

# Series 10-/11- 21-/22- CJ2-Z ø6, ø10, ø16 Air Cylinder

RoHS

## How to Order



**Clean series**

10	Relief type
11	Vacuum suction type

**Cushion**

Nil	Rubber bumper (Standard)
A	Air cushion

\* ø6: Rubber bumper only

**Built-in magnet**

Nil	No
D	With auto switch (Built-in magnet)

\* For a cylinder with "D", "-B" is suffixed to the end of the part number.

**Mounting**

B	Basic
E	Double-side bossed
L	Single foot
M	Double foot
F	Rod flange
G	Head flange

\* Foot/Flange brackets are shipped together with the product, but not assembled.

**Head cover port location**

Nil	Perpendicular to axis	
R	Axial	

\* For double-side bossed, the product is perpendicular to the cylinder axis.

**Number of auto switches**

Nil	2 pcs.
S	1 pc.
n	n pcs.

**Auto switch**

Nil	Without auto switch
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\* For applicable auto switches, refer to the Applicable Auto Switch.  
\* The minimum stroke for auto switch mounting, operating range and auto switch mounting brackets/part no. are the same as standard products.

**Auto switch mounting type**

Nil	None
B	Band mounting

\* Only for With auto switch (Built-in magnet).  
\* Auto switch mounting method is band mounting only.

**Cylinder stroke (mm)**

**Bore size (mm)**

**Copper, fluorine and silicone-free + Low particle generation**

21	Relief type
22	Vacuum suction type

## Model

Model	Bore size (mm)	Port size	Lubrication	Action	Standard stroke (mm)	Auto switch mounting	Cushion	
							Rubber	Air
Vacuum suction type	10-/21-CJ2□6	M5 x 0.8	Non-lube	Double acting, Single rod	15, 30, 45, 60	Band mounting only	Standard	—
	10-/21-CJ2□10				15, 30, 45, 60, 75, 100, 125, 150			—
	10-/21-CJ2□16				15, 30, 45, 60, 75, 100, 125, 150, 175, 200			○
	11-/22-CJ2□6				15, 30, 45, 60			—
	11-/22-CJ2□10				15, 30, 45, 60, 75, 100, 125, 150			—
	11-/22-CJ2□16				15, 30, 45, 60, 75, 100, 125, 150, 175, 200			○

\* Air cushion is not available for 21-/22-.

## Specifications

Bore size (mm)	6/10/16
Item	
Proof pressure	1 MPa
Maximum operating pressure	0.7 MPa
Minimum operating pressure	ø6: 0.14 MPa ø10, ø16: 0.08 MPa (Air cushion 0.1 MPa)
Ambient and fluid temperature	Without auto switch: -10°C to 70°C With auto switch: -10°C to 60°C (No freezing)
Piston speed	50 to 400 mm/s
Stroke length tolerance	$^{+1.0}_0$
Mounting	Basic/Double-side bossed/Single foot/Double foot/Rod flange/Head flange
Grease	10-/11-: Fluorine grease, 21-/22-: Lithium soap based grease
Cleanliness class (ISO class)	10-/21-: Class 4, 11-/22-: Class 3

## Suction Flow Rate of Vacuum Suction Type (Reference values)

Size	Suction flow rate L/min (ANR)
6/10/16	1

## Mounting Bracket Part No.

Mounting bracket	Bore size (mm)		
	6	10	16
Foot	CJ-L010C	CJ-L016C	CJ-KL016C
Flange	CJ-F010C	CJ-F016C	CJ-KF016C



**Applicable Auto Switch** (Refer to the **WEB catalog** for detailed specifications and auto switches not in the following table.)

Type	Electrical entry	Indicator light	Wiring (Output)	Load voltage			Auto switch model	Lead wire length (m)				Applicable load	
				DC	5 V	12 V		AC	0.5 (Nil)	1 (M)	3 (L)		5 (Z)
Solid state auto switch	Grommet	Yes	2-wire	24 V	5 V	12 V	—	M9B	●	●	●	○	Relay, PLC
								M9BW	●	●	●	○	
Reed auto switch	Grommet	Yes	2-wire	24 V	12 V	100 V	A93	●	—	●	●		

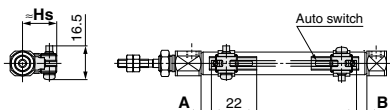
Note 1) Lead wire length symbols: 0.5 m.....Nil M9BW  
 1 m.....M M9BWM  
 3 m.....L M9BWL  
 5 m.....Z M9BWZ

Note 2) Auto switches marked with "○" are produced upon receipt of order.  
 Note 3) PLC: Programmable Logic Controller

\* Auto switch mounting type is band mounting only  
 Refer to page 889 for the applicable auto switch list.

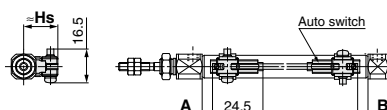
**Auto Switch Proper Mounting Position (Detection at Stroke End)**

**D-M9□**  
**D-M9□W**



A and B are the dimensions from the end of the head cover/rod cover to the end of the auto switch.

**D-A9□**



A and B are the dimensions from the end of the head cover/rod cover to the end of the auto switch.

**Auto Switch Proper Mounting Position (mm)**

Auto switch model	D-M9□ D-M9□W		D-A9□	
	A	B	A	B
Bore size 6	(4.5) 5.5	(4.5) 5.5	(0.5) 1.5	(0.5) 1.5
10	(5) 6	(5) 6	(1) 2	(1) 2
16	(5.5) 6.5	(5.5) 6.5	(1.5) 2.5	(1.5) 2.5

\* The values in ( ) are measured from the end of the auto switch mounting bracket.

Note) The above-mentioned value is a guide for auto switch mounting positions for stroke end detection. When actually mounting the auto switch, adjust the position after confirming the operating state of the auto switch.

**Auto Switch Mounting Height (mm)**

Auto switch model	D-M9□ D-M9□W D-A9□
Bore size	Hs
6	15
10	17
16	20.5

**! Specific Product Precautions**

Be sure to read this before handling.

**Mounting**

**! Caution**

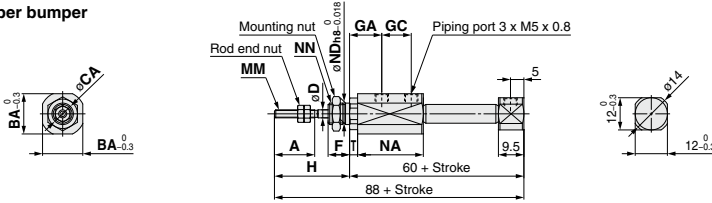
1. During installation, secure the rod cover and tighten by applying an appropriate tightening torque to the retaining nut or to the rod cover.  
 If the head cover is secured or the head cover is tightened, the cover could rotate, leading to a deviation.

2. Tighten the retaining screws with an appropriate tightening torque within the range given below.  
 ø6: 5.9 to 6.4 N·m  
 ø10: 10.8 to 11.8 N·m  
 ø16: 20.0 to 21.0 N·m

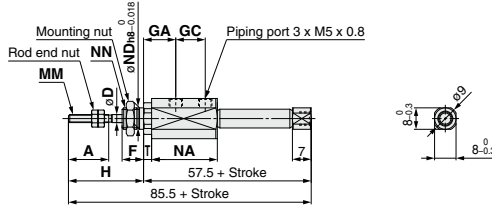
**Basic (B):** 10-**CJ2B**, 21-**CJ2B**

**Rubber bumper**

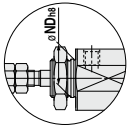
ø6



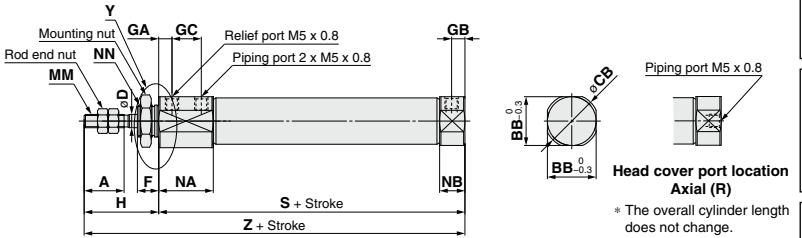
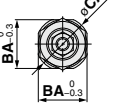
**Head cover port location Axial (R)**



ø10, ø16



**Section Y detail**



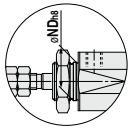
**Head cover port location Axial (R)**

\* The overall cylinder length does not change.

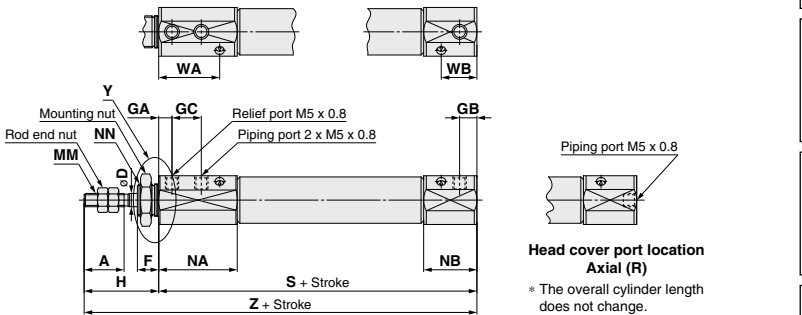
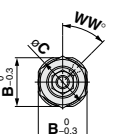
Bore size	A	BA	BB	CA	CB	D	F	GA	GB	GC	H	MM	NA	NB	ND <sub>h8</sub>	NN	S	T	Z
6	15	15	—	17	—	3	8	12	—	11	28	M3 x 0.5	24.5	—	8 <sup>0.022</sup>	M8 x 1.0	—	3	—
10	15	15	12	17	14	4	8	5	5	11	28	M4 x 0.7	20.5	9.5	10 <sup>0.022</sup>	M10 x 1.0	54	—	82
16	15	18.3	18.3	20	20	5	8	5	5	11	28	M5 x 0.8	20.5	9.5	12 <sup>0.027</sup>	M12 x 1.0	55	—	83

**With air cushion**

Air cushion type is not available for 21-22-CJ2.



**Section Y detail**



**Head cover port location Axial (R)**

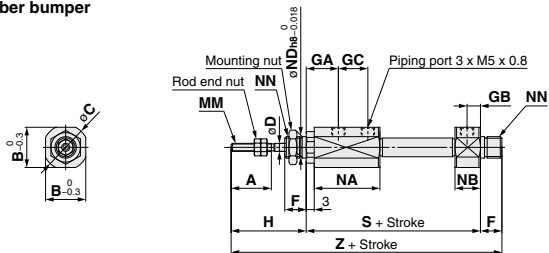
\* The overall cylinder length does not change.

Bore size	A	B	C	D	F	GA	GB	GC	H	MM	NA	NB	ND <sub>h8</sub>	NN	S	WA	WB	WW	Z
10	15	15	17	4	8	5	6.5	11	28	M4 x 0.7	29.5	20	10 <sup>0.022</sup>	M10 x 1.0	73.5	22.9	13.4	45	101.5
16	15	18.3	20	5	8	5	6.5	11	28	M5 x 0.8	29.5	20	12 <sup>0.027</sup>	M12 x 1.0	74.5	22.9	13.4	45	102.5

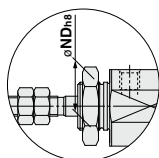
**Double-side Bossed (E):** 10-11-**CJ2E**, 21-22-**CJ2E**

Rubber bumper

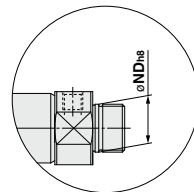
ø6



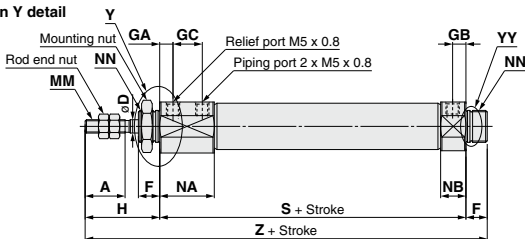
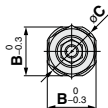
ø10, ø16



Section Y detail



Section YY detail

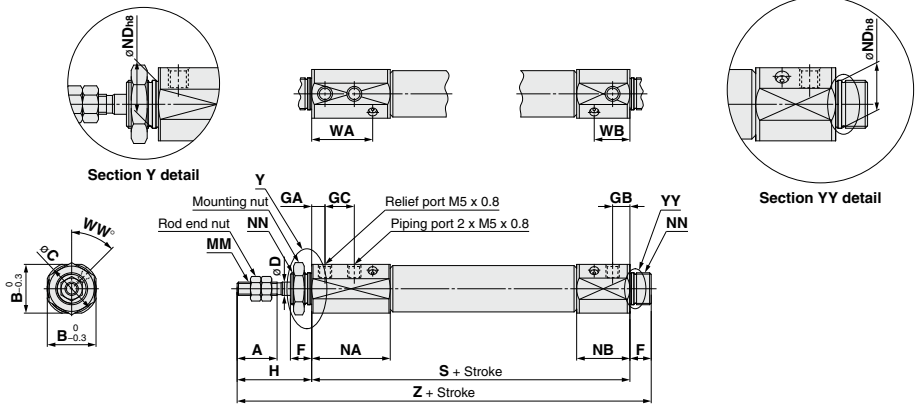


Bore size	A	B	C	D	F	GA	GB	GC	H	MM	NA	NB	ND <sub>h8</sub>	NN	S	Z
6	15	15	17	3	8	12	5	11	28	M3 x 0.5	24.5	9.5	8 <sup>-0.022</sup>	M8 x 1.0	60	96
10	15	15	17	4	8	5	5	11	28	M4 x 0.7	20.5	9.5	10 <sup>-0.022</sup>	M10 x 1.0	54	90
16	15	18.3	20	5	8	5	5	11	28	M5 x 0.8	20.5	9.5	12 <sup>-0.027</sup>	M12 x 1.0	55	91

**Double-side Bossed (E):** <sup>10</sup>/<sub>11</sub>-**CJ2E**, <sup>21</sup>/<sub>22</sub>-**CJ2E**

**With air cushion**

Air cushion type is not available for 21-/22-CJ2.



Bore size	(mm)																		
	A	B	C	D	F	GA	GB	GC	H	MM	NA	NB	ND <sub>h8</sub>	NN	WA	WB	WW	S	Z
10	15	15	17	4	8	5	6.5	11	28	M4 x 0.7	29.5	20	10 <sup>0</sup> <sub>0.022</sub>	M10 x 1.0	22.9	13.4	45	73.5	109.5
16	15	18.3	20	5	8	5	6.5	11	28	M5 x 0.8	29.5	20	12 <sup>0</sup> <sub>0.027</sub>	M12 x 1.0	22.9	13.4	45	74.5	110.5

Directional Control Valves

Air Cylinders

Rotary Actuators

Air Grippers

Air Preparation Equipment

Modular F. R.

Pressure Control Equipment

Fittings & Tubing

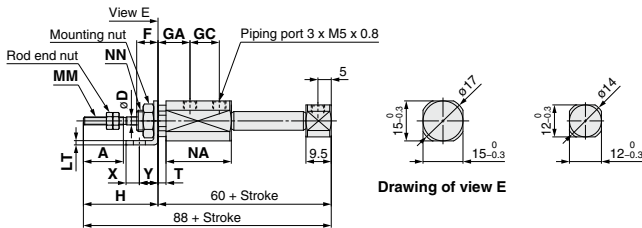
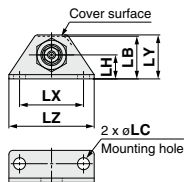
Flow Control Equipment

Pressure Switches/ Pressure Sensors

**Single Foot (L):** 10-11-21-22-**CJ2L**, 21-22-**CJ2L**

**Rubber bumper**

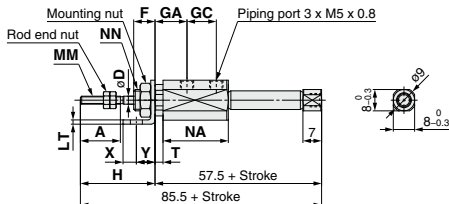
ø6



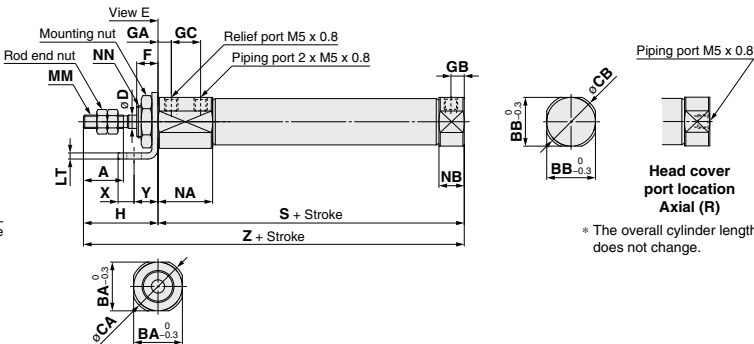
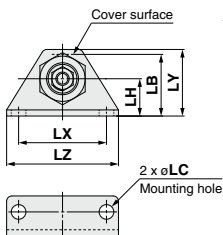
Drawing of view E

**Head cover port location**

Axial (R)



ø10, ø16



\* The overall cylinder length does not change.

Drawing of view E

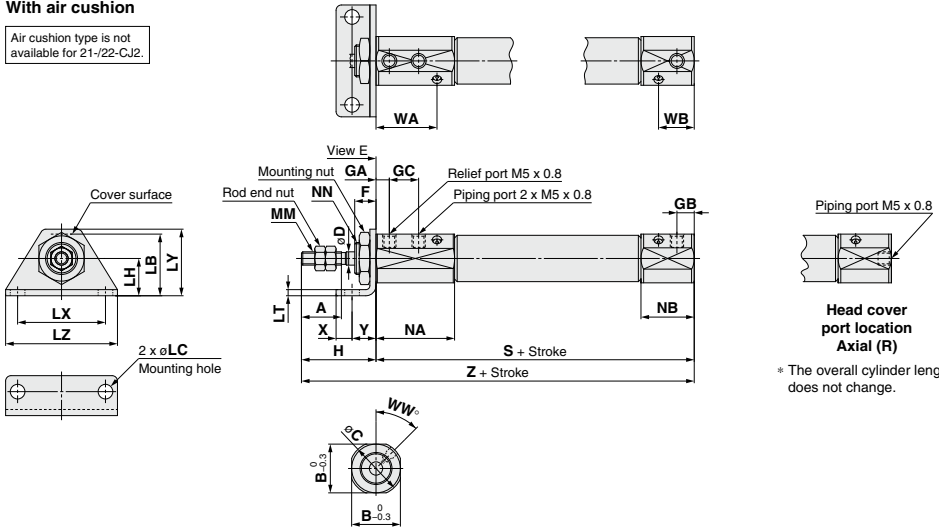
(mm)

Bore size	A	BA	BB	CA	CB	D	F	GA	GB	GC	H	LB	LC	LH	LT	LX	LY	LZ	MM	NA	NB	NN	S	T	X	Y	Z
6	15	15	—	17	—	3	8	12	—	11	28	16.5	4.5	9	1.6	24	16.5	32	M3 x 0.5	24.5	—	M8 x 1.0	—	3	5	7	—
10	15	15	12	17	14	4	8	5	5	11	28	21.5	5.5	14	2.3	33	25	42	M4 x 0.7	20.5	9.5	M10 x 1.0	54	—	6	9	82
16	15	18.3	18.3	20	20	5	8	5	5	11	28	23	5.5	14	2.3	33	25	42	M5 x 0.8	20.5	9.5	M12 x 1.0	55	—	6	9	83

Single Foot (L): 10-CJ2L, 21-CJ2L

With air cushion

Air cushion type is not available for 21-/22-CJ2.



Drawing of view E

Bore size	A	B	C	D	F	GA	GB	GC	H	LB	LC	LH	LT	LX	LY	LZ	MM	NA	NB	NN	S	WA	WB	WW	X	Y	Z
10	15	15	17	4	8	5	6.5	11	28	21.5	5.5	14	2.3	33	25	42	M4 x 0.7	29.5	20	M10 x 1.0	73.5	22.9	13.4	45	6	9	101.5
16	15	18.3	20	5	8	5	6.5	11	28	23	5.5	14	2.3	33	25	42	M5 x 0.8	29.5	20	M12 x 1.0	74.5	22.9	13.4	45	6	9	102.5

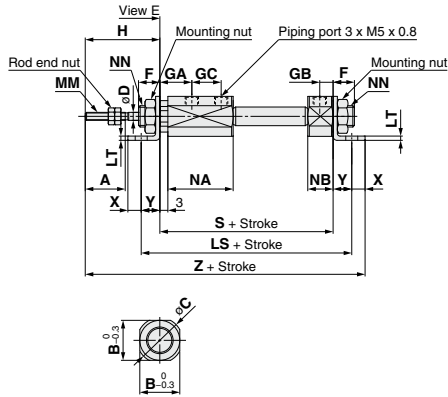
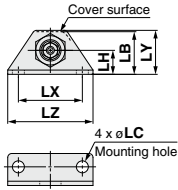
Directional Control Valves  
Air Cylinders  
Rotary Actuators  
Air Grippers  
Air Preparation Equipment  
Modular F. R.  
Pressure Control Equipment  
Fittings & Tubing  
Flow Control Equipment  
Pressure Switches/ Pressure Sensors



**Double Foot (M):** 10-CJ2M, 21-CJ2M

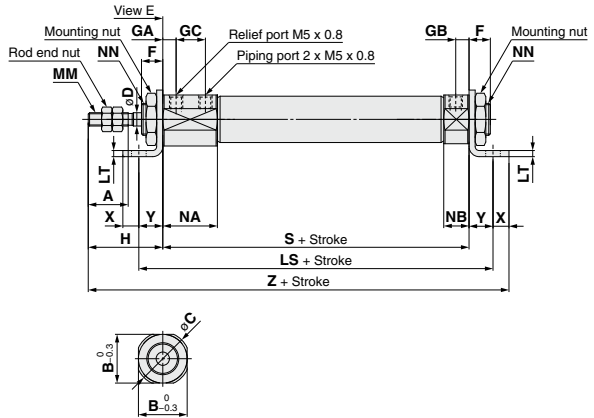
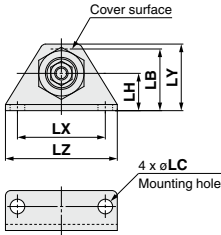
Rubber bumper

ø6



Drawing of view E

ø10, ø16



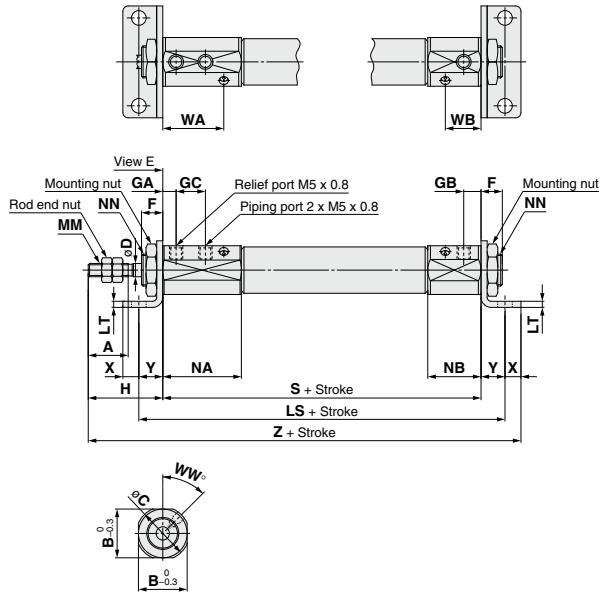
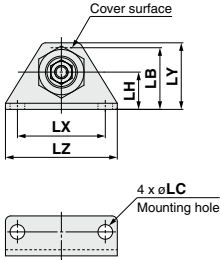
Drawing of view E

Bore size	(mm)																								
	A	B	C	D	F	GA	GB	GC	H	LB	LC	LH	LS	LT	LX	LY	LZ	MM	NA	NB	NN	S	X	Y	Z
6	15	15	17	3	8	12	5	11	28	21.5	4.5	9	74	1.6	24	16.5	32	M3 x 0.5	24.5	9.5	M8 x 1.0	60	5	7	100
10	15	15	17	4	8	5	5	11	28	21.5	5.5	14	72	2.3	33	25	42	M4 x 0.7	20.5	9.5	M10 x 1.0	54	6	9	97
16	15	18.3	20	5	8	5	5	11	28	23	5.5	14	73	2.3	33	25	42	M5 x 0.8	20.5	9.5	M12 x 1.0	55	6	9	98

**Double Foot (M):** 10-**CJ2M**, 21-**CJ2M**

With air cushion

Air cushion type is not available for 21-/22-CJ2.



Drawing of view E

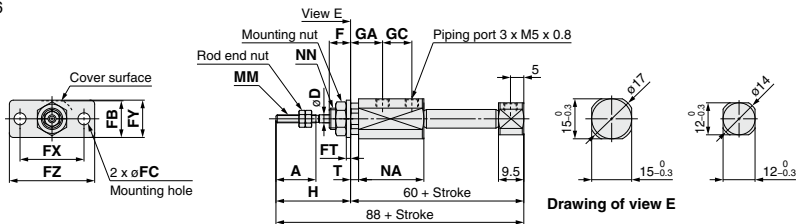
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10	15	15	17	4	8	5	6.5	11	28	21.5	5.5	14	91.5	2.3	33	25	42	M4 x 0.7	29.5	20	M10 x 1.0	22.9	13.4	45	73.5	6	9	116.5
16	15	18.3	20	5	8	5	6.5	11	28	23	5.5	14	92.5	2.3	33	25	42	M5 x 0.8	29.5	20	M12 x 1.0	22.9	13.4	45	74.5	6	9	117.5

(mm)

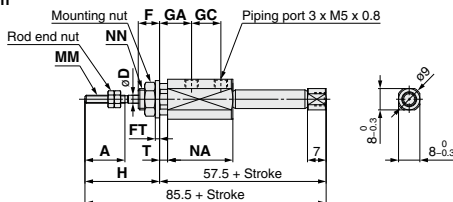
**Rod Flange (F):** 10: CJ2F, 21: CJ2F

**Rubber bumper**

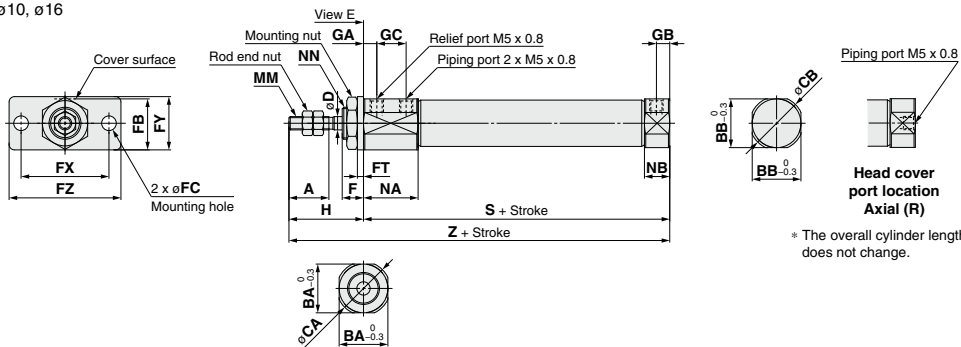
ø6



**Head cover port location Axial (R)**



ø10, ø16



Drawing of view E

(mm)

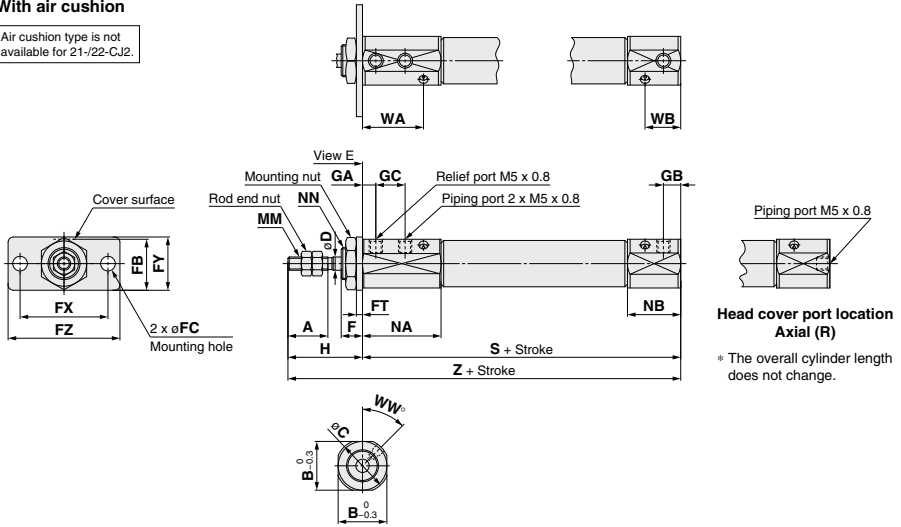
Bore size	A	BA	BB	CA	CB	D	F	FB	FC	FT	FX	FY	FZ	GA	GB	GC	H	MM	NA	NB	NN	S	T	Z
6	15	15	—	17	—	3	8	14.5	4.5	1.6	24	14	32	12	—	11	28	M3 x 0.5	24.5	—	M8 x 1.0	—	3	—
10	15	15	12	17	14	4	8	17.5	5.5	2.3	33	20	42	5	5	11	28	M4 x 0.7	20.5	9.5	M10 x 1.0	54	—	82
16	15	18.3	18.3	20	20	5	8	19	5.5	2.3	33	20	42	5	5	11	28	M5 x 0.8	20.5	9.5	M12 x 1.0	55	—	83

\* The overall cylinder length does not change.

**Rod Flange (F):** 10: CJ2F, 21: CJ2F

**With air cushion**

Air cushion type is not available for 21-/22-CJ2.



Drawing of view E

Bore size	A	B	C	D	F	FB	FC	FT	FX	FY	FZ	GA	GB	GC	H	MM	NA	NB	NN	S	WA	WB	WW	Z
10	15	15	17	4	8	17.5	5.5	2.3	33	20	42	5	6.5	11	28	M4 x 0.7	29.5	20	M10 x 1.0	73.5	22.9	13.4	45	101.5
16	15	18.3	20	5	8	19	5.5	2.3	33	20	42	5	6.5	11	28	M5 x 0.8	29.5	20	M12 x 1.0	74.5	22.9	13.4	45	102.5

(mm)

Directional Control Valves

Air Cylinders

Rotary Actuators

Air Grippers

Air Preparation Equipment

Modular F. R.

Pressure Control Equipment

Fittings & Tubing

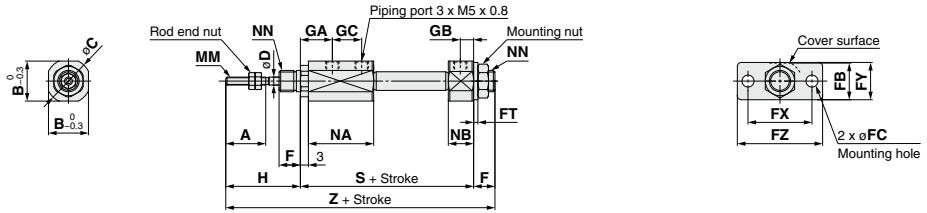
Flow Control Equipment

Pressure Switches/ Pressure Sensors

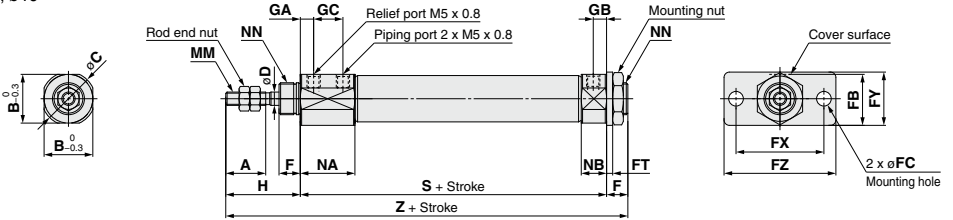
**Head Flange (G):** 10- CJ2G, 21- CJ2G

**Rubber bumper**

ø6



ø10, ø16



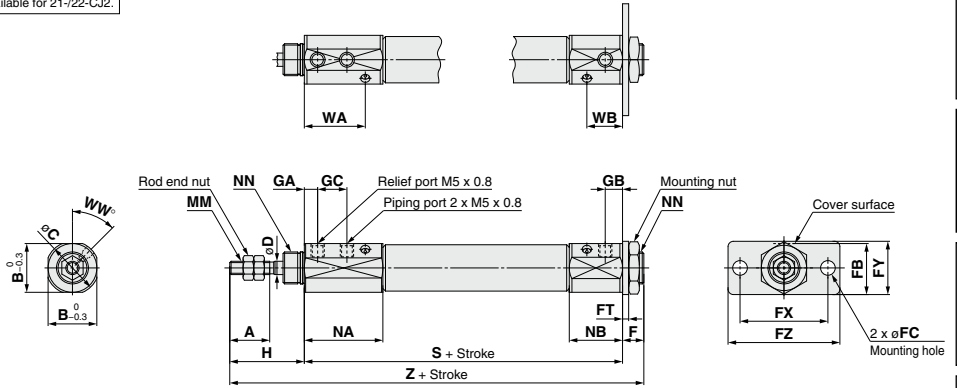
(mm)

Bore size	A	B	C	D	F	FB	FC	FT	FX	FY	FZ	GA	GB	GC	H	MM	NA	NB	NN	S	Z
6	15	15	17	3	8	14.5	4.5	1.6	24	14	32	12	5	11	28	M3 x 0.5	24.5	9.5	M8 x 1.0	60	96
10	15	15	17	4	8	17.5	5.5	2.3	33	20	42	5	5	11	28	M4 x 0.7	20.5	9.5	M10 x 1.0	54	90
16	15	18.3	20	5	8	19	5.5	2.3	33	20	42	5	5	11	28	M5 x 0.8	20.5	9.5	M12 x 1.0	55	91

Head Flange (G): 10-CJ2G, 21-CJ2G

With air cushion

Air cushion type is not available for 21-/22-CJ2.



(mm)

Bore size	A	B	C	D	F	FB	FC	FT	FX	FY	FZ	GA	GB	GC	H	MM	NA	NB	NN	WA	WB	WW	S	Z
10	15	15	17	4	8	17.5	5.5	2.3	33	20	42	5	6.5	11	28	M4 x 0.7	29.5	20	M10 x 1.0	22.9	13.4	45	73.5	109.5
16	15	18.3	20	5	8	19	5.5	2.3	33	20	42	5	6.5	11	28	M5 x 0.8	29.5	20	M12 x 1.0	22.9	13.4	45	74.5	110.5

Directional Control Valves

Air Cylinders

Rotary Actuators

Air Grippers

Air Preparation Equipment

Modular F. R.

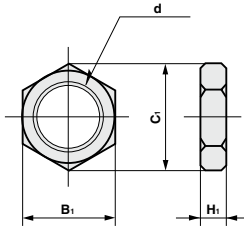
Pressure Control Equipment

Fittings & Tubing

Flow Control Equipment

Pressure Switches/ Pressure Sensors

## Mounting Nut

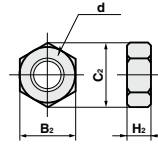


Material: Carbon steel (mm)

Part no.	Applicable bore size	$B_1$	$C_1$	$d$	$H_1$
<b>SNJ-010C</b>	6	11	12.7	M8 x 1.0	4
<b>SNJ-016C</b>	10	14	16.2	M10 x 1.0	4
<b>SNKJ-016C</b>	16	17	19.6	M12 x 1.0	4

\* The applicable mounting nuts are different from those for standard cylinders.

## Rod End Nut



Material: Carbon steel (mm)

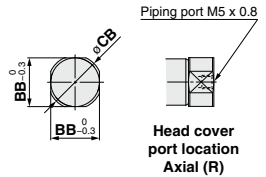
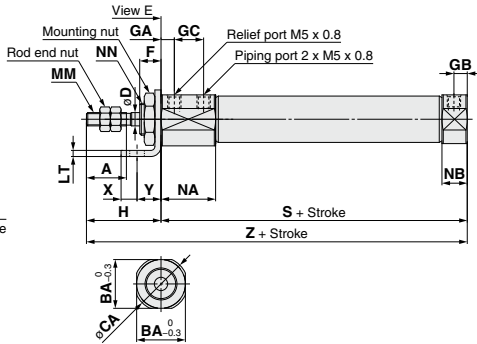
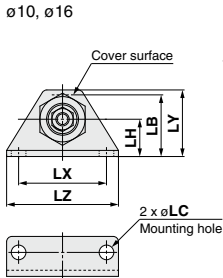
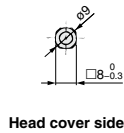
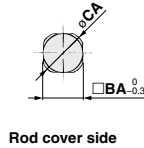
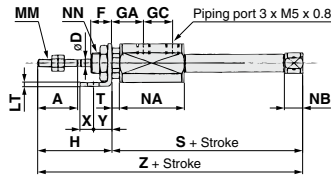
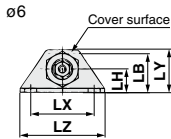
Part no.	Applicable bore size	$B_2$	$C_2$	$d$	$H_2$
<b>NTJ-006B</b>	6	5.5	6.4	M3 x 0.5	2.4
<b>NTJ-010C</b>	10	7	8.1	M4 x 0.7	3.2
<b>NTJ-015C</b>	16	8	9.2	M5 x 0.8	4





**Single Foot (L):** 10-CJ2L, 11-CJ2L, 21-CJ2L, 22-CJ2L

**Rubber bumper**



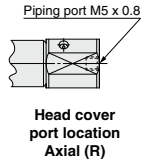
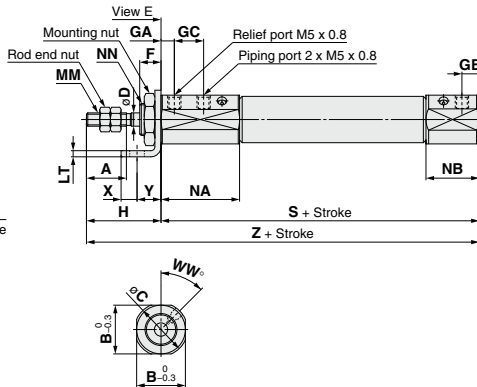
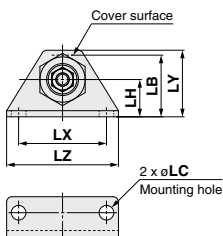
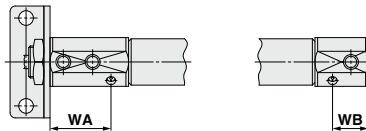
\* The overall cylinder length does not change.

Drawing of view E

Bore size	A	BA	BB	CA	CB	D	F	GA	GB	GC	H	LB	LC	LH	LT	LX	LY	LZ	MM	NA	NB	NN	S	T	X	Y	Z
6	15	15	—	17	—	3	8	12	—	11	28	16.5	4.5	9	1.6	24	16.5	32	M3 x 0.5	24.5	7	M8 x 1.0	57.5	3	5	7	85.5
10	15	15	12	17	14	4	8	5	5	11	28	21.5	5.5	14	2.3	33	25	42	M4 x 0.7	20.5	9.5	M10 x 1.0	54	—	6	9	82
16	15	18.3	18.3	20	20	5	8	5	5	11	28	23	5.5	14	2.3	33	25	42	M5 x 0.8	20.5	9.5	M12 x 1.0	55	—	6	9	83

**With air cushion**

Air cushion type is not available for 21-/22-CJ2.



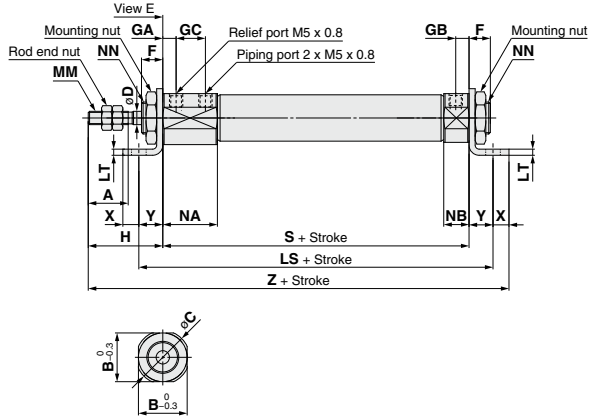
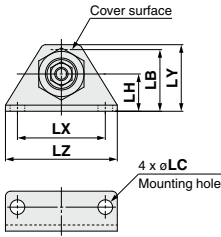
\* The overall cylinder length does not change.

Drawing of view E

Bore size	A	B	C	D	F	GA	GB	GC	H	LB	LC	LH	LT	LX	LY	LZ	MM	NA	NB	NN	S	WA	WB	WW	X	Y	Z
10	15	15	17	4	8	5	6.5	11	28	21.5	5.5	14	2.3	33	25	42	M4 x 0.7	29.5	20	M10 x 1.0	73.5	22.9	13.4	45	6	9	101.5
16	15	18.3	20	5	8	5	6.5	11	28	23	5.5	14	2.3	33	25	42	M5 x 0.8	29.5	20	M12 x 1.0	74.5	22.9	13.4	45	6	9	102.5

**Double Foot (M):** 10-CJ2M, 21-CJ2M

Rubber bumper

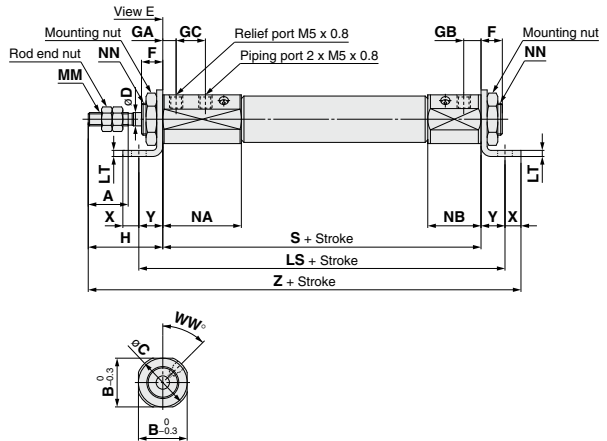
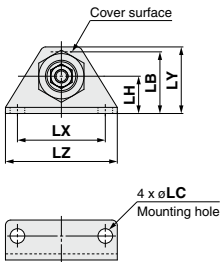


Drawing of view E

Bore size	A	B	C	D	F	GA	GB	GC	H	LB	LC	LH	LS	LT	LX	LY	LZ	MM	NA	NB	NN	S	X	Y	Z
10	15	15	17	4	8	5	5	11	28	21.5	5.5	14	72	2.3	33	25	42	M4 x 0.7	20.5	9.5	M10 x 1.0	54	6	9	97
16	15	18.3	20	5	8	5	5	11	28	23	5.5	14	73	2.3	33	25	42	M5 x 0.8	20.5	9.5	M12 x 1.0	55	6	9	98

**With air cushion**

Air cushion type is not available for 21-/22-CJ2.



Drawing of view E

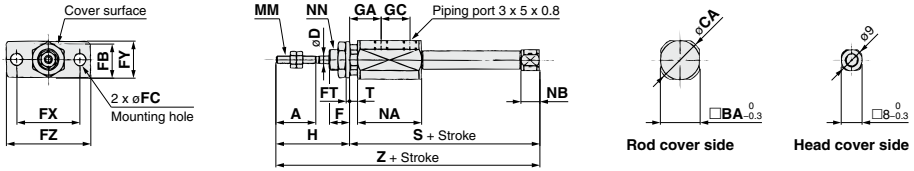
Bore size	A	B	C	D	F	GA	GB	GC	H	LB	LC	LH	LS	LT	LX	LY	LZ	MM	NA	NB	NN	WA	WB	WW	S	X	Y	Z
10	15	15	17	4	8	5	6.5	11	28	21.5	5.5	14	91.5	2.3	33	25	42	M4 x 0.7	29.5	20	M10 x 1.0	22.9	13.4	45	73.5	6	9	116.5
16	15	18.3	20	5	8	5	6.5	11	28	23	5.5	14	92.5	2.3	33	25	42	M5 x 0.8	29.5	20	M12 x 1.0	22.9	13.4	45	74.5	6	9	117.5

Directional Control Valves  
 Air Cylinders  
 Rotary Actuators  
 Air Grippers  
 Air Preparation Equipment  
 Modular F. R.  
 Pressure Control Equipment  
 Fittings & Tubing  
 Flow Control Equipment  
 Pressure Switches/ Pressure Sensors

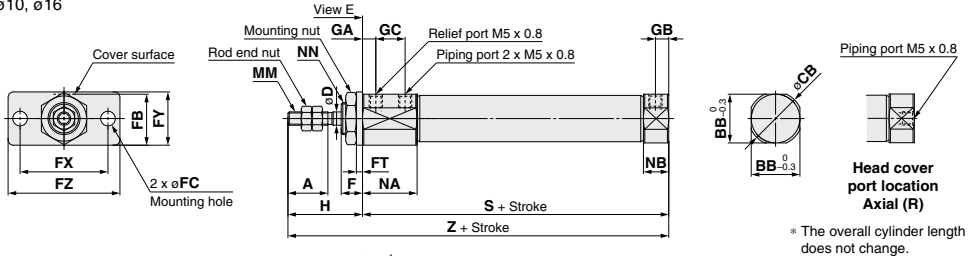
Rod Flange (F): 10-CJ2F, 21-CJ2F

Rubber bumper

ø6



ø10, ø16



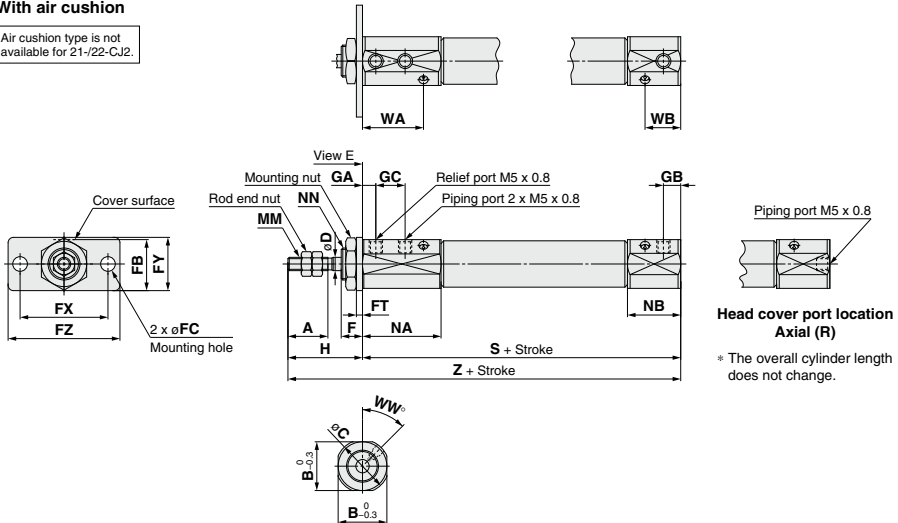
Drawing of view E

(mm)

Bore size	A	BA	BB	CA	CB	D	F	FB	FC	FT	FX	FY	FZ	GA	GB	GC	H	MM	NA	NB	NN	S	T	Z
6	15	15	—	17	—	3	8	14.5	4.5	1.6	24	14	32	12	—	11	28	M3 x 0.5	24.5	7	M8 x 1.0	57.5	3	85.5
10	15	15	12	17	14	4	8	17.5	5.5	2.3	33	20	42	5	5	11	28	M4 x 0.7	20.5	9.5	M10 x 1.0	54	—	82
16	15	18.3	18.3	20	20	5	8	19	5.5	2.3	33	20	42	5	5	11	28	M5 x 0.8	20.5	9.5	M12 x 1.0	55	—	83

With air cushion

Air cushion type is not available for 21-/22-CJ2.



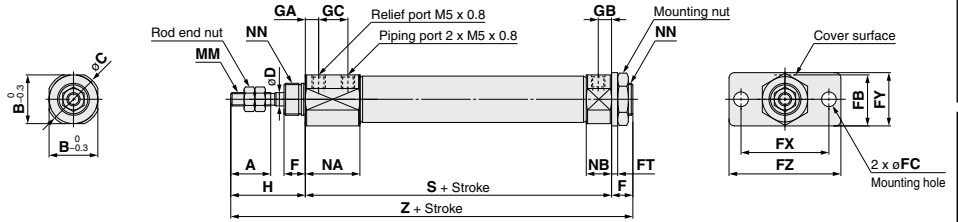
Drawing of view E

(mm)

Bore size	A	B	C	D	F	FB	FC	FT	FX	FY	FZ	GA	GB	GC	H	MM	NA	NB	NN	S	WA	WB	WW	Z
10	15	15	17	4	8	17.5	5.5	2.3	33	20	42	5	6.5	11	28	M4 x 0.7	29.5	20	M10 x 1.0	73.5	22.9	13.4	45	101.5
16	15	18.3	20	5	8	19	5.5	2.3	33	20	42	5	6.5	11	28	M5 x 0.8	29.5	20	M12 x 1.0	74.5	22.9	13.4	45	102.5

Head Flange (G): 10-CJ2G, 21-CJ2G

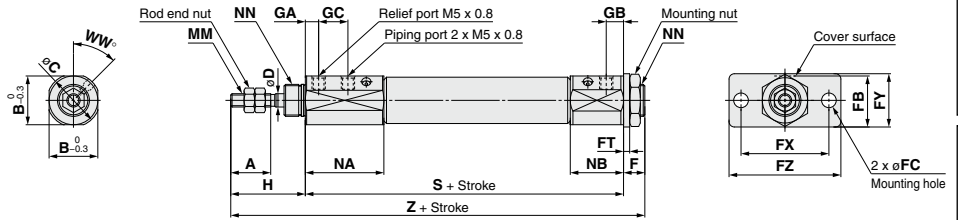
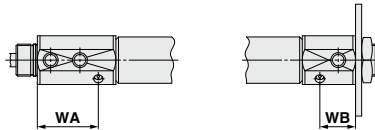
Rubber bumper



Bore size	A	B	C	D	F	FB	FC	FT	FX	FY	FZ	GA	GB	GC	H	MM	NA	NB	NN	S	Z
10	15	15	17	4	8	17.5	5.5	2.3	33	20	42	5	5	11	28	M4 x 0.7	20.5	9.5	M10 x 1.0	54	90
16	15	18.3	20	5	8	19	5.5	2.3	33	20	42	5	5	11	28	M5 x 0.8	20.5	9.5	M12 x 1.0	55	91

With air cushion

Air cushion type is not available for 21-/22-CJ2.



Bore size	A	B	C	D	F	FB	FC	FT	FX	FY	FZ	GA	GB	GC	H	MM	NA	NB	NN	WA	WB	WW	S	Z
10	15	15	17	4	8	17.5	5.5	2.3	33	20	42	5	6.5	11	28	M4 x 0.7	29.5	20	M10 x 1.0	22.9	13.4	45	73.5	109.5
16	15	18.3	20	5	8	19	5.5	2.3	33	20	42	5	6.5	11	28	M5 x 0.8	29.5	20	M12 x 1.0	22.9	13.4	45	74.5	110.5

Directional Control Valves

Air Cylinders

Rotary Actuators

Air Grippers

Air Preparation Equipment

Modular F. R.

Pressure Control Equipment

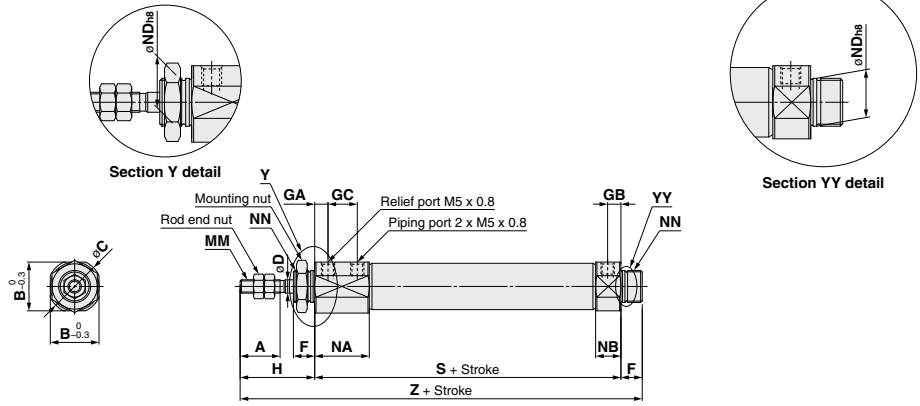
Fittings & Tubing

Flow Control Equipment

Pressure Switches/ Pressure Sensors

**Double-side Bossed (E):** 1<sup>0</sup>: **CJ2E**, 2<sup>1</sup>: **CJ2E**

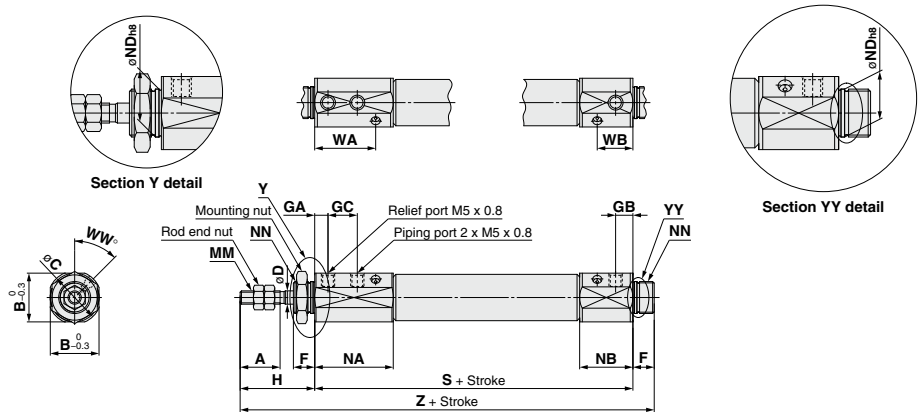
Rubber bumper



Bore size	A	B	C	D	F	GA	GB	GC	H	MM	NA	NB	ND <sub>h8</sub>	NN	S	Z
10	15	15	17	4	8	5	5	11	28	M4 x 0.7	20.5	9.5	10 <sup>0</sup> <sub>-0.022</sub>	M10 x 1.0	54	90
16	15	18.3	20	5	8	5	5	11	28	M5 x 0.8	20.5	9.5	12 <sup>0</sup> <sub>-0.027</sub>	M12 x 1.0	55	91

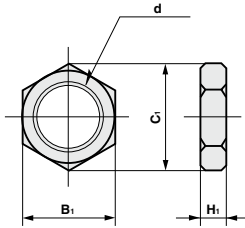
**With air cushion**

Air cushion type is not available for 21-/22-CJ2.



Bore size	A	B	C	D	F	GA	GB	GC	H	MM	NA	NB	ND <sub>h8</sub>	NN	WA	WB	WW	S	Z
10	15	15	17	4	8	5	6.5	11	28	M4 x 0.7	29.5	20	10 <sup>0</sup> <sub>-0.022</sub>	M10 x 1.0	22.9	13.4	45	73.5	109.5
16	15	18.3	20	5	8	5	6.5	11	28	M5 x 0.8	29.5	20	12 <sup>0</sup> <sub>-0.027</sub>	M12 x 1.0	22.9	13.4	45	74.5	110.5

## Mounting Nut

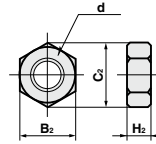


Material: Carbon steel (mm)

Part no.	Applicable bore size	$B_1$	$C_1$	$d$	$H_1$
<b>SNJ-010B</b>	6	11	12.7	M8 x 1.0	4
<b>SNJ-016C</b>	10	14	16.2	M10 x 1.0	4
<b>SNKJ-016C</b>	16	17	19.6	M12 x 1.0	4

\* The applicable mounting nuts are different from those for standard cylinders.

## Rod End Nut



Material: Carbon steel (mm)

Part no.	Applicable bore size	$B_2$	$C_2$	$d$	$H_2$
<b>NTJ-006A</b>	6	5.5	6.4	M3 x 0.5	2.4
<b>NTJ-010C</b>	10	7	8.1	M4 x 0.7	3.2
<b>NTJ-015C</b>	16	8	9.2	M5 x 0.8	4

Directional Control Valves

Air Cylinders

Rotary Actuators

Air Grippers

Air Preparation Equipment

Modular F. R.

Pressure Control Equipment

Fittings & Tubing

Flow Control Equipment

Pressure Switches/ Pressure Sensors

# Series 10-/11- 21-/22- CJ2W-Z

∅10, ∅16  
Double Rod Cylinder



## How to Order

● **Clean series**

10	Relief type
11	Vacuum suction type

● **Built-in magnet**

Nil	No
D	With auto switch (Built-in magnet)

\* For a cylinder with "D", "-B" is suffixed to the end of the part number.

● **Mounting**

B	Basic
L	Foot
F	Flange

\* Foot/Flange brackets are shipped together with the product, but not assembled.

● **Auto switch**

Nil	Without auto switch
-----	---------------------

\* For applicable auto switches, refer to the Applicable Auto Switch.  
\* The minimum stroke for auto switch mounting, operating range and auto switch mounting brackets/part no. are the same as standard products.

● **Number of auto switches**

Nil	2 pcs.
S	1 pc.
n	n pcs.

● **Auto switch mounting type**

Nil	None
B	Band mounting

\* Only for With auto switch (Built-in magnet).  
\* Auto switch mounting method is band mounting only.

10 - C D J 2 W L 16 - 60 Z - M9BW - B\*

21 - C D J 2 W L 16 - 60 Z - M9BW - B\*

● **Copper, fluorine and silicone-free + Low particle generation**

21	Relief type
22	Vacuum suction type

● **Cylinder stroke (mm)**

● **Bore size (mm)**

## Model

	Model	Bore size (mm)	Port size	Lubrication	Action	Standard stroke (mm)	Auto switch mounting	Cushion	
								Rubber	Air
Relief type	10-/21-CJ2W□10	10	M5 x 0.8	Non-lube	Double acting, Double rod	15, 30, 45, 60, 75, 100, 125, 150	○	○	-
	10-/21-CJ2W□16	16				15, 30, 45, 60, 75, 100, 125, 150, 175, 200			
Vacuum suction type	11-/22-CJ2W□10	10				15, 30, 45, 60, 75, 100, 125, 150			
	11-/22-CJ2W□16	16				15, 30, 45, 60, 75, 100, 125, 150, 175, 200			

## Specifications

Bore size (mm)	
Item	10/16
Proof pressure	1 MPa
Maximum operating pressure	0.7 MPa
Minimum operating pressure	0.1 MPa
Ambient and fluid temperature	Without auto switch: -10°C to 70°C With auto switch: -10°C to 60°C (No freezing)
Piston speed	50 to 400 mm/s
Stroke length tolerance	$\pm 0.1$ 0
Mounting	Basic/Foot/Flange
Grease	10-/11-: Fluorine grease, 21-/22-: Lithium soap based grease
Cleanliness class (ISO class)	10-/21-: Class 4
	11-/22-: Class 3

## Suction Flow Rate of Vacuum Suction Type (Reference values)

Size	Suction flow rate L/min (ANR)
10/16	1

## Mounting Bracket Part No.

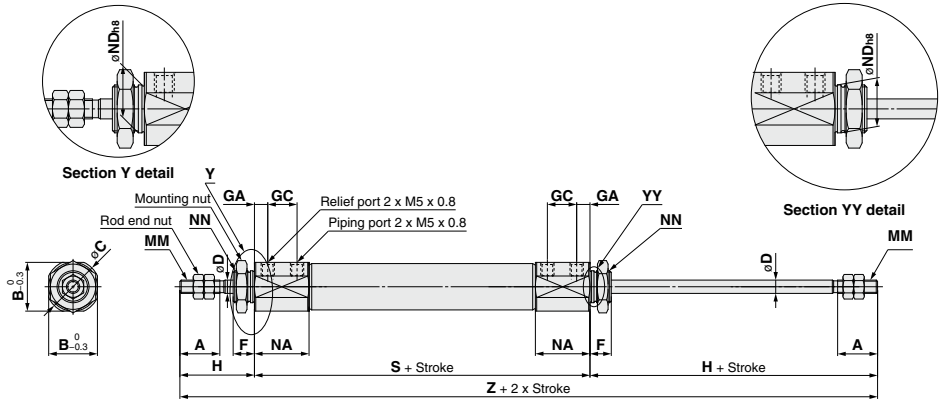
Mounting bracket	Bore size (mm)	
	10	16
Foot	CJ-L016C	CJK-L016C
Flange	CJ-F016C	CJK-F016C

## Auto Switch

Auto switch specifications and the proper mounting positions for stroke end detection are the same as those for double acting, single rod type.

Refer to page 889 for the applicable auto switch list.

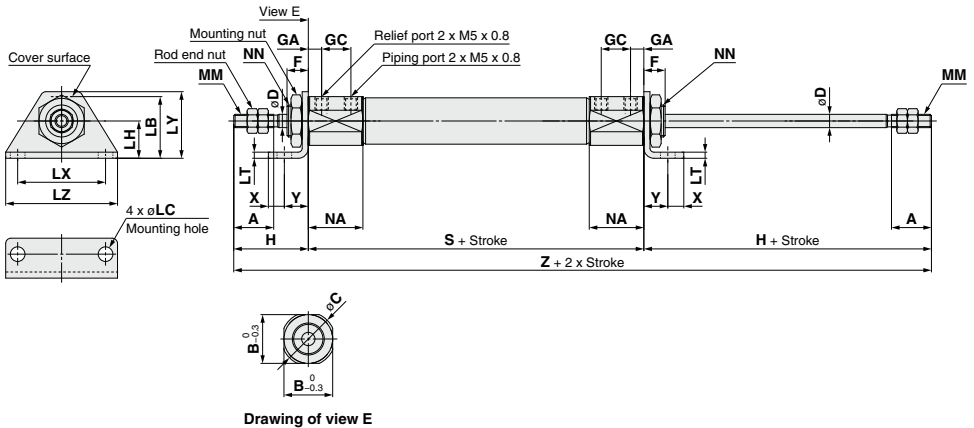
**Basic (B):** 10-**CJ2WB**, 21-**CJ2WB**



Bore size	A	B	C	D	F	GA	GC	H	MM	NA	ND <sub>h8</sub>	NN	S	Z
10	15	15	17	4	8	5	11	28	M4 x 0.7	20.5	10 <sup>0.022</sup>	M10 x 1.0	65	121
16	15	18.3	20	5	8	5	11	28	M5 x 0.8	20.5	12 <sup>0.027</sup>	M12 x 1.0	66	122

(mm)

**Foot (L):** 10-**CJ2WL**, 21-**CJ2WL**

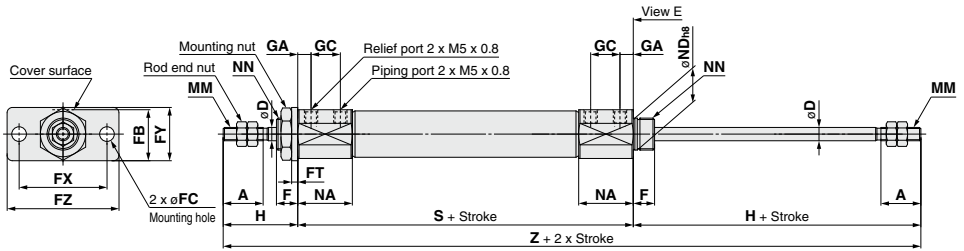


Bore size	A	B	C	D	F	GA	GC	H	LB	LC	LH	LT	LX	LY	LZ	MM	NA	NN	S	X	Y	Z
10	15	15	17	4	8	5	11	28	21.5	5.5	14	2.3	33	25	42	M4 x 0.7	20.5	M10 x 1.0	65	6	9	121
16	15	18.3	20	5	8	5	11	28	23	5.5	14	2.3	33	25	42	M5 x 0.8	20.5	M12 x 1.0	66	6	9	122

(mm)



Flange (F): 10-11-**CJ2WF**, 21-22-**CJ2WF**



Drawing of view E

Bore size	A	B	C	D	F	FB	FC	FT	FX	FY	FZ	GA	GC	H	MM	NA	ND <sub>h8</sub>	NN	S	Z
10	15	15	17	4	8	17.5	5.5	2.3	33	20	42	5	11	28	M4 x 0.7	20.5	10 <sup>0.022</sup>	M10 x 1.0	65	121
16	15	18.3	20	5	8	19	5.5	2.3	33	20	42	5	11	28	M5 x 0.8	20.5	12 <sup>0.027</sup>	M12 x 1.0	66	122

**! Specific Product Precautions**

Be sure to read this before handling.

**Mounting**

**! Caution**

1. During installation, secure the rod cover on the mounting side and tighten by applying an appropriate tightening torque to the retaining nut or to the rod cover on the mounting side. If the rod cover on the opposite side is secured or the rod cover on the opposite side is tightened, the cover could rotate, leading to a deviation.
2. Tighten the retaining screws with an appropriate tightening torque within the range given below.  
 ø10: 10.8 to 11.8 N·m  
 ø16: 20.0 to 21.0 N·m

# Series 10-/11-21-/22-**CJ2RA-Z** $\phi 10, \phi 16$ Direct Mount Cylinder



## How to Order

● Clean series

10	Relief type
11	Vacuum suction type

**10 - C D J 2 R A 16 - 60 R Z - M9BW - B\***

**21 - C D J 2 R A 16 - 60 R Z - M9BW - B\***

Bore size (mm) ●

Cylinder stroke (mm) ●

● Built-in magnet

Nil	No
D	With auto switch (Built-in magnet)

\* For a cylinder with "D", "-B" is suffixed to the end of the part number.

● Copper, fluorine and silicone-free + Low particle generation

21	Relief type
22	Vacuum suction type

● Auto switch

Nil	Without auto switch
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\* For applicable auto switches, refer to the Applicable Auto Switch.  
\* The minimum stroke for auto switch mounting, operating range and auto switch mounting brackets/part no. are the same as standard products.

● Number of auto switches

Nil	2 pcs.
S	1 pc.
n	n pcs.

● Auto switch mounting type

Nil	None
B	Band mounting

\* Only for With auto switch (Built-in magnet).  
\* Auto switch mounting method is band mounting only.

● Head cover port location

Nil	Perpendicular to axis	
R	Axial	

\* For double-side bossed type, the product is perpendicular to the cylinder axis.

## Model

Relief type	Model	Bore size (mm)	Port size	Lubrication	Action	Standard stroke (mm)	Auto switch mounting	Cushion	
								Rubber	Air
Vacuum suction type	10-/21-CJ2RA10	10	M5 x 0.8	Non-lube	Double acting, Single rod	15, 30, 45, 60, 75, 100, 125, 150	Band mounting only	Standard	-
	10-/21-CJ2RA16	16				15, 30, 45, 60, 75, 100, 125, 150, 175, 200			
	11-/22-CJ2RA10	10				15, 30, 45, 60, 75, 100, 125, 150			
	11-/22-CJ2RA16	16				15, 30, 45, 60, 75, 100, 125, 150, 175, 200			

## Specifications

Item	Bore size (mm)
Item	10/16
Proof pressure	1 MPa
Maximum operating pressure	0.7 MPa
Minimum operating pressure	0.08 MPa
Ambient and fluid temperature	Without auto switch: -10°C to 70°C With auto switch: -10°C to 60°C (No freezing)
Piston speed	50 to 400 mm/s
Stroke length tolerance	$^{+1.0}$
Mounting	Bottom mounting
Grease	10-/11-: Fluorine grease, 21-/22-: Lithium soap based grease
Cleanliness class (ISO class)	10-/21-: Class 4
	11-/22-: Class 3

## Suction Flow Rate of Vacuum Suction Type (Reference values)

Size	Suction flow rate L/min (ANR)
10/16	1

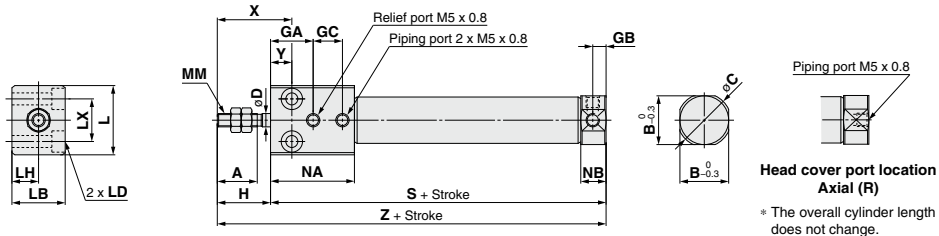
Directional Control Valves  
 Air Cylinders  
 Rotary Actuators  
 Air Grippers  
 Air Preparation Equipment  
 Modular F. R.  
 Pressure Control Equipment  
 Fittings & Tubing  
 Flow Control Equipment  
 Pressure Switches/Pressure Sensors

## Auto Switch

Auto switch specifications and the proper mounting positions for stroke end detection are the same as those for double acting, single rod type.

Refer to page 889 for the applicable auto switch list.

## Bottom Mounting: <sup>10-11-</sup>~~CJ2RA,~~ <sup>21-22-</sup>~~CJ2RA~~



Bore size	A	B	C	D	GA	GB	GC	H	L	LB	LD	LH	LX	MM	NA	NB	S	X	Y	Z
10	15	12	14	4	16	5	11	20	23	16	ø3.5 through, ø6.5 depth of counterbore 4	8	12	M4 x 0.7	31.5	9.5	65	28	8	85
16	15	18.3	20	5	16	5	11	20	26	20	ø4.5 through, ø8 depth of counterbore 5	10	16	M5 x 0.8	31.5	9.5	66	28	8	86

## ⚠ Specific Product Precautions

Be sure to read this before handling.

### Mounting

## ⚠ Caution

- During installation, secure the rod cover on the mounting side and tighten by applying an appropriate tightening torque to the retaining nut or to the rod cover on the mounting side. If the rod cover on the opposite side is secured or the rod cover on the opposite side is tightened, the cover could rotate, leading to a deviation.