C&B motor

Contents

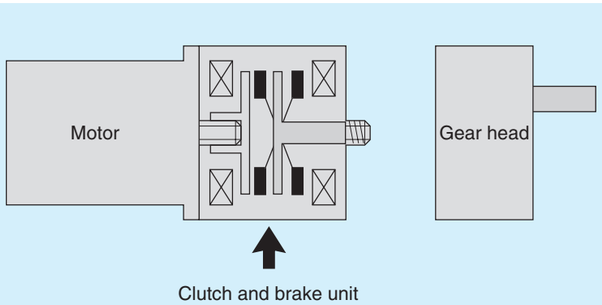
Outline of C&B motor

Features

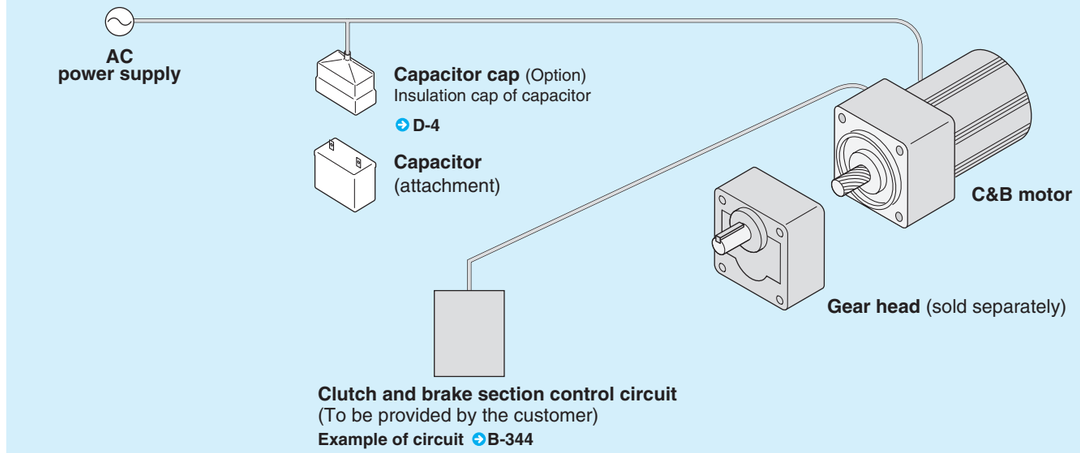
- It is best fitted for high-frequency operation.
  The high-accuracy and highly-responsive clutch and brake enables up to 100 cycles of start/stop per minute.
  (For running in one direction only)
- High-reliability gear head used
  It can withstand two million cycles of start/stop.
- Excitation-type clutch and brake
  The clutch and brake of the C&B motor is of excitation type and operates on 24 VDC.

Construction

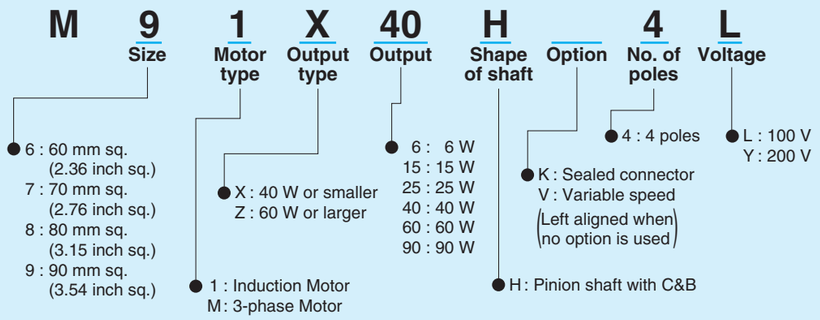
The clutch and brake are activated when the power is turned on because they are of excitation type. When the power is turned off, no coupling force of the clutch and no holding force of the brake is generated.



System configuration diagram



Coding system



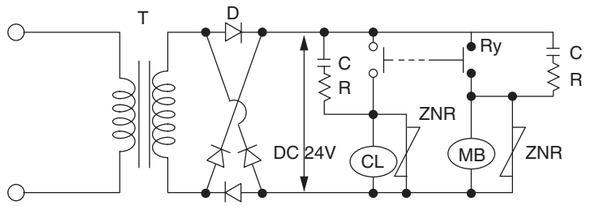
Fit tolerance

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

Outline of C&B motor

Example of control circuit of C&B motor

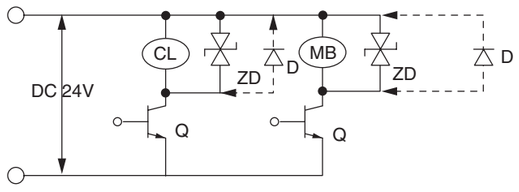
When contacts are used



- It is best that the capacity of the transformer should be more than 2 times the that of the C&B.
- The capacity of the diode should be more than 2.5 times the clutch current and the withstand voltage should be 400 V or more.
- Use the following part as a ZNR: ERZV10D101 (manufactured by Panasonic Electronic Device) or an equivalent.
- Use a CR between the contacts to protect them.

C : 0.1 μF, 250 V polyester etc.
R : 47 Ω, 1/2 W
T : Transformer
D : Diode
Ry : Relay
ZNR : Surge absorber
CL : Electromagnetic clutch
MB : Electromagnetic brake

When no contacts are used



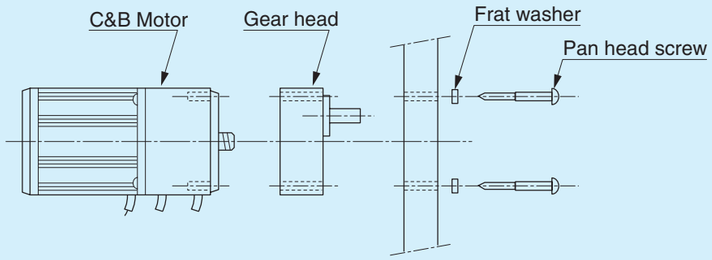
- The ZD or D should be in parallel with the CL and MB.
- Use VRD-type ZD047 manufactured by Ishizuka Electronics Corporation as a ZD.
- The withstand voltage of the transistor should be 100 V or more.
- When a diode is used, the release time will become longer.
- Do not energize the clutch and brake at a time.
  Particularly when a diode is used, note that the clutch or brake coil is energized even if the signal of the transistor is turned off.

Q : Transistor
ZD : VRD type
D : Diode
CL : Electromagnetic clutch
MB : Electromagnetic brake

Connection of C&B motor and gear head

- Use the C&B motor together with the gear head.
- When connecting the gear head to the C&B motor, take care not to damage the C&B motor output shaft pinion.
- The following gear heads and mounting hardware cannot be used for the C&B motor.
  - Ball bearing gear head (MX6G□B (A), MX7G□B (A), MX8G□B, MX9G□B)
  - Metal bearing gear head (MX6G□M (A), MX7G□M (A), MX8G□M, MX9G□M)
  - Heavy-duty type gear head (MR9G□B, MP9G□B)
  - Orthogonal axis type gear head (MX9G□R, MZ9G□R)
  - Decimal gear head (MX6G10XB, MX7G10XB, MX8G10XB, MX9G10XB, MZ9G10XB)

• C&B motor and MX○G□H type gear head



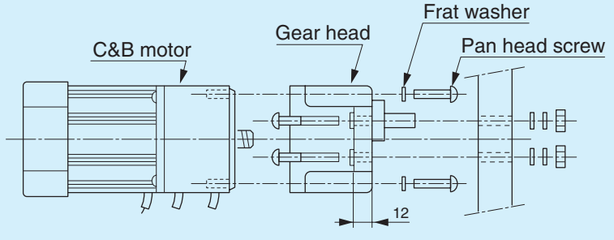
Mounting on equipment

Use the screws included with the gear head.
No nuts are needed, when you use the accessory.
The minimum board thickness should be such that the motor will not resonate.

Applicable board thickness (maximum)

MX6G	MX7G	MX8G	MX9G
8 mm (0.31 inch)	15 mm (0.59 inch)	15 mm (0.59 inch)	16 mm (0.63 inch)

• C&B motor and MY9G□H type gear head



• Connection of gear head

Use the screws included with the gear head.
No nuts are needed, when you use the accessory.

• Mounting on equipment

Use M8 screws. (to be supplied by customer.)
Determine the screw length in consideration of the thickness (12 mm) of the mounting flange of the gear head.

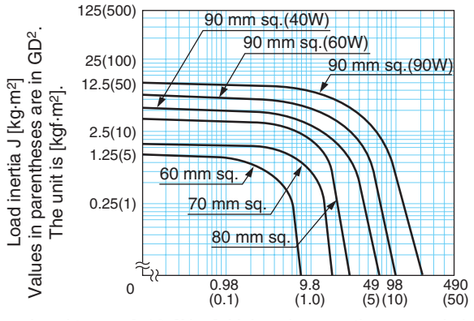
Permissible load torque and permissible inertia moment

- The load used should fall within the portion under the curve in the following selection diagrams.
- The curve in the output selection diagram represents the load torque and inertia load for withstanding two million cycles of start/stop.
- Note that the torque is reduced when the variable speed motor is run at a low speed. For further details, refer to the separate catalog of the variable speed motor.
- When the motor is to be run at a speed of lower than 30 min^{-1}, select output using the selection diagram for 30 min^{-1}.

Output selection diagram

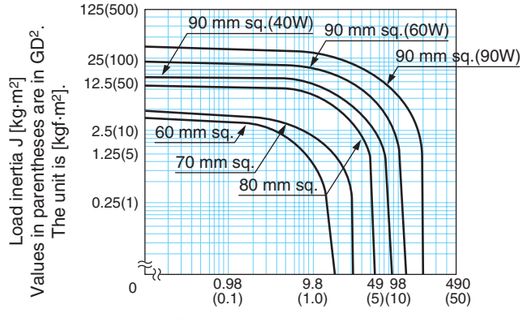
* 60 mm sq.: 2.36 inch
  70 mm sq.: 2.76 inch
  80 mm sq.: 3.15 inch
  90 mm sq.: 3.54 inch

• 500min^{-1} 1/3 50Hz
1/3.6 60Hz



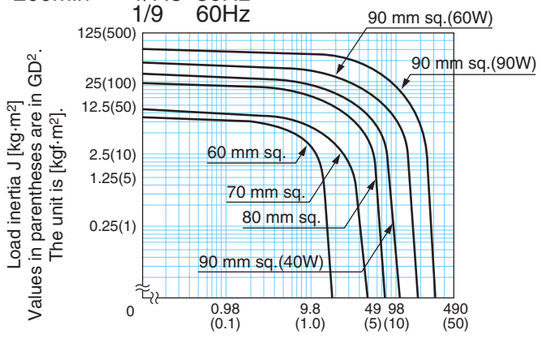
Load torque [x10^{-2}N·m] Values in parentheses are in kgf·cm.

• 300min^{-1} 1/5 50Hz
1/6 60Hz



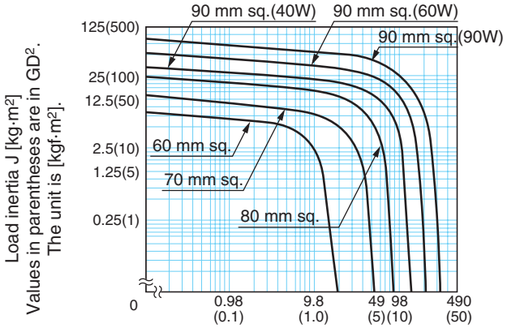
Load torque [x10^{-2}N·m] Values in parentheses are in kgf·cm.

• 200min^{-1} 1/7.5 50Hz
1/9 60Hz



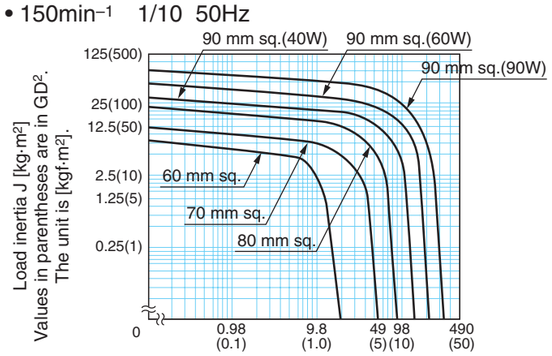
Load torque [x10^{-2}N·m] Values in parentheses are in kgf·cm.

• 180min^{-1} 1/10 60Hz



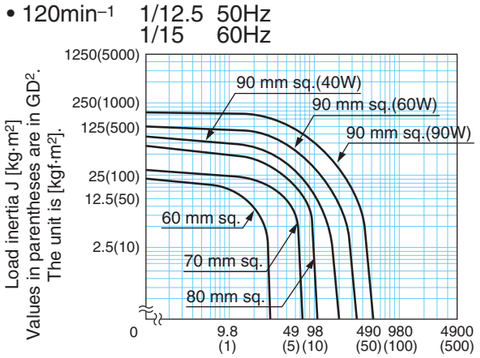
Load torque [x10^{-2}N·m] Values in parentheses are in kgf·cm.

• 150min^{-1} 1/10 50Hz



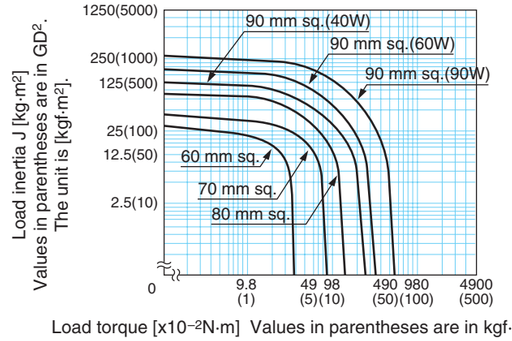
Load torque [x10^{-2}N·m] Values in parentheses are in kgf·cm.

• 120min^{-1} 1/12.5 50Hz
1/15 60Hz



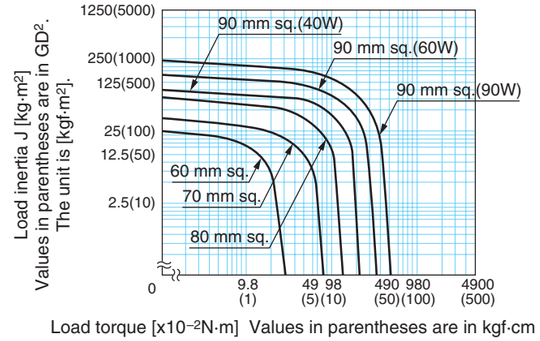
Load torque [x10^{-2}N·m] Values in parentheses are in kgf·cm.

• 100min^{-1} 1/15 50Hz
1/18 60Hz



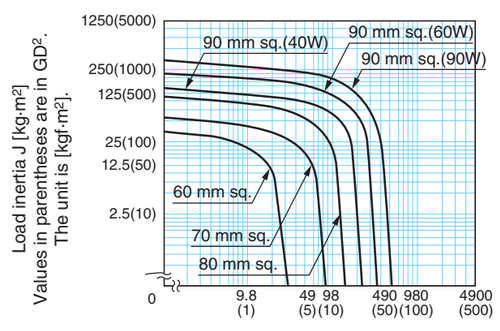
Load torque [x10^{-2}N·m] Values in parentheses are in kgf·cm.

• 90min^{-1} 1/20 60Hz



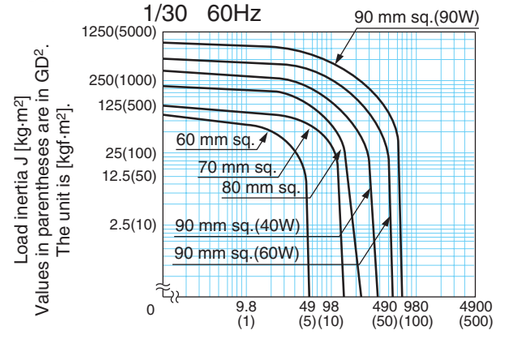
Load torque [x10^{-2}N·m] Values in parentheses are in kgf·cm.

• 75min^{-1} 1/20 50Hz



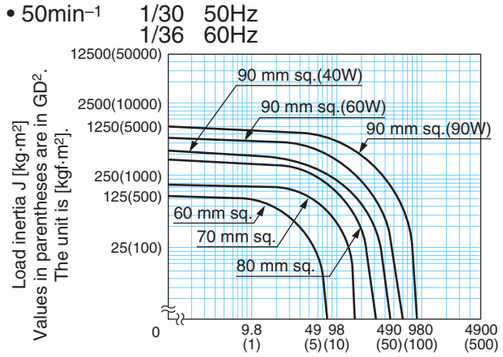
Load torque [x10^{-2}N·m] Values in parentheses are in kgf·cm.

• 60min^{-1} 1/25 50Hz
1/30 60Hz



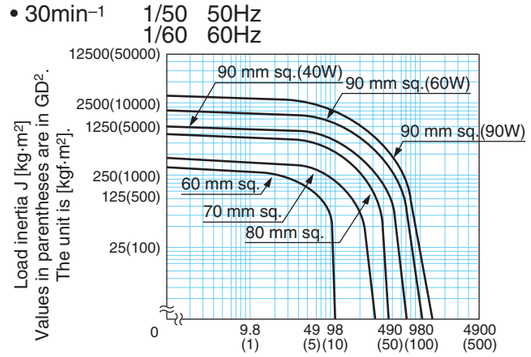
Load torque [x10^{-2}N·m] Values in parentheses are in kgf·cm

• 50min^{-1} 1/30 50Hz
1/36 60Hz



Load torque [x10^{-2}N·m] Values in parentheses are in kgf·cm.

• 30min^{-1} 1/50 50Hz
1/60 60Hz



Load torque [x10^{-2}N·m] Values in parentheses are in kgf·cm

Outline of C&B motor

Gear head

Gear heads exclusively used for C&B motor are designed to withstand frequent start and stop duty cycles. While referring to the model list, select a gear suitable for the motor.

- **Gear head for C&B motor**
  (MX6G□H, MX7G□H, MX8G□H, MX9G□H, MY9G□H)

The following gear heads cannot be used for the C&B motor.

- **Metal bearing gear head**
  (MX6G□M, MX7G□M, MX8G□M, MX9G□M)
- **Heavy-duty type gear head**
  (MR9G□R, MP9G□R)
- **Orthogonal axis type gear head**
  (MX9G□R, MZ9G□R)
- **Decimal gear head**
  (MX6G10XB, MX7G10XB, MX8G10XB, MX9G10XB, MZ9G10XB)

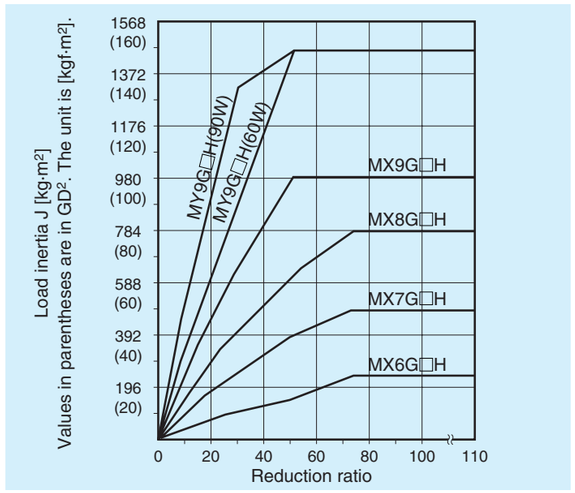
<Bearing>
The bearing is of the ball bearing type that has durability against fluctuating load and impact load.

<Reduction Ratio>
22 reduction ratios from 1/3 to 1/180 are available (23 reduction ratios from 1/3 to 1/200 for MZ(Y)9GoB). Select a reduction ratio suitable for the output speed of the motor and the speed of the machine used together with the motor.

Maximum permissible torque

There is a limit to the strength of a gear due to its material and construction. The usable load torque determined based on this limit is called permissible torque. As can be seen from the above-mentioned formula, the load becomes larger when the reduction ratio is increased. If the gear head is used with the load exceeding the permissible torque, its life expectancy will be shortened significantly. Refer to the following graph and the permissible torque for each model and use the gear head at an appropriate load.

- **Maximum permissible torque**



Gear head efficiency

Model No.	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	
MX6G□H MX7G□H MX8G□H MX9G□H	81%										75%						70%							–
MZ9G□H	81%					75%					70%						65%							65%

Calculation of torque at output shaft of gear head

$$N_G = \frac{N_M}{i}$$

$$T_G = T_M \times i \times \eta$$

N_G : Speed of gear head (min⁻¹)
N_M : Motor speed (min⁻¹)
i : Reduction ratio of gear head
T_G : Output torque of gear head (N·m)
T_M : Motor torque (N·m)
η : Gear head efficiency

Service factor

Life expectancy of motor varies depending on load fluctuation. To determine the life expectancy, a factor called service factor, as shown in the table below is used.First choose the appropriate service factor according to the type of load and multiply the result by the required power to determine the design power.

- **Service factor**

Type of load	Typical load	Service factor		
		5 hours/day	8 hours/day	24 hours/day
Constant	Belt conveyor, One-directional rotation	0.8	1.0	1.5
Light-impact	Start/Stop, Cam-drive	1.2	1.5	2.0
Medium-impact	Instant FWD/REV, Instant stop	1.5	2.0	2.5
Heavy-impact	Frequent medium-impact	2.5	3.0	3.5

The required allowable shaft torque T_A of the gear head can be determined based on the service factor and actual load torque T_1:

$$T_A = T_1 \times Sf$$

T_A : Allowable torque of gear head (N·m)
T_1 : Actual load torque (N·m)
Sf : Service factor

Use the motor so that the allowable torque T_A calculated from the formula above falls within the allowable torque range.
* Though it seems that the motor can be operated even in overload when the service factor is 0.8, note that the service factor is defined for the allowable torque of the gear head. If the motor is operated in overload, the life of insulator may be shortened or the motor may be burned out due to an abnormal temperature rise.

Standard life expectancy

Standard life expectancy: Standard life expectancy when operated for 8 hours/day at the standard load (Service factor=1.0)
* The oil seal is excluded because it is a consumable.

- Calculation of life expectancy
  Calculate the life expectancy while referring to the service factor table shown above.
  When the service factor is 2.0, for example, the life expectancy is calculated as follows:
  Life expectancy = 5,000 (h) / 2.0 = 2,500 (h)

- **Standard life expectancy**

	Life (hours)
Gear head for C&B motor	5,000 hours

Outline of C&B motor

Pinion shaft motor

Applicable gear head

• Single-phase / 4 poles

Hinge attached

Size	Output (W)	Leadwire type			Sealed connector type			Variable speed induction motor (leadwire)			Standard gear head (for C&B)
		Model number	Specifications	Page	Model number	Specifications	Page	Model number	Specifications	Page	Ball bearing
60 mm sq. (2.36 inch sq.)	6	M61X6H4L	100V	B-352				M61X6HV4L	100V	B-388	MX6G□H
		M61X6H4Y	200V	B-352				M61X6HV4Y	200V	B-388	
70 mm sq. (2.76 inch sq.)	15	M71X15H4L	100V	B-354				M71X15HV4L	100V	B-390	MX7G□H
		M71X15H4Y	200V	B-354				M71X15HV4Y	200V	B-390	
80 mm sq. (3.15 inch sq.)	25	M81X25H4L	100V	B-356	M81X25HK4L	100V	B-364	M81X25HV4L	100V	B-392	MX8G□H
		M81X25H4Y	200V	B-356	M81X25HK4Y	200V	B-364	M81X25HV4Y	200V	B-392	
90 mm sq. (3.54 inch sq.)	40	M91X40H4L	100V	B-358	M91X40HK4L	100V	B-366	M91X40HV4L	100V	B-394	MX9G□H
		M91X40H4Y	200V	B-358	M91X40HK4Y	200V	B-366	M91X40HV4Y	200V	B-394	
	60	M91Z60H4L	100V	B-360	M91Z60HK4L	100V	B-368	M91Z60HV4L	100V	B-396	MY9G□H
		M91Z60H4Y	200V	B-360	M91Z60HK4Y	200V	B-368	M91Z60HV4Y	200V	B-396	
	90	M91Z90H4L	100V	B-362	M91Z90HK4L	100V	B-370	M91Z90HV4L	100V	B-398	
		M91Z90H4Y	200V	B-362	M91Z90HK4Y	200V	B-370	M91Z90HV4Y	200V	B-398	

• 3-phase / 2poles

Hinge attached

Size	Output (W)	Leadwire type			Sealed connector type			Standard gear head (for C&B)
		Model number	Specifications	Page	Model number	Specifications	Page	Ball bearing
80 mm sq. (3.15 inch sq.)	25							
		M8MX25H4Y	200V	B-372	M8MX25HK4Y	200V	B-380	MX8G□H
90 mm sq. (3.54 inch sq.)	40							
		M9MX40H4Y	200V	B-374	M9MX40HK4Y	200V	B-382	MX9G□H
	60							
		M9MZ60H4Y	200V	B-376	M9MZ60HK4Y	200V	B-384	MY9G□H
	90							
		M9MZ90H4Y	200V	B-378	M9MZ90HK4Y	200V	B-386	

• Possible combination of speed controller and motor

	Size	Output (W)	Motor		Voltage (V)	Speed controller			
			Certified	Part No.		MGSD type	EX type	SD48 type	EX48 type
C&B motor / Variable speed induction motor	60 mm sq. (2.36 inch sq.)	6	-----	M61X6HV4L	100	MGSDA1	DV1131	DVSD48AL	DVEX48AL
			-----	M61X6HV4Y	200	MGSDB2	DV1231	DVSD48AY	DVEX48AY
	70 mm sq. (2.76 inch sq.)	15	-----	M71X15HV4L	100	MGSDA1	DV1132	DVSD48AL	DVEX48AL
			-----	M71X15HV4Y	200	MGSDB2	DV1231	DVSD48AY	DVEX48AY
	80 mm sq. (3.15 inch sq.)	25	-----	M81X25HV4L	100	MGSDA1	DV1132	DVSD48BL	DVEX48BL
			-----	M81X25HV4Y	200	MGSDB2	DV1234	DVSD48BY	DVEX48BY
	90 mm sq. (3.54 inch sq.)	40	-----	M91X40HV4L	100	MGSDA1	DV1132	DVSD48BL	DVEX48BL
			-----	M91X40HV4Y	200	MGSDB2	DV1234	DVSD48BY	DVEX48BY
		60	-----	M91Z60HV4L	100	MGSDB1	DV1134	DVSD48CL	DVEX48CL
			-----	M91Z60HV4Y	200	MGSDB2	DV1234	DVSD48CY	DVEX48CY
		90	-----	M91Z90HV4L	100	MGSDB1	DV1134	DVSD48CL	DVEX48CL
			-----	M91Z90HV4Y	200	MGSDB2	DV1234	DVSD48CY	DVEX48CY

• Specifications

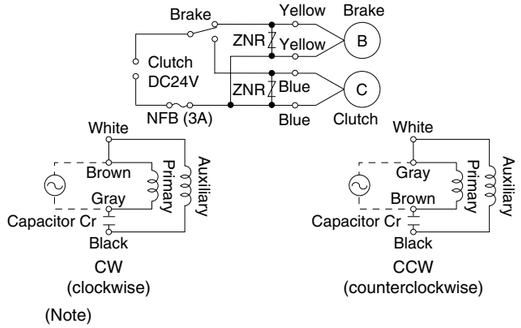
Size	Motor model No.	Motor characteristics											
		Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating: Input (W)	Rating: Current (A)	Rating: Speed (min⁻¹)	Rating: Torque N·m (oz-in)	Starting current (A)	Starting torque N·m (oz-in)	Capacitor (μF) (rated voltage)
60 mm sq.	M61X6H4L	4	6	100	50	Cont.	20	0.21	1250	0.048(6.8)	0.30	0.049 (6.94)	2.5 (200V)
					60		20	0.20	1575	0.038(5.38)			
	M61X6H4Y			200	50		20	0.11	1250	0.048(6.8)	0.15		0.7 (400V)
					60		20	0.10	1600	0.037(5.23)			

Size	Motor model No.	Clutch and brake characteristics						
			Static friction torque N·m (oz-in)	Rating Voltage (DC-V)	Capacity W (About 75°C)	Response time: Armature absorbing time (ms)	Response time: Armature release time (ms)	Response time: Actual torque start time (ms)
60 mm sq.	M61X6H4L	Clutch	0.294 (41.6)	24	4	15	25	20
		Brake			2			
	M61X6H4Y	Clutch			4			
		Brake			2			

(Make selection while referring to the output selection diagrams for C&B motor shown on pages B-346 to 347.)

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	MX6G3H to MX6G180H (ball bearing)	Rotational direction	Same as motor rotational direction										Reverse to motor rotational direction						Same as motor rotational direction					

Connection diagram



(Note)
1.ZNR not supplied
2.Use a circuit breaker for the clutch and brake power supply.

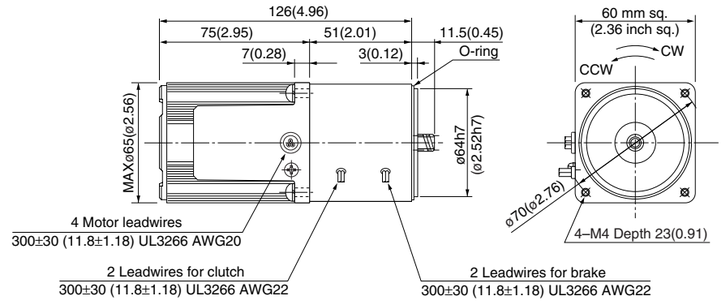
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

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

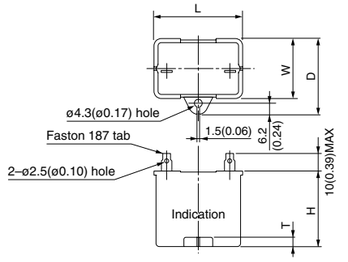
M61X6H4L 4P 6W 100V
M61X6H4Y 4P 6W 200V

Mass 1.2 kg 2.71 lb | Helical gear | Module 0.5 | Number of teeth 10



Capacitor (dimensions) [attachment]

Unit: mm (inch)



• Capacitor dimension list

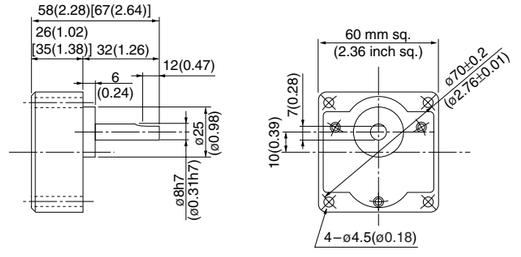
Unit: upper (mm) / lower (inch)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M61X6H4L	M0PC2.5M20	39.5 (1.56)	16 (0.63)	26.5 (1.04)	30.5 (1.20)	4 (0.16)	M0PC3917
M61X6H4Y	M0PC0.7M40	39.5 (1.56)	16.2 (0.64)	27 (1.06)	27 (1.06)	4 (0.16)	M0PC3917

Gear head (dimensions)

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

MX6G□H (ball bearing) Mass 0.34 kg (0.75 lb): Output shaft D cut



* Figures in [ ] represent the dimensions of MX6G□H (1/30 or larger reduction ratio).
(Note) Because the dimensions may be subject to change, also check the determinate dimensions if the gear head is to be used for design.

C&B motor (induction motor leadwire)

70 mm (2.76 inch) sq. 15 W

• Specifications

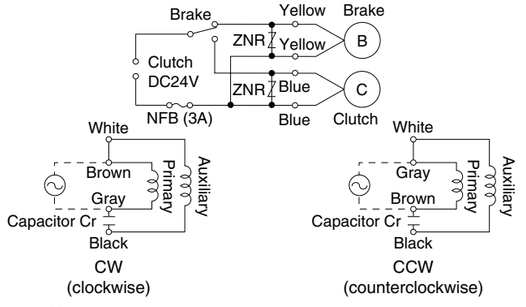
Size	Motor model No.	Motor characteristics											
		Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min^{-1})	Rating Torque N·m (oz-in)	Starting current (A)	Starting torque N·m (oz-in)	Capacitor (μF) (rated voltage)
70 mm sq.	M71X15H4L	4	15	100	50	Cont.	34	0.37	1250	0.11(15.6)	0.61	0.077(10.9)	4
					60		33	0.33	1575	0.088(12.5)	0.57	0.077(10.9)	(200V)
	M71X15H4Y			200	50		33	0.18	1300	0.11(15.6)	0.30	0.077(10.9)	1
					60		34	0.18	1600	0.088(12.5)	0.29	0.077(10.9)	(400V)

Size	Motor model No.	Clutch and brake characteristics						
			Static friction torque N·m (oz-in)	Rating Voltage (DC-V)	Capacity W (About 75°C)	Response time Armature absorbing time (ms)	Armature release time (ms)	Actual torque start time (ms)
70 mm sq.	M71X15H4L	Clutch	0.294 (41.6)	24	4	15	25	20
		Brake			2			
	M71X15H4Y	Clutch			4			
		Brake			2			

(Make selection while referring to the output selection diagrams for C&B motor shown on pages B-346 to 347.)

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	MX7G3H to MX7G180H (ball bearing)	Rotational direction	Same as motor rotational direction										Reverse to motor rotational direction						Same as motor rotational direction					

Connection diagram



(Note)
1.ZNR not supplied
2.Use a circuit breaker for the clutch and brake power supply.

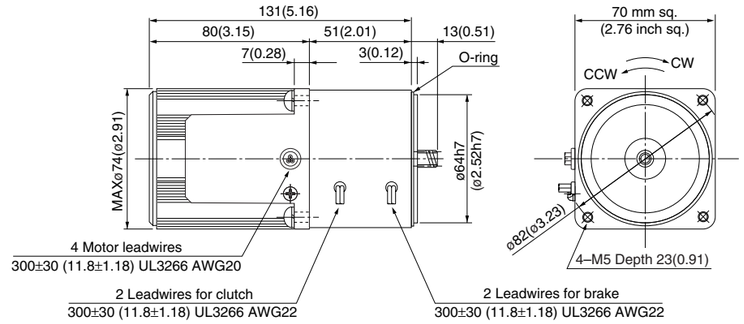
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

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

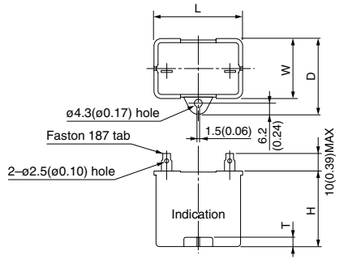
M71X15H4L 4P 15W 100V
M71X15H4Y 4P 15W 200V

Mass 1.7 kg 3.79 lb | Helical gear | Module 0.5 | Number of teeth 10



Capacitor (dimensions) [attachment]

Unit: mm (inch)



• Capacitor dimension list

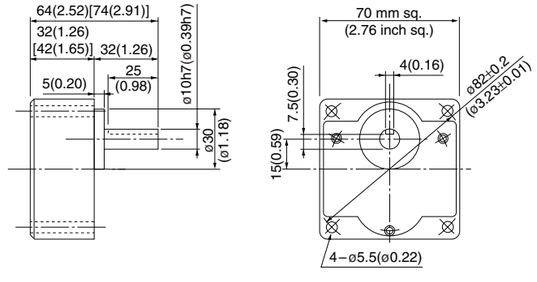
Unit: upper (mm) / lower (inch)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M71X15H4L	M0PC4M20	39.5 (1.56)	16 (0.63)	26.5 (1.04)	30.5 (1.20)	4 (0.16)	M0PC3917
M71X15H4Y	M0PC1M40	39.5 (1.56)	16.2 (0.64)	27 (1.06)	27 (1.06)	4 (0.16)	M0PC3917

Gear head (dimensions)

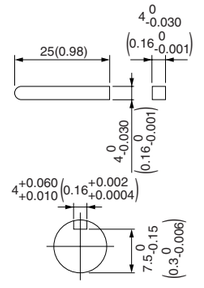
Scale: 1/3, Unit: mm (inch)

MX7G□H (ball bearing) Mass 0.54 kg (1.19 lb)



Key and keyway (dimensions) [attachment]

MX7G□H



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

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

• Specifications

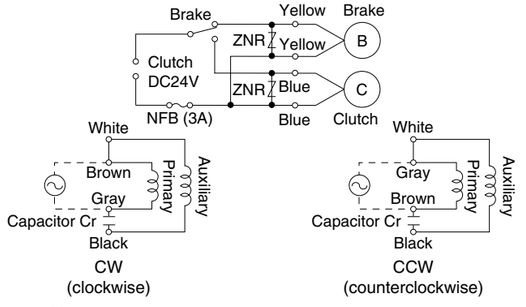
Size	Motor model No.	Motor characteristics											
		Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min^{-1})	Rating Torque N·m (oz-in)	Starting current (A)	Starting torque N·m (oz-in)	Capacitor (μF) (rated voltage)
80 mm sq.	M81X25H4L	4	25	100	50	Cont.	51	0.55	1250	0.19(26.9)	0.98	0.16 (22.66)	6 (200V)
					60		49	0.48	1550	0.15(21.24)	0.94		
	M81X25H4Y			200	50		51	0.27	1250	0.19(26.9)	0.50		1.5 (400V)
					60		49	0.24	1575	0.15(21.24)	0.47		

Size	Motor model No.	Clutch and brake characteristics						
			Static friction torque N·m (oz-in)	Rating Voltage (DC-V)	Capacity W (About 75°C)	Response time Armature absorbing time (ms)	Armature release time (ms)	Actual torque start time (ms)
80 mm sq.	M81X25H4L	Clutch	0.980 (139)	24	7	15	25	20
		Brake			5			
	M81X25H4Y	Clutch			7			
		Brake			5			

(Make selection while referring to the output selection diagrams for C&B motor shown on pages B-346 to 347.)

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	MX8G3H to MX8G180H (ball bearing)	Rotational direction	Same as motor rotational direction										Reverse to motor rotational direction						Same as motor rotational direction					

Connection diagram



(Note)
1.ZNR not supplied
2.Use a circuit breaker for the clutch and brake power supply.

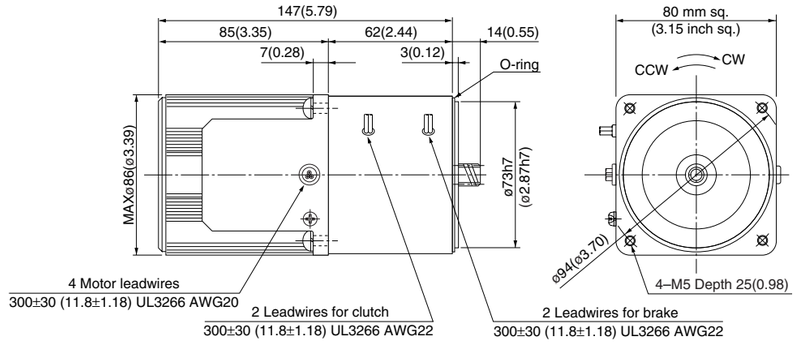
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

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

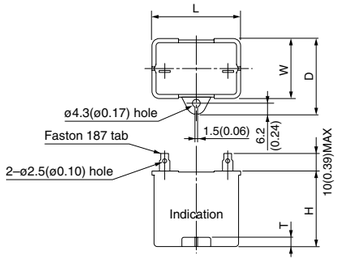
M81X25H4L 4P 25W 100V
M81X25H4Y 4P 25W 200V

Mass 2.6 kg 5.80 lb | Helical gear | Module 0.6 | Number of teeth 11



Capacitor (dimensions) [attachment]

Unit: mm (inch)



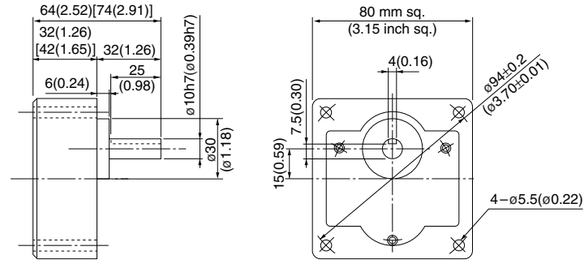
• Capacitor dimension list Unit: upper (mm) / lower (inch)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M81X25H4L	M0PC6M20	39.5 (1.56)	17.5 (0.69)	28 (1.10)	30.5 (1.20)	4 (0.16)	M0PC3917
M81X25H4Y	M0PC1.5M40	39.5 (1.56)	22 (0.87)	30.5 (1.20)	32.5 (1.28)	4 (0.16)	M0PC3922

Gear head (dimensions)

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

MX8G□H (ball bearing) Mass 0.68 kg (1.50 lb)

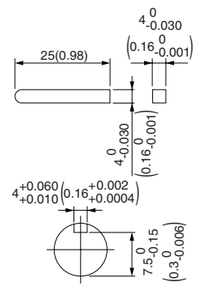


* Figures in [ ] represent the dimensions of MX8G□H (1/30 or larger reduction ratio).

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

Key and keyway (dimensions) [attachment]

MX8G□H



90 mm (3.54 inch) sq. 40 W

• Specifications

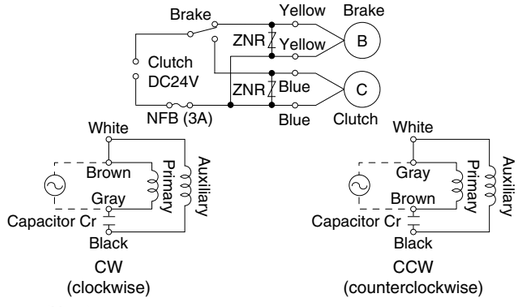
Size	Motor model No.	Motor characteristics											
		Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min^{-1})	Rating Torque N·m (oz-in)	Starting current (A)	Starting torque N·m (oz-in)	Capacitor (μF) (rated voltage)
90 mm sq.	M91X40H4L	4	40	100	50	Cont.	78	0.89	1225	0.30(42.5)	1.5	0.24(34.0)	10
					60		72	0.72	1550	0.25(35.4)	1.5	0.25(35.4)	(200V)
	M91X40H4Y			200	50		79	0.43	1250	0.30(42.5)	0.83	0.25(35.4)	2.5
					60		72	0.36	1575	0.24(34.0)	0.76	0.25(35.4)	(400V)

Size	Motor model No.	Clutch and brake characteristics						
			Static friction torque N·m (oz-in)	Rating Voltage (DC-V)	Capacity W (About 75°C)	Response time Armature absorbing time (ms)	Armature release time (ms)	Actual torque start time (ms)
90 mm sq.	M91X40H4L	Clutch	1.47 (208.17)	24	7	15	25	20
		Brake			5			
	M91X40H4Y	Clutch			7			
		Brake			5			

(Make selection while referring to the output selection diagrams for C&B motor shown on pages B-346 to 347.)

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	MX9G3H to MX9G180H (ball bearing)	Rotational direction	Same as motor rotational direction										Reverse to motor rotational direction						Same as motor rotational direction					

Connection diagram



(Note)
1.ZNR not supplied
2.Use a circuit breaker for the clutch and brake power supply.

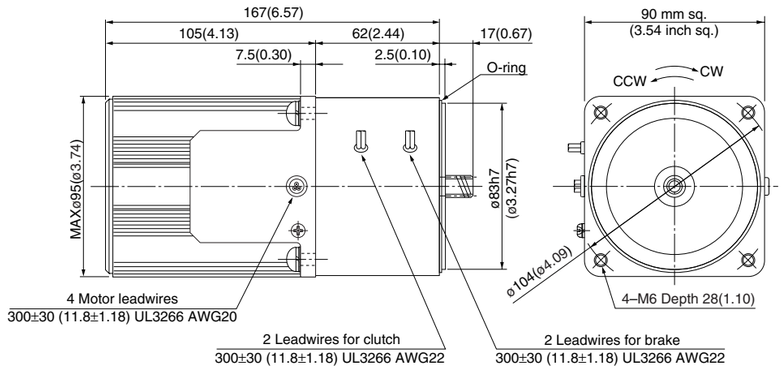
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

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

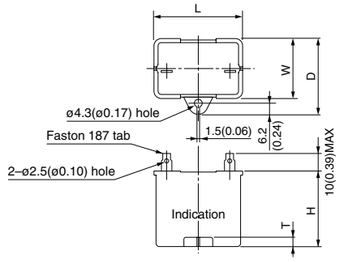
M91X40H4L 4P 40W 100V
M91X40H4Y 4P 40W 200V

Mass	Helical	Module	Number of teeth
3.6 kg 7.98 lb	gear	0.6	11



Capacitor (dimensions) [attachment]

Unit: mm (inch)



• Capacitor dimension list

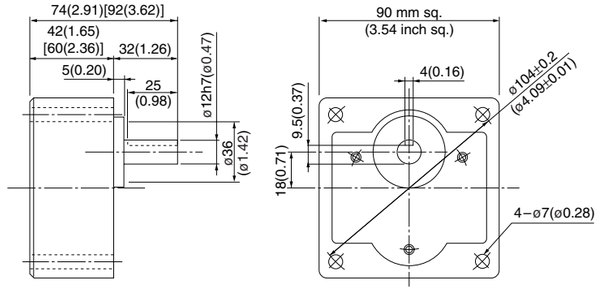
Unit: upper (mm) / lower (inch)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M91X40H4L	M0PC10M20	39.5 (1.56)	26.7 (1.05)	37 (1.46)	32 (1.26)	4 (0.16)	M0PC3926
M91X40H4Y	M0PC2.5M40	49.7 (1.96)	24 (0.94)	34.5 (1.36)	34.5 (1.36)	4 (0.16)	M0PC5026

Gear head (dimensions)

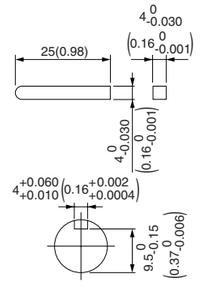
Scale: 1/3, Unit: mm (inch)

MX9G□H (ball bearing) Mass 1.2 kg (2.65 lb)



Key and keyway (dimensions) [attachment]

MX9G□H



* Figures in [ ] represent the dimensions of MX9G□H (1/20 or larger reduction ratio).

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

C&B motor (induction motor leadwire)

90 mm (3.54 inch) sq. 60 W

• Specifications

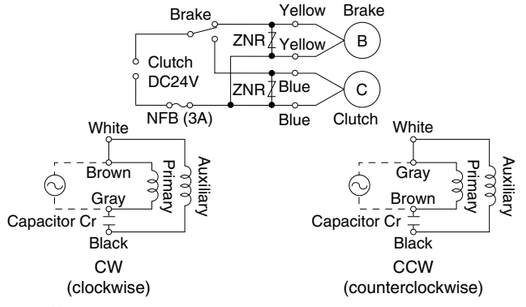
Size	Motor model No.	Motor characteristics											
		Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min^{-1})	Rating Torque N·m (oz-in)	Starting current (A)	Starting torque N·m (oz-in)	Capacitor (μF) (rated voltage)
90 mm sq.	M91Z60H4L	4	60	100	50	Cont.	118	1.3	1250	0.46(65.1)	2.2	0.41(58.1)	15 (210V)
					60		117	1.2	1550	0.36(51.0)		0.42(59.5)	
	M91Z60H4Y			200	50		120	0.65	1250	0.46(65.1)	1.1	0.42(59.5)	3.8 (400V)
					60		119	0.59	1550	0.36(51.0)		0.44(62.3)	

Size	Motor model No.	Clutch and brake characteristics						
			Static friction torque N·m (oz-in)	Rating Voltage (DC-V)	Capacity W (About 75°C)	Response time Armature absorbing time (ms)	Armature release time (ms)	Actual torque start time (ms)
90 mm sq.	M91Z60H4L	Clutch	1.47 (208)	24	7	15	25	20
		Brake			5			
	M91Z60H4Y	Clutch			7			
		Brake			5			

(Make selection while referring to the output selection diagrams for C&B motor shown on pages B-346 to 347.)

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	MY9G3H to MY9G200H (ball bearing)	Rotational direction	Same as motor rotational direction						Reverse to motor rotational direction				Same as motor rotational direction						Reverse to motor rotational direction						

Connection diagram



(Note)
1.ZNR not supplied
2.Use a circuit breaker for the clutch and brake power supply.

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

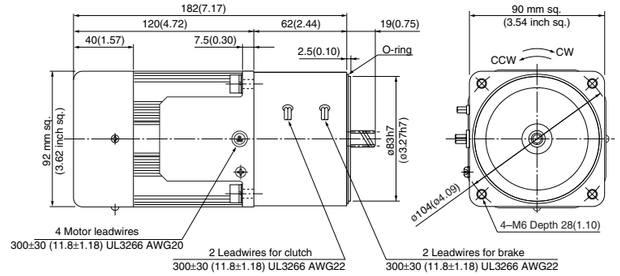
Features B-342 | System configuration B-343 | Coding system B-343 | Model list B-350

Motor (dimensions)

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

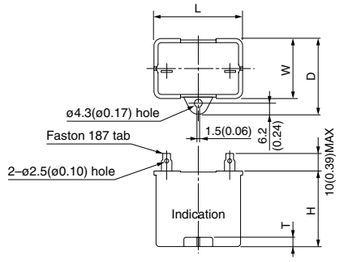
M91Z60H4L 4P 60W 100V
M91Z60H4Y 4P 60W 200V

Mass 3.9 kg 8.66 lb | Helical gear | Module 0.8 | Number of teeth 11



Capacitor (dimensions) [attachment]

Unit: mm (inch)



• Capacitor dimension list

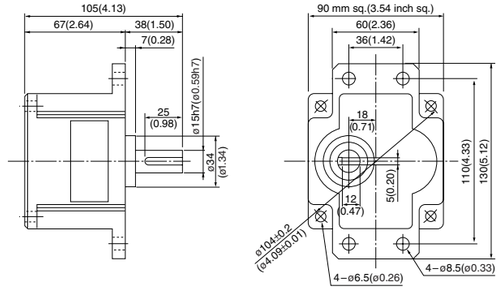
Unit: upper (mm) / lower (inch)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M91Z60H4L	M0PC15M21	39.5 (1.56)	26.7 (1.05)	37 (1.46)	41 (1.61)	4 (0.16)	M0PC3926
M91Z60H4Y	M0PC3.8M40	50 (1.97)	26.7 (1.05)	37.5 (1.48)	38 (1.50)	4 (0.16)	M0PC5026

Gear head (dimensions)

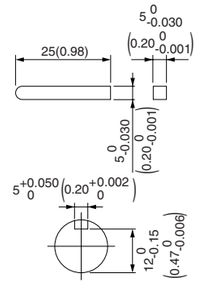
Scale: 1/4, Unit: mm (inch)

MY9G□H (ball bearing) Mass 1.5 kg (3.31 lb)



Key and keyway (dimensions) [attachment]

MY9G□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-400 | Controls C-4 | Option D-2

90 mm (3.54 inch) sq. 90 W

• Specifications

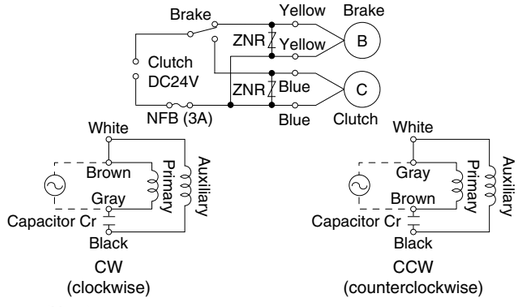
Size	Motor model No.	Motor characteristics											
		Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min⁻¹)	Rating Torque N·m (oz-in)	Starting current (A)	Starting torque N·m (oz-in)	Capacitor (μF) (rated voltage)
90 mm sq.	M91Z90H4L	4	90	100	50	Cont.	153	1.6	1325	0.65(92.0)	3.3	0.47 (66.6)	25 (200V)
					60		160	1.6	1625	0.53(75.1)	3.0		
	M91Z90H4Y			200	50		150	0.75	1325	0.62(87.8)	1.7		5.8 (400V)
					60		160	0.80	1650	0.51(72.2)	1.5		

Size	Motor model No.	Clutch and brake characteristics						
			Static friction torque N·m (oz-in)	Rating Voltage (DC-V)	Capacity W (About 75°C)	Response time Armature absorbing time (ms)	Armature release time (ms)	Actual torque start time (ms)
90 mm sq.	M91Z90H4L	Clutch	1.47 (208)	24	7	15	25	20
		Brake			5			
	M91Z90H4Y	Clutch			7			
		Brake			5			

(Make selection while referring to the output selection diagrams for C&B motor shown on pages B-346 to 347.)

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	MY9G3H to MY9G200H (ball bearing)	Rotational direction	Same as motor rotational direction						Reverse to motor rotational direction				Same as motor rotational direction						Reverse to motor rotational direction						

Connection diagram



(Note)
1.ZNR not supplied
2.Use a circuit breaker for the clutch and brake power supply.

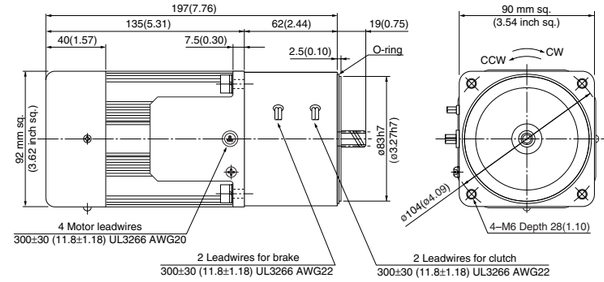
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

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

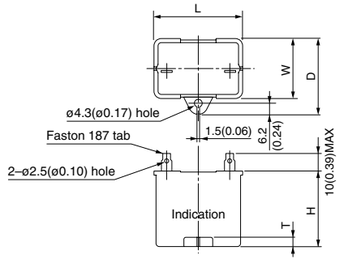
M91Z90H4L 4P 90W 100V
M91Z90H4Y 4P 90W 200V

Mass 4.1 kg 9.11 lb | Helical gear | Module 0.8 | Number of teeth 11



Capacitor (dimensions) [attachment]

Unit: mm (inch)



• Capacitor dimension list

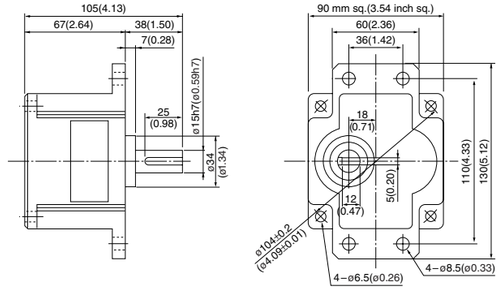
Unit: upper (mm) / lower (inch)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M91Z90H4L	M0PC25M20	50.2 (1.98)	31 (1.22)	41 (1.61)	42 (1.65)	5 (0.20)	M0PC5032
M91Z90H4Y	M0PC5.8M40	50 (1.97)	30.5 (1.20)	41 (1.61)	41.5 (1.63)	4 (0.16)	M0PC5032

Gear head (dimensions)

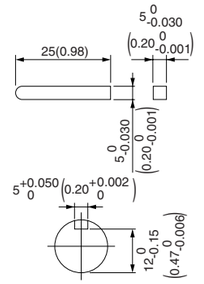
Scale: 1/4, Unit: mm (inch)

MY9G□H (ball bearing) Mass 1.5 kg (3.31 lb)



Key and keyway (dimensions) [attachment]

MY9G□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.

C&B motor (induction motor sealed connector)

80 mm (3.15 inch) sq. 25 W

• Specifications

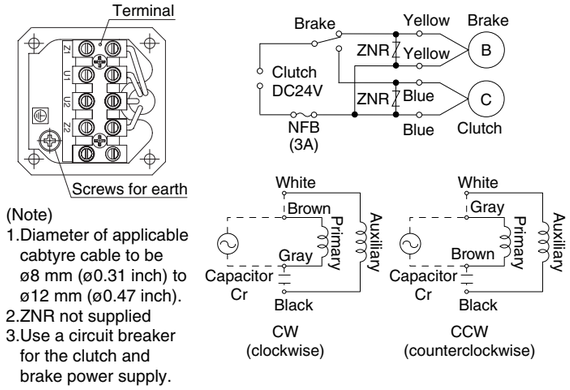
Size	Motor model No.	Motor characteristics											
		Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min^{-1})	Rating Torque N·m (oz-in)	Starting current (A)	Starting torque N·m (oz-in)	Capacitor (μF) (rated voltage)
80 mm sq.	M81X25HK4L	4	25	100	50	Cont.	51	0.55	1250	0.19(26.9)	0.98	0.16 (22.7)	6 (200V)
					60		49	0.48	1550	0.15(21.2)	0.94		
	M81X25HK4Y			200	50		51	0.27	1250	0.19(26.9)	0.50		1.5 (400V)
					60		49	0.24	1575	0.15(21.2)	0.47		

Size	Motor model No.	Clutch and brake characteristics						
			Static friction torque N·m (oz-in)	Rating Voltage (DC-V)	Capacity W (About 75°C)	Response time Armature absorbing time (ms)	Armature release time (ms)	Actual torque start time (ms)
80 mm sq.	M81X25HK4L	Clutch	0.980 (139)	24	7	15	25	20
		Brake			5			
	M81X25HK4Y	Clutch			7			
		Brake			5			

(Make selection while referring to the output selection diagrams for C&B motor shown on pages B-346 to 347.)

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	MX8G3H to MX8G180H (ball bearing)	Rotational direction	Same as motor rotational direction										Reverse to motor rotational direction						Same as motor rotational direction					

Connection diagram



(Note)
1. Diameter of applicable cabtyre cable to be ø8 mm (ø0.31 inch) to ø12 mm (ø0.47 inch).
2. ZNR not supplied
3. Use a circuit breaker for the clutch and brake power supply.

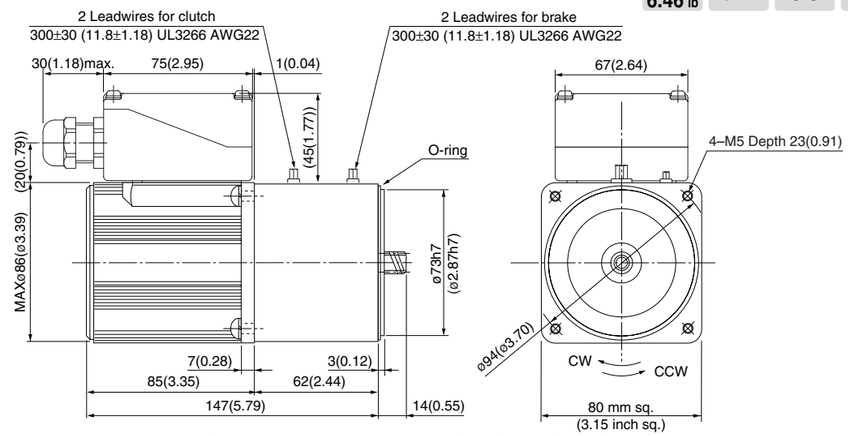
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

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

M81X25HK4L 4P 25W 100V
M81X25HK4Y 4P 25W 200V

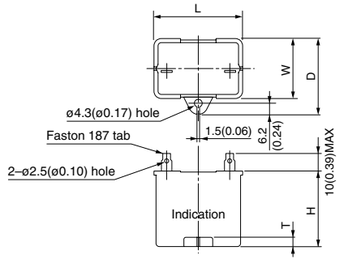
Mass 2.9 kg 6.46 lb | Helical gear | Module 0.6 | Number of teeth 11



* Diameter of applicable cabtyre cable to be ø8(ø0.31) to ø12(ø0.47).

Capacitor (dimensions) [attachment]

Unit: mm (inch)



• Capacitor dimension list

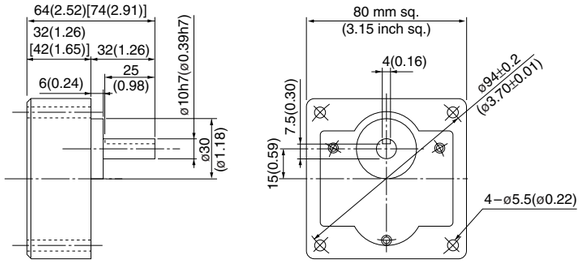
Unit: upper (mm) / lower (inch)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M81X25HK4L	M0PC6M20	39.5 (1.56)	17.5 (0.69)	28 (1.10)	30.5 (1.20)	4 (0.16)	M0PC3917
M81X25HK4Y	M0PC1.5M40	39.5 (1.56)	22 (0.87)	32.5 (1.28)	32.5 (1.28)	4 (0.16)	M0PC3922

Gear head (dimensions)

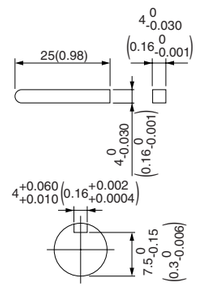
Scale: 1/3, Unit: mm (inch)

MX8G□H (ball bearing) Mass 0.68 kg (1.50 lb)



Key and keyway (dimensions) [attachment]

MX8G□H



* Figures in [ ] represent the dimensions of MX8G□H (1/30 or larger reduction ratio).

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

90 mm (3.54 inch) sq. 40 W

• Specifications

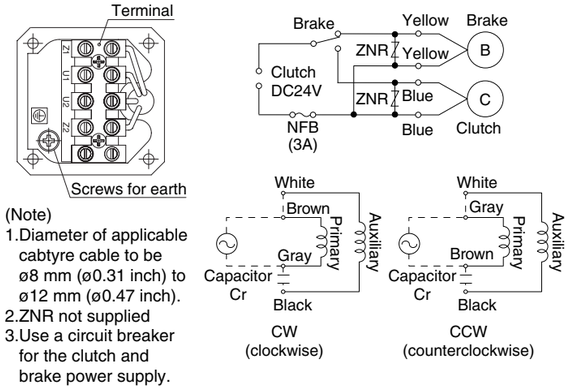
Size	Motor model No.	Motor characteristics											
		Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min^{-1})	Rating Torque N·m (oz-in)	Starting current (A)	Starting torque N·m (oz-in)	Capacitor (μF) (rated voltage)
90 mm sq.	M91X40HK4L	4	40	100	50	Cont.	78	0.86	1225	0.30(42.5)	1.5	0.24(34.0)	10
					60		72	0.72	1550	0.25(35.4)	1.5	0.25(35.4)	(200V)
	M91X40HK4Y			200	50		79	0.43	1250	0.30(42.5)	0.83	0.25(35.4)	2.5
					60		72	0.36	1575	0.24(34.0)	0.76	0.25(35.4)	(400V)

Size	Motor model No.	Clutch and brake characteristics						
			Static friction torque N·m (oz-in)	Rating Voltage (DC-V)	Capacity W (About 75°C)	Response time Armature absorbing time (ms)	Armature release time (ms)	Actual torque start time (ms)
90 mm sq.	M91X40HK4L	Clutch	1.47 (208)	24	7	15	25	20
		Brake			5			
	M91X40HK4Y	Clutch			7			
		Brake			5			

(Make selection while referring to the output selection diagrams for C&B motor shown on pages B-346 to 347.)

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	MX9G3H to MX9G180H (ball bearing)	Rotational direction	Same as motor rotational direction										Reverse to motor rotational direction						Same as motor rotational direction					

Connection diagram



(Note)
1. Diameter of applicable cabtyre cable to be ø8 mm (ø0.31 inch) to ø12 mm (ø0.47 inch).
2. ZNR not supplied
3. Use a circuit breaker for the clutch and brake power supply.

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

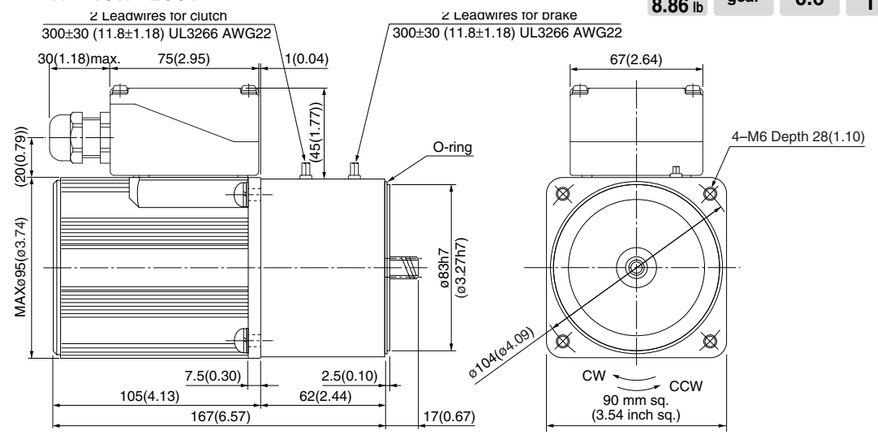
Motor (dimensions)

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

M91X40HK4L
M91X40HK4Y

4P 40W 100V
4P 40W 200V

Mass 4.0 kg 8.86 lb | Helical gear | Module 0.6 | Number of teeth 11



* Diameter of applicable cabtyre cable to be ø8(ø0.31) to ø12(ø0.47).

Capacitor (dimensions) [attachment]

Unit: mm (inch)

• Capacitor dimension list

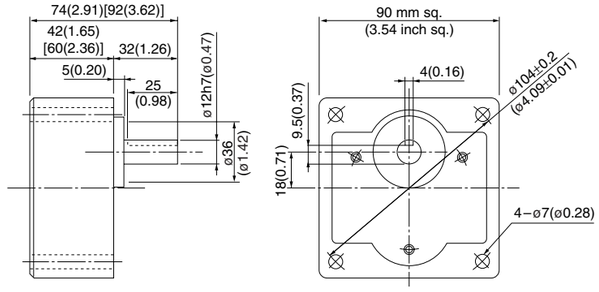
Unit: upper (mm) / lower (inch)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M91X40HK4L	M0PC10M20	39.5 (1.56)	26.7 (1.05)	37 (1.46)	32 (1.26)	4 (0.16)	M0PC3926
M91X40HK4Y	M0PC2.5M40	49.7 (1.96)	24 (0.94)	34.5 (1.36)	34.5 (1.36)	4 (0.16)	M0PC5026

Gear head (dimensions)

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

MX9G□H (ball bearing) Mass 1.2 kg (2.65 lb)

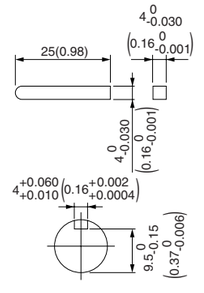


* Figures in [ ] represent the dimensions of MX9G□H (1/20 or larger reduction ratio).

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

Key and keyway (dimensions) [attachment]

MX9G□H



• Specifications

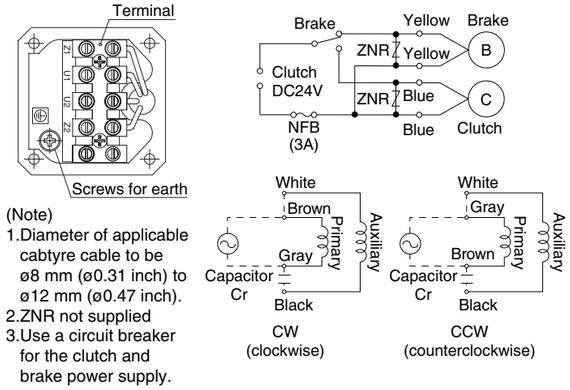
Size	Motor model No.	Motor characteristics											
		Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min^{-1})	Rating Torque N·m (oz-in)	Starting current (A)	Starting torque N·m (oz-in)	Capacitor (μF) (rated voltage)
90 mm sq.	M91Z60HK4L	4	60	100	50	Cont.	118	1.3	1250	0.46(65.1)	2.2	0.41(58.1)	15 (210V)
					60		117	1.2	1550	0.36(51.0)		0.42(59.5)	
	M91Z60HK4Y			200	50		120	0.65	1200	0.46(65.1)	1.1	0.42(59.5)	3.8 (400V)
					60		119	0.59	1550	0.36(51.0)		0.44(62.3)	

Size	Motor model No.	Clutch and brake characteristics						
			Static friction torque N·m (oz-in)	Rating Voltage (DC-V)	Capacity W (About 75°C)	Response time Armature absorbing time (ms)	Armature release time (ms)	Actual torque start time (ms)
90 mm sq.	M91Z60HK4L	Clutch	1.47 (208)	24	7	15	25	20
		Brake			5			
	M91Z60HK4Y	Clutch			7			
		Brake			5			

(Make selection while referring to the output selection diagrams for C&B motor shown on pages B-346 to 347.)

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	MY9G3H to MY9G200H (ball bearing)	Rotational direction	Same as motor rotational direction						Reverse to motor rotational direction				Same as motor rotational direction						Reverse to motor rotational direction						

Connection diagram



(Note)
1. Diameter of applicable cabtyre cable to be ø8 mm (ø0.31 inch) to ø12 mm (ø0.47 inch).
2. ZNR not supplied
3. Use a circuit breaker for the clutch and brake power supply.

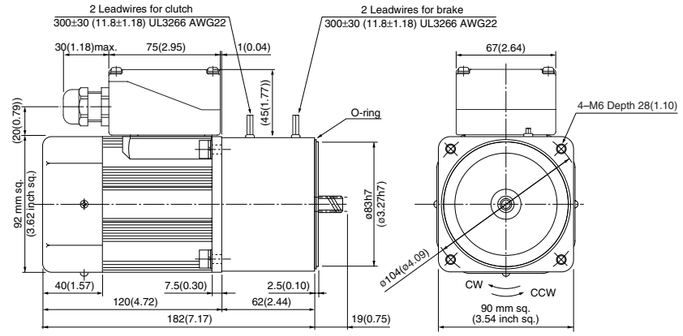
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

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

M91Z60HK4L 4P 60W 100V
M91Z60HK4Y 4P 60W 200V

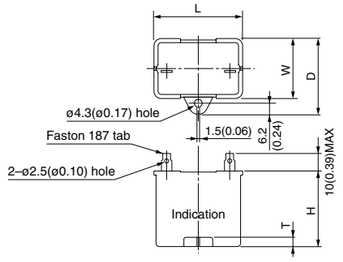
Mass	Helical	Module	Number of teeth
4.2 kg 9.33 lb	gear	0.8	11



* Diameter of applicable cabtyre cable to be ø8(ø0.31) to ø12(ø0.47).

Capacitor (dimensions) [attachment]

Unit: mm (inch)



• Capacitor dimension list

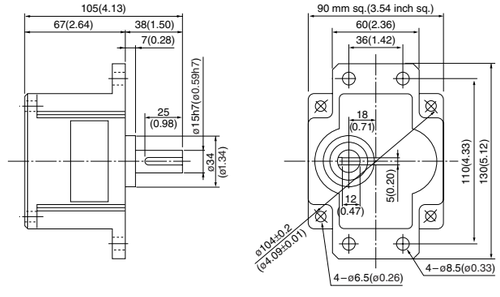
Unit: upper (mm) / lower (inch)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M91Z60HK4L	M0PC15M21	39.5 (1.56)	26.7 (1.05)	37 (1.46)	41 (1.61)	4 (0.16)	M0PC3926
M91Z60HK4Y	M0PC3.8M40	50 (1.97)	26.7 (1.05)	37.5 (1.48)	38 (1.50)	4 (0.16)	M0PC5026

Gear head (dimensions)

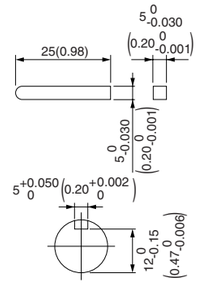
Scale: 1/4, Unit: mm (inch)

MY9G□H (ball bearing) Mass 1.5 kg (3.31 lb)



Key and keyway (dimensions) [attachment]

MY9G□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.

C&B motor (induction motor sealed connector)

90 mm (3.54 inch) sq. 90 W

• Specifications

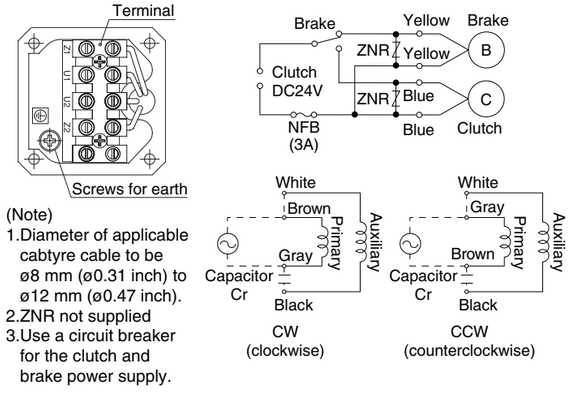
Size	Motor model No.	Motor characteristics											
		Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min^{-1})	Rating Torque N·m (oz-in)	Starting current (A)	Starting torque N·m (oz-in)	Capacitor (μF) (rated voltage)
90 mm sq.	M91Z90HK4L	4	90	100	50	Cont.	153	1.6	1325	0.65(92.1)	3.3	0.47 (66.6)	25 (200V)
					60		160	1.6	1625	0.53(75.1)	3.0		
	M91Z90HK4Y			200	50		150	0.75	1325	0.62(87.8)	1.7		5.8 (400V)
					60		160	0.80	1625	0.51(72.2)	1.5		

Size	Motor model No.	Clutch and brake characteristics						
			Static friction torque N·m (oz-in)	Rating Voltage (DC-V)	Capacity W (About 75°C)	Response time Armature absorbing time (ms)	Armature release time (ms)	Actual torque start time (ms)
90 mm sq.	M91Z90HK4L	Clutch	1.47 (208)	24	7	15	25	20
		Brake			5			
	M91Z90HK4Y	Clutch			7			
		Brake			5			

(Make selection while referring to the output selection diagrams for C&B motor shown on pages B-346 to 347.)

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	MY9G3H to MY9G200H (ball bearing)	Rotational direction	Same as motor rotational direction						Reverse to motor rotational direction				Same as motor rotational direction						Reverse to motor rotational direction						

Connection diagram



(Note)
1. Diameter of applicable cabtyre cable to be ø8 mm (ø0.31 inch) to ø12 mm (ø0.47 inch).
2. ZNR not supplied
3. Use a circuit breaker for the clutch and brake power supply.

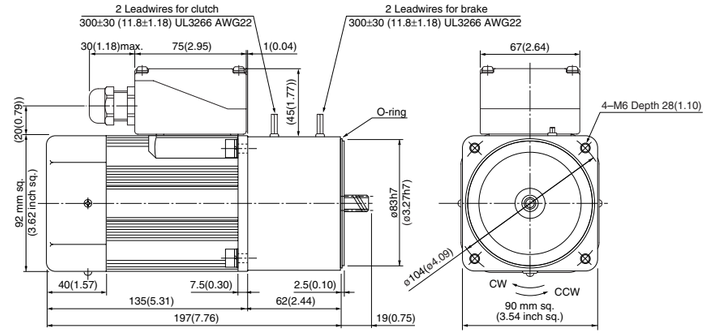
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

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

M91Z90HK4L 4P 90W 100V
M91Z90HK4Y 4P 90W 200V

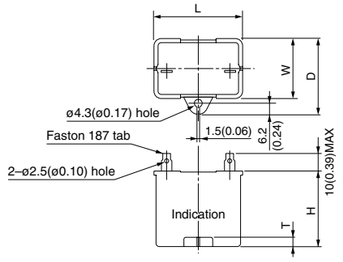
Mass 4.5 kg 9.92 lb | Helical gear | Module 0.8 | Number of teeth 11



* Diameter of applicable cabtyre cable to be ø8(ø0.31) to ø12(ø0.47).

Capacitor (dimensions) [attachment]

Unit: mm (inch)



• Capacitor dimension list

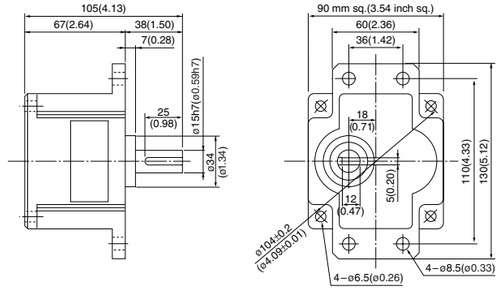
Unit: upper (mm) / lower (inch)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M91Z90HK4L	M0PC25M20	50.2 (1.98)	31 (1.22)	41 (1.61)	42 (1.65)	5 (0.20)	M0PC5032
M91Z90HK4Y	M0PC5.8M40	50 (1.97)	30.5 (1.20)	41 (1.61)	41.5 (1.63)	4 (0.16)	M0PC5032

Gear head (dimensions)

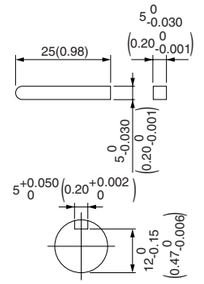
Scale: 1/4, Unit: mm (inch)

MY9G□H (ball bearing) Mass 1.5 kg (3.31 lb)



Key and keyway (dimensions) [attachment]

MY9G□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.

80 mm (3.15 inch) sq. 25 W

• Specifications

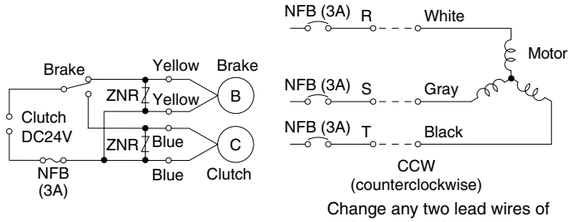
Size	Motor model No.	Motor characteristics										
		Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating				Starting current (A)	Starting torque N·m (oz-in)
							Input (W)	Current (A)	Speed (min^{-1})	Torque N·m (oz-in)		
80 mm sq.	M8MX25H4Y	4	25	200	50	Cont.	50	0.25	1350	0.18(25.5)	0.62	0.54(76.5)
					60		47	0.22	1625	0.15(21.2)	0.58	0.40(56.6)
				220	50	Cont.	54	0.27	1375	0.18(25.5)	0.67	0.66(93.5)
					60		49	0.23	1650	0.15(21.2)	0.64	0.50(70.8)

Size	Motor model No.	Clutch and brake characteristics						
			Static friction torque N·m (oz-in)	Rating Voltage (DC-V)	Capacity W (About 75°C)	Response time		
						Armature absorbing time (ms)	Armature release time (ms)	Actual torque start time (ms)
80 mm sq.	M8MX25H4Y	Clutch	0.980 (139)	24	7	15	25	20
		Brake			5			
		Clutch			7			
		Brake			5			

(Make selection while referring to the output selection diagrams for C&B motor shown on pages B-346 to 347.)

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	MX8G3H to MX8G180H (ball bearing)	Rotational direction	Same as motor 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.

(Note)
1.ZNR not supplied
2.Use a circuit breaker for the clutch and brake power supply.

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

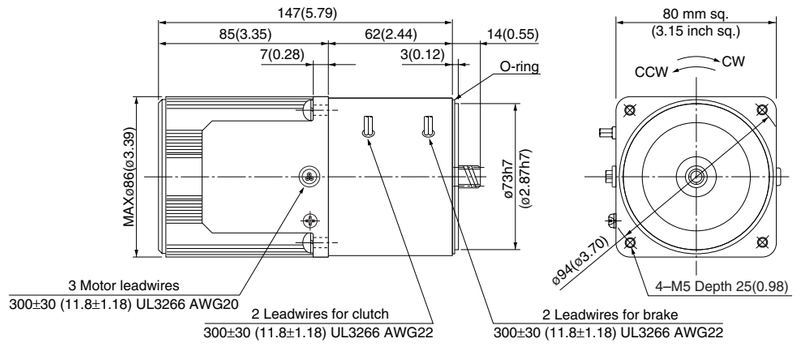
Features B-342 | System configuration B-343 | Coding system B-343 | Model list B-350

Motor (dimensions)

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

M8MX25H4Y 4P 25W 200/220V

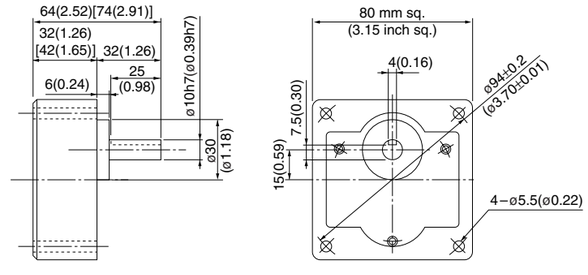
Mass 2.6 kg 5.80 lb | Helical gear | Module 0.6 | Number of teeth 11



Gear head (dimensions)

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

MX8G□H (ball bearing) Mass 0.68 kg (1.50 lb)

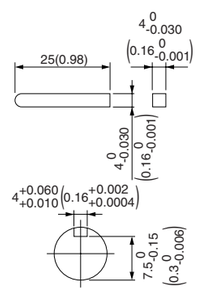


* Figures in [ ] represent the dimensions of MX8G□H (1/30 or larger reduction ratio).

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

Key and keyway (dimensions) [attachment]

MX8G□H



Gear head combination B-402 | Controls C-4 | Option D-2

• Specifications

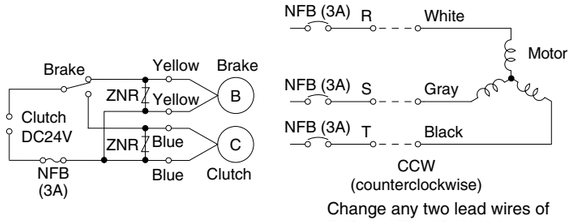
Size	Motor model No.	Motor characteristics										
		Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min⁻¹)	Rating Torque N·m (oz-in)	Starting current (A)	Starting torque N·m (oz-in)
90 mm sq.	M9MX40H4Y	4	40	200	50	Cont.	69	0.31	1350	0.28(39.7)	0.90	0.72(102)
					60		68	0.29	1625	0.24(34.0)	0.82	0.51(72.2)
				220	50	Cont.	70	0.32	1375	0.27(38.2)	1.0	0.88(125)
					60		66	0.28	1675	0.23(32.6)	0.91	0.63(89.2)

Size	Motor model No.	Clutch and brake characteristics						
			Static friction torque N·m (oz-in)	Rating Voltage (DC-V)	Capacity W (About 75°C)	Response time Armature absorbing time (ms)	Armature release time (ms)	Actual torque start time (ms)
90 mm sq.	M9MX40H4Y	Clutch	1.47 (208)	24	7	15	25	20
		Brake			5			
		Clutch			7			
		Brake			5			

(Make selection while referring to the output selection diagrams for C&B motor shown on pages B-346 to 347.)

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	MX9G3H to MX9G180H (ball bearing)	Rotational direction	Same as motor 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.

(Note)
1.ZNR not supplied
2.Use a circuit breaker for the clutch and brake power supply.

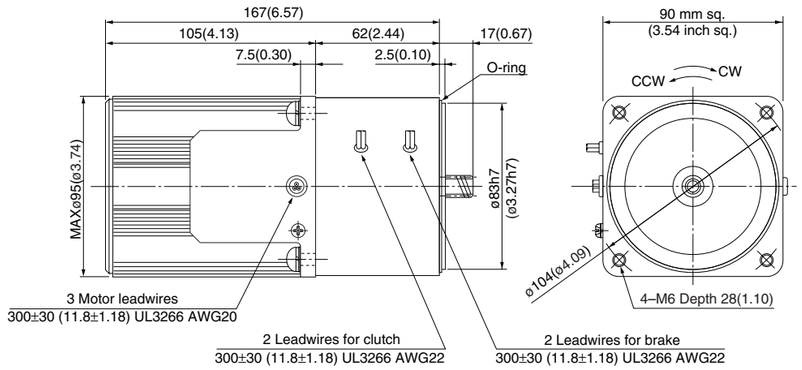
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

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

M9MX40H4Y 4P 40W 200/220V

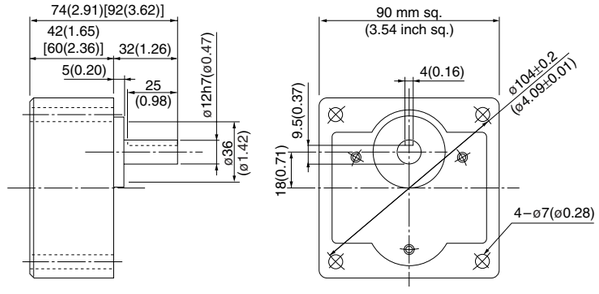
Mass 3.6 kg 7.98 lb | Helical gear | Module 0.6 | Number of teeth 11



Gear head (dimensions)

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

MX9G□H (ball bearing) Mass 1.2 kg (2.65 lb)

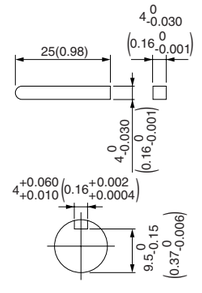


* Figures in [ ] represent the dimensions of MX9G□H (1/20 or larger reduction ratio).

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

Key and keyway (dimensions) [attachment]

MX9G□H



C&B motor (3-phase motor leadwire)

90 mm (3.54 inch) sq. 60 W

• Specifications

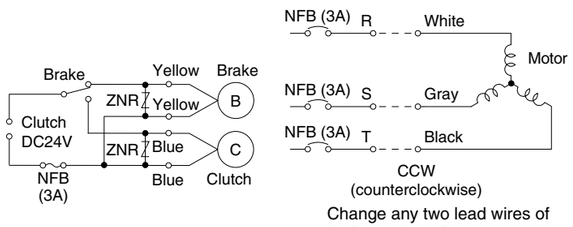
Size	Motor model No.	Motor characteristics										
		Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating				Starting current (A)	Starting torque N·m (oz-in)
							Input (W)	Current (A)	Speed (min^{-1})	Torque N·m (oz-in)		
90 mm sq.	M9MZ60H4Y	4	60	200	50	Cont.	101	0.45	1350	0.42(59.5)	1.3	1.0(142)
					60		96	0.41	1625	0.35(49.6)	1.2	0.69(97.7)
				220	50	Cont.	103	0.46	1375	0.41(58.1)	1.5	1.2(170)
					60		98	0.40	1650	0.34(48.2)	1.3	0.87(123)

Size	Motor model No.	Clutch and brake characteristics					
			Static friction torque N·m (oz-in)	Rating Voltage (DC-V)	Capacity W (About 75°C)	Response time	
						Armature absorbing time (ms)	Armature release time (ms)	Actual torque start time (ms)
90 mm sq.	M9MZ60H4Y	Clutch	1.47 (208)	24	7	15	25	20
		Brake			5			
		Clutch			7			
		Brake			5			

(Make selection while referring to the output selection diagrams for C&B motor shown on pages B-346 to 347.)

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	MY9G3H to MY9G200H (ball bearing)	Rotational direction	Same as motor rotational direction						Reverse to motor 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.

(Note)
1.ZNR not supplied
2.Use a circuit breaker for the clutch and brake power supply.

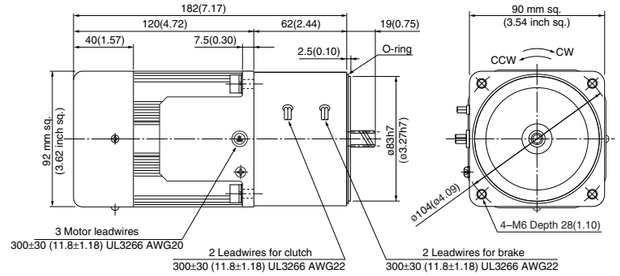
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

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

M9MZ60H4Y 4P 60W 200/220V

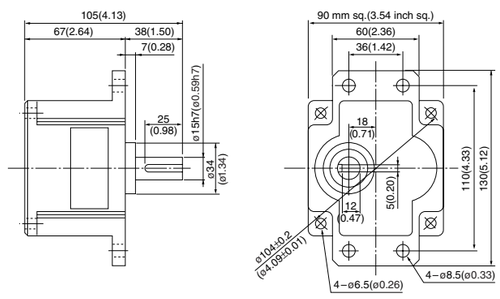
Mass 3.9 kg 8.66 lb | Helical gear | Module 0.8 | Number of teeth 11



Gear head (dimensions)

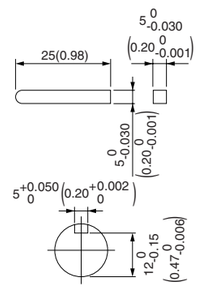
Scale: 1/4, Unit: mm (inch)

MY9G□H (ball bearing) Mass 1.5 kg (3.31 lb)



Key and keyway (dimensions) [attachment]

MY9G□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.

• Specifications

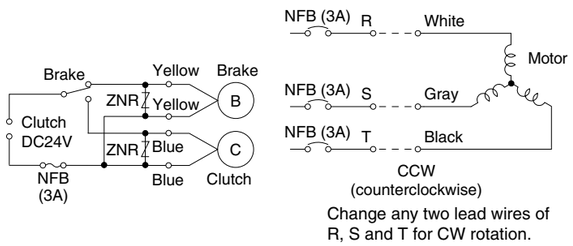
Size	Motor model No.	Motor characteristics										
		Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min^{-1})	Rating Torque N·m (oz-in)	Starting current (A)	Starting torque N·m (oz-in)
90 mm sq.	M9MZ90H4Y	4	90	200	50	Cont.	141	0.62	1350	0.63(89.2)	2.0	1.6(227)
					60		137	0.56	1625	0.53(75.1)	1.8	1.1(156)
				220	50	Cont.	143	0.65	1400	0.62(87.8)	2.2	2.0(283)
					60		137	0.56	1650	0.52(73.6)	2.0	1.4(198)

Size	Motor model No.	Clutch and brake characteristics				
			Static friction torque N·m (oz-in)	Rating Voltage (DC-V)	Capacity W (About 75°C)	Response time: Armature absorbing time (ms) / Armature release time (ms) / Actual torque start time (ms)
90 mm sq.	M9MZ90H4Y	Clutch	1.47 (208)	24	7	15 / 25 / 20
		Brake			5	
		Clutch			7	
		Brake			5	

(Make selection while referring to the output selection diagrams for C&B motor shown on pages B-346 to 347.)

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	MY9G3H to MY9G200H (ball bearing)	Rotational direction	Same as motor rotational direction						Reverse to motor 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.

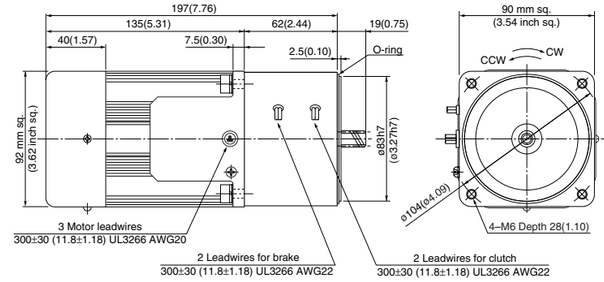
(Note)
1.ZNR not supplied
2.Use a circuit breaker for the clutch and brake power supply.

Motor (dimensions)

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

M9MZ90H4Y 4P 90W 200/220V

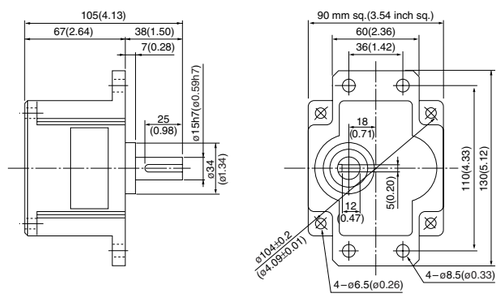
Mass 4.1 kg 9.11 lb | Helical gear | Module 0.8 | Number of teeth 11



Gear head (dimensions)

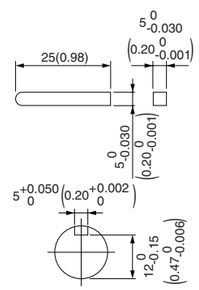
Scale: 1/4, Unit: mm (inch)

MY9G□H (ball bearing) Mass 1.5 kg (3.31 lb)



Key and keyway (dimensions) [attachment]

MY9G□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.

• Specifications

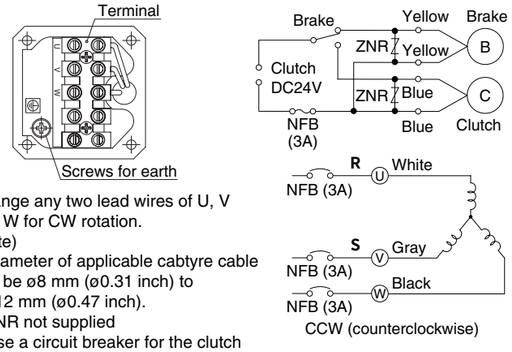
Size	Motor model No.	Motor characteristics										
		Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min⁻¹)	Rating Torque N·m (oz-in)	Starting current (A)	Starting torque N·m (oz-in)
80 mm sq.	M8MX25HK4Y	4	25	200	50	Cont.	50	0.25	1350	0.18(25.5)	0.62	0.54(76.5)
					60		47	0.22	1625	0.15(21.2)	0.58	0.40(56.6)
				220	50	Cont.	54	0.27	1375	0.18(25.5)	0.67	0.66(93.5)
					60		49	0.23	1650	0.15(21.2)	0.64	0.50(70.8)

Size	Motor model No.	Clutch and brake characteristics						
			Static friction torque N·m (oz-in)	Rating Voltage (DC-V)	Capacity W (About 75°C)	Response time Armature absorbing time (ms)	Armature release time (ms)	Actual torque start time (ms)
80 mm sq.	M8MX25HK4Y	Clutch	0.980 (139)	24	7	15	25	20
		Brake			5			
		Clutch			7			
		Brake			5			

(Make selection while referring to the output selection diagrams for C&B motor shown on pages B-346 to 347.)

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	MX8G3H to MX8G180H (ball bearing)	Rotational direction	Same as motor 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.
(Note)
1.Diameter of applicable cabtyre cable to be ø8 mm (ø0.31 inch) to ø12 mm (ø0.47 inch).
2.ZNR not supplied
3.Use a circuit breaker for the clutch and brake power supply.

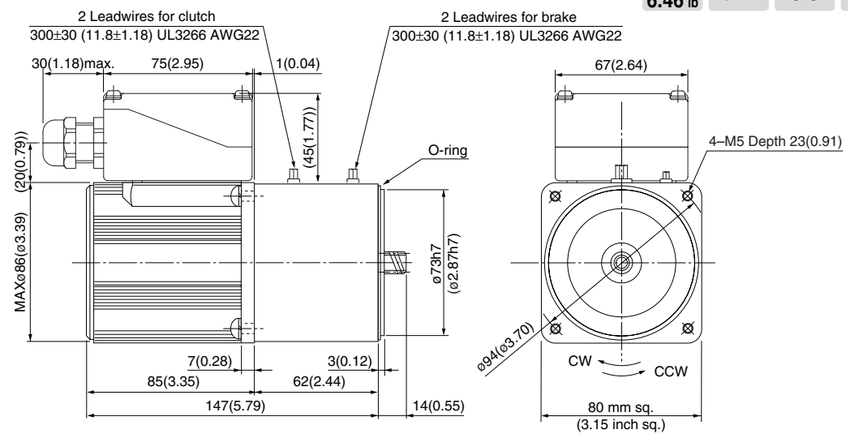
＊ Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

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

M8MX25HK4Y 4P 25W 200/220V

Mass 2.9 kg 6.46 lb | Helical gear | Module 0.6 | Number of teeth 11

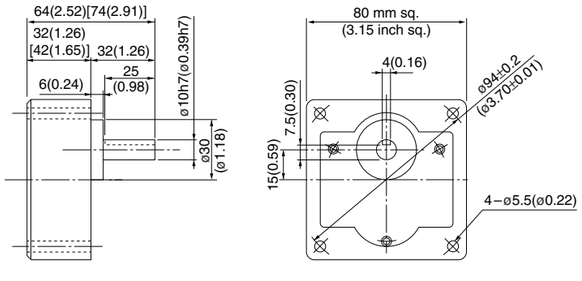


＊ Diameter of applicable cabtyre cable to be ø8(ø0.31) to ø12(ø0.47).

Gear head (dimensions)

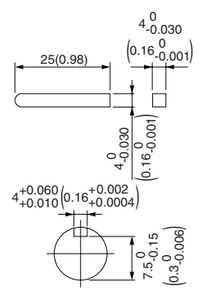
Scale: 1/3, Unit: mm (inch)

MX8G□H (ball bearing) Mass 0.68 kg (1.50 lb)



Key and keyway (dimensions) [attachment]

MX8G□H



＊ Figures in [ ] represent the dimensions of MX8G□H (1/30 or larger reduction ratio).

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

C&B motor (3-phase motor sealed connector)

90 mm (3.54 inch) sq. 40 W

• Specifications

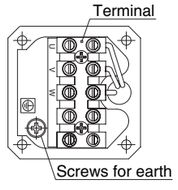
Size	Motor model No.	Motor characteristics										
		Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min^{-1})	Rating Torque N·m (oz-in)	Starting current (A)	Starting torque N·m (oz-in)
90 mm sq.	M9MX40HK4Y	4	40	200	50	Cont.	69	0.31	1350	0.28(39.7)	0.90	0.72(101)
					60		68	0.29	1625	0.24(34.0)	0.82	0.51(72.2)
				220	50	Cont.	70	0.32	1375	0.27(38.2)	1.0	0.88(125)
					60		66	0.28	1675	0.23(32.6)	0.91	0.63(89.2)

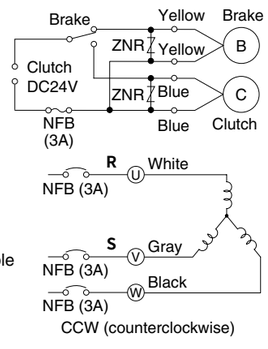
Size	Motor model No.	Clutch and brake characteristics						
			Static friction torque N·m (oz-in)	Rating Voltage (DC-V)	Capacity W (About 75°C)	Response time Armature absorbing time (ms)	Armature release time (ms)	Actual torque start time (ms)
90 mm sq.	M9MX40HK4Y	Clutch	1.47 (208)	24	7	15	25	20
		Brake			5			
		Clutch			7			
		Brake			5			

(Make selection while referring to the output selection diagrams for C&B motor shown on pages B-346 to 347.)

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	MX9G3H to MX9G180H (ball bearing)	Rotational direction	Same as motor 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.
(Note)
1.Diameter of applicable cabtyre cable to be ø8 mm (ø0.31 inch) to ø12 mm (ø0.47 inch).
2.ZNR not supplied
3.Use a circuit breaker for the clutch and brake power supply.

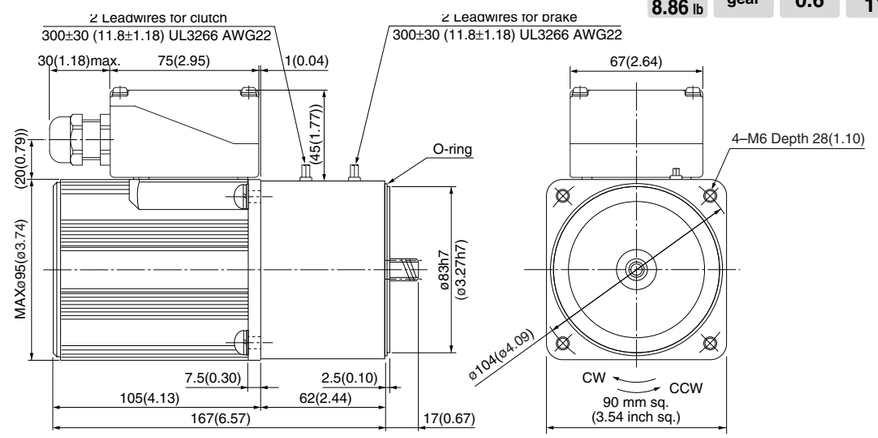
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

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

M9MX40HK4Y 4P 40W 200/220V

Mass 4.0 kg 8.86 lb | Helical gear | Module 0.6 | Number of teeth 11

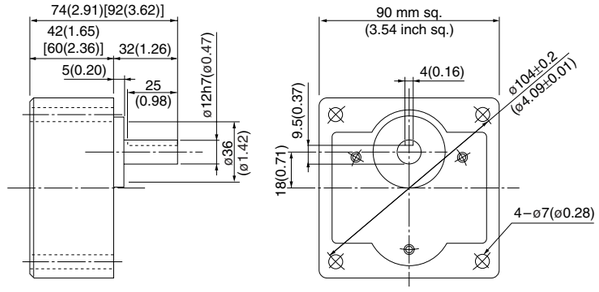


* Diameter of applicable cabtyre cable to be ø8(ø0.31) to ø12(ø0.47).

Gear head (dimensions)

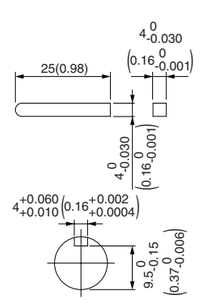
Scale: 1/3, Unit: mm (inch)

MX9G□H (ball bearing) Mass 1.2 kg (2.65 lb)



Key and keyway (dimensions) [attachment]

MX9G□H



* Figures in [ ] represent the dimensions of MX9G□H (1/20 or larger reduction ratio).

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

90 mm (3.54 inch) sq. 60 W

• Specifications

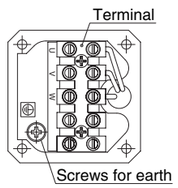
Size	Motor model No.	Motor characteristics										
		Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating				Starting current (A)	Starting torque N·m (oz-in)
							Input (W)	Current (A)	Speed (min^{-1})	Torque N·m (oz-in)		
90 mm sq.	M9MZ60HK4Y	4	60	200	50	Cont.	101	0.45	1350	0.42(59.5)	1.3	1.0(142)
					60		96	0.41	1625	0.35(49.6)	1.2	0.69(97.7)
				220	50	Cont.	103	0.46	1375	0.41(58.1)	1.5	1.2(170)
					60		98	0.40	1650	0.34(48.1)	1.3	0.87(123)

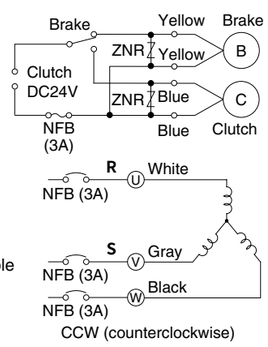
Size	Motor model No.	Clutch and brake characteristics					
			Static friction torque N·m (oz-in)	Rating Voltage (DC-V)	Capacity W (About 75°C)	Response time	
						Armature absorbing time (ms)	Armature release time (ms)	Actual torque start time (ms)
90 mm sq.	M9MZ60HK4Y	Clutch	1.47 (208)	24	7	15	25	20
		Brake			5			
		Clutch			7			
		Brake			5			

(Make selection while referring to the output selection diagrams for C&B motor shown on pages B-346 to 347.)

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	MY9G3H to MY9G200H (ball bearing)	Rotational direction	Same as motor rotational direction						Reverse to motor 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.
(Note)
1.Diameter of applicable cabtyre cable to be ø8 mm (ø0.31 inch) to ø12 mm (ø0.47 inch).
2.ZNR not supplied
3.Use a circuit breaker for the clutch and brake power supply.

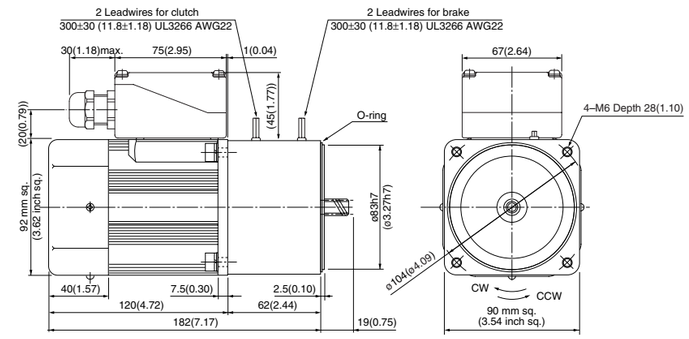
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

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

M9MZ60HK4Y 4P 60W 200/220V

Mass	Helical	Module	Number of teeth
4.2 kg 9.33 lb	gear	0.8	11

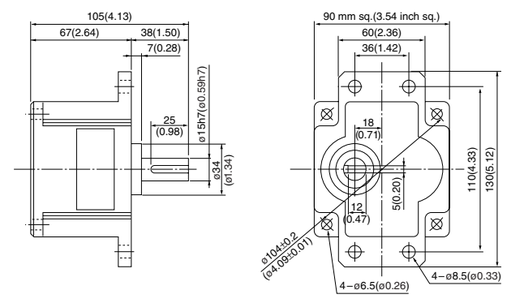


* Diameter of applicable cabtyre cable to be ø8(ø0.31) to ø12(ø0.47).

Gear head (dimensions)

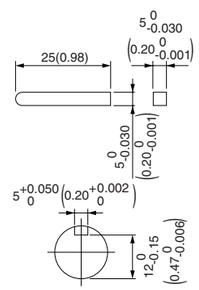
Scale: 1/4, Unit: mm (inch)

MY9G□H (ball bearing) Mass 1.5 kg (3.31 lb)



Key and keyway (dimensions) [attachment]

MY9G□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.

• Specifications

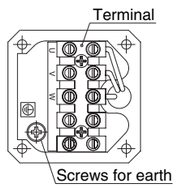
Size	Motor model No.	Motor characteristics										
		Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating				Starting current (A)	Starting torque N·m (oz-in)
							Input (W)	Current (A)	Speed (min^{-1})	Torque N·m (oz-in)		
90 mm sq.	M9MZ90HK4Y	4	90	200	50	Cont.	141	0.62	1350	0.63(89.2)	2.0	1.6(227)
					60		137	0.56	1625	0.53(75.1)	1.8	1.1(156)
				220	50	Cont.	143	0.65	1400	0.62(87.8)	2.2	2.0(283)
					60		137	0.56	1650	0.52(73.6)	2.0	1.4(198)

Size	Motor model No.	Clutch and brake characteristics						
			Static friction torque N·m (oz-in)	Rating Voltage (DC-V)	Capacity W (About 75°C)	Response time		
						Armature absorbing time (ms)	Armature release time (ms)	Actual torque start time (ms)
90 mm sq.	M9MZ90HK4Y	Clutch	1.47 (208)	24	7	15	25	20
		Brake			5			
		Clutch			7			
		Brake			5			

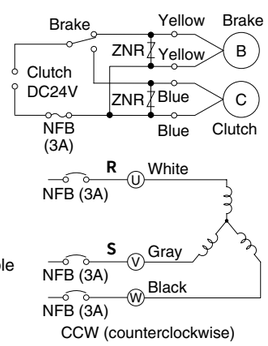
(Make selection while referring to the output selection diagrams for C&B motor shown on pages B-346 to 347.)

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	MY9G3H to MY9G200H (ball bearing)	Rotational direction	Same as motor rotational direction						Reverse to motor 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.
(Note)
1.Diameter of applicable cabtyre cable to be ø8 mm (ø0.31 inch) to ø12 mm (ø0.47 inch).
2.ZNR not supplied
3.Use a circuit breaker for the clutch and brake power supply.



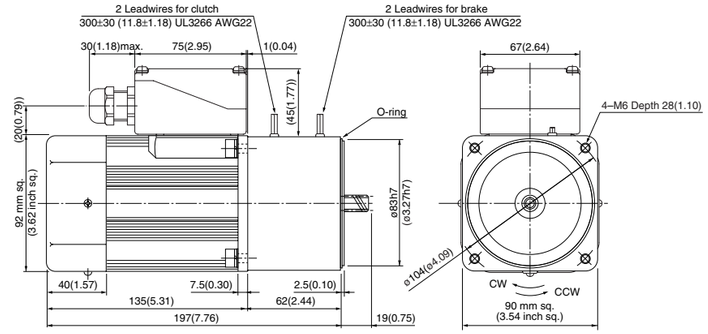
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

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

M9MZ90HK4Y 4P 90W 200/220V

Mass	Helical	Module	Number of teeth
4.5 kg 9.92 lb	gear	0.8	11

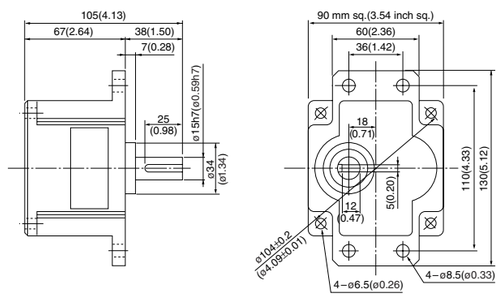


* Diameter of applicable cabtyre cable to be ø8(ø0.31) to ø12(ø0.47).

Gear head (dimensions)

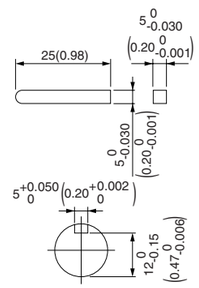
Scale: 1/4, Unit: mm (inch)

MY9G□H (ball bearing) Mass 1.5 kg (3.31 lb)



Key and keyway (dimensions) [attachment]

MY9G□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.

• Specifications

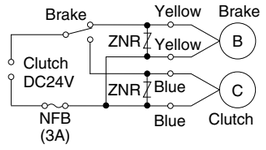
Size	Motor model No.	Motor characteristics										
		Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Rating Input (W)	Rating Current (A)	Rating Speed (min^{-1})	Rating Torque N·m (oz-in)	Starting current (A)	Starting torque N·m (oz-in)	Capacitor (μF) (rated voltage)
60 mm sq.	M61X6HV4L	4	6	100	50	Cont.	90 to 1400	0.032 (4.53)		0.025 (3.54)	0.30	0.037 (5.23)	2.5 (200V)
					60		90 to 1700						
	M61X6HV4Y			200	50		90 to 1400				0.15		0.6 (400V)
					60		90 to 1700						

Size	Motor model No.	Clutch and brake characteristics						
			Static friction torque N·m (oz-in)	Rating Voltage (DC-V)	Capacity W (About 75°C)	Response time Armature absorbing time (ms)	Armature release time (ms)	Actual torque start time (ms)
60 mm sq.	M61X6HV4L	Clutch	0.294 (41.6)	24	4	15	25	20
		Brake			2			
	M61X6HV4Y	Clutch			4			
		Brake			2			

(Make selection while referring to the output selection diagrams for C&B motor shown on pages B-346 to 347.)

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	MX6G3H to MX6G180H (ball bearing)	Rotational direction	Same as motor rotational direction										Reverse to motor rotational direction						Same as motor rotational direction					

Connection diagram



(Note)
1.ZNR not supplied
2. Use a circuit breaker for the clutch and brake power supply.

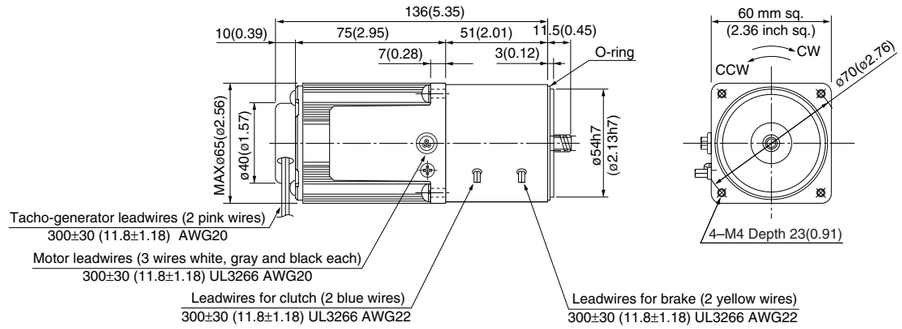
* For the connection diagram showing wiring with the speed controller, refer to pages C-6 to C-35.

Motor (dimensions)

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

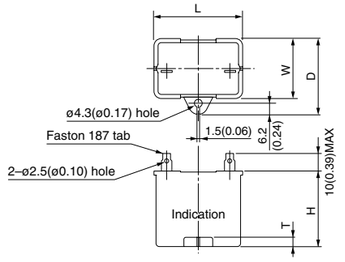
M61X6HV4L 4P 6W 100V
M61X6HV4Y 4P 6W 200V

Mass	Helical	Module	Number of teeth
1.3 kg 2.80 lb	gear	0.5	10



Capacitor (dimensions) [attachment]

Unit: mm (inch)



• Capacitor dimension list

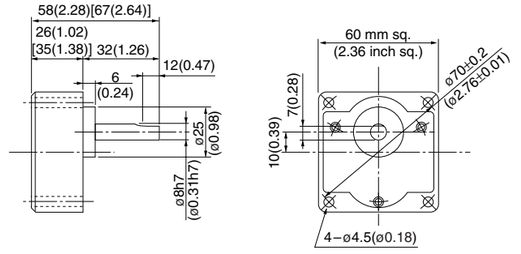
Unit: upper (mm) / lower (inch)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M61X6HV4L	M0PC2.5M20	39.5 (1.56)	16 (0.63)	26.5 (1.04)	30.5 (1.20)	4 (0.16)	M0PC3917
M61X6HV4Y	M0PC0.6M40	39.5 (1.56)	16.2 (0.64)	27 (1.06)	27 (1.06)	4 (0.16)	M0PC3917

Gear head (dimensions)

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

MX6G□H (ball bearing) Mass 0.34 kg (0.75 lb): Output shaft D cut



* Figures in [ ] represent the dimensions of MX6G□H (1/30 or larger reduction ratio).
(Note) Because the dimensions may be subject to change, also check the determinate dimensions if the gear head is to be used for design.

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

• Specifications

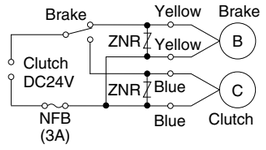
Size	Motor model No.	Motor characteristics										
		Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Variable speed range Speed (min^{-1})	Permissible Torque N·m (oz-in) at 1200 min^{-1}	Permissible Torque N·m (oz-in) at 90 min^{-1}	Starting current (A)	Starting torque N·m (oz-in)	Capacitor (μF) (rated voltage)
70 mm sq.	M71X15HV4L	4	15	100	50	Cont.	90 to 1400	0.089 (12.6)	0.029 (4.11)	0.60	0.068 (9.63)	5 (200V)
					60		90 to 1700			0.56		
	M71X15HV4Y			200	50		90 to 1400			0.30		1.3 (400V)
					60		90 to 1700			0.28		

Size	Motor model No.	Clutch and brake characteristics						
			Static friction torque N·m (oz-in)	Rating Voltage (DC-V)	Capacity W (About 75°C)	Response time Armature absorbing time (ms)	Armature release time (ms)	Actual torque start time (ms)
70 mm sq.	M71X15HV4L	Clutch	0.294 (41.63)	24	4	15	25	20
		Brake			2			
	M71X15HV4Y	Clutch			4			
		Brake			2			

(Make selection while referring to the output selection diagrams for C&B motor shown on pages B-346 to 347.)

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	MX7G3H to MX7G180H (ball bearing)	Rotational direction	Same as motor rotational direction										Reverse to motor rotational direction						Same as motor rotational direction					

Connection diagram



(Note)
1.ZNR not supplied
2. Use a circuit breaker for the clutch and brake power supply.

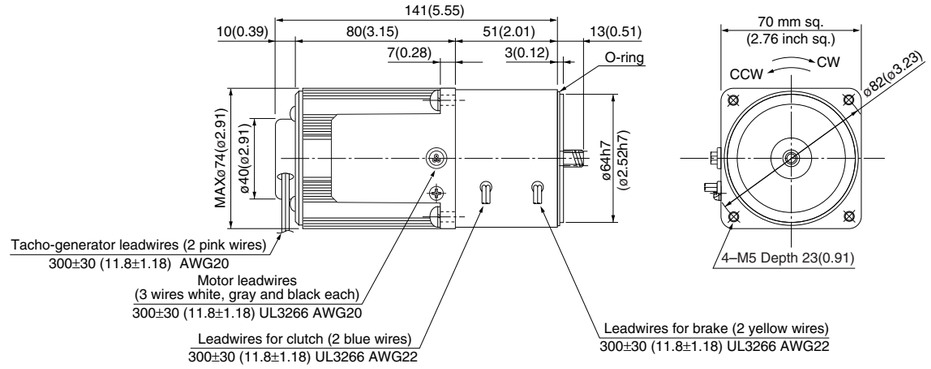
* For the connection diagram showing wiring with the speed controller, refer to pages C-6 to C-35.

Motor (dimensions)

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

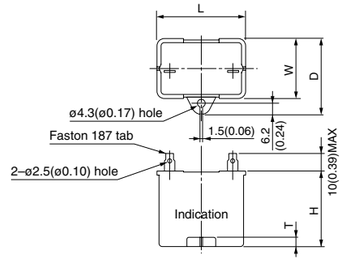
M71X15HV4L 4P 15W 100V
M71X15HV4Y 4P 15W 200V

Mass 1.8 kg 3.88 lb | Helical gear | Module 0.5 | Number of teeth 10



Capacitor (dimensions) [attachment]

Unit: mm (inch)



• Capacitor dimension list

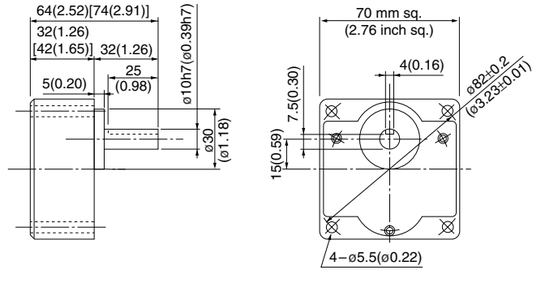
Unit: upper (mm) / lower (inch)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M71X15HV4L	M0PC5M20	39.5 (1.56)	16 (0.63)	26.5 (1.04)	30.5 (1.20)	4 (0.16)	M0PC3917
M71X15HV4Y	M0PC1.3M40	39.5 (1.56)	18.3 (0.72)	29 (1.14)	29 (1.14)	4 (0.16)	M0PC3922

Gear head (dimensions)

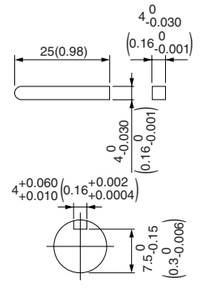
Scale: 1/3, Unit: mm (inch)

MX7G□H (ball bearing) Mass 0.54 kg (1.19 lb)



Key and keyway (dimensions) [attachment]

MX7G□H



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

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

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

• Specifications

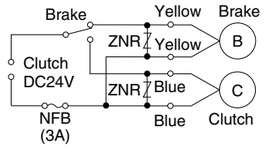
Size	Motor model No.	Motor characteristics										
		Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Variable speed range Speed (min^{-1})	Permissible Torque N·m (oz-in) at 1200 min^{-1}	Permissible Torque N·m (oz-in) at 90 min^{-1}	Starting current (A)	Starting torque N·m (oz-in)	Capacitor (μF) (rated voltage)
80 mm sq.	M81X25HV4L	4	25	100	50	Cont.	90 to 1400	0.14 (19.8)	0.039 (5.52)	1.0	0.16 (22.7)	8 (200V)
					60		90 to 1700					
	M81X25HV4Y			200	50		90 to 1400			0.5		2 (400V)
					60		90 to 1700					

Size	Motor model No.	Clutch and brake characteristics					
			Static friction torque N·m (oz-in)	Rating Voltage (DC-V)	Capacity W (About 75°C)	Response time Armature absorbing time (ms)	Armature release time (ms)	Actual torque start time (ms)
80 mm sq.	M81X25HV4L	Clutch	0.980 (139)	24	7	15	25	20
		Brake			5			
	M81X25HV4Y	Clutch			7			
		Brake			5			

(Make selection while referring to the output selection diagrams for C&B motor shown on pages B-346 to 347.)

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	MX8G3H to MX8G180H (ball bearing)	Rotational direction	Same as motor rotational direction										Reverse to motor rotational direction						Same as motor rotational direction					

Connection diagram



(Note)
1.ZNR not supplied
2. Use a circuit breaker for the clutch and brake power supply.

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

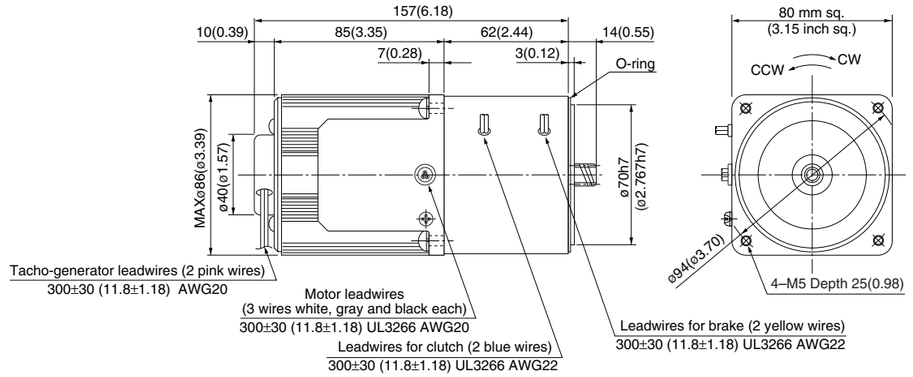
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

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

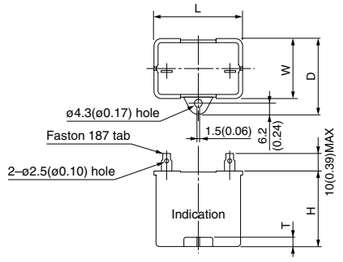
M81X25HV4L 4P 25W 100V
M81X25HV4Y 4P 25W 200V

Mass	Helical	Module	Number of teeth
2.6 kg 5.80 lb	gear	0.6	11



Capacitor (dimensions) [attachment]

Unit: mm (inch)



• Capacitor dimension list

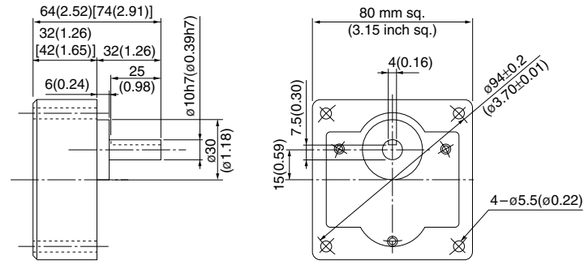
Unit: upper (mm) / lower (inch)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M81X25HV4L	M0PC8M20	39.5 (1.56)	22 (0.87)	32.5 (1.28)	30.5 (1.20)	4 (0.16)	M0PC3922
M81X25HV4Y	M0PC2M40	39.5 (1.56)	22 (0.87)	32.5 (1.28)	32.5 (1.28)	4 (0.16)	M0PC3922

Gear head (dimensions)

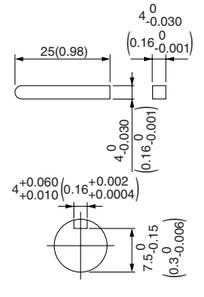
Scale: 1/3, Unit: mm (inch)

MX8G□H (ball bearing) Mass 0.68 kg (1.50 lb)



Key and keyway (dimensions) [attachment]

MX8G□H



* Figures in [ ] represent the dimensions of MX8G□H (1/30 or larger reduction ratio).

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

• Specifications

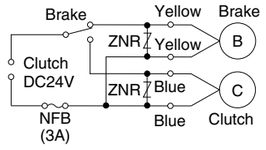
Size	Motor model No.	Motor characteristics									
		Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Variable speed range Speed (min^{-1})	Permissible Torque N·m (oz-in) at 1200 min^{-1}	Permissible Torque N·m (oz-in) at 90 min^{-1}	Starting current (A)	Starting torque N·m (oz-in)	Capacitor (μF) (rated voltage)
90 mm sq.	M91X40HV4L	4	40	100	50	Cont.	90 to 1400	0.30(42.5)	0.049 (6.94)	1.6	0.25 (35.4)	12 (200V)
					60		90 to 1700	0.24(34.0)		1.6		
	M91X40HV4Y			200	50		90 to 1400	0.30(42.5)		0.80		3 (400V)
					60		90 to 1700	0.24(34.0)		0.80		

Size	Motor model No.	Clutch and brake characteristics						
			Static friction torque N·m (oz-in)	Rating Voltage (DC-V)	Capacity W (About 75°C)	Response time Armature absorbing time (ms)	Armature release time (ms)	Actual torque start time (ms)
90 mm sq.	M91X40HV4L	Clutch	1.47 (208)	24	7	15	25	20
		Brake			5			
	M91X40HV4Y	Clutch			7			
		Brake			5			

(Make selection while referring to the output selection diagrams for C&B motor shown on pages B-346 to 347.)

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	MX9G3H to MX9G180H (ball bearing)	Rotational direction	Same as motor rotational direction										Reverse to motor rotational direction						Same as motor rotational direction					

Connection diagram



(Note)
1.ZNR not supplied
2. Use a circuit breaker for the clutch and brake power supply.

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

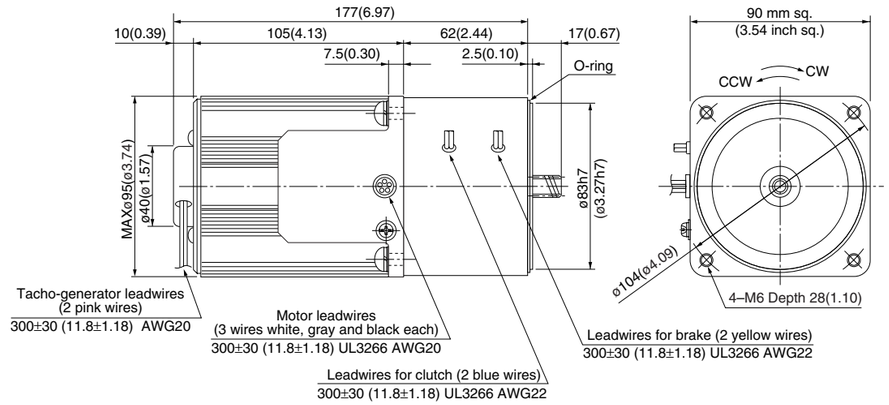
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

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

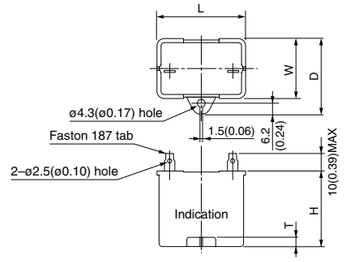
M91X40HV4L 4P 40W 100V
M91X40HV4Y 4P 40W 200V

Mass 3.6 kg 7.98 lb | Helical gear | Module 0.6 | Number of teeth 11



Capacitor (dimensions) [attachment]

Unit: mm (inch)



• Capacitor dimension list

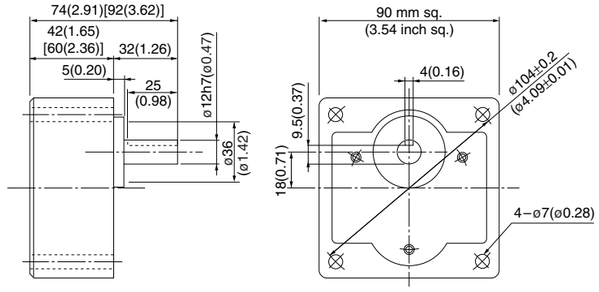
Unit: upper (mm) / lower (inch)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M91X40HV4L	M0PC12M20	39.5 (1.56)	26.7 (1.05)	37 (1.46)	32 (1.26)	4 (0.16)	M0PC3926
M91X40HV4Y	M0PC3M40	49.7 (1.96)	24 (0.94)	34.5 (1.36)	34.5 (1.36)	4 (0.16)	M0PC5026

Gear head (dimensions)

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

MX9G□H (ball bearing) Mass 1.2 kg (2.65 lb)

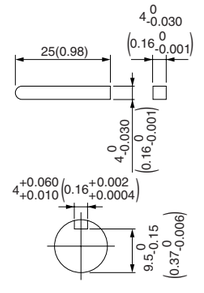


* Figures in [ ] represent the dimensions of MX9G□H (1/20 or larger reduction ratio).

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

Key and keyway (dimensions) [attachment]

MX9G□H



• Specifications

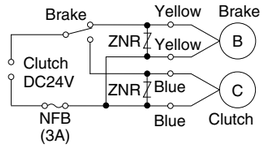
Size	Motor model No.	Motor characteristics									
		Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Variable speed range Speed (min^{-1})	Permissible Torque N·m (oz-in) at 1200 min^{-1}	Permissible Torque N·m (oz-in) at 90 min^{-1}	Starting current (A)	Starting torque N·m (oz-in)	Capacitor (μF) (rated voltage)
90 mm sq.	M91Z60HV4L	4	60	100	50	Cont.	90 to 1400	0.43(60.9)	0.078 (11.1)	2.3	0.46 (65.1)	20 (200V)
					60		90 to 1700	0.36(51.0)		2.4		
	M91Z60HV4Y			200	50		90 to 1400	0.43(60.9)		1.2		5 (400V)
					60		90 to 1700	0.36(51.0)		1.2		

Size	Motor model No.	Clutch and brake characteristics						
			Static friction torque N·m (oz-in)	Rating Voltage (DC-V)	Capacity W (About 75°C)	Response time Armature absorbing time (ms)	Armature release time (ms)	Actual torque start time (ms)
90 mm sq.	M91Z60HV4L	Clutch	1.47 (208)	24	7	15	25	20
		Brake			5			
	M91Z60HV4Y	Clutch			7			
		Brake			5			

(Make selection while referring to the output selection diagrams for C&B motor shown on pages B-346 to 347.)

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	MY9G3H to MY9G200H (ball bearing)	Rotational direction	Same as motor rotational direction						Reverse to motor rotational direction				Same as motor rotational direction						Reverse to motor rotational direction						

Connection diagram



(Note)
1.ZNR not supplied
2. Use a circuit breaker for the clutch and brake power supply.

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

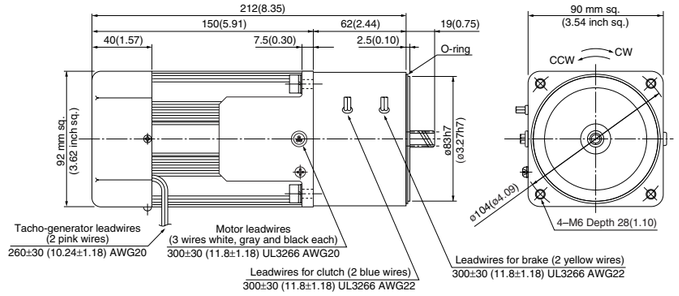
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

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

M91Z60HV4L 4P 60W 100V
M91Z60HV4Y 4P 60W 200V

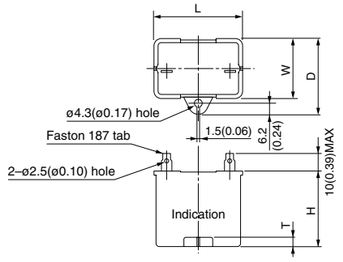
Mass 4.2 kg 9.33 lb | Helical gear | Module 0.8 | Number of teeth 11



* Diameter of applicable cabtyre cable to be ø8(ø0.31) to ø12(ø0.47).

Capacitor (dimensions) [attachment]

Unit: mm (inch)



• Capacitor dimension list

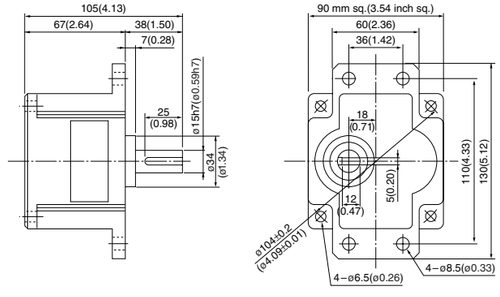
Unit: upper (mm) / lower (inch)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M91Z60HV4L	M0PC20M20	50.2 (1.98)	26.7 (1.05)	37 (1.46)	36 (1.42)	5 (0.20)	M0PC5026
M91Z60HV4Y	M0PC5M40	50 (1.97)	30.5 (1.20)	41.5 (1.63)	41.5 (1.63)	4 (0.16)	M0PC5032

Gear head (dimensions)

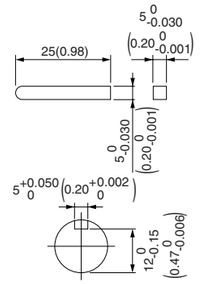
Scale: 1/4, Unit: mm (inch)

MY9G□H (ball bearing) Mass 1.5 kg (3.31 lb)



Key and keyway (dimensions) [attachment]

MY9G□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.

• Specifications

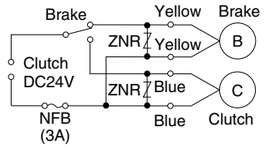
Size	Motor model No.	Motor characteristics										
		Number of pole (P)	Output (W)	Voltage (V)	Frequency (Hz)	Rating (min)	Variable speed range Speed (min^{-1})	Permissible Torque N·m (oz-in) at 1200 min^{-1}	Permissible Torque N·m (oz-in) at 90 min^{-1}	Starting current (A)	Starting torque N·m (oz-in)	Capacitor (μF) (rated voltage)
90 mm sq.	M91Z90HV4L	4	90	100	50	Cont.	90 to 1400	0.59(83.6)	0.25 (35.4)	2.3	0.53(75.1)	25 (200V)
					60		90 to 1700	0.54(76.5)		2.2	0.56(79.3)	
	M91Z90HV4Y			200	50		90 to 1400	0.59(83.6)		1.1	0.57(80.7)	6.2 (375V)
					60		90 to 1700	0.54(76.5)			0.59(83.6)	

Size	Motor model No.	Clutch and brake characteristics					
			Static friction torque N·m (oz-in)	Rating Voltage (DC-V)	Capacity W (About 75°C)	Response time Armature absorbing time (ms)	Armature release time (ms)	Actual torque start time (ms)
90 mm sq.	M91Z90HV4L	Clutch	1.47 (208)	24	7	15	25	20
		Brake			5			
	M91Z90HV4Y	Clutch			7			
		Brake			5			

(Make selection while referring to the output selection diagrams for C&B motor shown on pages B-346 to 347.)

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	MY9G3H to MY9G200H (ball bearing)	Rotational direction	Same as motor rotational direction						Reverse to motor rotational direction				Same as motor rotational direction						Reverse to motor rotational direction						

Connection diagram



(Note)
1.ZNR not supplied
2. Use a circuit breaker for the clutch and brake power supply.

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

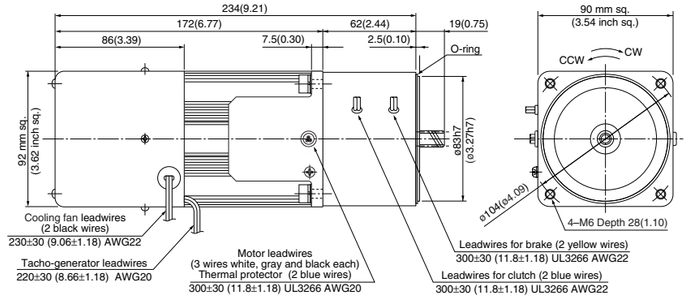
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Motor (dimensions)

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

M91Z90HV4L 4P 90W 100V
M91Z90HV4Y 4P 90W 200V

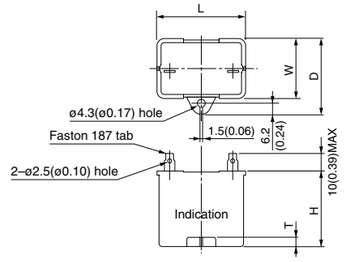
Mass	Helical	Module	Number of teeth
4.8 kg 10.6 lb	gear	0.8	11



* Diameter of applicable cabtyre cable to be ø8(ø0.31) to ø12(ø0.47).

Capacitor (dimensions) [attachment]

Unit: mm (inch)



• Capacitor dimension list

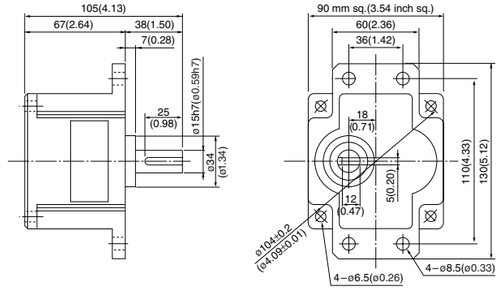
Unit: upper (mm) / lower (inch)

Model number of motor	Model number of capacitor (attachment)	L	W	D	H	T	Capacitor cap (option)
M91Z90HV4L	M0PC25M20	50.2 (1.98)	31 (1.22)	41 (1.61)	42 (1.65)	5 (0.20)	M0PC5032
M91Z90HV4Y	M0PC6.2M38	50 (1.97)	30.5 (1.20)	41 (1.61)	41.5 (1.63)	4 (0.16)	M0PC5032

Gear head (dimensions)

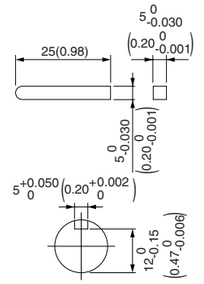
Scale: 1/4, Unit: mm (inch)

MY9G□H (ball bearing) Mass 1.5 kg (3.31 lb)



Key and keyway (dimensions) [attachment]

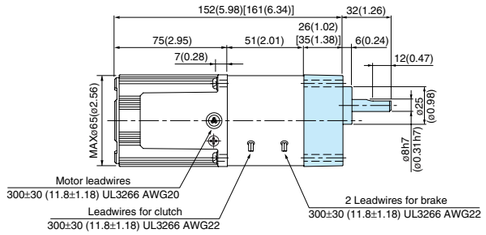
MY9G□M



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

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

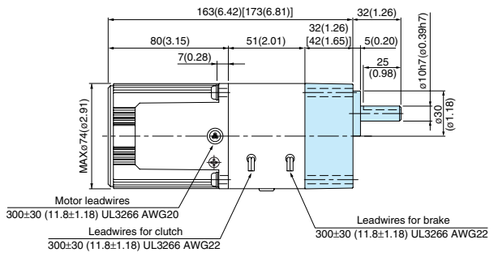
M61X6H4L + MX6G□H
M61X6H4Y + MX6G□H



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

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

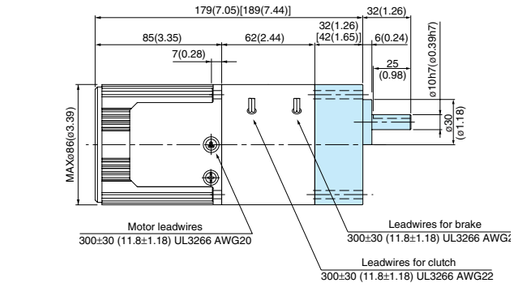
M71X15H4L + MX7G□H
M71X15H4Y + MX7G□H



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

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

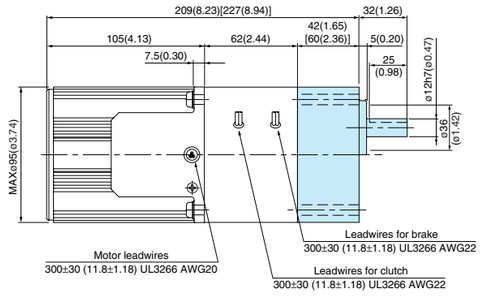
M81X25H4L + MX8G□H
M81X25H4Y + MX8G□H



* Figures in [ ] represent the dimensions of MX8G□H (1/30 or larger reduction ratio).

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

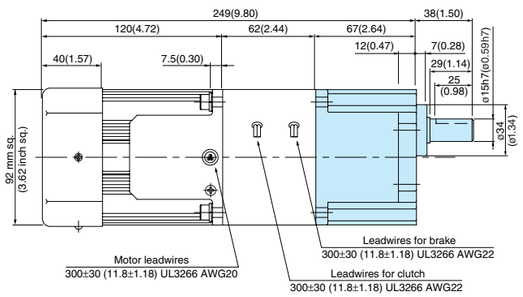
M91X40H4L + MX9G□H
M91X40H4Y + MX9G□H



* Figures in [ ] represent the dimensions of MX9G□H (1/20 or larger reduction ratio).

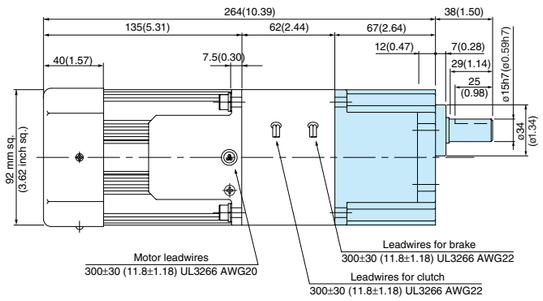
90 mm sq. (3.54 inch sq.) 60 W

M91Z60H4L + MY9G□H
M91Z60H4Y + MY9G□H



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

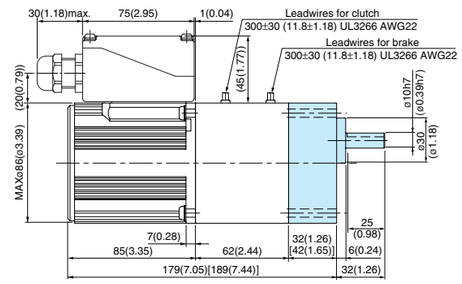
M91Z90H4L + MY9G□H
M91Z90H4Y + MY9G□H



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

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

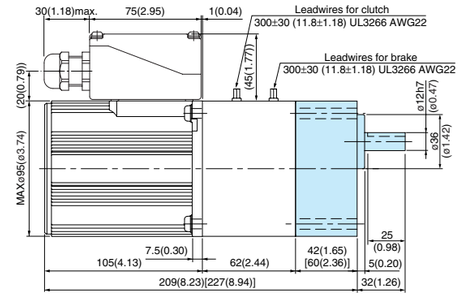
M81X25HK4L + MX8G□H
M81X25HK4Y + MX8G□H



* Figures in [ ] represent the dimensions of MX8G□H (1/30 or larger reduction ratio).
* Diameter of applicable cabtyre cable to be ø8(ø0.31) to ø12(ø0.47).

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

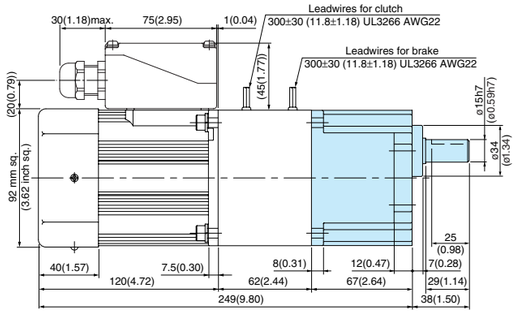
M91X40HK4L + MX9G□H
M91X40HK4Y + MX9G□H



* Figures in [ ] represent the dimensions of MX9G□H (1/20 or larger reduction ratio).
* Diameter of applicable cabtyre cable to be ø8(ø0.31) to ø12(ø0.47).

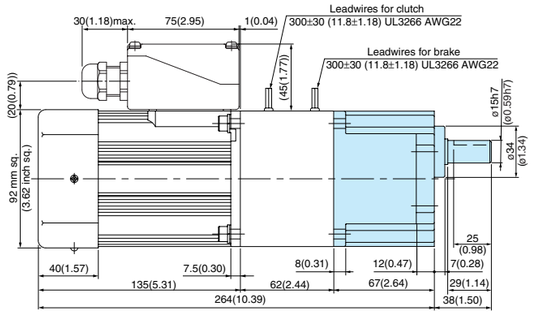
90 mm sq. (3.54 inch sq.) 60 W

M91Z60HK4L + MY9G□H
M91Z60HK4Y + MY9G□H



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

M91Z90HK4L + MY9G□H
M91Z90HK4Y + MY9G□H



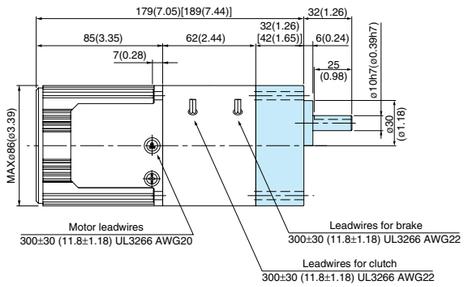
* Diameter of applicable cabtyre cable to be ø8(ø0.31) to ø12(ø0.47).

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

C&B motor (3-phase motor leadwire)

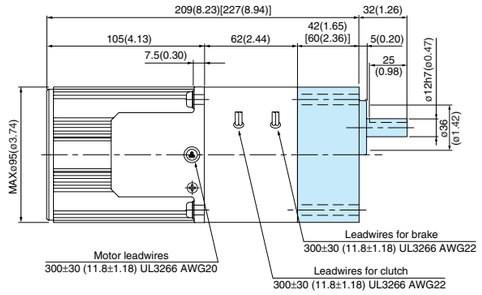
Gear head combination dimensions
Scale: 1/4, Unit: mm (inch)

80 mm sq. (3.15 inch sq.) 25 W
M8MX25H4Y + MX8G□H



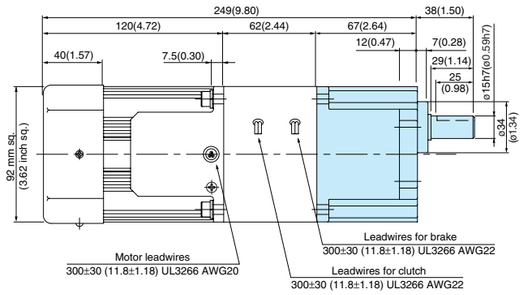
* Figures in [ ] represent the dimensions of MX8G□H (1/30 or larger reduction ratio).

90 mm sq. (3.54 inch sq.) 40 W
M9MX40H4Y + MX9G□H

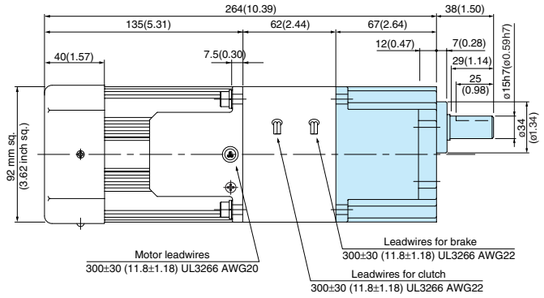


* Figures in [ ] represent the dimensions of MX9G□H (1/20 or larger reduction ratio).

90 mm sq. (3.54 inch sq.) 60 W
M9MZ60H4Y + MY9G□H



90 mm sq. (3.54 inch sq.) 90 W
M9MZ90H4Y + MY9G□H



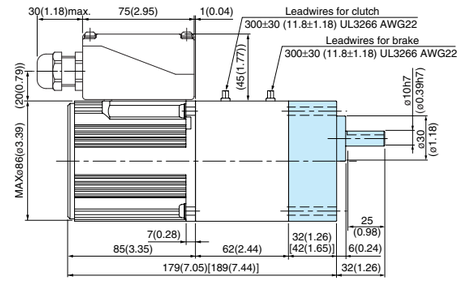
* Please read your User's manual carefully so that you will understand the operation and safety precautions before attempting to operate the system.

Features B-342 | System configuration B-343 | Coding system B-343 | Model list B-350

C&B motor (3-phase motor sealed connector)

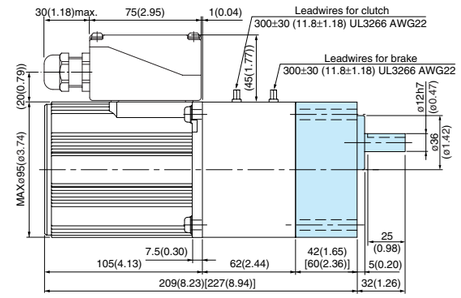
Gear head combination dimensions
Scale: 1/4, Unit: mm (inch)

80 mm sq. (3.15 inch sq.) 25 W
M8MX25HK4Y + MX8G□H



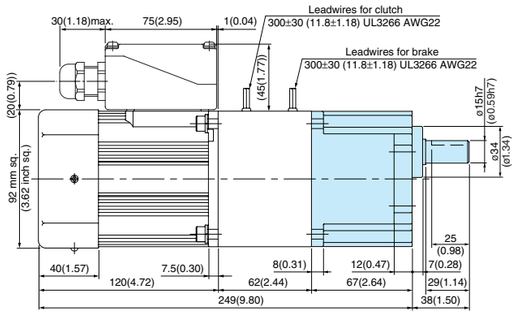
* Figures in [ ] represent the dimensions of MX8G□H (1/30 or larger reduction ratio).
* Diameter of applicable cabtyre cable to be ø8(ø0.31) to ø12(ø0.47).

90 mm sq. (3.54 inch sq.) 40 W
M9MX40HK4Y + MX9G□H



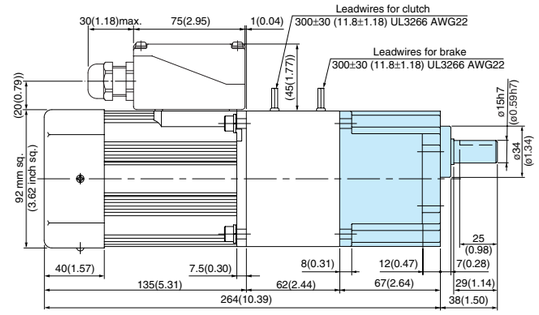
* Figures in [ ] represent the dimensions of MX9G□H (1/20 or larger reduction ratio).
* Diameter of applicable cabtyre cable to be ø8(ø0.31) to ø12(ø0.47).

90 mm sq. (3.54 inch sq.) 60 W
M9MZ60HK4Y + MY9G□H



* Diameter of applicable cabtyre cable to be ø8(ø0.31) to ø12(ø0.47).

90 mm sq. (3.54 inch sq.) 90 W
M9MZ90HK4Y + MY9G□H



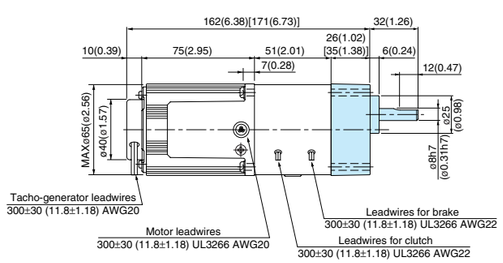
* Diameter of applicable cabtyre cable to be ø8(ø0.31) to ø12(ø0.47).

(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-352 to B-399 | Controls C-4 | Option D-2

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

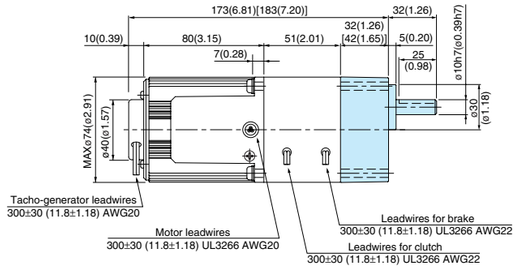
M61X6HV4L + MX6G□H
M61X6HV4Y + MX6G□H



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

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

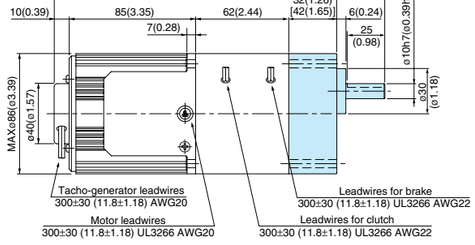
M71X15HV4L + MX7G□H
M71X15HV4Y + MX7G□H



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

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

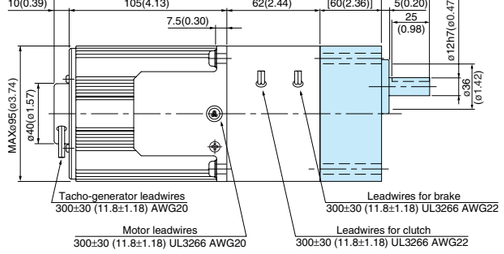
M81X25HV4L + MX8G□H
M81X25HV4Y + MX8G□H



* Figures in [ ] represent the dimensions of MX8G□H (1/30 or larger reduction ratio).

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

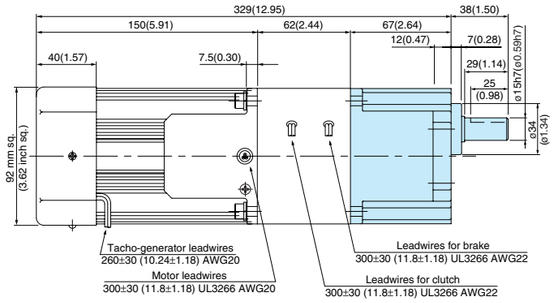
M91X40HV4L + MX9G□H
M91X40HV4Y + MX9G□H



* Figures in [ ] represent the dimensions of MX9G□H (1/20 or larger reduction ratio).

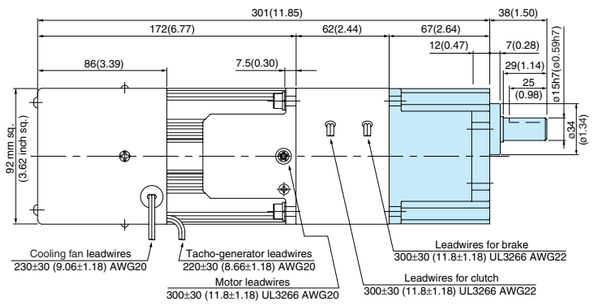
90 mm sq. (3.54 inch sq.) 60 W

M91Z60HV4L + MY9G□H
M91Z60HV4Y + MY9G□H



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

M91Z90HV4L + MY9G□H
M91Z90HV4Y + MY9G□H



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