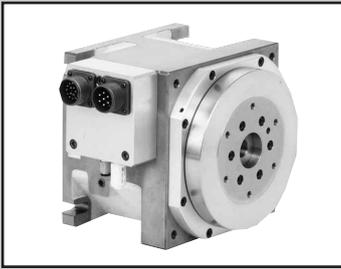


Discontinue



Direct drive actuator

AX8000 Series actuator

IP65 conforming product (IEC standards)

Suited for rotary positioning in environments where water could enter or where dust levels are high.

- Max. torque: 45, 70N·m

Actuator specifications

Descriptions		AX8045	AX8070
Maximum output torque	N·m	45	70
Continuous output torque	N·m	15	23
Maximum rotation speed	rpm	100 (Note 2)	100
Allowable axial load	N	1200	2200
Allowable moment load	N·m	38	73
Allowable radial load	N	1700	4000
Output shaft moment of inertia	kg·m ²	0.0330	0.1540
Allowable load moment of inertia	kg·m ²	0.9	4.0
Index accuracy (Note 1)	sec.	±15	
Repeatability	sec.	±5	
Output shaft friction torque	N·m	5.0	10.0
Resolver resolution	P/rev	540672	
Motor insulation grade		Class F	
Motor withstanding voltage		1500 VAC for one minute	
Motor insulation resistance		10MΩ and over 500 VDC	
Working ambient temperature range		0 to 45°C	
Storage ambient temperature range		-20 to 80°C	
Storage ambient humidity range		20 to 90%RH with no dew condensation	
Protective structure		IP65 (IEC60529) IP55 (IEC60034-5)	
Weight	kg	35.0	80.0
Runout of output shaft	mm	0.015	
Runout of output shaft surface	mm	0.015	
Brake torque	N·m	80	210

Note 1: Refer to the "CKD Index Units General Catalog" (CB-019SA) "Technical explanation, Static index precision" for details on the index precision.

Note 2: Consult with CKD if rotation speed is 100 rpm or faster.

With models having a maximum torque of 45 N·m or less, the S type is used with special specifications up to 150 rpm and the H driver up to 180 rpm. Contact CKD for details. Note that maximum speed cannot be changed after delivery.

Inspection standard

Inspection item	Specification size
Straightness of table top (mm)	0.015
Runout of table top (mm)	0.015
Parallelism between table top and housing bottom (mm)	0.02
Perpendicularity of table top and housing side (mm)	0.02
Runout of table main shaft hole (mm)	0.015

- High grade of dust and water proof IP65* of IEC529 standards compliant TÜV Rheinland certified



Enhanced waterproofing is attained with air purging.

- * Use low pressure (0.05 MPa) dry clean compressed air for air purging.

* IP65

The IP display indicating the dustproof and waterproof grade is specified in IEC60529 and IEC60034-5. The AX8000 Series is certified as IP65 compliant by TÜV Rheinland.

IP6*: Indicates the grade of protection against contact and solid foreign matter entry. "6" is the highest grade, and indicates a "completely dustproof mechanism."

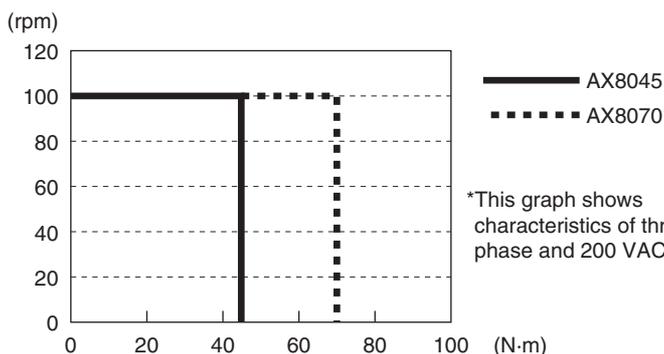
IP*5: Indicates the grade of waterproof protection. "5" indicates "protective structure against water sprayed from all directions."

- Clamp reinforced of brake section
Clamp torque : 80N·m (AX8045)
: 210N·m (AX8070)

* Pneumatic brakes are integrated so the output shaft is clamped when stopping and holding rigidity is increased. Refer to the recommended air circuit diagram on page Intro 15.

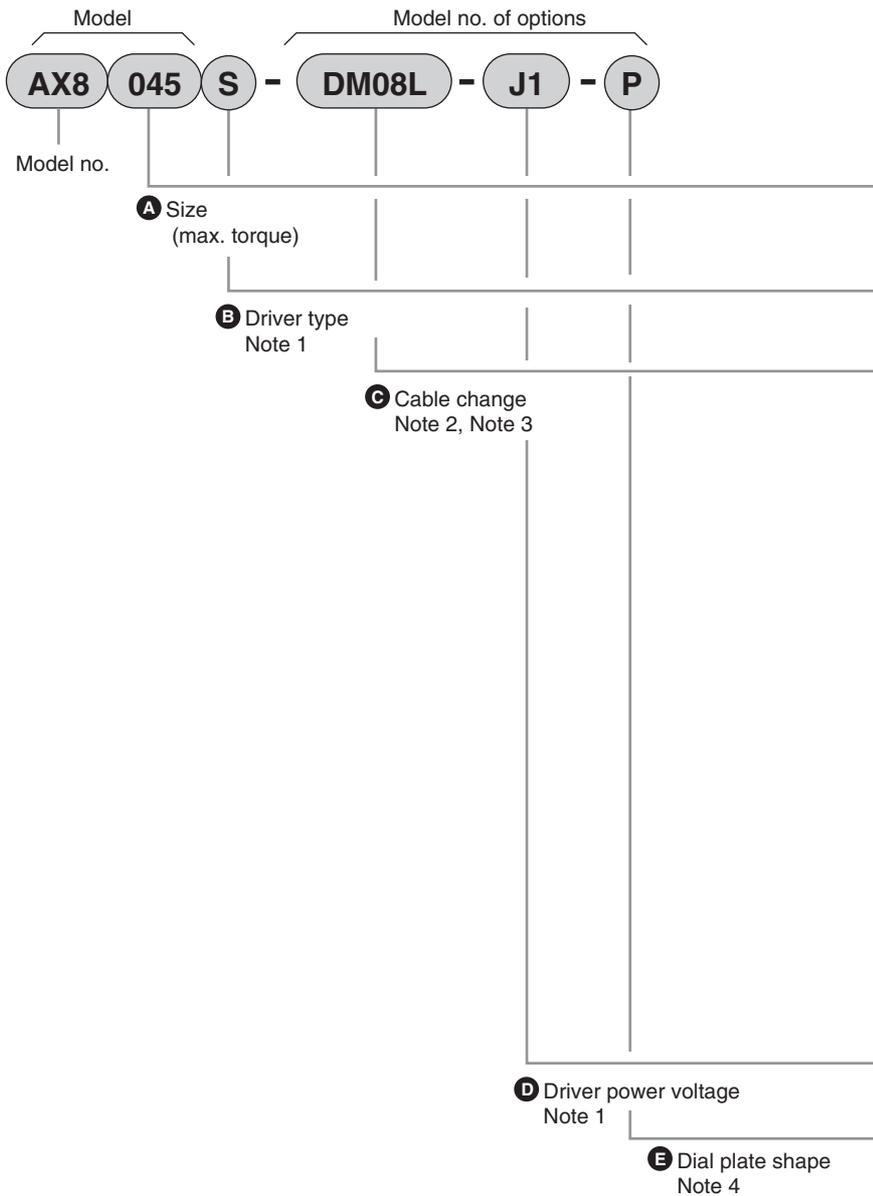
- Both vertical and horizontal installations are possible

Speed/max. torque characteristics



⚠ Refer to the safety precautions on Intro 13 to 20 before operating.

How to order



Symbol	Descriptions	
A Size (max. torque)		
045	45 N·m	
070	70 N·m	
B Driver type		
S	S type driver	
C Cable change		
Blank	Standard (water proof straight plug 4m)	
D**	Water proof straight plug Cable length change	
D**L	Water proof angle plug Cable length change	
DM**	Water proof straight plug Flexible cable cable length change	
DM** L	Water proof angle plug Flexible cable cable length change	
** cable length Note: The length and type cannot be changed after delivery.		
02	2 m	
Blank	4 m	Flexible cable 4 m: DM
06	6 m	[Note] Use the noise filter for the motor cable if the cable is longer than 6 m.
08	8 m	
10	10 m	
15	15 m	
20	20 m	
25	25 m	
30	30 m	
F Driver power voltage		
Refer to the driver - power voltage table on the left.		
E Dial plate shape		
Blank	Flange table	
P	Flange table with dowel hole	
T	T slot table	

Note on model no. selection

Note 1: Select the driver according to the table below.

Driver - power voltage table

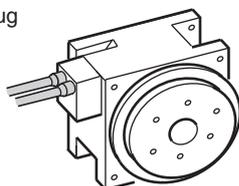
Model \ Driver type	S type driver		H type driver	
	200 to 230 VAC	100 VAC	200 to 230 VAC	100 to 115 VAC
AX8045	Blank	J1		
AX8070	Blank			

* S type driver is recommended if the max. torque is 70 N·m or less.
Contact CKD for details on the availability of the H type driver.

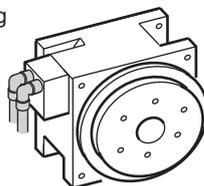
Note 2: Use the optional flexible cable in applications where the cable is bent repeatedly.
Refer to page 57 for dimensions of the cable.

Note 3: Refer to the drawing below for plug shapes.

● Straight plug



● Angle plug

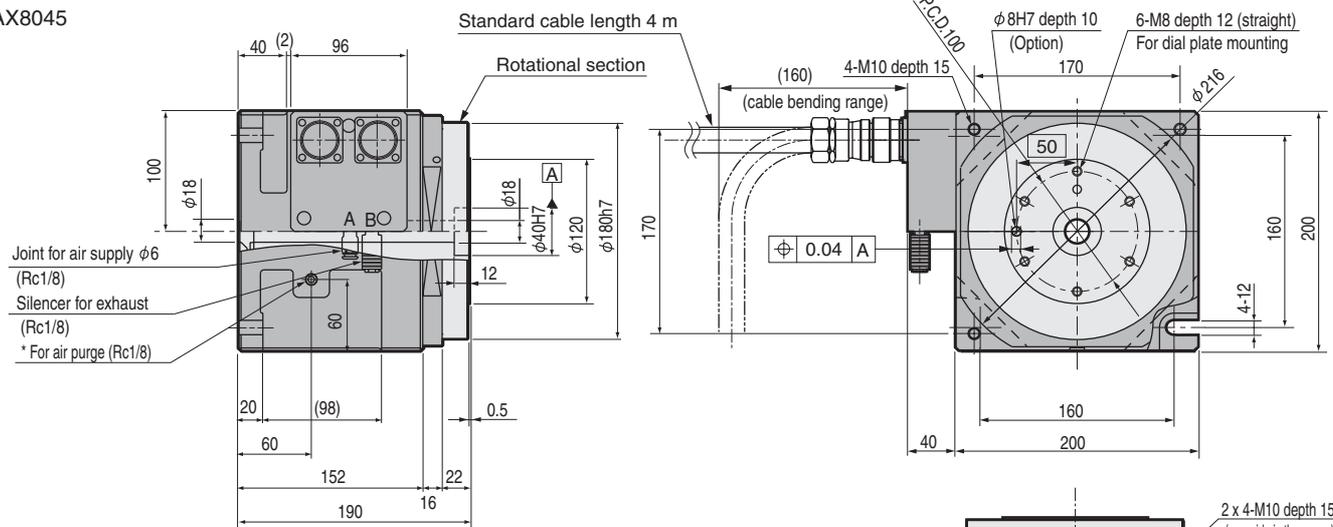


Note 4: "P" and "T" can not be selected together.

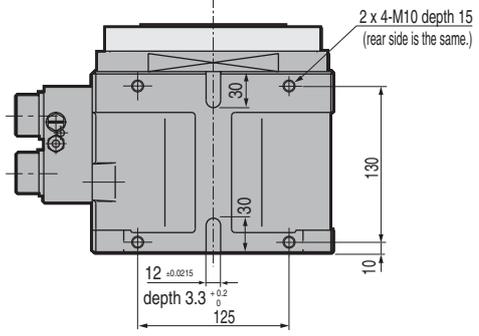
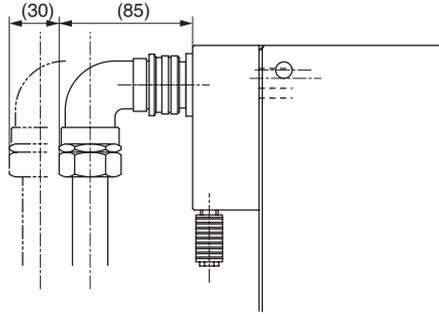
AX8000 Series

Dimensions

● AX8045



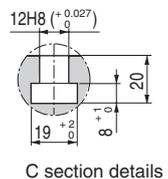
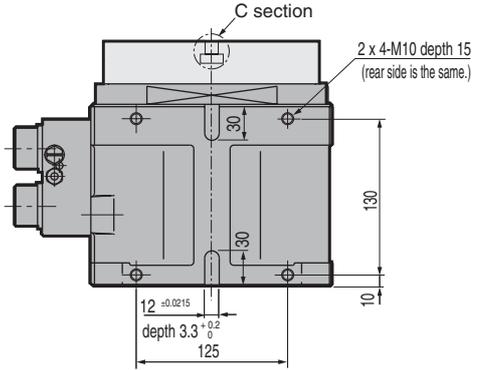
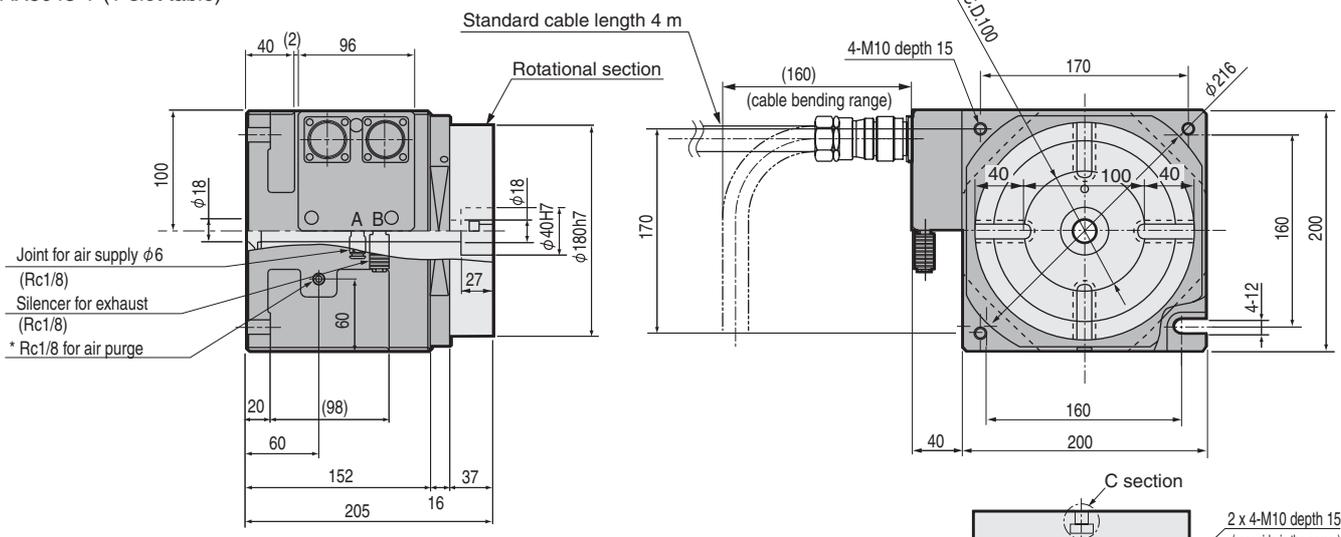
Angle plug installation dimensions



* Use low-pressure (0.05 MPa) dry clean compressed air for air purging.

* A space of 30 mm is required for connecting and disconnecting the angle plug.

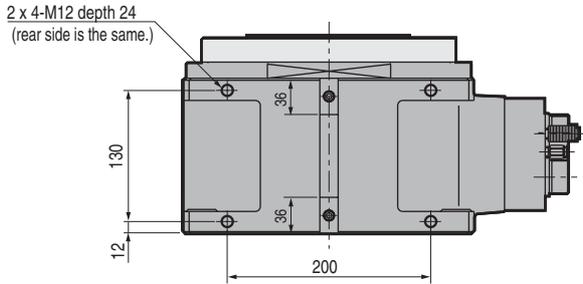
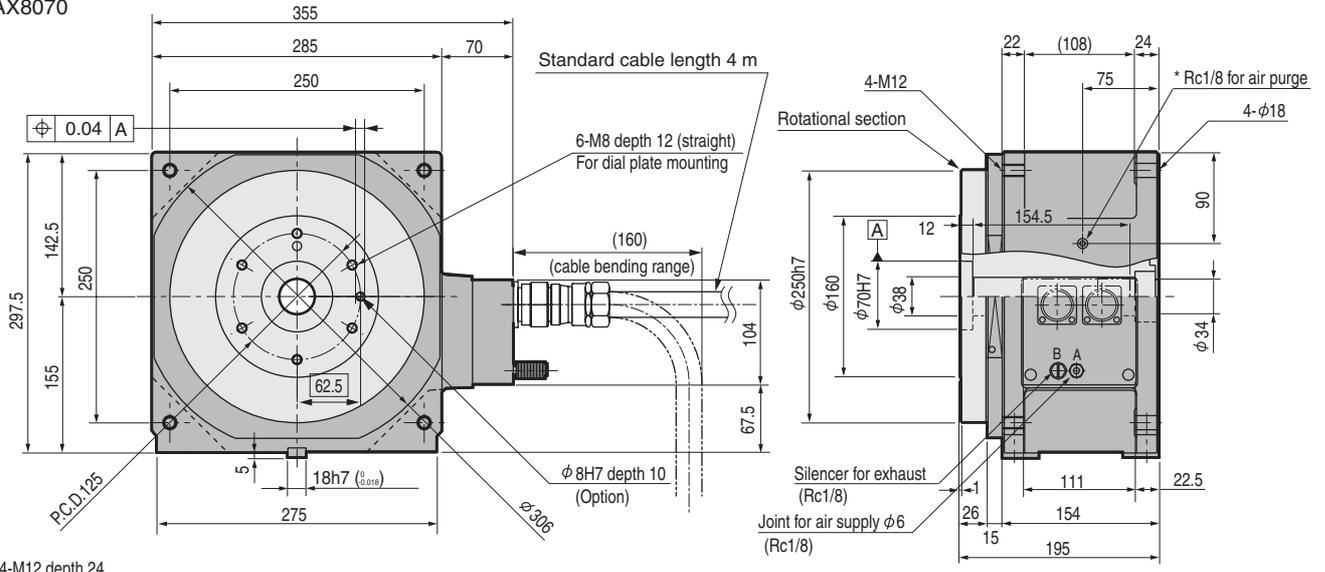
● AX8045-T (T slot table)



* Use low-pressure (0.05 MPa) dry clean compressed air for air purging.

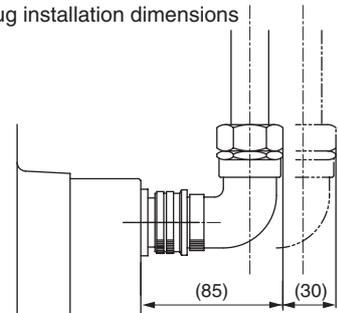
Dimensions

● AX8070



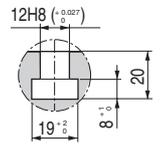
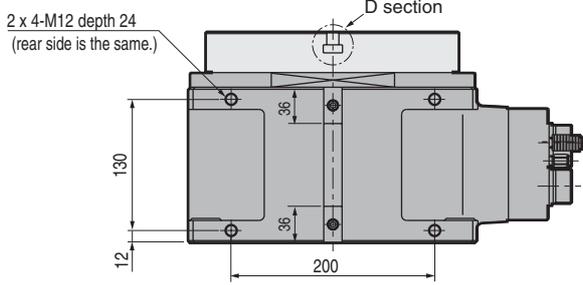
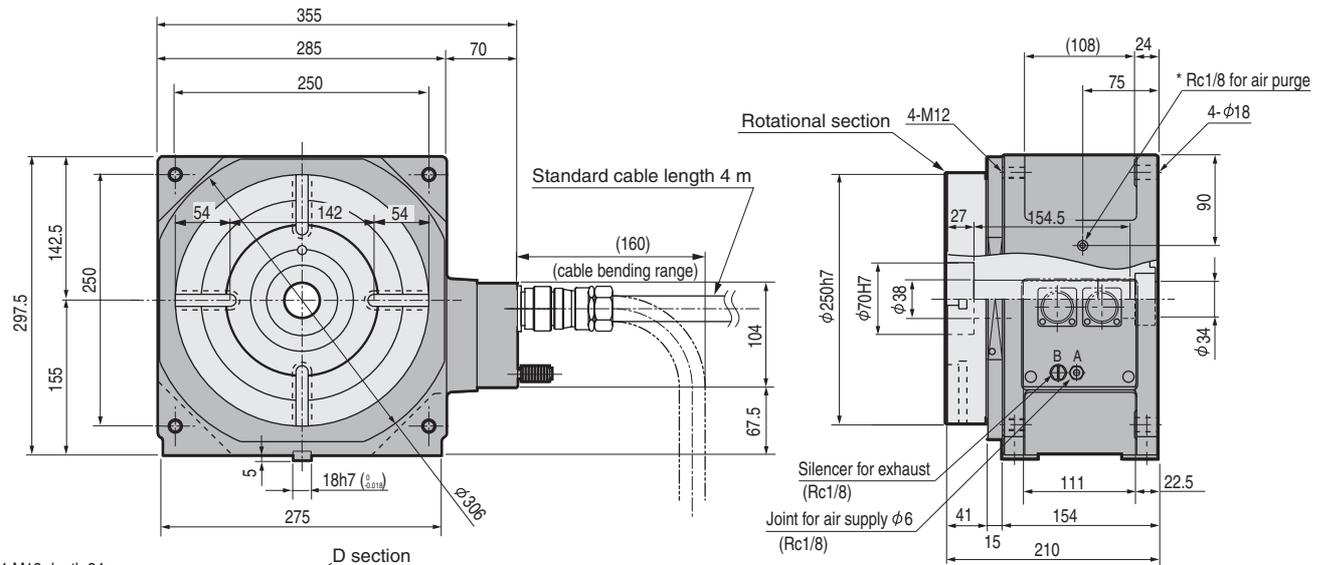
* Use low-pressure (0.05 MPa) dry clean compressed air for air purging.

Angle plug installation dimensions



* A space of 30 mm is required for connecting and disconnecting the angle plug.

● AX8070-T (T slot table)



* Use low-pressure (0.05 MPa) dry clean compressed air for air purging.

AX8000 Actuator

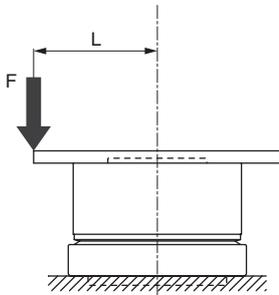
AX8000 Series

Safety precautions

Safety precautions

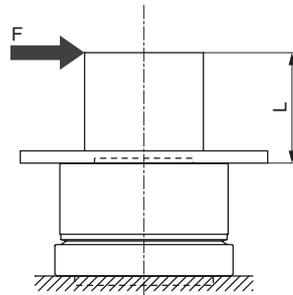
- The driver, handy terminal, and interactive terminal are not waterproof. Provide waterproofing when using this where water or oil enter. The actuator is not rustproof.
- If increased waterproofing is required, attach an air purging joint and supply low-pressure air (0.05 MPa) of the same quality as brakes in the motor. Abnormal noise may occur depending on the amount of air leakage. If this poses a problem, lower air pressure.
- NBR (nitril rubber) is used for seal material. The seal's properties and life could be shortened depending on the fluid type.
Steel (output shaft) and cast iron (housing) are used for actuator material. These are not rustproof. Contact CKD when treatment is required.
- When using built-in waterproof brakes as a circular table when machining a workpiece attached to the output shaft, apply brakes during machining. Note that machining is limited to light cutting.
- The actuator is designed for light cutting applications. Vibration may be generated if heavy cutting with large cutting resistance is done.
- The direct drive actuator cannot be used for applications in which a workpiece is rotated and machined.

(Note) Moment load



(Fig. a)

$M \text{ (N}\cdot\text{m)} = F \text{ (N)} \times L \text{ (m)}$
 M : Moment load
 F : Load
 L : Distance from center of output shaft



(Fig. b)

$M \text{ (N}\cdot\text{m)} = F \text{ (N)} \times (L + 0.02) \text{ (m)}$
 M : Moment load
 F : Load
 L : Distance from output shaft flange surface