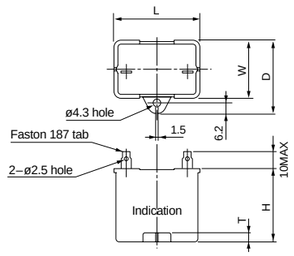
M81X25G4L 4P 25 W 100 V
M81X25G4Y 4P 25 W 200 V

Mass	Helical gear	Module	Number of teeth
1.5 kg		0.5	9



Capacitor (dimensions) [attachment]

Unit: mm



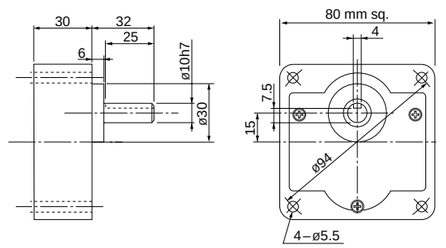
• Capacitor dimension list (mm)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M81X25G4L	M0PC6M20	39.5	17.5	28	30.5	4	M0PC3917
M81X25G4Y	M0PC1.5M40	39.5	22	32.5	32.5	4	M0PC3922

Gear head (dimensions)

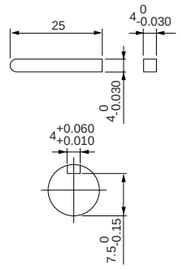
Scale: 1/3, Unit: mm

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



Key and keyway (dimensions) [attachment]

MX8G□B(M)



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

Induction motor (leadwire)

80 mm sq. 25 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min⁻¹)	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)	Capacitor (μF) (rated voltage)
80 mm sq.	M81X25G4LG M81X25G4LGA	4	25	100	50	Cont.	55	0.59	1250	0.19 (1.9)	1.1	0.16 (1.6)	8 (250V)
					60		50	0.50	1575	0.15 (1.5)	1.0	0.16 (1.6)	
	M81X25G4DG M81X25G4DGA	4	25	110	60	Cont.	52	0.50	1575	0.15 (1.5)	1.1	0.14 (1.4)	6 (250V)
				115	60		53	0.50	1600	0.15 (1.5)	1.1	0.15 (1.5)	
	M81X25G4YG M81X25G4YGA	4	25	200	50	Cont.	54	0.27	1200	0.20 (2.0)	0.43	0.16 (1.6)	2.1 (450V)
					60		54	0.27	1550	0.15 (1.6)	0.42	0.16 (1.6)	
	M81X25G4GG M81X25G4GGA	4	25	220	50	Cont.	59	0.29	1200	0.20 (2.0)	0.46	0.15 (1.5)	1.5 (450V)
					60		51	0.23	1550	0.15 (1.6)	0.44	0.15 (1.5)	
				230	50		59	0.28	1250	0.19 (1.9)	0.48	0.16 (1.6)	
					60		52	0.23	1575	0.15 (1.5)	0.45	0.16 (1.6)	

• 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-61.
• The models with a motor model number to which "A" is suffixed are not equipped with a capacitor cap.
The models with a motor model number to which "A" is suffixed are not sold or available in Japan.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

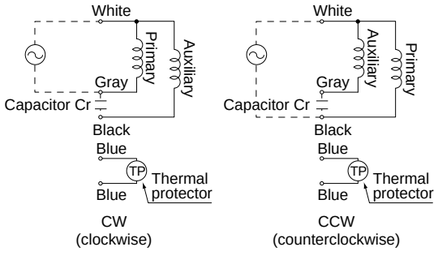
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio			3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180
Speed (min⁻¹)		50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3
		60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10
Applicable gear head	MX8G3B to MX8G180B (ball bearing)	50Hz	0.39 (4.0)	0.47 (4.8)	0.66 (6.7)	0.78 (8.0)	0.98 (10)	1.18 (12)	1.27 (13)	1.57 (16)	1.96 (20)	2.35 (24)	2.55 (26)	3.14 (32)	3.82 (39)	4.61 (47)	6.37 (65)	7.64 (78)	7.84 (80)					
	MX8G3M to MX8G180M (metal bearing)	60Hz	0.32 (3.3)	0.39 (4.0)	0.55 (5.6)	0.66 (6.7)	0.81 (8.3)	0.98 (10)	1.08 (11)	1.27 (13)	1.57 (16)	1.96 (20)	2.06 (21)	2.65 (27)	3.14 (32)	3.82 (39)	5.29 (54)	6.37 (65)	7.84 (80)					
Rotational direction			Same as motor rotational direction												Reverse to motor rotational direction									

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

Applicable gear head		Reduction ratio		200	250	300	360	500	600	750	900	1000	1200	1500	1800
Bearing	Decimal gear head	Speed (min⁻¹)	50Hz	7.5	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
			60Hz	9	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
MX8G□B (ball bearing) MX8G□M (metal bearing)	MX8G10XB	Permissible torque	N·m	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84
			(kgf·cm)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)
		Rotational direction		Same as motor rotational direction		Reverse to motor rotational direction									

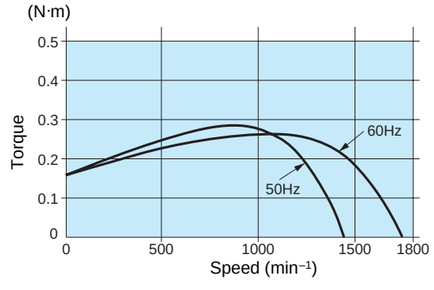
Connection diagram



(Refer to page A-58 for connection of thermal protector.)

Speed-torque characteristics

M81X25G4LG(A)



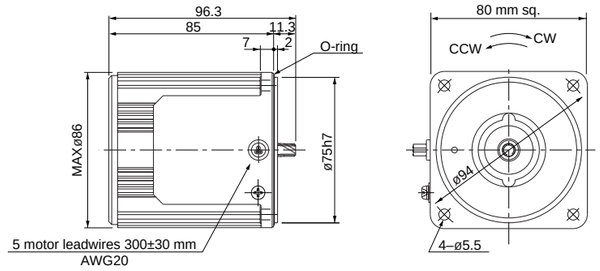
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

Scale: 1/3, Unit: mm

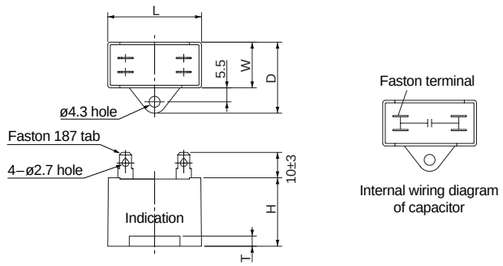
M81X25G4LG(A) 4P 25 W 100 V
M81X25G4DG(A) 4P 25 W 110 V / 115 V
M81X25G4YG(A) 4P 25 W 200 V
M81X25G4GG(A) 4P 25 W 220 V / 230 V

Mass	Helical	Module	Number of teeth
1.5 kg	gear	0.5	9



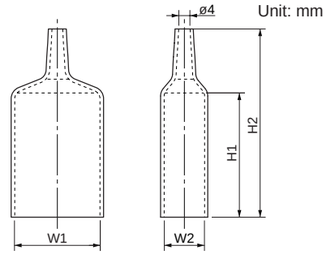
Capacitor (dimensions) [attachment]

Unit: mm



Capacitor cap (dimensions) [attachment]

Unit: mm



• Capacitor dimension list (mm)

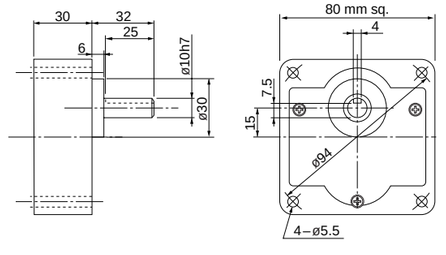
Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (attachment)	W1	W2	H1	H2
M81X25G4LG(A)	M0PC8M25G	48	21	31	31	4	M0PC4821G	48	21	55	78
M81X25G4DG(A)	M0PC6M25G	38	21	31	31	4	M0PC3821G	38	21	55	78
M81X25G4YG(A)	M0PC2.1M45G	48	21	31	31	4	M0PC4821G	48	21	55	78
M81X25G4GG(A)	M0PC1.5M45G	38	21	31	31	4	M0PC3821G	38	21	55	78

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

Gear head (dimensions)

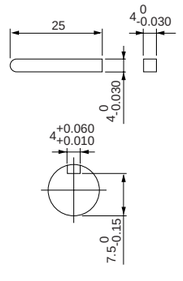
Scale: 1/3, Unit: mm

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



Key and keyway (dimensions) [attachment]

MX8G□B(M)



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

Induction motor (leadwire)

90 mm sq. 40 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min^{-1})	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)	Capacitor (μF) (rated voltage)
90 mm sq.	M91X40G4L	4	40	100	50	Cont.	78	0.86	1225	0.30 (3.1)	1.5	0.24 (2.4)	10 (200V)
					60		72	0.72	1550	0.25 (2.5)	1.5	0.25 (2.5)	
	M91X40G4Y	4	40	200	50	Cont.	79	0.43	1250	0.30 (3.1)	0.83	0.25 (2.5)	2.5 (400V)
					60		72	0.36	1575	0.24 (2.4)	0.76	0.25 (2.5)	

• The specifications and wire connections of the round shaft motor are the same as those of the pinion shaft type. For the dimensional outline drawing, refer to page B-61.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

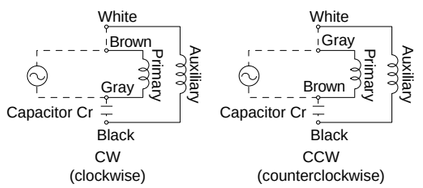
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio			3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180
Speed (min^{-1})		50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3
		60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10
Applicable gear head	MX9G3B to MX9G180B (ball bearing)	50Hz	0.66 (6.7)	0.78 (8.0)	1.08 (11)	1.27 (13)	1.57 (16)	1.86 (19)	2.25 (23)	2.74 (28)	3.23 (33)	3.92 (40)	4.41 (45)	5.29 (54)	6.37 (65)	7.94 (81)	9.80 (100)	9.80 (100)						
	MX9G3M to MX9G180M (metal bearing)	60Hz	0.55 (5.6)	0.66 (6.7)	0.90 (9.2)	1.08 (11)	1.27 (13)	1.57 (16)	1.76 (18)	2.25 (23)	2.74 (28)	3.23 (33)	3.53 (36)	4.41 (45)	5.29 (54)	6.37 (65)	8.82 (90)	9.80 (100)						
Rotational direction			Same as motor rotational direction												Reverse to motor rotational direction									

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

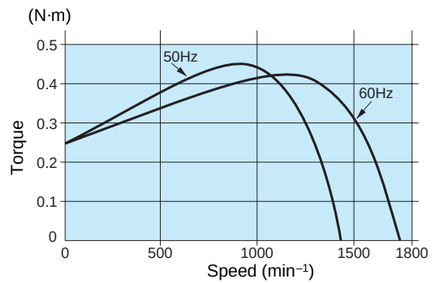
Applicable gear head		Reduction ratio		200	250	300	360	500	600	750	900	1000	1200	1500	1800
Bearing	Decimal gear head	Speed (min^{-1})	50Hz	7.5	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
			60Hz	9	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
MX9G□B (ball bearing) MX9G□M (metal bearing)	MX9G10XB	Permissible torque	N·m (kgf·cm)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)
		Rotational direction		Same as motor rotational direction	Reverse to motor rotational direction										

Connection diagram



Speed-torque characteristics

M91X40G4L



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

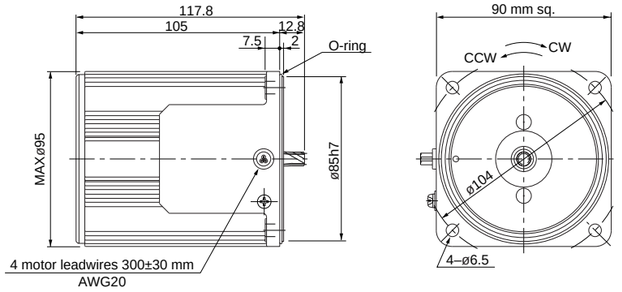
Features B-2 | System configuration B-3 | Coding system B-3 | Model list B-4

Motor (dimensions)

Scale: 1/3, Unit: mm

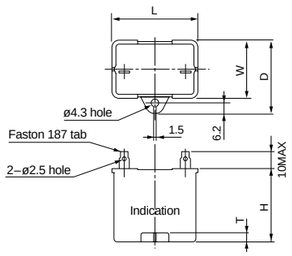
M91X40G4L 4P 40 W 100 V
M91X40G4Y 4P 40 W 200 V

Mass	Helical gear	Module	Number of teeth
2.4 kg		0.55	9



Capacitor (dimensions) [attachment]

Unit: mm



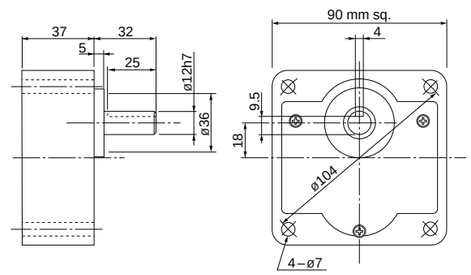
• Capacitor dimension list (mm)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M91X40G4L	M0PC10M20	39.5	26.7	37	32	4	M0PC3926
M91X40G4Y	M0PC2.5M40	49.7	24	34.5	34.5	4	M0PC5026

Gear head (dimensions)

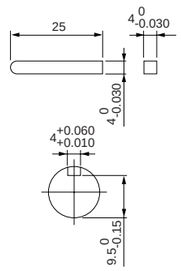
Scale: 1/3, Unit: mm

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



Key and keyway (dimensions) [attachment]

MX9G□B(M)



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

Gear head combination B-59 | Round shaft motor dimensions B-61 | Decimal gear head B-384 | Control related product C-4 | Option D-2

Induction motor (leadwire)

cULus CE 90 mm sq. 40 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min⁻¹)	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)	Capacitor (μF) (rated voltage)
90 mm sq.	M91X40G4LG M91X40G4LGA	4	40	100	50	Cont.	76	0.83	1250	0.31 (3.1)	1.7	0.26 (2.7)	12 (250V)
					60		70	0.70	1600	0.24 (2.4)	1.5	0.26 (2.7)	
	M91X40G4DG M91X40G4DGA	4	40	110 115	60	Cont.	72	0.67	1625	0.24 (2.4)	1.7	0.26 (2.7)	10 (250V)
					60		74	0.68	1625	0.24 (2.4)	1.8	0.27 (2.8)	
	M91X40G4YG M91X40G4YGA	4	40	200	50	Cont.	77	0.39	1175	0.33 (3.3)	0.64	0.26 (2.7)	3 (450V)
					60		77	0.39	1525	0.25 (2.6)	0.62	0.26 (2.7)	
	M91X40G4GG M91X40G4GGA	4	40	220	50	Cont.	78	0.37	1250	0.31 (3.1)	0.69	0.26 (2.7)	2.5 (450V)
					60		74	0.34	1575	0.24 (2.5)	0.65	0.26 (2.7)	
				230	50		79	0.37	1275	0.30 (3.1)	0.72	0.28 (2.9)	
					60		77	0.33	1600	0.24 (2.4)	0.68	0.28 (2.9)	

• 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-61.
• The models with a motor model number to which “A” is suffixed are not equipped with a capacitor cap.
The models with a motor model number to which “A” is suffixed are not sold or available in Japan.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

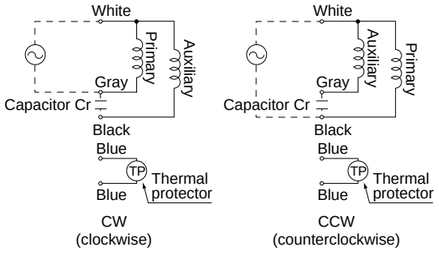
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180
Speed (min⁻¹)	50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3
	60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10
Applicable gear head: MX9G3B to MX9G180B (ball bearing)	50Hz	0.66 (6.7)	0.78 (8.0)	1.08 (11)	1.27 (13)	1.57 (16)	1.86 (19)	2.25 (23)	2.74 (28)	3.23 (33)	3.92 (40)	4.41 (45)	5.29 (54)	6.37 (65)	7.94 (81)	9.80 (100)	9.80 (100)						
Applicable gear head: MX9G3M to MX9G180M (metal bearing)	60Hz	0.55 (5.6)	0.66 (6.7)	0.90 (9.2)	1.08 (11)	1.27 (13)	1.57 (16)	1.76 (18)	2.25 (23)	2.74 (28)	3.23 (33)	3.53 (36)	4.41 (45)	5.29 (54)	6.37 (65)	8.82 (90)	9.80 (100)						
Rotational direction		Same as motor rotational direction												Reverse to motor rotational direction									

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

Applicable gear head		Reduction ratio		200	250	300	360	500	600	750	900	1000	1200	1500	1800
Bearing	Decimal gear head	Speed (min⁻¹)	50Hz	7.5	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
			60Hz	9	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
MX9G□B (ball bearing) MX9G□M (metal bearing)	MX9G10XB	Permissible torque	N·m (kgf·cm)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)
		Rotational direction		Same as motor rotational direction		Reverse to motor rotational direction									

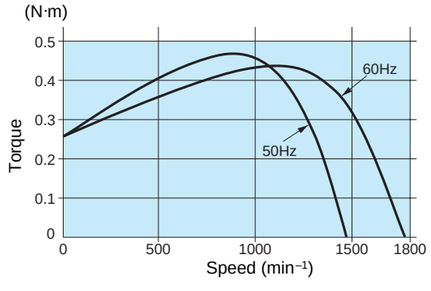
Connection diagram



(Refer to page A-58 for connection of thermal protector.)

Speed-torque characteristics

M91X40G4LG(A)



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

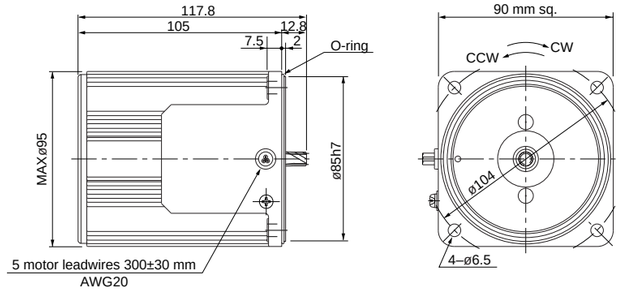
Features B-2 | System configuration B-3 | Coding system B-3 | Model list B-4

Motor (dimensions)

Scale: 1/3, Unit: mm

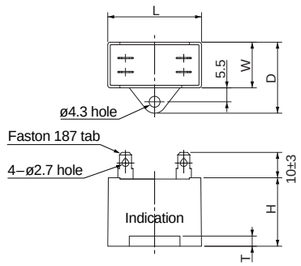
M91X40G4LG(A)	4P	40 W	100 V
M91X40G4DG(A)	4P	40 W	110 V / 115 V
M91X40G4YG(A)	4P	40 W	200 V
M91X40G4GG(A)	4P	40 W	220 V / 230 V

Mass	Helical	Module	Number of teeth
1.4 kg	gear	0.55	9



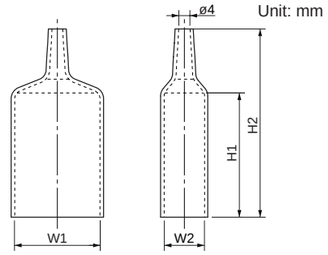
Capacitor (dimensions) [attachment]

Unit: mm



Capacitor cap (dimensions) [attachment]

Unit: mm



• Capacitor dimension list (mm)

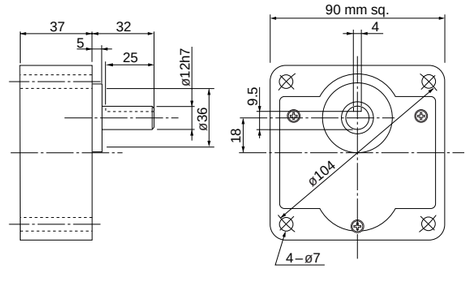
Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (attachment)	W1	W2	H1	H2
M91X40G4LG(A)	M0PC12M25G	58	22	32	35	4	M0PC5822G	58	22	55	78
M91X40G4DG(A)	M0PC10M25G	58	21	31	31	4	M0PC5821G	58	21	55	78
M91X40G4YG(A)	M0PC3M45G	58	21	31	31	4	M0PC4821G	48	21	55	78
M91X40G4GG(A)	M0PC2.5M45G	48	21	31	31	4	M0PC4821G	48	21	55	78

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

Gear head (dimensions)

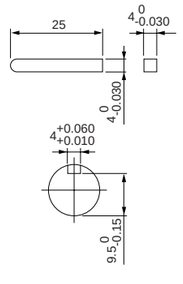
Scale: 1/3, Unit: mm

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



Key and keyway (dimensions) [attachment]

MX9G□B(M)



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

Gear head combination B-59 | Round shaft motor dimensions B-61 | Decimal gear head B-384 | Control related product C-4 | Option D-2

Induction motor (leadwire)

90 mm sq. 60 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min^{-1})	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)	Capacitor (μF) (rated voltage)
90 mm sq.	M91Z60G4L	4	60	100	50	Cont.	118	1.3	1250	0.46 (4.7)	2.2	0.41 (4.2)	15 (210V)
					60		117	1.2	1550	0.36 (3.7)	2.2	0.42 (4.3)	
	M91Z60G4Y	4	60	200	50	Cont.	120	0.65	1250	0.46 (4.6)	1.1	0.42 (4.3)	3.8 (400V)
					60		119	0.59	1550	0.36 (3.7)	1.1	0.44 (4.5)	

• The specifications and wire connections of the round shaft motor are the same as those of the pinion shaft type. For the dimensional outline drawing, refer to page B-62.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

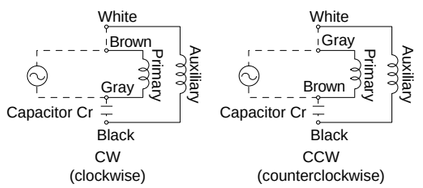
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180	200
Speed (min^{-1})	50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3	7.5
	60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10	9
Applicable gear head: MZ9G3BA to MZ9G200B (ball bearing / hinge not attached)	50Hz	0.98 (9.99)	1.18 (12)	1.57 (16)	1.96 (20)	2.35 (24)	2.94 (30)	3.14 (32)	3.92 (40)	4.70 (48)	5.59 (57)	6.27 (64)	7.55 (77)	9.11 (93)	11.0 (112)	15.2 (155)	17.8 (182)	19.6 (200)						
Applicable gear head: MY9G3MA to MY9G200M (metal bearing / hinge attached)	60Hz	0.78 (8.0)	0.98 (9.99)	1.37 (14)	1.57 (16)	1.96 (20)	2.35 (24)	2.65 (27)	3.33 (34)	3.92 (40)	4.70 (48)	5.29 (54)	6.47 (66)	7.55 (77)	9.11 (93)	12.6 (129)	15.2 (155)	19.6 (200)						
Rotational direction		Same as motor rotational direction							Reverse to motor rotational direction						Same as motor rotational direction									

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

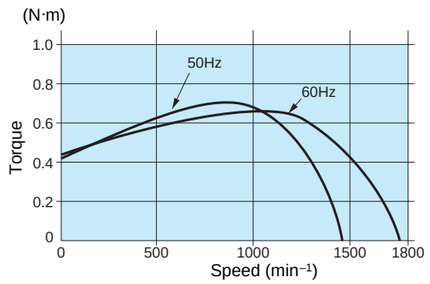
Applicable gear head: Bearing	Decimal gear head	Reduction ratio		250	300	360	500	600	750	900	1000	1200	1500	1800
		Speed (min^{-1})	50Hz	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
			60Hz	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
MZ9G□B (ball bearing / Hinge not attached) MY9G□M (metal bearing / Hinge attached)	MZ9G10XB	Permissible torque	N·m (kgf·cm)	19.6 (200)	19.6 (200)	19.6 (200)	19.6 (200)	19.6 (200)	19.6 (200)	19.6 (200)	19.6 (200)	19.6 (200)	19.6 (200)	19.6 (200)
		Rotational direction		Reverse to motor rotational direction		Same as motor rotational direction								

Connection diagram



Speed-torque characteristics

M91Z60G4L



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

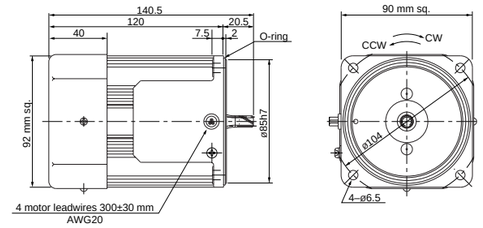
Features B-2 | System configuration B-3 | Coding system B-3 | Model list B-4

Motor (dimensions)

Scale: 1/4, Unit: mm

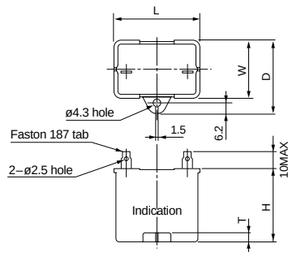
M91Z60G4L 4P 60 W 100 V (with fan)
M91Z60G4Y 4P 60 W 200 V (with fan)

Mass	Helical gear	Module	Number of teeth
2.7 kg		0.6	9



Capacitor (dimensions) [attachment]

Unit: mm



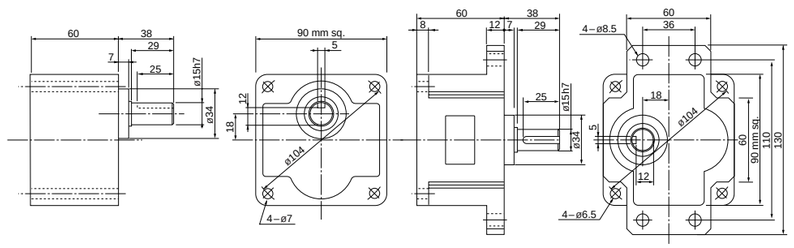
• Capacitor dimension list (mm)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M91Z60G4L	M0PC15M21	39.5	26.7	37	41	4	M0PC3926
M91Z60G4Y	M0PC3.8M40	50	26.7	37.5	38	4	M0PC5026

Gear head (dimensions)

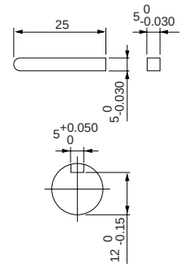
Scale: 1/4, Unit: mm

MZ9G□B (ball bearing / hinge not attached) Mass 1.4 kg
MY9G□M (metal bearing / hinge attached) Mass 1.4 kg



Key and keyway (dimensions) [attachment]

MZ9G□B
MY9G□B



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

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

Gear head combination B-59 | Round shaft motor dimensions B-62 | Decimal gear head B-384 | Control related product C-4 | Option D-2

Induction motor (leadwire)

90 mm sq. 60 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min⁻¹)	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)	Capacitor (μF) (rated voltage)
90 mm sq.	M91Z60G4LG M91Z60G4LGA	4	60	100	50	Cont.	119	1.3	1250	0.46 (4.7)	2.4	0.44 (4.5)	20 (250V)
					60		112	1.2	1575	0.36 (3.7)	2.3	0.44 (4.5)	
	M91Z60G4DG M91Z60G4DGA	4	60	110	60	Cont.	120	1.1	1625	0.35 (3.6)	2.5	0.49 (5.0)	18 (250V)
				115	60		127	1.2	1625	0.35 (3.6)	2.6	0.53 (5.4)	
	M91Z60G4YG M91Z60G4YGA	4	60	200	50	Cont.	114	0.57	1225	0.47 (4.8)	1.0	0.44 (4.5)	5 (450V)
					60		122	0.62	1550	0.37 (3.8)	1.0	0.44 (4.5)	
	M91Z60G4GG M91Z60G4GGA	4	60	220	50	Cont.	121	0.58	1275	0.45 (4.6)	1.1	0.49 (5.0)	4.5 (450V)
					60		120	0.55	1600	0.36 (3.7)	1.1	0.49 (5.0)	
				230	50		129	0.61	1300	0.44 (4.5)	1.1	0.53 (5.4)	
					60		126	0.55	1625	0.35 (3.6)	1.1	0.53 (5.4)	

• 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-62.
• The models with a motor model number to which "A" is suffixed are not equipped with a capacitor cap.
The models with a motor model number to which "A" is suffixed are not sold or available in Japan.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

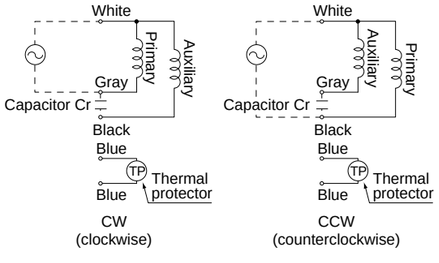
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180	200
Speed (min⁻¹)	50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3	7.5
	60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10	9
Applicable gear head: MZ9G3B to MZ9G200B (ball bearing / hinge not attached)	50Hz	0.98 (9.99)	1.18 (12)	1.57 (16)	1.96 (20)	2.35 (24)	2.94 (30)	3.14 (32)	3.92 (40)	4.70 (48)	5.59 (57)	6.27 (64)	7.55 (77)	9.11 (93)	11.0 (112)	15.2 (155)	17.8 (182)	19.6 (200)						
Applicable gear head: MY9G3B to MY9G200B (ball bearing / hinge attached)	60Hz	0.78 (8.0)	0.98 (9.99)	1.37 (14)	1.57 (16)	1.96 (20)	2.35 (24)	2.65 (27)	3.33 (34)	3.92 (40)	4.70 (48)	5.29 (54)	6.47 (66)	7.55 (77)	9.11 (93)	12.6 (129)	15.2 (155)	19.6 (200)						
Rotational direction		Same as motor rotational direction							Reverse to motor rotational direction						Same as motor rotational direction									

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

Applicable gear head: Bearing	Decimal gear head	Reduction ratio		250	300	360	500	600	750	900	1000	1200	1500	1800
		Speed (min⁻¹)	50Hz	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
			60Hz	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
MZ9G□B (ball bearing / hinge not attached) MY9G□B (ball bearing / hinge attached)	MZ9G10XB	Permissible torque	N·m	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6
			(kgf·cm)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)
		Rotational direction		Reverse to motor rotational direction		Same as motor rotational direction								

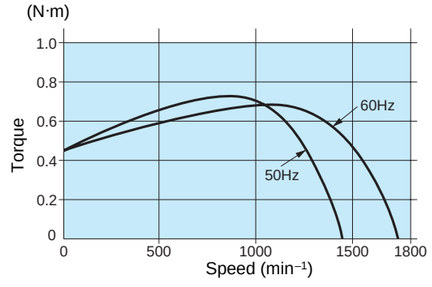
Connection diagram



(Refer to page A-58 for connection of thermal protector.)

Speed-torque characteristics

M91Z60G4LG(A)



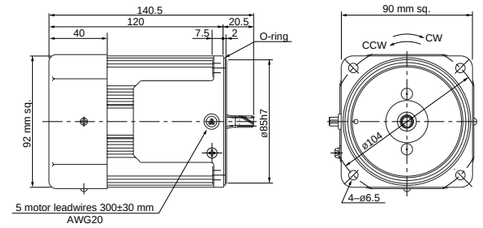
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

Scale: 1/4, Unit: mm

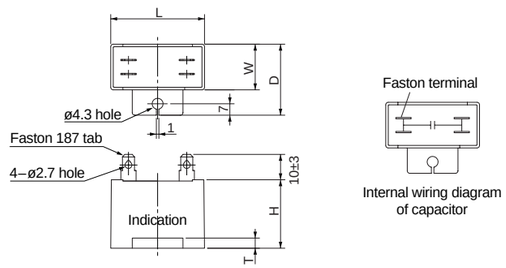
M91Z60G4LG(A)	4P	60 W	100 V (with fan)	
M91Z60G4DG(A)	4P	60 W	110 V / 115 V (with fan)	
M91Z60G4YG(A)	4P	60 W	200 V (with fan)	
M91Z60G4GG(A)	4P	60 W	220 V / 230 V (with fan)	

Mass	Helical	Module	Number of teeth
2.7 kg	gear	0.6	9



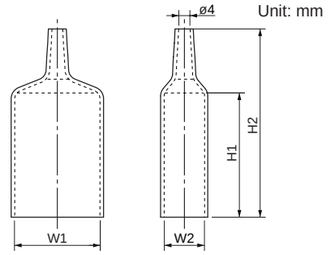
Capacitor (dimensions) [attachment]

Unit: mm



Capacitor cap (dimensions) [attachment]

Unit: mm



• Capacitor dimension list (mm)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (attachment)	W1	W2	H1	H2
M91Z60G4LG(A)	M0PC20M25G	58	29	44	41	4	M0PC5829G	58	29	55	78
M91Z60G4DG(A)	M0PC18M25G	58	29	44	41	4	M0PC5829G	58	29	55	78
M91Z60G4YG(A)	M0PC5M45G	58	29	44	41	4	M0PC5829G	58	29	55	78
M91Z60G4GG(A)	M0PC4.5M45G	58	23.5	38.5	37	4	M0PC5823G	58	23.5	55	78

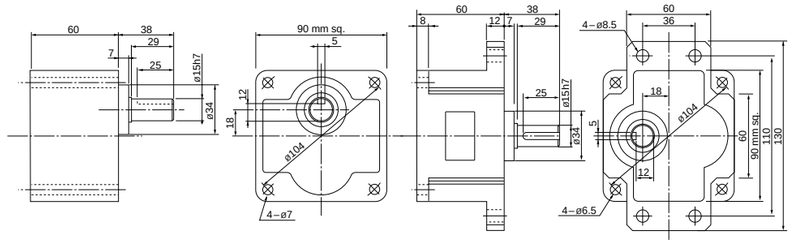
• The models with a motor model number to which "A" is suffixed are not equipped with a capacitor cap.

Gear head (dimensions)

Scale: 1/4, Unit: mm

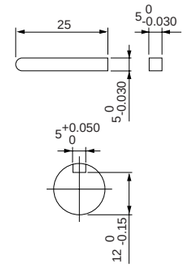
MZ9G□B (ball bearing / hinge not attached) Mass 1.4 kg

MY9G□M (metal bearing / hinge attached) Mass 1.4 kg



Key and keyway (dimensions) [attachment]

MZ9G□B
MY9G□B



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

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

Induction motor (leadwire)

90 mm sq. 90 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min⁻¹)	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)	Capacitor (μF) (rated voltage)
90 mm sq.	M91Z90G4L	4	90	100	50	Cont.	153	1.6	1325	0.65 (6.6)	3.3	0.47 (4.8)	25 (200V)
					60		160	1.6	1625	0.53 (5.4)	3.0	0.47 (4.8)	
	M91Z90G4Y	4	90	200	50	Cont.	150	0.75	1325	0.62 (6.3)	1.7	0.47 (4.8)	5.8 (400V)
					60		160	0.80	1650	0.51 (5.2)	1.5	0.47 (4.8)	

• 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-62.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

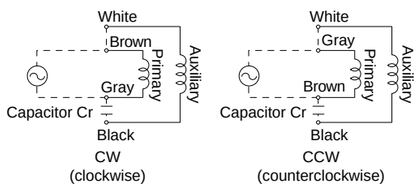
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180	200
Speed (min⁻¹)	50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3	7.5
	60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10	9
Applicable gear head: MZ9G3B to MZ9G200B (ball bearing / hinge not attached)	50Hz	1.37 (14)	1.67 (17)	2.25 (23)	2.74 (28)	3.43 (35)	4.12 (42)	4.51 (46)	5.68 (58)	6.76 (69)	8.04 (82)	9.02 (92)	10.9 (111)	13.0 (133)	15.7 (160)	19.6 (200)	19.6 (200)							
Applicable gear head: MY9G3B to MY9G200B (ball bearing / hinge attached)	60Hz	1.18 (12)	1.37 (14)	1.86 (19)	2.25 (23)	2.84 (29)	3.43 (35)	3.72 (38)	4.70 (48)	5.68 (58)	6.76 (69)	7.55 (77)	9.21 (94)	10.9 (111)	13.0 (133)	18.3 (187)	19.6 (200)							
Rotational direction		Same as motor rotational direction							Reverse to motor rotational direction						Same as motor rotational direction									

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

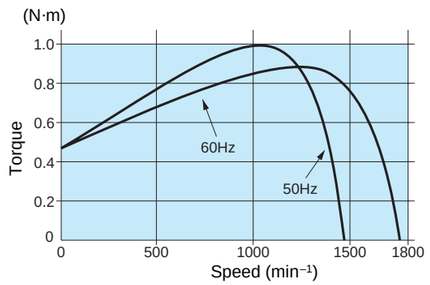
Applicable gear head: Bearing	Decimal gear head	Reduction ratio		250	300	360	500	600	750	900	1000	1200	1500	1800
		Speed (min⁻¹)	50Hz	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
			60Hz	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
MZ9G□B (ball bearing / hinge not attached) MY9G□B (ball bearing / hinge attached)	MZ9G10XB	Permissible torque	N·m	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6
			(kgf·cm)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)
		Rotational direction		Reverse to motor rotational direction	Same as motor rotational direction									

Connection diagram



Speed-torque characteristics

M91Z90G4L



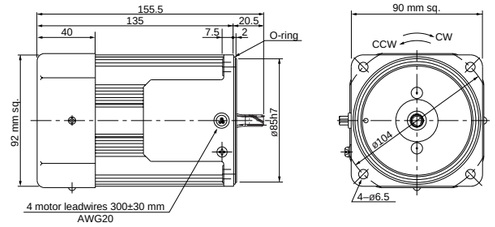
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

Scale: 1/4, Unit: mm

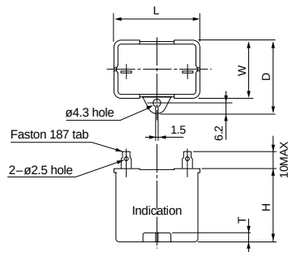
M91Z90G4L 4P 90 W 100 V (with fan)
M91Z90G4Y 4P 90 W 200 V (with fan)

Mass	Helical gear	Module	Number of teeth
3.2 kg		0.6	9



Capacitor (dimensions) [attachment]

Unit: mm



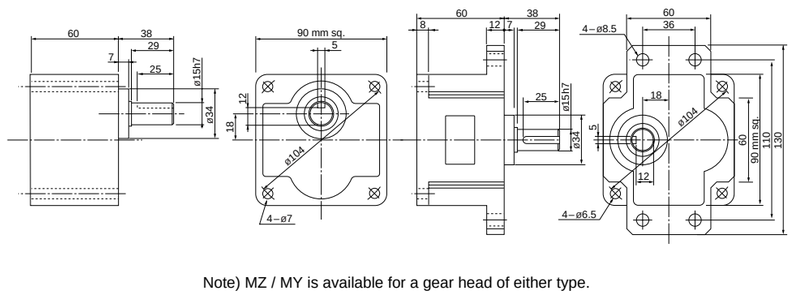
• Capacitor dimension list (mm)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M91Z90G4L	M0PC25M20	50.2	31	41	42	5	M0PC5032
M91Z90G4Y	M0PC5.8M40	50	30.5	41	41.5	4	M0PC5032

Gear head (dimensions)

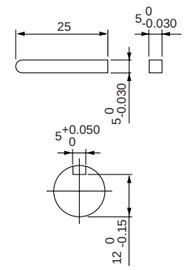
Scale: 1/4, Unit: mm

MZ9G□B (ball bearing / hinge not attached) Mass 1.4 kg
MY9G□M (metal bearing / hinge attached) Mass 1.4 kg



Key and keyway (dimensions) [attachment]

MZ9G□B
MY9G□B



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

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

Induction motor (leadwire)

90 mm sq. 90 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min⁻¹)	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)	Capacitor (μF) (rated voltage)
90 mm sq.	M91Z90G4LG M91Z90G4LGA	4	90	100	50	Cont.	172	1.8	1250	0.69 (7.0)	3.0	0.65 (6.6)	30 (250V)
					60		177	1.8	1575	0.55 (5.6)	2.8	0.65 (6.6)	
	M91Z90G4DG M91Z90G4DGA	4	90	110	60	Cont.	168	1.6	1600	0.54 (5.5)	3.0	0.65 (6.6)	25 (250V)
				115	60		176	1.6	1600	0.54 (5.5)	3.1	0.72 (7.3)	
	M91Z90G4YG M91Z90G4YGA	4	90	200	50	Cont.	170	0.85	1225	0.70 (7.2)	1.4	0.65 (6.6)	7.5 (450V)
					60		188	0.97	1550	0.55 (5.7)	1.4	0.65 (6.6)	
	M91Z90G4GG M91Z90G4GGA	4	90	220	50	Cont.	176	0.85	1225	0.70 (7.2)	1.5	0.63 (6.4)	6 (450V)
					60		167	0.76	1575	0.55 (5.6)	1.4	0.65 (6.6)	
				230	50		185	0.89	1250	0.69 (7.0)	1.5	0.68 (6.9)	
					60		173	0.76	1600	0.54 (5.5)	1.5	0.72 (7.3)	

• The specifications and wire connections of the round shaft motor are the same as those of the pinion shaft type. For the dimensional outline drawing, refer to page B-62.
• The models with a motor model number to which "A" is suffixed are not equipped with a capacitor cap.
The models with a motor model number to which "A" is suffixed are not sold or available in Japan.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

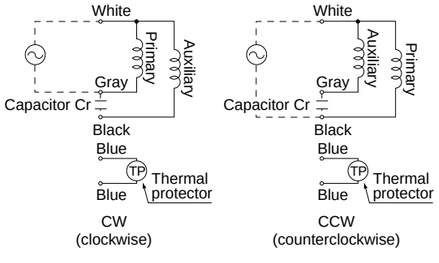
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180	200
Speed (min⁻¹)	50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3	7.5
	60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10	9
Applicable gear head: MZ9G3B to MZ9G200B (ball bearing / hinge not attached)	50Hz	1.37 (14)	1.67 (17)	2.25 (23)	2.74 (28)	3.43 (35)	4.12 (42)	4.51 (46)	5.68 (58)	6.76 (69)	8.04 (82)	9.02 (92)	10.9 (111)	13.0 (133)	15.7 (160)	19.6 (200)	19.6 (200)							
Applicable gear head: MY9G3B to MY9G200B (ball bearing / hinge attached)	60Hz	1.18 (12)	1.37 (14)	1.86 (19)	2.25 (23)	2.84 (29)	3.43 (35)	3.72 (38)	4.70 (48)	5.68 (58)	6.76 (69)	7.55 (77)	9.21 (94)	10.9 (111)	13.0 (133)	18.3 (187)	19.6 (200)							
Rotational direction		Same as motor rotational direction							Reverse to motor rotational direction						Same as motor rotational direction									

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

Applicable gear head: Bearing	Decimal gear head	Reduction ratio		250	300	360	500	600	750	900	1000	1200	1500	1800
		Speed (min⁻¹)	50Hz	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
			60Hz	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
MZ9G□B (ball bearing / hinge not attached) MY9G□B (ball bearing / hinge attached)	MZ9G10XB	Permissible torque	N·m	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6
			(kgf·cm)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)
		Rotational direction		Reverse to motor rotational direction		Same as motor rotational direction								

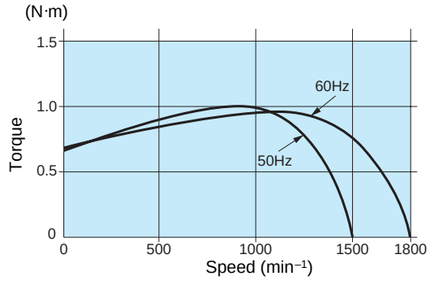
Connection diagram



(Refer to page A-58 for connection of thermal protector.)

Speed-torque characteristics

M91Z90G4LG(A)



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

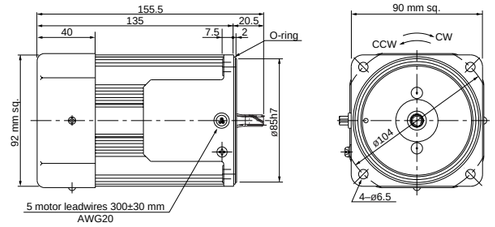
Features B-2 | System configuration B-3 | Coding system B-3 | Model list B-4

Motor (dimensions)

Scale: 1/4, Unit: mm

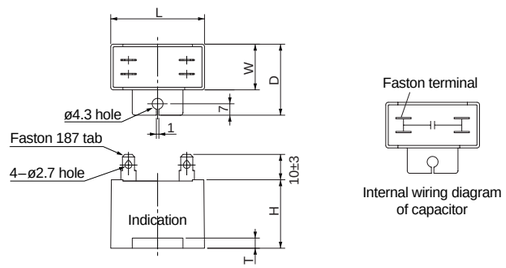
M91Z90G4LG(A) 4P 90 W 100 V (with fan)
M91Z90G4DG(A) 4P 90 W 110 V / 115 V (with fan)
M91Z90G4YG(A) 4P 90 W 200 V (with fan)
M91Z90G4GG(A) 4P 90 W 220 V / 230 V (with fan)

Mass	Helical gear	Module	Number of teeth
3.2 kg		0.6	9



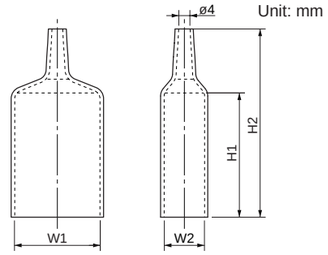
Capacitor (dimensions) [attachment]

Unit: mm



Capacitor cap (dimensions) [attachment]

Unit: mm



• Capacitor dimension list (mm)

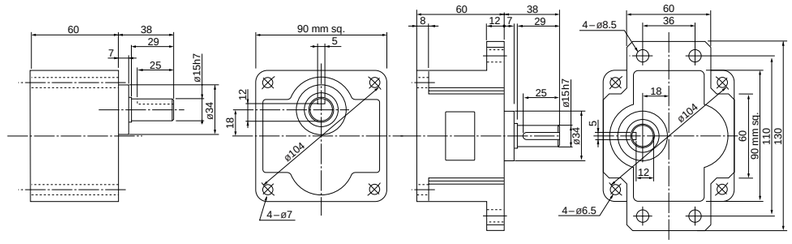
Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (attachment)	W1	W2	H1	H2
M91Z90G4LG(A)	M0PC30M25G	58	35	50	50	4	M0PC5835G	58	35	55	78
M91Z90G4DG(A)	M0PC25M25G	58	35	50	50	4	M0PC5835G	58	35	55	78
M91Z90G4YG(A)	M0PC7.5M45G	58	35	50	50	4	M0PC5835G	58	35	55	78
M91Z90G4GG(A)	M0PC6M45G	58	29	44	41	4	M0PC5829G	58	29	55	78

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

Gear head (dimensions)

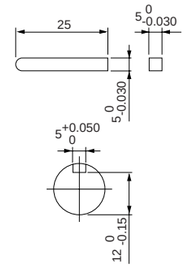
Scale: 1/4, Unit: mm

MZ9G□B (ball bearing / hinge not attached) Mass 1.4 kg
MY9G□M (metal bearing / hinge attached) Mass 1.4 kg



Key and keyway (dimensions) [attachment]

MZ9G□B
MY9G□B



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

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

Gear head combination B-59 | Round shaft motor dimensions B-62 | Decimal gear head B-384 | Control related product C-4 | Option D-2

Induction motor (sealed connector)

80 mm sq. 25 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min⁻¹)	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)	Capacitor (μF) (rated voltage)
80 mm sq.	M81X25GK4L	4	25	100	50	Cont.	51	0.55	1250	0.19 (1.9)	0.98	0.16 (1.6)	6 (200V)
					60		49	0.48	1550	0.15 (1.5)	0.94	0.16 (1.6)	
	M81X25GK4Y	4	25	200	50	Cont.	51	0.27	1250	0.19 (1.9)	0.50	0.16 (1.6)	1.5 (400V)
					60		49	0.24	1575	0.15 (1.5)	0.47	0.16 (1.6)	

• 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-62.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

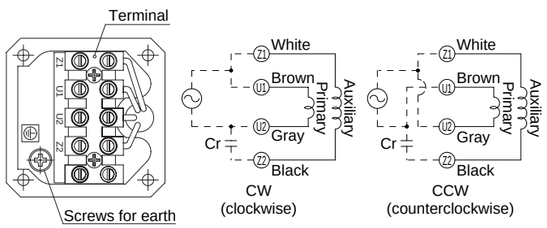
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180
Speed (min⁻¹)	50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3
	60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10
Applicable gear head: MX8G3B to MX8G180B (ball bearing)	50Hz	0.39 (4.0)	0.47 (4.8)	0.66 (6.7)	0.78 (8.0)	0.98 (10)	1.18 (12)	1.27 (13)	1.57 (16)	1.96 (20)	2.35 (24)	2.55 (26)	3.14 (32)	3.82 (39)	4.61 (47)	6.37 (65)	7.64 (78)	7.84 (80)					
Applicable gear head: MX8G3M to MX8G180M (metal bearing)	60Hz	0.32 (3.3)	0.39 (4.0)	0.55 (5.6)	0.66 (6.7)	0.81 (8.3)	0.98 (10)	1.08 (11)	1.27 (13)	1.57 (16)	1.96 (20)	2.06 (21)	2.65 (27)	3.14 (32)	3.82 (39)	5.29 (54)	6.37 (65)	7.84 (80)					
Rotational direction		Same as motor rotational direction												Reverse to motor rotational direction									

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

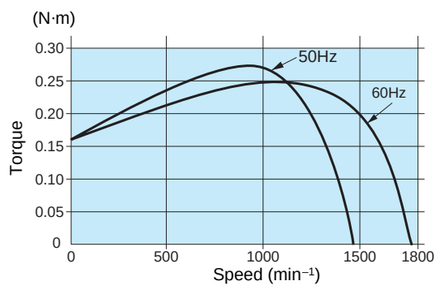
Applicable gear head: Bearing	Decimal gear head	Reduction ratio		200	250	300	360	500	600	750	900	1000	1200	1500	1800
MX8G□B (ball bearing) MX8G□M (metal bearing)	MX8G10XB	Speed (min⁻¹)	50Hz	7.5	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
			60Hz	9	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
		Permissible torque	N·m	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84
			(kgf·cm)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)
		Rotational direction		Same as motor rotational direction	Reverse to motor rotational direction										

Connection diagram



Speed-torque characteristics

M81X25GK4L

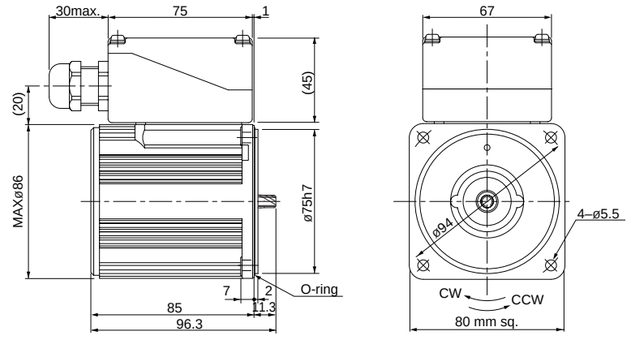


Motor (dimensions)

Scale: 1/3, Unit: mm

M81X25GK4L 4P 25W 100V
M81X25GK4Y 4P 25W 200V

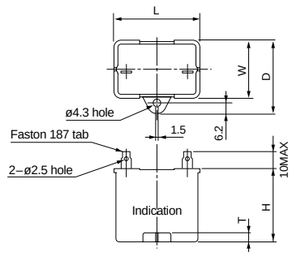
Mass	Helical	Module	Number of teeth
1.8 kg	gear	0.6	9



* Diameter of applicable cabtyre cable to be ø8 to ø12.

Capacitor (dimensions) [attachment]

Unit: mm



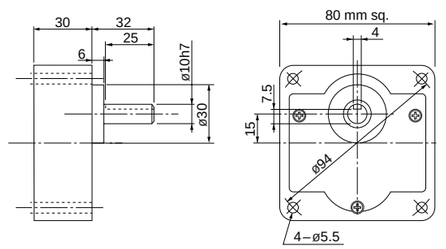
• Capacitor dimension list (mm)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M81X25GK4L	M0PC6M20	39.5	17.5	28	30.5	4	M0PC3917
M81X25GK4Y	M0PC1.5M40	39.5	22	32.5	32.5	4	M0PC3922

Gear head (dimensions)

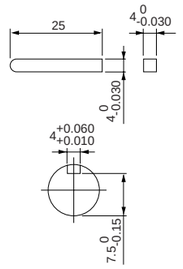
Scale: 1/3, Unit: mm

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



Key and keyway (dimensions) [attachment]

MX8G□B(M)



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

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

Induction motor (sealed connector)

80 mm sq. 25 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min⁻¹)	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)	Capacitor (μF) (rated voltage)
80 mm sq.	M81X25GK4LG M81X25GK4LGA	4	25	100	50	Cont.	55	0.59	1250	0.19 (1.9)	1.1	0.16 (1.6)	8 (250V)
					60		50	0.50	1575	0.15 (1.5)	1.0	0.16 (1.6)	
	M81X25GK4DG M81X25GK4DGA	4	25	110	60	Cont.	52	0.50	1575	0.15 (1.5)	1.1	0.14 (1.4)	6 (250V)
				115	60		53	0.50	1600	0.15 (1.5)	1.1	0.15 (1.5)	
	M81X25GK4YG M81X25GK4YGA	4	25	200	50	Cont.	54	0.27	1200	0.20 (2.0)	0.43	0.16 (1.6)	2.1 (450V)
					60		54	0.27	1550	0.15 (1.6)	0.42	0.16 (1.6)	
	M81X25GK4GG M81X25GK4GGA	4	25	220	50	Cont.	59	0.29	1200	0.20 (2.0)	0.46	0.15 (1.5)	1.5 (450V)
					60		51	0.23	1550	0.15 (1.6)	0.44	0.15 (1.5)	
				230	50		59	0.28	1250	0.19 (1.9)	0.48	0.16 (1.6)	
					60		52	0.23	1575	0.15 (1.5)	0.45	0.16 (1.6)	

• 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-62.
• The models with a motor model number to which “A” is suffixed are not equipped with a capacitor cap.
The models with a motor model number to which “A” is suffixed are not sold or available in Japan.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

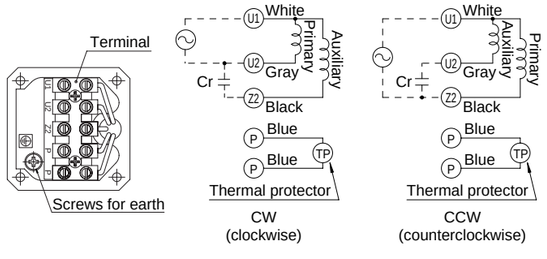
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio			3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180
Speed (min⁻¹)		50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3
		60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10
Applicable gear head	MX8G3B to MX8G180B (ball bearing)	50Hz	0.39 (4.0)	0.47 (4.8)	0.66 (6.7)	0.78 (8.0)	0.98 (10)	1.18 (12)	1.27 (13)	1.57 (16)	1.96 (20)	2.35 (24)	2.55 (26)	3.14 (32)	3.82 (39)	4.61 (47)	6.37 (65)	7.64 (78)	7.84 (80)					
	MX8G3M to MX8G180M (metal bearing)	60Hz	0.32 (3.3)	0.39 (4.0)	0.55 (5.6)	0.66 (6.7)	0.81 (8.3)	0.98 (10)	1.08 (11)	1.27 (13)	1.57 (16)	1.96 (20)	2.06 (21)	2.65 (27)	3.14 (32)	3.82 (39)	5.29 (54)	6.37 (65)	7.84 (80)					
Rotational direction			Same as motor rotational direction												Reverse to motor rotational direction									

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

Applicable gear head		Reduction ratio		200	250	300	360	500	600	750	900	1000	1200	1500	1800
Bearing	Decimal gear head	Speed (min⁻¹)	50Hz	7.5	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
			60Hz	9	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
MX8G□B (ball bearing) MX8G□M (metal bearing)	MX8G10XB	Permissible torque	N·m	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84
			(kgf·cm)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)
		Rotational direction		Same as motor rotational direction		Reverse to motor rotational direction									

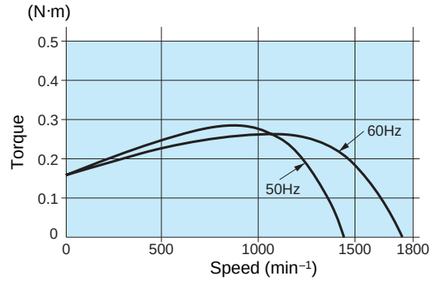
Connection diagram



(Refer to page A-58 for connection of thermal protector.)

Speed-torque characteristics

M81X25GK4LG(A)



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

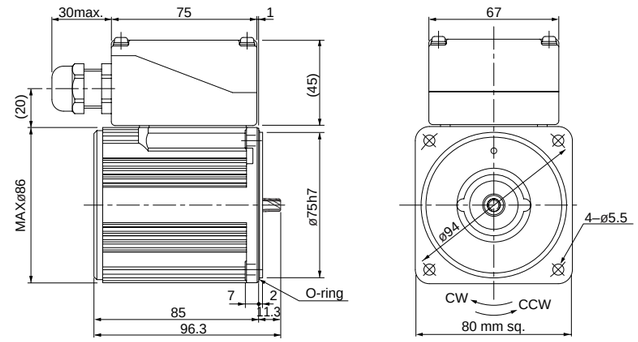
Features B-2 | System configuration B-3 | Coding system B-3 | Model list B-4

Motor (dimensions)

Scale: 1/3, Unit: mm

M81X25GK4LG(A) 4P 25 W 100 V
M81X25GK4DG(A) 4P 25 W 110 V / 115 V
M81X25GK4YG(A) 4P 25 W 200 V
M81X25GK4GG(A) 4P 25 W 220 V / 230 V

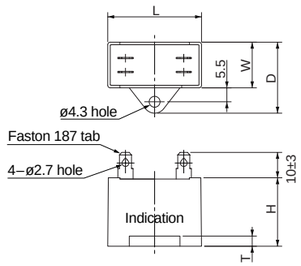
Mass	Helical	Module	Number of teeth
1.8 kg	gear	0.6	9

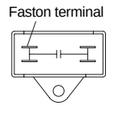


* Diameter of applicable cabtyre cable to be ø8 to ø12.

Capacitor (dimensions) [attachment]

Unit: mm

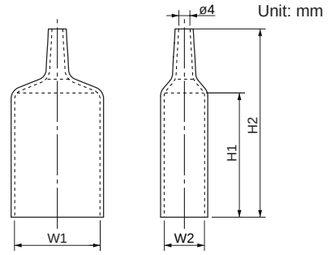




Internal wiring diagram of capacitor

Capacitor cap (dimensions) [attachment]

Unit: mm



• Capacitor dimension list (mm)

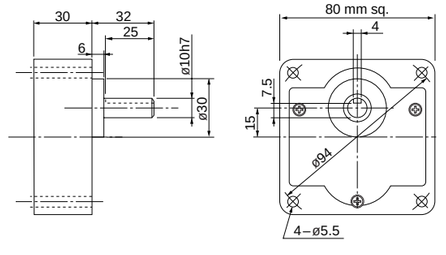
Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (attachment)	W1	W2	H1	H2
M81X25GK4LG(A)	M0PC8M25G	48	21	31	31	4	M0PC4821G	48	21	55	78
M81X25GK4DG(A)	M0PC6M25G	38	21	31	31	4	M0PC3821G	38	21	55	78
M81X25GK4YG(A)	M0PC2.1M45G	48	21	31	31	4	M0PC4821G	48	21	55	78
M81X25GK4GG(A)	M0PC1.5M45G	38	21	31	31	4	M0PC3821G	38	21	55	78

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

Gear head (dimensions)

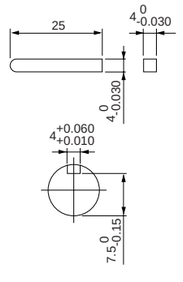
Scale: 1/3, Unit: mm

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



Key and keyway (dimensions) [attachment]

MX8G□B(M)



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

Gear head combination B-60 | Round shaft motor dimensions B-62 | Decimal gear head B-384 | Control related product C-4 | Option D-2

Induction motor (sealed connector)

90 mm sq. 40 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min⁻¹)	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)	Capacitor (μF) (rated voltage)
90 mm sq.	M91X40GK4L	4	40	100	50	Cont.	78	0.86	1225	0.30 (3.1)	1.5	0.24 (2.4)	10 (200V)
					60		72	0.72	1550	0.25 (2.5)	1.5	0.25 (2.5)	
	M91X40GK4Y	4	40	200	50	Cont.	79	0.43	1250	0.30 (3.1)	0.83	0.25 (2.5)	2.5 (400V)
					60		72	0.36	1575	0.24 (2.4)	0.76	0.25 (2.5)	

• The specifications and wire connections of the round shaft motor are the same as those of the pinion shaft type. For the dimensional outline drawing, refer to page B-62.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

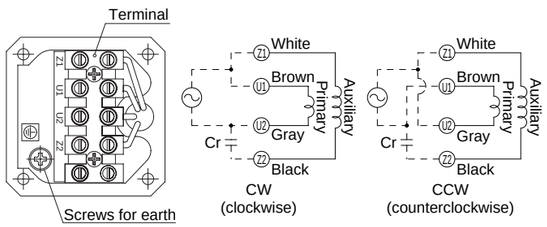
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio			3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180
Speed (min⁻¹)		50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3
		60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10
Applicable gear head	MX9G3B to MX9G180B (ball bearing)	50Hz	0.66 (6.7)	0.78 (8.0)	1.08 (11)	1.27 (13)	1.57 (16)	1.86 (19)	2.25 (23)	2.74 (28)	3.23 (33)	3.92 (40)	4.41 (45)	5.29 (54)	6.37 (65)	7.94 (81)	9.80 (100)	9.80 (100)						
	MX9G3M to MX9G180M (metal bearing)	60Hz	0.55 (5.6)	0.66 (6.7)	0.90 (9.2)	1.08 (11)	1.27 (13)	1.57 (16)	1.76 (18)	2.25 (23)	2.74 (28)	3.23 (33)	3.53 (36)	4.41 (45)	5.29 (54)	6.37 (65)	8.82 (90)	9.80 (100)						
Rotational direction			Same as motor rotational direction												Reverse to motor rotational direction									

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

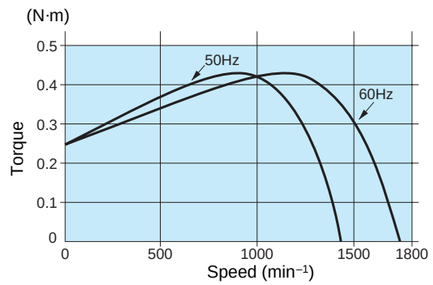
Applicable gear head		Reduction ratio		200	250	300	360	500	600	750	900	1000	1200	1500	1800
Bearing	Decimal gear head	Speed (min⁻¹)	50Hz	7.5	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
			60Hz	9	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
MX9G□B (ball bearing) MX9G□M (metal bearing)	MX9G10XB	Permissible torque	N·m (kgf·cm)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)
		Rotational direction		Same as motor rotational direction	Reverse to motor rotational direction										

Connection diagram



Speed-torque characteristics

M91X40GK4L



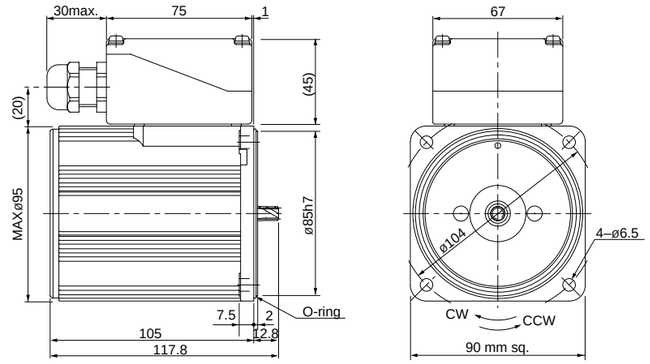
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

Scale: 1/3, Unit: mm

M91X40GK4L 4P 40 W 100 V
M91X40GK4Y 4P 40 W 200 V

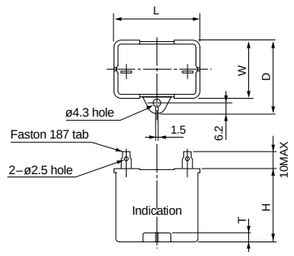
Mass	Helical gear	Module	Number of teeth
2.8 kg		0.55	9



* Diameter of applicable cabtyre cable to be ø8 to ø12.

Capacitor (dimensions) [attachment]

Unit: mm



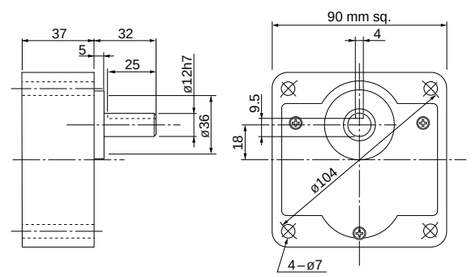
• Capacitor dimension list (mm)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M91X40GK4L	M0PC10M20	39.5	26.7	37	32	4	M0PC3926
M91X40GK4Y	M0PC2.5M40	49.7	24	34.5	34.5	4	M0PC5026

Gear head (dimensions)

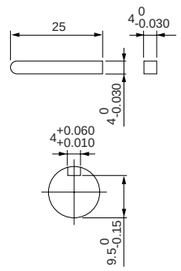
Scale: 1/3, Unit: mm

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



Key and keyway (dimensions) [attachment]

MX9G□B(M)



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

Induction motor (sealed connector)

90 mm sq. 40 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min⁻¹)	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)	Capacitor (μF) (rated voltage)
90 mm sq.	M91X40GK4LG M91X40GK4LGA	4	40	100	50	Cont.	76	0.83	1250	0.31 (3.1)	1.7	0.26 (2.7)	12 (250V)
					60		70	0.70	1600	0.24 (2.4)	1.5	0.26 (2.7)	
	M91X40GK4DG M91X40GK4DGA	4	40	110 115	60	Cont.	72	0.67	1625	0.24 (2.4)	1.7	0.26 (2.7)	10 (250V)
					60		74	0.68	1625	0.24 (2.4)	1.8	0.27 (2.8)	
	M91X40GK4YG M91X40GK4YGA	4	40	200	50	Cont.	77	0.39	1175	0.33 (3.3)	0.64	0.26 (2.7)	3 (450V)
					60		77	0.39	1525	0.25 (2.6)	0.62	0.26 (2.7)	
	M91X40GK4GG M91X40GK4GGA	4	40	220	50	Cont.	78	0.37	1250	0.31 (3.1)	0.69	0.26 (2.7)	2.5 (450V)
					60		74	0.34	1575	0.24 (2.5)	0.65	0.26 (2.7)	
				230	50		79	0.37	1275	0.30 (3.1)	0.72	0.28 (2.9)	
					60		77	0.33	1600	0.24 (2.4)	0.68	0.28 (2.9)	

• 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-62.
• The models with a motor model number to which “A” is suffixed are not equipped with a capacitor cap.
The models with a motor model number to which “A” is suffixed are not sold or available in Japan.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

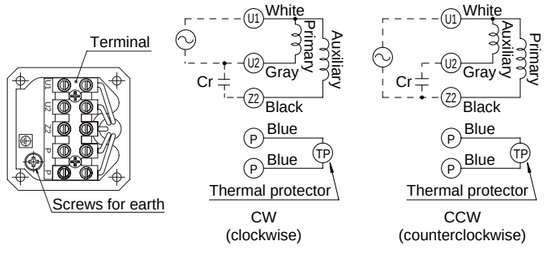
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180
Speed (min⁻¹)	50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3
	60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10
Applicable gear head: MX9G3B to MX9G180B (ball bearing)	50Hz	0.66 (6.7)	0.78 (8.0)	1.08 (11)	1.27 (13)	1.57 (16)	1.86 (19)	2.25 (23)	2.74 (28)	3.23 (33)	3.92 (40)	4.41 (45)	5.29 (54)	6.37 (65)	7.94 (81)	9.80 (100)	9.80 (100)						
Applicable gear head: MX9G3M to MX9G180M (metal bearing)	60Hz	0.55 (5.6)	0.66 (6.7)	0.90 (9.2)	1.08 (11)	1.27 (13)	1.57 (16)	1.76 (18)	2.25 (23)	2.74 (28)	3.23 (33)	3.53 (36)	4.41 (45)	5.29 (54)	6.37 (65)	8.82 (90)	9.80 (100)						
Rotational direction		Same as motor rotational direction												Reverse to motor rotational direction									

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

Applicable gear head: Bearing	Decimal gear head	Reduction ratio		200	250	300	360	500	600	750	900	1000	1200	1500	1800
MX9G□B (ball bearing) MX9G□M (metal bearing)	MX9G10XB	Speed (min⁻¹)	50Hz	7.5	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
			60Hz	9	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
		Permissible torque	N·m	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)
			(kgf·cm)												
		Rotational direction		Same as motor rotational direction		Reverse to motor rotational direction									

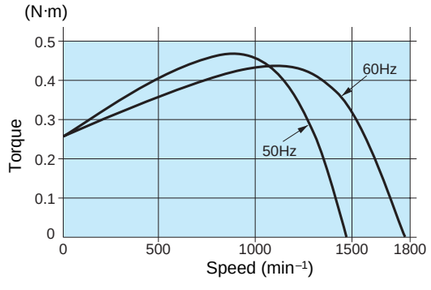
Connection diagram



(Refer to page A-58 for connection of thermal protector.)

Speed-torque characteristics

M91X40GK4LG(A)



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

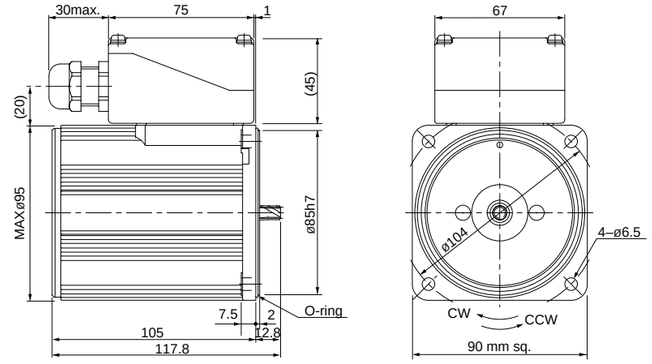
Features B-2 | System configuration B-3 | Coding system B-3 | Model list B-4

Motor (dimensions)

Scale: 1/3, Unit: mm

M91X40GK4LG(A) 4P 40 W 100 V
M91X40GK4DG(A) 4P 40 W 110 V / 115 V
M91X40GK4YG(A) 4P 40 W 200 V
M91X40GK4GG(A) 4P 40 W 220 V / 230 V

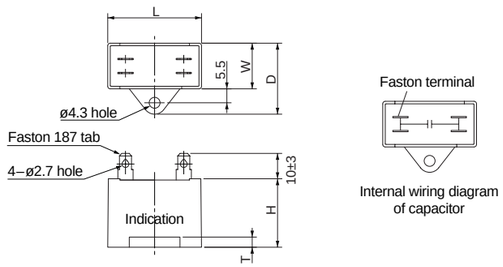
Mass	Helical gear	Module	Number of teeth
2.8 kg		0.55	9



* Diameter of applicable cabtyre cable to be ø8 to ø12.

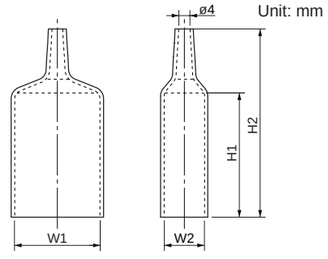
Capacitor (dimensions) [attachment]

Unit: mm



Capacitor cap (dimensions) [attachment]

Unit: mm



• Capacitor dimension list (mm)

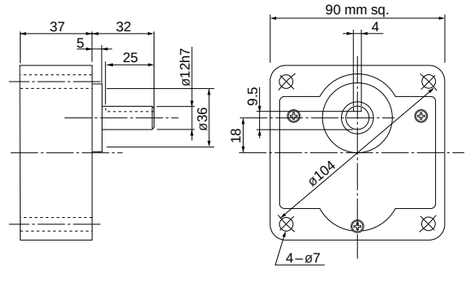
Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (attachment)	W1	W2	H1	H2
M91X40GK4LG(A)	M0PC12M25G	58	22	32	35	4	M0PC5822G	58	22	55	78
M91X40GK4DG(A)	M0PC10M25G	58	21	31	31	4	M0PC5821G	58	21	55	78
M91X40GK4YG(A)	M0PC3M45G	58	21	31	31	4	M0PC4821G	48	21	55	78
M91X40GK4GG(A)	M0PC2.5M45G	48	21	31	31	4	M0PC4821G	48	21	55	78

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

Gear head (dimensions)

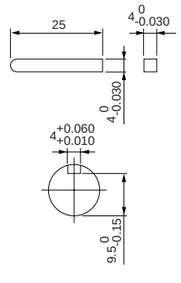
Scale: 1/3, Unit: mm

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



Key and keyway (dimensions) [attachment]

MX9G□B(M)



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

Gear head combination B-60 | Round shaft motor dimensions B-62 | Decimal gear head B-384 | Control related product C-4 | Option D-2

Induction motor (sealed connector)

90 mm sq. 60 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min⁻¹)	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)	Capacitor (μF) (rated voltage)
90 mm sq.	M91Z60GK4L	4	60	100	50	Cont.	118	1.3	1250	0.46 (4.7)	2.2	0.41 (4.2)	15 (210V)
					60		117	1.2	1550	0.36 (3.7)	2.2	0.42 (4.3)	
	M91Z60GK4Y	4	60	200	50	Cont.	120	0.65	1250	0.46 (4.6)	1.1	0.42 (4.3)	3.8 (400V)
					60		119	0.59	1550	0.36 (3.7)	1.1	0.44 (4.5)	

• The specifications and wire connections of the round shaft motor are the same as those of the pinion shaft type. For the dimensional outline drawing, refer to page B-62.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

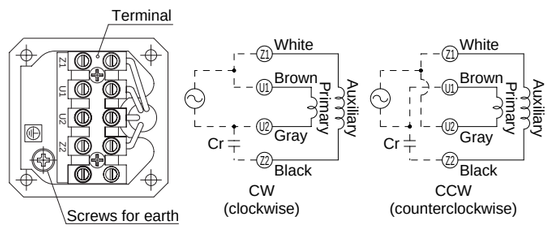
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180	200
Speed (min⁻¹)	50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3	7.5
	60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10	9
Applicable gear head: MZ9G3BA to MZ9G200B (ball bearing / hinge not attached)	50Hz	0.98 (9.99)	1.18 (12)	1.57 (16)	1.96 (20)	2.35 (24)	2.94 (30)	3.14 (32)	3.92 (40)	4.70 (48)	5.59 (57)	6.27 (64)	7.55 (77)	9.11 (93)	11.0 (112)	15.2 (155)	17.8 (182)	19.6 (200)						
Applicable gear head: MY9G3MA to MY9G200M (metal bearing / hinge attached)	60Hz	0.78 (8.0)	0.98 (9.99)	1.37 (14)	1.57 (16)	1.96 (20)	2.35 (24)	2.65 (27)	3.33 (34)	3.92 (40)	4.70 (48)	5.29 (54)	6.47 (66)	7.55 (77)	9.11 (93)	12.6 (129)	15.2 (155)	19.6 (200)						
Rotational direction		Same as motor rotational direction							Reverse to motor rotational direction						Same as motor rotational direction									

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

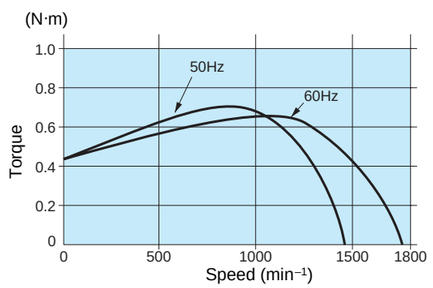
Applicable gear head: Bearing	Decimal gear head	Reduction ratio		250	300	360	500	600	750	900	1000	1200	1500	1800
MZ9G□B (ball bearing / Hinge not attached) MY9G□M (metal bearing / Hinge attached)	MZ9G10XB	Speed (min⁻¹)	50Hz	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
			60Hz	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
		Permissible torque	N·m	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6
			(kgf·cm)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)
		Rotational direction		Reverse to motor rotational direction		Same as motor rotational direction								

Connection diagram



Speed-torque characteristics

M91Z60GK4L

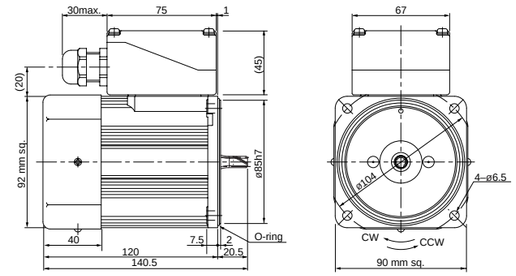


Motor (dimensions)

Scale: 1/4, Unit: mm

M91Z60GK4L 4P 60 W 100 V (with fan)
M91Z60GK4Y 4P 60 W 200 V (with fan)

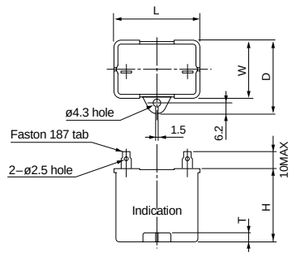
Mass	Helical gear	Module	Number of teeth
3.0 kg		0.6	9



* Diameter of applicable cabtyre cable to be ø8 to ø12.

Capacitor (dimensions) [attachment]

Unit: mm



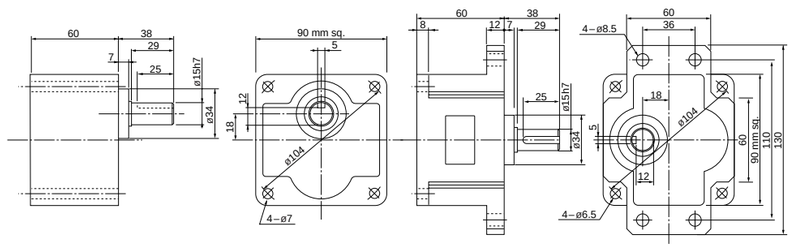
• Capacitor dimension list (mm)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M91Z60GK4L	M0PC15M21	39.5	26.7	37	41	4	M0PC3926
M91Z60GK4Y	M0PC3.8M40	50	26.7	37.5	38	4	M0PC5026

Gear head (dimensions)

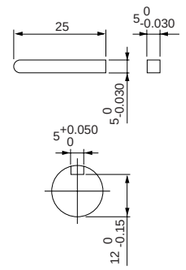
Scale: 1/4, Unit: mm

MZ9G□B (ball bearing / hinge not attached) Mass 1.4 kg
MY9G□M (metal bearing / hinge attached) Mass 1.4 kg



Key and keyway (dimensions) [attachment]

MZ9G□B
MY9G□B



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

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

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

Induction motor (sealed connector)

90 mm sq. 60 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min⁻¹)	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)	Capacitor (μF) (rated voltage)
90 mm sq.	M91Z60GK4LG M91Z60GK4LGA	4	60	100	50	Cont.	119	1.3	1250	0.46 (4.7)	2.4	0.44 (4.5)	20 (250V)
					60		112	1.2	1575	0.36 (3.7)	2.3	0.44 (4.5)	
	M91Z60GK4DG M91Z60GK4DGA	4	60	110	60	Cont.	120	1.1	1625	0.35 (3.6)	2.5	0.49 (5.0)	18 (250V)
				115	60		127	1.2	1625	0.35 (3.6)	2.6	0.53 (5.4)	
	M91Z60GK4YG M91Z60GK4YGA	4	60	200	50	Cont.	114	0.57	1225	0.47 (4.8)	1.0	0.44 (4.5)	5 (450V)
					60		122	0.62	1550	0.37 (3.8)	1.0	0.44 (4.5)	
	M91Z60GK4GG M91Z60GK4GGA	4	60	220	50	Cont.	121	0.58	1275	0.45 (4.6)	1.1	0.49 (5.0)	4.5 (450V)
					60		120	0.55	1600	0.36 (3.7)	1.1	0.49 (5.0)	
				230	50		129	0.61	1300	0.44 (4.5)	1.1	0.53 (5.4)	
					60		126	0.55	1625	0.35 (3.6)	1.1	0.53 (5.4)	

• 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-62.
• The models with a motor model number to which “A” is suffixed are not equipped with a capacitor cap.
The models with a motor model number to which “A” is suffixed are not sold or available in Japan.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

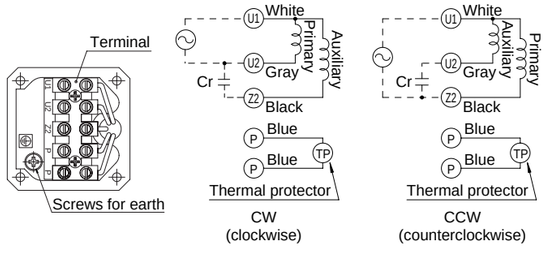
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio			3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180	200
Speed (min⁻¹)		50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3	7.5
		60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10	9
Applicable gear head	MZ9G3B to MZ9G200B (ball bearing / hinge not attached)	50Hz	0.98 (9.99)	1.18 (12)	1.57 (16)	1.96 (20)	2.35 (24)	2.94 (30)	3.14 (32)	3.92 (40)	4.70 (48)	5.59 (57)	6.27 (64)	7.55 (77)	9.11 (93)	11.0 (112)	15.2 (155)	17.8 (182)	19.6 (200)						
	MY9G3B to MY9G200B (ball bearing / hinge attached)	60Hz	0.78 (8.0)	0.98 (9.99)	1.37 (14)	1.57 (16)	1.96 (20)	2.35 (24)	2.65 (27)	3.33 (34)	3.92 (40)	4.70 (48)	5.29 (54)	6.47 (66)	7.55 (77)	9.11 (93)	12.6 (129)	15.2 (155)	19.6 (200)						
Rotational direction			Same as motor rotational direction			Reverse to motor rotational direction				Same as motor rotational direction															

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

Applicable gear head		Reduction ratio		250	300	360	500	600	750	900	1000	1200	1500	1800
Bearing	Decimal gear head	Speed (min⁻¹)	50Hz	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
			60Hz	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
MZ9G□B (ball bearing / hinge not attached) MY9G□B (ball bearing / hinge attached)	MZ9G10XB	Permissible torque	N·m	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6
			(kgf·cm)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)
		Rotational direction		Reverse to motor rotational direction		Same as motor rotational direction								

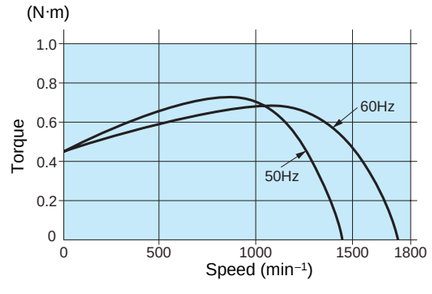
Connection diagram



(Refer to page A-58 for connection of thermal protector.)

Speed-torque characteristics

M91Z60GK4LG(A)



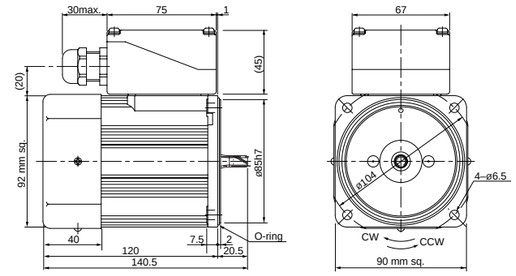
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

Scale: 1/4, Unit: mm

M91Z60GK4LG(A) 4P 60 W 100 V (with fan)
M91Z60GK4DG(A) 4P 60 W 110 V / 115 V (with fan)
M91Z60GK4YG(A) 4P 60 W 200 V (with fan)
M91Z60GK4GG(A) 4P 60 W 220 V / 230 V (with fan)

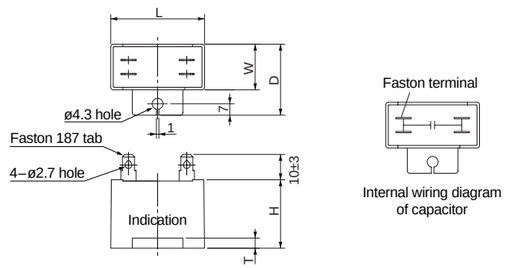
Mass	Helical gear	Module	Number of teeth
3.0 kg		0.6	9



* Diameter of applicable cabtyre cable to be ø8 to ø12.

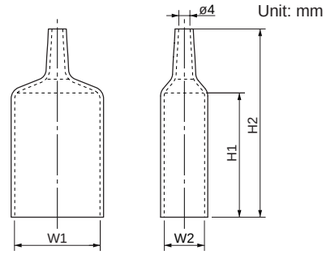
Capacitor (dimensions) [attachment]

Unit: mm



Capacitor cap (dimensions) [attachment]

Unit: mm



• Capacitor dimension list (mm)

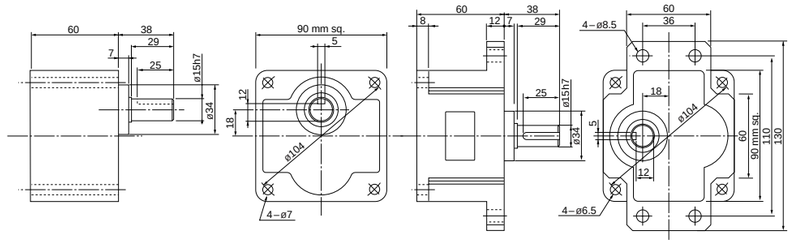
Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (attachment)	W1	W2	H1	H2
M91Z60GK4LG(A)	M0PC20M25G	58	29	44	41	4	M0PC5829G	58	29	55	78
M91Z60GK4DG(A)	M0PC18M25G	58	29	44	41	4	M0PC5829G	58	29	55	78
M91Z60GK4YG(A)	M0PC5M45G	58	29	44	41	4	M0PC5829G	58	29	55	78
M91Z60GK4GG(A)	M0PC4.5M45G	58	23.5	38.5	37	4	M0PC5823G	58	23.5	55	78

• 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

MZ9G□B (ball bearing / hinge not attached) Mass 1.4 kg
MY9G□M (metal bearing / hinge attached) Mass 1.4 kg

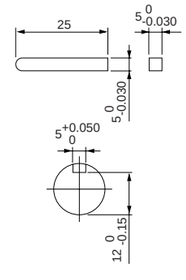


Note) MZ / MY is available for a gear head of either type.

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

Key and keyway (dimensions) [attachment]

MZ9G□B
MY9G□B



Induction motor (sealed connector)

90 mm sq. 90 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min⁻¹)	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)	Capacitor (μF) (rated voltage)
90mm sq.	M91Z90GK4L	4	90	100	50	Cont.	153	1.6	1325	0.65 (6.6)	3.3	0.47 (4.8)	25 (200V)
					60		160	1.6	1625	0.53 (5.4)	3.0	0.47 (4.8)	
	M91Z90GK4Y	4	90	200	50	Cont.	150	0.75	1325	0.62 (6.3)	1.7	0.47 (4.8)	5.8 (400V)
					60		160	0.80	1650	0.51 (5.2)	1.5	0.47 (4.8)	

• 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-62.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

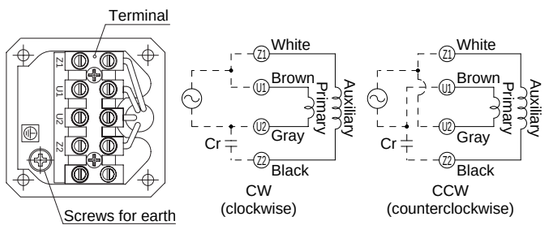
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180	200
Speed (min⁻¹)	50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3	7.5
	60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10	9
Applicable gear head: MZ9G3B to MZ9G200B (ball bearing / hinge not attached)	50Hz	1.37 (14)	1.67 (17)	2.25 (23)	2.74 (28)	3.43 (35)	4.12 (42)	4.51 (46)	5.68 (58)	6.76 (69)	8.04 (82)	9.02 (92)	10.9 (111)	13.0 (133)	15.7 (160)	19.6 (200)	19.6 (200)							
Applicable gear head: MY9G3B to MY9G200B (ball bearing / hinge attached)	60Hz	1.18 (12)	1.37 (14)	1.86 (19)	2.25 (23)	2.84 (29)	3.43 (35)	3.72 (38)	4.70 (48)	5.68 (58)	6.76 (69)	7.55 (77)	9.21 (94)	10.9 (111)	13.0 (133)	18.3 (187)	19.6 (200)							
Rotational direction		Same as motor rotational direction							Reverse to motor rotational direction						Same as motor rotational direction									

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

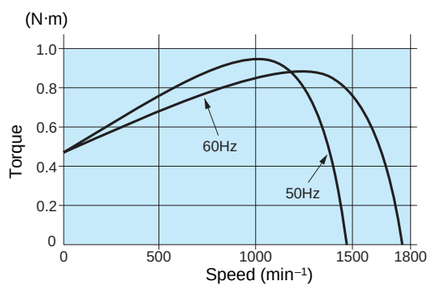
Applicable gear head: Bearing	Decimal gear head	Reduction ratio		250	300	360	500	600	750	900	1000	1200	1500	1800
		Speed (min⁻¹)	50Hz	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
			60Hz	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
MZ9G□B (ball bearing / hinge not attached) MY9G□B (ball bearing / hinge attached)	MZ9G10XB	Permissible torque	N·m	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6
			(kgf·cm)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)
		Rotational direction		Reverse to motor rotational direction		Same as motor rotational direction								

Connection diagram



Speed-torque characteristics

M91Z90GK4L

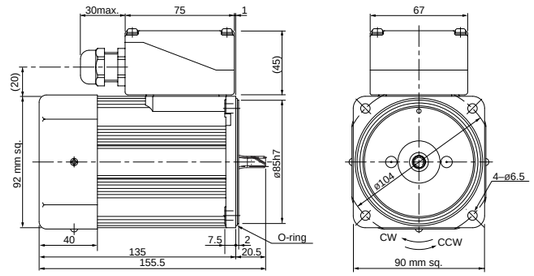


Motor (dimensions)

Scale: 1/4, Unit: mm

M91Z90GK4L 4P 90 W 100 V (with fan)
M91Z90GK4Y 4P 90 W 200 V (with fan)

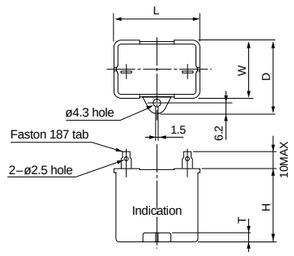
Mass	Helical gear	Module	Number of teeth
3.3 kg		0.6	9



* Diameter of applicable cabtyre cable to be ø8 to ø12.

Capacitor (dimensions) [attachment]

Unit: mm



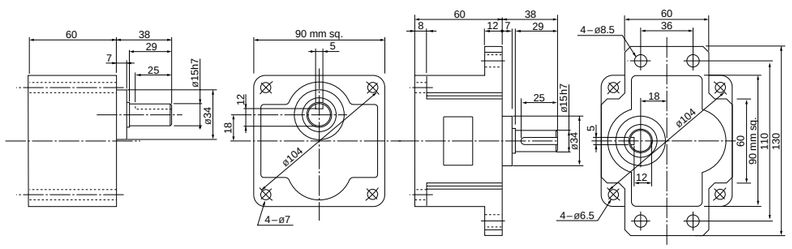
• Capacitor dimension list (mm)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M91Z90GK4L	M0PC25M20	50.2	31	41	42	5	M0PC5032
M91Z90GK4Y	M0PC5.8M40	50	30.5	41	41.5	4	M0PC5032

Gear head (dimensions)

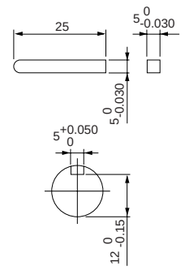
Scale: 1/4, Unit: mm

MZ9G□B (ball bearing / hinge not attached) Mass 1.4 kg
MY9G□M (metal bearing / hinge attached) Mass 1.4 kg



Key and keyway (dimensions) [attachment]

MZ9G□B
MY9G□B



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

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

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

Induction motor (sealed connector)

cULus CE 90 mm sq. 90 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min⁻¹)	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)	Capacitor (μF) (rated voltage)
90 mm sq.	M91Z90GK4LG M91Z90GK4LGA	4	90	100	50	Cont.	172	1.8	1250	0.69(7.0)	3.0	0.65(6.6)	30 (250V)
					60		177	1.8	1575	0.55(5.6)	2.8	0.65(6.6)	
	M91Z90GK4DG M91Z90GK4DGA	4	90	110	60	Cont.	168	1.6	1600	0.54(5.5)	3.0	0.65(6.6)	25 (250V)
				115	60		176	1.6	1600	0.54(5.5)	3.1	0.72(7.3)	
	M91Z90GK4YG M91Z90GK4YGA	4	90	200	50	Cont.	170	0.85	1225	0.70(7.2)	1.4	0.65(6.6)	7.5 (450V)
					60		188	0.97	1550	0.55(5.7)	1.4	0.65(6.6)	
	M91Z90GK4GG M91Z90GK4GGA	4	90	220	50	Cont.	176	0.85	1225	0.70(7.2)	1.5	0.63(6.4)	6 (450V)
					60		167	0.76	1575	0.55(5.6)	1.4	0.65(6.6)	
				230	50		185	0.89	1250	0.69(7.0)	1.5	0.68(6.9)	
					60		173	0.76	1600	0.54(5.5)	1.5	0.72(7.3)	

• The specifications and wire connections of the round shaft motor are the same as those of the pinion shaft type. For the dimensional outline drawing, refer to page B-62.
• The models with a motor model number to which “A” is suffixed are not equipped with a capacitor cap.
The models with a motor model number to which “A” is suffixed are not sold or available in Japan.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

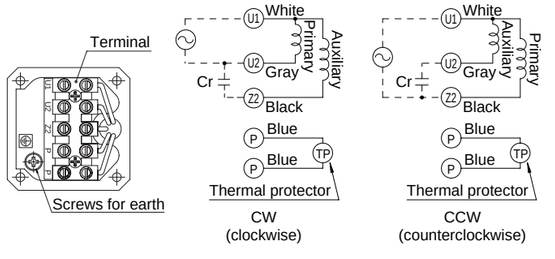
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio			3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180	200
Speed (min⁻¹)		50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3	7.5
		60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10	9
Applicable gear head	MZ9G3B to MZ9G200B (ball bearing / hinge not attached)	50Hz	1.37 (14)	1.67 (17)	2.25 (23)	2.74 (28)	3.43 (35)	4.12 (42)	4.51 (46)	5.68 (58)	6.76 (69)	8.04 (82)	9.02 (92)	10.9 (111)	13.0 (133)	15.7 (160)	19.6 (200)	19.6 (200)							
	MY9G3B to MY9G200B (ball bearing / hinge attached)	60Hz	1.18 (12)	1.37 (14)	1.86 (19)	2.25 (23)	2.84 (29)	3.43 (35)	3.72 (38)	4.70 (48)	5.68 (58)	6.76 (69)	7.55 (77)	9.21 (94)	10.9 (111)	13.0 (133)	18.3 (187)	19.6 (200)							
Rotational direction			Same as motor rotational direction			Reverse to motor rotational direction				Same as motor rotational direction															

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

Applicable gear head		Reduction ratio		250	300	360	500	600	750	900	1000	1200	1500	1800
Bearing	Decimal gear head	Speed (min⁻¹)	50Hz	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
			60Hz	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
MZ9G□B (ball bearing / hinge not attached) MY9G□B (ball bearing / hinge attached)	MZ9G10XB	Permissible torque	N·m	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6
			(kgf·cm)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)
		Rotational direction		Reverse to motor rotational direction		Same as motor rotational direction								

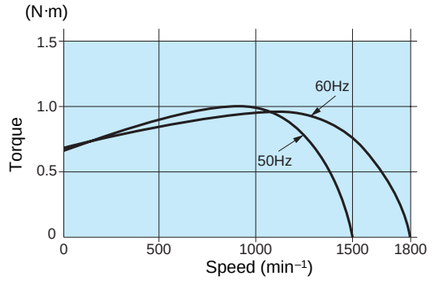
Connection diagram



(Refer to page A-58 for connection of thermal protector.)

Speed-torque characteristics

M91Z90GK4LG(A)



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

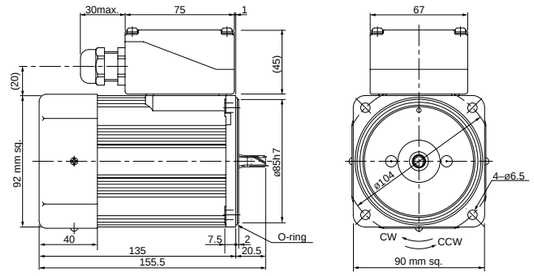
Features B-2 | System configuration B-3 | Coding system B-3 | Model list B-4

Motor (dimensions)

Scale: 1/4, Unit: mm

M91Z90GK4LG(A) 4P 90 W 100 V (with fan)
M91Z90GK4DG(A) 4P 90 W 110 V / 115 V (with fan)
M91Z90GK4YG(A) 4P 90 W 200 V (with fan)
M91Z90GK4GG(A) 4P 90 W 220 V / 230 V (with fan)

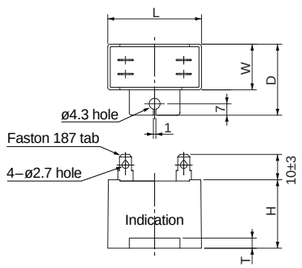
Mass	Helical gear	Module	Number of teeth
3.3 kg		0.6	9

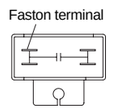


* Diameter of applicable cabtyre cable to be ø8 to ø12.

Capacitor (dimensions) [attachment]

Unit: mm

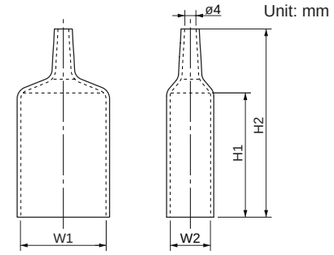




Internal wiring diagram of capacitor

Capacitor cap (dimensions) [attachment]

Unit: mm



• Capacitor dimension list (mm)

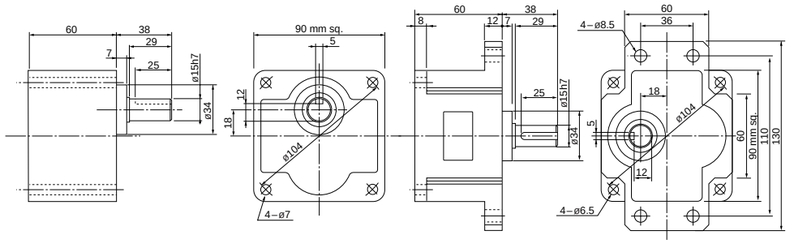
Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (attachment)	W1	W2	H1	H2
M91Z90GK4LG(A)	M0PC30M25G	58	35	50	50	4	M0PC5835G	58	35	55	78
M91Z90GK4DG(A)	M0PC25M25G	58	35	50	50	4	M0PC5835G	58	35	55	78
M91Z90GK4YG(A)	M0PC7.5M45G	58	35	50	50	4	M0PC5835G	58	35	55	78
M91Z90GK4GG(A)	M0PC6M45G	58	29	44	41	4	M0PC5829G	58	29	55	78

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

Gear head (dimensions)

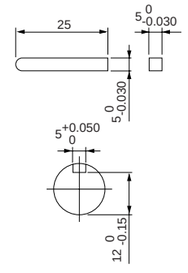
Scale: 1/4, Unit: mm

MZ9G□B (ball bearing / hinge not attached) Mass 1.4 kg
MY9G□M (metal bearing / hinge attached) Mass 1.4 kg



Key and keyway (dimensions) [attachment]

MZ9G□B
MY9G□B



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

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

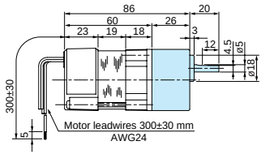
Gear head combination B-60 | Round shaft motor dimensions B-62 | Decimal gear head B-384 | Control related product C-4 | Option D-2

Induction motor (leadwire)

Gear head combination dimensions
Scale: 1/4, Unit: mm

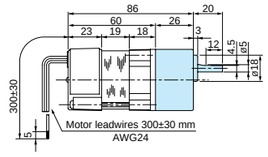
42 mm sq. 3 W

M41A3G2L + M4GA□F



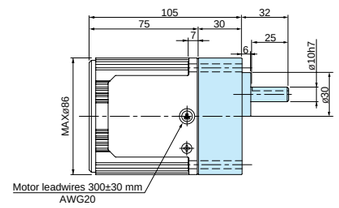
42 mm sq. 1 W

M41A1G4L + M4GA□F



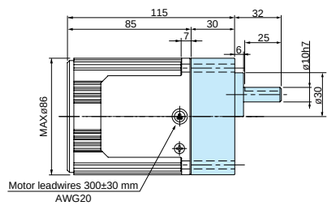
80 mm sq. 15 W

M81X15G4L + MX8G□B(M)
M81X15G4Y + MX8G□B(M)



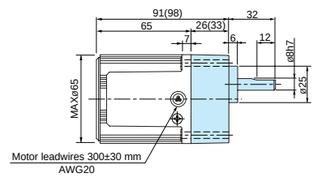
80 mm sq. 25 W

M81X25G4L + MX8G□B(M)
M81X25G4Y + MX8G□B(M)
M81X25G4LG(A) + MX8G□B(M)
M81X25G4DG(A) + MX8G□B(M)
M81X25G4YG(A) + MX8G□B(M)
M81X25G4GG(A) + MX8G□B(M)



60 mm sq. 3 W

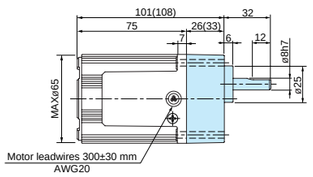
M61X3G4L + MX6G□BA(MA) / MX6G□B(M)



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

60 mm sq. 6 W

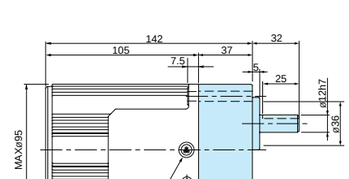
M61X6G4L + MX6G□BA(MA) / MX6G□B(M)
M61X6G4Y + MX6G□BA(MA) / MX6G□B(M)
M61X6G4LG(A) + MX6G□BA(MA) / MX6G□B(M)
M61X6G4DG(A) + MX6G□BA(MA) / MX6G□B(M)
M61X6G4YG(A) + MX6G□BA(MA) / MX6G□B(M)
M61X6G4GG(A) + MX6G□BA(MA) / MX6G□B(M)



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

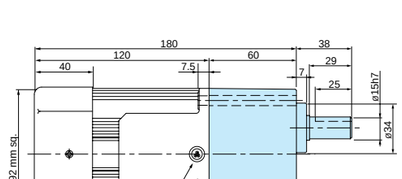
90 mm sq. 40 W

M91X40G4L + MX9G□B(M)
M91X40G4Y + MX9G□B(M)
M91X40G4LG(A) + MX9G□B(M)
M91X40G4DG(A) + MX9G□B(M)
M91X40G4YG(A) + MX9G□B(M)
M91X40G4GG(A) + MX9G□B(M)



90 mm sq. 60 W

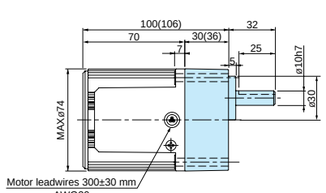
M91Z60G4L + MZ9G□B (MY9G□B)
M91Z60G4Y + MZ9G□B (MY9G□B)
M91Z60G4LG(A) + MZ9G□B (MY9G□B)
M91Z60G4DG(A) + MZ9G□B (MY9G□B)
M91Z60G4YG(A) + MZ9G□B (MY9G□B)
M91Z60G4GG(A) + MZ9G□B (MY9G□B)



* Refer to page B-380 for high torque gear head.

70 mm sq. 10 W

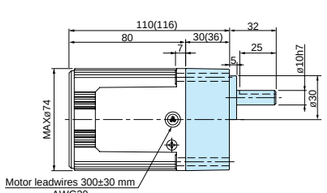
M71X10G4L + MX7G□BA(MA) / MX7G□B(M)
M71X10G4Y + MX7G□BA(MA) / MX7G□B(M)



* Figures in ( ) represent the dimensions of MX7G□B (M) (1/30 or larger reduction ratio).
The model number of the gear head with a reduction ratio of 1/25 or smaller is MX7G□BA (MA).

70 mm sq. 15 W

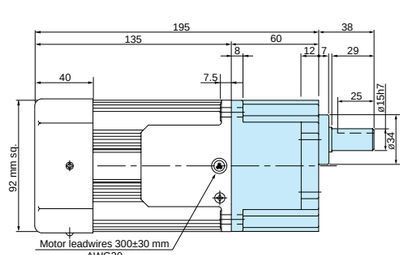
M71X15G4L + MX7G□BA(MA) / MX7G□B(M)
M71X15G4Y + MX7G□BA(MA) / MX7G□B(M)
M71X15G4LG(A) + MX7G□BA(MA) / MX7G□B(M)
M71X15G4DG(A) + MX7G□BA(MA) / MX7G□B(M)
M71X15G4YG(A) + MX7G□BA(MA) / MX7G□B(M)
M71X15G4GG(A) + MX7G□BA(MA) / MX7G□B(M)



* Figures in ( ) represent the dimensions of MX7G□B (M) (1/30 or larger reduction ratio).
The model number of the gear head with a reduction ratio of 1/25 or smaller is MX7G□BA (MA).

90 mm sq. 90 W

M91Z90G4L + MY9G□B (MZ9G□B)
M91Z90G4Y + MY9G□B (MZ9G□B)
M91Z90G4LG(A) + MY9G□B (MZ9G□B)
M91Z90G4DG(A) + MY9G□B (MZ9G□B)
M91Z90G4YG(A) + MY9G□B (MZ9G□B)
M91Z90G4GG(A) + MY9G□B (MZ9G□B)



* Refer to page B-380 for high torque gear head.

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

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

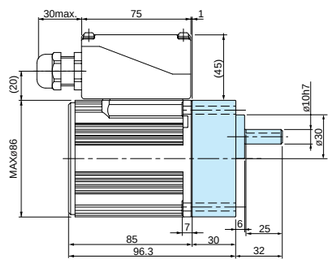
(Note) Because the dimensions may be subject to change, also check the determinate dimensions if the gear head is to be used for design.

Induction motor (sealed connector)

Gear head combination dimensions
Scale: 1/4, Unit: mm

80 mm sq. 25 W

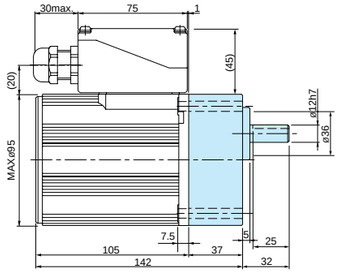
M81X25GK4L + MX8G□B(M)
M81X25GK4Y + MX8G□B(M)
M81X25GK4LG(A) + MX8G□B(M)
M81X25GK4DG(A) + MX8G□B(M)
M81X25GK4YG(A) + MX8G□B(M)
M81X25GK4GG(A) + MX8G□B(M)



* Diameter of applicable cabtyre cable to be ø8 to ø12.

90 mm sq. 40 W

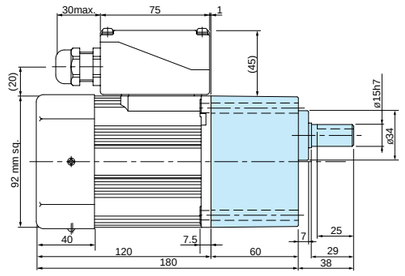
M91X40GK4L + MX9G□B(M)
M91X40GK4Y + MX9G□B(M)
M91X40GK4LG(A) + MX9G□B(M)
M91X40GK4DG(A) + MX9G□B(M)
M91X40GK4YG(A) + MX9G□B(M)
M91X40GK4GG(A) + MX9G□B(M)



* Diameter of applicable cabtyre cable to be ø8 to ø12.

90 mm sq. 60 W

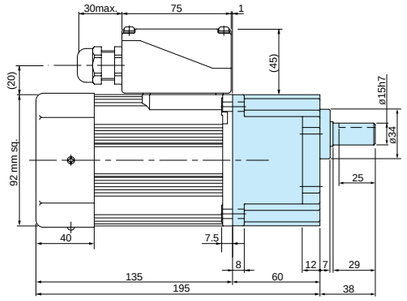
M91Z60GK4L + MZ9G□B (MY9G□B)
M91Z60GK4Y + MZ9G□B (MY9G□B)
M91Z60GK4LG(A) + MZ9G□B (MY9G□B)
M91Z60GK4DG(A) + MZ9G□B (MY9G□B)
M91Z60GK4YG(A) + MZ9G□B (MY9G□B)
M91Z60GK4GG(A) + MZ9G□B (MY9G□B)



* Diameter of applicable cabtyre cable to be ø8 to ø12.
* Refer to page B-380 for high torque gear head.

90 mm sq. 90 W

M91Z90GK4L + MY9G□B (MZ9G□B)
M91Z90GK4Y + MY9G□B (MZ9G□B)
M91Z90GK4LG(A) + MY9G□B (MZ9G□B)
M91Z90GK4DG(A) + MY9G□B (MZ9G□B)
M91Z90GK4YG(A) + MY9G□B (MZ9G□B)
M91Z90GK4GG(A) + MY9G□B (MZ9G□B)



* Diameter of applicable cabtyre cable to be ø8 to ø12.
* Refer to page B-380 for high torque gear head.

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

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

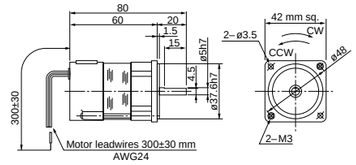
Induction motor (4-pole round shaft / leadwire)

Dimensions
Scale: 1/4, Unit: mm

42 mm sq. 1 W

Mass 0.3 kg

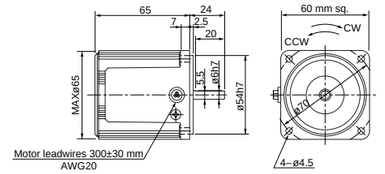
M41A1S4L



60 mm sq. 3 W

Mass 0.56 kg

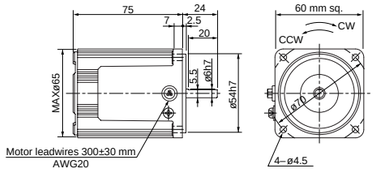
M61X3S4LS



60 mm sq. 6 W

Mass 0.67 kg

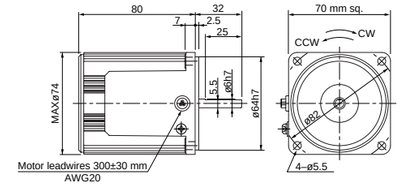
M61X6S4LS M61X6S4LG(A) M61X6S4YG(A)
M61X6S4YS M61X6S4DG(A) M61X6S4GG(A)



70 mm sq. 15 W

Mass 1.1 kg

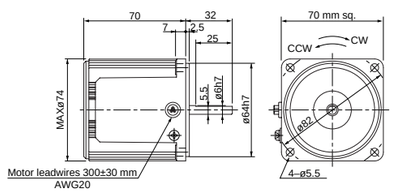
M71X15S4LS M71X15S4LG(A) M71X15S4YG(A)
M71X15S4YS M71X15S4DG(A) M71X15S4GG(A)



70 mm sq. 10 W

Mass 0.84 kg

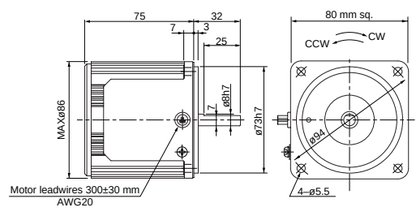
M71X10S4LS
M71X10S4YS



80 mm sq. 15 W

Mass 1.2 kg

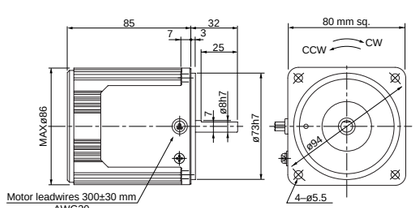
M81X15S4LS
M81X15S4YS



80 mm sq. 25 W

Mass 1.5 kg

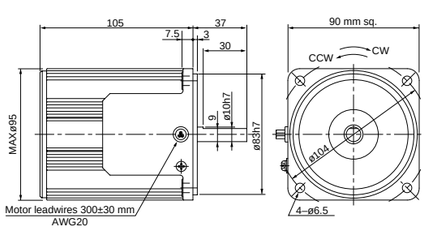
M81X25S4LS M81X25S4LG(A) M81X25S4YG(A)
M81X25S4YS M81X25S4DG(A) M81X25S4GG(A)



90 mm sq. 40 W

Mass 2.4 kg

M91X40S4LS M91X40S4LG(A) M91X40S4YG(A)
M91X40S4YS M91X40S4DG(A) M91X40S4GG(A)



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

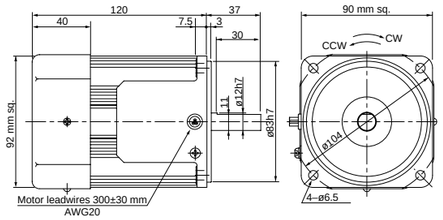
Induction motor (4-pole round shaft / leadwire)

Dimensions
Scale: 1/4, Unit: mm

90 mm sq. 60 W Mass 2.7 kg

M91Z60S4LS (with fan)
M91Z60S4YS (with fan)

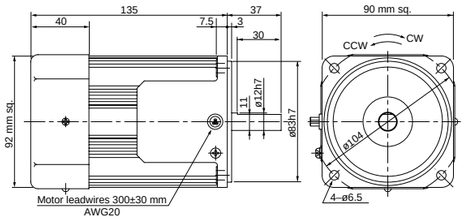
M91Z60S4LG(A) (with fan)
M91Z60S4DG(A) (with fan)
M91Z60S4YG(A) (with fan)
M91Z60S4GG(A) (with fan)



90 mm sq. 90 W Mass 3.4 kg

M91Z90S4LS (with fan)
M91Z90S4YS (with fan)

M91Z90S4LG (A) (with fan)
M91Z90S4DG(A) (with fan)
M91Z90S4YG (A) (with fan)
M91Z90S4GG(A) (with fan)



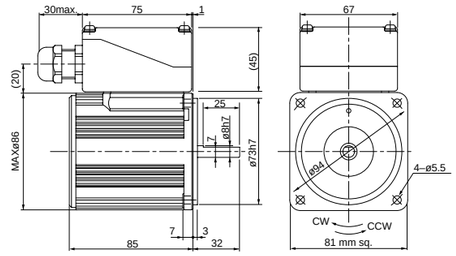
Induction motor (4-pole round shaft / sealed connector)

Dimensions
Scale: 1/4, Unit: mm

80 mm sq. 25 W Mass 1.8 kg

M81X25SK4LS
M81X25SK4YS

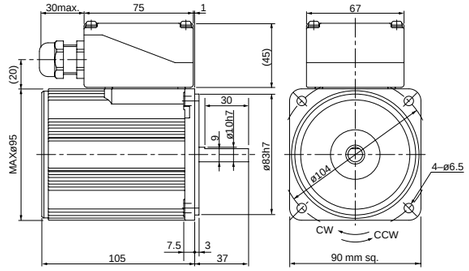
M81X25SK4LG(A)
M81X25SK4YG(A)
M81X25SK4DG(A)
M81X25SK4GG(A)



90 mm sq. 40 W Mass 2.8 kg

M91X40SK4LS
M91X40SK4YS

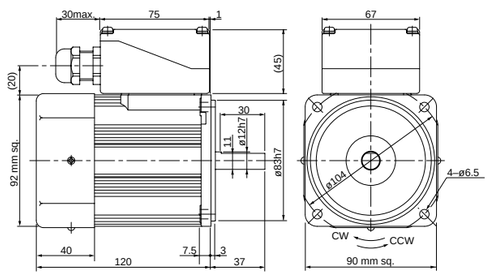
M91X40SK4LG(A)
M91X40SK4YG(A)
M91X40SK4DG(A)
M91X40SK4GG(A)



90 mm sq. 60 W Mass 3.0 kg

M91Z60SK4LS (with fan)
M91Z60SK4YS (with fan)

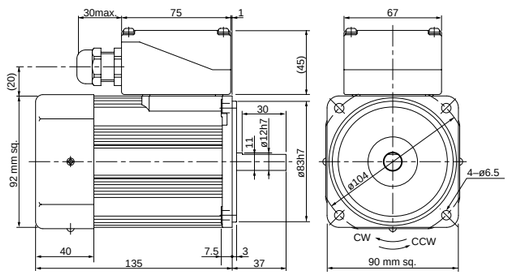
M91Z60SK4LG(A) (with fan)
M91Z60SK4DG(A) (with fan)
M91Z60SK4YG(A) (with fan)
M91Z60SK4GG(A) (with fan)



90 mm sq. 90 W Mass 3.3 kg

M91Z90SK4LS (with fan)
M91Z90SK4YS (with fan)

M91Z90SK4LG(A) (with fan)
M91Z90SK4DG(A) (with fan)
M91Z90SK4YG(A) (with fan)
M91Z90SK4GG(A) (with fan)



100V/200V round shaft motors with a sealed connector (with a terminal box) are covered by the Electrical Appliance and Material Safety Law. The indications on their nameplate are based on this law.

*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.

* 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-2 | System configuration B-3 | Coding system B-3 | Model list B-4

Reversible Motor

Contents

- Motor Overview B-64
- Model list B-68
- Product information for each model B-72
- Gear head combination dimensions B-120
- Round shaft motor dimensions B-123

Outline of reversible motor

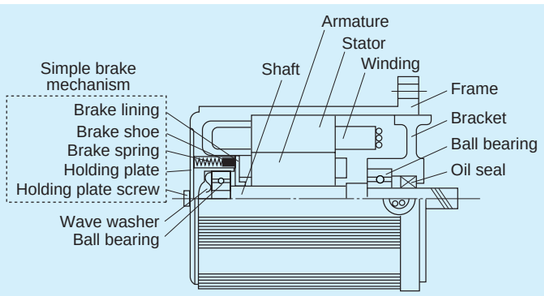
Features

- A quick-reversal run is possible.
- Because of balanced winding, it offers the same performance at both normal and reverse runs.
- The built-in simple brake mechanism makes the overrun small as compared with the induction motor, enabling a quick-reversal run.
- The time rating is 30 minutes.

  Difference between induction motor and reversible motor: The reversible motor can make a quick-reversal run. In the case of the induction motor, even if the wire connections are changed for a reverse run, it is not possible to reverse the load instantaneously because the torque (shaded area in the figure below) acting in a direction opposite to the rotating magnetic field is produced. Therefore you need to stop the induction motor once, change the wire connections and make a reverse run.

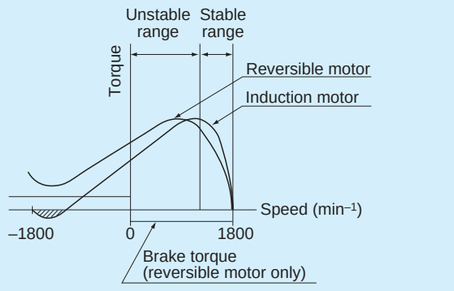
  (Note) • Limit the frequency of reversal operation to 6 cycles per minute.
  - If it is necessary that the frequency of reversal operation be 7 to 100 cycles per minute, use the C&B motor. (For running in one direction only)
  - For applications that need holding, use the electromagnetic brake motor.

Construction



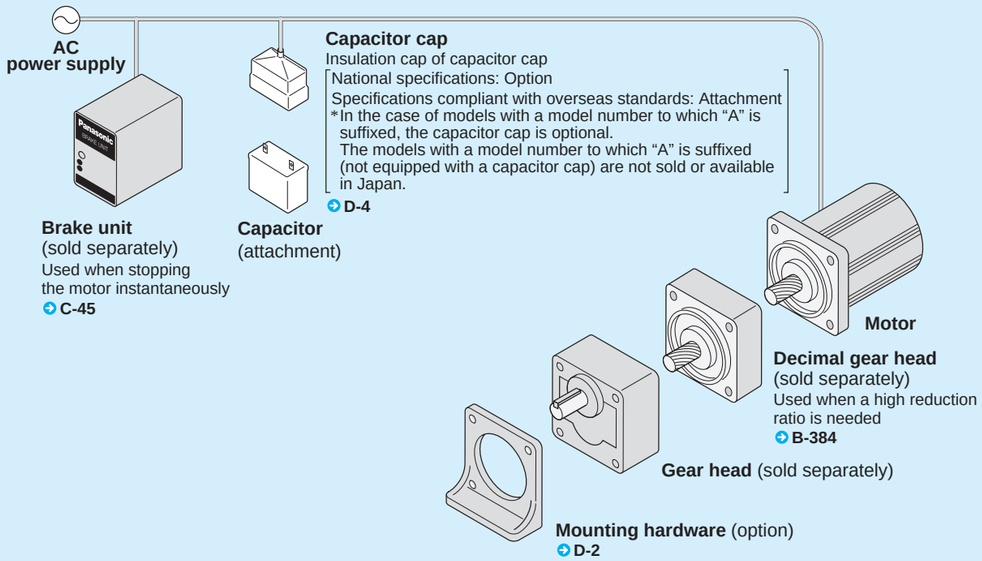
Characteristics

• Speed-torque characteristics



Note) Operation at 60 Hz

System configuration diagram



Coding system

M 9 R X 40 G 4 L S A

- **9 Size**
  - 4 : 42 mm sq.
  - 6 : 60 mm sq.
  - 7 : 70 mm sq.
  - 8 : 80 mm sq.
  - 9 : 90 mm sq.
- **R Motor type**
  - R : Reversible motor
- **X Output type**
  - A : 42mm sq. only
  - X : 40 W or smaller
  - Z : 60 W or larger
- **40 Output**
  - 1 : 1 W
  - 4 : 4 W
  - 6 : 6 W
  - 10 : 10 W
  - 15 : 15 W
  - 20 : 20 W
  - 25 : 25 W
  - 40 : 40 W
  - 60 : 60 W
  - 90 : 90 W
- **G Shape of shaft**
  - G : Pinion shaft
  - S : Round shaft
- **Option**
  - 4 : 4 poles
  - K : Sealed connector (Left aligned when no option is used)
- **4 No. of poles**
- **L Voltage**
  - L : 100 V
  - Y : 200 V
  - D : 110/115 V
  - G : 220/230 V
- **S Classification**
  - Motor with specifications compliant with overseas standards that is not equipped with a capacitor cap.
  - G : Specifications compliant with overseas standards
  - S : Round shaft (S for round shaft with national specifications only)
- **A**

Corresponding model number	Shape of shaft	Classification
Specifications compliant with overseas standards Pinion shaft	G	G
Specifications compliant with overseas standards Round shaft	S	G
National specifications Pinion shaft	G	–
National specifications Round shaft	S	S
42 mm sq. round shaft specifications	S	–

Outline of reversible motor

Overrun

In the case of the reversible motor, braking power is applied by the simple brake mechanism when the power is turned off. An overrun is defined as a revolution which the motor makes when the power is turned off. The overrun and brake torque (motor not loaded, reference value) of the reversible motor are shown in the table below.

• List of overruns of reversible motor

Size	60 mm sq.		70 mm sq.		80 mm sq.		90 mm sq.		
Output	4W	6W	10W	15W	20W	25W	40W	60W	90W
Motor model	M6RX4G4L	M6RX6G4L M6RX6G4Y M6RX6G4LG(A) M6RX6G4DG(A) M6RX6G4YG(A) M6RX6G4GG(A)	M7RX10G4L M7RX10G4Y	M7RX15G4L M7RX15G4Y M7RX15G4LG(A) M7RX15G4DG(A) M7RX15G4YG(A) M7RX15G4GG(A)	M8RX20G4L M8RX20G4Y	M8RX25G4L M8RX25G4Y M8RX25G4LG(A) M8RX25G4DG(A) M8RX25G4YG(A) M8RX25G4GG(A)	M9RX40G4L M9RX40G4Y M9RX40G4LG(A) M9RX40G4DG(A) M9RX40G4YG(A) M9RX40G4GG(A)	M9RZ60G4L M9RZ60G4Y M9RZ60G4LG(A) M9RZ60G4DG(A) M9RZ60G4YG(A) M9RZ60G4GG(A)	M9RZ90G4L M9RZ90G4Y M9RZ90G4LG(A) M9RZ90G4DG(A) M9RZ90G4YG(A) M9RZ90G4GG(A)
Brake torque x 10^{-2} N·m (kgf·cm)	0.588 (0.06)	0.588 (0.06)	1.27 (0.13)	1.27 (0.13)	1.47 (0.15)	1.47 (0.15)	3.92 (0.40)	3.92 (0.40)	3.92 (0.40)
Overrun (revolution)	5.0	5.0	4.5	4.5	5.5	5.5	6.0	6.0	6.0

(Note) The simple brake mechanism of the reversible motor cannot be used for positioning.
The simple brake mechanism of the reversible motor cannot be used for holding.

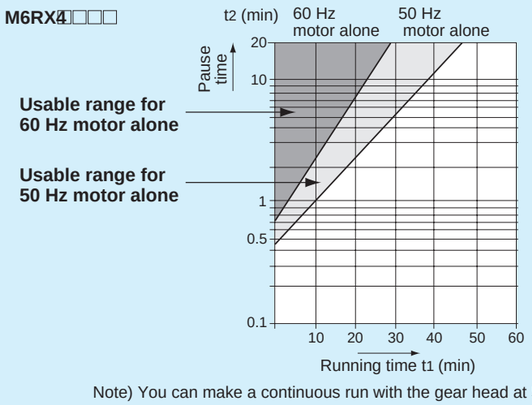
The brake torque of the reversible motor varies and changes over time.
When selecting a motor, do so allowing for such variations and changes.

Temperature rise of reversible motor

The reversible motor is of 30-minute rating when you run the motor alone, however, when you run it with the gear head or equipment, the continuous running time will be extended thanks to heat radiation effect. When you run the motor intermittently, the temperature rise will be saturated at a certain value depending on the cycle of intermittent running.
The limit of intermittent run of the reversible motor is shown in the table below.

• How to read the limit of intermittent run of reversible motor

Example: M6RX4□□□

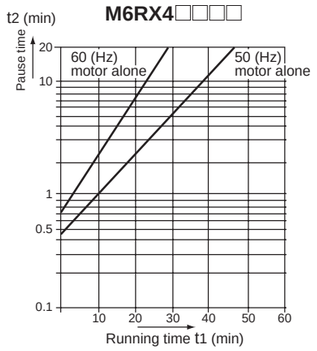


Note) You can make a continuous run with the gear head at 50 and 60 Hz.

* You can run the motor in the range above the running limit line.

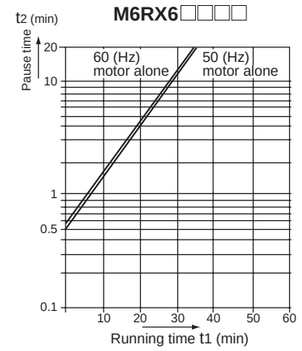
Limit of intermittent run of reversible motor

M6RX4□□□□



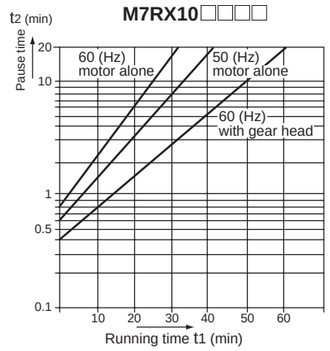
Note) You can make a continuous run with the gear head at 50 and 60 Hz.

M6RX6□□□□



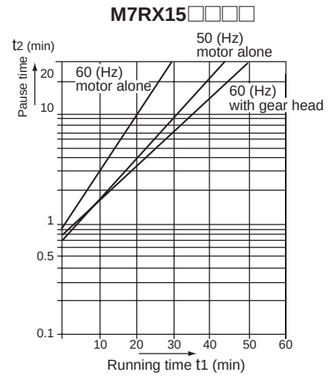
Note) You can make a continuous run with the gear head at 50 and 60 Hz.

M7RX10□□□□



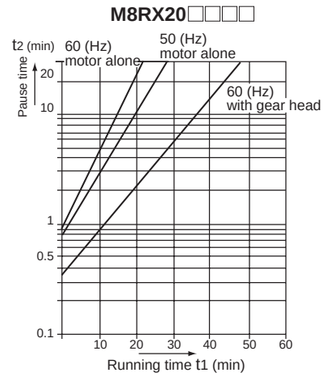
Note) You can make a continuous run with the gear head at 50.

M7RX15□□□□



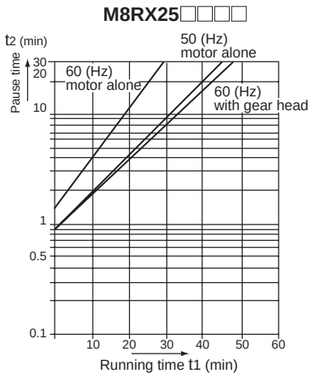
Note) You can make a continuous run with the gear head at 50.

M8RX20□□□□



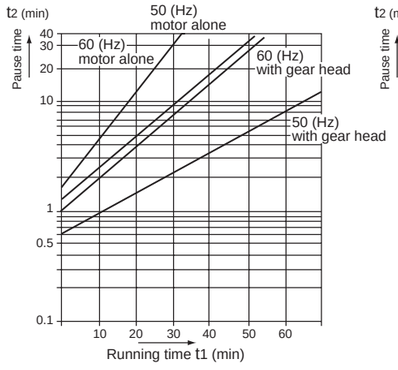
Note) You can make a continuous run with the gear head at 50.

M8RX25□□□□

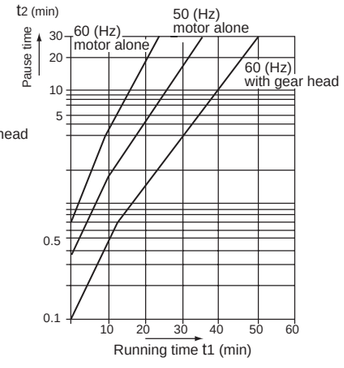


Note) You can make a continuous run with the gear head at 50.

M9RX40□□□□

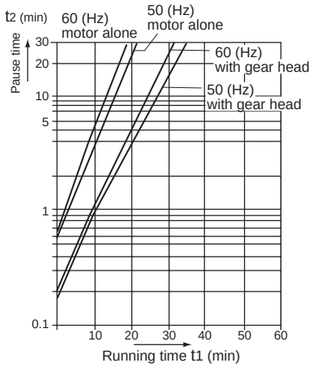


M9RZ60□□□□



Note) You can make a continuous run with the gear head at 50.

M9RZ90□□□□



Model list of reversible motor

Pinion shaft motor

Applicable gear head

✪ Motor compliant with overseas standards

Hinge attached

Size	Output (W)	Leadwire type				Sealed connector type				Standard gear head			High torque gear head	Right-angle gear head	Decimal gear head
		Model number	Specifications		Page	Model number	Specifications		Page	Ball bearing	metal bearing	Ball and metal bearing			
42 mm sq.	1	M4RA1G4L	100V		B-72					–	–	M4G□F	–	–	–
60 mm sq.	4	M6RX4G4L	100V		B-74					MX6G□BA MX6G□B	MX6G□MA MX6G□M	–	–	–	MX6G10XB
	6	M6RX6G4L	100V		B-76										
		M6RX6G4Y	200V		B-76										
		M6RX6G4LG(A)	100V	✪	B-78										
		M6RX6G4DG(A)	110/115V	✪	B-78										
		M6RX6G4YG(A)	200V	✪	B-78										
		M6RX6G4GG(A)	220/230V	✪	B-78										
70 mm sq.	10	M7RX10G4L	100V		B-80					MX7G□BA MX7G□B	MX7G□MA MX7G□M	–	–	–	MX7G10XB
		M7RX10G4Y	200V		B-80										
	15	M7RX15G4L	100V		B-82										
		M7RX15G4Y	200V		B-82										
		M7RX15G4LG(A)	100V	✪	B-84										
		M7RX15G4DG(A)	110/115V	✪	B-84										
		M7RX15G4YG(A)	200V	✪	B-84										
		M7RX15G4GG(A)	220/230V	✪	B-84										
80 mm sq.	20	M8RX20G4L	100V		B-86					MX8G□B	MX8G□M	–	–	–	MX8G10XB
		M8RX20G4Y	200V		B-86										
	25	M8RX25G4L	100V		B-88	M8RX25GK4L	100V		B-104						
		M8RX25G4Y	200V		B-88	M8RX25GK4Y	200V		B-104						
		M8RX25G4LG(A)	100V	✪	B-90	M8RX25GK4LG(A)	100V	✪	B-106						
		M8RX25G4DG(A)	110/115V	✪	B-90	M8RX25GK4DG(A)	110/115V	✪	B-106						
		M8RX25G4YG(A)	200V	✪	B-90	M8RX25GK4YG(A)	200V	✪	B-106						
		M8RX25G4GG(A)	220/230V	✪	B-90	M8RX25GK4GG(A)	220/230V	✪	B-106						
90 mm sq.	40	M9RX40G4L	100V		B-92	M9RX40GK4L	100V		B-108	MX9G□B	MX9G□M	–	–	MX9G□R	MX9G10XB
		M9RX40G4Y	200V		B-92	M9RX40GK4Y	200V		B-108						
		M9RX40G4LG(A)	100V	✪	B-94	M9RX40GK4LG(A)	100V	✪	B-110						
		M9RX40G4DG(A)	110/115V	✪	B-94	M9RX40GK4DG(A)	110/115V	✪	B-110						
		M9RX40G4YG(A)	200V	✪	B-94	M9RX40GK4YG(A)	200V	✪	B-110						
		M9RX40G4GG(A)	220/230V	✪	B-94	M9RX40GK4GG(A)	220/230V	✪	B-110						
	60	M9RZ60G4L	100V		B-96	M9RZ60GK4L	100V		B-112	MZ9G□B MY9G□B	–	–	MR9G□B MP9G□B	MZ9G□R	MZ9G10XB
		M9RZ60G4Y	200V		B-96	M9RZ60GK4Y	200V		B-112						
		M9RZ60G4LG(A)	100V	✪	B-98	M9RZ60GK4LG(A)	100V	✪	B-114						
		M9RZ60G4DG(A)	110/115V	✪	B-98	M9RZ60GK4DG(A)	110/115V	✪	B-114						
		M9RZ60G4YG(A)	200V	✪	B-98	M9RZ60GK4YG(A)	200V	✪	B-114						
		M9RZ60G4GG(A)	220/230V	✪	B-98	M9RZ60GK4GG(A)	220/230V	✪	B-114						
	90	M9RZ90G4L	100V		B-100	M9RZ90GK4L	100V		B-116						
		M9RZ90G4Y	200V		B-100	M9RZ90GK4Y	200V		B-116						
		M9RZ90G4LG(A)	100V	✪	B-102	M9RZ90GK4LG(A)	100V	✪	B-118						
		M9RZ90G4DG(A)	110/115V	✪	B-102	M9RZ90GK4DG(A)	110/115V	✪	B-118						
		M9RZ90G4YG(A)	200V	✪	B-102	M9RZ90GK4YG(A)	200V	✪	B-118						
		M9RZ90G4GG(A)	220/230V	✪	B-102	M9RZ90GK4GG(A)	220/230V	✪	B-118						

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

* Refer to page B-380 for dimensions and permissible torque of high torque gear head.
Refer to page B-382 for dimensions and permissible torque of right-angle gear head.
Refer to page B-384 for dimensions of decimal gear head.

Model list of reversible motor

Round shaft motor

✪ Motor compliant with overseas standards c UL us CE CCC
PS E Electrical Appliance and Material Safety Law

Size	Output (W)	Leadwire type		Sealed connector type	
		Model number	Specifications	Model number	Specifications
42 mm sq.	1	**M4RA1S4L**	100V		
60 mm sq.	4	**M6RX4S4LS**	100V		
	6	**M6RX6S4LS**	100V		
		M6RX6S4YS	200V		
		M6RX6S4LG(A)	100V ✪		
		M6RX6S4DG(A)	110/115V ✪		
		M6RX6S4YG(A)	200V ✪		
		M6RX6S4GG(A)	220/230V ✪		
70 mm sq.	10	**M7RX10S4LS**	100V		
		M7RX10S4YS	200V		
	15	**M7RX15S4LS**	100V		
		M7RX15S4YS	200V		
		M7RX15S4LG(A)	100V ✪		
		M7RX15S4DG(A)	110/115V ✪		
		M7RX15S4YG(A)	200V ✪		
		M7RX15S4GG(A)	220/230V ✪		
80 mm sq.	20	**M8RX20S4LS**	100V		
		M8RX20S4YS	200V		
	25	**M8RX25S4LS**	100V	**M8RX25SK4LS**	100V PS E
		M8RX25S4YS	200V	**M8RX25SK4YS**	200V PS E
		M8RX25S4LG(A)	100V ✪	**M8RX25SK4LG(A)**	100V ✪ PS E
		M8RX25S4DG(A)	110/115V ✪	**M8RX25SK4DG(A)**	110/115V ✪
		M8RX25S4YG(A)	200V ✪	**M8RX25SK4YG(A)**	200V ✪ PS E
		M8RX25S4GG(A)	220/230V ✪	**M8RX25SK4GG(A)**	220/230V ✪
90 mm sq.	40	**M9RX40S4LS**	100V	**M9RX40SK4LS**	100V PS E
		M9RX40S4YS	200V	**M9RX40SK4YS**	200V PS E
		M9RX40S4LG(A)	100V ✪	**M9RX40SK4LG(A)**	100V ✪ PS E
		M9RX40S4DG(A)	110/115V ✪	**M9RX40SK4DG(A)**	110/115V ✪
		M9RX40S4YG(A)	200V ✪	**M9RX40SK4YG(A)**	200V ✪ PS E
		M9RX40S4GG(A)	220/230V ✪	**M9RX40SK4GG(A)**	220/230V ✪
	60	**M9RZ60S4LS**	100V	**M9RZ60SK4LS**	100V PS E
		M9RZ60S4YS	200V	**M9RZ60SK4YS**	200V PS E
		M9RZ60S4LG(A)	100V ✪	**M9RZ60SK4LG(A)**	100V ✪ PS E
		M9RZ60S4DG(A)	110/115V ✪	**M9RZ60SK4DG(A)**	110/115V ✪
		M9RZ60S4YG(A)	200V ✪	**M9RZ60SK4YG(A)**	200V ✪ PS E
		M9RZ60S4GG(A)	220/230V ✪	**M9RZ60SK4GG(A)**	220/230V ✪
	90	**M9RZ90S4LS**	100V	**M9RZ90SK4LS**	100V PS E
		M9RZ90S4YS	200V	**M9RZ90SK4YS**	200V PS E
		M9RZ90S4LG(A)	100V ✪	**M9RZ90SK4LG(A)**	100V ✪ PS E
		M9RZ90S4DG(A)	110/115V ✪	**M9RZ90SK4DG(A)**	110/115V ✪
		M9RZ90S4YG(A)	200V ✪	**M9RZ90SK4YG(A)**	200V ✪ PS E
		M9RZ90S4GG(A)	220/230V ✪	**M9RZ90SK4GG(A)**	220/230V ✪

* The specifications and wire connections of the round shaft motor are the same as those of the pinion shaft motor.
Dimensional outline drawing → Page B-123.
* 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.

Reversible motor (leadwire)

42 mm sq. 1 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min⁻¹)	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)	Capacitor (μF) (rated voltage)
42 mm sq.	M4RA1G4L	4	1	100	50	30	11	0.12	1125	0.0083 (0.085)	0.12	0.016 (0.16)	1.5 (200V)
					60		12	0.12	1550	0.0062 (0.063)	0.12	0.016 (0.16)	

• 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-123.

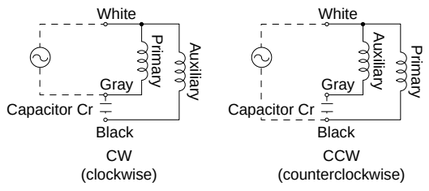
• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

Unit of permissible torque: upper **(mN·m)** / lower **(gf·cm)**

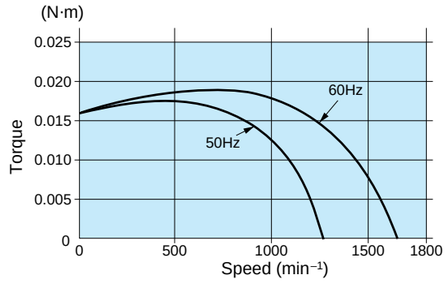
Reduction ratio			3	3.6	5	6	7.5	9	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180
Speed (min⁻¹)		50Hz	500	416.7	300	250	200	166.7	120	100	83.3	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3
		60Hz	600	500	360	300	240	200	144	120	100	72	60	50	36	30	24	20	18	15	12	10
Applicable gear head	M4GA3F to M4GA180F (metal+ball bearing)	50Hz	23 (235)	27 (275)	37 (377)	45 (459)	56 (571)	67 (683)	84 (857)	98 (1000)	118 (1204)	147 (1499)	176 (1795)	216 (2203)	303 (3091)	363 (3703)	411 (4192)	490 (4998)				
		60Hz	19 (194)	23 (235)	31 (316)	37 (377)	47 (479)	56 (571)	77 (785)	84 (857)	98 (1000)	137 (1397)	147 (1499)	176 (1795)	245 (2499)	303 (3091)	303 (3091)	411 (4192)	490 (4998)			
Rotational direction			Same as motor rotational direction						Reverse to motor rotational direction			Same as motor rotational direction					Reverse to motor rotational direction					

Connection diagram



Speed-torque characteristics

M4RA1G4L

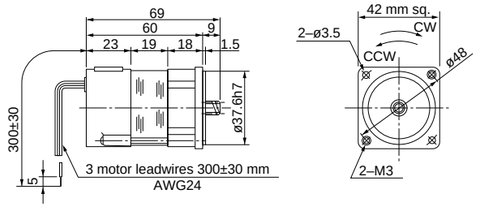


Motor (dimensions)

Scale: 1/3, Unit: mm

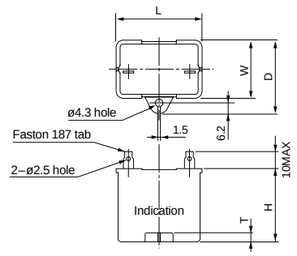
M4RA1G4L 4P 1 W 100 V

Mass	Spur gear	Module	Number of teeth
0.3 kg		0.4	10



Capacitor (dimensions) [attachment]

Unit: mm



• Capacitor dimension list (mm)

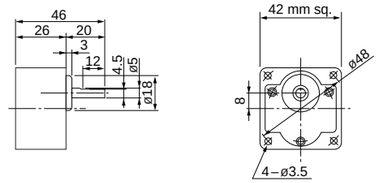
Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M4RA1G4L	M0PC1.5M20	39.5	16	26.5	30.5	4	M0PC3917

Gear head (dimensions)

Scale: 1/3, Unit: mm

M4GA□F (ball + metal bearing) Mass 0.2 kg: Output shaft D cut

* In the case of 42 mm sq., a ball bearing is used for the output shaft only.



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

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

Reversible motor (leadwire)

60 mm sq. 4 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min⁻¹)	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)	Capacitor (μF) (rated voltage)
60 mm sq.	M6RX4G4L	4	4	100	50	30	18	0.19	1200	0.030 (0.31)	0.23	0.039 (0.40)	3.0 (200V)
					60		19	0.20	1550	0.023 (0.24)	0.24	0.040 (0.41)	

• 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-123.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

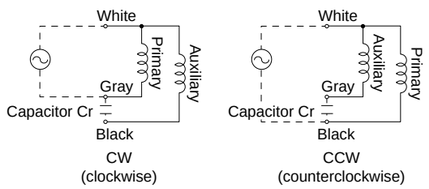
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio			3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180
Speed (min⁻¹)		50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3
		60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10
Applicable gear head	MX6G3BA to MX6G180B (ball bearing)	50Hz	0.059 (0.60)	0.071 (0.72)	0.11 (1.1)	0.13 (1.3)	0.16 (1.6)	0.19 (1.9)	0.23 (2.3)	0.27 (2.8)	0.32 (3.3)	0.39 (4.0)	0.44 (4.5)	0.53 (5.4)	0.64 (6.5)	0.76 (7.8)	0.98 (9.99)	1.18 (12)	1.47 (15)	1.76 (18)	2.06 (21)	2.45 (25)	2.45 (25)	
	MX6G3MA to MX6G180M (metal bearing)	60Hz	0.049 (0.49)	0.059 (0.60)	0.090 (0.91)	0.11 (1.1)	0.13 (1.3)	00.16 (1.6)	0.18 (1.8)	0.23 (2.3)	0.27 (2.8)	0.3 (3.1)	0.35 (3.6)	0.44 (4.5)	0.53 (5.4)	0.64 (6.5)	0.81 (8.3)	0.98 (9.99)	1.27 (13)	1.47 (15)	1.76 (18)	2.06 (21)	2.45 (25)		
Rotational direction			Same as motor rotational direction												Reverse to motor rotational direction									

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

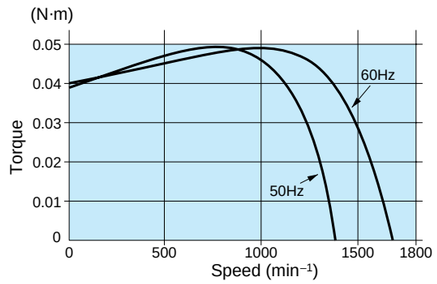
Applicable gear head			Reduction ratio		200	250	300	360	500	600	750	900	1000	1200	1500	1800
Bearing	Decimal gear head		Speed (min⁻¹)	50Hz	7.5	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
				60Hz	9	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
MX6G□BA (ball bearing) MX6G□B	MX6G10XB		Permissible torque	N·m (kgf·cm)	2.45 (25)	2.45 (25)	2.45 (25)	2.45 (25)	2.45 (25)	2.45 (25)	2.45 (25)	2.45 (25)	2.45 (25)	2.45 (25)	2.45 (25)	2.45 (25)
MX6G□MA (metal bearing) MX6G□M			Rotational direction		Same as motor rotational direction	Reverse to motor rotational direction										

Connection diagram



Speed-torque characteristics

M6RX4G4L

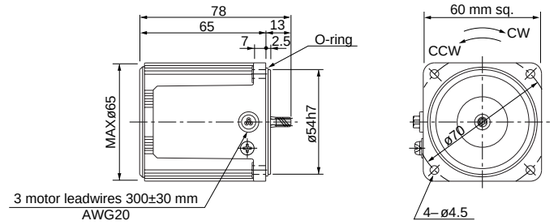


Motor (dimensions)

Scale: 1/3, Unit: mm

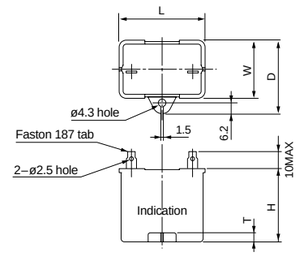
M6RX4G4L 4P 4 W 100 V

Mass	Helical gear	Module	Number of teeth
0.56 kg		0.5	6



Capacitor (dimensions) [attachment]

Unit: mm



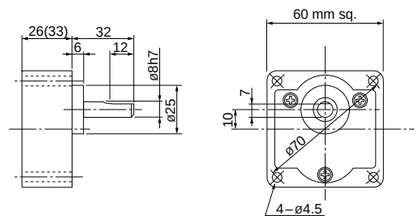
• Capacitor dimension list (mm)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M6RX4G4L	M0PC3M20	39.5	16	26.5	30.5	4	M0PC3917

Gear head (dimensions)

Scale: 1/3, Unit: mm

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

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

Reversible motor (leadwire)

60 mm sq. 6 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min⁻¹)	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)	Capacitor (μF) (rated voltage)
60 mm sq.	M6RX6G4L	4	6	100	50	30	22	0.23	1250	0.047 (0.47)	0.30	0.050 (0.51)	3.5 (200V)
					60		22	0.22	1575	0.037 (0.37)	0.31	0.052 (0.53)	
	M6RX6G4Y	4	6	200	50	30	22	0.11	1275	0.045 (0.46)	0.16	0.053 (0.54)	0.9 (400V)
					60		22	0.12	1600	0.036 (0.37)	0.16	0.053 (0.54)	

• 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-123.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

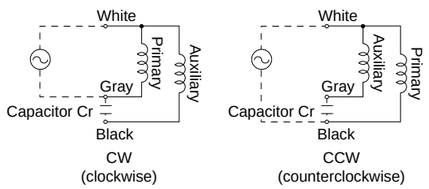
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio			3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180
Speed (min⁻¹)		50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3
		60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10
Applicable gear head	MX6G3BA to MX6G180B (ball bearing)	50Hz	0.098 (1.0)	0.12 (1.2)	0.16 (1.6)	0.19 (1.9)	0.25 (2.6)	0.29 (3.0)	0.33 (3.4)	0.40 (4.1)	0.49 (5.0)	0.59 (6.0)	0.66 (6.7)	0.79 (8.1)	0.95 (9.7)	1.18 (12)	1.57 (16)	1.86 (19)	2.25 (23)	2.45 (25)	2.45 (25)			
	MX6G3MA to MX6G180M (metal bearing)	60Hz	0.081 (0.83)	0.098 (1.0)	0.13 (1.3)	0.16 (1.6)	0.21 (2.1)	0.25 (2.6)	0.26 (2.7)	0.33 (3.4)	0.40 (4.1)	0.49 (5.0)	0.53 (5.4)	0.66 (6.7)	0.79 (8.1)	0.95 (9.7)	1.27 (13)	1.57 (16)	1.86 (19)	2.25 (23)	2.45 (25)			
Rotational direction			Same as motor rotational direction												Reverse to motor rotational direction									

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

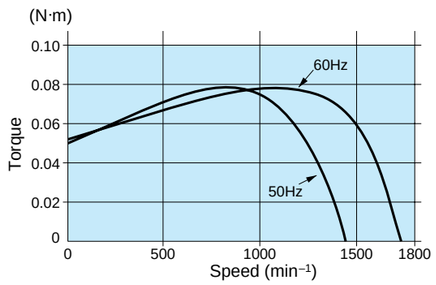
Applicable gear head		Reduction ratio		200	250	300	360	500	600	750	900	1000	1200	1500	1800
Bearing	Decimal gear head	Speed (min⁻¹)	50Hz	7.5	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
			60Hz	9	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
MX6G□BA (ball bearing) MX6G□B	MX6G10XB	Permissible torque	N·m (kgf·cm)	2.45 (25)	2.45 (25)	2.45 (25)	2.45 (25)	2.45 (25)	2.45 (25)	2.45 (25)	2.45 (25)	2.45 (25)	2.45 (25)	2.45 (25)	2.45 (25)
MX6G□MA (metal bearing) MX6G□M		Rotational direction		Same as motor rotational direction	Reverse to motor rotational direction										

Connection diagram



Speed-torque characteristics

M6RX6G4L

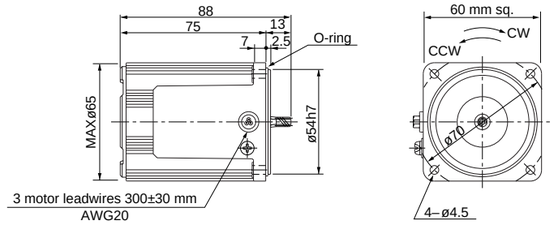


Motor (dimensions)

Scale: 1/3, Unit: mm

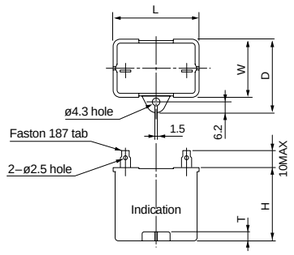
M6RX6G4L 4P 6 W 100 V
M6RX6G4Y 4P 6 W 200 V

Mass	Helical gear	Module	Number of teeth
0.67 kg		0.5	6



Capacitor (dimensions) [attachment]

Unit: mm



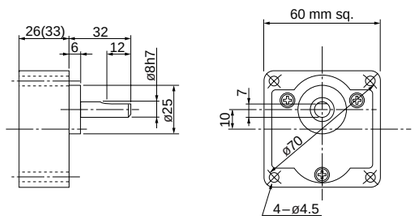
• Capacitor dimension list (mm)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M6RX6G4L	M0PC3.5M20	39.5	16	26.5	30.5	4	M0PC3917
M6RX6G4Y	M0PC0.9M40	39.5	16.2	27	27	4	M0PC3917

Gear head (dimensions)

Scale: 1/3, Unit: mm

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

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

Reversible motor (leadwire)

60 mm sq. 6 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min⁻¹)	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)	Capacitor (μF) (rated voltage)
60 mm sq.	M6RX6G4LG M6RX6G4LGA	4	6	100	50	30	24	0.24	1300	0.044 (0.45)	0.33	0.060 (0.61)	4 (250V)
					60		26	0.26	1600	0.036 (0.37)	0.35	0.060 (0.61)	
	M6RX6G4DG M6RX6G4DGA	4	6	110	60	30	24	0.22	1600	0.036 (0.37)	0.34	0.056 (0.57)	3 (250V)
				115	60		26	0.23	1625	0.035 (0.36)	0.35	0.060 (0.61)	
	M6RX6G4YG M6RX6G4YGA	4	6	200	50	30	24	0.12	1250	0.046 (0.47)	0.15	0.060 (0.61)	1 (450V)
					60		28	0.14	1550	0.037 (0.38)	0.16	0.060 (0.61)	
	M6RX6G4GG M6RX6G4GGA	4	6	220	50	30	24	0.11	1275	0.045 (0.46)	0.15	0.056 (0.57)	0.8 (450V)
					60		26	0.12	1575	0.036 (0.37)	0.15	0.056 (0.57)	
				230	50		26	0.12	1300	0.044 (0.45)	0.15	0.060 (0.61)	
					60		28	0.12	1600	0.036 (0.37)	0.16	0.060 (0.61)	

• 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-123.
• The models with a motor model number to which “A” is suffixed are not equipped with a capacitor cap.
The models with a motor model number to which “A” is suffixed are not sold or available in Japan.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

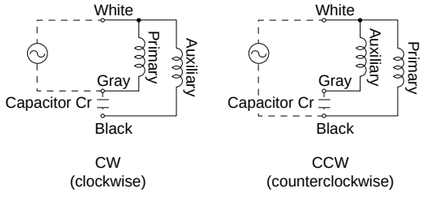
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio			3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180
Speed (min⁻¹)		50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3
		60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10
Applicable gear head	MX6G3BA to MX6G180B (ball bearing)	50Hz	0.098 (1.0)	0.12 (1.2)	0.16 (1.6)	0.19 (1.9)	0.25 (2.6)	0.29 (3.0)	0.33 (3.4)	0.40 (4.1)	0.49 (5.0)	0.59 (6.0)	0.66 (6.7)	0.79 (8.1)	0.95 (9.7)	1.18 (12)	1.57 (16)	1.86 (19)	2.25 (23)	2.45 (25)	2.45 (25)			
	MX6G3MA to MX6G180M (metal bearing)	60Hz	0.081 (0.83)	0.098 (1.0)	0.13 (1.3)	0.16 (1.6)	0.21 (2.1)	0.25 (2.6)	0.26 (2.7)	0.33 (3.4)	0.40 (4.1)	0.49 (5.0)	0.53 (5.4)	0.66 (6.7)	0.79 (8.1)	0.95 (9.7)	1.27 (13)	1.57 (16)	1.86 (19)	2.25 (23)	2.45 (25)			
Rotational direction			Same as motor rotational direction												Reverse to motor rotational direction									

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

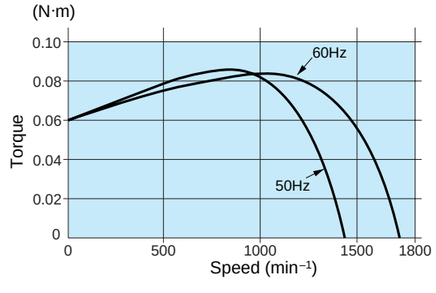
Applicable gear head		Reduction ratio		200	250	300	360	500	600	750	900	1000	1200	1500	1800
Bearing	Decimal gear head	Speed (min⁻¹)	50Hz	7.5	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
			60Hz	9	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
MX6G□BA (ball bearing) MX6G□B (ball bearing) MX6G□MA (metal bearing) MX6G□M (metal bearing)	MX6G10XB	Permissible torque	N·m	2.45	2.45	2.45	2.45	2.45	2.45	2.45	2.45	2.45	2.45	2.45	2.45
			(kgf·cm)	(25)	(25)	(25)	(25)	(25)	(25)	(25)	(25)	(25)	(25)	(25)	(25)
		Rotational direction		Same as motor rotational direction		Reverse to motor rotational direction									

Connection diagram



Speed-torque characteristics

M6RX6G4LG(A)



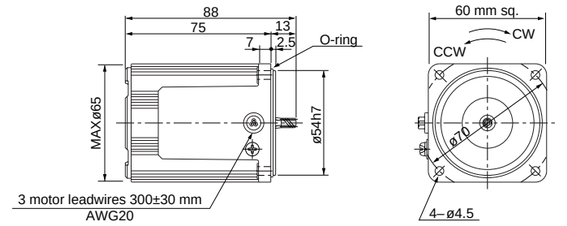
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

Scale: 1/3, Unit: mm

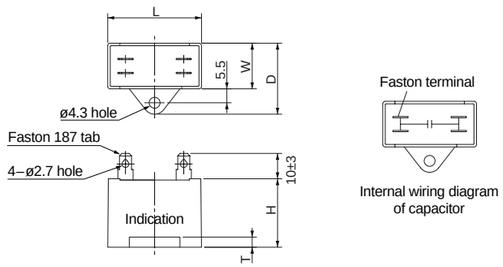
M6RX6G4LG(A) 4P 6 W 100 V
M6RX6G4DG(A) 4P 6 W 110 V / 115 V
M6RX6G4YG(A) 4P 6 W 200 V
M6RX6G4GG(A) 4P 6 W 220 V / 230 V

Mass	Helical	Module	Number of teeth
0.67 kg	gear	0.5	6



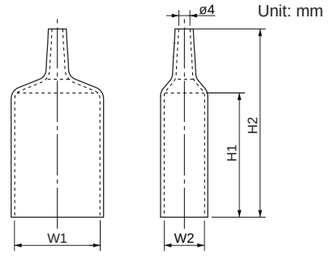
Capacitor (dimensions) [attachment]

Unit: mm



Capacitor cap (dimensions) [attachment]

Unit: mm



• Capacitor dimension list (mm)

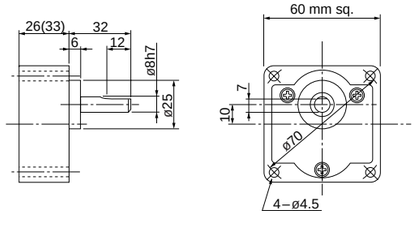
Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (attachment)	W1	W2	H1	H2
M6RX6G4LG(A)	M0PC4M25G	37	18	28	27	4	M0PC3718G	37	18	50	73
M6RX6G4DG(A)	M0PC3M25G	31	17	27	27	4	M0PC3117G	31	17	50	73
M6RX6G4YG(A)	M0PC1M45G	37	18	28	27	4	M0PC3718G	37	18	50	73
M6RX6G4GG(A)	M0PC0.8M45G	31	17	27	27	4	M0PC3117G	31	17	50	73

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

Gear head (dimensions)

Scale: 1/3, Unit: mm

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

Reversible motor (leadwire)

70 mm sq. 10 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min⁻¹)	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)	Capacitor (μF) (rated voltage)
70 mm sq.	M7RX10G4L	4	10	100	50	30	30	0.30	1150	0.084 (0.85)	0.41	0.061 (0.62)	4.5 (200V)
					60		30	0.30	1525	0.063 (0.64)	0.40	0.063 (0.64)	
	M7RX10G4Y	4	10	200	50	30	30	0.15	1200	0.082 (0.83)	0.20	0.061 (0.62)	1.2 (400V)
					60		32	0.16	1550	0.063 (0.64)	0.21	0.063 (0.64)	

• 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-123.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

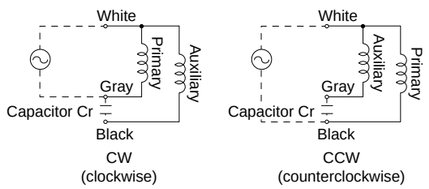
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio			3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180
Speed (min⁻¹)		50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3
		60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10
Applicable gear head	MX7G3BA to MX7G180B (ball bearing)	50Hz	0.16 (1.6)	0.19 (19)	0.25 (2.0)	0.30 (3.1)	0.38 (3.9)	0.46 (4.7)	0.51 (5.2)	0.64 (6.5)	0.77 (7.9)	0.93 (9.5)	0.98 (10)	1.27 (13)	1.47 (15)	1.76 (18)	2.55 (26)	3.04 (31)	3.63 (37)	4.31 (44)	4.80 (49)	4.90 (50)	4.90 (50)	
	MX7G3MA to MX7G180M (metal bearing)	60Hz	0.13 (1.3)	0.16 (1.6)	0.22 (2.2)	0.25 (2.6)	0.32 (3.3)	0.38 (3.9)	0.44 (4.5)	0.53 (5.4)	0.64 (7.9)	0.77 (7.9)	0.85 (8.7)	1.08 (11)	1.27 (13)	1.47 (15)	2.16 (22)	2.55 (26)	3.04 (31)	3.63 (37)	4.03 (41)	4.80 (49)	4.90 (50)	
Rotational direction			Same as motor rotational direction												Reverse to motor rotational direction									

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

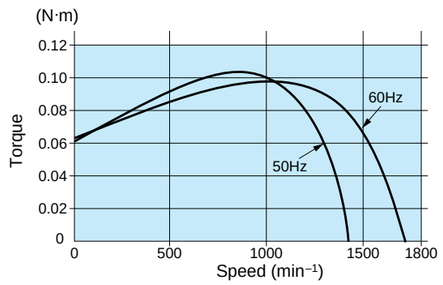
Applicable gear head			Reduction ratio	200	250	300	360	500	600	750	900	1000	1200	1500	1800
Bearing	Decimal gear head	Speed (min⁻¹)	50Hz	7.5	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
			60Hz	9	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
MX7G□BA (ball bearing) MX7G□B	MX7G10XB	Permissible torque	N·m	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90
MX7G□MA (metal bearing) MX7G□M			(kgf·cm)	(50)	(50)	(50)	(50)	(50)	(50)	(50)	(50)	(50)	(50)	(50)	(50)
		Rotational direction		Same as motor rotational direction	Reverse to motor rotational direction										

Connection diagram



Speed-torque characteristics

M7RX10G4L



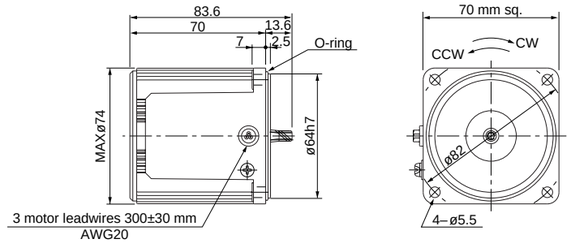
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

Scale: 1/3, Unit: mm

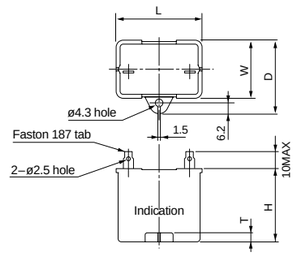
M7RX10G4L 4P 10 W 100 V
M7RX10G4Y 4P 10 W 200 V

Mass	Helical gear	Module	Number of teeth
0.84 kg		0.5	7



Capacitor (dimensions) [attachment]

Unit: mm



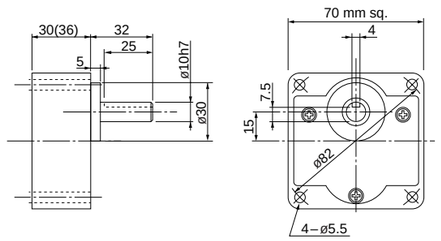
• Capacitor dimension list (mm)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M7RX10G4L	M0PC4.5M20	39.5	16	26.5	30.5	4	M0PC3917
M7RX10G4Y	M0PC1.2M40	39.5	18.3	29	29	4	M0PC3922

Gear head (dimensions)

Scale: 1/3, Unit: mm

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

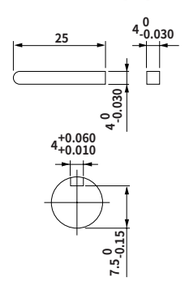


* Figures in ( ) represent the dimensions of MX7G□B (M) (1/30 or larger reduction ratio).
(The model number of the gear head with a reduction ratio of 1/25 or smaller is MX7G□BA (MA).)

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

Key and keyway (dimensions) [attachment]

MX7G□BA(B)
MX7G□MA(M)



Reversible motor (leadwire)

70 mm sq. 15 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min⁻¹)	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)	Capacitor (μF) (rated voltage)
70 mm sq.	M7RX15G4L	4	15	100	50	30	36	0.37	1275	0.110 (1.10)	0.59	0.085 (0.86)	6 (200V)
					60		37	0.38	1575	0.088 (0.90)	0.57	0.085 (0.86)	
	M7RX15G4Y	4	15	200	50	30	36	0.19	1275	0.110 (1.10)	0.30	0.078 (0.80)	1.5 (400V)
					60		37	0.19	1575	0.088 (0.90)	0.29	0.078 (0.80)	

• 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-123.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

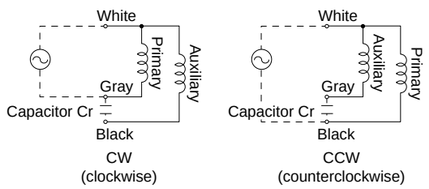
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio			3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180
Speed (min⁻¹)		50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3
		60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10
Applicable gear head	MX7G3BA to MX7G180B (ball bearing)	50Hz	0.24 (2.5)	0.28 (2.9)	0.39 (4.0)	0.47 (4.8)	0.59 (6.0)	0.71 (7.2)	0.80 (8.2)	0.98 (10)	1.18 (12)	1.37 (14)	1.57 (16)	1.86 (19)	2.25 (23)	2.74 (28)	3.82 (39)	4.61 (47)	4.90 (50)	4.90 (50)					
	MX7G3MA to MX7G180M (metal bearing)	60Hz	0.20 (2.0)	0.24 (2.5)	0.32 (3.3)	0.39 (4.0)	0.49 (5.0)	0.59 (6.0)	0.66 (6.7)	0.81 (8.3)	0.98 (10)	1.18 (12)	1.27 (13)	1.57 (16)	1.86 (19)	2.25 (23)	3.23 (33)	3.82 (39)	4.80 (49)	4.90 (50)					
Rotational direction			Same as motor rotational direction												Reverse to motor rotational direction									

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

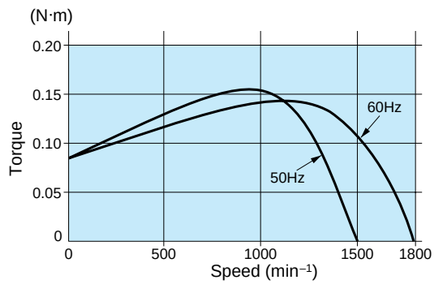
Applicable gear head: Bearing	Decimal gear head	Reduction ratio		200	250	300	360	500	600	750	900	1000	1200	1500	1800
MX7G□BA (ball bearing) / MX7G□B	MX7G10XB	Speed (min⁻¹)	50Hz	7.5	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
			60Hz	9	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
MX7G□MA (metal bearing) / MX7G□M		Permissible torque	N·m (kgf·cm)	4.90 (50)	4.90 (50)	4.90 (50)	4.90 (50)	4.90 (50)	4.90 (50)	4.90 (50)	4.90 (50)	4.90 (50)	4.90 (50)	4.90 (50)	4.90 (50)
		Rotational direction		Same as motor rotational direction	Reverse to motor rotational direction										

Connection diagram



Speed-torque characteristics

M7RX15G4L



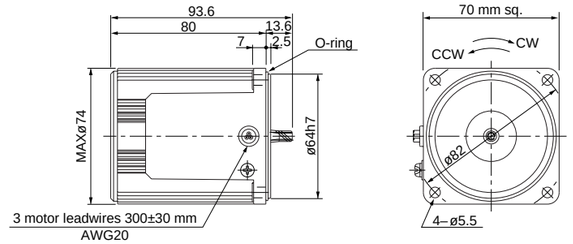
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

Scale: 1/3, Unit: mm

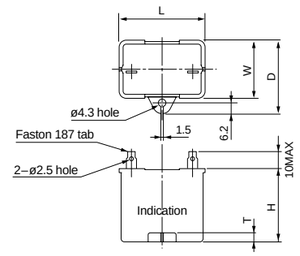
M7RX15G4L 4P 15 W 100 V
M7RX15G4Y 4P 15 W 200 V

Mass	Helical	Module	Number of teeth
1.1 kg	gear	0.5	7



Capacitor (dimensions) [attachment]

Unit: mm



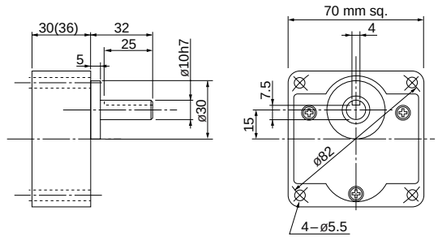
• Capacitor dimension list (mm)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M7RX15G4L	M0PC6M20	39.5	17.5	28	30.5	4	M0PC3917
M7RX15G4Y	M0PC1.5M40	39.5	22	32.5	32.5	4	M0PC3922

Gear head (dimensions)

Scale: 1/3, Unit: mm

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

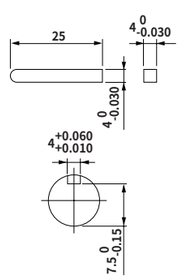


* Figures in ( ) represent the dimensions of MX7G□B (M) (1/30 or larger reduction ratio).
(The model number of the gear head with a reduction ratio of 1/25 or smaller is MX7G□BA (MA).)

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

Key and keyway (dimensions) [attachment]

MX7G□BA(B)
MX7G□MA(M)



Reversible motor (leadwire)

70 mm sq. 15 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min⁻¹)	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)	Capacitor (μF) (rated voltage)
70 mm sq.	M7RX15G4LG M7RX15G4LGA	4	15	100	50	30	39	0.39	1250	0.12 (1.2)	0.58	0.10 (1.0)	6.5 (250V)
					60		43	0.44	1575	0.092 (0.93)	0.58	0.10 (1.0)	
	M7RX15G4DG M7RX15G4DGA	4	15	110	60	30	42	0.38	1600	0.090 (0.91)	0.60	0.10 (1.0)	5.5 (250V)
				115	60		44	0.38	1625	0.088 (0.90)	0.63	0.11 (1.1)	
	M7RX15G4YG M7RX15G4YGA	4	15	200	50	30	40	0.20	1225	0.12 (1.2)	0.27	0.10 (1.0)	1.7 (450V)
					60		50	0.25	1525	0.094 (0.96)	0.28	0.10 (1.0)	
	M7RX15G4GG M7RX15G4GGA	4	15	220	50	30	39	0.18	1225	0.12 (1.2)	0.27	0.086 (0.88)	1.3 (450V)
					60		41	0.19	1550	0.092 (0.94)	0.26	0.086 (0.88)	
				230	50		40	0.18	1275	0.11 (1.1)	0.28	0.094 (0.96)	
					60		43	0.19	1575	0.091 (0.93)	0.28	0.094 (0.96)	

• 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-123.
• The models with a motor model number to which “A” is suffixed are not equipped with a capacitor cap.
The models with a motor model number to which “A” is suffixed are not sold or available in Japan.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

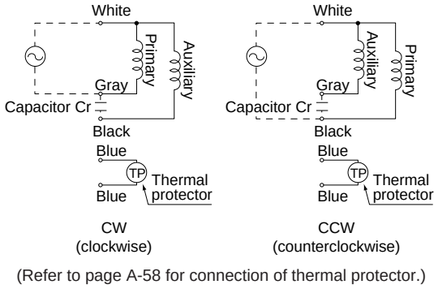
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180
Speed (min⁻¹)	50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3
	60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10
Applicable gear head: MX7G3BA to MX7G180B (ball bearing)	50Hz	0.24 (2.5)	0.28 (2.9)	0.39 (4.0)	0.47 (4.8)	0.59 (6.0)	0.71 (7.2)	0.80 (8.2)	0.98 (10)	1.18 (12)	1.37 (14)	1.57 (16)	1.86 (19)	2.25 (23)	2.74 (28)	3.82 (39)	4.61 (47)	4.90 (50)	4.90 (50)				
Applicable gear head: MX7G3MA to MX7G180M (metal bearing)	60Hz	0.20 (2.0)	0.24 (2.5)	0.32 (3.3)	0.39 (4.0)	0.49 (5.0)	0.59 (6.0)	0.66 (6.7)	0.81 (8.3)	0.98 (10)	1.18 (12)	1.27 (13)	1.57 (16)	1.86 (19)	2.25 (23)	3.23 (33)	3.82 (39)	4.80 (49)	4.90 (50)				
Rotational direction		Same as motor rotational direction												Reverse to motor rotational direction									

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

Applicable gear head: Bearing	Decimal gear head	Reduction ratio		200	250	300	360	500	600	750	900	1000	1200	1500	1800
MX7G□BA (ball bearing) MX7G□B (ball bearing) MX7G□MA (metal bearing) MX7G□M (metal bearing)	MX7G10XB	Speed (min⁻¹)	50Hz	7.5	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
			60Hz	9	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
		Permissible torque	N·m	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90
			(kgf·cm)	(50)	(50)	(50)	(50)	(50)	(50)	(50)	(50)	(50)	(50)	(50)	(50)
		Rotational direction		Same as motor rotational direction		Reverse to motor rotational direction									

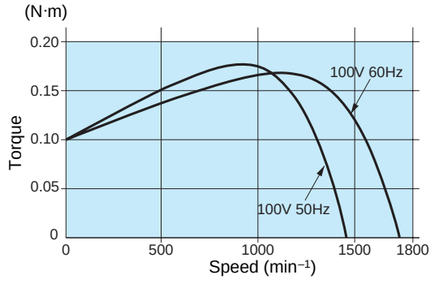
Connection diagram



(Refer to page A-58 for connection of thermal protector.)

Speed-torque characteristics

M7RX15G4LG(A)



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

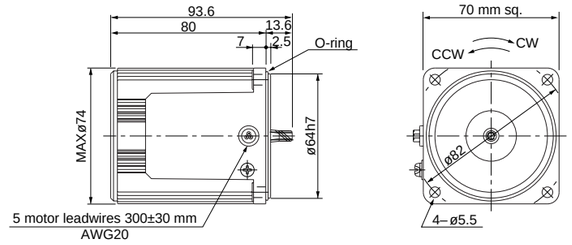
Features B-64 | System configuration B-65 | Coding system B-65 | Model list B-68

Motor (dimensions)

Scale: 1/3, Unit: mm

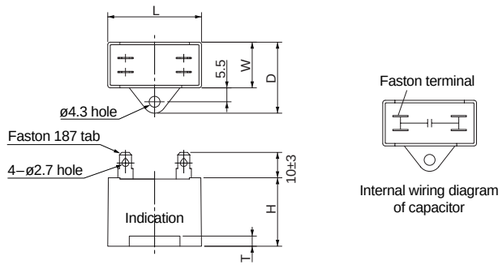
M7RX15G4LG(A) 4P 15 W 100 V
M7RX15G4DG(A) 4P 15 W 110 V / 115 V
M7RX15G4YG(A) 4P 15 W 200 V
M7RX15G4GG(A) 4P 15 W 220 V / 230 V

Mass	Helical	Module	Number of teeth
1.1 kg	gear	0.5	7



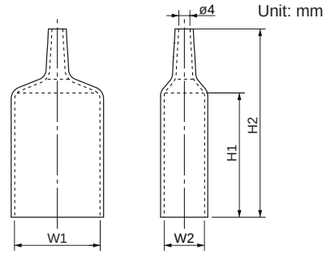
Capacitor (dimensions) [attachment]

Unit: mm



Capacitor cap (dimensions) [attachment]

Unit: mm



• Capacitor dimension list (mm)

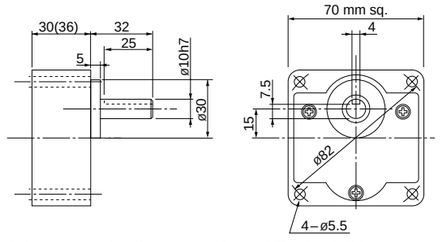
Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (attachment)	W1	W2	H1	H2
M7RX15G4LG(A)	M0PC6.5M25G	48	19	29	29	4	M0PC4819G	48	19	55	78
M7RX15G4DG(A)	M0PC5.5M25G	38	21	31	31	4	M0PC3821G	38	21	55	78
M7RX15G4YG(A)	M0PC1.7M45G	38	21	31	31	4	M0PC3821G	38	21	55	78
M7RX15G4GG(A)	M0PC1.3M45G	38	19	29	29	4	M0PC3819G	38	19	50	73

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

Gear head (dimensions)

Scale: 1/3, Unit: mm

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

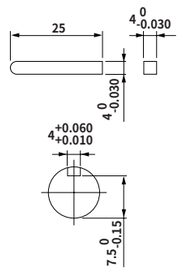


* Figures in ( ) represent the dimensions of MX7G□B (M) (1/30 or larger reduction ratio).
(The model number of the gear head with a reduction ratio of 1/25 or smaller is MX7G□BA (MA).)

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

Key and keyway (dimensions) [attachment]

MX7G□BA(B)
MX7G□MA(M)



Reversible motor (leadwire)

80 mm sq. 20 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min⁻¹)	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)	Capacitor (μF) (rated voltage)
80 mm sq.	M8RX20G4L	4	20	100	50	30	51	0.52	1100	0.17 (1.7)	0.73	0.12 (1.2)	7 (200V)
					60		48	0.47	1475	0.13 (1.3)	0.71	0.12 (1.2)	
	M8RX20G4Y	4	20	200	50	30	52	0.26	1100	0.17 (1.7)	0.37	0.13 (1.3)	1.8 (400V)
					60		48	0.24	1475	0.13 (1.3)	0.36	0.13 (1.3)	

• The specifications and wire connections of the round shaft motor are the same as those of the pinion shaft type. For the dimensional outline drawing, refer to page B-123.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

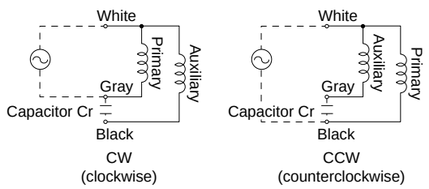
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio			3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180
Speed (min⁻¹)		50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3
		60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10
Applicable gear head	MX8G3B to MX8G180B (ball bearing)	50Hz	0.34 (3.5)	0.41 (4.2)	0.57 (5.8)	0.69 (7.0)	0.85 (8.7)	0.98 (10)	1.18 (12)	1.37 (14)	1.67 (17)	1.96 (20)	2.25 (23)	2.74 (28)	3.33 (34)	4.02 (41)	5.49 (56)	6.57 (67)	7.84 (80)	7.84 (80)				
	MX8G3M to MX8G180M (metal bearing)	60Hz	0.28 (2.9)	0.34 (3.5)	0.47 (4.8)	0.57 (5.8)	0.72 (7.3)	0.85 (8.7)	0.95 (9.7)	1.18 (12)	1.37 (14)	1.67 (17)	1.86 (19)	2.25 (23)	2.74 (28)	3.33 (34	4.61 (47)	5.49 (56)	6.86 (70)	7.84 (80)				
Rotational direction			Same as motor rotational direction												Reverse to motor rotational direction									

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

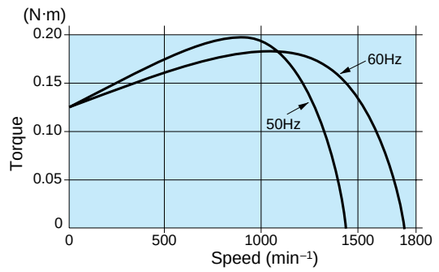
Applicable gear head		Reduction ratio		200	250	300	360	500	600	750	900	1000	1200	1500	1800
Bearing	Decimal gear head	Speed (min⁻¹)	50Hz	7.5	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
			60Hz	9	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
MX8G□B (ball bearing) MX8G□M (metal bearing)	MX8G10XB	Permissible torque	N·m	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84
			(kgf·cm)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)
		Rotational direction		Same as motor rotational direction	Reverse to motor rotational direction										

Connection diagram



Speed-torque characteristics

M8RX20G4L

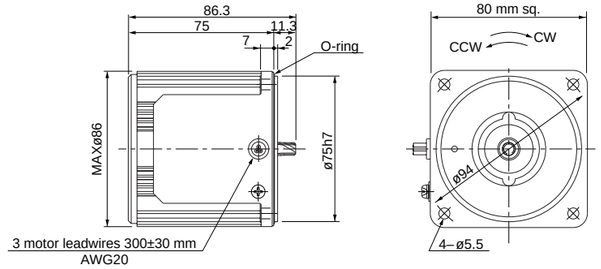


Motor (dimensions)

Scale: 1/3, Unit: mm

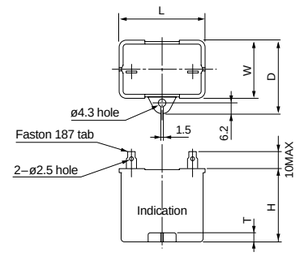
M8RX20G4L 4P 20 W 100 V
M8RX20G4Y 4P 20 W 200 V

Mass	Helical	Module	Number of teeth
1.2 kg	gear	0.5	9



Capacitor (dimensions) [attachment]

Unit: mm



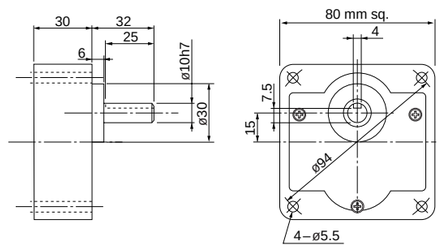
• Capacitor dimension list (mm)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M8RX20G4L	M0PC7M20	39.5	22	32.5	30.5	4	M0PC3922
M8RX20G4Y	M0PC1.8M40	39.5	22	32.5	32.5	4	M0PC3922

Gear head (dimensions)

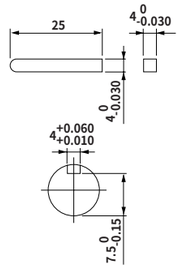
Scale: 1/3, Unit: mm

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



Key and keyway (dimensions) [attachment]

MX8G□B(M)



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

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

Reversible motor (leadwire)

80 mm sq. 25 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min⁻¹)	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)	Capacitor (μF) (rated voltage)
80 mm sq.	M8RX25G4L	4	25	100	50	30	58	0.59	1275	0.19 (1.9)	1.0	0.17 (1.7)	9.5 (200V)
					60		57	0.59	1575	0.16 (1.6)	1.0	0.17 (1.7)	
	M8RX25G4Y	4	25	200	50	30	57	0.29	1275	0.19 (1.9)	0.52	0.19 (2.0)	2.4 (400V)
					60		57	0.29	1575	0.16 (1.6)	0.50	0.19 (2.0)	

• 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-123.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

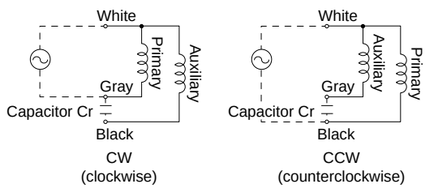
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180
Speed (min⁻¹)	50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3
	60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10
Applicable gear head: MX8G3B to MX8G180B (ball bearing)	50Hz	0.39 (4.0)	0.47 (4.8)	0.66 (6.7)	0.78 (8.0)	0.98 (10)	1.18 (12)	1.27 (13)	1.57 (16)	1.96 (20)	2.35 (24)	2.55 (26)	3.14 (32)	3.82 (39)	4.61 (47)	6.37 (65)	7.64 (78)	7.84 (80)					
Applicable gear head: MX8G3M to MX8G180M (metal bearing)	60Hz	0.32 (3.3)	0.39 (4.0)	0.55 (5.6)	0.66 (6.7)	0.81 (8.3)	0.98 (10)	1.08 (11)	1.27 (13)	1.57 (16)	1.96 (20)	2.06 (21)	2.65 (27)	3.14 (32)	3.82 (39)	5.29 (54)	6.37 (65)	7.84 (80)					
Rotational direction		Same as motor rotational direction												Reverse to motor rotational direction									

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

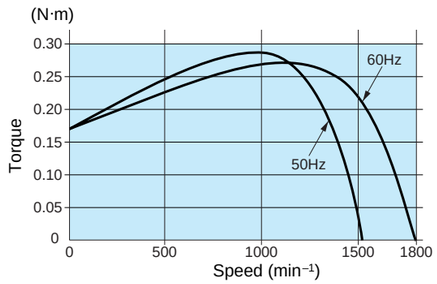
Applicable gear head: Bearing	Decimal gear head	Reduction ratio		200	250	300	360	500	600	750	900	1000	1200	1500	1800
		Speed (min⁻¹)	50Hz	7.5	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
			60Hz	9	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
MX8G□B (ball bearing) MX8G□M (metal bearing)	MX8G10XB	Permissible torque	N·m	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84
			(kgf·cm)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)
		Rotational direction		Same as motor rotational direction	Reverse to motor rotational direction										

Connection diagram



Speed-torque characteristics

M8RX25G4L



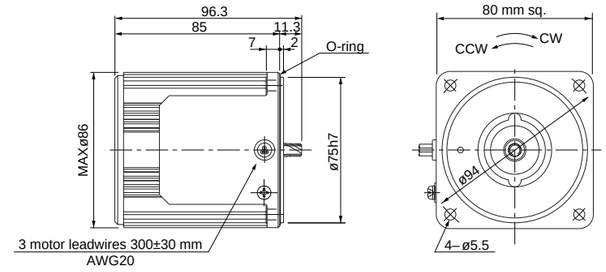
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

Scale: 1/3, Unit: mm

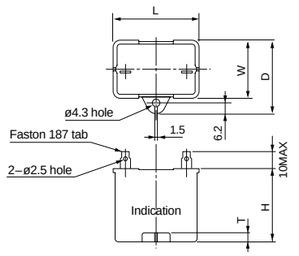
M8RX25G4L 4P 25 W 100 V
M8RX25G4Y 4P 25 W 200 V

Mass	Helical	Module	Number of teeth
1.5 kg	gear	0.5	9



Capacitor (dimensions) [attachment]

Unit: mm



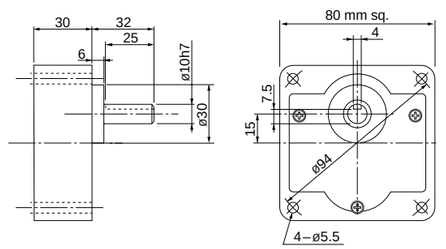
• Capacitor dimension list (mm)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M8RX25G4L	M0PC9.5M20	39.5	22	32.5	30.5	4	M0PC3922
M8RX25G4Y	M0PC2.4M40	49.7	24	34.5	34.5	4	M0PC5026

Gear head (dimensions)

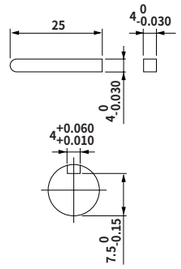
Scale: 1/3, Unit: mm

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



Key and keyway (dimensions) [attachment]

MX8G□B(M)



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

Reversible motor (leadwire)

80 mm sq. 25 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min^{-1})	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)	コンデンサ 容量(μF) (定格電圧) Capacitor (rated voltage)
80 mm sq.	M8RX25G4LG M8RX25G4LGA	4	25	100	50	30	59	0.60	1250	0.19 (1.9)	1.1	0.19 (1.9)	10 (250V)
					60		61	0.61	1550	0.15 (1.6)	1.1	0.19 (1.9)	
	M8RX25G4DG M8RX25G4DGA	4	25	110	60	30	58	0.53	1575	0.15 (1.5)	1.1	0.17 (1.7)	8 (250V)
				115	60		61	0.53	1600	0.15 (1.5)	1.2	0.19 (1.9)	
	M8RX25G4YG M8RX25G4YGA	4	25	200	50	30	59	0.30	1200	0.20 (2.0)	0.45	0.19 (1.9)	2.5 (450V)
					60		66	0.34	1525	0.16 (1.6)	0.46	0.19 (1.9)	
	M8RX25G4GG M8RX25G4GGA	4	25	220	50	30	60	0.28	1225	0.19 (2.0)	0.47	0.18 (1.8)	2 (450V)
					60		60	0.27	1550	0.15 (1.6)	0.46	0.18 (1.8)	
				230	50		62	0.28	1275	0.19 (1.9)	0.49	0.19 (1.9)	
					60		62	0.27	1575	0.15 (1.5)	0.48	0.19 (1.9)	

• 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-123.
• The models with a motor model number to which “A” is suffixed are not equipped with a capacitor cap.
The models with a motor model number to which “A” is suffixed are not sold or available in Japan.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

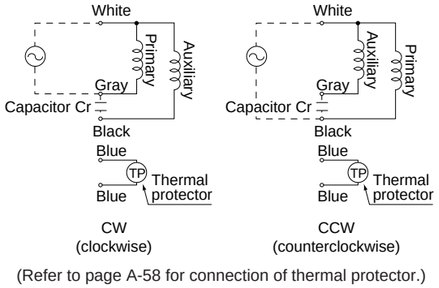
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180
Speed (min^{-1})	50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3
	60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10
Applicable gear head: MX8G3B to MX8G180B (ball bearing)	50Hz	0.39 (4.0)	0.47 (4.8)	0.66 (6.7)	0.78 (8.0)	0.98 (10)	1.18 (12)	1.27 (13)	1.57 (16)	1.96 (20)	2.35 (24)	2.55 (26)	3.14 (32)	3.82 (39)	4.61 (47)	6.37 (65)	7.64 (78)	7.84 (80)					
Applicable gear head: MX8G3M to MX8G180M (metal bearing)	60Hz	0.32 (3.3)	0.39 (4.0)	0.55 (5.6)	0.66 (6.7)	0.81 (8.3)	0.98 (10)	1.08 (11)	1.27 (13)	1.57 (16)	1.96 (20)	2.06 (21)	2.65 (27)	3.14 (32)	3.82 (39)	5.29 (54)	6.37 (65)	7.84 (80)					
Rotational direction		Same as motor rotational direction												Reverse to motor rotational direction									

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

Applicable gear head: Bearing	Decimal gear head	Reduction ratio		200	250	300	360	500	600	750	900	1000	1200	1500	1800
		Speed (min^{-1})	50Hz	7.5	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
			60Hz	9	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
MX8G□B (ball bearing) MX8G□M (metal bearing)	MX8G10XB	Permissible torque	N·m	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84
			(kgf·cm)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)
		Rotational direction		Same as motor rotational direction		Reverse to motor rotational direction									

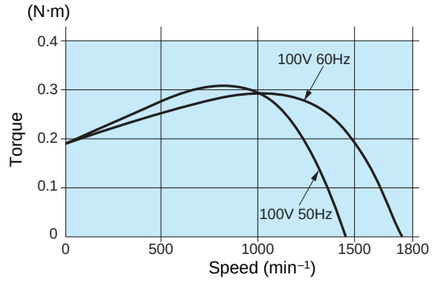
Connection diagram



(Refer to page A-58 for connection of thermal protector.)

Speed-torque characteristics

M8RX25G4LG(A)



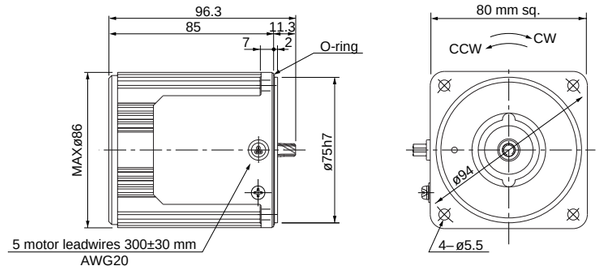
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

Scale: 1/3, Unit: mm

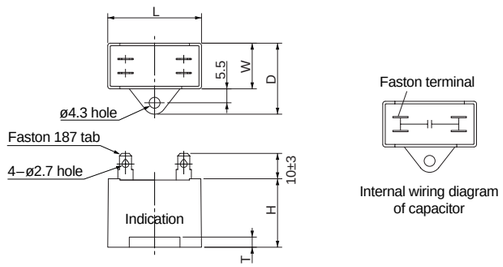
M8RX25G4LG(A)	4P	25 W	100 V
M8RX25G4DG(A)	4P	25 W	110 V / 115 V
M8RX25G4YG(A)	4P	25 W	200 V
M8RX25G4GG(A)	4P	25 W	220 V / 230 V

Mass 1.5 kg | Helical gear | Module 0.5 | Number of teeth 9



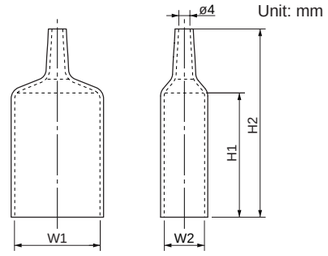
Capacitor (dimensions) [attachment]

Unit: mm



Capacitor cap (dimensions) [attachment]

Unit: mm



• Capacitor dimension list (mm)

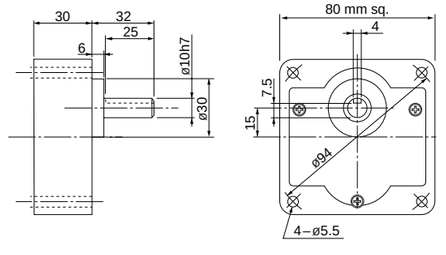
Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (attachment)	W1	W2	H1	H2
M8RX25G4LG(A)	M0PC10M25G	58	21	31	31	4	M0PC5821G	58	21	55	78
M8RX25G4DG(A)	M0PC8M25G	48	21	31	31	4	M0PC4821G	48	21	55	78
M8RX25G4YG(A)	M0PC2.5M45G	48	21	31	31	4	M0PC4821G	48	21	55	78
M8RX25G4GG(A)	M0PC2M45G	48	19	29	29	4	M0PC4819G	48	19	55	78

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

Gear head (dimensions)

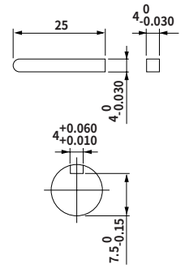
Scale: 1/3, Unit: mm

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



Key and keyway (dimensions) [attachment]

MX8G□B(M)



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

Reversible motor (leadwire)

90 mm sq. 40 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min^{-1})	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)	Capacitor (μF) (rated voltage)
90 mm sq.	M9RX40G4L	4	40	100	50	30	94	0.96	1200	0.32 (3.3)	1.6	0.27 (2.8)	15 (210V)
					60		93	0.93	1525	0.25 (2.6)	1.5	0.26 (2.7)	
	M9RX40G4Y	4	40	200	50	30	92	0.48	1200	0.32 (3.3)	0.81	0.28 (2.9)	3.8 (400V)
					60		93	0.46	1525	0.25 (2.6)	0.77	0.29 (3.0)	

• 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-123.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

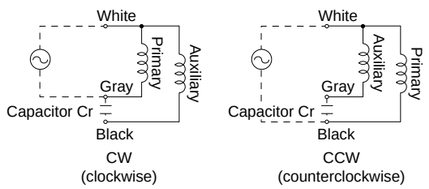
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio			3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180
Speed (min^{-1})		50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3
		60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10
Applicable gear head	MX9G3B to MX9G180B (ball bearing)	50Hz	0.66 (6.7)	0.78 (8.0)	1.08 (11)	1.27 (13)	1.57 (16)	1.86 (19)	2.25 (23)	2.74 (28)	3.23 (33)	3.92 (40)	4.41 (45)	5.29 (54)	6.37 (65)	7.94 (81)	9.80 (100)	9.80 (100)						
	MX9G3M to MX9G180M (metal bearing)	60Hz	0.55 (5.6)	0.66 (6.7)	0.90 (9.2)	1.08 (11)	1.27 (13)	1.57 (16)	1.76 (18)	2.25 (23)	2.74 (28)	3.23 (33)	3.53 (36)	4.41 (45)	5.29 (54)	6.37 (65)	8.82 (90)	9.80 (100)						
Rotational direction			Same as motor rotational direction												Reverse to motor rotational direction									

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

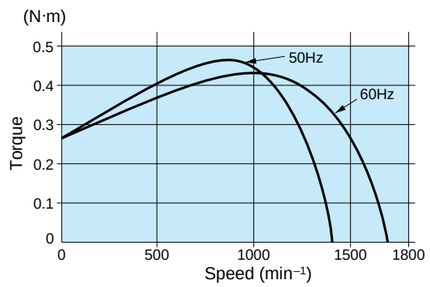
Applicable gear head		Reduction ratio		200	250	300	360	500	600	750	900	1000	1200	1500	1800
Bearing	Decimal gear head	Speed (min^{-1})	50Hz	7.5	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
			60Hz	9	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
MX9G□B (ball bearing) MX9G□M (metal bearing)	MX9G10XB	Permissible torque	N·m (kgf·cm)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)
		Rotational direction		Same as motor rotational direction	Reverse to motor rotational direction										

Connection diagram



Speed-torque characteristics

M9RX40G4L



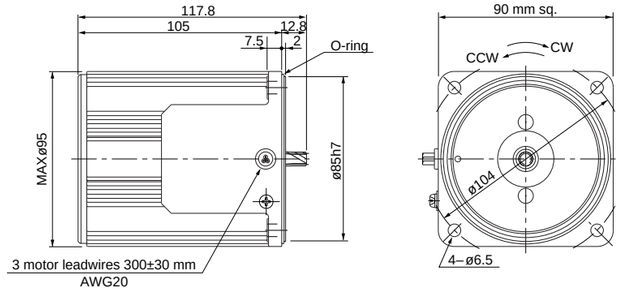
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

Scale: 1/3, Unit: mm

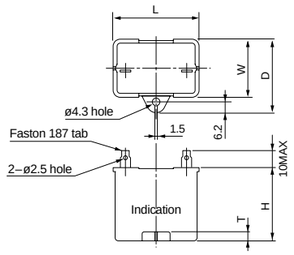
M9RX40G4L 4P 40 W 100 V
M9RX40G4Y 4P 40 W 200 V

Mass	Helical	Module	Number of teeth
2.4 kg	gear	0.55	9



Capacitor (dimensions) [attachment]

Unit: mm



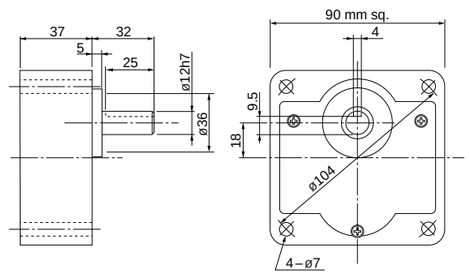
• Capacitor dimension list (mm)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M9RX40G4L	M0PC15M21	39.5	26.7	37	41	4	M0PC3926
M9RX40G4Y	M0PC3.8M40	50	26.7	37.5	38	4	M0PC5026

Gear head (dimensions)

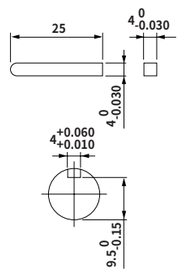
Scale: 1/3, Unit: mm

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



Key and keyway (dimensions) [attachment]

MX9G□B(M)



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

Reversible motor (leadwire)

cULus CE 90 mm sq. 40 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min⁻¹)	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)	Capacitor (μF) (rated voltage)
90 mm sq.	M9RX40G4LG M9RX40G4LGA	4	40	100	50	30	86	0.87	1275	0.30 (3.1)	1.7	0.30 (3.1)	16 (250V)
					60		93	0.95	1575	0.24 (2.5)	1.6	0.30 (3.1)	
	M9RX40G4DG M9RX40G4DGA	4	40	110	60	30	91	0.83	1550	0.25 (2.5)	1.7	0.25 (2.5)	12 (250V)
				115	60		94	0.82	1575	0.24 (2.5)	1.8	0.29 (3.0)	
	M9RX40G4YG M9RX40G4YGA	4	40	200	50	30	91	0.45	1200	0.32 (3.2)	0.67	0.30 (3.1)	4 (450V)
					60		109	0.57	1500	0.25 (2.6)	0.70	0.30 (3.1)	
	M9RX40G4GG M9RX40G4GGA	4	40	220	50	30	88	0.40	1250	0.31 (3.1)	0.71	0.30 (3.1)	3.5 (450V)
					60		104	0.49	1550	0.25 (2.5)	0.71	0.30 (3.1)	
				230	50		92	0.40	1300	0.29 (3.0)	0.74	0.33 (3.4)	
					60		110	0.50	1575	0.24 (2.5)	0.74	0.33 (3.4)	

• 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-123.
• The models with a motor model number to which “A” is suffixed are not equipped with a capacitor cap.
The models with a motor model number to which “A” is suffixed are not sold or available in Japan.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

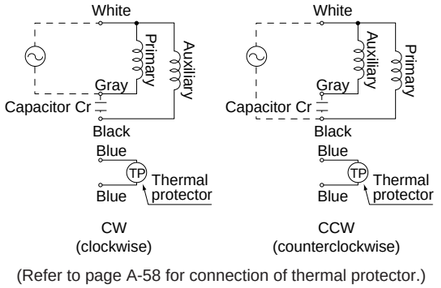
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180
Speed (min⁻¹)	50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3
	60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10
Applicable gear head: MX9G3B to MX9G180B (ball bearing)	50Hz	0.66 (6.7)	0.78 (8.0)	1.08 (11)	1.27 (13)	1.57 (16)	1.86 (19)	2.25 (23)	2.74 (28)	3.23 (33)	3.92 (40)	4.41 (45)	5.29 (54)	6.37 (65)	7.94 (81)	9.80 (100)	9.80 (100)						
Applicable gear head: MX9G3M to MX9G180M (metal bearing)	60Hz	0.55 (5.6)	0.66 (6.7)	0.90 (9.2)	1.08 (11)	1.27 (13)	1.57 (16)	1.76 (18)	2.25 (23)	2.74 (28)	3.23 (33)	3.53 (36)	4.41 (45)	5.29 (54)	6.37 (65)	8.82 (90)	9.80 (100)						
Rotational direction		Same as motor rotational direction												Reverse to motor rotational direction									

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

Applicable gear head		Reduction ratio		200	250	300	360	500	600	750	900	1000	1200	1500	1800
Bearing	Decimal gear head	Speed (min⁻¹)	50Hz	7.5	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
			60Hz	9	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
MX9G□B (ball bearing) MX9G□M (metal bearing)	MX9G10XB	Permissible torque	N·m (kgf·cm)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)
		Rotational direction		Same as motor rotational direction		Reverse to motor rotational direction									

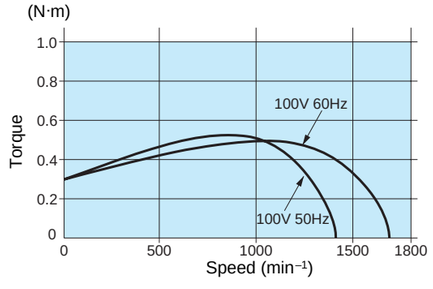
Connection diagram



(Refer to page A-58 for connection of thermal protector.)

Speed-torque characteristics

M9RX40G4LG(A)



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

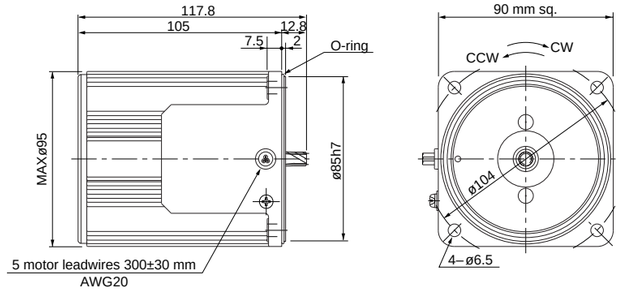
Features B-64 | System configuration B-65 | Coding system B-65 | Model list B-68

Motor (dimensions)

Scale: 1/3, Unit: mm

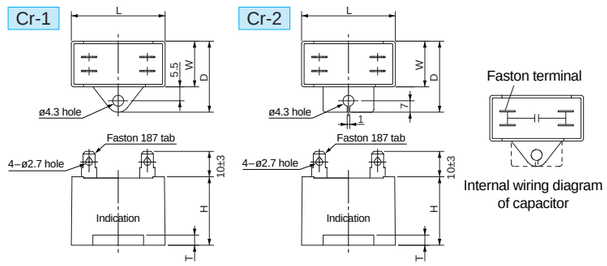
M9RX40G4LG(A) 4P 40 W 100 V
M9RX40G4DG(A) 4P 40 W 110 V / 115 V
M9RX40G4YG(A) 4P 40 W 200 V
M9RX40G4GG(A) 4P 40 W 220 V / 230 V

Mass	Helical	Module	Number of teeth
2.4 kg	gear	0.55	9



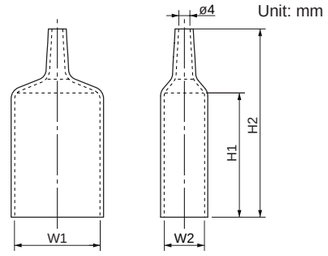
Capacitor (dimensions) [attachment]

Unit: mm



Capacitor cap (dimensions) [attachment]

Unit: mm



• Capacitor dimension list (mm)

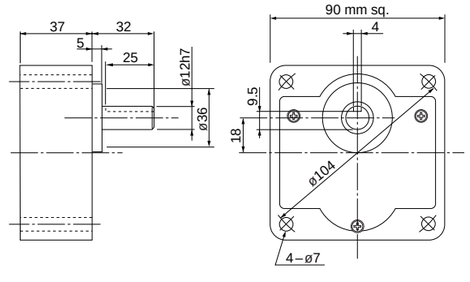
Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	dimension No.	Capacitor cap (attachment)	W1	W2	H1	H2
M9RX40G4LG(A)	M0PC16M25G	58	23.5	38.5	37	4	Cr-2	M0PC5823G	58	23.5	55	78
M9RX40G4DG(A)	M0PC12M25G	58	22	32	35	4	Cr-1	M0PC5822G	58	22	55	78
M9RX40G4YG(A)	M0PC4M45G	58	23.5	38.5	37	4	Cr-2	M0PC5823G	58	23.5	55	78
M9RX40G4GG(A)	M0PC3.5M45G	58	22	32	35	4	Cr-1	M0PC5822G	58	22	55	78

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

Gear head (dimensions)

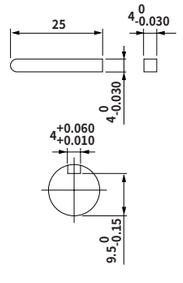
Scale: 1/3, Unit: mm

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



Key and keyway (dimensions) [attachment]

MX9G□B(M)



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

Gear head combination B-121 | Round shaft motor dimensions B-123 | Decimal gear head B-384 | Control related product C-4 | Option D-2

Reversible motor (leadwire)

90 mm sq. 60 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min⁻¹)	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)	Capacitor (μF) (rated voltage)
90 mm sq.	M9RZ60G4L	4	60	100	50	30	144	1.5	1200	0.46 (4.7)	2.4	0.50 (5.1)	25 (200V)
					60		163	1.5	1500	0.39 (4.0)	2.3	0.53 (5.4)	
	M9RZ60G4Y	4	60	200	50	30	146	0.74	1225	0.46 (4.7)	1.2	0.53 (5.4)	6.2 (375V)
					60		153	0.77	1525	0.39 (4.0)	1.3	0.55 (5.6)	

• 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-124.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

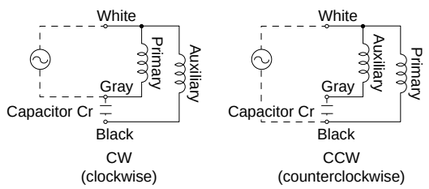
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180	200
Speed (min⁻¹)	50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3	7.5
	60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10	9
Applicable gear head: MZ9G3BA to MZ9G200B (ball bearing / hinge not attached)	50Hz	0.98 (9.99)	1.18 (12)	1.57 (16)	1.96 (20)	2.35 (24)	2.94 (30)	3.14 (32)	3.92 (40)	4.70 (48)	5.59 (57)	6.27 (64)	7.55 (77)	9.11 (93)	11.0 (112)	15.2 (155)	17.8 (182)	19.6 (200)						
Applicable gear head: MY9G3MA to MY9G200M (metal bearing / hinge attached)	60Hz	0.78 (8.0)	0.98 (9.99)	1.37 (14)	1.57 (16)	1.96 (20)	2.35 (24)	2.65 (27)	3.33 (34)	3.92 (40)	4.70 (48)	5.29 (54)	6.47 (66)	7.55 (77)	9.11 (93)	12.6 (129)	15.2 (155)	19.6 (200)						
Rotational direction		Same as motor rotational direction							Reverse to motor rotational direction						Same as motor rotational direction									

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

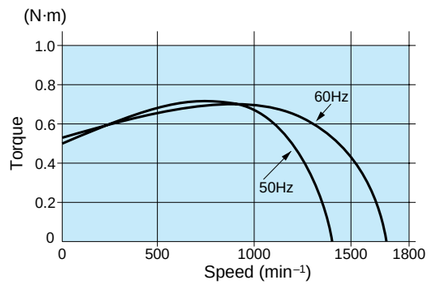
Applicable gear head: Bearing	Decimal gear head	Reduction ratio		250	300	360	500	600	750	900	1000	1200	1500	1800
		Speed (min⁻¹)	50Hz	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
			60Hz	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
MZ9G□B (ball bearing / Hinge not attached) MY9G□M (metal bearing / Hinge attached)	MZ9G10XB	Permissible torque	N·m (kgf·cm)	19.6 (200)	19.6 (200)	19.6 (200)	19.6 (200)	19.6 (200)	19.6 (200)	19.6 (200)	19.6 (200)	19.6 (200)	19.6 (200)	19.6 (200)
		Rotational direction		Reverse to motor rotational direction		Same as motor rotational direction								

Connection diagram



Speed-torque characteristics

M9RZ60G4L

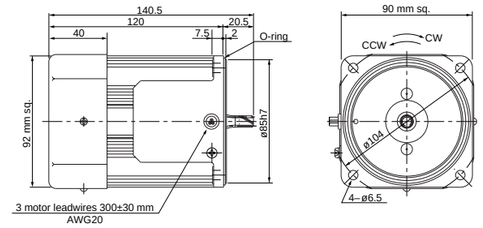


Motor (dimensions)

Scale: 1/4, Unit: mm

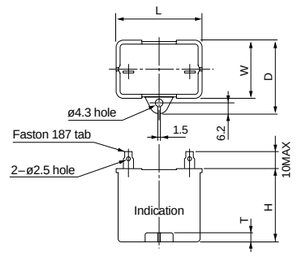
M9RZ60G4L 4P 60 W 100 V (with fan)
M9RZ60G4Y 4P 60 W 200 V (with fan)

Mass	Helical gear	Module	Number of teeth
2.7 kg		0.6	9



Capacitor (dimensions) [attachment]

Unit: mm



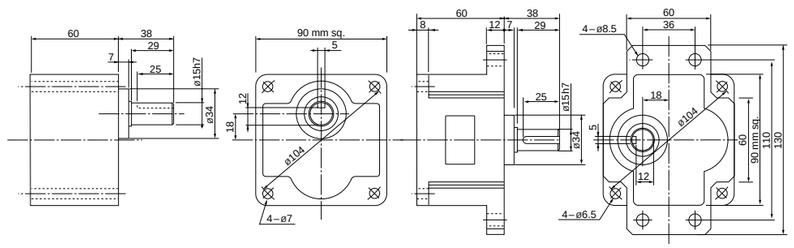
• Capacitor dimension list (mm)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M9RZ60G4L	M0PC25M20	50.2	31	41	42	5	M0PC5032
M9RZ60G4Y	M0PC6.2M38	50	30.5	41	41.5	4	M0PC5032

Gear head (dimensions)

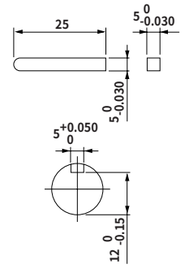
Scale: 1/4, Unit: mm

MZ9G□B (ball bearing / hinge not attached) Mass 1.4 kg
MY9G□M (metal bearing / hinge attached) Mass 1.4 kg



Key and keyway (dimensions) [attachment]

MZ9G□B
MY9G□B



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

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

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

Reversible motor (leadwire)

90 mm sq. 60 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min⁻¹)	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)	Capacitor (μF) (rated voltage)
90 mm sq.	M9RZ60G4LG M9RZ60G4LGA	4	60	100	50	30	137	1.4	1250	0.46 (4.7)	2.4	0.51 (5.2)	25 (250V)
					60		147	1.5	1550	0.37 (3.8)	2.4	0.53 (5.4)	
	M9RZ60G4DG M9RZ60G4DGA	4	60	110 115	60	30	138	1.3	1575	0.36 (3.7)	2.5	0.50 (5.1)	20 (250V)
					60		144	1.3	1600	0.36 (3.7)	2.6	0.55 (5.6)	
	M9RZ60G4YG M9RZ60G4YGA	4	60	200	50	30	135	0.67	1200	0.48 (4.9)	1.0	0.51 (5.2)	6 (450V)
					60		158	0.81	1500	0.38 (3.9)	1.1	0.53 (5.4)	
	M9RZ60G4GG M9RZ60G4GGA	4	60	220	50	30	137	0.64	1225	0.47 (4.8)	1.1	0.50 (5.1)	5 (450V)
					60		145	0.67	1550	0.37 (3.8)	1.1	0.52 (5.3)	
				230	50		145	0.66	1275	0.45 (4.6)	1.1	0.57 (5.8)	
					60		151	0.67	1575	0.36 (3.7)	1.1	0.57 (5.8)	

• 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-124.
• The models with a motor model number to which "A" is suffixed are not equipped with a capacitor cap.
The models with a motor model number to which "A" is suffixed are not sold or available in Japan.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

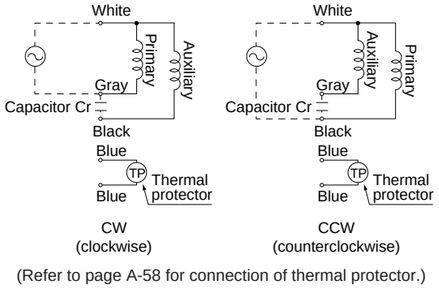
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180	200
Speed (min⁻¹)	50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3	7.5
	60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10	9
Applicable gear head: MZ9G3B to MZ9G200B (ball bearing / hinge not attached)	50Hz	0.98 (9.99)	1.18 (12)	1.57 (16)	1.96 (20)	2.35 (24)	2.94 (30)	3.14 (32)	3.92 (40)	4.70 (48)	5.59 (57)	6.27 (64)	7.55 (77)	9.11 (93)	11.0 (112)	15.2 (155)	17.8 (182)	19.6 (200)						
Applicable gear head: MY9G3B to MY9G200B (ball bearing / hinge attached)	60Hz	0.78 (8.0)	0.98 (9.99)	1.37 (14)	1.57 (16)	1.96 (20)	2.35 (24)	2.65 (27)	3.33 (34)	3.92 (40)	4.70 (48)	5.29 (54)	6.47 (66)	7.55 (77)	9.11 (93)	12.6 (129)	15.2 (155)	19.6 (200)						
Rotational direction		Same as motor rotational direction			Reverse to motor rotational direction				Same as motor rotational direction															

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

Applicable gear head: Bearing	Decimal gear head	Reduction ratio		250	300	360	500	600	750	900	1000	1200	1500	1800
MZ9G□B (ball bearing / hinge not attached) MY9G□B (ball bearing / hinge attached)	MZ9G10XB	Speed (min⁻¹)	50Hz	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
			60Hz	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
		Permissible torque	N·m	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6
			(kgf·cm)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)
		Rotational direction		Reverse to motor rotational direction		Same as motor rotational direction								

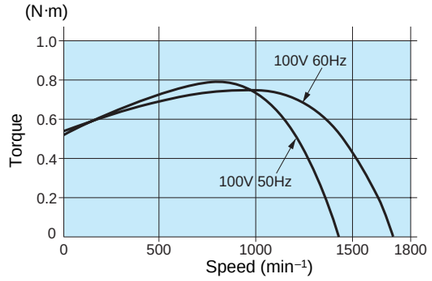
Connection diagram



(Refer to page A-58 for connection of thermal protector.)

Speed-torque characteristics

M9RZ60G4LG(A)



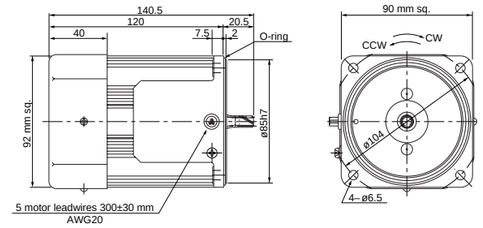
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

Scale: 1/4, Unit: mm

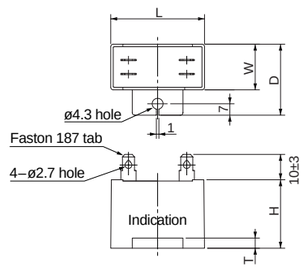
M9RZ60G4LG(A)	4P	60 W	100 V (with fan)	
M9RZ60G4DG(A)	4P	60 W	110 V / 115 V (with fan)	
M9RZ60G4YG(A)	4P	60 W	200 V (with fan)	
M9RZ60G4GG(A)	4P	60 W	220 V / 230V (with fan)	

Mass	Helical	Module	Number of teeth
2.7 kg	gear	0.6	9



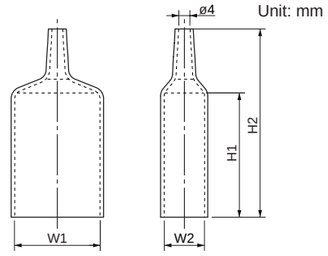
Capacitor (dimensions) [attachment]

Unit: mm



Capacitor cap (dimensions) [attachment]

Unit: mm



• Capacitor dimension list (mm)

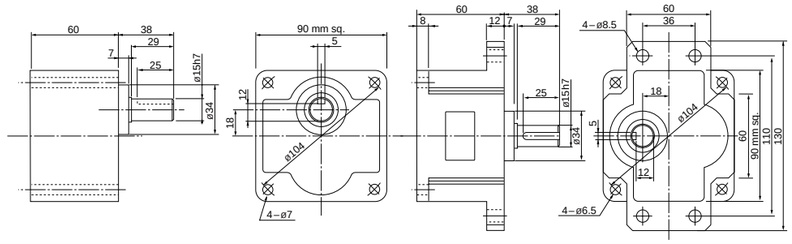
Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (attachment)	W1	W2	H1	H2
M9RZ60G4LG(A)	M0PC25M25G	58	35	50	50	4	M0PC5835G	58	35	55	78
M9RZ60G4DG(A)	M0PC20M25G	58	29	44	41	4	M0PC5829G	58	29	55	78
M9RZ60G4YG(A)	M0PC6M45G	58	29	44	41	4	M0PC5829G	58	29	55	78
M9RZ60G4GG(A)	M0PC5M45G	58	29	44	41	4	M0PC5829G	58	29	55	78

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

Gear head (dimensions)

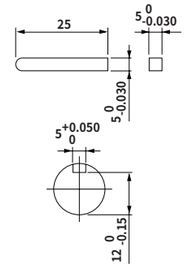
Scale: 1/4, Unit: mm

MZ9G□B (ball bearing / hinge not attached) Mass 1.4 kg **MY9G□M** (metal bearing / hinge attached) Mass 1.4 kg



Key and keyway (dimensions) [attachment]

MZ9G□B
MY9G□B



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

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

Reversible motor (leadwire)

90 mm sq. 90 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min⁻¹)	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)	Capacitor (μF) (rated voltage)
90 mm sq.	M9RZ90G4L	4	90	100	50	30	171	1.7	1225	0.70 (7.1)	2.8	0.63 (6.4)	30 (200V)
					60		181	1.9	1525	0.56 (5.7)	2.7	0.64 (6.5)	
	M9RZ90G4Y	4	90	200	50	30	184	0.93	1150	0.72 (7.3)	1.4	0.64 (6.5)	7.5 (370V)
					60		170	0.96	1475	0.57 (5.8)	1.4	0.66 (6.7)	

• 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-124.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

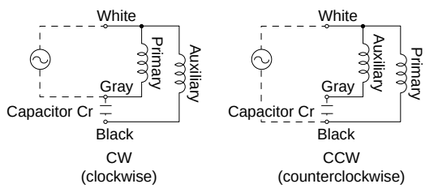
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180	200
Speed (min⁻¹)	50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3	7.5
	60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10	9
Applicable gear head: MZ9G3B to MZ9G200B (ball bearing / hinge not attached)	50Hz	1.37 (14)	1.67 (17)	2.25 (23)	2.74 (28)	3.43 (35)	4.12 (42)	4.51 (46)	5.68 (58)	6.76 (69)	8.04 (82)	9.02 (92)	10.9 (111)	13.0 (133)	15.7 (160)	19.6 (200)	19.6 (200)							
Applicable gear head: MY9G3B to MY9G200B (ball bearing / hinge attached)	60Hz	1.18 (12)	1.37 (14)	1.86 (19)	2.25 (23)	2.84 (29)	3.43 (35)	3.72 (38)	4.70 (48)	5.68 (58)	6.76 (69)	7.55 (77)	9.21 (94)	10.9 (111)	13.0 (133)	18.3 (187)	19.6 (200)							
Rotational direction		Same as motor rotational direction							Reverse to motor rotational direction						Same as motor rotational direction									

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

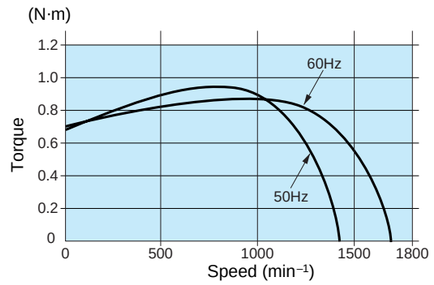
Applicable gear head: Bearing	Decimal gear head	Reduction ratio		250	300	360	500	600	750	900	1000	1200	1500	1800
		Speed (min⁻¹)	50Hz	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
			60Hz	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
MZ9G□B (ball bearing / hinge not attached) MY9G□B (ball bearing / hinge attached)	MZ9G10XB	Permissible torque	N·m (kgf·cm)	19.6 (200)	19.6 (200)	19.6 (200)	19.6 (200)	19.6 (200)	19.6 (200)	19.6 (200)	19.6 (200)	19.6 (200)	19.6 (200)	19.6 (200)
		Rotational direction		Reverse to motor rotational direction	Same as motor rotational direction									

Connection diagram



Speed-torque characteristics

M9RZ90G4L



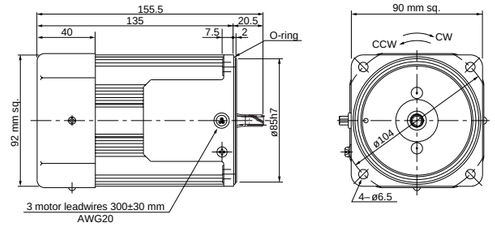
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

Scale: 1/4, Unit: mm

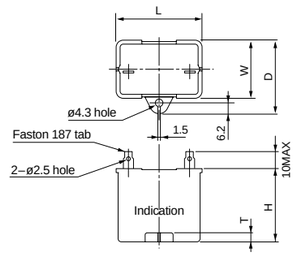
M9RZ90G4L 4P 90 W 100 V (with fan)
M9RZ90G4Y 4P 90 W 200 V (with fan)

Mass	Helical gear	Module	Number of teeth
3.2 kg		0.6	9



Capacitor (dimensions) [attachment]

Unit: mm



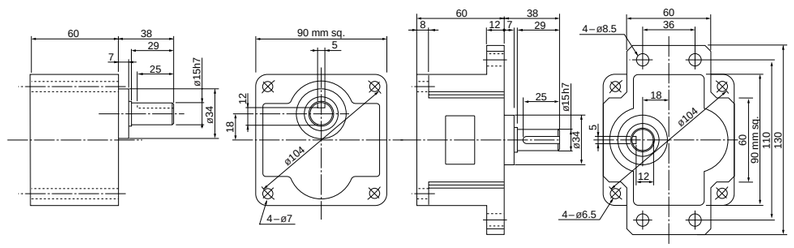
• Capacitor dimension list (mm)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M9RZ90G4L	M0PC30M20	50.2	31	41	42	5	M0PC5032
M9RZ90G4Y	M0PC7.5M37	50	34	45	45	6	—

Gear head (dimensions)

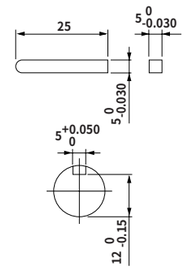
Scale: 1/4, Unit: mm

MZ9G□B (ball bearing / hinge not attached) Mass 1.4 kg
MY9G□M (metal bearing / hinge attached) Mass 1.4 kg



Key and keyway (dimensions) [attachment]

MZ9G□B
MY9G□B



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

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

Reversible motor (leadwire)

90 mm sq. 90 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min⁻¹)	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)	Capacitor (μF) (rated voltage)
90 mm sq.	M9RZ90G4LG M9RZ90G4LGA	4	90	100	50	30	195	2.0	1175	0.73 (7.5)	3.0	0.68 (6.9)	32 (250V)
					60		203	2.0	1525	0.57 (5.8)	2.9	0.68 (6.9)	
	M9RZ90G4DG M9RZ90G4DGA	4	90	110 115	60	30	201	1.8	1550	0.55 (5.7)	3.1	0.72 (7.3)	28 (250V)
					60		209	1.8	1575	0.55 (5.6)	3.2	0.79 (8.1)	
	M9RZ90G4YG M9RZ90G4YGA	4	90	200	50	30	185	0.93	1175	0.73 (7.5)	1.4	0.68 (6.9)	8 (450V)
					60		206	1.1	1500	0.57 (5.8)	1.4	0.68 (6.9)	
	M9RZ90G4GG M9RZ90G4GGA	4	90	220	50	30	191	0.89	1225	0.70 (7.2)	1.5	0.72 (7.3)	7 (450V)
					60		197	0.90	1550	0.55 (5.7)	1.4	0.72 (7.3)	
				230	50		202	0.92	1250	0.69 (7.0)	1.6	0.79 (8.1)	
					60		204	0.88	1575	0.55 (5.6)	1.5	0.79 (8.1)	

• The specifications and wire connections of the round shaft motor are the same as those of the pinion shaft type. For the dimensional outline drawing, refer to page B-124.
• The models with a motor model number to which "A" is suffixed are not equipped with a capacitor cap.
The models with a motor model number to which "A" is suffixed are not sold or available in Japan.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

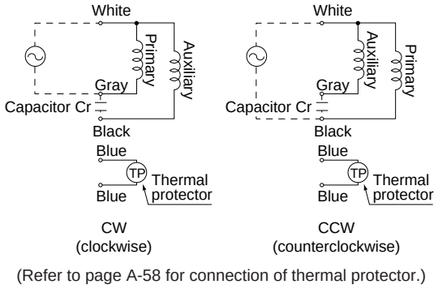
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180	200
Speed (min⁻¹)	50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3	7.5
	60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10	9
Applicable gear head: MZ9G3B to MZ9G200B (ball bearing / hinge not attached)	50Hz	1.37 (14)	1.67 (17)	2.25 (23)	2.74 (28)	3.43 (35)	4.12 (42)	4.51 (46)	5.68 (58)	6.76 (69)	8.04 (82)	9.02 (92)	10.9 (111)	13.0 (133)	15.7 (160)	19.6 (200)	19.6 (200)							
Applicable gear head: MY9G3B to MY9G200B (ball bearing / hinge attached)	60Hz	1.18 (12)	1.37 (14)	1.86 (19)	2.25 (23)	2.84 (29)	3.43 (35)	3.72 (38)	4.70 (48)	5.68 (58)	6.76 (69)	7.55 (77)	9.21 (94)	10.9 (111)	13.0 (133)	18.3 (187)	19.6 (200)							
Rotational direction		Same as motor rotational direction							Reverse to motor rotational direction							Same as motor rotational direction								

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

Applicable gear head: Bearing	Decimal gear head	Reduction ratio		250	300	360	500	600	750	900	1000	1200	1500	1800
		Speed (min⁻¹)	50Hz	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
			60Hz	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
MZ9G□B (ball bearing / hinge not attached) MY9G□B (ball bearing / hinge attached)	MZ9G10XB	Permissible torque	N·m (kgf·cm)	19.6 (200)	19.6 (200)	19.6 (200)	19.6 (200)	19.6 (200)	19.6 (200)	19.6 (200)	19.6 (200)	19.6 (200)	19.6 (200)	19.6 (200)
		Rotational direction		Reverse to motor rotational direction		Same as motor rotational direction								

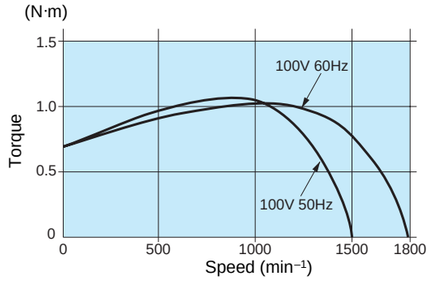
Connection diagram



(Refer to page A-58 for connection of thermal protector.)

Speed-torque characteristics

M9RZ90G4LG(A)



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

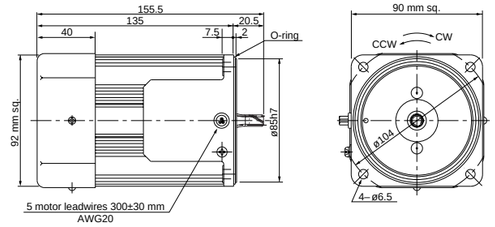
Features B-64 | System configuration B-65 | Coding system B-65 | Model list B-68

Motor (dimensions)

Scale: 1/4, Unit: mm

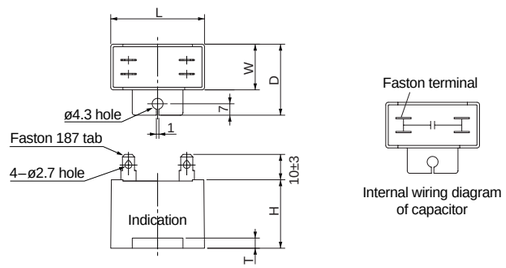
M9RZ90G4LG(A) 4P 90 W 100 V (with fan)
M9RZ90G4DG(A) 4P 90 W 110 V / 115 V (with fan)
M9RZ90G4YG(A) 4P 90 W 200 V (with fan)
M9RZ90G4GG(A) 4P 90 W 220 V / 230V (with fan)

Mass	Helical	Module	Number of teeth
3.2 kg	gear	0.6	9



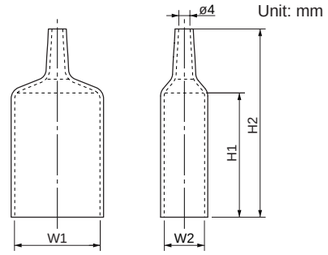
Capacitor (dimensions) [attachment]

Unit: mm



Capacitor cap (dimensions) [attachment]

Unit: mm



• Capacitor dimension list (mm)

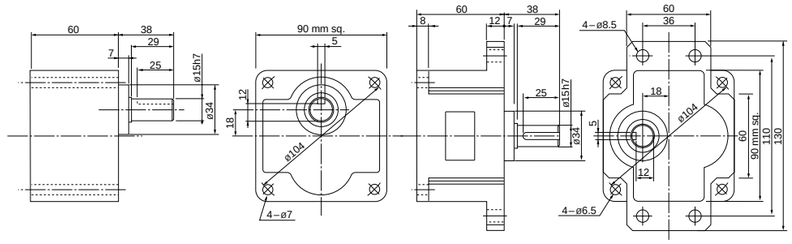
Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (attachment)	W1	W2	H1	H2
M9RZ90G4LG(A)	M0PC32M25G	58	35	50	50	4	M0PC5835G	58	35	55	78
M9RZ90G4DG(A)	M0PC28M25G	58	35	50	50	4	M0PC5835G	58	35	55	78
M9RZ90G4YG(A)	M0PC8M45G	58	35	50	50	4	M0PC5835G	58	35	55	78
M9RZ90G4GG(A)	M0PC7M45G	58	35	50	50	4	M0PC5835G	58	35	55	78

• 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

MZ9G□B (ball bearing / hinge not attached) Mass 1.4 kg **MY9G□M** (metal bearing / hinge attached) Mass 1.4 kg

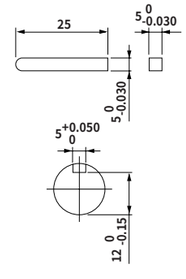


Note) MZ / MY is available for a gear head of either type.

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

Key and keyway (dimensions) [attachment]

MZ9G□B
MY9G□B



Gear head combination B-121 | Round shaft motor dimensions B-124 | Decimal gear head B-384 | Control related product C-4 | Option D-2

Reversible motor (sealed connector)

80 mm sq. 25 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min⁻¹)	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)	Capacitor (μF) (rated voltage)
80 mm sq.	M8RX25GK4L	4	25	100	50	30	58	0.59	1275	0.19 (1.9)	1.0	0.17 (1.7)	9.5 (200V)
					60		57	0.59	1575	0.16 (1.6)	1.0	0.17 (1.7)	
	M8RX25GK4Y	4	25	200	50	30	57	0.29	1275	0.19 (1.9)	0.52	0.19 (2.0)	2.4 (400V)
					60		57	0.29	1575	0.16 (1.6)	0.50	0.19 (2.0)	

• 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-124.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

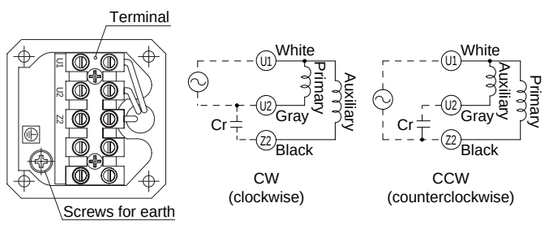
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180
Speed (min⁻¹)	50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3
	60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10
Applicable gear head: MX8G3B to MX8G180B (ball bearing)	50Hz	0.39 (4.0)	0.47 (4.8)	0.66 (6.7)	0.78 (8.0)	0.98 (10)	1.18 (12)	1.27 (13)	1.57 (16)	1.96 (20)	2.35 (24)	2.55 (26)	3.14 (32)	3.82 (39)	4.61 (47)	6.37 (65)	7.64 (78)	7.84 (80)					
Applicable gear head: MX8G3M to MX8G180M (metal bearing)	60Hz	0.32 (3.3)	0.39 (4.0)	0.55 (5.6)	0.66 (6.7)	0.81 (8.3)	0.98 (10)	1.08 (11)	1.27 (13)	1.57 (16)	1.96 (20)	2.06 (21)	2.65 (27)	3.14 (32)	3.82 (39)	5.29 (54)	6.37 (65)	7.84 (80)					
Rotational direction		Same as motor rotational direction												Reverse to motor rotational direction									

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

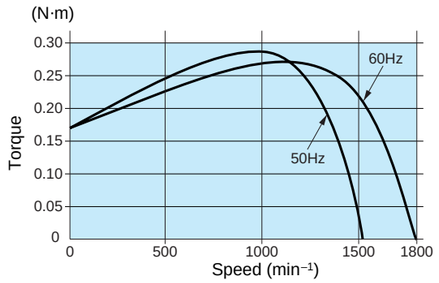
Applicable gear head: Bearing	Decimal gear head	Reduction ratio		200	250	300	360	500	600	750	900	1000	1200	1500	1800
		Speed (min⁻¹)	50Hz	7.5	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
			60Hz	9	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
MX8G□B (ball bearing) MX8G□M (metal bearing)	MX8G10XB	Permissible torque	N·m	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84
			(kgf·cm)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)
		Rotational direction		Same as motor rotational direction	Reverse to motor rotational direction										

Connection diagram



Speed-torque characteristics

M8RX25GK4L



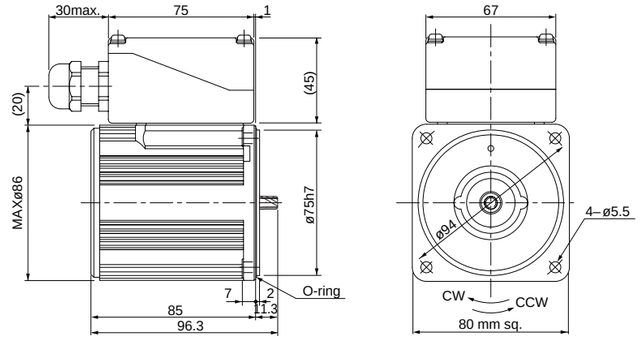
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

Scale: 1/3, Unit: mm

M8RX25GK4L 4P 25 W 100 V
M8RX25GK4Y 4P 25 W 200 V

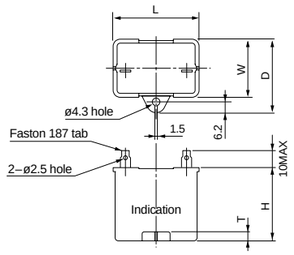
Mass	Helical	Module	Number of teeth
1.8 kg	gear	0.5	9



* Diameter of applicable cabtyre cable to be ø8 to ø12.

Capacitor (dimensions) [attachment]

Unit: mm



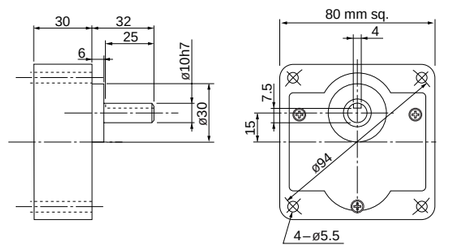
• Capacitor dimension list (mm)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M8RX25GK4L	M0PC9.5M20	39.5	22	32.5	30.5	4	M0PC3922
M8RX25GK4Y	M0PC2.4M40	49.7	24	34.5	34.5	4	M0PC5026

Gear head (dimensions)

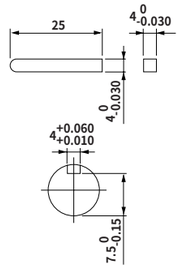
Scale: 1/3, Unit: mm

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



Key and keyway (dimensions) [attachment]

MX8G□B(M)



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

Reversible motor (sealed connector)

80 mm sq. 25 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min⁻¹)	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)	Capacitor (μF) (rated voltage)
80 mm sq.	M8RX25GK4LG M8RX25GK4LGA	4	25	100	50	30	59	0.60	1250	0.19 (1.9)	1.1	0.19 (1.9)	10 (250V)
					60		61	0.61	1550	0.15 (1.6)	1.1	0.19 (1.9)	
	M8RX25GK4DG M8RX25GK4DGA	4	25	110	60	30	58	0.53	1575	0.15 (1.5)	1.1	0.17 (1.7)	8 (250V)
				115	60		61	0.53	1600	0.15 (1.5)	1.2	0.19 (1.9)	
	M8RX25GK4YG M8RX25GK4YGA	4	25	200	50	30	59	0.30	1200	0.20 (2.0)	0.45	0.19 (1.9)	2.5 (450V)
					60		66	0.34	1525	0.16 (1.6)	0.46	0.19 (1.9)	
	M8RX25GK4GG M8RX25GK4GGA	4	25	220	50	30	60	0.28	1225	0.19 (2.0)	0.47	0.18 (1.8)	2 (450V)
					60		60	0.27	1550	0.15 (1.6)	0.46	0.18 (1.8)	
				230	50		62	0.28	1275	0.19 (1.9)	0.49	0.19 (1.9)	
					60		62	0.27	1575	0.15 (1.5)	0.48	0.19 (1.9)	

• 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-124.
• The models with a motor model number to which "A" is suffixed are not equipped with a capacitor cap.
The models with a motor model number to which "A" is suffixed are not sold or available in Japan.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

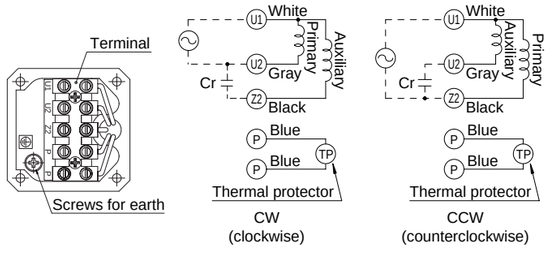
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio			3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180
Speed (min⁻¹)		50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3
		60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10
Applicable gear head	MX8G3B to MX8G180B (ball bearing)	50Hz	0.39 (4.0)	0.47 (4.8)	0.66 (6.7)	0.78 (8.0)	0.98 (10)	1.18 (12)	1.27 (13)	1.57 (16)	1.96 (20)	2.35 (24)	2.55 (26)	3.14 (32)	3.82 (39)	4.61 (47)	6.37 (65)	7.64 (78)	7.84 (80)					
	MX8G3M to MX8G180M (metal bearing)	60Hz	0.32 (3.3)	0.39 (4.0)	0.55 (5.6)	0.66 (6.7)	0.81 (8.3)	0.98 (10)	1.08 (11)	1.27 (13)	1.57 (16)	1.96 (20)	2.06 (21)	2.65 (27)	3.14 (32)	3.82 (39)	5.29 (54)	6.37 (65)	7.84 (80)					
Rotational direction			Same as motor rotational direction												Reverse to motor rotational direction									

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

Applicable gear head		Reduction ratio		200	250	300	360	500	600	750	900	1000	1200	1500	1800
Bearing	Decimal gear head	Speed (min⁻¹)	50Hz	7.5	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
			60Hz	9	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
MX8G□B (ball bearing) MX8G□M (metal bearing)	MX8G10XB	Permissible torque	N·m	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84
			(kgf·cm)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)
		Rotational direction		Same as motor rotational direction		Reverse to motor rotational direction									

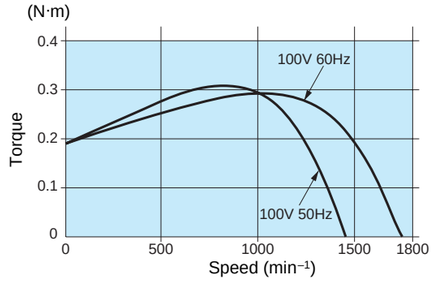
Connection diagram



(Refer to page A-58 for connection of thermal protector.)

Speed-torque characteristics

M8RX25GK4LG(A)



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

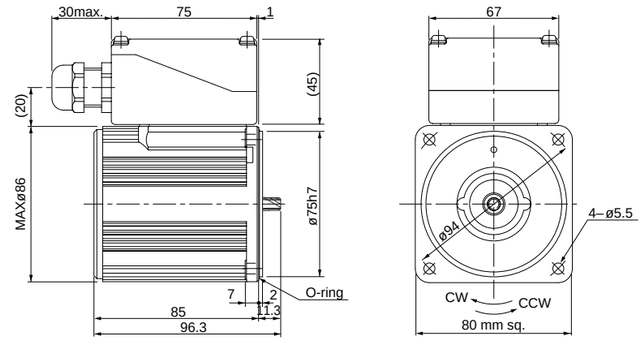
Features B-64 | System configuration B-65 | Coding system B-65 | Model list B-68

Motor (dimensions)

Scale: 1/3, Unit: mm

M8RX25GK4LG(A) 4P 25 W 100 V
M8RX25GK4DG(A) 4P 25 W 110 V / 115 V
M8RX25GK4YG(A) 4P 25 W 200 V
M8RX25GK4GG(A) 4P 25 W 220 V / 230 V

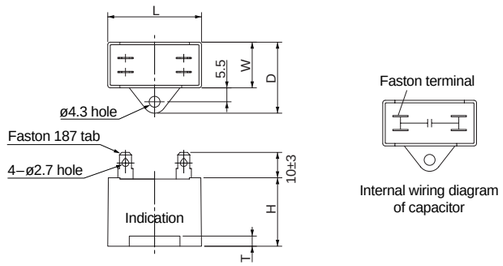
Mass	Helical	Module	Number of teeth
1.8 kg	gear	0.5	9



* Diameter of applicable cabtyre cable to be ø8 to ø12.

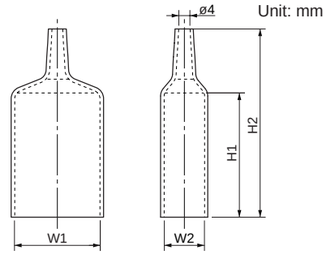
Capacitor (dimensions) [attachment]

Unit: mm



Capacitor cap (dimensions) [attachment]

Unit: mm



• Capacitor dimension list (mm)

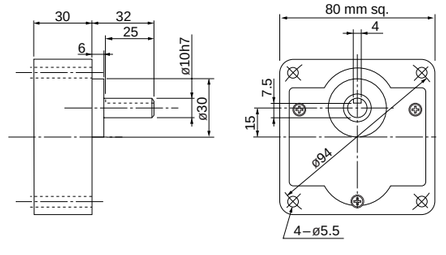
Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (attachment)	W1	W2	H1	H2
M8RX25GK4LG(A)	M0PC10M25G	58	21	31	31	4	M0PC5821G	58	21	55	78
M8RX25GK4DG(A)	M0PC8M25G	48	21	31	31	4	M0PC4821G	48	21	55	78
M8RX25GK4YG(A)	M0PC2.5M45G	48	21	31	31	4	M0PC4821G	48	21	55	78
M8RX25GK4GG(A)	M0PC2M45G	48	19	29	29	4	M0PC4819G	48	19	55	78

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

Gear head (dimensions)

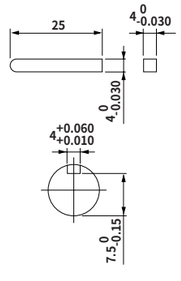
Scale: 1/3, Unit: mm

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



Key and keyway (dimensions) [attachment]

MX8G□B(M)



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

Gear head combination B-122 | Round shaft motor dimensions B-124 | Decimal gear head B-384 | Control related product C-4 | Option D-2

Reversible motor (sealed connector)

90 mm sq. 40 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min⁻¹)	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)	Capacitor (μF) (rated voltage)
90 mm sq.	M9RX40GK4L	4	40	100	50	30	94	0.96	1200	0.32 (3.3)	1.6	0.27 (2.8)	15 (210V)
					60		93	0.93	1525	0.25 (2.6)	1.5	0.26 (2.7)	
	M9RX40GK4Y	4	40	200	50	30	92	0.48	1200	0.32 (3.3)	0.81	0.28 (2.9)	3.8 (400V)
					60		93	0.46	1525	0.25 (2.6)	0.77	0.29 (3.0)	

• 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-124.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

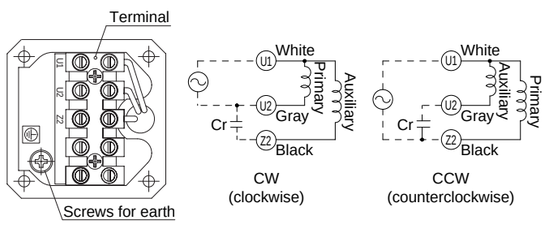
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180
Speed (min⁻¹)	50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3
	60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10
Applicable gear head: MX9G3B to MX9G180B (ball bearing)	50Hz	0.66 (6.7)	0.78 (8.0)	1.08 (11)	1.27 (13)	1.57 (16)	1.86 (19)	2.25 (23)	2.74 (28)	3.23 (33)	3.92 (40)	4.41 (45)	5.29 (54)	6.37 (65)	7.94 (81)	9.80 (100)	9.80 (100)						
Applicable gear head: MX9G3M to MX9G180M (metal bearing)	60Hz	0.55 (5.6)	0.66 (6.7)	0.90 (9.2)	1.08 (11)	1.27 (13)	1.57 (16)	1.76 (18)	2.25 (23)	2.74 (28)	3.23 (33)	3.53 (36)	4.41 (45)	5.29 (54)	6.37 (65)	8.82 (90)	9.80 (100)						
Rotational direction		Same as motor rotational direction												Reverse to motor rotational direction									

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

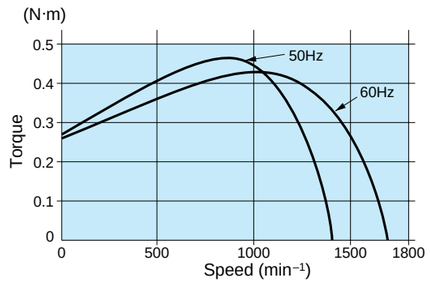
Applicable gear head: Bearing	Decimal gear head	Reduction ratio		200	250	300	360	500	600	750	900	1000	1200	1500	1800
MX9G□B (ball bearing) MX9G□M (metal bearing)	MX9G10XB	Speed (min⁻¹)	50Hz	7.5	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
			60Hz	9	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
		Permissible torque	N·m	9.80	9.80	9.80	9.80	9.80	9.80	9.80	9.80	9.80	9.80	9.80	9.80
			(kgf·cm)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)
		Rotational direction		Same as motor rotational direction	Reverse to motor rotational direction										

Connection diagram



Speed-torque characteristics

M9RX40GK4L



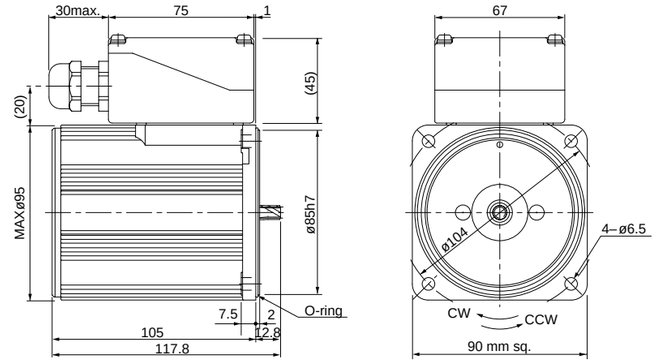
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

Scale: 1/3, Unit: mm

M9RX40GK4L 4P 40 W 100 V
M9RX40GK4Y 4P 40 W 200 V

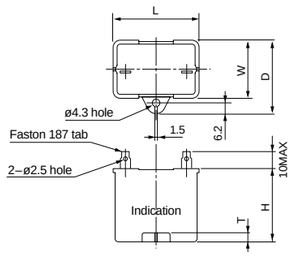
Mass	Helical gear	Module	Number of teeth
2.8 kg		0.55	9



* Diameter of applicable cabtyre cable to be ø8 to ø12.

Capacitor (dimensions) [attachment]

Unit: mm



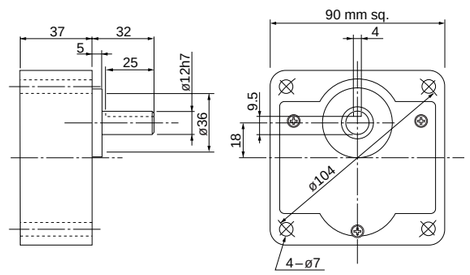
• Capacitor dimension list (mm)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M9RX40GK4L	M0PC15M20	39.5	26.7	37	41	4	M0PC3926
M9RX40GK4Y	M0PC3.8M40	50	26.7	37.5	38	4	M0PC5026

Gear head (dimensions)

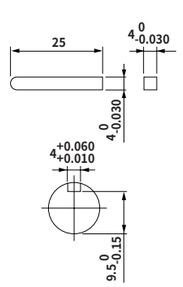
Scale: 1/3, Unit: mm

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



Key and keyway (dimensions) [attachment]

MX9G□B(M)



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

Reversible motor (sealed connector)

90 mm sq. 40 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min⁻¹)	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)	Capacitor (μF) (rated voltage)
90 mm sq.	M9RX40GK4LG M9RX40GK4LGA	4	40	100	50	30	86	0.87	1275	0.30 (3.1)	1.7	0.30 (3.1)	16 (250V)
					60		93	0.95	1575	0.24 (2.5)	1.6	0.30 (3.1)	
	M9RX40GK4DG M9RX40GK4DGA	4	40	110	60	30	91	0.83	1550	0.25 (2.5)	1.7	0.25 (2.5)	12 (250V)
				115	60		94	0.82	1575	0.24 (2.5)	1.8	0.29 (3.0)	
	M9RX40GK4YG M9RX40GK4YGA	4	40	200	50	30	91	0.45	1200	0.32 (3.2)	0.67	0.30 (3.1)	4 (450V)
					60		109	0.57	1500	0.25 (2.6)	0.70	0.30 (3.1)	
	M9RX40GK4GG M9RX40GK4GGA	4	40	220	50	30	88	0.40	1250	0.31 (3.1)	0.71	0.30 (3.1)	3.5 (450V)
					60		104	0.49	1550	0.25 (2.5)	0.71	0.30 (3.1)	
				230	50		92	0.40	1300	0.29 (3.0)	0.74	0.33 (3.4)	
					60		110	0.50	1575	0.24 (2.5)	0.74	0.33 (3.4)	

• 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-124.
• The models with a motor model number to which “A” is suffixed are not equipped with a capacitor cap.
The models with a motor model number to which “A” is suffixed are not sold or available in Japan.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

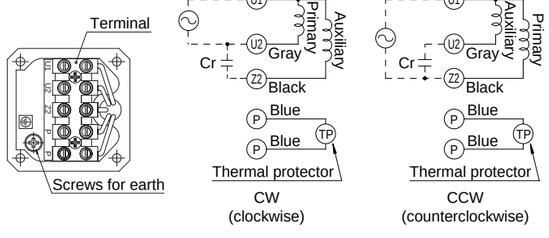
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180
Speed (min⁻¹)	50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3
	60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10
Applicable gear head: MX9G3B to MX9G180B (ball bearing)	50Hz	0.66 (6.7)	0.78 (8.0)	1.08 (11)	1.27 (13)	1.57 (16)	1.86 (19)	2.25 (23)	2.74 (28)	3.23 (33)	3.92 (40)	4.41 (45)	5.29 (54)	6.37 (65)	7.94 (81)	9.80 (100)	9.80 (100)						
Applicable gear head: MX9G3M to MX9G180M (metal bearing)	60Hz	0.55 (5.6)	0.66 (6.7)	0.90 (9.2)	1.08 (11)	1.27 (13)	1.57 (16)	1.76 (18)	2.25 (23)	2.74 (28)	3.23 (33)	3.53 (36)	4.41 (45)	5.29 (54)	6.37 (65)	8.82 (90)	9.80 (100)						
Rotational direction		Same as motor rotational direction												Reverse to motor rotational direction									

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

Applicable gear head		Reduction ratio		200	250	300	360	500	600	750	900	1000	1200	1500	1800
Bearing	Decimal gear head	Speed (min⁻¹)	50Hz	7.5	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
			60Hz	9	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
MX9G□B (ball bearing) MX9G□M (metal bearing)	MX9G10XB	Permissible torque	N·m (kgf·cm)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)
		Rotational direction		Same as motor rotational direction		Reverse to motor rotational direction									

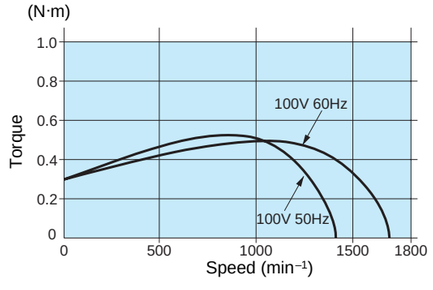
Connection diagram



(Refer to page A-58 for connection of thermal protector.)

Speed-torque characteristics

M9RX40GK4LG(A)



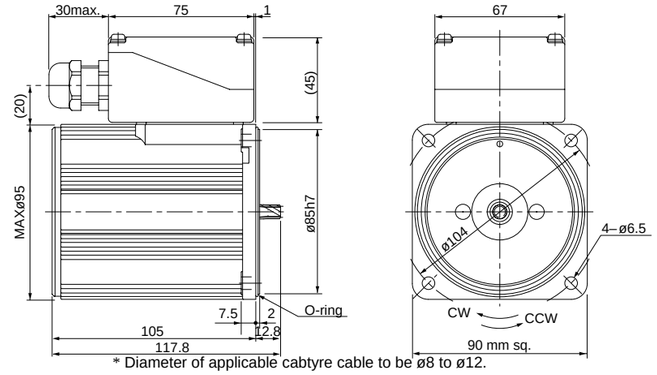
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

Scale: 1/3, Unit: mm

M9RX40GK4LG(A) 4P 40 W 100 V
M9RX40GK4DG(A) 4P 40 W 110 V / 115 V
M9RX40GK4YG(A) 4P 40 W 200 V
M9RX40GK4GG(A) 4P 40 W 220 V / 230 V

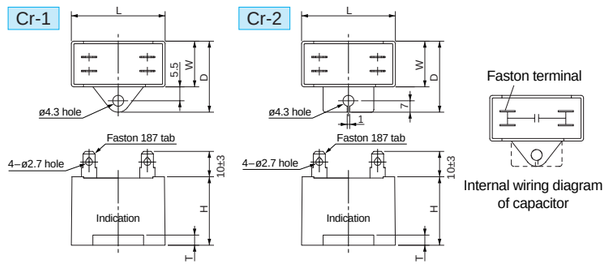
Mass	Helical	Module	Number of teeth
2.8 kg	gear	0.55	9



* Diameter of applicable cabtyre cable to be ø8 to ø12.

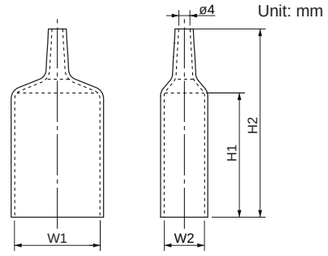
Capacitor (dimensions) [attachment]

Unit: mm



Capacitor cap (dimensions) [attachment]

Unit: mm



• Capacitor dimension list (mm)

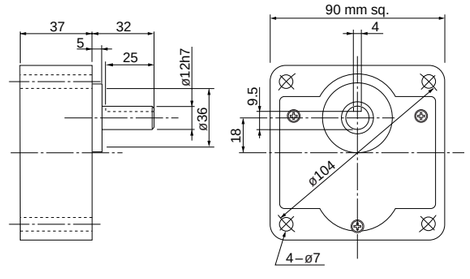
Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	dimension No.	Capacitor cap (attachment)	W1	W2	H1	H2
M9RX40GK4LG(A)	M0PC16M25G	58	23.5	38.5	37	4	Cr-2	M0PC5823G	58	23.5	55	78
M9RX40GK4DG(A)	M0PC12M25G	58	22	32	35	4	Cr-1	M0PC5822G	58	22	55	78
M9RX40GK4YG(A)	M0PC4M45G	58	23.5	38.5	37	4	Cr-2	M0PC5823G	58	23.5	55	78
M9RX40GK4GG(A)	M0PC3.5M45G	58	22	32	35	4	Cr-1	M0PC5822G	58	22	55	78

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

Gear head (dimensions)

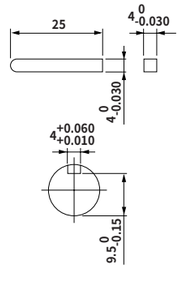
Scale: 1/3, Unit: mm

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



Key and keyway (dimensions) [attachment]

MX9G□B(M)



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

Reversible motor (sealed connector)

90 mm sq. 60 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min⁻¹)	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)	Capacitor (μF) (rated voltage)
90 mm sq.	M9RZ60GK4L	4	60	100	50	30	144	1.5	1200	0.46 (4.7)	2.4	0.50 (5.1)	25 (200V)
					60		163	1.5	1500	0.39 (4.0)	2.3	0.53 (5.4)	
	M9RZ60GK4Y	4	60	200	50	30	146	0.74	1225	0.46 (4.7)	1.2	0.53 (5.4)	6.2 (375V)
					60		153	0.77	1525	0.39 (4.0)	1.3	0.55 (5.6)	

• 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-124.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

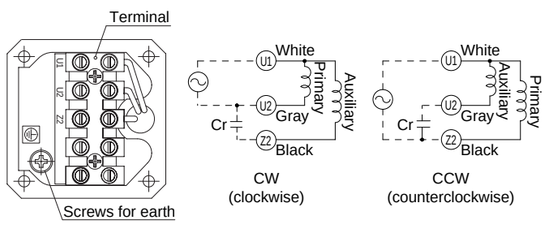
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio			3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180	200
Speed (min⁻¹)		50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3	7.5
		60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10	9
Applicable gear head	MZ9G3BA to MZ9G200B (ball bearing / hinge not attached)	50Hz	0.98 (9.99)	1.18 (12)	1.57 (16)	1.96 (20)	2.35 (24)	2.94 (30)	3.14 (32)	3.92 (40)	4.70 (48)	5.59 (57)	6.27 (64)	7.55 (77)	9.11 (93)	11.0 (112)	15.2 (155)	17.8 (182)	19.6 (200)						
	MY9G3MA to MY9G200M (metal bearing / hinge attached)	60Hz	0.78 (8.0)	0.98 (9.99)	1.37 (14)	1.57 (16)	1.96 (20)	2.35 (24)	2.65 (27)	3.33 (34)	3.92 (40)	4.70 (48)	5.29 (54)	6.47 (66)	7.55 (77)	9.11 (93)	12.6 (129)	15.2 (155)	19.6 (200)						
Rotational direction			Same as motor rotational direction							Reverse to motor rotational direction						Same as motor rotational direction									

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

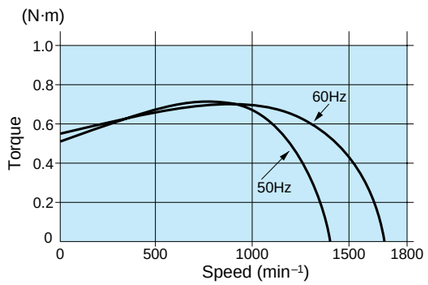
Applicable gear head		Reduction ratio		250	300	360	500	600	750	900	1000	1200	1500	1800
Bearing	Decimal gear head	Speed (min⁻¹)	50Hz	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
			60Hz	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
MZ9G□B (ball bearing / Hinge not attached) MY9G□M (metal bearing / Hinge attached)	MZ9G10XB	Permissible torque	N·m (kgf·cm)	19.6 (200)	19.6 (200)	19.6 (200)	19.6 (200)	19.6 (200)	19.6 (200)	19.6 (200)	19.6 (200)	19.6 (200)	19.6 (200)	19.6 (200)
		Rotational direction		Reverse to motor rotational direction		Same as motor rotational direction								

Connection diagram



Speed-torque characteristics

M9RZ60GK4L

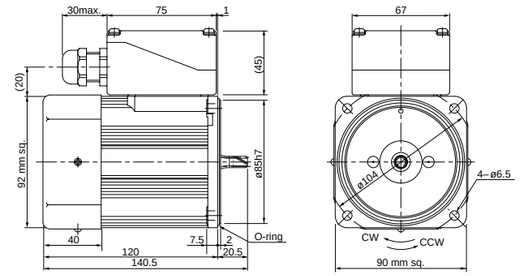


Motor (dimensions)

Scale: 1/4, Unit: mm

M9RZ60GK4L 4P 60 W 100 V (with fan)
M9RZ60GK4Y 4P 60 W 200 V (with fan)

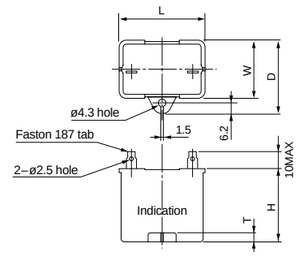
Mass	Helical	Module	Number of teeth
3.0 kg	gear	0.5	9



* Diameter of applicable cabtyre cable to be ø8 to ø12.

Capacitor (dimensions) [attachment]

Unit: mm



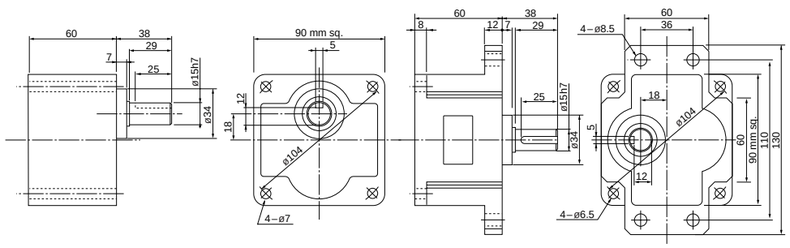
• Capacitor dimension list (mm)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M9RZ60GK4L	M0PC25M20	50.2	31	41	42	5	M0PC5032
M9RZ60GK4Y	M0PC6.2M38	50	30.5	41	41.5	4	M0PC5032

Gear head (dimensions)

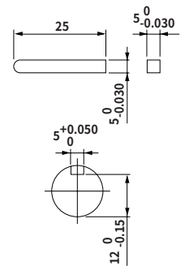
Scale: 1/4, Unit: mm

MZ9G□B (ball bearing / hinge not attached) Mass 1.4 kg
MY9G□M (metal bearing / hinge attached) Mass 1.4 kg



Key and keyway (dimensions) [attachment]

MZ9G□B
MY9G□B



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

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

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

Reversible motor (sealed connector)

90 mm sq. 60 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min⁻¹)	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)	Capacitor (μF) (rated voltage)
90 mm sq.	M9RZ60GK4LG	4	60	100	50	30	137	1.4	1250	0.46 (4.7)	2.4	0.51 (5.2)	25 (250V)
	M9RZ60GK4LGA				60		147	1.5	1550	0.37 (3.8)	2.4	0.53 (5.4)	
	M9RZ60GK4DG	4	60	110	60	30	138	1.3	1575	0.36 (3.7)	2.5	0.50 (5.1)	20 (250V)
	M9RZ60GK4DGA			115	60		144	1.3	1600	0.36 (3.7)	2.6	0.55 (5.6)	
	M9RZ60GK4YG	4	60	200	50	30	135	0.67	1200	0.48 (4.9)	1.0	0.51 (5.2)	6 (450V)
	M9RZ60GK4YGA				60		158	0.81	1500	0.38 (3.9)	1.1	0.53 (5.4)	
	M9RZ60GK4GG	4	60	220	50	30	137	0.64	1225	0.47 (4.8)	1.1	0.50 (5.1)	5 (450V)
	M9RZ60GK4GGA				60		145	0.67	1550	0.37 (3.8)	1.1	0.52 (5.3)	
				230	50		145	0.66	1275	0.45 (4.6)	1.1	0.57 (5.8)	
					60		151	0.67	1575	0.36 (3.7)	1.1	0.57 (5.8)	

• 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-124.
• The models with a motor model number to which “A” is suffixed are not equipped with a capacitor cap.
The models with a motor model number to which “A” is suffixed are not sold or available in Japan.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

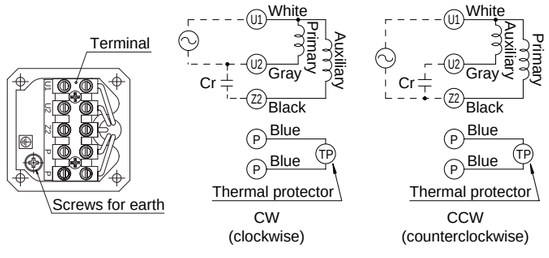
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio			3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180	200
Speed (min⁻¹)		50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3	7.5
		60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10	9
Applicable gear head	MZ9G3B to MZ9G200B (ball bearing / hinge not attached)	50Hz	0.98 (9.99)	1.18 (12)	1.57 (16)	1.96 (20)	2.35 (24)	2.94 (30)	3.14 (32)	3.92 (40)	4.70 (48)	5.59 (57)	6.27 (64)	7.55 (77)	9.11 (93)	11.0 (112)	15.2 (155)	17.8 (182)	19.6 (200)						
	MY9G3B to MY9G200B (ball bearing / hinge attached)	60Hz	0.78 (8.0)	0.98 (9.99)	1.37 (14)	1.57 (16)	1.96 (20)	2.35 (24)	2.65 (27)	3.33 (34)	3.92 (40)	4.70 (48)	5.29 (54)	6.47 (66)	7.55 (77)	9.11 (93)	12.6 (129)	15.2 (155)	19.6 (200)						
Rotational direction			Same as motor rotational direction							Reverse to motor rotational direction						Same as motor rotational direction									

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

Applicable gear head		Reduction ratio		250	300	360	500	600	750	900	1000	1200	1500	1800
Bearing	Decimal gear head	Speed (min⁻¹)	50Hz	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
			60Hz	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
MZ9G□B (ball bearing / hinge not attached) MY9G□B (ball bearing / hinge attached)	MZ9G10XB	Permissible torque	N·m	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6
			(kgf·cm)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)
		Rotational direction		Reverse to motor rotational direction		Same as motor rotational direction								

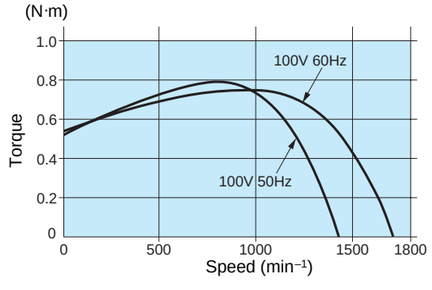
Connection diagram



(Refer to page A-58 for connection of thermal protector.)

Speed-torque characteristics

M9RZ60GK4LG(A)



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

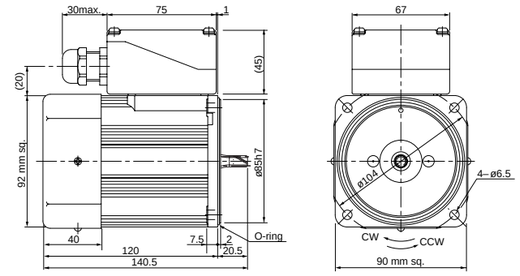
Features B-64 | System configuration B-65 | Coding system B-65 | Model list B-68

Motor (dimensions)

Scale: 1/4, Unit: mm

M9RZ60GK4LG(A) 4P 60 W 100 V (with fan)
M9RZ60GK4DG(A) 4P 60 W 110 V / 115 V (with fan)
M9RZ60GK4YG(A) 4P 60 W 200 V (with fan)
M9RZ60GK4GG(A) 4P 60 W 220 V / 230 V (with fan)

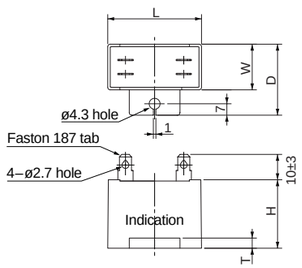
Mass	Helical	Module	Number of teeth
3.0 kg	gear	0.6	9



* Diameter of applicable cabtyre cable to be ø8 to ø12.

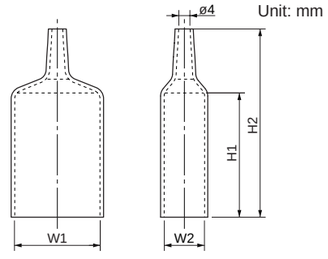
Capacitor (dimensions) [attachment]

Unit: mm



Capacitor cap (dimensions) [attachment]

Unit: mm



• Capacitor dimension list (mm)

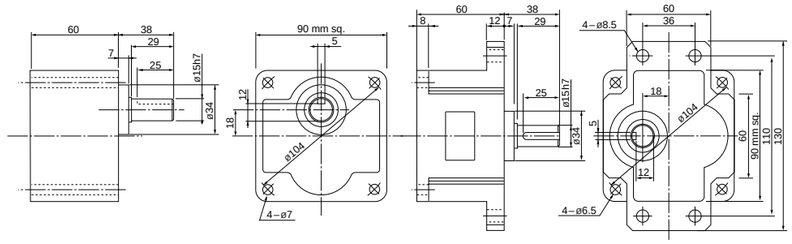
Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (attachment)	W1	W2	H1	H2
M9RZ60GK4LG(A)	M0PC25M25G	58	35	50	50	4	M0PC5835G	58	35	55	78
M9RZ60GK4DG(A)	M0PC20M25G	58	29	44	41	4	M0PC5829G	58	29	55	78
M9RZ60GK4YG(A)	M0PC6M45G	58	29	44	41	4	M0PC5829G	58	29	55	78
M9RZ60GK4GG(A)	M0PC5M45G	58	29	44	41	4	M0PC5829G	58	29	55	78

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

Gear head (dimensions)

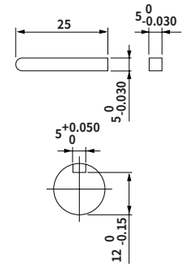
Scale: 1/4, Unit: mm

MZ9G□B (ball bearing / hinge not attached) Mass 1.4 kg **MY9G□M** (metal bearing / hinge attached) Mass 1.4 kg



Key and keyway (dimensions) [attachment]

MZ9G□B
MY9G□B



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

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

Gear head combination B-122 | Round shaft motor dimensions B-124 | Decimal gear head B-384 | Control related product C-4 | Option D-2

Reversible motor (sealed connector)

90 mm sq. 90 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min⁻¹)	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)	Capacitor (μF) (rated voltage)
90 mm sq.	M9RZ90GK4L	4	90	100	50	30	171	1.7	1225	0.70 (7.1)	2.8	0.63 (6.4)	30 (200V)
					60		181	1.9	1525	0.56 (5.7)	2.7	0.64 (6.5)	
	M9RZ90GK4Y	4	90	200	50	30	184	0.93	1150	0.72 (7.3)	1.4	0.64 (6.5)	7.5 (370V)
					60		190	0.96	1475	0.57 (5.8)	1.4	0.66 (6.7)	

• 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-124.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

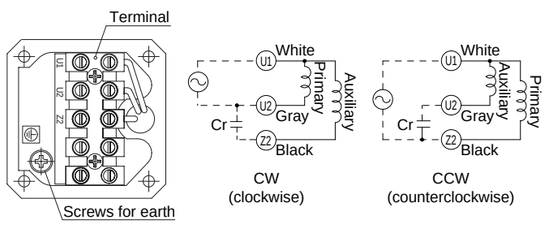
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180	200
Speed (min⁻¹)	50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3	7.5
	60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10	9
Applicable gear head: MZ9G3B to MZ9G200B (ball bearing / hinge not attached)	50Hz	1.37 (14)	1.67 (17)	2.25 (23)	2.74 (28)	3.43 (35)	4.12 (42)	4.51 (46)	5.68 (58)	6.76 (69)	8.04 (82)	9.02 (92)	10.9 (111)	13.0 (133)	15.7 (160)	19.6 (200)	19.6 (200)							
Applicable gear head: MY9G3B to MY9G200B (ball bearing / hinge attached)	60Hz	1.18 (12)	1.37 (14)	1.86 (19)	2.25 (23)	2.84 (29)	3.43 (35)	3.72 (38)	4.70 (48)	5.68 (58)	6.76 (69)	7.55 (77)	9.21 (94)	10.9 (111)	13.0 (133)	18.3 (187)	19.6 (200)							
Rotational direction		Same as motor rotational direction							Reverse to motor rotational direction						Same as motor rotational direction									

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

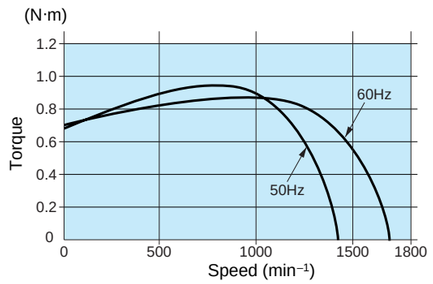
Applicable gear head: Bearing	Decimal gear head	Reduction ratio		250	300	360	500	600	750	900	1000	1200	1500	1800
		Speed (min⁻¹)	50Hz	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
			60Hz	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
MZ9G□B (ball bearing / hinge not attached) MY9G□B (ball bearing / hinge attached)	MZ9G10XB	Permissible torque	N·m	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6
			(kgf·cm)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)
		Rotational direction		Reverse to motor rotational direction		Same as motor rotational direction								

Connection diagram



Speed-torque characteristics

M9RZ90GK4L



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

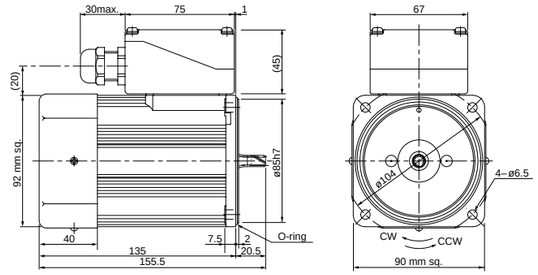
Features B-64 | System configuration B-65 | Coding system B-65 | Model list B-68

Motor (dimensions)

Scale: 1/4, Unit: mm

M9RZ90GK4L 4P 90W 100V (with fan)
M9RZ90GK4Y 4P 90W 200V (with fan)

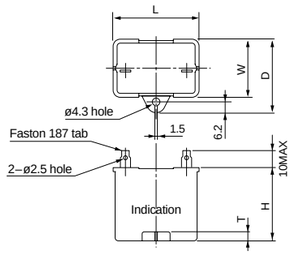
Mass	Helical gear	Module	Number of teeth
3.3 kg		0.5	9



* Diameter of applicable cabtyre cable to be ø8 to ø12.

Capacitor (dimensions) [attachment]

Unit: mm



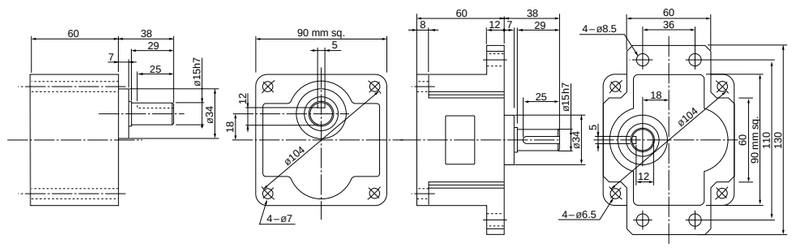
• Capacitor dimension list (mm)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M9RZ90GK4L	M0PC30M20	50.2	31	41	42	5	M0PC5032
M9RZ90GK4Y	M0PC7.5M37	50	34	45	45	6	—

Gear head (dimensions)

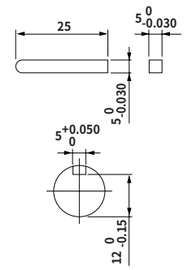
Scale: 1/4, Unit: mm

MZ9G□B (ball bearing / hinge not attached) Mass 1.4 kg
MY9G□M (metal bearing / hinge attached) Mass 1.4 kg



Key and keyway (dimensions) [attachment]

MZ9G□B
MY9G□B



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

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

Gear head combination B-122 | Round shaft motor dimensions B-124 | Decimal gear head B-384 | Control related product C-4 | Option D-2

Reversible motor (sealed connector)

90 mm sq. 90 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min⁻¹)	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)	Capacitor (μF) (rated voltage)
90 mm sq.	M9RZ90GK4LG M9RZ90GK4LGA	4	90	100	50	30	195	2.0	1175	0.73 (7.5)	3.0	0.68 (6.9)	32 (250V)
					60		203	2.0	1525	0.57 (5.8)	2.9	0.68 (6.9)	
	M9RZ90GK4DG M9RZ90GK4DGA	4	90	110	60	30	201	1.8	1550	0.55 (5.7)	3.1	0.72 (7.3)	28 (250V)
				115	60		209	1.8	1575	0.55 (5.6)	3.2	0.79 (8.1)	
	M9RZ90GK4YG M9RZ90GK4YGA	4	90	200	50	30	185	0.93	1175	0.73 (7.5)	1.4	0.68 (6.9)	8 (450V)
					60		206	1.1	1500	0.57 (5.8)	1.4	0.68 (6.9)	
	M9RZ90GK4GG M9RZ90GK4GGA	4	90	220	50	30	191	0.89	1225	0.70 (7.2)	1.5	0.72 (7.3)	7 (450V)
					60		197	0.90	1550	0.55 (5.7)	1.4	0.72 (7.3)	
				230	50		202	0.92	1250	0.69 (7.0)	1.6	0.79 (8.1)	
					60		204	0.88	1575	0.55 (5.6)	1.5	0.79 (8.1)	

• The specifications and wire connections of the round shaft motor are the same as those of the pinion shaft type. For the dimensional outline drawing, refer to page B-124.
• The models with a motor model number to which “A” is suffixed are not equipped with a capacitor cap.
The models with a motor model number to which “A” is suffixed are not sold or available in Japan.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

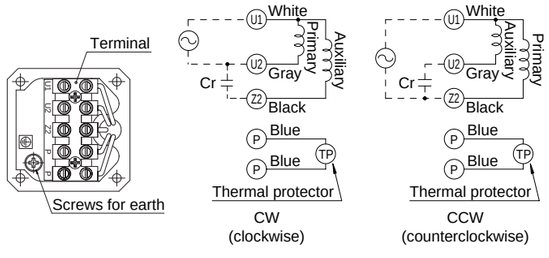
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180	200
Speed (min⁻¹)	50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3	7.5
	60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10	9
Applicable gear head: MZ9G3B to MZ9G200B (ball bearing / hinge not attached)	50Hz	1.37 (14)	1.67 (17)	2.25 (23)	2.74 (28)	3.43 (35)	4.12 (42)	4.51 (46)	5.68 (58)	6.76 (69)	8.04 (82)	9.02 (92)	10.9 (111)	13.0 (133)	15.7 (160)	19.6 (200)	19.6 (200)							
Applicable gear head: MY9G3B to MY9G200B (ball bearing / hinge attached)	60Hz	1.18 (12)	1.37 (14)	1.86 (19)	2.25 (23)	2.84 (29)	3.43 (35)	3.72 (38)	4.70 (48)	5.68 (58)	6.76 (69)	7.55 (77)	9.21 (94)	10.9 (111)	13.0 (133)	18.3 (187)	19.6 (200)							
Rotational direction		Same as motor rotational direction							Reverse to motor rotational direction							Same as motor rotational direction								

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

Applicable gear head		Reduction ratio		250	300	360	500	600	750	900	1000	1200	1500	1800
Bearing	Decimal gear head	Speed (min⁻¹)	50Hz	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
			60Hz	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
MZ9G□B (ball bearing / hinge not attached) MY9G□B (ball bearing / hinge attached)	MZ9G10XB	Permissible torque	N·m	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6
			(kgf·cm)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)
		Rotational direction		Reverse to motor rotational direction		Same as motor rotational direction								

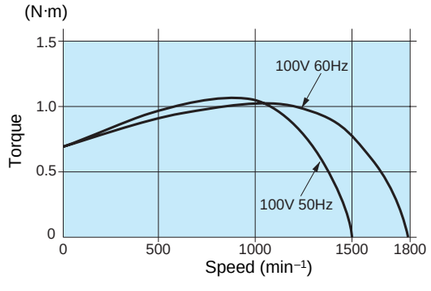
Connection diagram



(Refer to page A-58 for connection of thermal protector.)

Speed-torque characteristics

M9RZ90GK4LG(A)



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

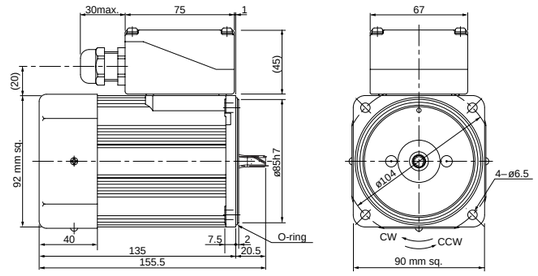
Features B-64 | System configuration B-65 | Coding system B-65 | Model list B-68

Motor (dimensions)

Scale: 1/4, Unit: mm

M9RZ90GK4LG(A) 4P 90 W 100 V (with fan)
M9RZ90GK4DG(A) 4P 90 W 110 V / 115 V (with fan)
M9RZ90GK4YG(A) 4P 90 W 200 V (with fan)
M9RZ90GK4GG(A) 4P 90 W 220 V / 230 V (with fan)

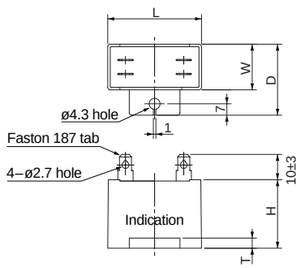
Mass	Helical	Module	Number of teeth
3.3 kg	gear	0.6	9

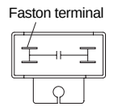


* Diameter of applicable cabtyre cable to be ø8 to ø12.

Capacitor (dimensions) [attachment]

Unit: mm

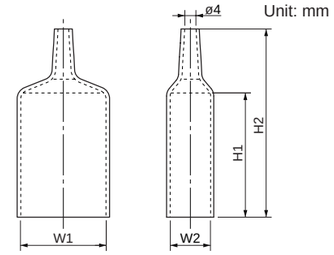




Internal wiring diagram of capacitor

Capacitor cap (dimensions) [attachment]

Unit: mm



• Capacitor dimension list (mm)

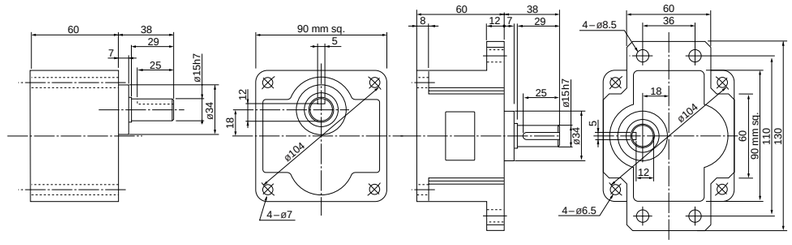
Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (attachment)	W1	W2	H1	H2
M9RZ90GK4LG(A)	M0PC32M25G	58	35	50	50	4	M0PC5835G	58	35	55	78
M9RZ90GK4DG(A)	M0PC28M25G	58	35	50	50	4	M0PC5835G	58	35	55	78
M9RZ90GK4YG(A)	M0PC8M45G	58	35	50	50	4	M0PC5835G	58	35	55	78
M9RZ90GK4GG(A)	M0PC7M45G	58	35	50	50	4	M0PC5835G	58	35	55	78

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

Gear head (dimensions)

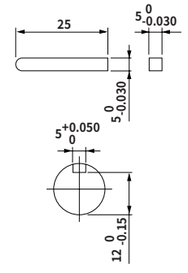
Scale: 1/4, Unit: mm

MZ9G□B (ball bearing / hinge not attached) Mass 1.4 kg **MY9G□M** (metal bearing / hinge attached) Mass 1.4 kg



Key and keyway (dimensions) [attachment]

MZ9G□B
MY9G□B



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

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

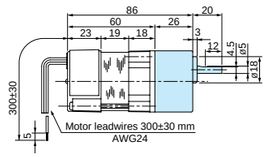
Gear head combination B-122 | Round shaft motor dimensions B-124 | Decimal gear head B-384 | Control related product C-4 | Option D-2

Reversible motor (leadwire)

Gear head combination dimensions
Scale: 1/4, Unit: mm

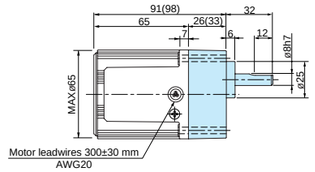
42 mm sq. 1 W

M4RA1G4L + M4GA□F



60 mm sq. 4 W

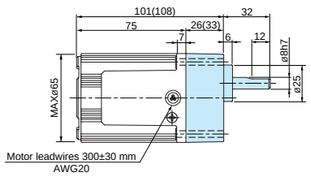
M6RX4G4L + MX6G□BA(MA) / MX6G□B(M)



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

60 mm sq. 6 W

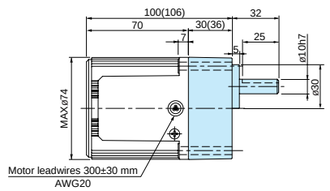
M6RX6G4L + MX6G□BA(MA) / MX6G□B(M)
M6RX6G4Y + MX6G□BA(MA) / MX6G□B(M)
M6RX6G4LG(A) + MX6G□BA(MA) / MX6G□B(M)
M6RX6G4DG(A) + MX6G□BA(MA) / MX6G□B(M)
M6RX6G4YG(A) + MX6G□BA(MA) / MX6G□B(M)
M6RX6G4GG(A) + MX6G□BA(MA) / MX6G□B(M)



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

70 mm sq. 10 W

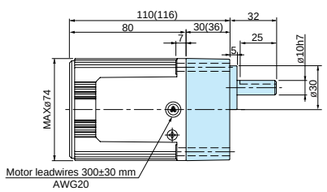
M7RX10G4L + MX7G□BA(MA) / MX7G□B(M)
M7RX10G4Y + MX7G□BA(MA) / MX7G□B(M)



* Figures in ( ) represent the dimensions of MX7G□B (M) (1/30 or larger reduction ratio).
The model number of the gear head with a reduction ratio of 1/25 or smaller is MX7G□BA (MA).

70 mm sq. 15 W

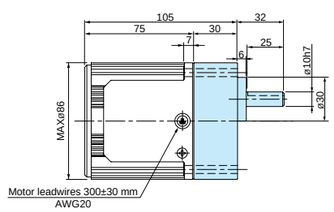
M7RX15G4L + MX7G□BA(MA) / MX7G□B(M)
M7RX15G4Y + MX7G□BA(MA) / MX7G□B(M)
M7RX15G4LG(A) + MX7G□BA(MA) / MX7G□B(M)
M7RX15G4DG(A) + MX7G□BA(MA) / MX7G□B(M)
M7RX15G4YG(A) + MX7G□BA(MA) / MX7G□B(M)
M7RX15G4GG(A) + MX7G□BA(MA) / MX7G□B(M)



* Figures in ( ) represent the dimensions of MX7G□B (M) (1/30 or larger reduction ratio).
The model number of the gear head with a reduction ratio of 1/25 or smaller is MX7G□BA (MA).

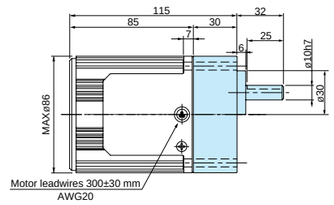
80 mm sq. 20 W

M8RX20G4L + MX8G□B(M)
M8RX20G4Y + MX8G□B(M)



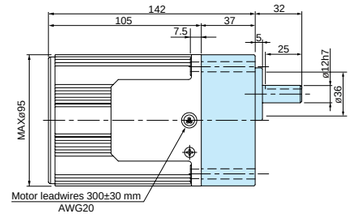
80 mm sq. 25 W

M8RX25G4L + MX8G□B(M)
M8RX25G4Y + MX8G□B(M)
M8RX25G4LG(A) + MX8G□B(M)
M8RX25G4DG(A) + MX8G□B(M)
M8RX25G4YG(A) + MX8G□B(M)
M8RX25G4GG(A) + MX8G□B(M)



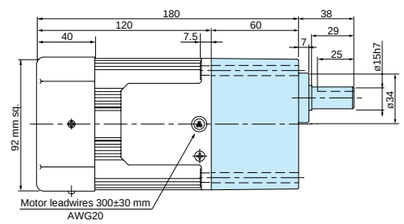
90 mm sq. 40 W

M9RX40G4L + MX9G□B(M)
M9RX40G4Y + MX9G□B(M)
M9RX40G4LG(A) + MX9G□B(M)
M9RX40G4DG(A) + MX9G□B(M)
M9RX40G4YG(A) + MX9G□B(M)
M9RX40G4GG(A) + MX9G□B(M)



90 mm sq. 60 W

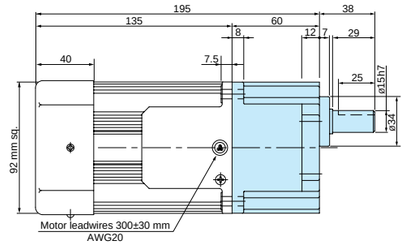
M9RZ60G4L + MZ9G□B (MY9G□B)
M9RZ60G4Y + MZ9G□B (MY9G□B)
M9RZ60G4LG(A) + MZ9G□B (MY9G□B)
M9RZ60G4DG(A) + MZ9G□B (MY9G□B)
M9RZ60G4YG(A) + MZ9G□B (MY9G□B)
M9RZ60G4GG(A) + MZ9G□B (MY9G□B)



* Refer to page B-380 for high torque gear head.

90 mm sq. 90 W

M9RZ90G4L + MY9G□B (MZ9G□B)
M9RZ90G4Y + MY9G□B (MZ9G□B)
M9RZ90G4LG(A) + MY9G□B (MZ9G□B)
M9RZ90G4DG(A) + MY9G□B (MZ9G□B)
M9RZ90G4YG(A) + MY9G□B (MZ9G□B)
M9RZ90G4GG(A) + MY9G□B (MZ9G□B)



* Refer to page B-380 for high torque gear head.

* 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.

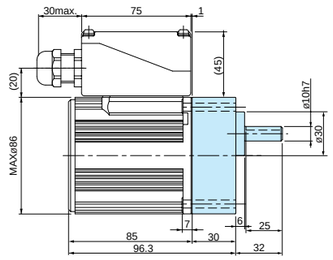
(Note) Because the dimensions may be subject to change, also check the determinate dimensions if the gear head is to be used for design.

Reversible motor (sealed connector)

Gear head combination dimensions
Scale: 1/4, Unit: mm

90 mm sq. 25 W

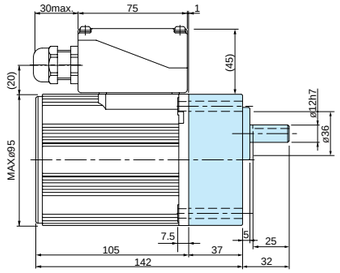
M8RX25GK4L + MX8G□B(M)
M8RX25GK4Y + MX8G□B(M)
M8RX25GK4LG(A) + MX8G□B(M)
M8RX25GK4DG(A) + MX8G□B(M)
M8RX25GK4YG(A) + MX8G□B(M)
M8RX25GK4GG(A) + MX8G□B(M)



* Diameter of applicable cabtyre cable to be ø8 to ø12.

90 mm sq. 40 W

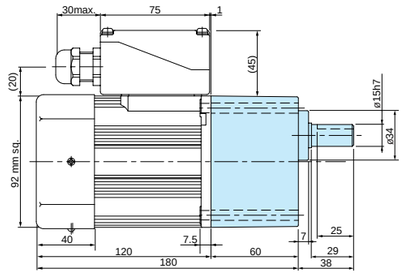
M9RX40GK4L + MX9G□B(M)
M9RX40GK4Y + MX9G□B(M)
M9RX40GK4LG(A) + MX9G□B(M)
M9RX40GK4DG(A) + MX9G□B(M)
M9RX40GK4YG(A) + MX9G□B(M)
M9RX40GK4GG(A) + MX9G□B(M)



* Diameter of applicable cabtyre cable to be ø8 to ø12.

90 mm sq. 60 W

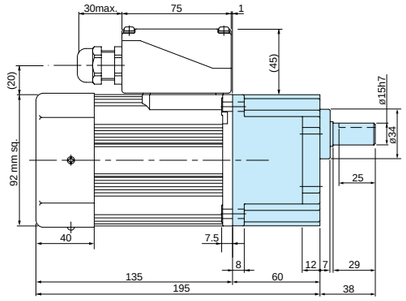
M9RZ60GK4L + MZ9G□B (MY9G□B)
M9RZ60GK4Y + MZ9G□B (MY9G□B)
M9RZ60GK4LG(A) + MZ9G□B (MY9G□B)
M9RZ60GK4DG(A) + MZ9G□B (MY9G□B)
M9RZ60GK4YG(A) + MZ9G□B (MY9G□B)
M9RZ60GK4GG(A) + MZ9G□B (MY9G□B)



* Diameter of applicable cabtyre cable to be ø8 to ø12.
* Refer to page B-380 for high torque gear head.

90 mm sq. 90 W

M9RZ90GK4L + MY9G□B (MZ9G□B)
M9RZ90GK4Y + MY9G□B (MZ9G□B)
M9RZ90GK4LG(A) + MY9G□B (MZ9G□B)
M9RZ90GK4DG(A) + MY9G□B (MZ9G□B)
M9RZ90GK4YG(A) + MY9G□B (MZ9G□B)
M9RZ90GK4GG(A) + MY9G□B (MZ9G□B)



* Diameter of applicable cabtyre cable to be ø8 to ø12.
* Refer to page B-380 for high torque gear head.

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

* 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-64 | System configuration B-65 | Coding system B-65 | Model list B-68

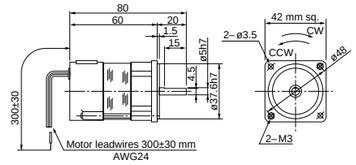
Reversible motor (4-pole round shaft / leadwire)

Dimensions
Scale: 1/4, Unit: mm

42 mm sq. 1 W

Mass 0.3 kg

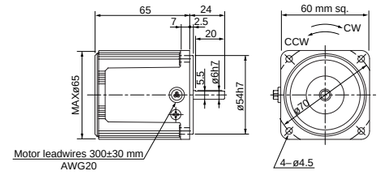
M4RA1S4L



60 mm sq. 4 W

Mass 0.56 kg

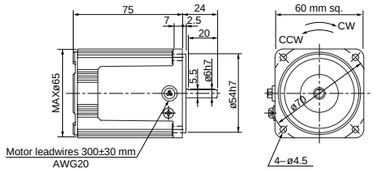
M6RX4S4LS



60 mm sq. 6 W

Mass 0.67 kg

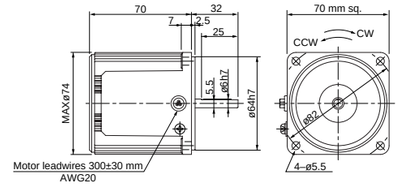
M6RX6S4LS M6RX6S4LG(A) M6RX6S4YG(A)
M6RX6S4YS M6RX6S4DG(A) M6RX6S4GG(A)



70 mm sq. 10 W

Mass 0.84 kg

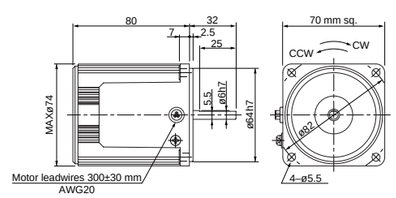
M7RX10S4LS
M7RX10S4YS



70 mm sq. 15 W

Mass 1.1 kg

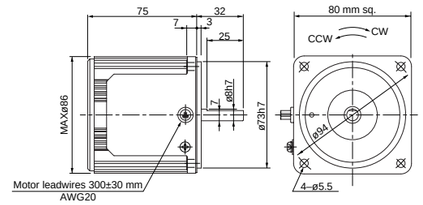
M7RX15S4LS M71X15S4LG(A) M71X15S4YG(A)
M7RX15S4YS M71X15S4DG(A) M71X15S4GG(A)



80 mm sq. 20 W

Mass 1.2 kg

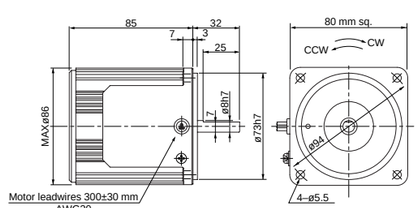
M8RX20S4LS
M8RX20S4YS



80 mm sq. 25 W

Mass 1.5 kg

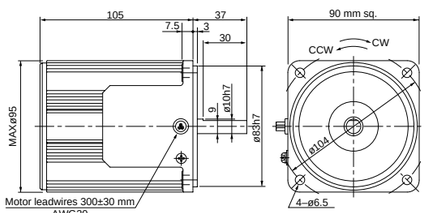
M8RX25S4LS M8RX25S4LG(A) M8RX25S4YG(A)
M8RX25S4YS M8RX25S4DG(A) M8RX25S4GG(A)



90 mm sq. 40 W

Mass 2.4 kg

M9RX40S4LS M9RX40S4LG(A) M9RX40S4YG(A)
M9RX40S4YS M9RX40S4DG(A) M9RX40S4GG(A)



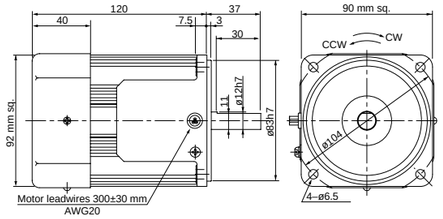
(Note) Because the dimensions may be subject to change, also check the determinate dimensions if the gear head is to be used for design.

Reversible motor (4-pole round shaft / leadwire)

Dimensions
Scale: 1/4, Unit: mm

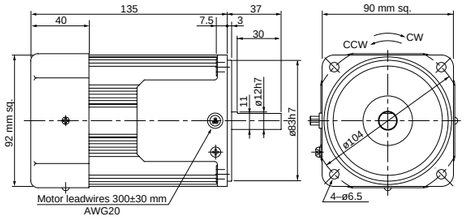
90 mm sq. 60 W Mass 2.7 kg

M9RZ60S4LS (with fan)
M9RZ60S4YS (with fan)
M9RZ60S4LG(A) (with fan)
M9RZ60S4DG(A) (with fan)
M9RZ60S4YG(A) (with fan)
M9RZ60S4GG(A) (with fan)



90 mm sq. 90 W Mass 3.4 kg

M9RZ90S4LS (with fan)
M9RZ90S4YS (with fan)
M9RZ90S4LG(A) (with fan)
M9RZ90S4DG(A) (with fan)
M9RZ90S4YG(A) (with fan)
M9RZ90S4GG(A) (with fan)

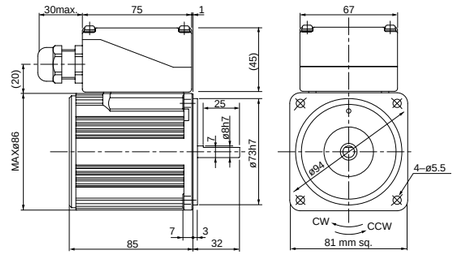


Reversible motor (4-pole round shaft /sealed connector)

Dimensions
Scale: 1/4, Unit: mm

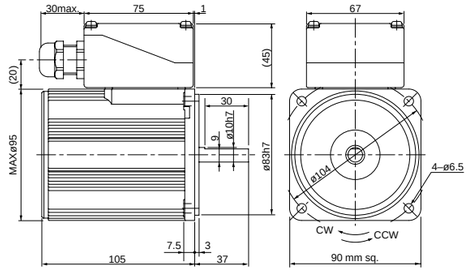
90 mm sq. 25 W Mass 1.8 kg

M8RX25SK4LS
M8RX25SK4YS
M8RX25SK4LG(A)
M8RX25SK4YG(A)
M8RX25SK4DG(A)
M8RX25SK4GG(A)



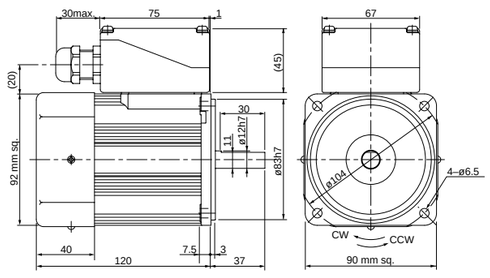
90 mm sq. 40 W Mass 2.8 kg

M9RX40SK4LS
M9RX40SK4YS
M9RX40SK4LG(A)
M9RX40SK4YG(A)
M9RX40SK4DG(A)
M9RX40SK4GG(A)



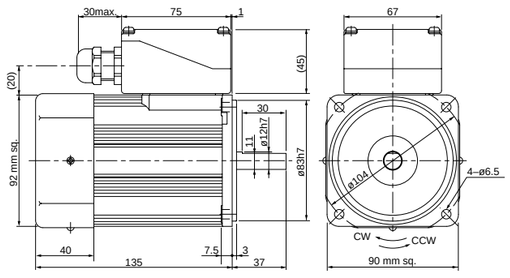
90 mm sq. 60 W Mass 3.0 kg

M9RZ60SK4LS (with fan)
M9RZ60SK4YS (with fan)
M9RZ60SK4LG(A) (with fan)
M9RZ60SK4DG(A) (with fan)
M9RZ60SK4YG(A) (with fan)
M9RZ60SK4GG(A) (with fan)



90 mm sq. 90 W Mass 3.3 kg

M9RZ90SK4LS (with fan)
M9RZ90SK4YS (with fan)
M9RZ90SK4LG(A) (with fan)
M9RZ90SK4DG(A) (with fan)
M9RZ90SK4YG(A) (with fan)
M9RZ90SK4GG(A) (with fan)



100V/200V round shaft motors with a sealed connector (with a terminal box) are covered by the Electrical Appliance and Material Safety Law. The indications on their nameplate are based on this law.

*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.

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

3-phase Motor

Contents

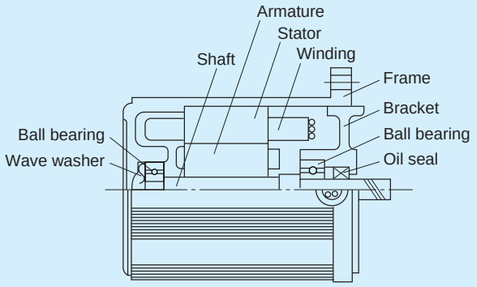
- Motor Overview B-126
- Model list B-128
- Product information for each model B-130
- Gear head combination dimensions B-162
- Round shaft motor dimensions B-164

Outline of 3-phase motor

Features

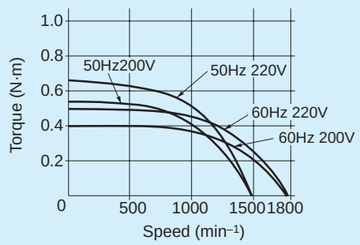
- The 3-phase motor is an induction motor for 3-phase power.
- Continuous time rating
- The motor with national specifications is of heatproof class 120 (E); the motor with specifications compliant with overseas standards is of heatproof class 130 (B).

Construction



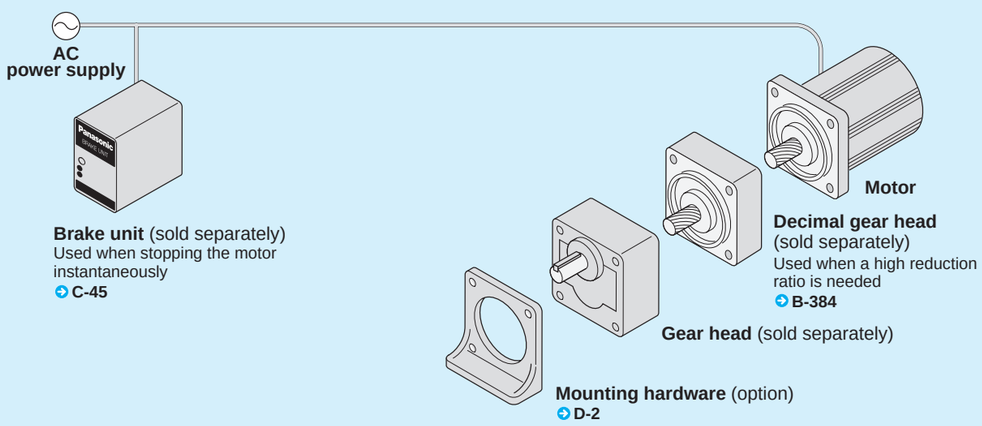
Characteristics

• Speed-torque characteristics



Example: M8MX25G4Y

System configuration diagram



Coding system

M 9 M X 40 G 4 Y S A

- **9 Size**
  - 8 : 80 mm sq.
  - 9 : 90 mm sq.
- **M Motor type**
  - M : 3-phase motor
- **X Output type**
  - X : 40 W or smaller
  - Z : 60 W or larger
- **40 Output**
  - 25 : 25 W
  - 40 : 40 W
  - 60 : 60 W
  - 90 : 90 W
- **G Shape of shaft**
  - G : Pinion shaft
  - S : Round shaft
- **Option**
  - K : Sealed connector (Left aligned when no option is used)
- **4 No. of poles**
  - 4 : 4 poles
- **Y Voltage**
  - Y : National specifications: 200/220 V
    Specifications compliant with overseas standards: 200/220/230 V
  - C : 380/400 V
- **S Classification**
  - G : Specifications compliant with overseas standards
  - S : Round shaft (S for round shaft with national specifications only)
- **A**
  - The models with a motor model number to which “A” is suffixed are not sold or available in Japan.

Corresponding model number	Shape of shaft	Classification
Specifications compliant with overseas standards Pinion shaft	G	G
Specifications compliant with overseas standards Round shaft	S	G
National specifications Pinion shaft	G	–
National specifications Round shaft	S	S
42 mm sq. round shaft specifications	S	–

Model list of 3-phase motor

Pinion shaft motor

✪ Motor compliant with overseas standards

Size	Output (W)	Leadwire type			Sealed connector type		
		Model number	Specifications	Page	Model number	Specifications	Page
80 mm sq.	25	M8MX25G4Y	200/220V	B-130	M8MX25GK4Y	200/220V	B-146
		M8MX25G4YG(A)	200/220/230V ✪	B-132	M8MX25GK4YG(A)	200/220/230V ✪	B-148
					M8MX25GK4CG(A)	380/400V ✪	B-148
90 mm sq.	40	M9MX40G4Y	200/220V	B-134	M9MX40GK4Y	200/220V	B-150
		M9MX40G4YG(A)	200/220/230V ✪	B-136	M9MX40GK4YG(A)	200/220/230V ✪	B-152
					M9MX40GK4CG(A)	380/400V ✪	B-152
	60	M9MZ60G4Y	200/220V	B-138	M9MZ60GK4Y	200/220V	B-154
		M9MZ60G4YG(A)	200/220/230V ✪	B-140	M9MZ60GK4YG(A)	200/220/230V ✪	B-156
					M9MZ60GK4CG(A)	380/400V ✪	B-156
	90	M9MZ90G4Y	200/220V	B-142	M9MZ90GK4Y	200/220V	B-158
		M9MZ90G4YG(A)	200/220/230V ✪	B-144	M9MZ90GK4YG(A)	200/220/230V ✪	B-160
					M9MZ90GK4CG(A)	380/400V ✪	B-160

Applicable gear head

Hinge attached

Standard gear head		High torque gear head	Right-angle gear head	Decimal gear head
Ball bearing	metal bearing			
MX8G□B	MX8G□M	–	–	MX8G10XB
MX9G□B	MX9G□M	–	MX9G□R	MX9G10XB
MZ9G□B	–	MR9G□B	MZ9G□R	MZ9G10XB
MY9G□B		MP9G□B		

*Refer to page B-380 for dimensions and permissible torque of high torque gear head.
Refer to page B-382 for dimensions and permissible torque of right-angle gear head.
Refer to page B-384 for dimensions of decimal gear head.

Round shaft motor

✪ Motor compliant with overseas standards
PSE Electrical Appliance and Material Safety Law

Size	Output (W)	Leadwire type		Sealed connector type		
		Model number	Specifications	Model number	Specifications	
80 mm sq.	25	M8MX25S4YS	200/220V	M8MX25SK4YS	200/220V	PSE
		M8MX25S4YG(A)	200/220/230V ✪	M8MX25SK4YG(A)	200/220/230V ✪	PSE
				M8MX25SK4CG(A)	380/400V ✪	
90 mm sq.	40	M9MX40S4YS	200/220V	M9MX40SK4YS	200/220V	PSE
		M9MX40S4YG(A)	200/220/230V ✪	M9MX40SK4YG(A)	200/220/230V ✪	PSE
				M9MX40SK4CG(A)	380/400V ✪	
	60	M9MZ60S4YS	200/220V	M9MZ60SK4YS	200/220V	PSE
		M9MZ60S4YG(A)	200/220/230V ✪	M9MZ60SK4YG(A)	200/220/230V ✪	PSE
				M9MZ60SK4CG(A)	380/400V ✪	
	90	M9MZ90S4YS	200/220V	M9MZ90SK4YS	200/220V	PSE
		M9MZ90S4YG(A)	200/220/230V ✪	M9MZ90SK4YG(A)	200/220/230V ✪	PSE
				M9MZ90SK4CG(A)	380/400V ✪	

* 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-164.

<Notice>
380V/400V 3-phase round shaft motors with a sealed connector are not covered by the Electrical Appliance and Material Safety Law.

3-phase motor (leadwire)

80 mm sq. 25 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min^{-1})	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)
80 mm sq.	M8MX25G4Y	4	25	200	50	Cont.	50	0.25	1350	0.18 (1.8)	0.62	0.54 (5.5)
					60		47	0.22	1625	0.15 (1.5)	0.58	0.40 (4.0)
				220	50	Cont.	54	0.27	1375	0.18 (1.8)	0.67	0.66 (6.7)
					60		49	0.23	1650	0.15 (1.5)	0.64	0.50 (5.1)

• The specifications and wire connections of the round shaft motor are the same as those of the pinion shaft type. For the dimensional outline drawing, refer to page B-164.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

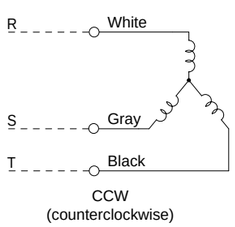
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio			3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180
Speed (min^{-1})		50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3
		60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10
Applicable gear head	MX8G3B to MX8G180B (ball bearing)	50Hz	0.39 (4.0)	0.47 (4.8)	0.66 (6.7)	0.78 (8.0)	0.98 (10)	1.18 (12)	1.27 (13)	1.57 (16)	1.96 (20)	2.35 (24)	2.55 (26)	3.14 (32)	3.82 (39)	4.61 (47)	6.37 (65)	7.64 (78)	7.84 (80)					
	MX8G3M to MX8G180M (metal bearing)	60Hz	0.32 (3.3)	0.39 (4.0)	0.55 (5.6)	0.66 (6.7)	0.81 (8.3)	0.98 (10)	1.08 (11)	1.27 (13)	1.57 (16)	1.96 (20)	2.06 (21)	2.65 (27)	3.14 (32)	3.82 (39)	5.29 (54)	6.37 (65)	7.84 (80)					
Rotational direction			Same as motor rotational direction												Reverse to motor rotational direction									

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

Applicable gear head		Reduction ratio		200	250	300	360	500	600	750	900	1000	1200	1500	1800
Bearing	Decimal gear head	Speed (min^{-1})	50Hz	7.5	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
			60Hz	9	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
MX8G□B (ball bearing) MX8G□M (metal bearing)	MX8G10XB	Permissible torque	N·m	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84
			(kgf·cm)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)
		Rotational direction		Same as motor rotational direction		Reverse to motor rotational direction									

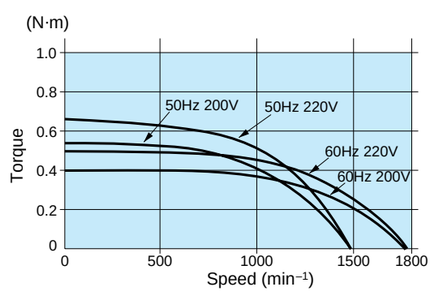
Connection diagram



Change any two lead wires of R, S and T for CW rotation.

Speed-torque characteristics

M8MX25G4Y



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

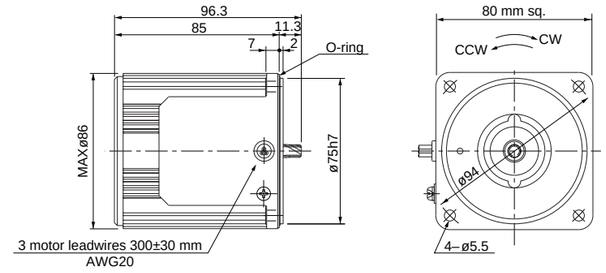
Features B-126 | System configuration B-127 | Coding system B-127 | Model list B-128

Motor (dimensions)

Scale: 1/3, Unit: mm

M8MX25G4Y 4P 25 W 200 V / 220 V

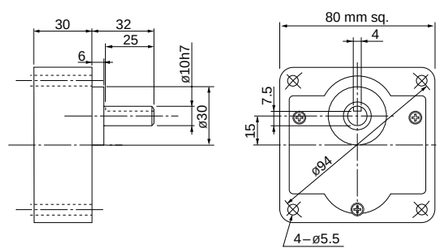
Mass	Helical gear	Module	Number of teeth
1.5 kg		0.5	9



Gear head (dimensions)

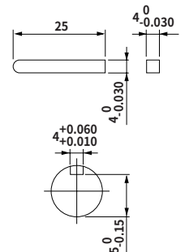
Scale: 1/3, Unit: mm

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



Key and keyway (dimensions) [attachment]

MX8G□B(M)



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

Gear head combination B-162 | Round shaft motor dimensions B-164 | Decimal gear head B-384 | Control related product C-4 | Option D-2

3-phase motor (leadwire)

80 mm sq. 25 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min⁻¹)	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)
80 mm sq.	M8MX25G4YG M8MX25G4YGA	4	25	200	50	Cont.	50	0.25	1350	0.18 (1.8)	0.62	0.54 (5.5)
					60		47	0.22	1625	0.15 (1.5)	0.58	0.40 (4.0)
				220	60		49	0.23	1650	0.14 (1.5)	0.64	0.50 (5.1)
				230	60		50	0.24	1675	0.14 (1.5)	0.65	0.54 (5.5)

• The specifications and wire connections of the round shaft motor are the same as those of the pinion shaft type. For the dimensional outline drawing, refer to page B-164.
• The models with a motor model number to which "A" is suffixed are not sold or available in Japan.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

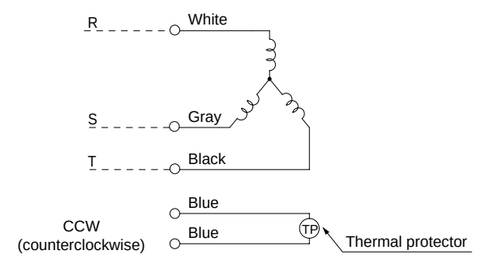
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio			3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180
Speed (min⁻¹)		50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3
		60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10
Applicable gear head	MX8G3B to MX8G180B (ball bearing)	50Hz	0.39 (4.0)	0.47 (4.8)	0.66 (6.7)	0.78 (8.0)	0.98 (10)	1.18 (12)	1.27 (13)	1.57 (16)	1.96 (20)	2.35 (24)	2.55 (26)	3.14 (32)	3.82 (39)	4.61 (47)	6.37 (65)	7.64 (78)	7.84 (80)					
	MX8G3M to MX8G180M (metal bearing)	60Hz	0.32 (3.3)	0.39 (4.0)	0.55 (5.6)	0.66 (6.7)	0.81 (8.3)	0.98 (10)	1.08 (11)	1.27 (13)	1.57 (16)	1.96 (20)	2.06 (21)	2.65 (27)	3.14 (32)	3.82 (39)	5.29 (54)	6.37 (65)	7.84 (80)					
Rotational direction			Same as motor rotational direction												Reverse to motor rotational direction									

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

Applicable gear head		Reduction ratio		200	250	300	360	500	600	750	900	1000	1200	1500	1800
Bearing	Decimal gear head	Speed (min⁻¹)	50Hz	7.5	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
			60Hz	9	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
MX8G□B (ball bearing) MX8G□M (metal bearing)	MX8G10XB	Permissible torque	N·m	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84
			(kgf·cm)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)
		Rotational direction		Same as motor rotational direction		Reverse to motor rotational direction									

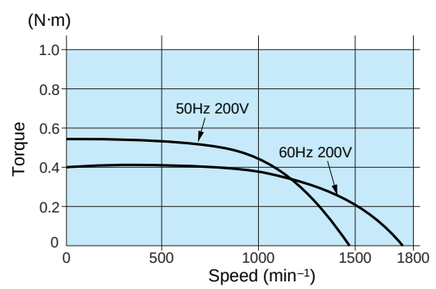
Connection diagram



Change any two lead wires of R, S and T for CW rotation.
(Refer to page A-58 for connection of thermal protector.)

Speed-torque characteristics

M8MX25G4YG(A)

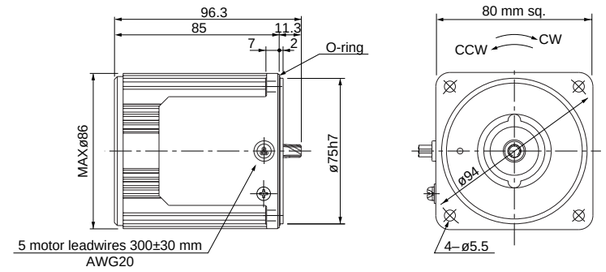


Motor (dimensions)

Scale: 1/3, Unit: mm

M8MX25G4YG(A) 4P 25 W 200 V / 220 V / 230 V

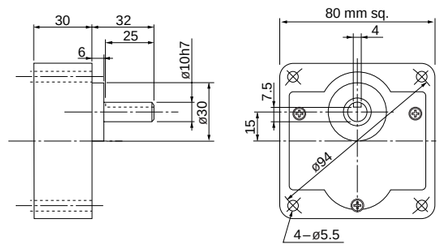
Mass	Helical	Module	Number of teeth
1.5 kg	gear	0.5	9



Gear head (dimensions)

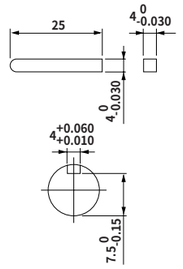
Scale: 1/3, Unit: mm

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



Key and keyway (dimensions) [attachment]

MX8G□B(M)



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

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

3-phase motor (leadwire)

90 mm sq. 40 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min^{-1})	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)
90 mm sq.	M9MX40G4Y	4	40	200	50	Cont.	69	0.31	1350	0.28 (2.9)	0.90	0.72 (7.3)
					60		68	0.29	1625	0.24 (2.4)	0.82	0.51 (5.2)
				220	50	Cont.	70	0.32	1375	0.27 (2.8)	1.0	0.88 (8.9)
					60		66	0.28	1675	0.23 (2.3)	0.91	0.63 (6.4)

• 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-164.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

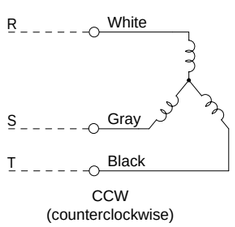
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio			3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180
Speed (min^{-1})		50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3
		60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10
Applicable gear head	MX9G3B to MX9G180B (ball bearing)	50Hz	0.66 (6.7)	0.78 (8.0)	1.08 (11)	1.27 (13)	1.57 (16)	1.86 (19)	2.25 (23)	2.74 (28)	3.23 (33)	3.92 (40)	4.41 (45)	5.29 (54)	6.37 (65)	7.94 (81)	9.80 (100)	9.80 (100)						
	MX9G3M to MX9G180M (metal bearing)	60Hz	0.55 (5.6)	0.66 (6.7)	0.90 (9.2)	1.08 (11)	1.27 (13)	1.57 (16)	1.76 (18)	2.25 (23)	2.74 (28)	3.23 (33)	3.53 (36)	4.41 (45)	5.29 (54)	6.37 (65)	8.82 (90)	9.80 (100)						
Rotational direction			Same as motor rotational direction												Reverse to motor rotational direction									

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

Applicable gear head		Reduction ratio		200	250	300	360	500	600	750	900	1000	1200	1500	1800
Bearing	Decimal gear head	Speed (min^{-1})	50Hz	7.5	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
			60Hz	9	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
MX9G□B (ball bearing) MX9G□M (metal bearing)	MX9G10XB	Permissible torque	N·m	9.80	9.80	9.80	9.80	9.80	9.80	9.80	9.80	9.80	9.80	9.80	9.80
			(kgf·cm)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)
		Rotational direction		Same as motor rotational direction		Reverse to motor rotational direction									

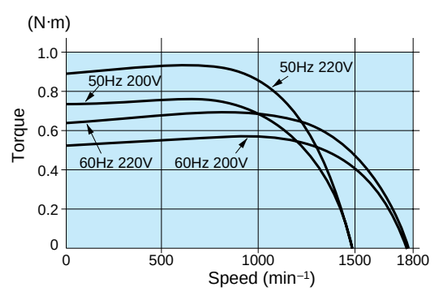
Connection diagram



Change any two lead wires of R, S and T for CW rotation.

Speed-torque characteristics

M9MX40G4Y

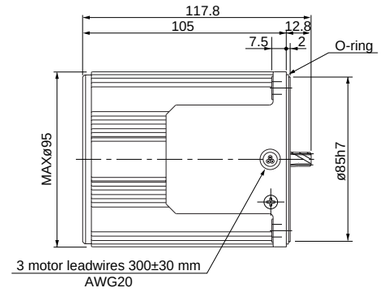


Motor (dimensions)

Scale: 1/3, Unit: mm

M9MX40G4Y 4P 40 W 200 V / 220 V

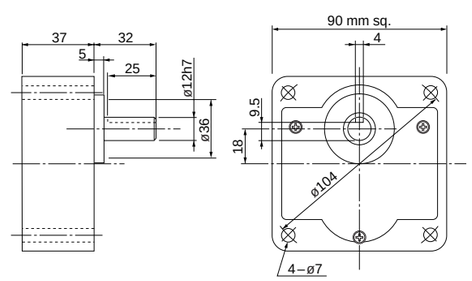
Mass	Helical	Module	Number of teeth
2.4 kg	gear	0.55	9



Gear head (dimensions)

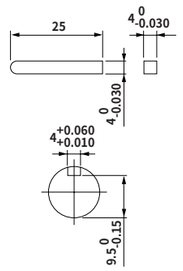
Scale: 1/3, Unit: mm

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



Key and keyway (dimensions) [attachment]

MX9G□B(M)



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

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

3-phase motor (leadwire)

90 mm sq. 40 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min^{-1})	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)
90 mm sq.	M9MX40G4YG M9MX40G4YGA	4	40	200	50	Cont.	69	0.31	1350	0.28 (2.9)	0.90	0.72 (7.3)
					60		68	0.29	1625	0.24 (2.4)	0.82	0.51 (5.2)
				220	60		66	0.28	1675	0.23 (2.3)	0.91	0.63 (6.4)
				230	60		66	0.29	1675	0.23 (2.3)	0.96	0.69 (7.0)

• 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-164.
• The models with a motor model number to which "A" is suffixed are not sold or available in Japan.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

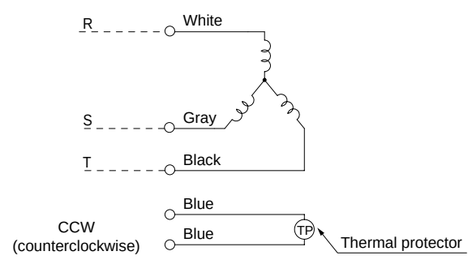
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio			3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180
Speed (min^{-1})		50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3
		60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10
Applicable gear head	MX9G3B to MX9G180B (ball bearing)	50Hz	0.66 (6.7)	0.78 (8.0)	1.08 (11)	1.27 (13)	1.57 (16)	1.86 (19)	2.25 (23)	2.74 (28)	3.23 (33)	3.92 (40)	4.41 (45)	5.29 (54)	6.37 (65)	7.94 (81)	9.80 (100)	9.80 (100)						
	MX9G3M to MX9G180M (metal bearing)	60Hz	0.55 (5.6)	0.66 (6.7)	0.90 (9.2)	1.08 (11)	1.27 (13)	1.57 (16)	1.76 (18)	2.25 (23)	2.74 (28)	3.23 (33)	3.53 (36)	4.41 (45)	5.29 (54)	6.37 (65)	8.82 (90)	9.80 (100)						
Rotational direction			Same as motor rotational direction												Reverse to motor rotational direction									

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

Applicable gear head		Reduction ratio		200	250	300	360	500	600	750	900	1000	1200	1500	1800
Bearing	Decimal gear head	Speed (min^{-1})	50Hz	7.5	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
			60Hz	9	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
MX9G□B (ball bearing) MX9G□M (metal bearing)	MX9G10XB	Permissible torque	N·m	9.80	9.80	9.80	9.80	9.80	9.80	9.80	9.80	9.80	9.80	9.80	9.80
			(kgf·cm)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)
		Rotational direction		Same as motor rotational direction	Reverse to motor rotational direction										

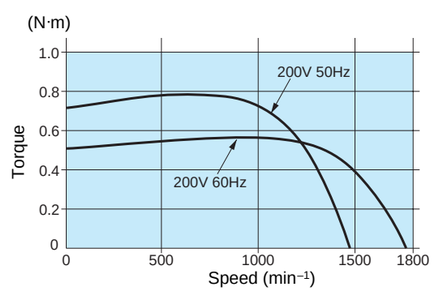
Connection diagram



Change any two lead wires of R, S and T for CW rotation.
(Refer to page A-58 for connection of thermal protector.)

Speed-torque characteristics

M9MX40G4YG(A)

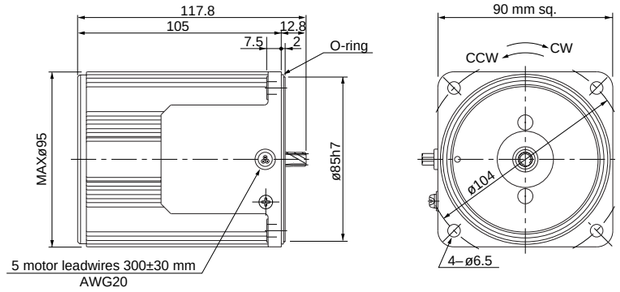


Motor (dimensions)

Scale: 1/3, Unit: mm

M9MX40G4YG(A) 4P 40 W 200 V / 220 V / 230 V

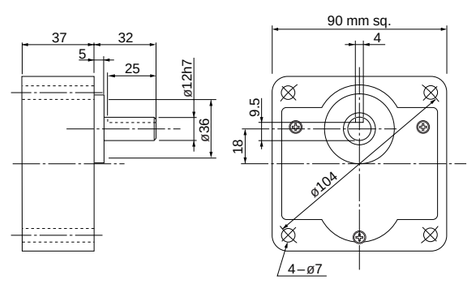
Mass	Helical gear	Module	Number of teeth
2.4 kg		0.55	9



Gear head (dimensions)

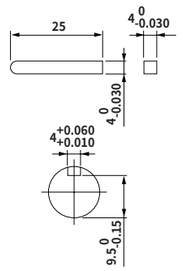
Scale: 1/3, Unit: mm

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



Key and keyway (dimensions) [attachment]

MX9G□B(M)



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

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

3-phase motor (leadwire)

90 mm sq. 60 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min^{-1})	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)
90 mm sq.	M9MZ60G4Y	4	60	200	50	Cont.	101	0.45	1350	0.42 (4.3)	1.3	1.0 (10)
					60		96	0.41	1625	0.35 (3.6)	1.2	0.69 (7.0)
				220	50	Cont.	103	0.46	1375	0.41 (4.2)	1.5	1.2 (12)
					60		98	0.40	1650	0.34 (3.5)	1.3	0.87 (8.8)

• 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-164.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

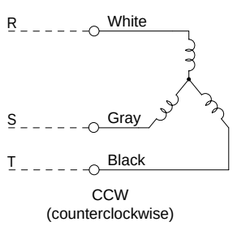
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180	200
Speed (min^{-1})	50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3	7.5
	60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10	9
Applicable gear head: MZ9G3BA to MZ9G200B (ball bearing / hinge not attached)	50Hz	0.98 (9.99)	1.18 (12)	1.57 (16)	1.96 (20)	2.35 (24)	2.94 (30)	3.14 (32)	3.92 (40)	4.70 (48)	5.59 (57)	6.27 (64)	7.55 (77)	9.11 (93)	11.0 (112)	15.2 (155)	17.8 (182)	19.6 (200)						
Applicable gear head: MY9G3MA to MY9G200M (metal bearing / hinge attached)	60Hz	0.78 (8.0)	0.98 (9.99)	1.37 (14)	1.57 (16)	1.96 (20)	2.35 (24)	2.65 (27)	3.33 (34)	3.92 (40)	4.70 (48)	5.29 (54)	6.47 (66)	7.55 (77)	9.11 (93)	12.6 (129)	15.2 (155)	19.6 (200)						
Rotational direction		Same as motor rotational direction							Reverse to motor rotational direction						Same as motor rotational direction									

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

Applicable gear head: Bearing	Decimal gear head	Reduction ratio: Speed (min^{-1})		250	300	360	500	600	750	900	1000	1200	1500	1800
			50Hz	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
			60Hz	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
MZ9G□B (ball bearing / Hinge not attached) MY9G□M (metal bearing / Hinge attached)	MZ9G10XB	Permissible torque	N·m	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6
			(kgf·cm)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)
		Rotational direction		Reverse to motor rotational direction		Same as motor rotational direction								

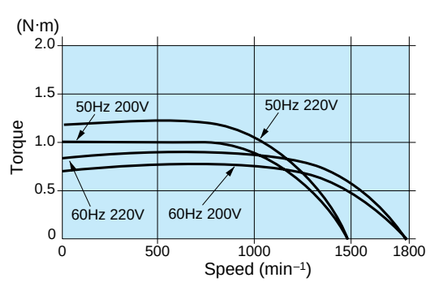
Connection diagram



Change any two lead wires of R, S and T for CW rotation.

Speed-torque characteristics

M9MZ60G4Y



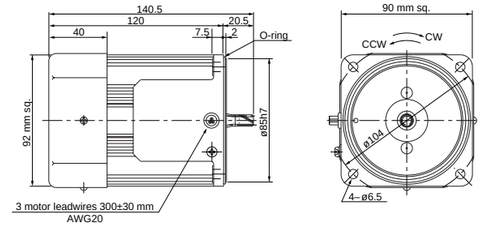
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

Scale: 1/4, Unit: mm

M9MZ60G4Y 4P 60 W 200 V / 220 V (with fan)

Mass	Helical gear	Module	Number of teeth
2.7 kg		0.6	9

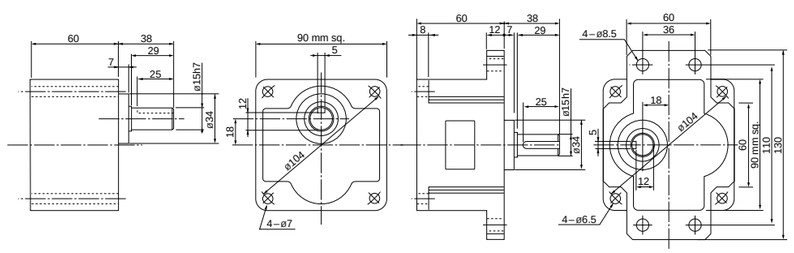


Gear head (dimensions)

Scale: 1/4, Unit: mm

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

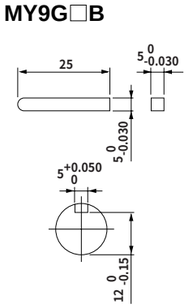
MY9G□M (metal bearing / hinge attached) Mass 1.4 kg



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

Key and keyway (dimensions) [attachment]

MZ9G□B
MY9G□B



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

3-phase motor (leadwire)

90 mm sq. 60 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min⁻¹)	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)
90 mm sq.	M9MZ60G4YG M9MZ60G4YGA	4	60	200	50	Cont.	101	0.45	1350	0.42 (4.3)	1.3	1.0 (10)
					60		96	0.41	1625	0.35 (3.6)	1.2	0.69 (7.0)
				220	60		98	0.40	1650	0.35 (3.5)	1.3	0.87 (8.8)
				230	60		98	0.41	1675	0.34 (3.5)	1.4	1.0 (10)

• 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-164.
• The models with a motor model number to which "A" is suffixed are not sold or available in Japan.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

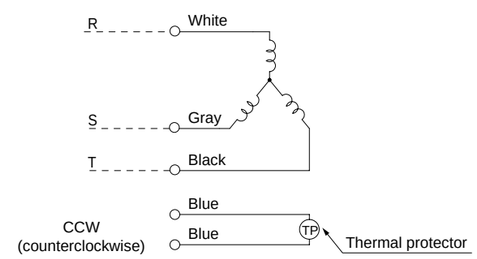
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180	200
Speed (min⁻¹)	50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3	7.5
	60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10	9
Applicable gear head: MZ9G3BA to MZ9G200B (ball bearing / hinge not attached)	50Hz	0.98 (9.99)	1.18 (12)	1.57 (16)	1.96 (20)	2.35 (24)	2.94 (30)	3.14 (32)	3.92 (40)	4.70 (48)	5.59 (57)	6.27 (64)	7.55 (77)	9.11 (93)	11.0 (112)	15.2 (155)	17.8 (182)	19.6 (200)						
Applicable gear head: MY9G3MA to MY9G200M (metal bearing / hinge attached)	60Hz	0.78 (8.0)	0.98 (9.99)	1.37 (14)	1.57 (16)	1.96 (20)	2.35 (24)	2.65 (27)	3.33 (34)	3.92 (40)	4.70 (48)	5.29 (54)	6.47 (66)	7.55 (77)	9.11 (93)	12.6 (129)	15.2 (155)	19.6 (200)						
Rotational direction		Same as motor rotational direction							Reverse to motor rotational direction						Same as motor rotational direction									

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

Applicable gear head: Bearing	Decimal gear head	Reduction ratio: Speed (min⁻¹)		250	300	360	500	600	750	900	1000	1200	1500	1800
		Speed (min⁻¹)	50Hz	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
			60Hz	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
MZ9G□B (ball bearing / Hinge not attached) MY9G□M (metal bearing / Hinge attached)	MZ9G10XB	Permissible torque	N·m	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6
			(kgf·cm)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)
		Rotational direction		Reverse to motor rotational direction		Same as motor rotational direction								

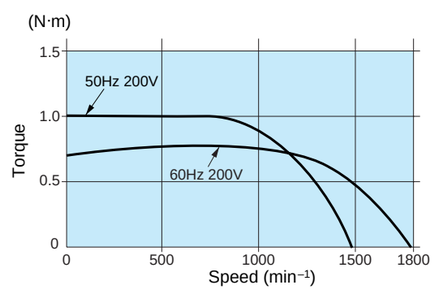
Connection diagram



Change any two lead wires of R, S and T for CW rotation.
(Refer to page A-58 for connection of thermal protector.)

Speed-torque characteristics

M9MZ60G4YG(A)

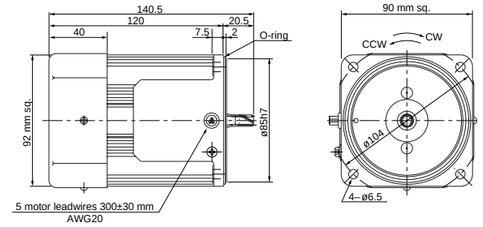


Motor (dimensions)

Scale: 1/4, Unit: mm

M9MZ60G4YG(A) 4P 60 W 200 V / 220 V / 230 V (with fan)

Mass	Helical gear	Module	Number of teeth
2.7 kg		0.6	9

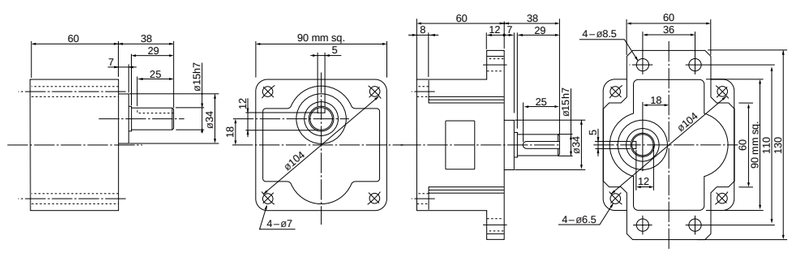


Gear head (dimensions)

Scale: 1/4, Unit: mm

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

MY9G□M (metal bearing / hinge attached) Mass 1.4 kg

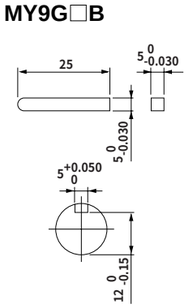


Note) MZ / MY is available for a gear head of either type.

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

Key and keyway (dimensions) [attachment]

MZ9G□B
MY9G□B



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

3-phase motor (leadwire)

90 mm sq. 90 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min^{-1})	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)
90 mm sq.	M9MZ90G4Y	4	90	200	50	Cont.	141	0.62	1350	0.63 (6.4)	2.0	1.6 (16)
					60		137	0.56	1625	0.53 (5.4)	1.8	1.1 (11)
				220	50	Cont.	143	0.65	1400	0.62 (6.3)	2.2	2.0 (20)
					60		137	0.56	1650	0.52 (5.3)	2.0	1.4 (14)

• 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-164.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

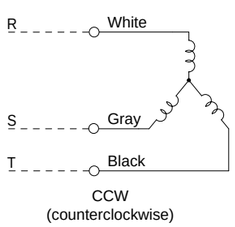
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180	200
Speed (min^{-1})	50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3	7.5
	60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10	9
Applicable gear head: MZ9G3B to MZ9G200B (ball bearing / hinge not attached)	50Hz	1.37 (14)	1.67 (17)	2.25 (23)	2.74 (28)	3.43 (35)	4.12 (42)	4.51 (46)	5.68 (58)	6.76 (69)	8.04 (82)	9.02 (92)	10.9 (111)	13.0 (133)	15.7 (160)	19.6 (200)	19.6 (200)							
Applicable gear head: MY9G3B to MY9G200B (ball bearing / hinge attached)	60Hz	1.18 (12)	1.37 (14)	1.86 (19)	2.25 (23)	2.84 (29)	3.43 (35)	3.72 (38)	4.70 (48)	5.68 (58)	6.76 (69)	7.55 (77)	9.21 (94)	10.9 (111)	13.0 (133)	18.3 (187)	19.6 (200)							
Rotational direction		Same as motor rotational direction							Reverse to motor rotational direction						Same as motor rotational direction									

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

Applicable gear head: Bearing	Decimal gear head	Reduction ratio		250	300	360	500	600	750	900	1000	1200	1500	1800
		Speed (min^{-1})	50Hz	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
			60Hz	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
MZ9G□B (ball bearing / hinge not attached) MY9G□B (ball bearing / hinge attached)	MZ9G10XB	Permissible torque	N·m (kgf·cm)	19.6 (200)	19.6 (200)	19.6 (200)	19.6 (200)	19.6 (200)	19.6 (200)	19.6 (200)	19.6 (200)	19.6 (200)	19.6 (200)	19.6 (200)
		Rotational direction		Reverse to motor rotational direction		Same as motor rotational direction								

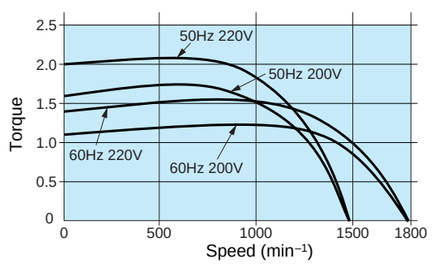
Connection diagram



Change any two lead wires of R, S and T for CW rotation.

Speed-torque characteristics

M9MZ90G4Y



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

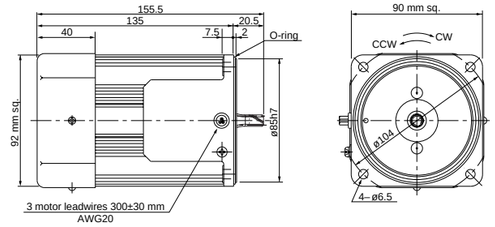
Features B-126 | System configuration B-127 | Coding system B-127 | Model list B-128

Motor (dimensions)

Scale: 1/4, Unit: mm

M9MZ90G4Y 4P 90 W 200 V / 220 V (with fan)

Mass	Helical gear	Module	Number of teeth
3.2 kg		0.6	9

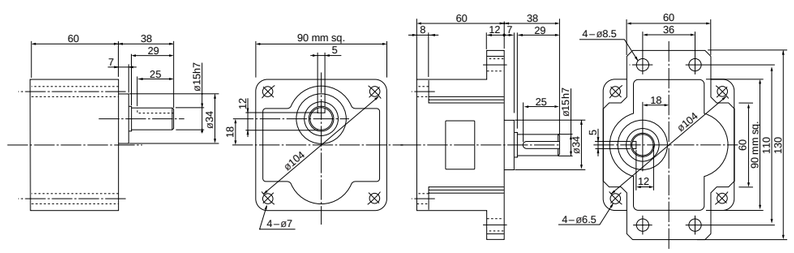


Gear head (dimensions)

Scale: 1/4, Unit: mm

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

MY9G□M (metal bearing / hinge attached) Mass 1.4 kg

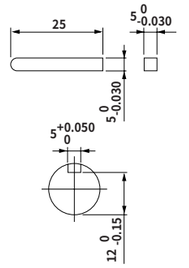


Note) MZ / MY is available for a gear head of either type.

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

Key and keyway (dimensions) [attachment]

MZ9G□B
MY9G□B



Gear head combination B-162 | Round shaft motor dimensions B-164 | Decimal gear head B-384 | Control related product C-4 | Option D-2

3-phase motor (leadwire)

90 mm sq. 90 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min⁻¹)	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)
90 mm sq.	M9MZ90G4YG M9MZ90G4YGA	4	90	200	50	Cont.	142	0.62	1350	0.63 (6.4)	2.0	1.6 (16)
					60		138	0.56	1625	0.53 (5.4)	1.8	1.1 (11)
				220	60		137	0.56	1650	0.52 (5.3)	2.0	1.4 (14)
				230	60		137	0.58	1675	0.51 (5.2)	2.1	1.6 (16)

• 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-164.
• The models with a motor model number to which "A" is suffixed are not sold or available in Japan.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

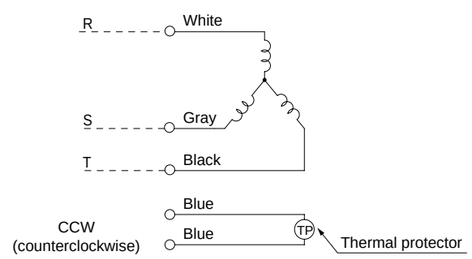
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180	200
Speed (min⁻¹)	50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3	7.5
	60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10	9
Applicable gear head: MZ9G3B to MZ9G200B (ball bearing / hinge not attached)	50Hz	1.37 (14)	1.67 (17)	2.25 (23)	2.74 (28)	3.43 (35)	4.12 (42)	4.51 (46)	5.68 (58)	6.76 (69)	8.04 (82)	9.02 (92)	10.9 (111)	13.0 (133)	15.7 (160)	19.6 (200)	19.6 (200)								
Applicable gear head: MY9G3B to MY9G200B (ball bearing / hinge attached)	60Hz	1.18 (12)	1.37 (14)	1.86 (19)	2.25 (23)	2.84 (29)	3.43 (35)	3.72 (38)	4.70 (48)	5.68 (58)	6.76 (69)	7.55 (77)	9.21 (94)	10.9 (111)	13.0 (133)	18.3 (187)	19.6 (200)								
Rotational direction		Same as motor rotational direction							Reverse to motor rotational direction						Same as motor rotational direction									

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

Applicable gear head: Bearing	Decimal gear head	Reduction ratio		250	300	360	500	600	750	900	1000	1200	1500	1800
		Speed (min⁻¹)	50Hz	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
			60Hz	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
MZ9G□B (ball bearing / hinge not attached) MY9G□B (ball bearing / hinge attached)	MZ9G10XB	Permissible torque	N·m	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6
			(kgf·cm)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)
		Rotational direction		Reverse to motor rotational direction		Same as motor rotational direction								

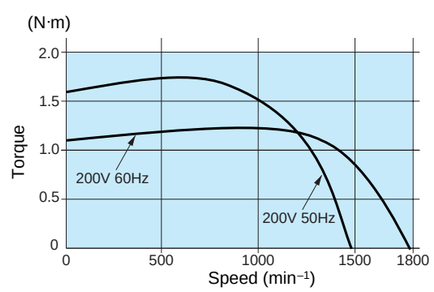
Connection diagram



Change any two lead wires of R, S and T for CW rotation.
(Refer to page A-58 for connection of thermal protector.)

Speed-torque characteristics

M9MZ90G4YG(A)



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

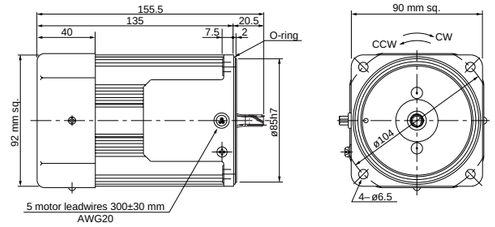
Features B-126 | System configuration B-127 | Coding system B-127 | Model list B-128

Motor (dimensions)

Scale: 1/4, Unit: mm

M9MZ90G4YG(A) 4P 90 W 200 V / 220 V / 230 V (with fan)

Mass	Helical gear	Module	Number of teeth
3.2 kg		0.6	9

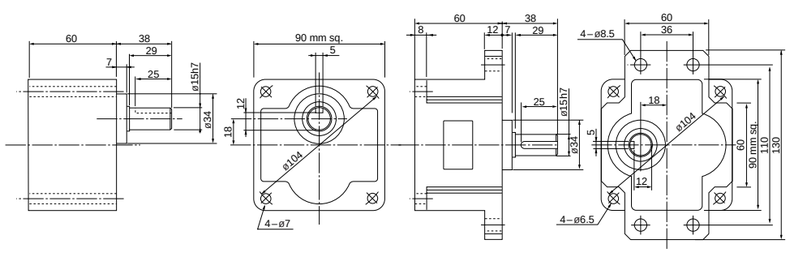


Gear head (dimensions)

Scale: 1/4, Unit: mm

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

MY9G□M (metal bearing / hinge attached) Mass 1.4 kg

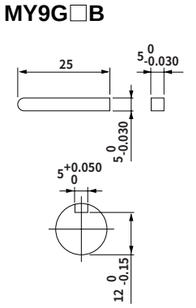


Note) MZ / MY is available for a gear head of either type.

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

Key and keyway (dimensions) [attachment]

MZ9G□B
MY9G□B



Gear head combination B-162 | Round shaft motor dimensions B-164 | Decimal gear head B-384 | Control related product C-4 | Option D-2

3-phase motor (sealed connector)

80 mm sq. 25 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min⁻¹)	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)
80 mm sq.	M8MX25GK4Y	4	25	200	50	Cont.	50	0.25	1350	0.18 (1.8)	0.62	0.54 (5.5)
					60		47	0.22	1625	0.15 (1.5)	0.58	0.40 (4.0)
				220	50	Cont.	54	0.27	1375	0.18 (1.8)	0.67	0.66 (6.7)
					60		49	0.23	1650	0.15 (1.5)	0.64	0.50 (5.1)

• The specifications and wire connections of the round shaft motor are the same as those of the pinion shaft type. For the dimensional outline drawing, refer to page B-165.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

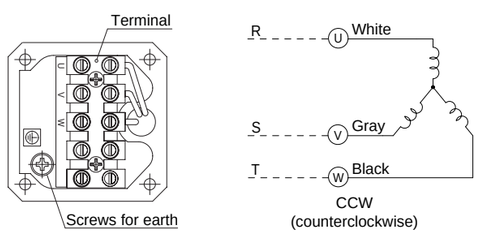
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180
Speed (min⁻¹)	50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3
	60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10
Applicable gear head: MX8G3B to MX8G180B (ball bearing)	50Hz	0.39 (4.0)	0.47 (4.8)	0.66 (6.7)	0.78 (8.0)	0.98 (10)	1.18 (12)	1.27 (13)	1.57 (16)	1.96 (20)	2.35 (24)	2.55 (26)	3.14 (32)	3.82 (39)	4.61 (47)	6.37 (65)	7.64 (78)	7.84 (80)					
Applicable gear head: MX8G3M to MX8G180M (metal bearing)	60Hz	0.32 (3.3)	0.39 (4.0)	0.55 (5.6)	0.66 (6.7)	0.81 (8.3)	0.98 (10)	1.08 (11)	1.27 (13)	1.57 (16)	1.96 (20)	2.06 (21)	2.65 (27)	3.14 (32)	3.82 (39)	5.29 (54)	6.37 (65)	7.84 (80)					
Rotational direction		Same as motor rotational direction												Reverse to motor rotational direction									

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

Applicable gear head: Bearing	Decimal gear head	Reduction ratio: Speed (min⁻¹)		200	250	300	360	500	600	750	900	1000	1200	1500	1800
		Speed (min⁻¹)	50Hz	7.5	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
			60Hz	9	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
MX8G□B (ball bearing) MX8G□M (metal bearing)	MX8G10XB	Permissible torque	N·m	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84
			(kgf·cm)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)
		Rotational direction		Same as motor rotational direction	Reverse to motor rotational direction										

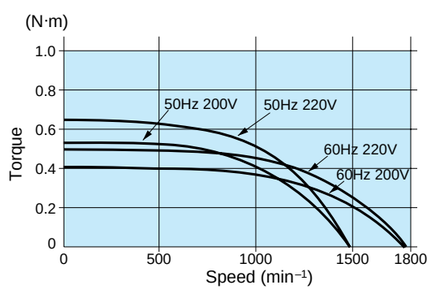
Connection diagram



Change any two lead wires of U, V and W for CW rotation.

Speed-torque characteristics

M8MX25GK4Y



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

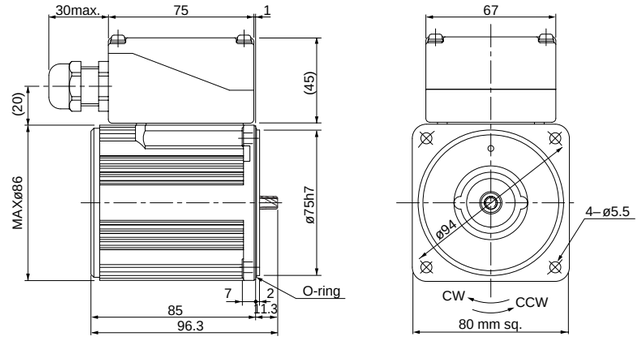
Features B-126 | System configuration B-127 | Coding system B-127 | Model list B-128

Motor (dimensions)

Scale: 1/3, Unit: mm

M8MX25GK4Y 4P 25 W 200 V / 220 V

Mass	Helical	Module	Number of teeth
1.8 kg	gear	0.5	9

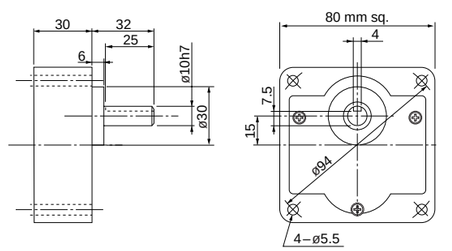


* Diameter of applicable cabtyre cable to be ø8 to ø12.

Gear head (dimensions)

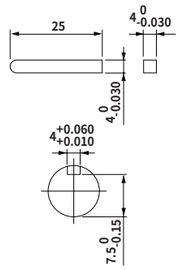
Scale: 1/3, Unit: mm

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



Key and keyway (dimensions) [attachment]

MX8G□B(M)



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

Gear head combination B-163 | Round shaft motor dimensions B-165 | Decimal gear head B-384 | Control related product C-4 | Option D-2

3-phase motor (sealed connector)

80 mm sq. 25 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min⁻¹)	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)
80 mm sq.	M8MX25GK4YG M8MX25GK4YGA	4	25	200	50	Cont.	50	0.25	1350	0.18 (1.8)	0.62	0.54 (5.5)
					60		47	0.22	1625	0.15 (1.5)	0.58	0.40 (4.0)
				220	60		49	0.23	1650	0.14 (1.5)	0.64	0.50 (5.1)
				230	60		50	0.24	1675	0.14 (1.5)	0.65	0.54 (5.5)
	M8MX25GK4CG M8MX25GK4CGA	4	25	380	50	Cont.	49	0.12	1325	0.18 (1.8)	0.29	0.50 (5.1)
				400	50		52	0.12	1325	0.18 (1.8)	0.32	0.56 (5.7)

• 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-165.
• The models with a motor model number to which "A" is suffixed are not sold or available in Japan.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

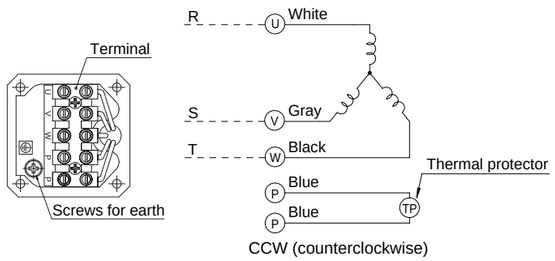
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio			3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180
Speed (min⁻¹)		50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3
		60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10
Applicable gear head	MX8G3B to MX8G180B (ball bearing)	50Hz	0.39 (4.0)	0.47 (4.8)	0.66 (6.7)	0.78 (8.0)	0.98 (10)	1.18 (12)	1.27 (13)	1.57 (16)	1.96 (20)	2.35 (24)	2.55 (26)	3.14 (32)	3.82 (39)	4.61 (47)	6.37 (65)	7.64 (78)	7.84 (80)					
	MX8G3M to MX8G180M (metal bearing)	60Hz	0.32 (3.3)	0.39 (4.0)	0.55 (5.6)	0.66 (6.7)	0.81 (8.3)	0.98 (10)	1.08 (11)	1.27 (13)	1.57 (16)	1.96 (20)	2.06 (21)	2.65 (27)	3.14 (32)	3.82 (39)	5.29 (54)	6.37 (65)	7.84 (80)					
Rotational direction			Same as motor rotational direction												Reverse to motor rotational direction									

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

Applicable gear head		Reduction ratio		200	250	300	360	500	600	750	900	1000	1200	1500	1800
Bearing	Decimal gear head	Speed (min⁻¹)	50Hz	7.5	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
			60Hz	9	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
MX8G□B (ball bearing) MX8G□M (metal bearing)	MX8G10XB	Permissible torque	N·m	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84
			(kgf·cm)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)	(80)
		Rotational direction		Same as motor rotational direction		Reverse to motor rotational direction									

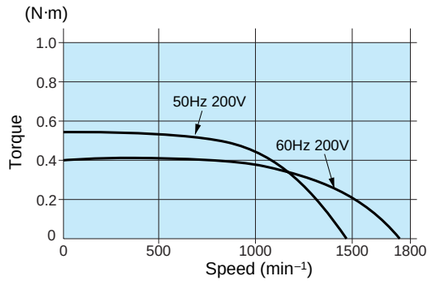
Connection diagram



CCW (counterclockwise)
Change any two lead wires of U, V and W for CW rotation.
(Refer to page A-58 for connection of thermal protector.)

Speed-torque characteristics

M8MX25GK4YG(A)

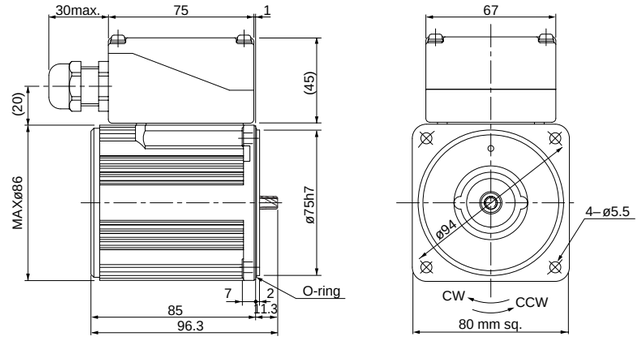


Motor (dimensions)

Scale: 1/3, Unit: mm

M8MX25GK4YG(A) 4P 25 W 200 V / 220 V / 230 V
M8MX25GK4CG(A) 4P 25 W 380 V / 400 V

Mass	Helical	Module	Number of teeth
1.8 kg	gear	0.5	9

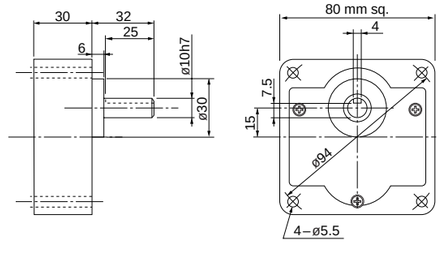


* Diameter of applicable cabtyre cable to be ø8 to ø12.

Gear head (dimensions)

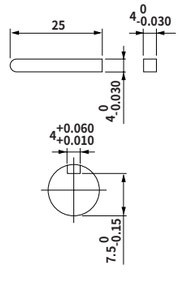
Scale: 1/3, Unit: mm

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



Key and keyway (dimensions) [attachment]

MX8G□B(M)



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

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

3-phase motor (sealed connector)

90 mm sq. 40 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min⁻¹)	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)
90 mm sq.	M9MX40GK4Y	4	40	200	50	Cont.	69	0.31	1350	0.28 (2.9)	0.90	0.72 (7.3)
					60		68	0.29	1625	0.24 (2.4)	0.82	0.51 (5.2)
				220	50	Cont.	70	0.32	1375	0.27 (2.8)	1.0	0.88 (8.9)
					60		66	0.28	1675	0.23 (2.3)	0.91	0.63 (6.4)

• 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-165.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

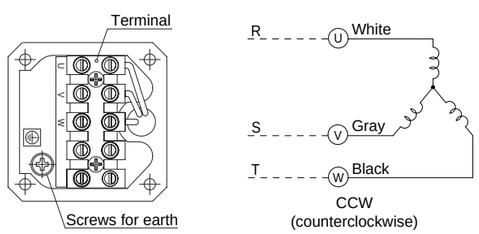
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180
Speed (min⁻¹)	50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3
	60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10
Applicable gear head: MX9G3B to MX9G180B (ball bearing)	50Hz	0.66 (6.7)	0.78 (8.0)	1.08 (11)	1.27 (13)	1.57 (16)	1.86 (19)	2.25 (23)	2.74 (28)	3.23 (33)	3.92 (40)	4.41 (45)	5.29 (54)	6.37 (65)	7.94 (81)	9.80 (100)	9.80 (100)						
Applicable gear head: MX9G3M to MX9G180M (metal bearing)	60Hz	0.55 (5.6)	0.66 (6.7)	0.90 (9.2)	1.08 (11)	1.27 (13)	1.57 (16)	1.76 (18)	2.25 (23)	2.74 (28)	3.23 (33)	3.53 (36)	4.41 (45)	5.29 (54)	6.37 (65)	8.82 (90)	9.80 (100)						
Rotational direction		Same as motor rotational direction												Reverse to motor rotational direction									

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

Applicable gear head: Bearing	Decimal gear head	Reduction ratio		200	250	300	360	500	600	750	900	1000	1200	1500	1800
		Speed (min⁻¹)	50Hz	7.5	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
			60Hz	9	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
MX9G□B (ball bearing) MX9G□M (metal bearing)	MX9G10XB	Permissible torque	N·m	9.80	9.80	9.80	9.80	9.80	9.80	9.80	9.80	9.80	9.80	9.80	9.80
			(kgf·cm)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)
		Rotational direction		Same as motor rotational direction	Reverse to motor rotational direction										

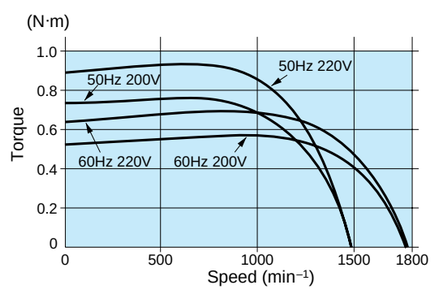
Connection diagram



Change any two lead wires of U, V and W for CW rotation.

Speed-torque characteristics

M9MX40GK4Y



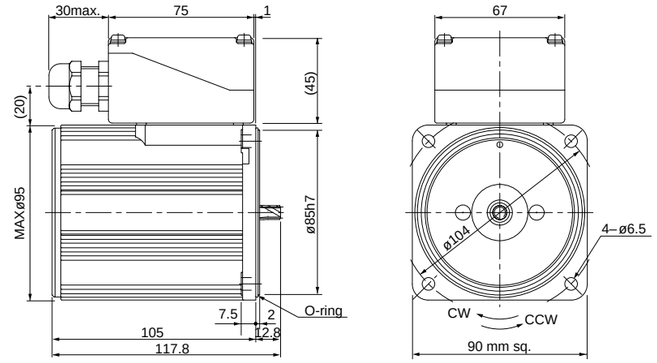
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

Scale: 1/3, Unit: mm

M9MX40GK4Y 4P 40 W 200 V / 220 V

Mass	Helical gear	Module	Number of teeth
2.8 kg		0.55	9

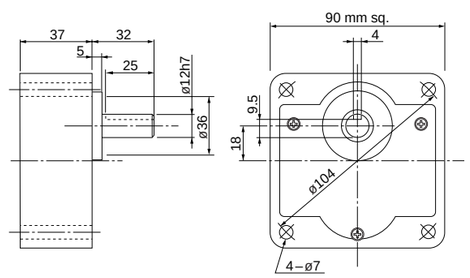


* Diameter of applicable cabtyre cable to be ø8 to ø12.

Gear head (dimensions)

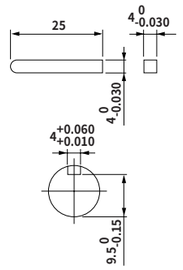
Scale: 1/3, Unit: mm

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



Key and keyway (dimensions) [attachment]

MX9G□B(M)



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

3-phase motor (sealed connector)

90 mm sq. 40 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min⁻¹)	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)
90 mm sq.	M9MX40GK4YG M9MX40GK4YGA	4	40	200	50	Cont.	69	0.31	1350	0.28 (2.9)	0.90	0.72 (7.3)
					60		68	0.29	1625	0.24 (2.4)	0.82	0.51 (5.2)
				220	60		66	0.28	1675	0.23 (2.3)	0.91	0.63 (6.4)
				230	60		66	0.29	1675	0.23 (2.3)	0.96	0.69 (7.0)
	M9MX40GK4CG M9MX40GK4CGA	4	40	380	50	Cont.	68	0.15	1325	0.29 (2.9)	0.44	0.64 (6.5)
				400	50		66	0.15	1350	0.28 (2.9)	0.47	0.74 (7.6)

• 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-165.
• The models with a motor model number to which "A" is suffixed are not sold or available in Japan.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

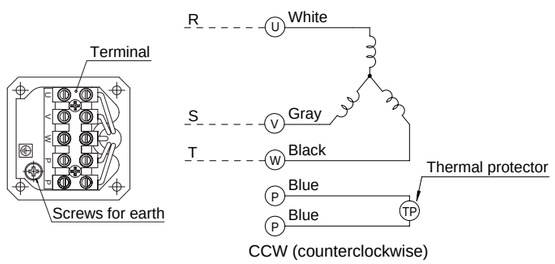
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180
Speed (min⁻¹)	50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3
	60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10
Applicable gear head: MX9G3B to MX9G180B (ball bearing)	50Hz	0.66 (6.7)	0.78 (8.0)	1.08 (11)	1.27 (13)	1.57 (16)	1.86 (19)	2.25 (23)	2.74 (28)	3.23 (33)	3.92 (40)	4.41 (45)	5.29 (54)	6.37 (65)	7.94 (81)	9.80 (100)	9.80 (100)						
Applicable gear head: MX9G3M to MX9G180M (metal bearing)	60Hz	0.55 (5.6)	0.66 (6.7)	0.90 (9.2)	1.08 (11)	1.27 (13)	1.57 (16)	1.76 (18)	2.25 (23)	2.74 (28)	3.23 (33)	3.53 (36)	4.41 (45)	5.29 (54)	6.37 (65)	8.82 (90)	9.80 (100)						
Rotational direction		Same as motor rotational direction												Reverse to motor rotational direction									

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

Applicable gear head		Reduction ratio		200	250	300	360	500	600	750	900	1000	1200	1500	1800
Bearing	Decimal gear head	Speed (min⁻¹)	50Hz	7.5	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
			60Hz	9	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
MX9G□B (ball bearing) MX9G□M (metal bearing)	MX9G10XB	Permissible torque	N·m (kgf·cm)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)	9.80 (100)
		Rotational direction		Same as motor rotational direction		Reverse to motor rotational direction									

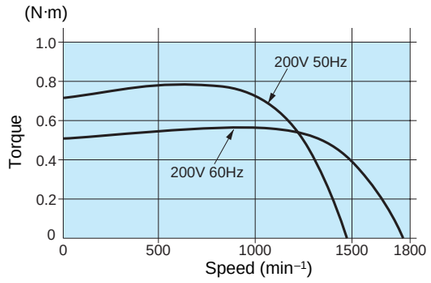
Connection diagram



CCW (counterclockwise)
Change any two lead wires of U, V and W for CW rotation.
(Refer to page A-58 for connection of thermal protector.)

Speed-torque characteristics

M9MX40GK4YG(A)

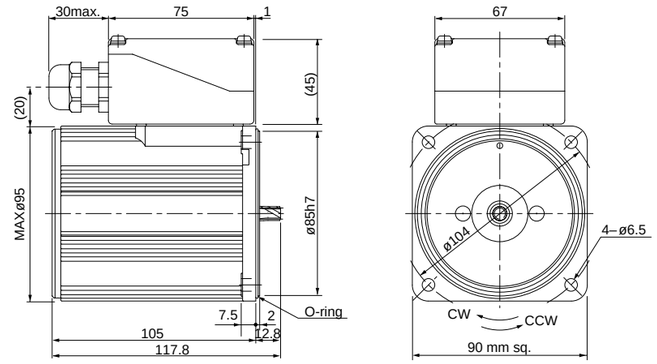


Motor (dimensions)

Scale: 1/3, Unit: mm

M9MX40GK4YG(A) 4P 40 W 200 V / 220 V / 230 V
M9MX40GK4CG(A) 4P 40 W 380 V / 400 V

Mass	Helical gear	Module	Number of teeth
2.8 kg		0.55	9

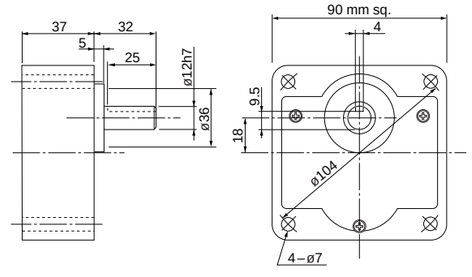


* Diameter of applicable cabtyre cable to be ø8 to ø12.

Gear head (dimensions)

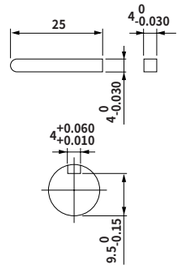
Scale: 1/3, Unit: mm

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



Key and keyway (dimensions) [attachment]

MX9G□B(M)



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

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

3-phase motor (sealed connector)

90 mm sq. 60 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min^{-1})	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)
90 mm sq.	M9MZ60GK4Y	4	60	200	50	Cont.	101	0.45	1350	0.42 (4.3)	1.3	1.0 (10)
					60		96	0.41	1625	0.35 (3.6)	1.2	0.69 (7.0)
				220	50	Cont.	103	0.46	1375	0.41 (4.2)	1.5	1.2 (12)
					60		98	0.40	1650	0.34 (3.5)	1.3	0.87 (8.8)

• 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-165.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

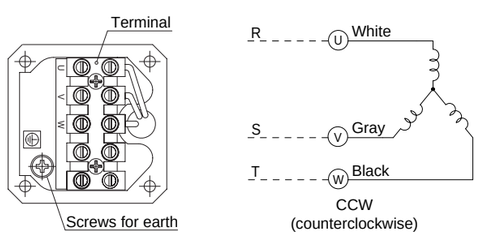
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180	200
Speed (min^{-1})	50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3	7.5
	60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10	9
Applicable gear head: MZ9G3BA to MZ9G200B (ball bearing / hinge not attached)	50Hz	0.98 (9.99)	1.18 (12)	1.57 (16)	1.96 (20)	2.35 (24)	2.94 (30)	3.14 (32)	3.92 (40)	4.70 (48)	5.59 (57)	6.27 (64)	7.55 (77)	9.11 (93)	11.0 (112)	15.2 (155)	17.8 (182)	19.6 (200)						
Applicable gear head: MY9G3MA to MY9G200M (metal bearing / hinge attached)	60Hz	0.78 (8.0)	0.98 (9.99)	1.37 (14)	1.57 (16)	1.96 (20)	2.35 (24)	2.65 (27)	3.33 (34)	3.92 (40)	4.70 (48)	5.29 (54)	6.47 (66)	7.55 (77)	9.11 (93)	12.6 (129)	15.2 (155)	19.6 (200)						
Rotational direction		Same as motor rotational direction							Reverse to motor rotational direction						Same as motor rotational direction									

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

Applicable gear head: Bearing	Decimal gear head	Reduction ratio: Speed (min^{-1})		250	300	360	500	600	750	900	1000	1200	1500	1800
			50Hz	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
			60Hz	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
MZ9G□B (ball bearing / Hinge not attached) MY9G□M (metal bearing / Hinge attached)	MZ9G10XB	Permissible torque	N·m	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6
			(kgf·cm)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)
		Rotational direction		Reverse to motor rotational direction		Same as motor rotational direction								

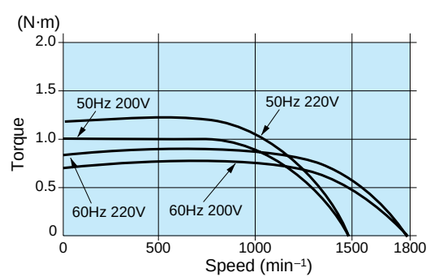
Connection diagram



Change any two lead wires of U, V and W for CW rotation.

Speed-torque characteristics

M9MZ60GK4Y



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

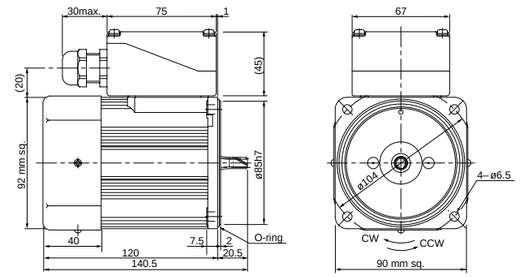
Features B-126 | System configuration B-127 | Coding system B-127 | Model list B-128

Motor (dimensions)

Scale: 1/4, Unit: mm

M9MZ60GK4Y 4P 60 W 200 V / 220 V (with fan)

Mass	Helical gear	Module	Number of teeth
3.0 kg		0.6	9



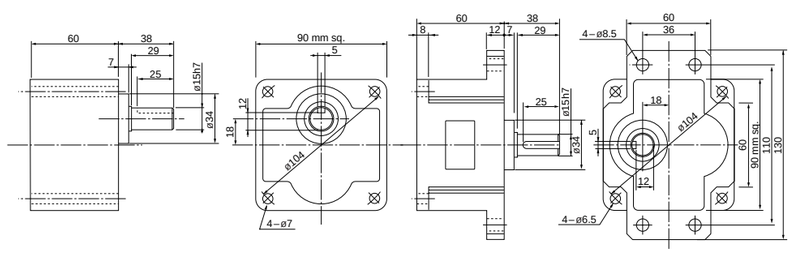
* Diameter of applicable cabtyre cable to be ø8 to ø12.

Gear head (dimensions)

Scale: 1/4, Unit: mm

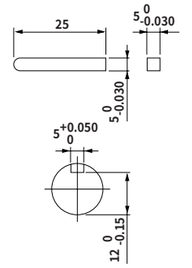
MZ9G□B (ball bearing / hinge not attached) Mass 1.4 kg

MY9G□M (metal bearing / hinge attached) Mass 1.4 kg



Key and keyway (dimensions) [attachment]

MZ9G□B
MY9G□B



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

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

Gear head combination B-163 | Round shaft motor dimensions B-165 | Decimal gear head B-384 | Control related product C-4 | Option D-2

3-phase motor (sealed connector)

90 mm sq. 60 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min⁻¹)	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)
90 mm sq.	M9MZ60GK4YG M9MZ60GK4YGA	4	60	200	50	Cont.	101	0.45	1350	0.42 (4.3)	1.3	1.0 (10)
					60		96	0.41	1625	0.35 (3.6)	1.2	0.69 (7.0)
				220	60		98	0.40	1650	0.35 (3.5)	1.3	0.87 (8.8)
				230	60		98	0.41	1675	0.34 (3.5)	1.4	1.0 (10)
	M9MZ60GK4CG M9MZ60GK4CGA	4	60	380	50	Cont.	103	0.22	1325	0.43 (4.4)	0.62	0.88 (9.0)
				400	50		103	0.22	1325	0.43 (4.4)	0.65	1.0 (10)

• 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-165.
• The models with a motor model number to which "A" is suffixed are not sold or available in Japan.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

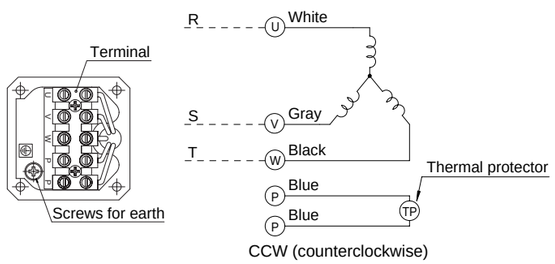
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio			3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180	200
Speed (min⁻¹)		50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3	7.5
		60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10	9
Applicable gear head	MZ9G3B to MZ9G200B (ball bearing / hinge not attached)	50Hz	0.98 (9.99)	1.18 (12)	1.57 (16)	1.96 (20)	2.35 (24)	2.94 (30)	3.14 (32)	3.92 (40)	4.70 (48)	5.59 (57)	6.27 (64)	7.55 (77)	9.11 (93)	11.0 (112)	15.2 (155)	17.8 (182)	19.6 (200)						
	MY9G3B to MY9G200B (ball bearing / hinge attached)	60Hz	0.78 (8.0)	0.98 (9.99)	1.37 (14)	1.57 (16)	1.96 (20)	2.35 (24)	2.65 (27)	3.33 (34)	3.92 (40)	4.70 (48)	5.29 (54)	6.47 (66)	7.55 (77)	9.11 (93)	12.6 (129)	15.2 (155)	19.6 (200)						
Rotational direction			Same as motor rotational direction							Reverse to motor rotational direction						Same as motor rotational direction									

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

Applicable gear head		Reduction ratio		250	300	360	500	600	750	900	1000	1200	1500	1800
Bearing	Decimal gear head	Speed (min⁻¹)	50Hz	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
			60Hz	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
MZ9G□B (ball bearing / hinge not attached) MY9G□B (ball bearing / hinge attached)	MZ9G10XB	Permissible torque	N·m	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6
			(kgf·cm)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)
		Rotational direction		Reverse to motor rotational direction		Same as motor rotational direction								

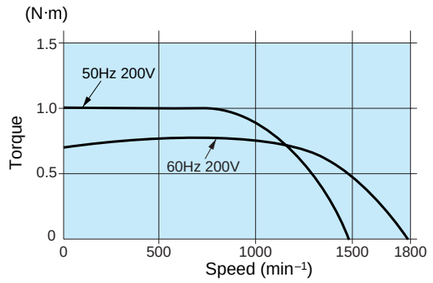
Connection diagram



CCW (counterclockwise)
Change any two lead wires of U, V and W for CW rotation.
(Refer to page A-58 for connection of thermal protector.)

Speed-torque characteristics

M9MZ60GK4YG(A)

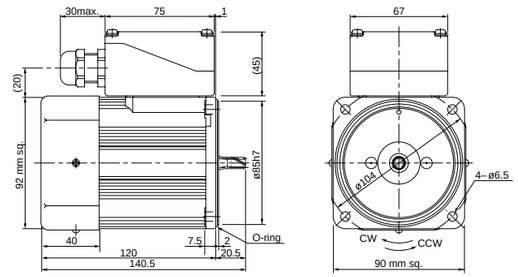


Motor (dimensions)

Scale: 1/4, Unit: mm

M9MZ60GK4YG(A) 4P 60 W 200 V / 220 V / 230 V (with fan)
M9MZ60GK4CG(A) 4P 60 W 380 V / 400 V (with fan)

Mass	Helical gear	Module	Number of teeth
3.0 kg		0.6	9

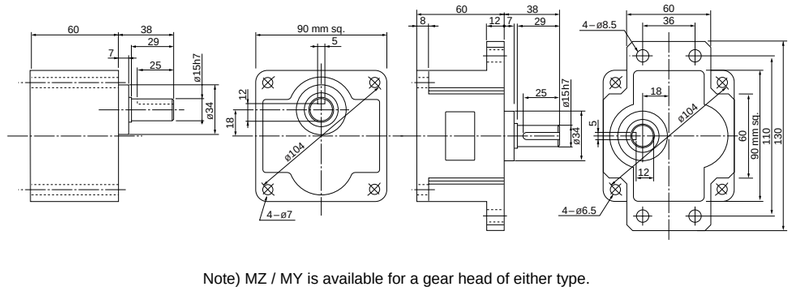


* Diameter of applicable cabtyre cable to be ø8 to ø12.

Gear head (dimensions)

Scale: 1/4, Unit: mm

MZ9G□B (ball bearing / hinge not attached) Mass 1.4 kg
MY9G□M (metal bearing / hinge attached) Mass 1.4 kg

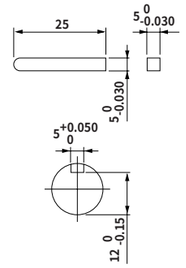


Note) MZ / MY is available for a gear head of either type.

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

Key and keyway (dimensions) [attachment]

MZ9G□B
MY9G□B



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

3-phase motor (sealed connector)

90 mm sq. 90 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min^{-1})	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)
90 mm sq.	M9MZ90GK4Y	4	90	200	50	Cont.	141	0.62	1350	0.63 (6.4)	2.0	1.6 (16)
					60		137	0.56	1625	0.53 (5.4)	1.8	1.1 (11)
				220	50	Cont.	143	0.65	1400	0.62 (6.3)	2.2	2.0 (20)
					60		137	0.56	1650	0.52 (5.3)	2.0	1.4 (14)

• 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-165.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

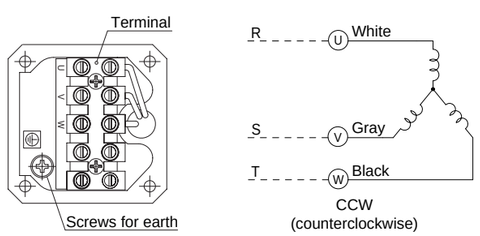
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180	200
Speed (min^{-1})	50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3	7.5
	60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10	9
Applicable gear head: MZ9G3B to MZ9G200B (ball bearing / hinge not attached)	50Hz	1.37 (14)	1.67 (17)	2.25 (23)	2.74 (28)	3.43 (35)	4.12 (42)	4.51 (46)	5.68 (58)	6.76 (69)	8.04 (82)	9.02 (92)	10.9 (111)	13.0 (133)	15.7 (160)	19.6 (200)	19.6 (200)							
Applicable gear head: MY9G3B to MY9G200B (ball bearing / hinge attached)	60Hz	1.18 (12)	1.37 (14)	1.86 (19)	2.25 (23)	2.84 (29)	3.43 (35)	3.72 (38)	4.70 (48)	5.68 (58)	6.76 (69)	7.55 (77)	9.21 (94)	10.9 (111)	13.0 (133)	18.3 (187)	19.6 (200)							
Rotational direction		Same as motor rotational direction							Reverse to motor rotational direction						Same as motor rotational direction									

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

Applicable gear head: Bearing	Decimal gear head	Reduction ratio		250	300	360	500	600	750	900	1000	1200	1500	1800
		Speed (min^{-1})	50Hz	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
			60Hz	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
MZ9G□B (ball bearing / hinge not attached) MY9G□B (ball bearing / hinge attached)	MZ9G10XB	Permissible torque	N·m	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6
			(kgf·cm)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)
		Rotational direction		Reverse to motor rotational direction		Same as motor rotational direction								

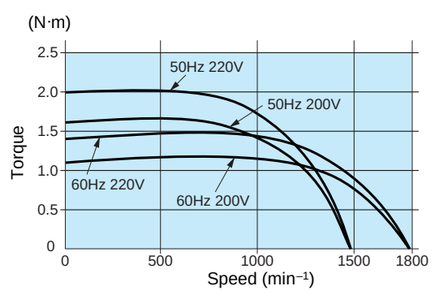
Connection diagram



Change any two lead wires of U, V and W for CW rotation.

Speed-torque characteristics

M9MZ90GK4Y



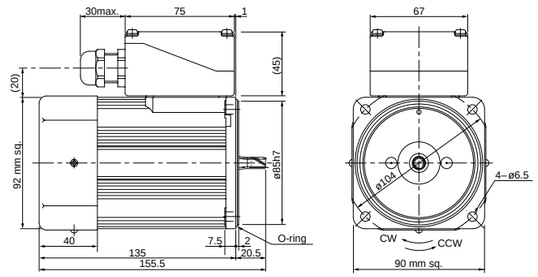
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

Scale: 1/4, Unit: mm

M9MZ90GK4Y 4P 90 W 200 V / 220 V (with fan)

Mass	Helical gear	Module	Number of teeth
3.3 kg		0.6	9



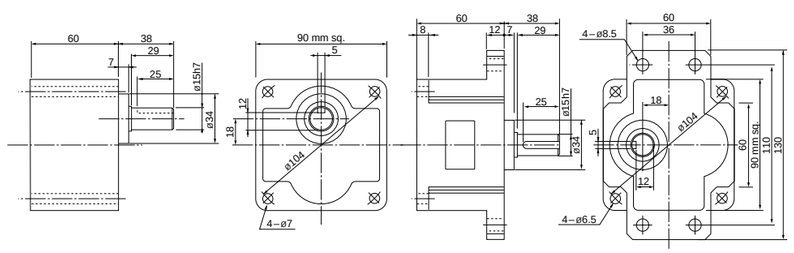
* Diameter of applicable cabtyre cable to be ø8 to ø12.

Gear head (dimensions)

Scale: 1/4, Unit: mm

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

MY9G□M (metal bearing / hinge attached) Mass 1.4 kg

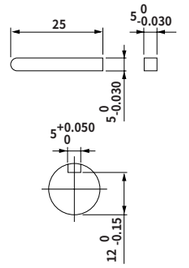


Note) MZ / MY is available for a gear head of either type.

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

Key and keyway (dimensions) [attachment]

MZ9G□B
MY9G□B



3-phase motor (sealed connector)

90 mm sq. 90 W

• Specifications

Size	Motor model No.	Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min⁻¹)	Rating Torque N·m (kgf·cm)	Starting current (A)	Starting torque N·m (kgf·cm)
90 mm sq.	M9MZ90GK4YG M9MZ90GK4YGA	4	90	200	50	Cont.	142	0.62	1350	0.63 (6.4)	2.0	1.6 (16)
					60		138	0.56	1625	0.53 (5.4)	1.8	1.1 (11)
				220	60		137	0.56	1650	0.52 (5.3)	2.0	1.4 (14)
				230	60		137	0.58	1675	0.51 (5.2)	2.1	1.6 (16)
	M9MZ90GK4CG M9MZ90GK4CGA	4	90	380	50	Cont.	144	0.31	1325	0.65 (6.6)	1.0	1.4 (14)
				400	50		144	0.31	1350	0.64 (6.5)	1.0	1.6 (16)

• 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-165.
• The models with a motor model number to which "A" is suffixed are not sold or available in Japan.

• Permissible torque at output shaft of gear head

* The speed shown below is a calculated value based on the synchronous rotational speed. Depending on the load, the speed is less than the indicated value by 2 to 20%.

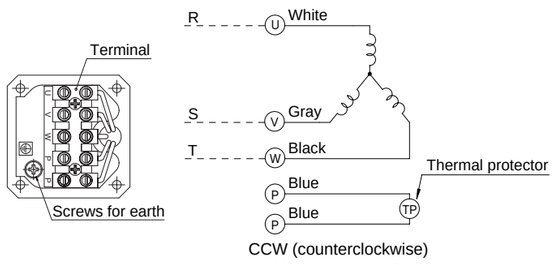
Unit of permissible torque: upper **(N·m)** / lower **(kgf·cm)**

Reduction ratio			3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	50	60	75	90	100	120	150	180	200
Speed (min⁻¹)		50Hz	500	416.7	300	250	200	166.7	150	120	100	83.3	75	60	50	41.7	30	25	20	16.7	15	12.5	10	8.3	7.5
		60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	36	30	24	20	18	15	12	10	9
Applicable gear head	MZ9G3B to MZ9G200B (ball bearing / hinge not attached)	50Hz	1.37 (14)	1.67 (17)	2.25 (23)	2.74 (28)	3.43 (35)	4.12 (42)	4.51 (46)	5.68 (58)	6.76 (69)	8.04 (82)	9.02 (92)	10.9 (111)	13.0 (133)	15.7 (160)	19.6 (200)	19.6 (200)							
	MY9G3B to MY9G200B (ball bearing / hinge attached)	60Hz	1.18 (12)	1.37 (14)	1.86 (19)	2.25 (23)	2.84 (29)	3.43 (35)	3.72 (38)	4.70 (48)	5.68 (58)	6.76 (69)	7.55 (77)	9.21 (94)	10.9 (111)	13.0 (133)	18.3 (187)	19.6 (200)							
Rotational direction			Same as motor rotational direction							Reverse to motor rotational direction						Same as motor rotational direction									

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

Applicable gear head		Reduction ratio		250	300	360	500	600	750	900	1000	1200	1500	1800
Bearing	Decimal gear head	Speed (min⁻¹)	50Hz	6	5	4.2	3	2.5	2	1.7	1.5	1.3	1	0.8
			60Hz	7.2	6	5	3.6	3	2.4	2	1.8	1.5	1.2	1
MZ9G□B (ball bearing / hinge not attached) MY9G□B (ball bearing / hinge attached)	MZ9G10XB	Permissible torque	N·m	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6
			(kgf·cm)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)
		Rotational direction		Reverse to motor rotational direction		Same as motor rotational direction								

Connection diagram

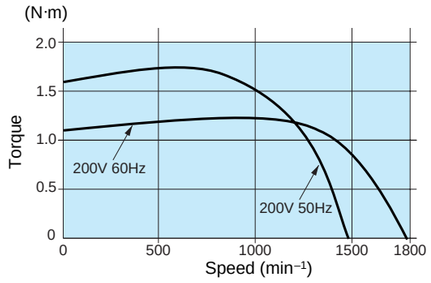


CCW (counterclockwise)

Change any two lead wires of U, V and W for CW rotation.
(Refer to page A-58 for connection of thermal protector.)

Speed-torque characteristics

M9MZ90GK4YG(A)

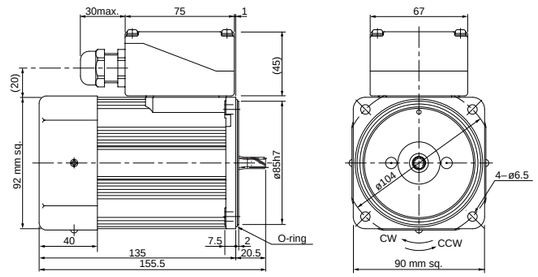


Motor (dimensions)

Scale: 1/4, Unit: mm

M9MZ90GK4YG(A) 4P 90 W 200 V / 220 V / 230 V (with fan)
M9MZ90GK4CG(A) 4P 90 W 380 V / 400 V (with fan)

Mass	Helical gear	Module	Number of teeth
3.3 kg		0.6	9

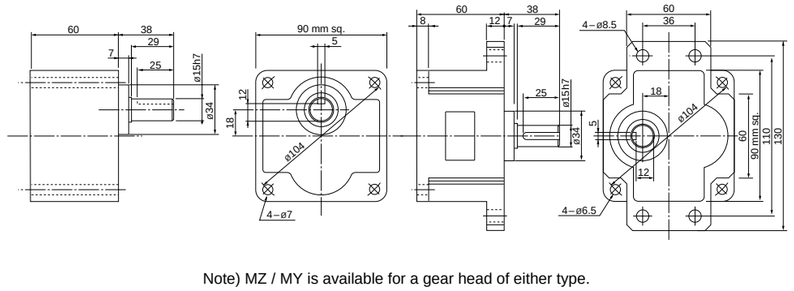


* Diameter of applicable cabtyre cable to be ø8 to ø12.

Gear head (dimensions)

Scale: 1/4, Unit: mm

MZ9G□B (ball bearing / hinge not attached) Mass 1.4 kg
MY9G□M (metal bearing / hinge attached) Mass 1.4 kg

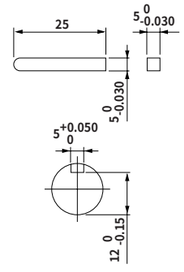


Note) MZ / MY is available for a gear head of either type.

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

Key and keyway (dimensions) [attachment]

MZ9G□B
MY9G□B



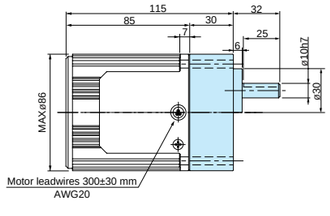
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

3-phase motor (leadwire)

Gear head combination dimensions
Scale: 1/4, Unit: mm

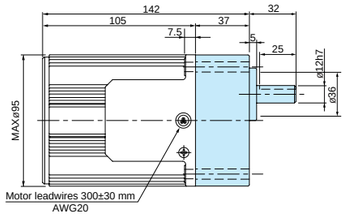
80 mm sq. 25 W

M8MX25G4Y + MX8G□B(M)
M8MX25G4YG(A) + MX8G□B(M)



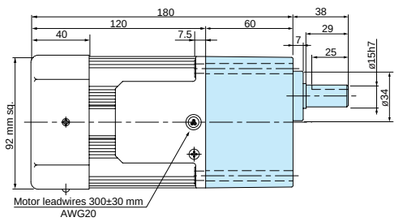
90 mm sq. 40 W

M9MX40G4Y + MX9G□B(M)
M9MX40G4YG(A) + MX9G□B(M)



90 mm sq. 60 W

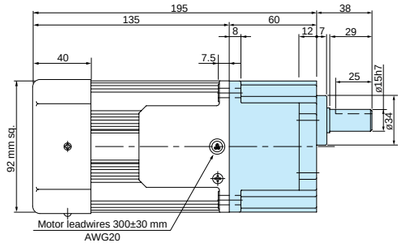
M9MZ60G4Y + MZ9G□B (MY9G□B)
M9MZ60G4YG(A) + MZ9G□B (MY9G□B)



＊Refer to page B-380 for high torque gear head.

90 mm sq. 90 W

M9MZ90G4Y + MY9G□B (MZ9G□B)
M9MZ90G4YG(A) + MY9G□B (MZ9G□B)



＊Refer to page B-380 for high torque gear head.

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

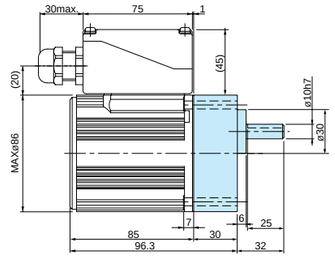
Features B-126 | System configuration B-127 | Coding system B-127 | Model list B-128

3-phase motor (sealed connector)

Gear head combination dimensions
Scale: 1/4, Unit: mm

80 mm sq. 25 W

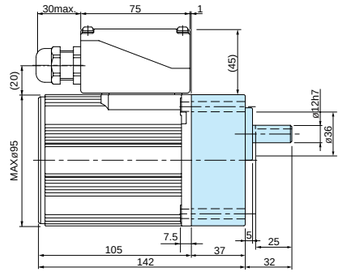
M8MX25GK4Y + MX8G□B(M)
M8MX25GK4YG(A) + MX8G□B(M)
M8MX25GK4CG(A) + MX8G□B(M)



＊Diameter of applicable cabtyre cable to be ø8 to ø12.

90 mm sq. 40 W

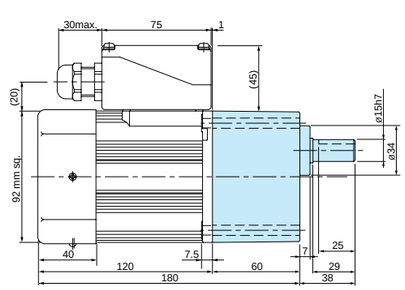
M9MX40GK4Y + MX9G□B(M)
M9MX40GK4YG(A) + MX9G□B(M)
M9MX40GK4CG(A) + MX9G□B(M)



＊Diameter of applicable cabtyre cable to be ø8 to ø12.

90 mm sq. 60 W

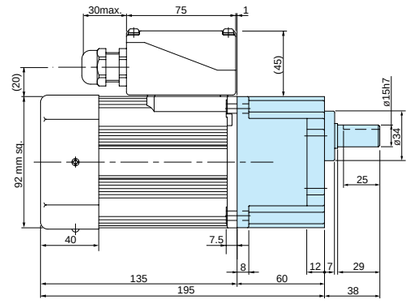
M9MZ60GK4Y + MZ9G□B (MY9G□B)
M9MZ60GK4YG(A) + MZ9G□B (MY9G□B)
M9MZ60GK4CG(A) + MZ9G□B (MY9G□B)



＊Diameter of applicable cabtyre cable to be ø8 to ø12.
＊Refer to page B-380 for high torque gear head.

90 mm sq. 90 W

M9MZ90GK4Y + MY9G□B (MZ9G□B)
M9MZ90GK4YG(A) + MY9G□B (MZ9G□B)
M9MZ90GK4CG(A) + MY9G□B (MZ9G□B)



＊Diameter of applicable cabtyre cable to be ø8 to ø12.
＊Refer to page B-380 for high torque gear head.

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

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

Specifications B-130 to B-161 | Control related product C-4 | Option D-2

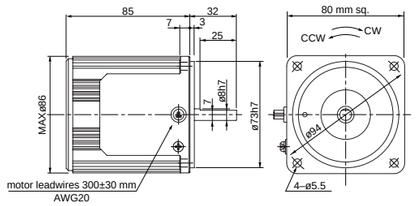
3-phase motor (4-pole round shaft / leadwire)

Dimensions
Scale: 1/4, Unit: mm

80 mm sq. 25 W

Mass 1.5 kg

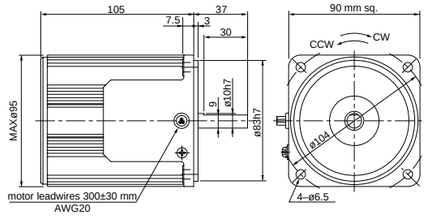
M8MX25S4YS
M8MX25S4YG(A)



90 mm sq. 40 W

Mass 2.4 kg

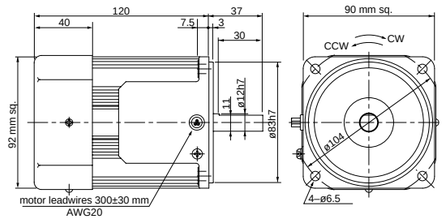
M9MX40S4YS
M9MX40S4YG(A)



90 mm sq. 60 W

Mass 2.7 kg

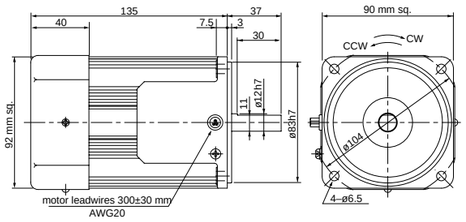
M9MZ60S4YS (with fan)
M9MZ60S4YG(A) (with fan)



90 mm sq. 90 W

Mass 3.2 kg

M9MZ90S4YS (with fan)
M9MZ90S4YG(A) (with fan)



* 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-126 | System configuration B-127 | Coding system B-127 | Model list B-128

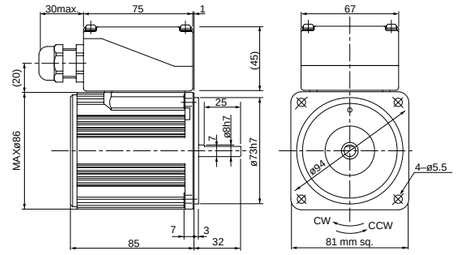
3-phase motor (4-pole round shaft / sealed connector)

Dimensions
Scale: 1/4, Unit: mm

80 mm sq. 25 W

Mass 1.8 kg

M8MX25SK4YS
M8MX25SK4YG(A)
M8MX25SK4CG(A)

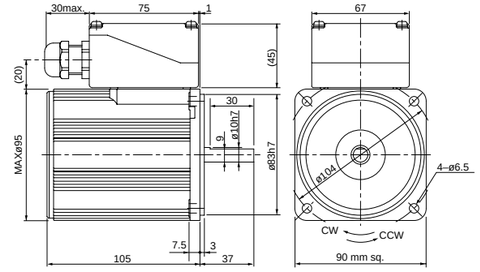


* Diameter of applicable cabtyre cable to be ø8 to ø12.

90 mm sq. 40 W

Mass 2.8 kg

M9MX40SK4YS
M9MX40SK4YG(A)
M9MX40SK4CG(A)

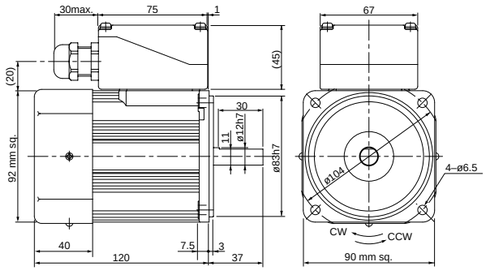


* Diameter of applicable cabtyre cable to be ø8 to ø12.

90 mm sq. 60 W

Mass 3.0 kg

M9MZ60SK4YS (with fan)
M9MZ60SK4YG(A) (with fan)
M9MZ60SK4CG(A) (with fan)

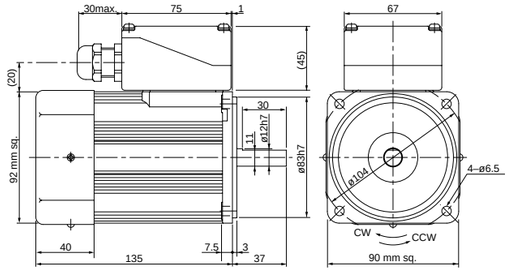


* Diameter of applicable cabtyre cable to be ø8 to ø12.

90 mm sq. 90 W

Mass 3.3 kg

M9MZ90SK4YS (with fan)
M9MZ90SK4YG(A) (with fan)
M9MZ90SK4CG(A) (with fan)



* Diameter of applicable cabtyre cable to be ø8 to ø12.

200V/220V/230V round shaft motors with a sealed connector (with a terminal box) are covered by the Electrical Appliance and Material Safety Law. The indications on their nameplate are based on this law.

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

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

Specifications B-130 to B-161 | Control related product C-4 | Option D-2