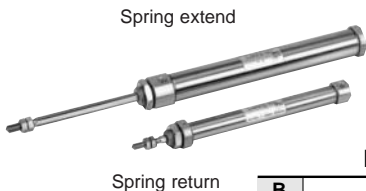


Non-rotating Rod: Single Acting Spring Return/Extend

Series CJ2K

ø10, ø16

How to Order



Bore size	
10	10mm
16	16mm

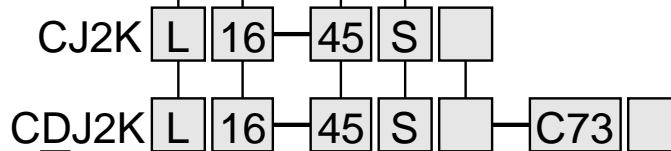
Mounting	
B	Basic
L	Axial foot
F	Front flange
D	Double clevis

Standard stroke (mm)	
ø10	15, 30, 45, 60
ø16	15, 30, 45, 60, 75, 100, 125, 150

Action	
S	Single acting/Spring return
T	Single acting/Spring extend

Standard

With auto switch



With auto switch
(Built-in magnet)

Port location on head cover	
Symbol	Port location on head cover
—	Perpendicular
R	In-line

* Refer to p.1.3-31 for the configuration.
* Not applicable to single acting/spring extend (T).

Number of switches	
—	2
S	1
n	n

* 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.

- CJ1
- CJP
- CJ2**
- CM2
- C85
- CG1
- MB
- C95
- CA1
- CS1

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)												
								Perp.	In-line																	
Reed switch	—	Grommet	Yes	3 wire (NPN)	—	5V	—	C76	—	A76H	●	●	—	—	IC											
											—	200V	—	A72		A72H	●	●	—	—						
																	12V	100V	C73	A73	A73H	●	●	●	—	
		Connector	No	2 wire	24V	5V, 12V	≤100V	C80	A80	A80H	—	—	—	—	—	Relay PLC										
						12V	—	C73C	A73C	—	●	●	●	●												
						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	●	●	○	—	IC												
				3 wire (PNP)						H7A2	F7PV	F7P	●		●	○	—									
				2 wire						12V	—	H7B	F7BV		J79	●	●	○	—							
		Connector	No	2 wire	24V	5V, 12V	—	H7C	J79C	—	●	●	●	●	Relay PLC											
						5V, 12V	—	H7NW	F7NWV	F79W	●	●	○	—												
						12V	—	H7PW	—	F7PW	●	●	○	—												
	Diagnostic indication (2 color)	Yes	Grommet	Yes	3 wire (NPN)	5V, 12V	—	H7BW	H7BWV	J79W	●	●	○	—	IC											
					3 wire (PNP)						H7BA	—	F7BA	—		●	○	—								
					2 wire						12V	—	—	—		F7NT	—	●	○	—						
	Water resistant (2 color)	—	Grommet	No	2 wire	12V	—	—	—	—	—	—	—	—	—											
																With timer	3 wire (NPN)	5V, 12V	—	—	—	—	—	—	—	—
Latch with diagnostic output (2 color)	—	—	—	4 wire (NPN)	—	—	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.	Mounting	Part No.
—	Rail mounting	CDJ2KB16-60S-A
—	Band mounting	CDJ2KB10-45S-B

Series CJ2K

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

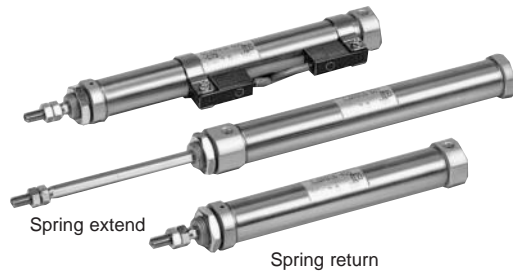
Non-rotating accuracy

ø10: ±1.5°, ø16: ±1°

Can operate without lubrication.

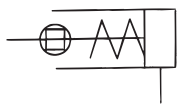
Auto switch can also be mounted.

It can be equipped with auto switches to simplify the detection of the stroke position of the cylinder.

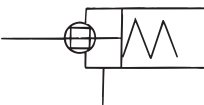


JIS symbol

Single acting/
Spring return



Single acting/
Spring extend



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 single acting cylinder, do not operate it in such a way that a load would be applied during the retraction of the piston rod of the spring return style, or during the extension of the piston rod of the spring extend style. The spring that is built into the cylinder provides only enough force to retract the piston rod. Thus, if a load is applied, the piston rod will not be able to retract to the end of the stroke.
- ④ In the case of the single acting cylinder, a breather hole is provided in the cover surface. Make sure not to block this hole during installation, as this could lead to a malfunction.
- ⑤ 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. (Refer to p.1.3-32.)
- ⑥ 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. (Refer to p.1.3-32.)
- ⑦ 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 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.
- ⑧ In the case of 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	Single acting/Spring return	Single acting/Spring extend
Fluid	Air	
Proof pressure	1.05MPa	
Max. operating pressure	0.7MPa	
Min. operating pressure	0.15MPa	
Ambient and fluid temperature	Without auto switch: -10°C to 70°C, With auto switch: -10°C to 60°C*	
Cushion	Rubber bumper (Standard equipment)	
Lubrication	Non-lube	
Thread tolerance	JIS class 2	
Stroke tolerance	+1.0 0	
Non-rotating accuracy	ø10	±1.5°
	ø16	±1°
Piston speed	50 to 750mm/s	
Allowable kinetic energy	ø10	0.035J
	ø16	0.090J

* No freezing

Standard Stroke

(mm)

Bore size	Standard stroke
10	15, 30, 45, 60
16	15, 30, 45, 60, 75, 100, 125, 150

Spring Force

(N)

Bore size (mm)	Extended position	Retracted position
10	6.86	3.53
16	14.2	6.86

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.



Made to Order

Refer to p.5.4-1 for made to order products of series CJ2K.

Non-rotating Rod: Single Acting Spring Return/Extend *Series CJ2K*

Weight/Spring Return (): Spring extend (g)

	Bore size (mm)		
	10	16	
Basic weight**	15 Stroke	28 (28)	63 (64)
	30 Stroke	35 (34)	80 (80)
	45 Stroke	44 (43)	102 (100)
	60 Stroke	53 (51)	124 (121)
	75 Stroke	—	145 (140)
	100 Stroke	—	188 (178)
	125 Stroke	—	224 (212)
	150 Stroke	—	250 (236)
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: CJ2KL10-45S

• Basic weight:.....44 (ø10-45 stroke)

• Mounting bracket weight:.....20 (Axial foot)
44 + 20 = 64g

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 mounting is used with double clevis (D).

Copper Free

20-CJ2K **Mounting** **Bore size** **Stroke** **Action** **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	Single acting/Spring return, Spring extend
Fluid	Air
Bore size (mm)	ø10, ø16
Max. operating pressure	0.7MPa
Min. operating pressure	0.15MPa
Cushion	Rubber bumper (standard equipment)
Rod non-rotating accuracy	ø10: ±1.5°, ø16: ±1°
Standard stroke (mm)	Same as the standard (Refer to p.1.3-36.)
Auto switch	Possible to be mounted
Mounting	Basic, Axial foot, Front flange, Double clevis

Auto Switch Mounting Bracket Part No. (Band mounting)

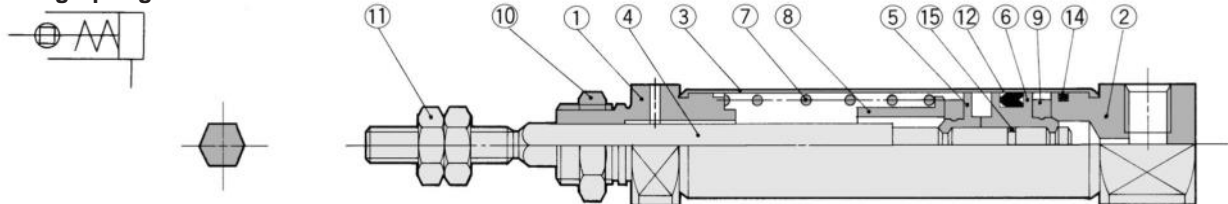
Bore size (mm)	Bracket part No.	Note
10	BJ2-010	Common use to all of D-C7, C8 and D-H7
16	BJ2-016	



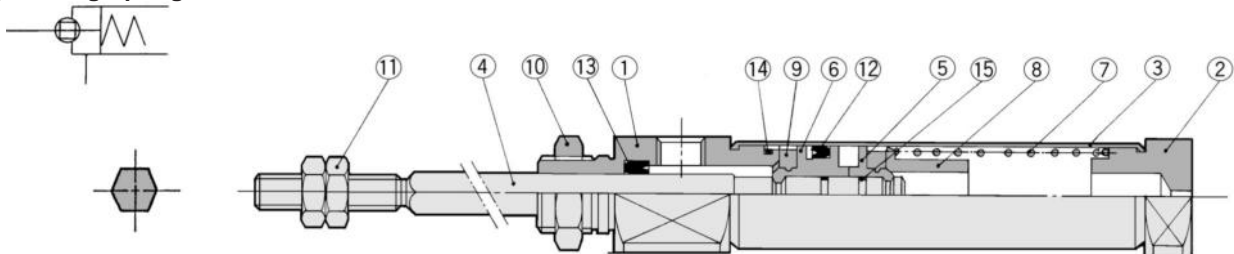
Note) A set of stainless steel mounting screws "BBA4" is attached. (A switch mounting band is not attached. Please order the band separately.) "BBA4" screws are used for D-C7/C8/H7. "D-H7BAL" switch is set on the cylinder with the screws above when shipped.

Construction (The cylinder cannot be disassembled.)

Single acting/Spring return



Single acting/Spring extend



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 A	Brass	
⑥	Piston B	Brass	
⑦	Return spring	Piano wire	
⑧	Spring seat	Brass	

No.	Description	Material	Note
⑨	Bumper	Urethane	
⑩	Mounting nut	Brass	Nickel plated
⑪	Rod end nut	Rolled steel	Nickel plated
⑫	Piston seal	NBR	
⑬	Rod seal	NBR	
⑭	Tube gasket	NBR	
⑮	Piston gasket	NBR	

CJ1

CJP

CJ2

CM2

C85

CG1

MB

C95

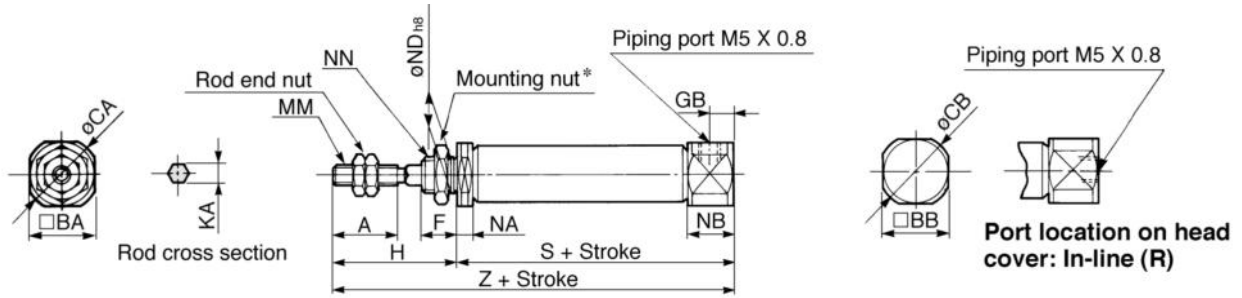
CA1

CS1

Series CJ2K

Single Acting/Spring Return: Basic (B)

CJ2KB Bore size Stroke S 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) (mm)

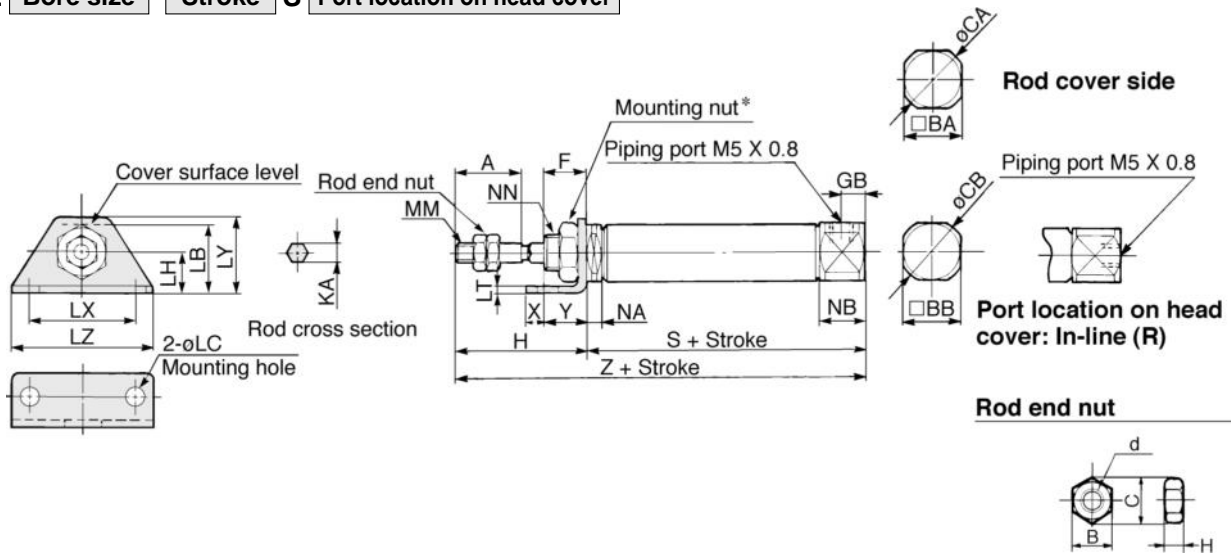
Bore	A	BA	BB	CA	CB	F	GB	H	KA	MM	NA	NB	NDh8	NN
10	15	15	12	17	14	8	5	28	4.2	M4 X 0.7	5.5	9.5	10 _{-0.022}	M10 X 1.0
16	15	18	18	20	20	8	5	28	5.2	M5 X 0.8	5.5	9.5	12 _{-0.027}	M12 X 1.0

Dimensions by stroke

Bore	Symbol	S								Z							
		5 to 15	16 to 30	31 to 45	46 to 60	61 to 75	76 to 100	101 to 125	126 to 150	5 to 15	16 to 30	31 to 45	46 to 60	61 to 75	76 to 100	101 to 125	126 to 150
10	Stroke	45.5	53	65	77	—	—	—	—	73.5	81	93	105	—	—	—	—
16	Stroke	45.5	54	66	78	84	108	126	138	73.5	82	94	106	112	136	154	166

Single Acting/Spring Return: Axial Foot (L)

CJ2KL Bore size Stroke S 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 ø10, SNKJ-016B for ø16) (mm)

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

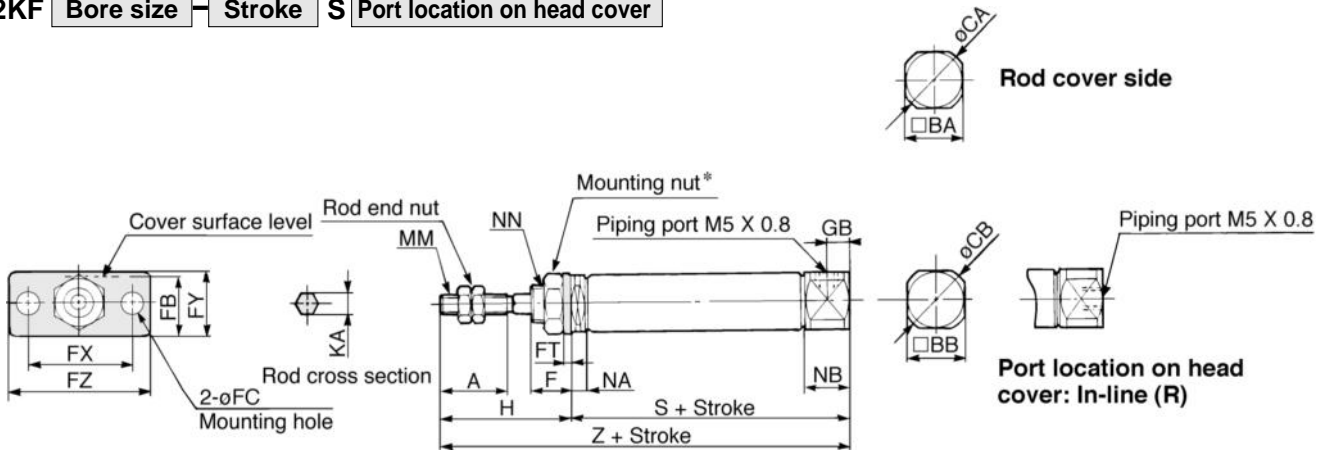
Dimensions by stroke

Bore	Symbol	S								Z							
		5 to 15	16 to 30	31 to 45	46 to 60	61 to 75	76 to 100	101 to 125	126 to 150	5 to 15	16 to 30	31 to 45	46 to 60	61 to 75	76 to 100	101 to 125	126 to 150
10	Stroke	45.5	53	65	77	—	—	—	—	73.5	81	93	105	—	—	—	—
16	Stroke	45.5	54	66	78	84	108	126	138	73.5	82	94	106	112	136	154	166

Non-rotating Rod: Single Acting Spring Return/Extend *Series CJ2K*

Single Acting/Spring Return: Front Flange (F)

CJ2KF Bore size Stroke S 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) (mm)

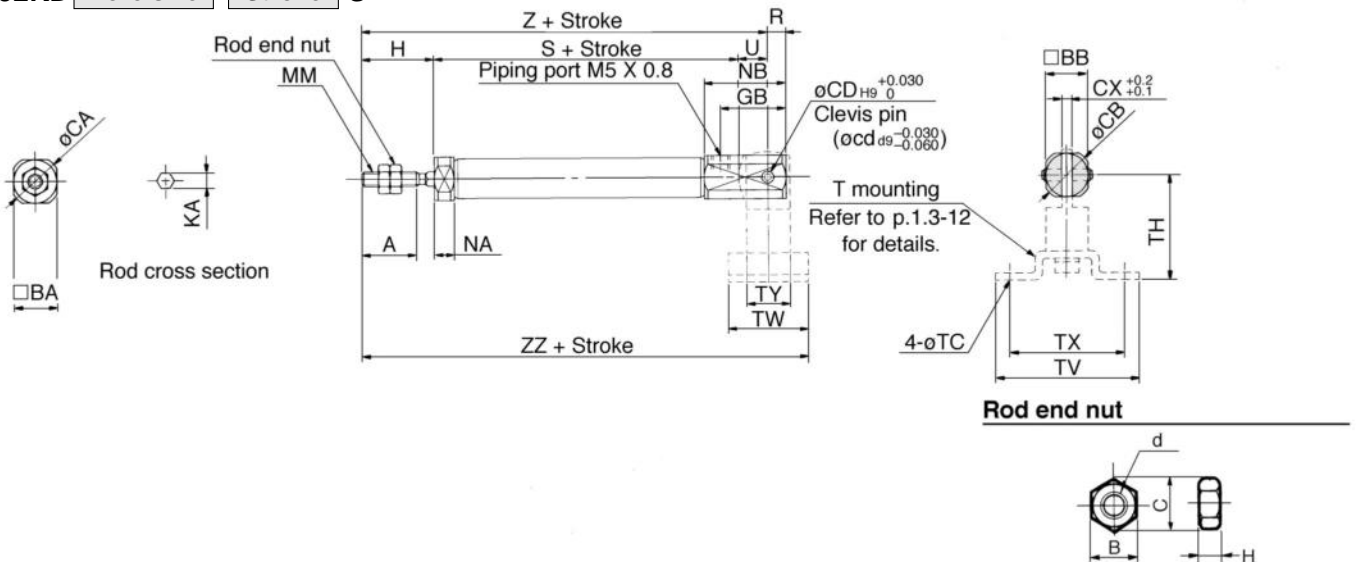
Bore	A	BA	BB	CA	CB	F	FB	FC	FT	FX	FY	FZ	GB	H	KA	MM	NA	NB	NN
10	15	15	12	17	14	8	17.5	5.5	2.3	33	20	42	5	28	4.2	M4 X 0.7	5.5	9.5	M10 X 1.0
16	15	18	18	20	20	8	19	5.5	2.3	33	20	42	5	28	5.2	M5 X 0.8	5.5	9.5	M12 X 1.0

Dimensions by stroke

Bore	Symbol Stroke	S								Z							
		5 to 15	16 to 30	31 to 45	46 to 60	61 to 75	76 to 100	101 to 125	126 to 150	5 to 15	16 to 30	31 to 45	46 to 60	61 to 75	76 to 100	101 to 125	126 to 150
10		45.5	53	65	77	—	—	—	—	73.5	81	93	105	—	—	—	—
16		45.5	54	66	78	84	108	126	138	73.5	82	94	106	112	136	154	166

Single Acting/Spring Return: Double Clevis (D)

CJ2KD Bore size Stroke S



* Clevis pins and set rings are attached.

Bore	A	BA	BB	CA	CB	CD(cd)	CX	GB	H	KA	MM	NA	NB	R	U
10	15	12	12	14	14	3.3	3.2	18	20	4.2	M4 X 0.7	5.5	22.5	5	8
16	15	18	18	20	20	5	6.5	23	20	5.2	M5 X 0.8	5.5	27.5	8	10

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

Dimensions by stroke

Bore	Symbol Stroke	S								Z								ZZ							
		5 to 15	16 to 30	31 to 45	46 to 60	61 to 75	76 to 100	101 to 125	126 to 150	5 to 15	16 to 30	31 to 45	46 to 60	61 to 75	76 to 100	101 to 125	126 to 150	5 to 15	16 to 30	31 to 45	46 to 60	61 to 75	76 to 100	101 to 125	126 to 150
10		45.5	53	65	77	—	—	—	—	73.5	81	93	105	—	—	—	—	84.5	92	104	116	—	—	—	—
16		45.5	54	66	78	84	108	126	138	75.5	84	96	108	114	138	156	168	89.5	98	110	122	128	152	170	182

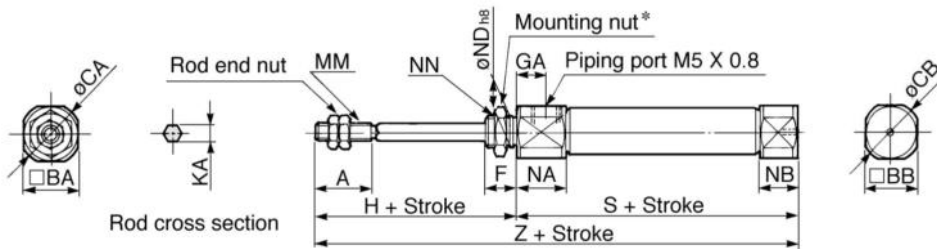
T mounting dimensions

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

Series CJ2K

Single Acting/Spring Extend: Basic (B)

CJ2KB T



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

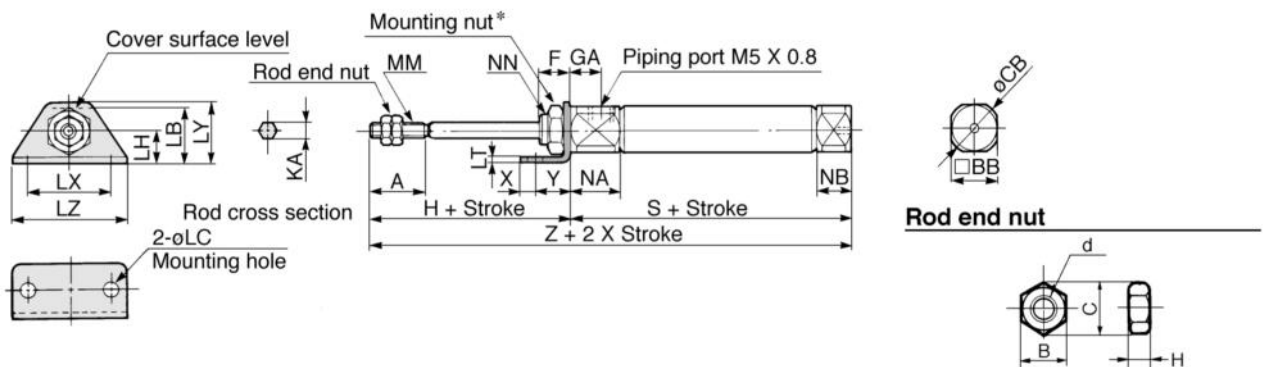
Bore	A	BA	BB	CA	CB	F	GA	H	KA	MM	NA	NB	NDh8	NN
10	15	15	12	17	14	8	8	28	4.2	M4 X 0.7	12.5	5.5	10 _{-0.022}	M10 X 1.0
16	15	18	18	20	20	8	8	28	5.2	M5 X 0.8	12.5	5.5	12 _{-0.027}	M12 X 1.0

Dimensions by stroke

Bore	Symbol Stroke	S								Z							
		5 to 15	16 to 30	31 to 45	46 to 60	61 to 75	76 to 100	101 to 125	126 to 150	5 to 15	16 to 30	31 to 45	46 to 60	61 to 75	76 to 100	101 to 125	126 to 150
10		48.5	56	68	80	—	—	—	—	76.5	84	96	108	—	—	—	—
16		48.5	57	69	81	87	111	129	141	76.5	85	97	109	115	139	157	169

Single Acting/Spring Extend: Axial Foot (T)

CJ2KL T



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 ø10, SNKJ-016B for ø16) (mm)

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

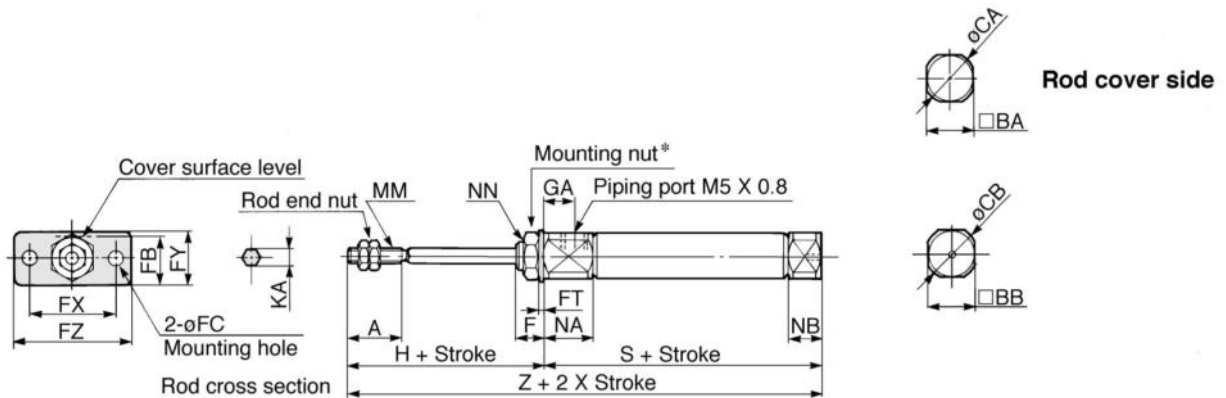
Dimensions by stroke

Bore	Symbol Stroke	S								Z							
		5 to 15	16 to 30	31 to 45	46 to 60	61 to 75	76 to 100	101 to 125	126 to 150	5 to 15	16 to 30	31 to 45	46 to 60	61 to 75	76 to 100	101 to 125	126 to 150
10		48.5	56	68	80	—	—	—	—	76.5	84	96	108	—	—	—	—
16		48.5	57	69	81	87	111	129	141	76.5	85	97	109	115	139	157	169

Non-rotating Rod: Single Acting Spring Return/Extend *Series CJ2K*

Single Acting/Spring Extend: Front Flange (F)

CJ2KF Bore size Stroke T



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

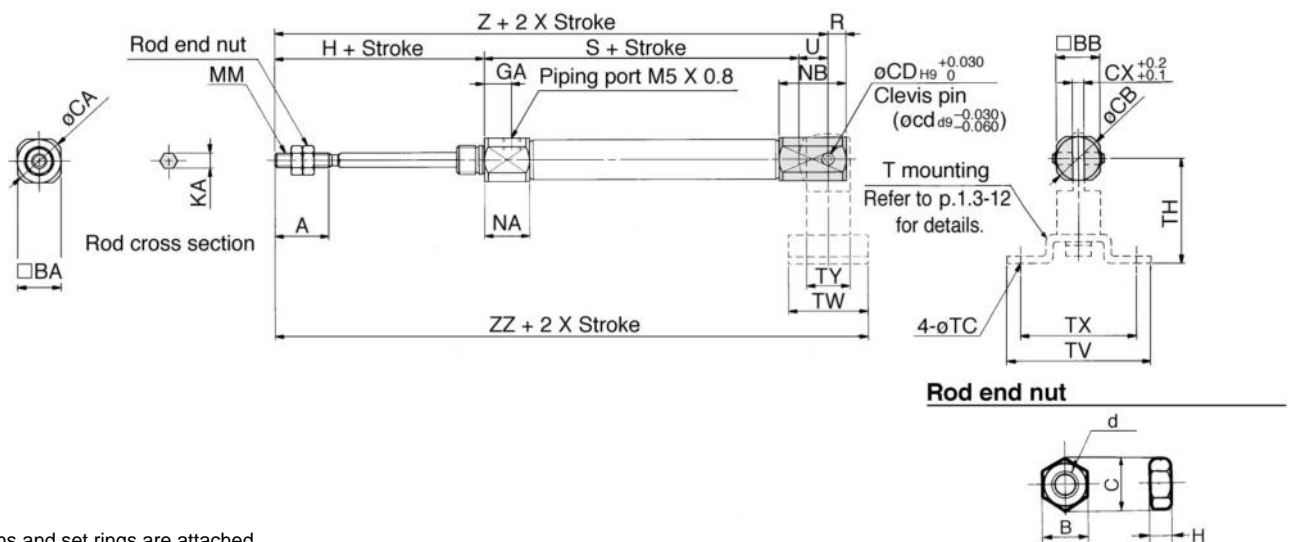
Bore	A	BA	BB	CA	CB	F	FB	FC	FT	FX	FY	FZ	GA	H	KA	MM	NA	NB	NN
10	15	15	12	17	14	8	17.5	5.5	2.3	33	20	42	8	28	4.2	M4 X 0.7	12.5	5.5	M10 X 1.0
16	15	18	18	20	20	8	19	5.5	2.3	33	20	42	8	28	5.2	M5 X 0.8	12.5	5.5	M12 X 1.0

Dimensions by stroke

Bore	Symbol	S								Z							
		5 to 15	16 to 30	31 to 45	46 to 60	61 to 75	76 to 100	101 to 125	126 to 150	5 to 15	16 to 30	31 to 45	46 to 60	61 to 75	76 to 100	101 to 125	126 to 150
10	Stroke	48.5	56	68	80	-	-	-	-	76.5	84	96	108	-	-	-	-
16	Stroke	48.5	57	69	81	87	111	129	141	76.5	85	97	109	115	139	157	169

Single Acting/Spring Extend: Double Clevis (D)

CJ2KD Bore size Stroke T



* Clevis pins and set rings are attached.

(mm)

Bore	A	BA	BB	CA	CB	CD(cd)	CX	GA	H	KA	MM	NA	NB	R	U
10	15	15	12	17	14	3.3	3.2	8	28	4.2	M4 X 0.7	12.5	18.5	5	8
16	15	18	18	20	20	5	6.5	8	28	5.2	M5 X 0.8	12.5	23.5	8	10

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

Dimensions by stroke

Bore	Symbol	S								Z								ZZ							
		5 to 15	16 to 30	31 to 45	46 to 60	61 to 75	76 to 100	101 to 125	126 to 150	5 to 15	16 to 30	31 to 45	46 to 60	61 to 75	76 to 100	101 to 125	126 to 150	5 to 15	16 to 30	31 to 45	46 to 60	61 to 75	76 to 100	101 to 125	126 to 150
10	Stroke	48.5	56	68	80	-	-	-	-	84.5	92	104	116	-	-	-	-	95.5	103	115	127	-	-	-	-
16	Stroke	48.5	57	69	81	87	111	129	141	86.5	95	107	119	125	149	167	179	100.5	109	121	133	139	163	181	193

T mounting dimensions

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