

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

How to Order



Clean series

10	Relief type
11	Vacuum suction type

Cushion

Nil	Rubber bumper (Standard)
A	Air cushion

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 style

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

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

Copper, fluorine and silicone-free + Low particle generation

21	Relief type
22	Vacuum suction type

Head cover port location

Nil	Perpendicular to the cylinder axis	
R	Axial direction	

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

Number of auto switches

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

Type of auto switch

Nil	Without auto switch
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* For applicable auto switches, refer to the "Applicable Auto Switch" table.

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.

Model

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

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

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-CJ2□10	10	M5 x 0.8	Non-lube	Double acting, Single rod	15, 30, 45, 60, 75, 100, 125, 150	Band mounting only	Standard	
	16				15, 30, 45, 60, 75, 100, 125, 150, 175, 200			
Vacuum suction type 10-/22-CJ2□10	10				15, 30, 45, 60, 75, 100, 125, 150			
	16				15, 30, 45, 60, 75, 100, 125, 150, 175, 200			

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

Specifications

Item	Bore size (mm)
	10/16
Proof pressure	1 MPa
Max. operating pressure	0.7 MPa
Min. operating pressure	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 (With no condensation)
Piston speed	50 to 400 mm/s
Stroke length tolerance	+1.0
Mounting style	Basic/Double-side bossed/Single foot/Double foot/Rod side flange/Head side
Grease	10-/11-: Fluorine grease, 21-/22-: Lithium soap based grease
Particle generation grade (Refer to front matter 13 for details.)	10-/21-: Grade 2, 11-/22-: Grade 1

Suction Flow Rate of Vacuum 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 bracket	CJ-L016C	CJK-L016C
Flange	CJ-F016C	CJK-F016C

Applicable Auto Switch (Refer to the WEB catalog or Best Pneumatics No.2 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	AC	Band mounting		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	●	—	●	●	

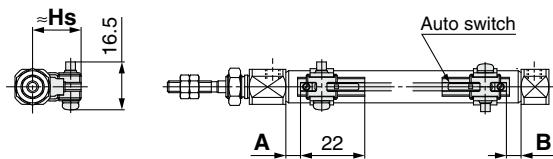
Note 1) Lead wire length symbols: 0.5 m.....Nil M9BW
 1 m.....M M9BWM
 3 m.....L M9BWL
 5 m.....Z M9BWZ

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 applicable auto switch list → Page 182.

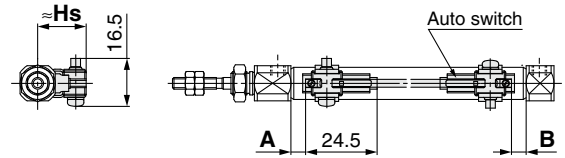
Auto Switches/Proper Mounting Position at Stroke End Detection

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 10	(5) 6	(5) 6	(1) 2	(1) 2
Bore size 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 position 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
10	17
16	20.5

⚠ Specific Product Precautions

Be sure to read before handling.

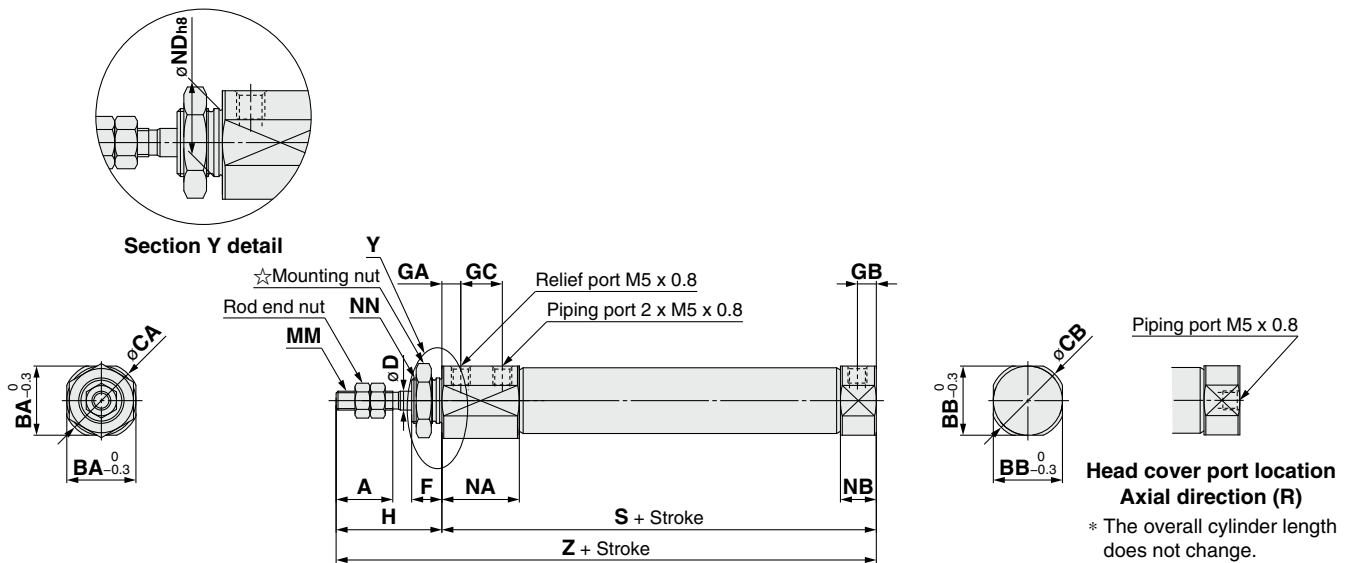
Caution on mounting

⚠ Caution

- When installing the cylinder, secure the rod cover and apply proper tightening torque to the retaining nut or tighten the rod cover by applying proper tightening torque. If the head cover is secured or tightened, the cover could rotate, leading to misalignment.
- Apply proper screw tightening torque within the following range.
 ø10: 10.8 to 11.8 N·m
 ø16: 20.0 to 21.0 N·m

Basic Style (B) / 10-11-CJ2B, 21-22-CJ2B

Rubber bumper

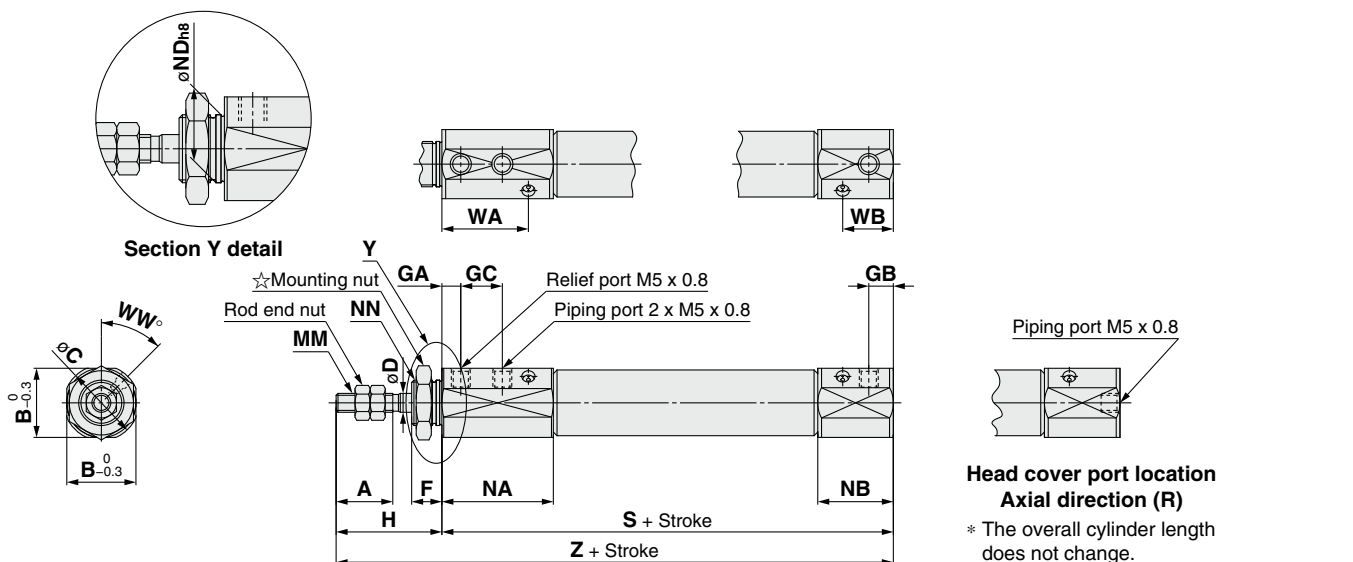


(mm)

Bore size	A	BA	BB	CA	CB	D	F	GA	GB	GC	H	MM	NA	NB	ND _{h8}	NN	S	Z
10	15	15	12	17	14	4	8	5	5	11	28	M4 x 0.7	20.5	9.5	10 ⁰ _{-0.022}	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 ⁰ _{-0.027}	M12 x 1.0	55	83

With air cushion

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

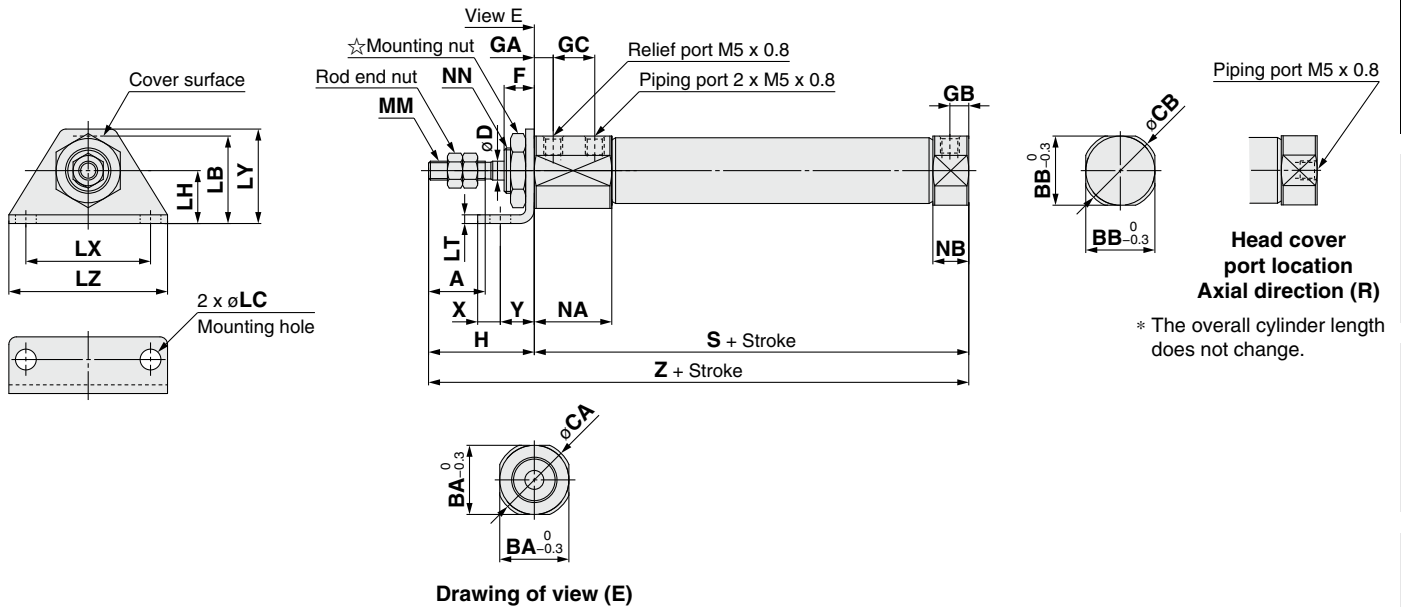


(mm)

Bore size	A	B	C	D	F	GA	GB	GC	H	MM	NA	NB	ND _{h8}	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 ⁰ _{-0.022}	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 ⁰ _{-0.027}	M12 x 1.0	74.5	22.9	13.4	45	102.5

Single Foot Style (L) / 10-11-CJ2L, 21-22-CJ2L

Rubber bumper

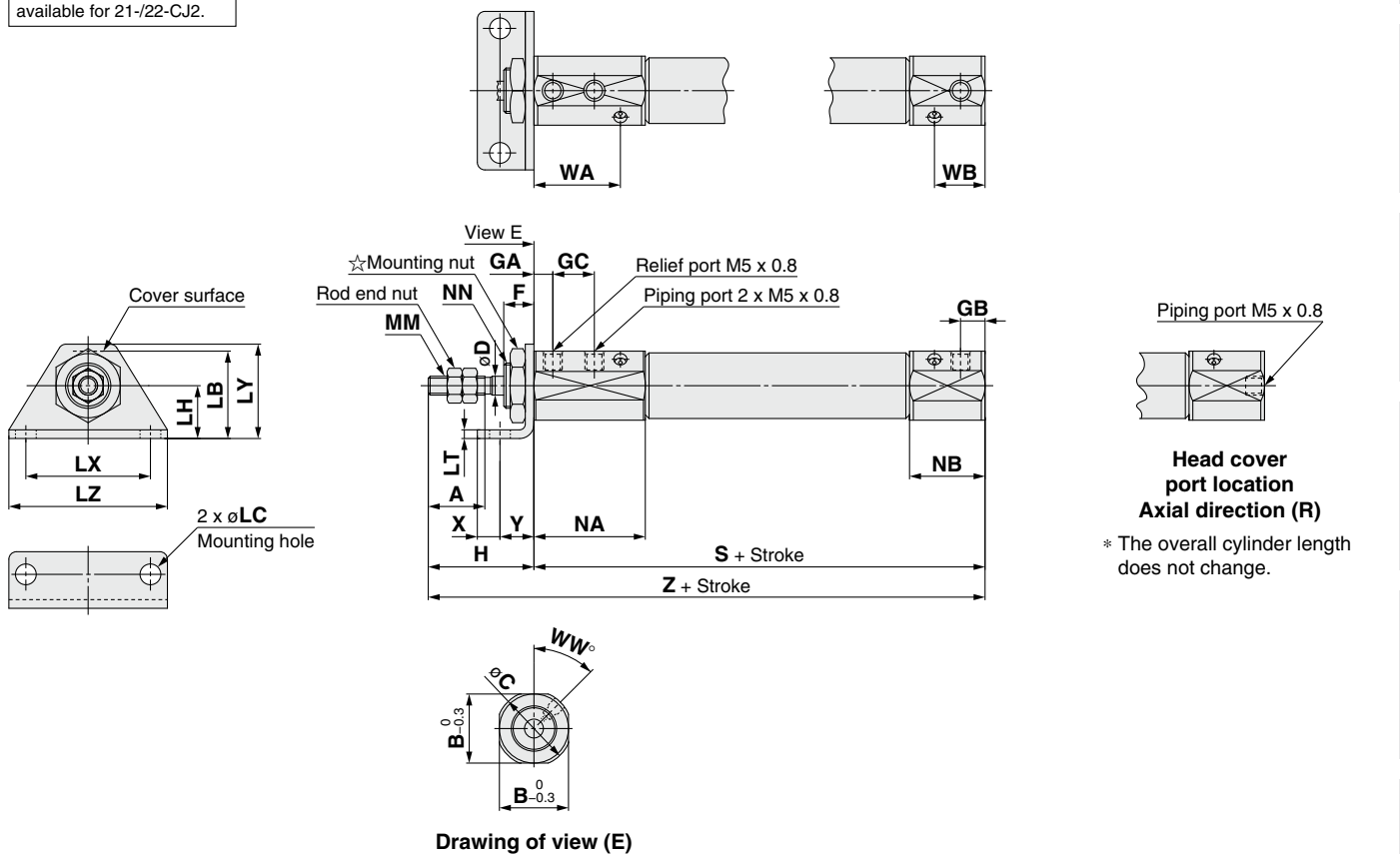


Drawing of view (E)

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	X	Y	Z
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

With air cushion type is not available for 21-22-CJ2.



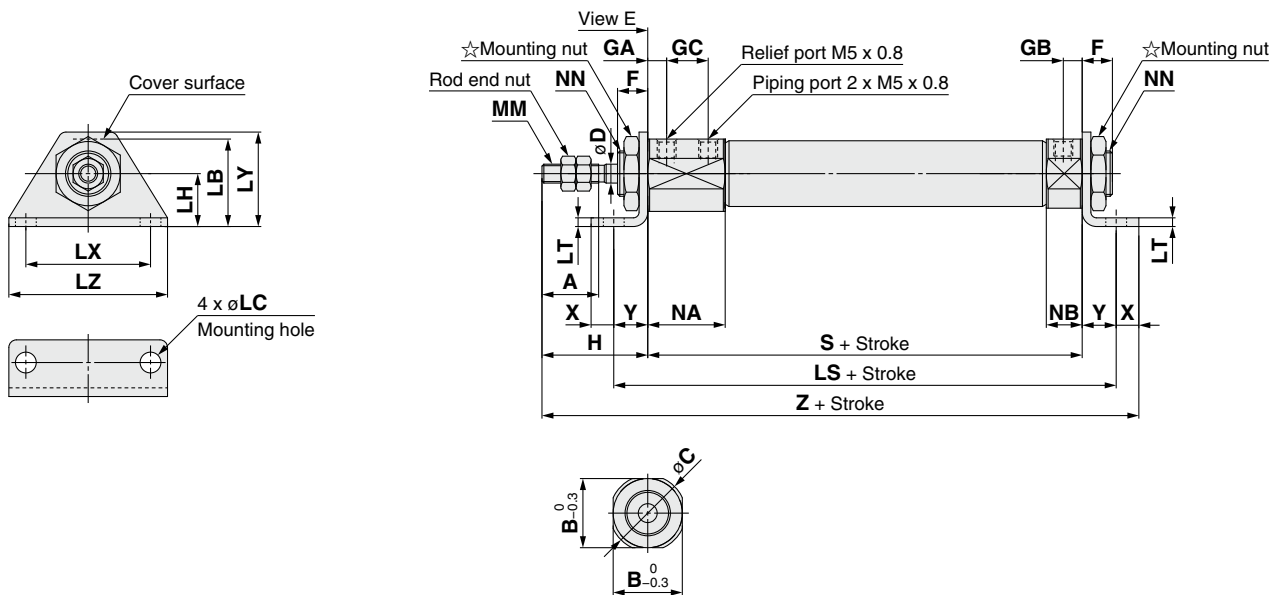
Drawing of view (E)

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

Air cylinder
Rotary actuator
Air gripper
Directional control valve
Flow control equipment
Filter, Pressure control equipment
Fittings & Tubing
Air preparation equipment
Pressure switch
Clean gas filter

Double Foot Style (M) / 10-11-**CJ2M**, 21-22-**CJ2M**

Rubber bumper

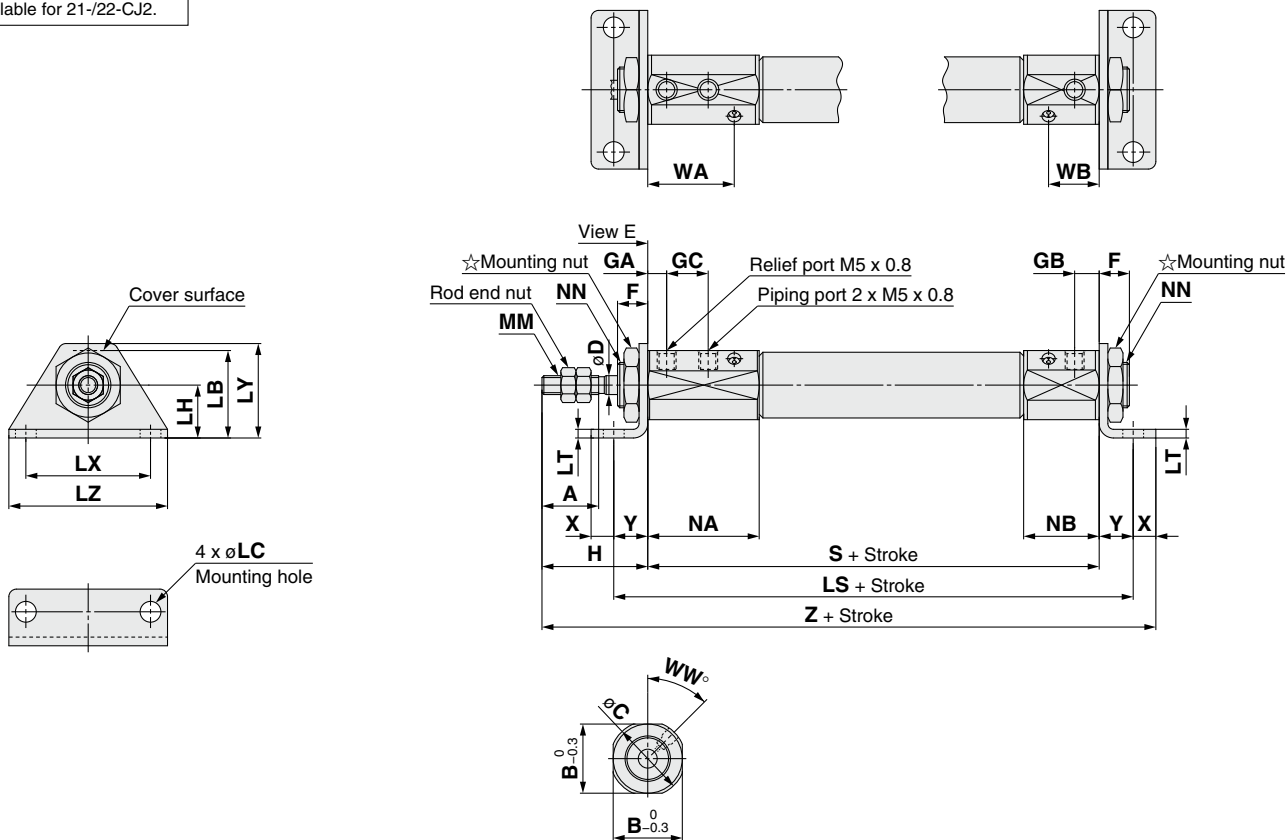


Drawing of view (E)

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

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

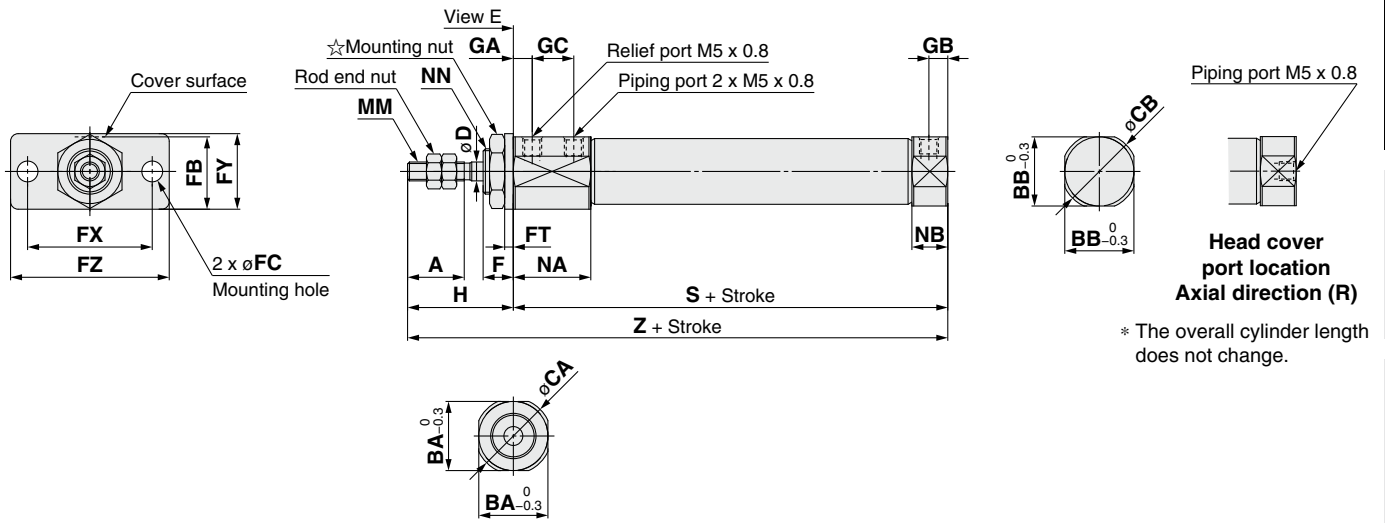


Drawing of view (E)

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

Rod Side Flange Style (F) / 10- CJ2F, 21- CJ2F

Rubber bumper

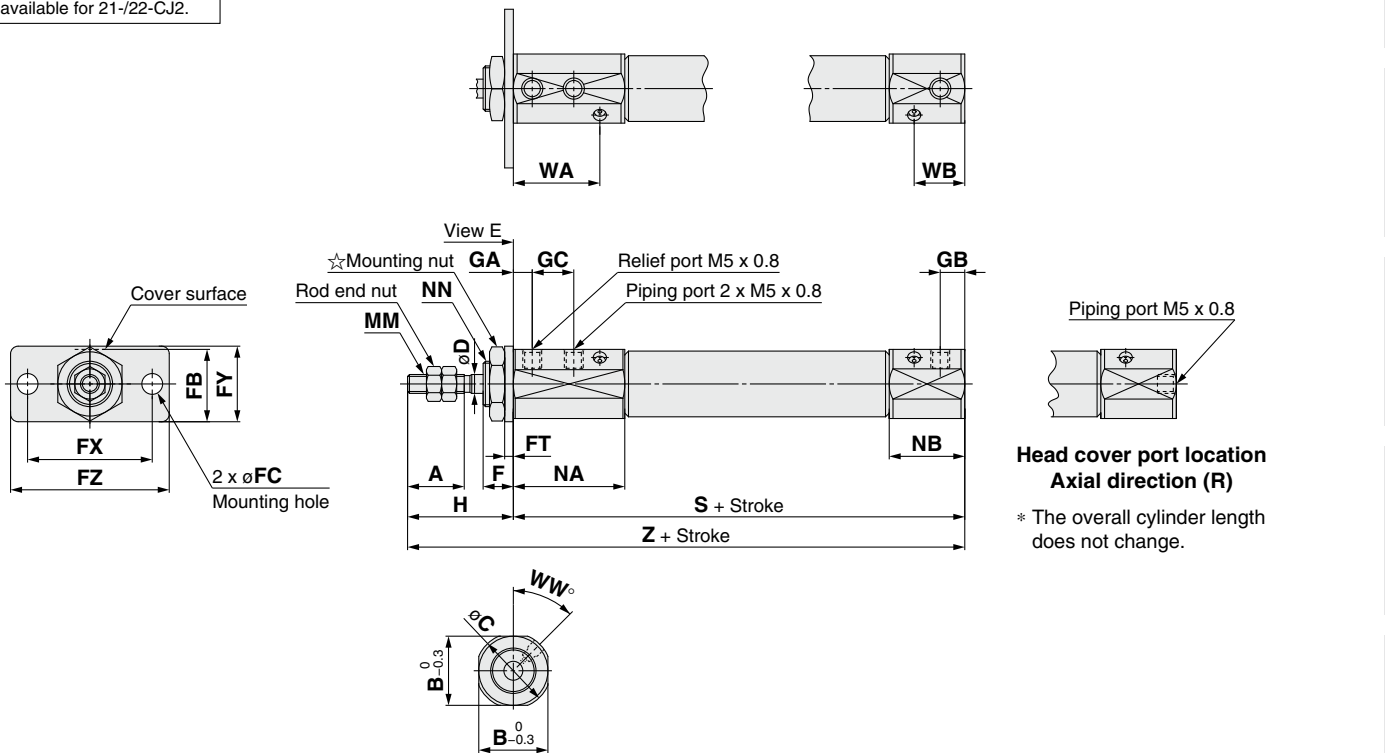


Drawing of view (E)

Bore size	A	BA	BB	CA	CB	D	F	FB	FC	FT	FX	FY	FZ	GA	GB	GC	H	MM	NA	NB	NN	S	Z
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

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



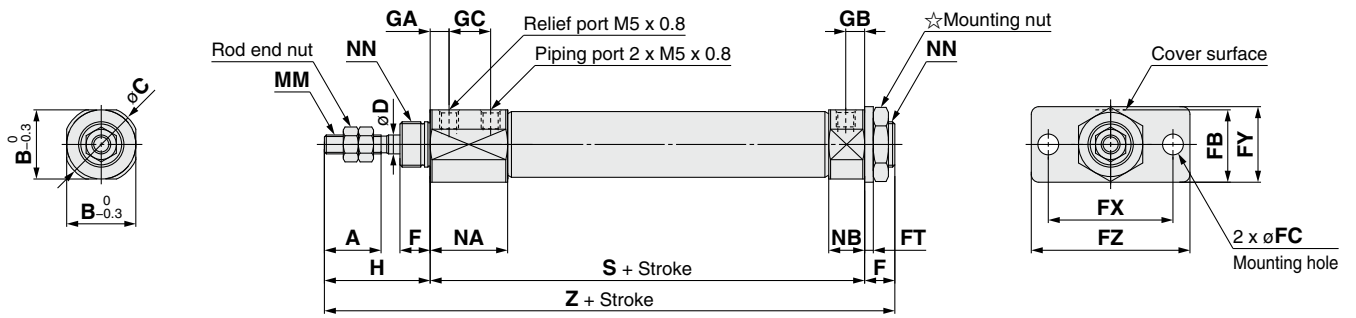
Drawing of view (E)

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

Air cylinder
Rotary actuator
Air gripper
Directional control valve
Flow control equipment
Filter, Pressure control equipment
Fittings & Tubing
Air preparation equipment
Pressure switch
Clean gas filter

Head Side Flange Style (G) / 10-11-CJ2G, 21-22-CJ2G

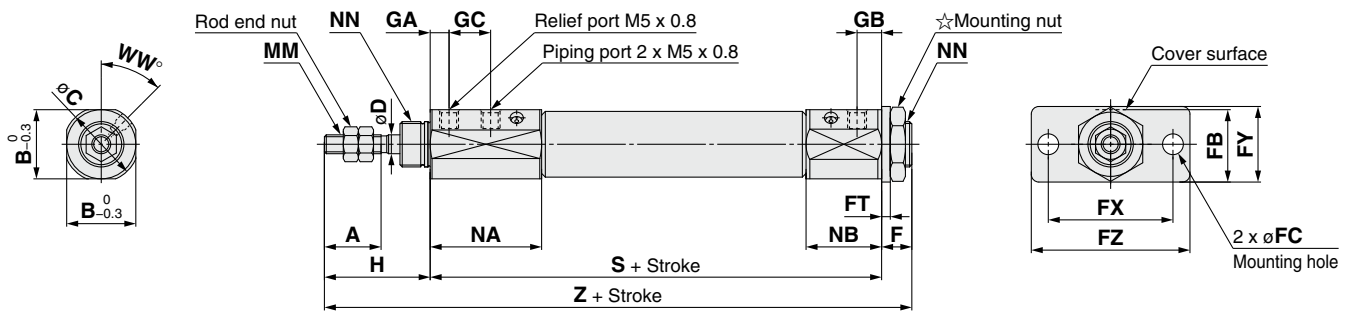
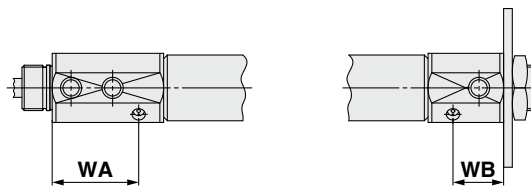
Rubber bumper



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

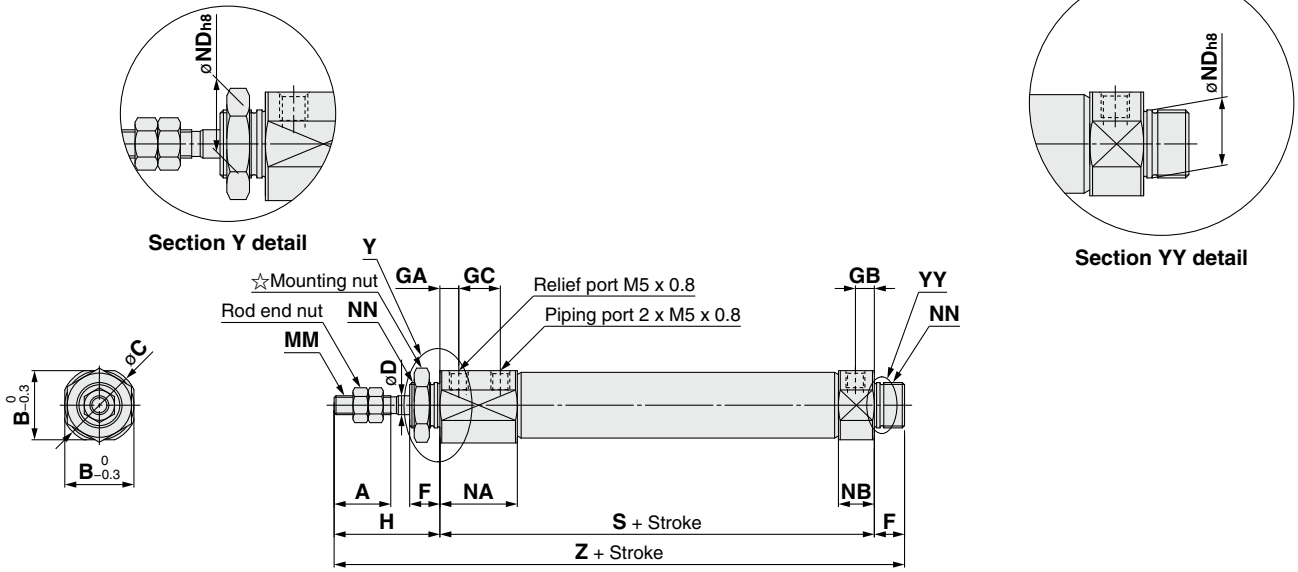
With air cushion type is not available for 21-/22-CJ2.



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

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

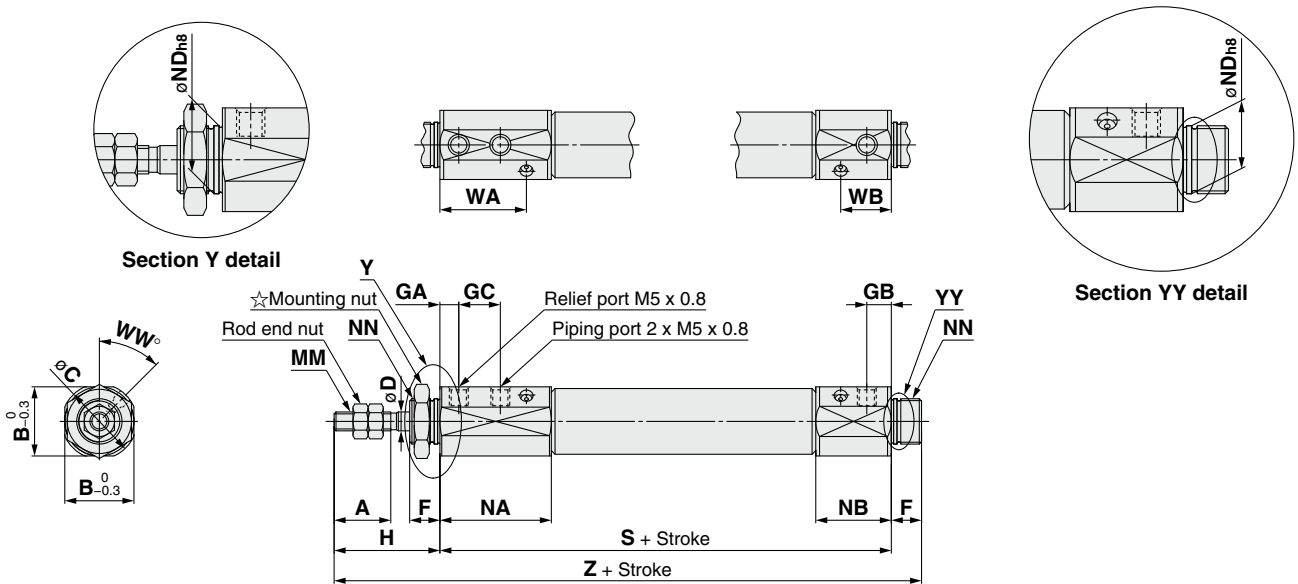
Rubber bumper



Bore size	A	B	C	D	F	GA	GB	GC	H	MM	NA	NB	ND _{h8}	NN	S	Z
10	15	15	17	4	8	5	5	11	28	M4 x 0.7	20.5	9.5	10 ⁰ _{-0.022}	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 ⁰ _{-0.027}	M12 x 1.0	55	91

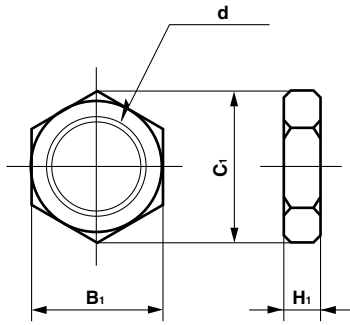
With air cushion

With 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 _{h8}	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 ⁰ _{-0.022}	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 ⁰ _{-0.027}	M12 x 1.0	22.9	13.4	45	74.5	110.5

Mounting Nut

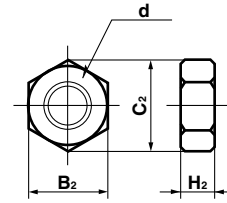


Material: Carbon steel (mm)

Part no.	Applicable bore size	B_1	C_1	d	H_1
SNJ-016C	10	14	16.2	M10 x 1.0	4
SNKJ-016C	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
NTJ-010C	10	7	8.1	M4 x 0.7	3.2
NTJ-015C	16	8	9.2	M5 x 0.8	4

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

Double Rod Cylinder
ø10, ø16

How to Order



● **Clean series**

10	Relief type
11	Vacuum suction type

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

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

● **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.

● **Number of auto switches**

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

● **Type of auto switch**

Nil	Without auto switch
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* For applicable auto switches, refer to the "Applicable Auto Switch" table.

● **Cylinder stroke (mm)**

● **Bore size (mm)**

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

21	Relief type
22	Vacuum suction type

● **Mounting style**

B	Basic style
L	Foot style
F	Flange style

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

● **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.

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	Band mounting only	Standard	—
	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			
	16				15, 30, 45, 60, 75, 100, 125, 150, 175, 200			

Specifications

Item	Bore size (mm)
	10/16
Proof pressure	1 MPa
Max. operating pressure	0.7 MPa
Min. 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 (With no condensation)
Piston speed	50 to 400 mm/s
Stroke length tolerance	+1.0
Mounting style	Basic style/Axial foot style/Flange style
Grease	10-/11-: Fluorine grease, 21-/22-: Lithium soap based grease
Particle generation grade (Refer to front matter 13 for details.)	10-/21-: Grade 2 11-/22-: Grade 1

Suction Flow Rate of Vacuum 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 bracket	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 182 for a list of applicable auto switches.

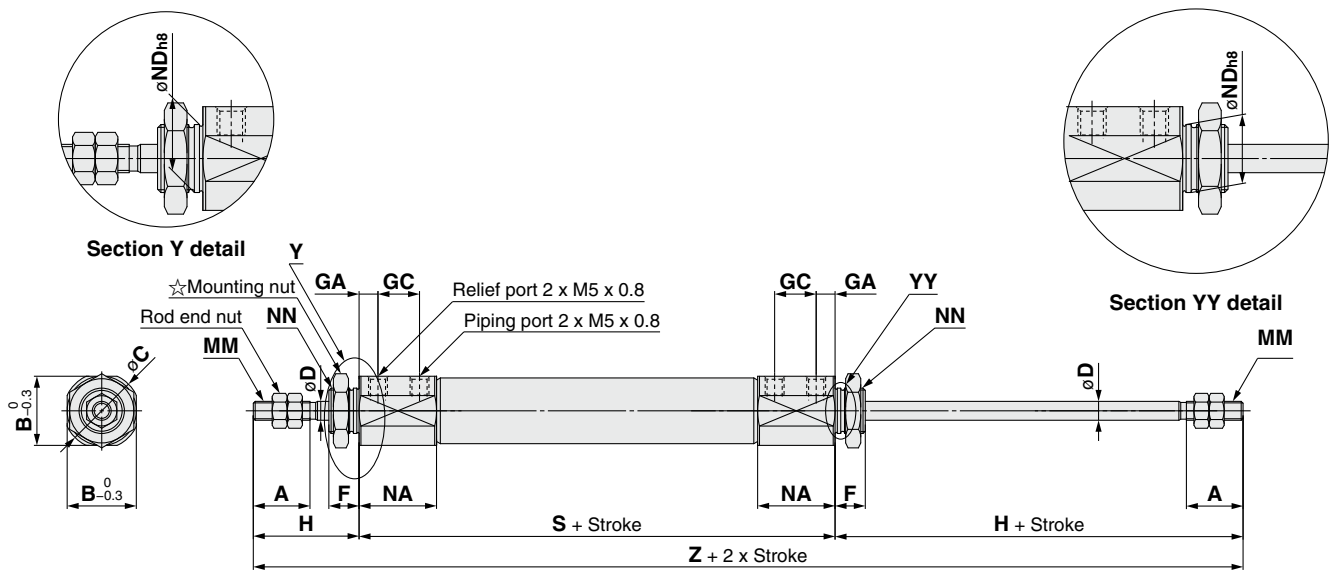
 **Specific Product Precautions**

Be sure to read before handling.

Caution on mounting **Caution**

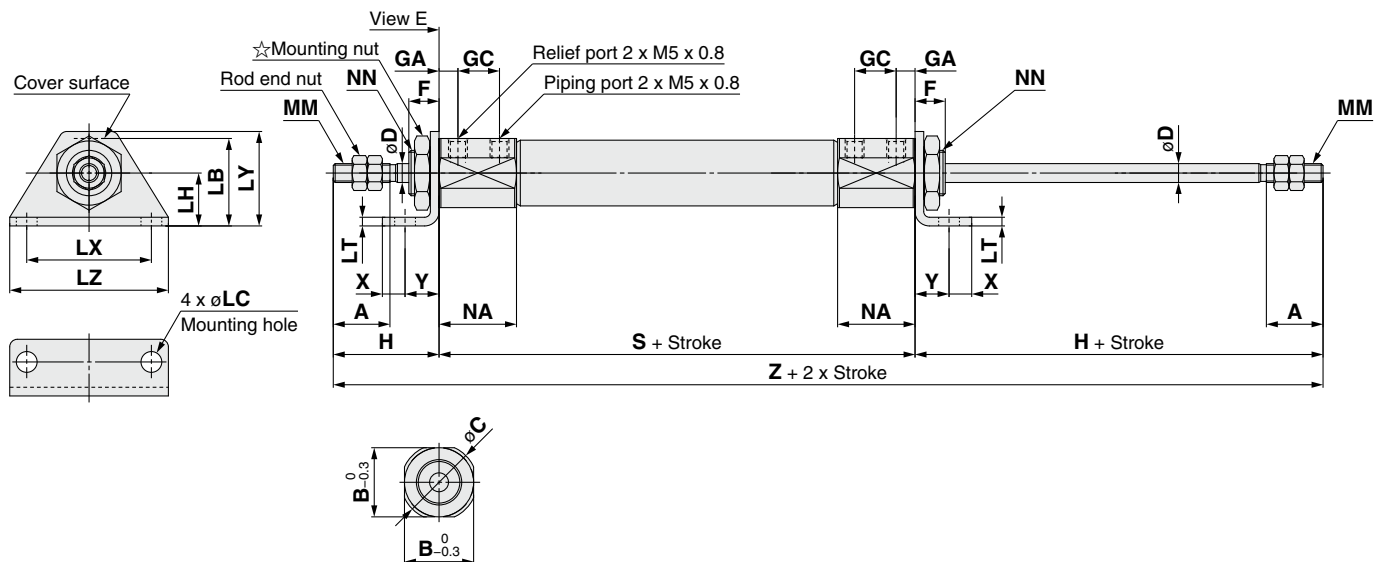
1. When installing the cylinder, secure the rod cover on the mounting side and apply proper tightening torque to the retaining nut or tighten the rod cover on the mounting side by applying proper tightening torque.
If the rod cover on the other side is secured or tightened, the cover could rotate, leading to misalignment.
2. Apply proper screw tightening torque within the following range.
ø10: 10.8 to 11.8 N·m
ø16: 20.0 to 21.0 N·m

Basic Style (B) / 10-11-CJ2WB, 21-22-CJ2WB



Bore size	A	B	C	D	F	GA	GC	H	MM	NA	ND _{ns}	NN	S	Z
10	15	15	17	4	8	5	11	28	M4 x 0.7	20.5	10 ⁰ _{0.022}	M10 x 1.0	65	121
16	15	18.3	20	5	8	5	11	28	M5 x 0.8	20.5	12 ⁰ _{0.027}	M12 x 1.0	66	122

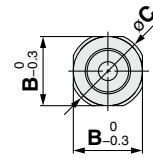
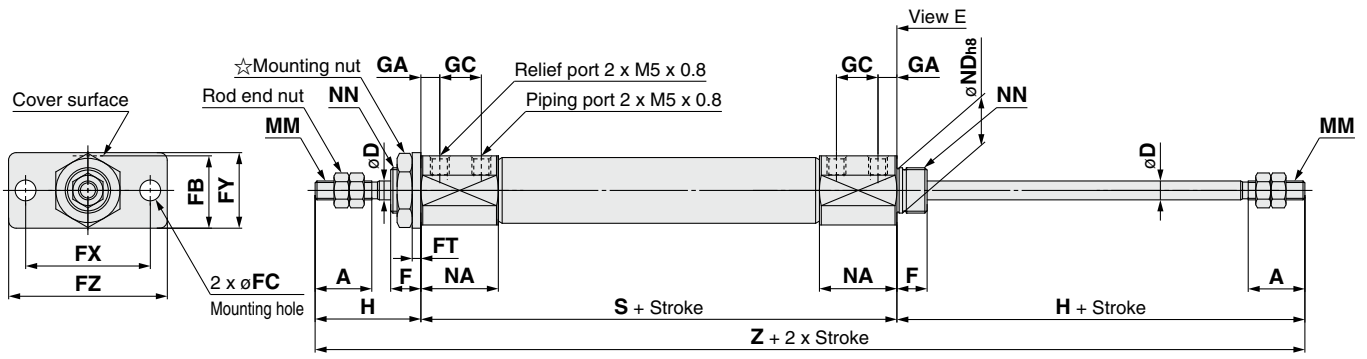
Foot Style (L) / 10-11-CJ2WL, 21-22-CJ2WL



Drawing of view (E)

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

Flange Style (F) / ¹⁰:CJ2WF, ²¹:CJ2WF



Drawing of view (E)

Bore size	A	B	C	D	F	FB	FC	FT	FX	FY	FZ	GA	GC	H	MM	NA	ND _{h8}	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 ⁰ _{-0.022}	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 ⁰ _{-0.027}	M12 x 1.0	66	122

(mm)

Air cylinder

Rotary actuator

Air gripper

Directional control valve

Flow control equipment

Filter, Pressure control equipment

Fittings & Tubing

Air preparation equipment

Pressure switch

Clean gas filter

Series 10-/11- 21-/22- **CJ2RA-Z** Stroke Length Tolerance $\varnothing 10, \varnothing 16$

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)

Head cover port location

Nil	Perpendicular to the cylinder axis	
R	Axial direction	

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

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

• Type of auto switch

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

* For applicable auto switches, refer to the "Applicable Auto Switch" table.

• 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.

Model

Model	Bore size (mm)	Port size	Lubrication	Action	Standard stroke (mm)	Auto switch mounting	Cushion	
							Rubber	Air
Relief 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	-
	16				15, 30, 45, 60, 75, 100, 125, 150, 175, 200			
Vacuum suction type 11-/22-CJ2RA10	10				15, 30, 45, 60, 75, 100, 125, 150			
	16				15, 30, 45, 60, 75, 100, 125, 150, 175, 200			

Specifications

Item	Bore size (mm)
	10/16
Proof pressure	1 MPa
Max. operating pressure	0.7 MPa
Min. 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 (With no condensation)
Piston speed	50 to 400 mm/s
Stroke length tolerance	$^{+1.0}_0$
Mounting style	Bottom mounting style
Grease	10-/11-: Fluorine grease, 21-/22-: Lithium soap based grease
Particle generation grade (Refer to front matter 13 for details.)	10-/21-: Grade 2 11-/22-: Grade 1

Suction Flow Rate of Vacuum Type (Reference values)

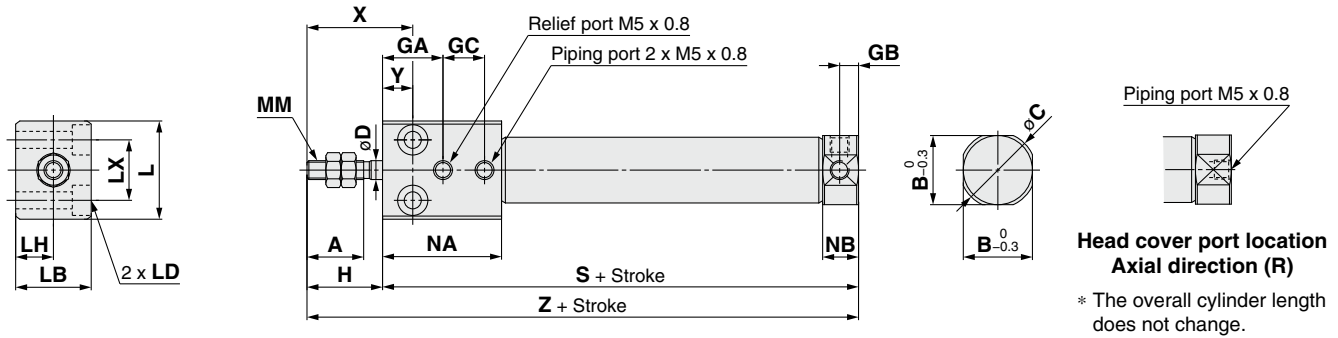
Size	Suction flow rate L/min (ANR)
10/16	1

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 182 for a list of applicable auto switches.

Bottom Mounting Style / 10-11-CJ2RA, 21-22-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 before handling.

Caution on mounting

⚠ Caution

- When installing the cylinder, secure the rod cover on the mounting side and apply proper tightening torque to the retaining nut or tighten the rod cover on the mounting side by applying proper tightening torque. If the rod cover on the other side is secured or tightened, the cover could rotate, leading to misalignment.