

Non-rotating Rod: Double Acting Single Rod

Series CJ2K

ø10, ø16

How to Order

Bore size

10	10mm
16	16mm

Mounting

B	Basic
L	Axial foot
F	Front flange
D	Double clevis

Standard stroke (mm)

ø10	15, 30, 45, 60, 75, 100, 125, 150
ø16	15, 30, 45, 60, 75, 100, 125, 150, 175, 200

Standard
CJ2K L 16 60

With auto switch
CDJ2K L 16 60 C73

With auto switch (Built-in magnet)

Port location on head cover

Symbol	Port location
—	Perpendicular
R	In-line

* Refer to p.1.3-31 for the configuration.

Auto switch

* Refer to the table below for selecting applicable auto switches.

* If requiring a built-in-magnet cylinder without an auto switch, refer to the model number example below.

Number of switches

—	2
S	1
n	n

Applicable Auto Switches/Refer to p.5.3-2 for further information on auto switch.

Style	Special function	Electrical entry	Indicator	Wiring (Output)	Load voltage		Auto switch model**		Lead wire* (m)				Applicable load			
					DC	AC	Band	Rail		0.5 (-)	3 (L)	5 (Z)	None (N)	IC	Relay PLC	
						Perp.	In-line									
Reed switch	—	Grommet	Yes	3 wire (NPN)	—	5V	—	C76	—	A76H	●	●	—	—	—	
				2 wire	—	—	200V	—	A72	A72H	●	●	—	—	—	
					24V	12V	100V	C73	A73	A73H	●	●	●	—	—	
						5V, 12V	≤100V	C80	A80	A80H	●	●	—	—	—	
					Connector	Yes	12V	—	C73C	A73C	—	—	●	●	●	—
				No		5V, 12V	≤24V	C80C	A80C	—	—	●	●	●	●	—
Diagnostic indication (2 color)	Grommet	Yes	—	—	—	A79W	—	●	●	—	—	—	—			
Solid state switch	—	Grommet	Yes	3 wire (NPN)	5V, 12V	—	H7A1	F7NV	F79	●	●	○	—	—		
				3 wire (PNP)			H7A2	F7PV	F7P	●	●	○	—	—		
				2 wire			12V	—	H7B	F7BV	J79	●	●	○	—	—
							—	—	H7C	J79C	—	●	●	●	●	—
				24V			5V, 12V	—	H7NW	F7NWV	F79W	●	●	○	—	—
							—	—	H7PW	—	F7PW	●	●	○	—	—
	Diagnostic indication (2 color)	Grommet	Yes	3 wire (NPN)	5V, 12V	—	H7BW	H7BWV	J79W	●	●	○	—	—		
				3 wire (PNP)			—	—	●	●	○	—	—			
				2 wire			12V	—	H7BA	—	F7BA	—	●	○	—	—
							—	—	—	—	F7NT	—	●	○	—	
				5V, 12V			—	—	H7NF	—	F79F	●	●	○	—	—
							—	—	H7LF	—	F7LF	●	●	○	—	—

* Lead wire length 0.5m..... e.g.) C73C 5m.....Z e.g.) C73CZ
3m.....L C73CL None.....N C73CN

* Solid state switches marked with "○" are manufactured upon receipt of order.

** "D-A79W" cannot be mounted on bore size ø10 cylinder with air cushion.

Part No. of Cylinder with Built-in Magnet

Symbol "A" (rail mounting) or "B" (band mounting) should be suffixed to the part No. of the cylinder with auto switch.

Ex.	Rail mounting	CDJ2KB16-60-A
	Band mounting	CDJ2KB10-45-B

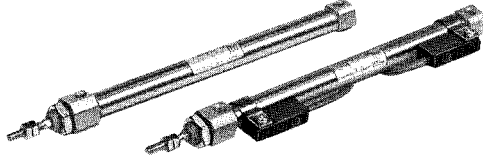
Non-rotating Rod: Double Acting Single Rod *Series CJ2K*

A cylinder in which the rod does not rotate because of its hexagonal shape.

Non-rotating accuracy

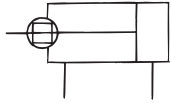
ø10: ±1.5°, ø16: ±1°

Can operate without lubrication.



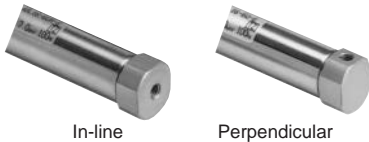
JIS symbol

Double acting/Single rod



Port Location on Head Cover

Either perpendicular to the cylinder axis or in-line with the cylinder axis is available for basic style.



In-line

Perpendicular



Precautions

Be sure to read before handling. Refer to p.0-39 to 0-46 for Safety Instructions and common precautions.

Caution

Mounting

- ① During installation, secure the rod cover and tighten by applying an appropriate tightening force to the retaining nut or to the rod cover body. If the head cover is secured or the head cover body is tightened, the cover could rotate, leading to a deviation.
- ② Tighten the retaining screws to an appropriate tightening torque within the range given below.
ø10: 10.8 to 11.8Nm, ø16: 20 to 21Nm
- ③ In the case of the non-rotating cylinder, do not operate it in such a way that rotational torque would be applied to the piston rod. If rotational torque is applied, the non-rotating guide will become deformed, thus affecting the non-rotating accuracy.
- ④ To screw a bracket or a nut onto the threaded portion at the tip of the piston rod by placing a wrench over the parallel section of the piston rod, make sure to retract the piston rod entirely, and use the portion of the rod that protrudes. To tighten, take precautions to prevent the tightening torque from being applied to the non-rotating guide.
- ⑤ To remove and install the snap ring for the knuckle pin or the clevis pin, use an appropriate pair of pliers (tool for installing a C type snap ring). In particular, use a pair of ultra-mini pliers such as the Super Tool CSM-07A for removing and installing the snap rings on the ø10 cylinder.
- ⑥ In the case of the auto switch rail mounting, do not remove the rail that is mounted. Because the retaining screws extend into the cylinder, this could lead to an air leak.

Specifications

Action	Double acting/Single rod	
Fluid	Air	
Proof pressure	1.05MPa	
Max. operating pressure	0.7MPa	
Min. operating pressure	0.06MPa	
Ambient and fluid temperature	Without auto switch: -10°C to 70°C, With auto switch: -10°C to 60°C*	
Cushion	Rubber bumper	
Lubrication	Non-lube	
Thread tolerance	JIS class 2	
Stroke tolerance	+1.0 0	
Non-rotating accuracy	ø10	±1.5°
	ø16	±1°
Mounting	Basic, Axial foot, Front flange, Double clevis	
Piston speed	50 to 750mm/s	
Allowable kinetic energy	ø10	0.035J
	ø16	0.090J

* No freezing

Standard Stroke

Bore size	Standard stroke (mm)
10	15, 30, 45, 60, 75, 100, 125, 150
16	15, 30, 45, 60, 75, 100, 125, 150, 175, 200

Minimum Strokes for Auto Switches Mounting

• Refer to p.1.3-3.

Mounting Accessories/Refer to p.1.3-12 for details.

Mounting		Basic	Axial foot	Front flange	Double clevis*
Standard	Mounting nut	●	●	●	—
	Rod end nut	●	●	●	●
	Clevis pin	—	—	—	●
Option	Single knuckle joint	●	●	●	●
	Double knuckle joint*	●	●	●	●
	T bracket	—	—	—	●

* Double clevis or double knuckle joint is packaged with pins and rings.

CJ1

CJP

CJ2

CM2

C85

CG1

MB

C95

CA1

CS1

Series CJ2K

Weight

(g)

Bore size (mm)		10	16
Basic weight*		24	55
Additional weight for each 15 of stroke		4	6.5
Mounting bracket weight	Axial foot	20	20
	Front flange	15	15
	Double clevis** (with pins)	4	10

* This basic weight includes weights of mounting nut and rod end nut.

** The mounting nut is not attached to the double clevis style, so the mounting nut weight is already reduced.

Calculation example: CJ2KL10-45

- Basic weight: 24 (ø10)
- Additional weight: 4/15 stroke
- Cylinder stroke: 45 stroke
- Mounting bracket weight: 20 (Axial foot)
24+4/15 X 45+20=56g

⚠ Caution

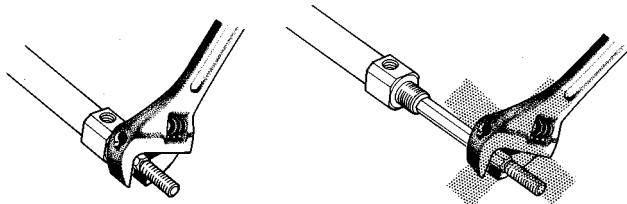
Handling

<Mounting>

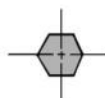
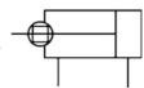
• Avoid using the air cylinder in such a way that rotational torque would be applied to the piston rod because this will deform the non-rotating guide, thus affecting the non-rotating accuracy. Refer to the table below for the approximate values of the allowable range of rotational torque.

Allowable rotational torque Nm	ø10	ø16
	0.02	0.04

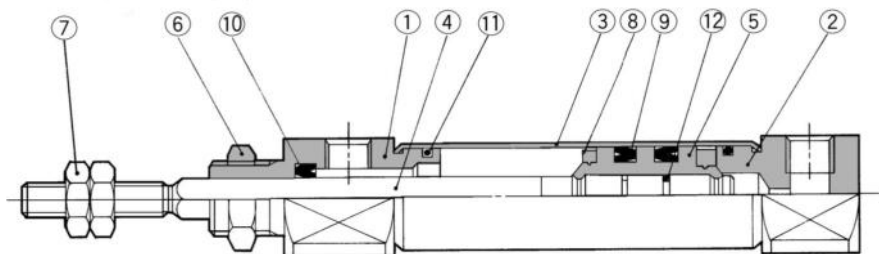
- Operate the cylinder in such a way that the load to the piston rod is always applied in the axial direction.
- To screw a bracket onto the threaded portion at the tip of the piston rod, make sure to retract the piston rod entirely, and place a wrench over the flat portion of the rod that protrudes. To tighten, take precautions to prevent the tightening torque from being applied to the non-rotating guide.



Construction (The cylinder cannot be disassembled.)



Rod cross section



Component Parts

No.	Description	Material	Note
①	Rod cover	Aluminum alloy	White anodized
②	Head cover	Aluminum alloy	White anodized
③	Cylinder tube	Stainless steel	
④	Piston rod	Stainless steel	
⑤	Piston	Brass	
⑥	Mounting nut	Brass	Nickel plated

Mounting Bracket Part No.

Mounting bracket	Bore size (mm)	
	10	16
Foot	CJ-L016B	CJK-L016B
Flange	CJ-F016B	CJK-F016B
T bracket*	CJ-T010B	CJ-T016B

* T bracket is used with double clevis (D).

Auto Switch Mounting Bracket Part No. (Band mounting)

Bore size (mm)	Bracket part No.	Note
10	BJ2-010	Common use to all of D-C7, C8 and D-H7
16	BJ2-016	

Copper Free

20-CJ2K Mounting Bore size Stroke Port location on head cover

- Copper free

To eliminate influences of copper ions or halogen ions during CRT manufacturing processes, copper and fluorine materials are not used as component parts.

Specifications

Action	Double acting/Single rod	
Max. operating pressure	0.7MPa	
Min. operating pressure	0.06MPa	
Cushion	Rubber bumper (standard)	
Rod non-rotating accuracy	ø10	±1.5°
	ø16	±1°
Standard stroke (mm)	Same as the standard (Refer to p.1.3-31.)	
Auto switch	Possible to be mounted	
Mounting	Basic, Axial foot, Front flange, Double clevis	

Note) A set of stainless steel mounting screws "BBA4" is attached. (A switch mounting band is not attached. Please order the band separately.)

"BBA4" screws are used for D-C7/C8/H7.

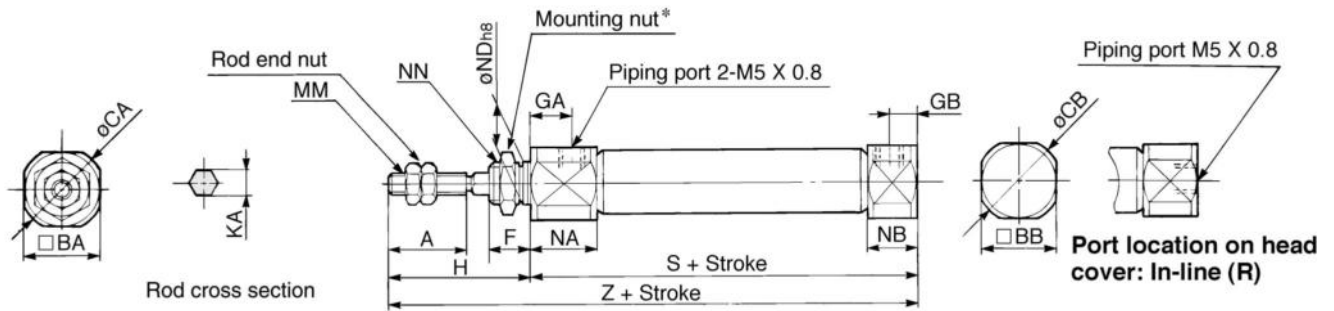
"D-H7BAL" switch is set on the cylinder with the screws above when shipped.

Also, when a switch only is shipped, "BBA4" screws are attached.

Non-rotating Rod: Double Acting Single Rod *Series CJ2K*

Basic (B)

CJ2KB Bore size Stroke Port location on head cover

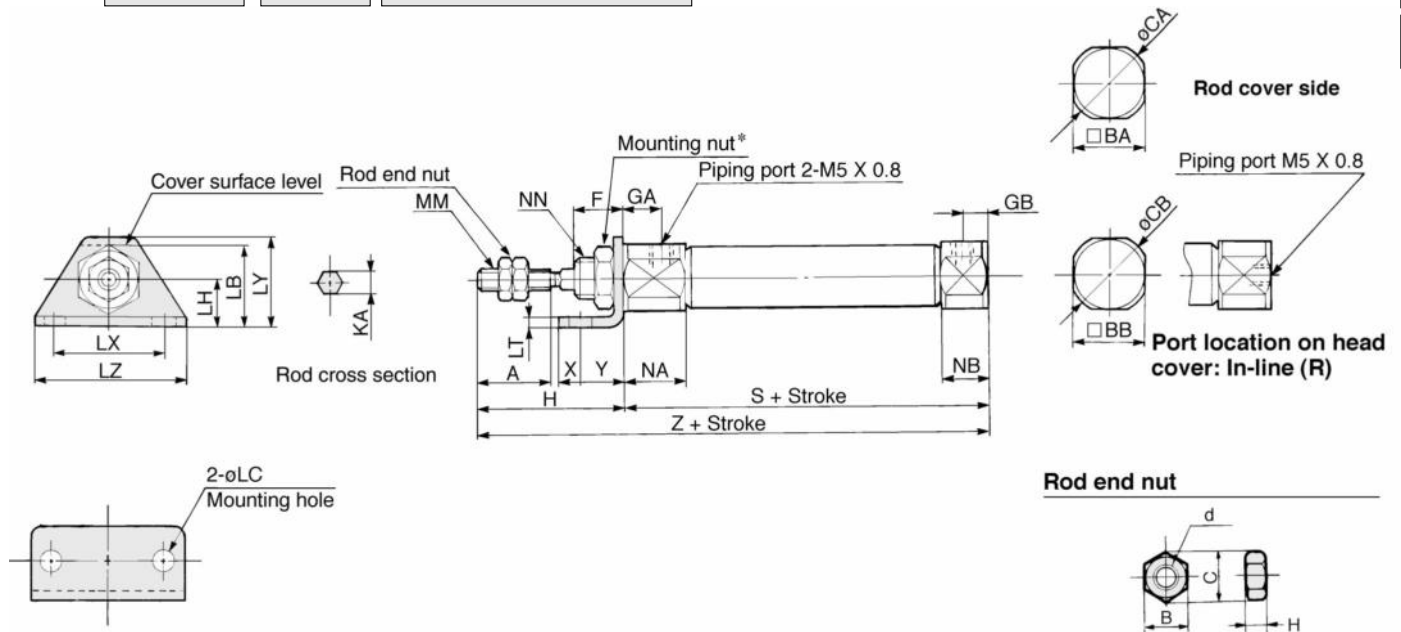


* Refer to p.1.3-12 for details of the mounting nut. (SNJ-016B for $\phi 10$, SNKJ-016B for $\phi 16$)

Bore	A	BA	BB	CA	CB	F	GA	GB	H	KA	MM	NA	NB	NDh8	NN	S	Z
10	15	15	12	17	14	8	8	5	28	4.2	M4 X 0.7	12.5	9.5	10 ⁰ _{-0.022}	M10 X 1.0	46	74
16	15	18	18	20	20	8	8	5	28	5.2	M5 X 0.8	12.5	9.5	12 ⁰ _{-0.027}	M12 X 1.0	47	75

Axial Foot (L)

CJ2KL Bore size Stroke Port location on head cover



Material: Iron

Part No.	Bore	B	C	d	H
NTJ-010A	10	7	8.1	M4 X 0.7	3.2
NTJ-015A	16	8	9.2	M5 X 0.8	4

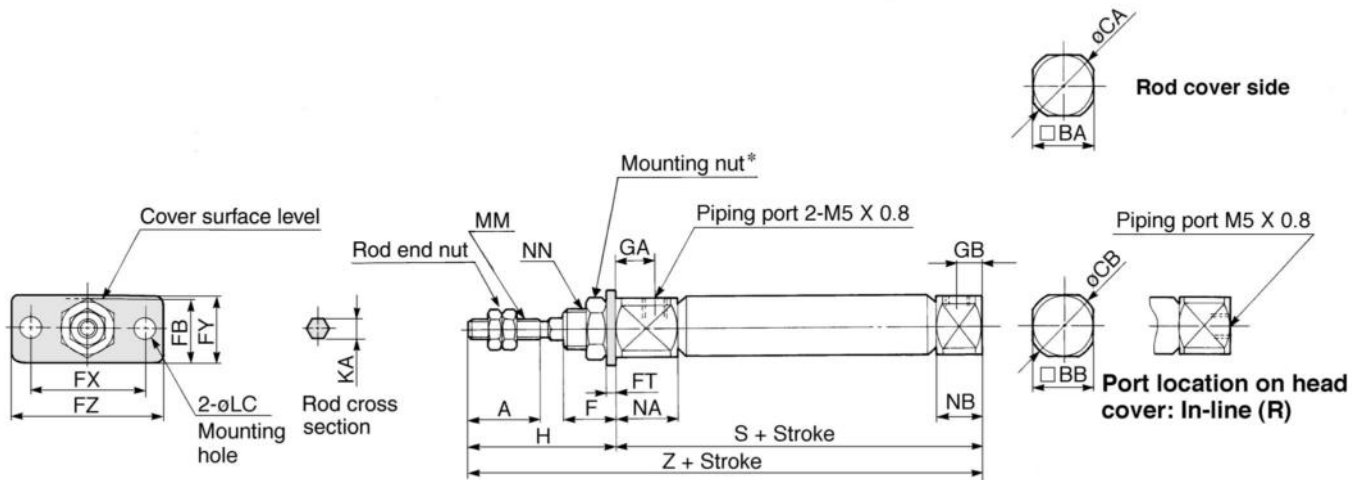
* Refer to p.1.3-12 for details of the mounting nut. (SNJ-016B for $\phi 10$, SNKJ-016B for $\phi 16$)

Bore	A	BA	BB	CA	CB	F	GA	GB	H	KA	LB	LC	LH	LT	LX	LY	LZ	MM	NA	NB	NN	X	Y	S	Z
10	15	15	12	17	14	8	8	5	28	4.2	21.5	5.5	14	2.3	33	25	42	M4 X 0.7	12.5	9.5	M10 X 1.0	6	9	46	74
16	15	18	18	20	20	8	8	5	28	5.2	23	5.5	14	2.3	33	25	42	M5 X 0.8	12.5	9.5	M12 X 1.0	6	9	47	75

Series CJ2K

Front Flange (F)

CJ2KF Bore size Stroke Port location on head cover

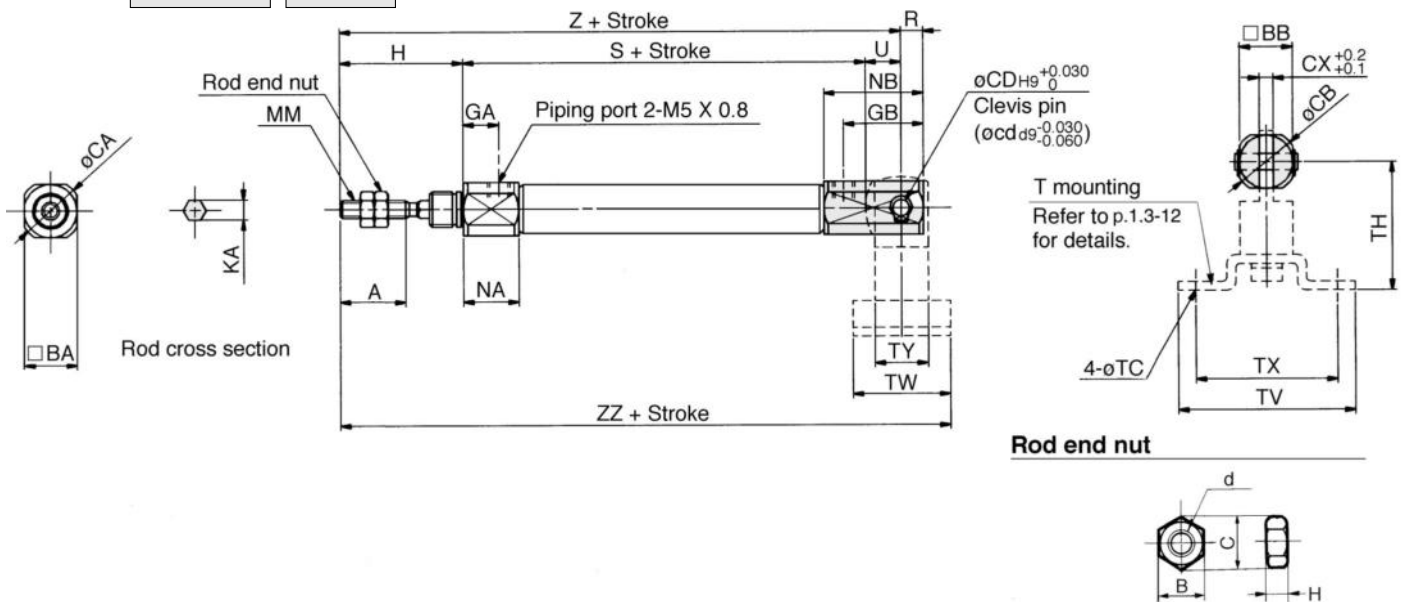


* Refer to p.1.3-12 for details of the mounting nut. (SNJ-016B for ø10, SNKJ-016B for ø16)

Bore	A	BA	BB	CA	CB	F	FB	FC	FT	FX	FY	FZ	GA	GB	H	KA	MM	NA	NB	NN	S	Z
10	15	15	12	17	14	8	17.5	5.5	2.3	33	20	42	8	5	28	4.2	M4 X 0.7	12.5	9.5	M10 X 1.0	46	74
16	15	18	18	20	20	8	19	5.5	2.3	33	20	42	8	5	28	5.2	M5 X 0.8	12.5	9.5	M12 X 1.0	47	75

Double Clevis (D)

CJ2KD Bore size Stroke



Material: Iron

Part No.	Bore	B	C	d	H
NTJ-010A	10	7	8.1	M4 X 0.7	3.2
NTJ-015A	16	8	9.2	M5 X 0.8	4

* Clevis pins and set rings are attached.

Bore	A	BA	BB	CA	CB	CD(cd)	CX	GA	GB	H	KA	MM	NA	NB	R	S	U	Z	ZZ
10	15	15	12	17	14	3.3	3.2	8	18	28	4.2	M4 X 0.7	12.5	22.5	5	46	8	82	93
16	15	18	18	20	20	5	6.5	8	23	28	5.2	M5 X 0.8	12.5	27.5	8	47	10	85	99

T mounting dimensions (mm)

Bore	TC	TH	TV	TW	TX	TY
10	4.5	29	40	22	32	12
16	5.5	35	48	28	38	16