ABSODEX

AX4000T Series

Supports large moments of inertia load
Compatible function allows free combination of driver, actuator, and cable
Large hollow diameter is convenient for cable wiring and piping, abundant options available

- Max. torque: 9/22/45/75 N·m
- Supported driver: TS driver

Actuator specifications

Descriptions		AX4009T	AX4022T	AX4045T	AX4075T
Max. output torque	N·m	9	22	45	75
Continuous output torque	N·m	3	7	15	25
Max. rotation speed	rpm	210 (*1)			110 (*1)
Allowable axial load	N	500	3700		20000
Allowable moment load	N·m	40	80	80	200
Output shaft moment of inertia	kg·m²	0.009	0.0206	0.0268	0.1490
Allowable moment of load inertia	kg·m²	0.35 (1.75) (*2)	0.60 (3.00) (*2)	0.90 (5.00) (*2)	5.00 (25.00) (*2)
Index accuracy (*5)	sec	±30			
Repeatability (*5)	sec	±5			
Output shaft friction torque	N·m	0.6	3.5		10.0
Resolution	P/rev	540672			
Motor insulation class		Class F			
Motor withstand voltage		1,500 VAC 1 min			
Motor insulation resistance		10 MΩ or more 500 V DC			
Operating ambient temperature		0 to 45°C (0 to 40°C: *6)			
Operating ambient humidity		20 to 85% RH, no condensation			
Storage ambient temperature		−20 to 80°C			
Storage ambient humidity		20 to 90% RH, no condensation			
Atmosphere		No corrosive gas, explosive gas, or dust			
Weight	kg	5.5	12.3 (11.6) *3	15.3 (17.3) *3	36.0 (41.0) *3
Total weight when brake is se.	kg	–	16.4 (15.7) *3	19.3 (21.6) *3	54.0 (59.0) *3
Output shaft runout (*5)	mm	0.03			
Output shaft surface runout (*5)	mm	0.05			
Degree of protection		IP20			

*1: Use at a speed of 80 rpm or less during continuous rotation operation.
*2: When using in load conditions up to those given in ( ), set parameter 72 (integral gain magnification) = 0.5 (reference value).
*3: The values in ( ) are the actuator weight with the mounting base option.
*4: Contact CKD whenever using continuous rotation operation in combination with parameter 72 (integral gain magnification).
*5: Refer to the "Glossary" on page 64 for index accuracy, repeatability, output shaft runout and output shaft surface runout.
*6: When using as a UL certified product, the maximum temperature is 40°C.

Electromagnetic brake specifications (option)

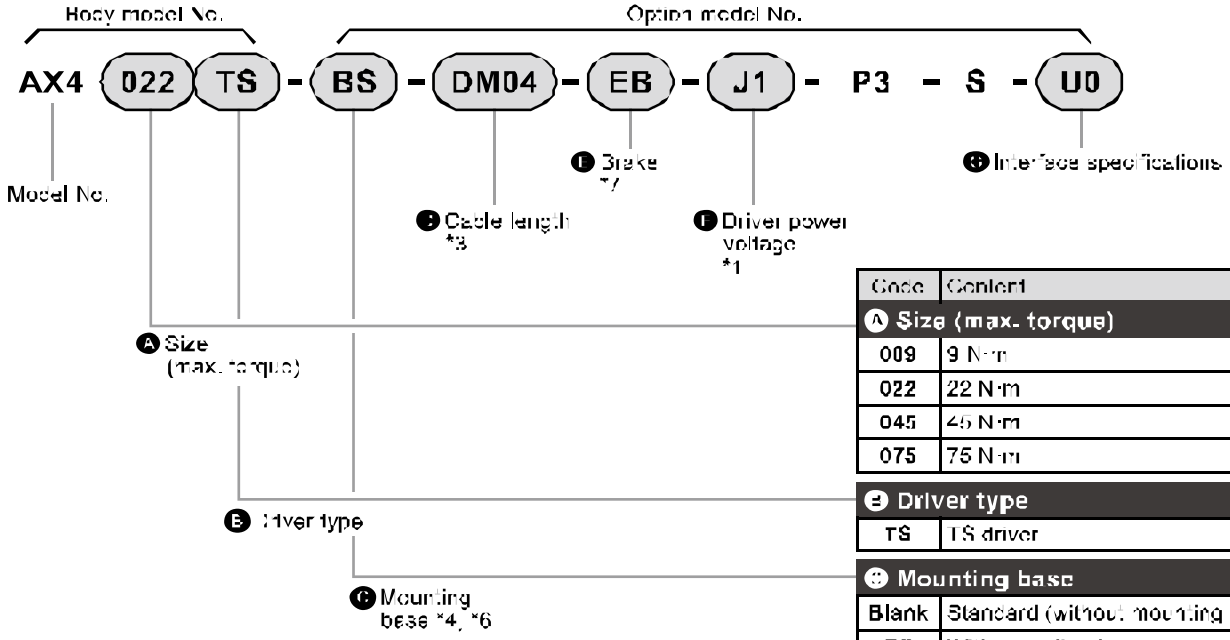
Descriptions \ Compatibility		AX4022T/AX4045T	AX4075T
Type		Non-backlash dry type non-excitation type	
Rated voltage	V	24 VDC	
Power capacity	W	30	55
Rated current	A	1.25	2.30
Static friction torque	N·m	35	200
Armature release time (brake on)	msec	50 (reference value)	50 (reference value)
Armature suction time (brake off)	msec	150 (reference value)	250 (reference value)
Retention accuracy	Minutes	45 (reference value)	
Max. operating frequency	times/min	60	40

*1: During output shaft rotation, the electromagnetic brake disc and fixed part may cause a scraping sound.
*2: For travel after brake off, you must change the parameter delay time by the above-mentioned armature suction time.
*3: Though it is a non-backlash type, holding a constant position is difficult if load is applied in the rotation direction.
*4: The armature makes contact with the electromagnetic brake fixed part while the electromagnetic brake is operating, causing the sound.
*5: Manual release of the electromagnetic brake is possible by evenly tightening the bolts in the manual release tap (3 locations). Lightly tighten the bolt, and then turn it about 90° from the stopped position. Once the manual release work is over, be sure to promptly remove the 3 bolts and confirm that the brakes are working to securely hold the output shaft.

⚠ Always read the safety precautions on pages 73 to 78 before use.

How to order

● Set model No. (actuator, driver, cable)



Code	Content
A Size (max. torque)	
009	9 N·m
022	22 N·m
045	45 N·m
075	75 N·m
B Driver type	
TS	TS driver
C Mounting base	
Blank	Standard (without mounting base)
BS	With mounting base
D Cable length	
DM00	Without cable
DM02	2 m
DM04	4 m (standard length)
DM06	6 m
DM08	8 m
DM10	10 m
DM15	15 m
DM20	20 m
E Brake	
Blank	Standard (without electromagnetic brake)
EB	Negative-actuated electromagnetic brake
F Driver power voltage	
Refer to the driver power voltage compatibility table at left.	
G Interface specifications	
U0	Parallel I/O (NPN specifications)
U1	Parallel I/O (PNP specifications)
U2	CC-Link
U3	PROFIBUS-DP
U4	DeviceNet
U5	EtherCAT
U6	EtherNet/IP

Precautions for model No. selection

*1: Select the driver according to the compatibility table below.

Driver power voltage compatibility table

Drivers type / Model	TS driver	
	Three-phase/ single-phase 200 to 230 VAC	Single-phase 100 to 115 VAC
AX4009T	Blank	J*
AX4022T	Blank	J*
AX4045T	Blank	J*
AX4075T	Blank *2	

*2: For models with maximum torque 75 N·m, the calculation of torque limit region is different from the usual when used at single-phase 200 VAC. Contact CKD to determine usability.

*3: Cable is a movable cable.
Refer to page 60 for dimensions of the cable. Body lead-out cable is not a movable cable.

*4: ● When the "BS" option with the mounting base is selected, the positioning pin hole on the bottom is not available. The surface is treated with electroless nickel plating.

*5: Positioning pin holes may not be surface treated.

*6: For options, select according to the "Option compatibility table" below.

Option compatibility table

	AX4009T	AX4022T	AX4045T	AX4075T
Mounting base (-BS)	×	○		
Brake (-EB)	×	○	○	○

*7: The surface of the body is treated with electroless nickel plating.

● Actuator body discrete model No.

AX4 ○ T - BS - ○ - P3 - S

A Size | E Brake | C Mounting base

● Driver discrete model No.

• 200 to 230 VAC
AX9000TS - U0

• 100 to 115 VAC
AX9000TS-J1 - U0

G Interface specifications

● Cable discrete model No.

• Motor cable
AX-CBLM6-DM04

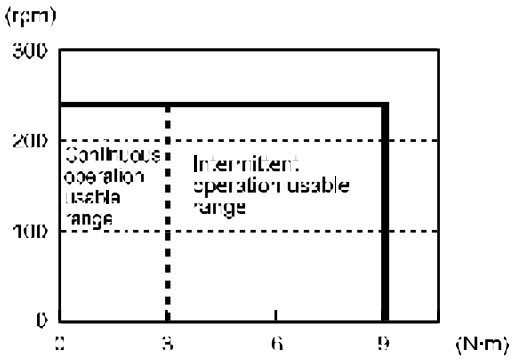
• Resolver cable
AX-CBLR6-DM04

D Cable length
(Note: "DM04" when cable length is 4 m)

* Custom order products are CE, UL/cUL, and RoHS non-compliant. Contact CKD as needed.

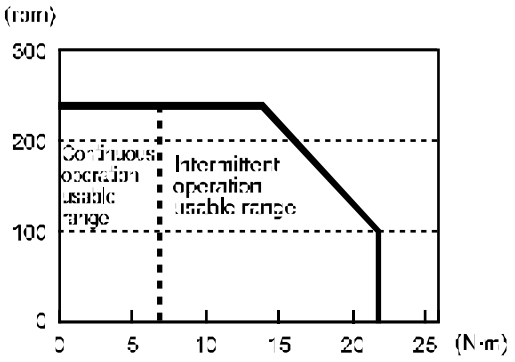
Speed/maximum torque characteristics

● AX1009T



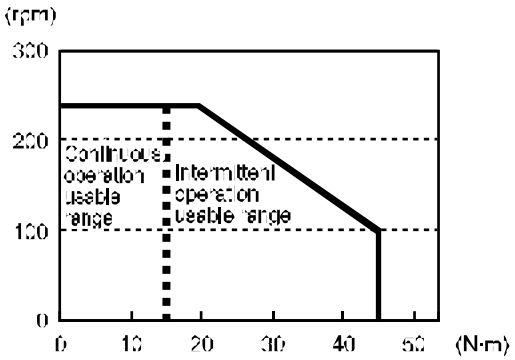
* Fig. This graph shows the characteristics for 3-phase 200 VAC.

● AX1022T



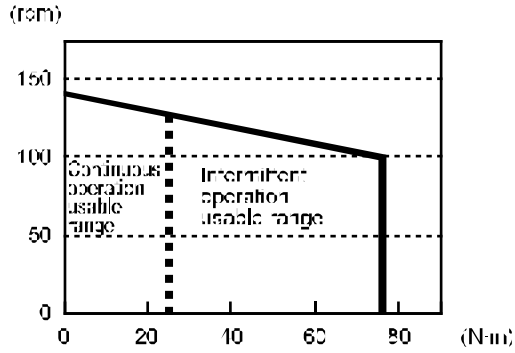
* Fig. This graph shows the characteristics for 3-phase 200 VAC.

● AX4045T



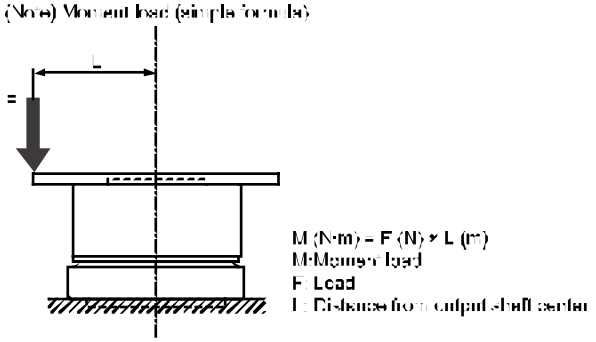
* Fig. This graph shows the characteristics for 3-phase 200 VAC.

● AX4075T

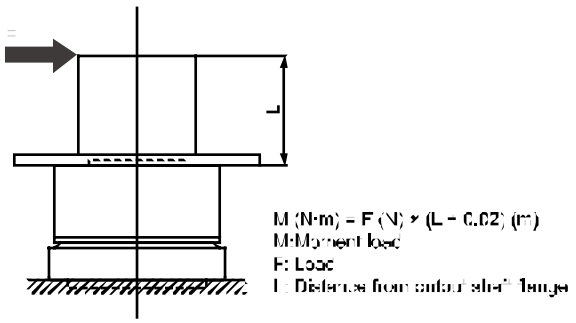


* Fig. This graph shows the characteristics for 3-phase 200 VAC.

(Note) Moment load (simple formula)



(Fig. a)



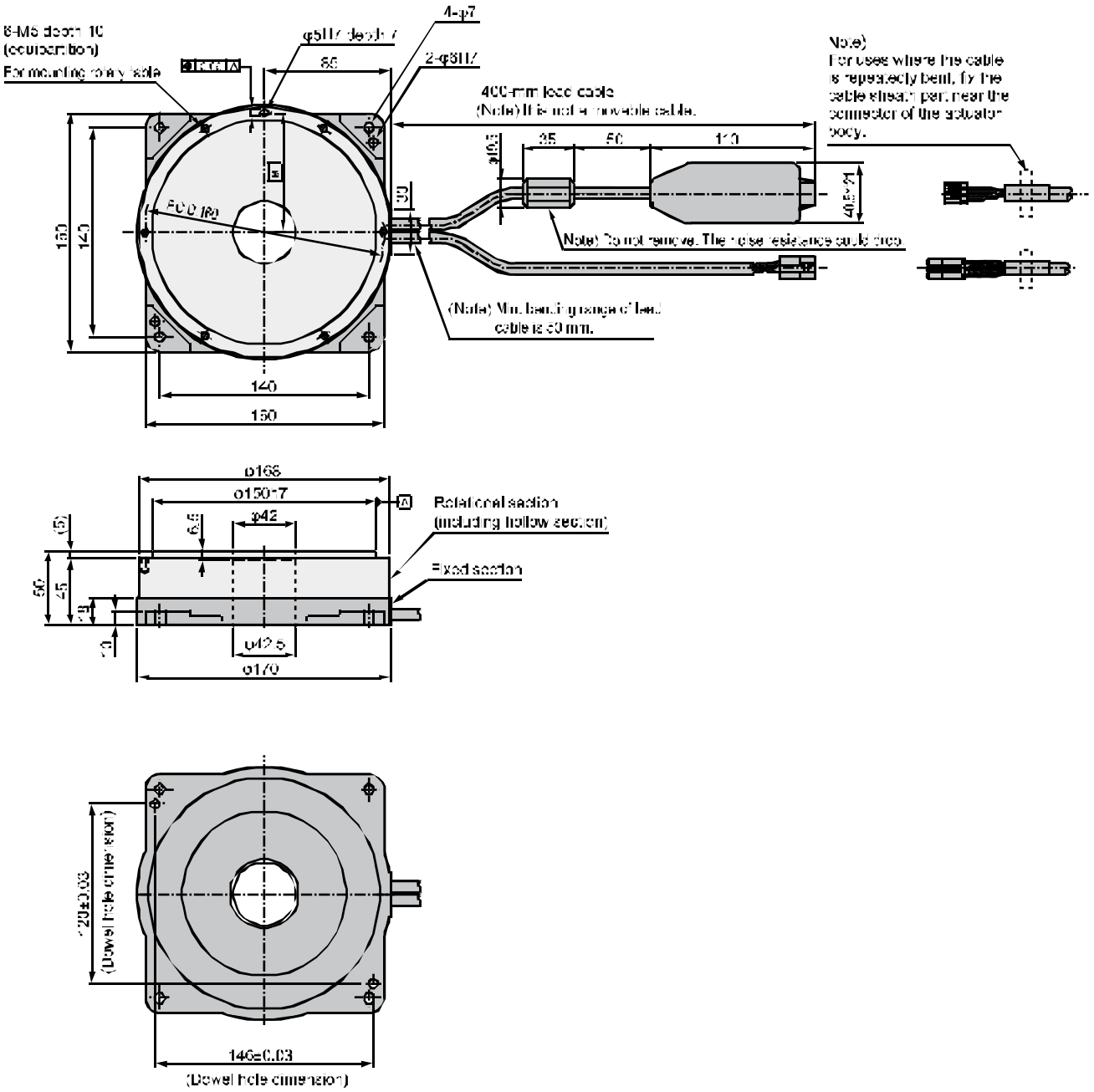
(Fig. b)

⚠ Always read the safety precautions on pages 73 to 78 before use.

MEMO

Dimensions

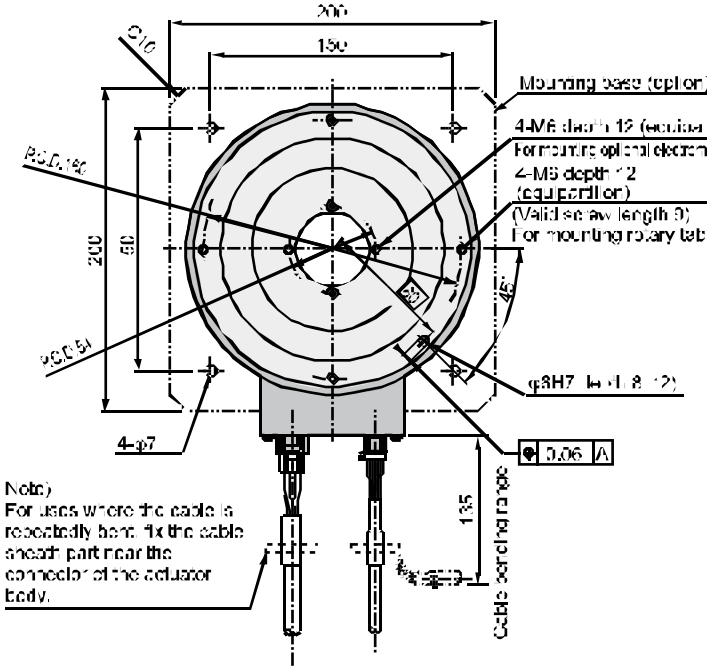
● AX4009T



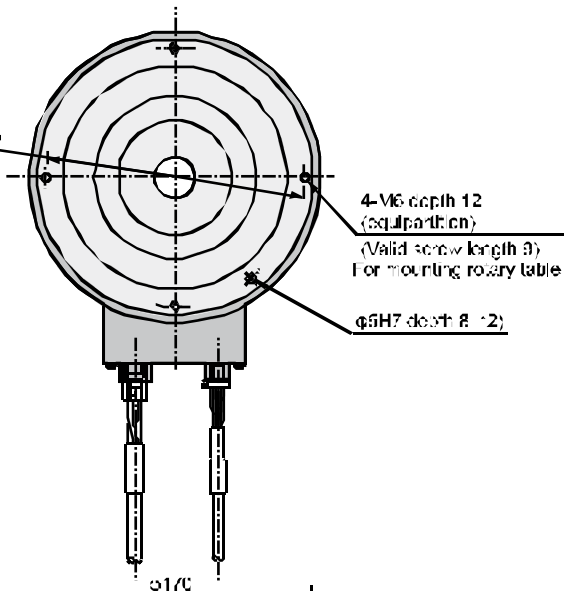
*1) The origin position of the actuator may differ from that shown in the dimensions.
The origin offset function allows you to set a desired origin position.

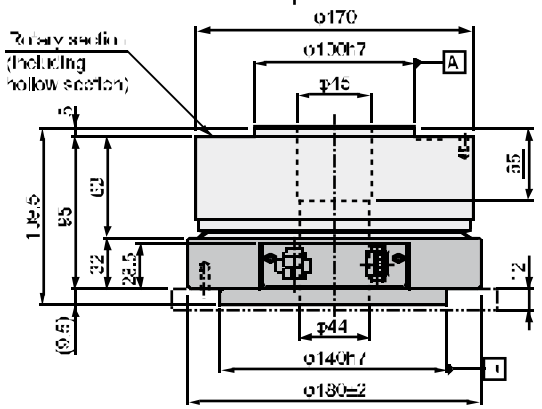
Dimensions

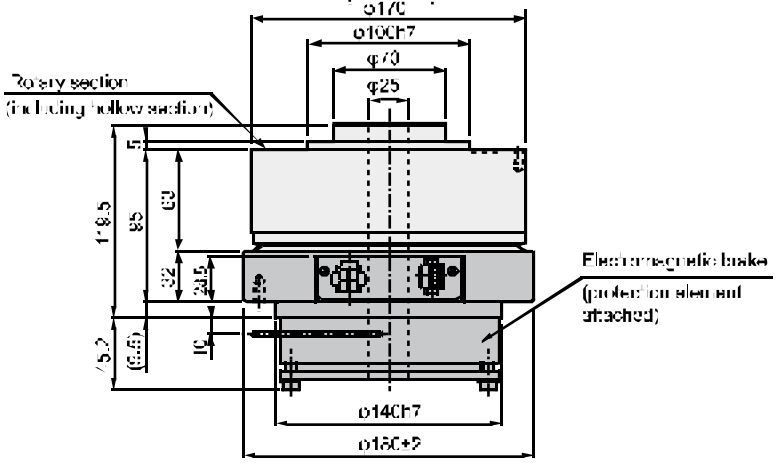
● AX4022T

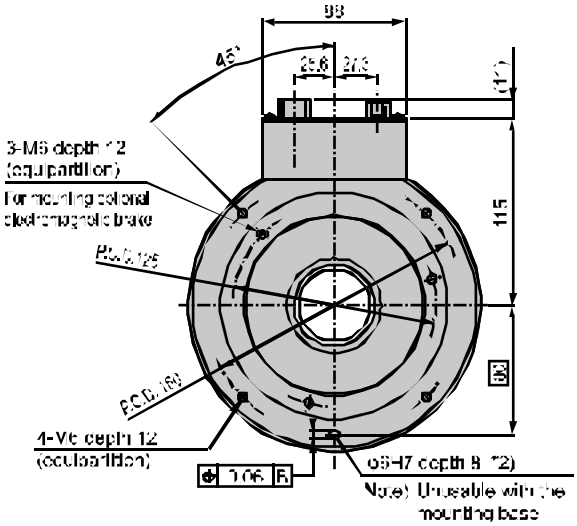


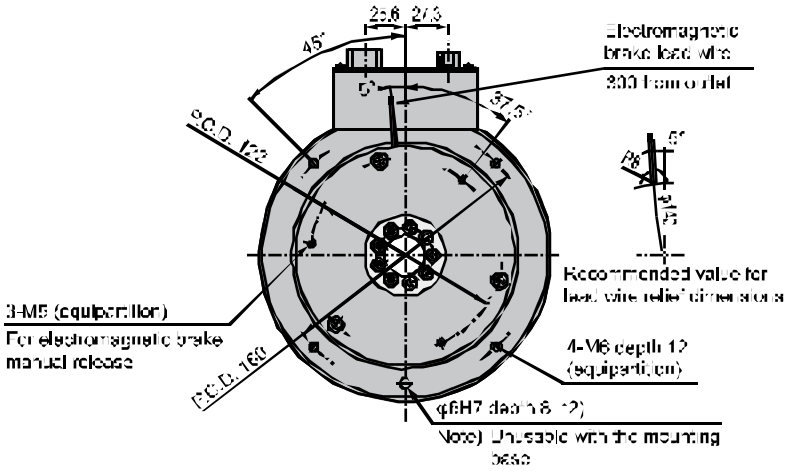
● AX4022T-EB
Electromagnetic brake
For other options, refer to the left figure on the left.







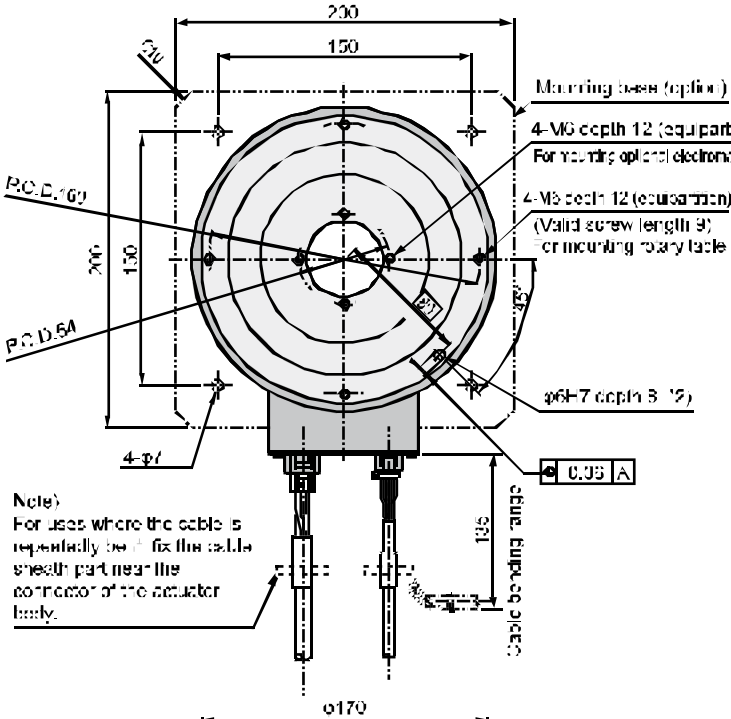




*1) The origin position of the actuator may differ from that shown in the dimensions.
The origin offset function allows you to set a desired origin position.
*2) The position of the positioning pin hole is the same as that of AX4022T.

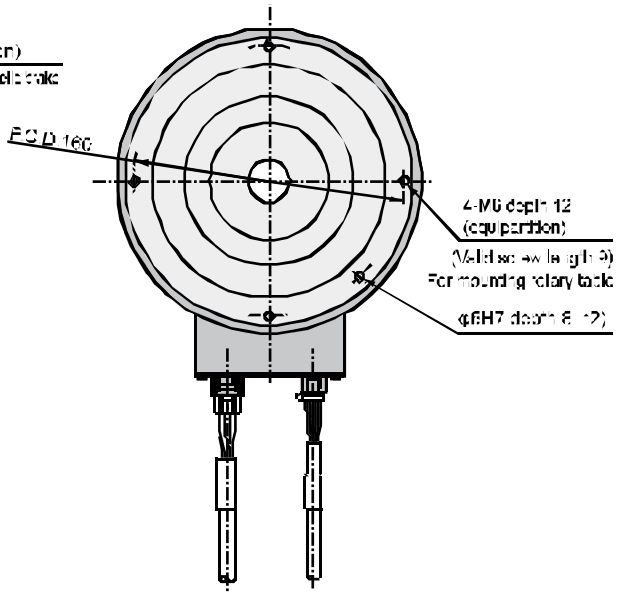
Dimensions

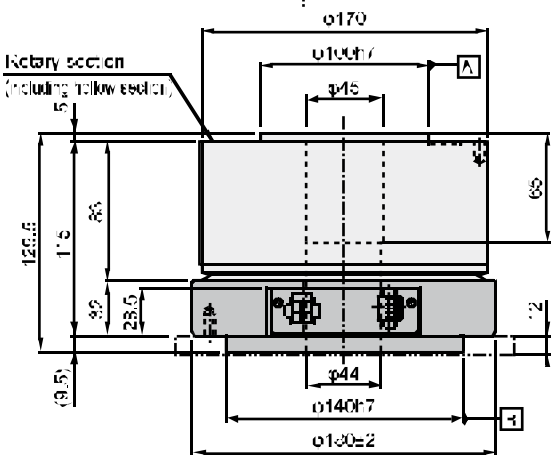
● AX4045T

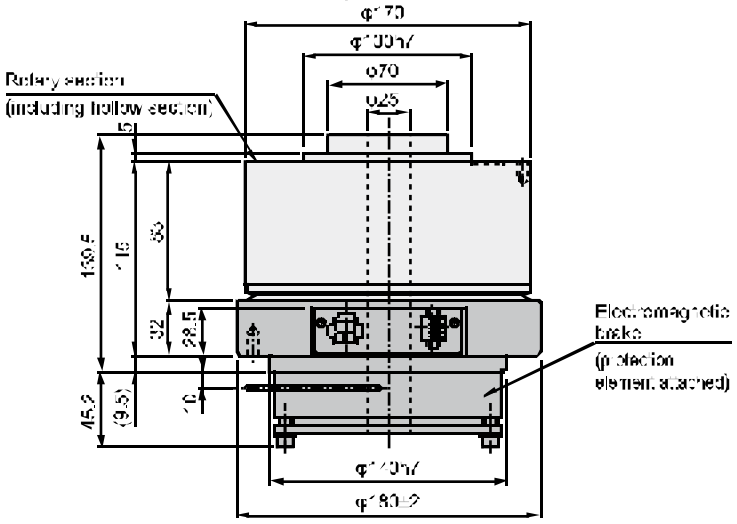


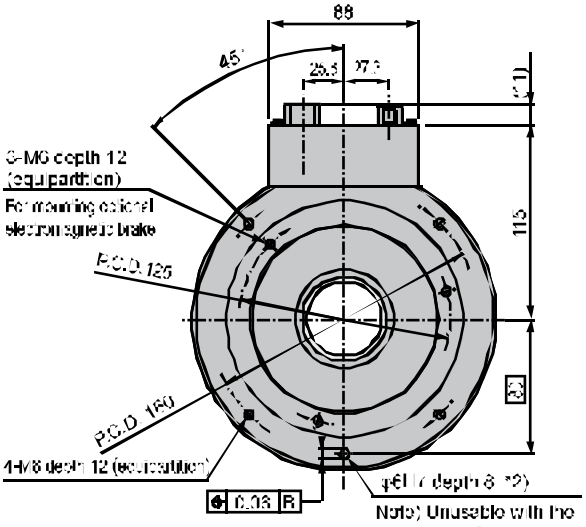
● AX4045T-ER

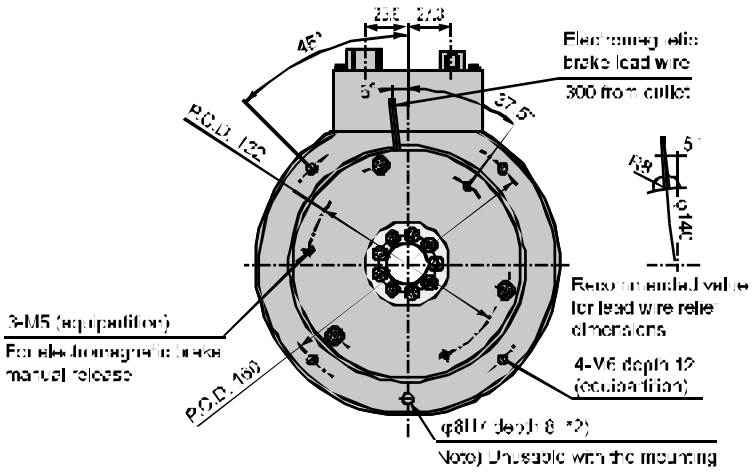
Electromagnetic brake
For other options, refer to the left figure on the left.







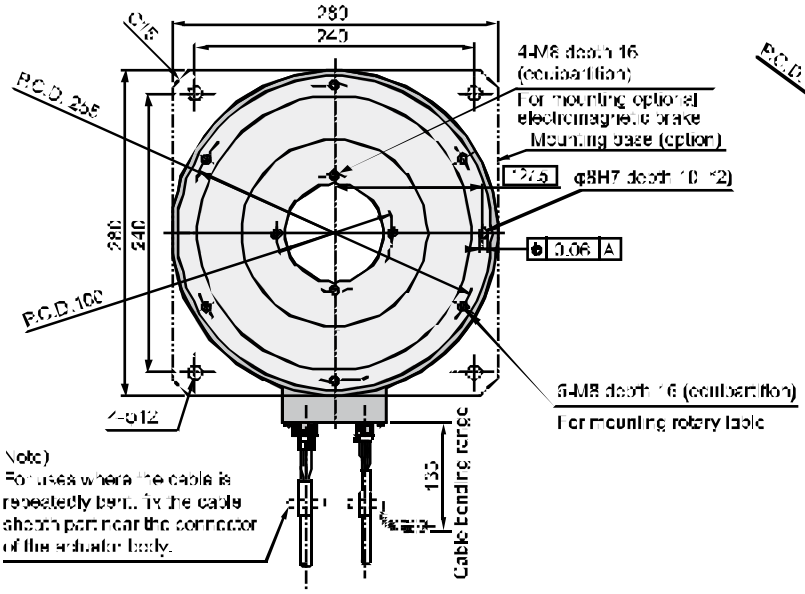




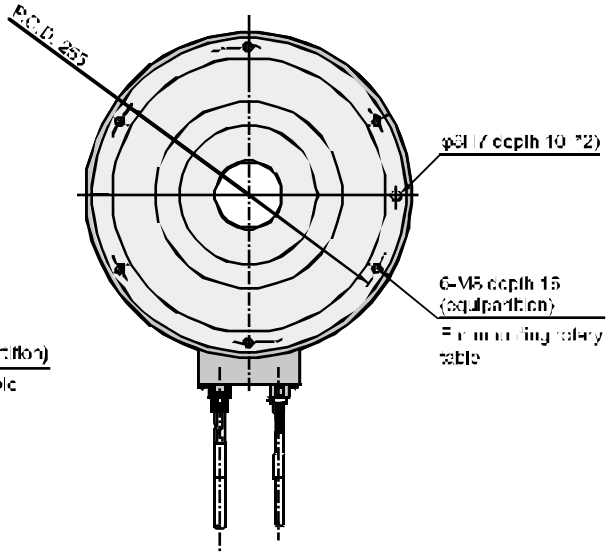
*1) The origin position of the actuator may differ from that shown in the dimensions. The origin offset function allows you to set a desired origin position.
*2) The position of the positioning pin hole is the same as that of AX4045T.

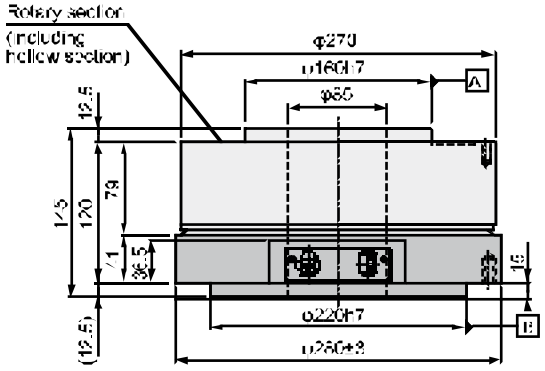
Dimensions

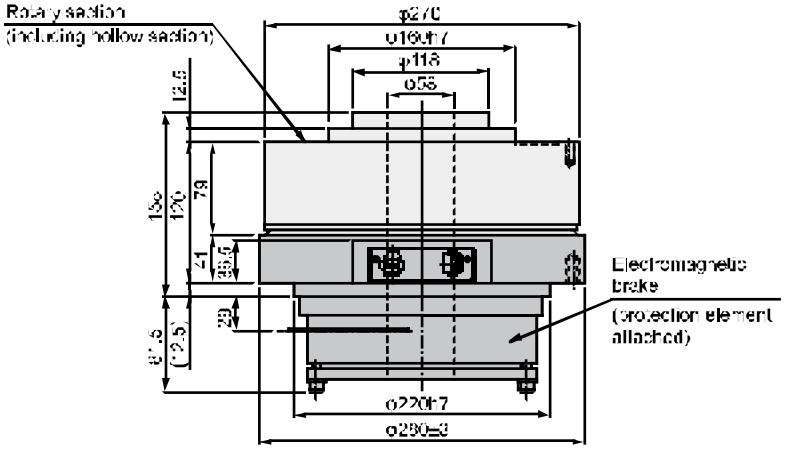
● AX4075T

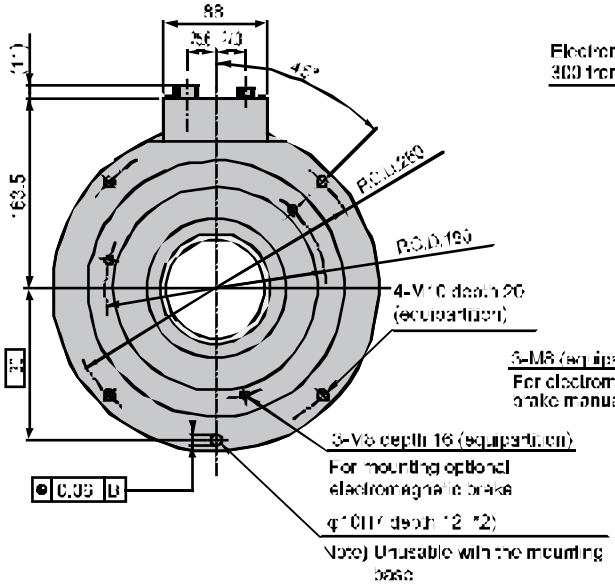


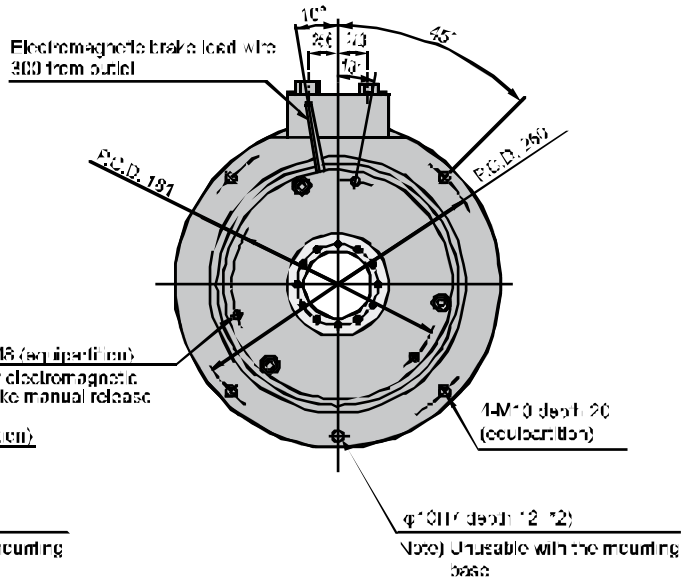
● AX4075T-FR
Electromagnetic brake
For other options, refer to the left figure on the left.











*1) The origin position of the actuator may differ from that shown in the dimensions. The origin offset function allows you to set a desired origin position.
*2) The position of the positioning pin hole is the same as that of AX4075T.