Air Cylinder
Series CJ1
Double Acting: ø4/Single Acting, Spring Return: ø2.5, ø4

Series Variations

Series	Action		Bore size (mm)	Cylinder standard stroke (mm)	Page
Standard ***Series CJ1*** 	Double acting	Single rod	4	5, 10, 15, 20	6-2-2
	Single acting	Single rod Spring return	2.5	5, 10	6-2-4
			4	5, 10, 15, 20	

How to Order/Double Acting

CJ1B **4** — **5** **U4**

Mounting style

B	Basic style

Bore size

4	4 mm

Standard stroke (mm)

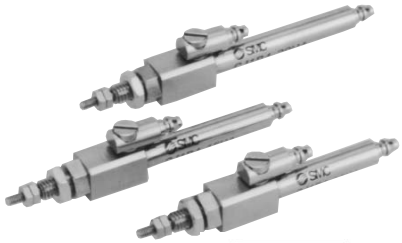
5, 10, 15, 20

Applicable tubing

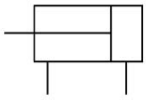
Symbol	Tubing material	Size	
		O.D.	Bore size
U4	Polyurethane	4 mm	2.5 mm
	Soft nylon	4 mm	2.5 mm

For single acting type, refer to pages 6-2-4 to 5.

Air Cylinder
Double Acting, Single Rod
Series CJ1
ø4



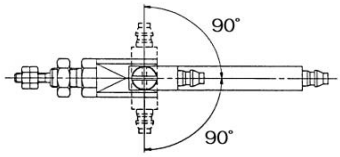
JIS Symbol
Double acting,
Single rod



Formation of small series of a double acting cylinder
(A cylinder with ø4 bore has been added as a compact type to the existing CJ2: ø6 double acting cylinder.)

The fitting on the rod cover side has been provided with a variable piping direction.
(The piping direction of the fitting on the rod cover side can move freely within a range of ±90°.)

■ **The piping direction of the fitting on the rod cover side varies within a range of ±90°.**



⚠ Precautions

Be sure to read before handling. Refer to pages 6-20-3 to 6-20-6 for Safety Instructions and Actuator Precautions.

Piping

⚠ Caution

1. Do not force to connect piping in such a way that the lateral force could be applied on a cylinder tube. Because this could cause a cylinder tube to slant and malfunction.

Mounting

⚠ Caution

1. Do not install by directly grasping the cylinder tube, as this could cause a tube to deform and malfunction.

2. Do not install it by directly grasping the piston rod with a pair of electrician's pliers. Because scratches on the piston rod would cause a bearing or rod seal to get damaged, malfunction, and leak air.

Specifications

Action	Double acting, Single rod
Fluid	Air
Proof pressure	1.05 MPa
Maximum operating pressure	0.7 MPa
Minimum operating pressure	0.2 MPa
Ambient and fluid temperature	–10 to 70°C (No freezing)
Piston speed	50 to 500 mm/s
Cushion	None
Thread tolerance	JIS Class 2
Stroke length tolerance	$^{+0.5}_{0}$ mm
Mounting	Basic style
Lubrication	Not required (Non-lube)

Model/Bore Size/Standard Stroke

Model	Bore size (mm)	Standard stroke (mm)
CJ1B4	4	5, 10, 15, 20

Applicable Tubing

Tubing type	Material	Size		Tube no.
		O.D.	Bore size	
Metric size	Polyurethane	4 mm	2.5 mm	TU0425
	Soft nylon	4 mm	2.5 mm	TS0425

Theoretical Output

(N)

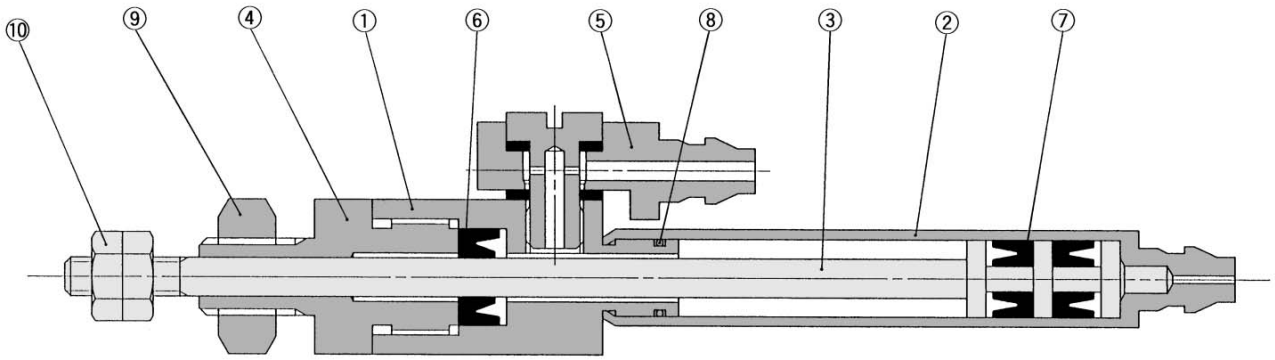
Bore size (mm)	Rod size (mm)	Action	Piston area (mm^2)	Operating pressure (MPa)					
				0.2	0.3	0.4	0.5	0.6	0.7
4	**2**	OUT	12.6	2.52	3.78	5.04	6.30	7.56	8.82
		IN	9.4	1.88	2.82	3.76	4.70	5.64	6.58

Weight

(g)

Bore size (mm)	Cylinder stroke (mm)	Weight
4	5	12.0
	10	12.4
	15	12.8
	20	13.2

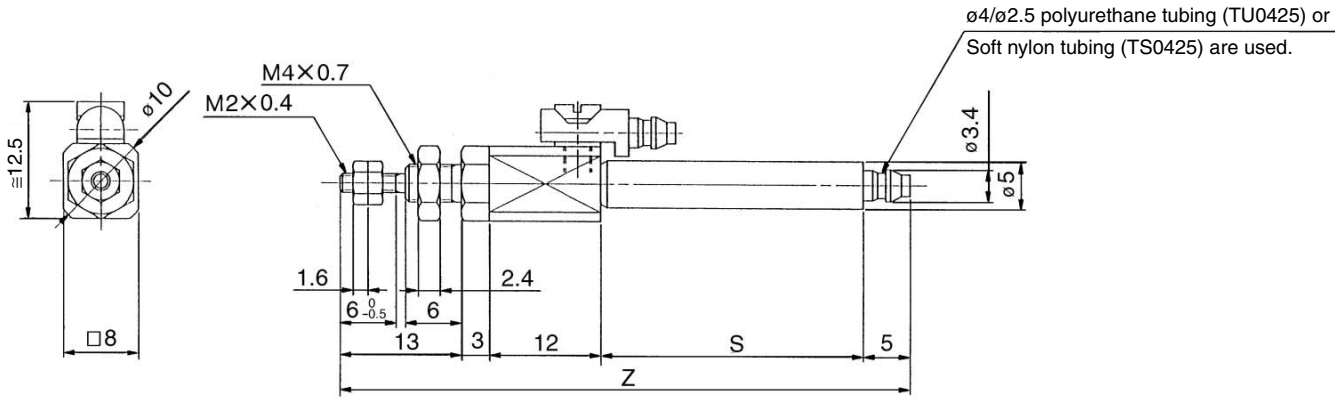
Construction



Component Parts

No.	Description	Material	Note
①	Rod cover	Brass	Electroless nickel plated
②	Cylinder tube	Brass	Electroless nickel plated
③	Piston	Stainless steel	
④	Seal retainer	Brass	Electroless nickel plated
⑤	Fittings	Body Brass	Electroless nickel plated
		Gasket PVC	
⑥	Rod seal	NBR	
⑦	Piston seal	NBR	
⑧	Tube gasket	NBR	
⑨	Mounting nut	Steel	Nickel plated
⑩	Rod end nut	Steel	Nickel plated

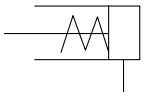
Dimensions: Double Acting, Basic Style



Symbol / Bore size (mm) / Stroke	S				Z			
	5	10	15	20	5	10	15	20
4	18	23	28	33	51	56	61	66

Air Cylinder
Single Acting, Single Rod, Spring Return
Series CJ1
ø2.5, ø4

JIS Symbol
Single acting, Spring return



How to Order/Single Acting

CJ1B 4 — 10 S U4

Mounting style

B	Basic style

Bore size

2	2.5 mm
4	4 mm

Standard stroke (mm)

ø2.5	5, 10
ø4	5, 10, 15, 20

Single acting, Spring return

Applicable tubing

Symbol	Tubing material	Size	
		O.D.	Bore size
U4	Polyurethane	4 mm	2.5 mm
	Soft nylon	4 mm	2.5 mm

Specifications

Action	Single acting, Spring return
Fluid	Air
Proof pressure	1.05 MPa
Maximum operating pressure	0.7 MPa
Minimum operating pressure	0.3 MPa
Ambient and fluid temperature	–10 to 70°C (No freezing)
Piston speed	50 to 500 mm/s
Cushion	None
Thread tolerance	JIS Class 2
Stroke length tolerance	$^{+0.5}_{0}$ mm
Mounting	Basic style
Lubrication	Not required (Non-lube)

Model/Bore Size/Standard Stroke

Model	Bore size (mm)	Standard stroke (mm)
CJ1B2	2.5	5, 10
CJ1B4	4	5, 10, 15, 20

Applicable Tubing

Tubing type	Material	Size		Model no.
		O.D.	Bore size	
Metric size	Polyurethane	4 mm	2.5 mm	TU0425
	Soft nylon	4 mm	2.5 mm	TS0425

Theoretical Output

(N)

Bore size (mm)	Rod size (mm)	Operating direction	Piston area (mm²)	Operating pressure (MPa)				
				0.3	0.4	0.5	0.6	0.7
2.5	1	OUT	4.9	0.34	0.83	1.32	1.81	2.30
		IN	—	0.64				
4	2	OUT	12.6	0.74	2.00	3.26	4.52	5.78
		IN	—	1.47				

Spring Force

(N)

Bore size (mm)	Retracted side	Extended side
2.5	1.13	0.64
4	3.04	1.47

Weight

(g)

Bore size (mm)	5	10	15	20
2.5	1.5	2	—	—
4	3.7	4.6	5.6	6.5

⚠ Precautions

Be sure to read before handling. Refer to pages 6-20-3 to 6-20-6 for Safety Instructions and Actuator Precautions.

Piping

⚠ Caution

1. Do not force to connect piping in such a way that the lateral force could be applied on a cylinder tube. Because this could cause a cylinder tube to slant and malfunction.
Because this could cause a cylinder tube to tilt and malfunction.

Mounting

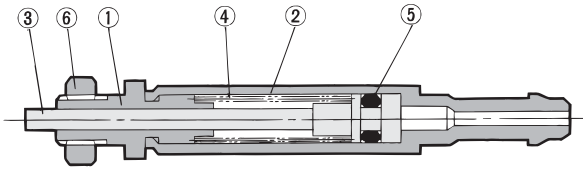
⚠ Caution

1. Do not use it in such a way that a load could be applied to the piston rod during the retraction.
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.

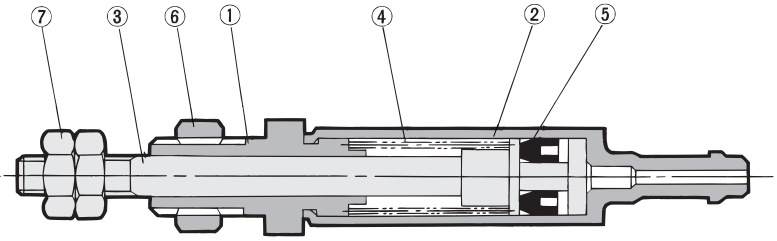
2. Do not install it by directly grasping the cylinder tube, as this could cause a tube to deform and malfunction.

Construction (Not able to disassemble.)

CJ1B2-□SU4



CJ1B4-□SU4

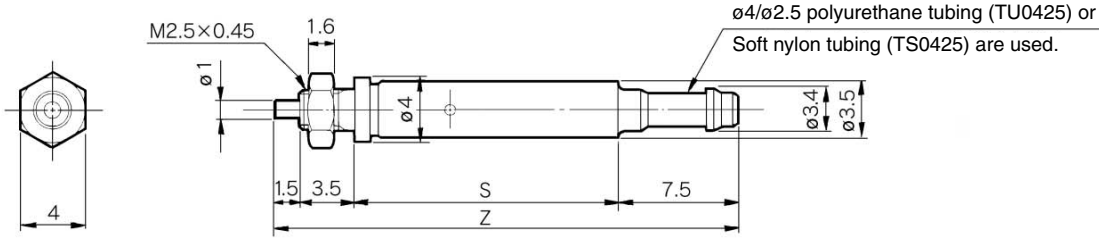


Component Parts

No.	Description	Material	Note
①	Rod cover	Brass	Electroless nickel plated
②	Cylinder tube	Brass	Electroless nickel plated
③	Piston rod	Stainless steel	
④	Spring	Stainless steel wire	
⑤	Piston seal	NBR	
⑥	Mounting nut	Brass	Black zinc chromated
⑦	Rod end nut	Steel	Electroless nickel plated

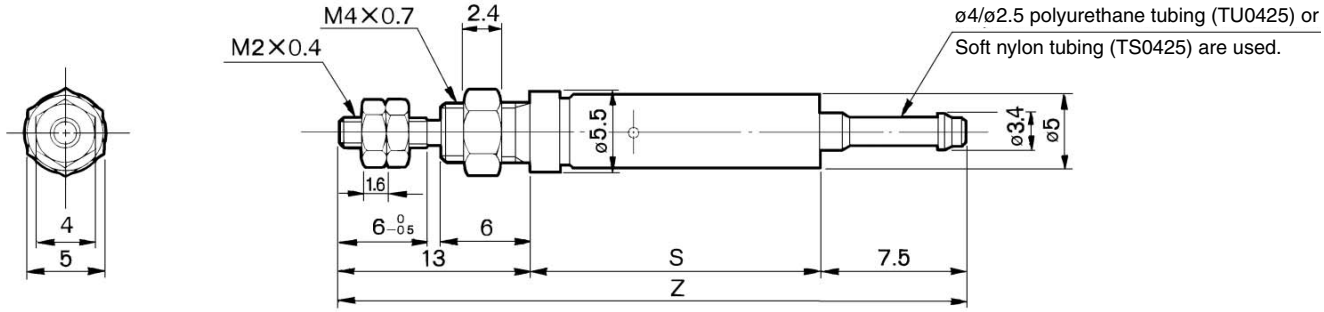
Basic Style

Bore size: ø2.5/CJ1B2-□SU4

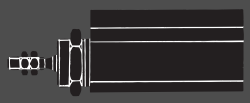


Bore size (mm) \ Symbol / Stroke	S		Z	
	5	10	5	10
2.5	16.5	25.5	29	38

Bore size: ø4/CJ1B4-□SU4



Bore size (mm) \ Symbol / Stroke	S				Z			
	5	10	15	20	5	10	15	20
4	19.5	28.5	37.5	46.5	40	49	58	67



Pin Cylinder
Series CJP
Double Acting/Single Acting, Spring Return

Series Variations

Series	Action		Standard variations: Built-in magnet	Bore size (mm)	Cylinder standard stroke (mm)	Page
Standard *Series CJP* 	Double acting (Non-lube)	Single rod	●	6 10 15	ø6 — 5, 10, 15, 20 ø10, 15 — 5, 10, 15, 20, (25), 30	6-2-8
	Single acting (Non-lube)	Single rod Spring return	●	6 10 15	5, 10, 15	6-2-14

How to Order/Double Acting

Standard stroke (mm)

ø6	5, 10, 15, 20
ø10, ø15	5, 10, 15, 20, (25), 30

Rod end thread

Nil	With thread
B	Without thread

Without auto switch **CJP** **F** **10** **15** **D** □

With auto switch **CDJP** **F** **10** **15** **D** □ **97** **S**

Built-in magnet

Action
Double acting

Number of auto switches

Nil	2 pcs.
S	1 pc.

∗ 5 stroke: S type only

Mounting style

Symbol	Mounting style	Standard type	With auto switch
B	Basic style	●	●
F	Flange style	●	●
L	Foot style	●	●
D	Clevis style	●	—
T	Trunnion style	●	—

Bore size

6	6 mm
10	10 mm
15	15 mm

Auto switch

Nil	Without auto switch (Built-in magnet)

∗ For the applicable auto switch model, refer to the table below.
∗ Auto switch is shipped together with the cylinder, (but not assembled).

Applicable Auto Switch/Refer to page 6-16-1 for further information on auto switches.

Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage: DC		Load voltage: AC	Auto switch model: Perpendicular	Auto switch model: In-line	Lead wire length (m)∗: 0.5 (Nil)	3 (L)	5 (Z)	Pre-wire connector	Applicable load	
Reed switch	—	Grommet	Yes	2-wire	24 V	12 V	—	—	**97**	●	●	●	—	—	Relay, PLC
							100 V	—	**93A**	●	●	●	—	—	

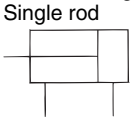
∗ Auto switch cannot be mounted on the clevis style or trunnion style.
∗ Lead wire length symbols: 0.5 m·····Nil (Example) 93A
3 m····· L (Example) 93AL
5 m····· Z (Example) 93AZ

• Since there are other applicable auto switches than listed, refer to page 6-2-9 for details.

Pin Cylinder
Double Acting, Single Rod
Series CJP
ø6, ø10, ø15

JIS Symbol

Double acting,
Single rod



Specifications

Action		Double acting, Single rod
Max. operating pressure		0.7 MPa
Min. operating pressure	ø6	0.12 MPa
	ø10, ø15	0.06 MPa
Proof pressure		1.05 MPa
Ambient and fluid temperature		Without auto switch: –10 to 70°C (No freezing) With auto switch: –10 to 60°C (No freezing)
Lubrication		Not required (Non-lube)
Stroke length tolerance		$^{+1.0}_{0}$
Thread tolerance		JIS Class 2
Rod end configuration		With thread/Without thread
Piston speed		50 to 500 mm/s
Cushion		Rubber bumper
Mounting		Basic style, Flange style, Foot style, Clevis style, Trunnion style

Standard Equipment Accessory

Mounting \ Accessory	Mounting nut (1)	Rod end nut (2)	Trunnion (With pin)
Basic style	●	●	—
Flange style	●	●	—
Foot style	●	●	—
Clevis style	—	●	—
Trunnion style	—	●	●

Standard Stroke

Bore size (mm)	Stroke (mm)
6	5, 10, 15, 20
10	5, 10, 15, 20, (25)*, 30
15	5, 10, 15, 20, (25)*, 30

* 5 mm spacer is installed in the 30 mm stroke cylinder.

Made to Order Specifications (For details, refer to page 6-17-1.)

Symbol	Specifications
-XA□	Change of rod end shape
-XB6	Heat resistant cylinder (150°C)
-XB7	Cold resistant cylinder
-XB9	Low speed cylinder (10 to 50 mm/s)
-XC19	Intermediate stroke (Spacer type)
-XC22	Fluoro rubber seals

Option

Part \ Bore size (mm)	6	10	15
Auto switch	D-90, D-97, D-90A, D-93A		
Single knuckle joint	I-P006	I-P010	I-P015
Double knuckle joint (With pin)	Y-P006	Y-P010	Y-P015

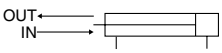
* 5 mm stroke is with one switch.
Auto switch cannot be mounted on the clevis style or trunnion style.

Weight/Cylinder (g)

Stroke / Mounting		Bore size (mm) 6	10	15
Basic weight	5	44	60	99
	10	50	66	108
	15	56	73	118
	20	62	79	127
	(25)	—	93	148
	30	—	92	146
Bracket	Flange style	5	6	16
	Foot style	8	10	24
	Clevis style	3	7	12
	Trunnion (With pin)	18	32	80

Theoretical Output (N)

Bore size (mm)	Operating direction	Operating pressure (MPa) 0.3	0.5	0.7
6	IN	6.36	10.6	14.8
	OUT	8.48	14.1	19.8
10	IN	17.7	29.4	41.2
	OUT	23.6	39.3	55.0
15	IN	44.5	74.2	104
	OUT	53.0	88.3	124



Mounting Bracket Part No.

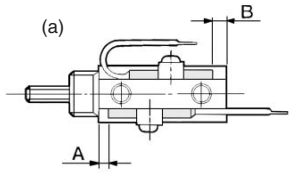
Mounting \ Bore size (mm)	6	10	15
Flange style	CP-F006	CP-F010	CP-F015
Foot style	CP-L006	CP-L010	CP-L015
Trunnion style (With pin)	CP-T006	CP-T010	CP-T015

Auto Switch Mounting Bracket Part No.

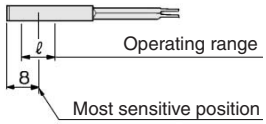
Auto switch model	Mounting bracket part no.	Applicable bore size (mm)
D-90/97 D-90A/93A	BP-1	6, 10, 15

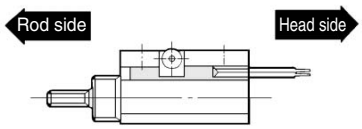
Proper Auto Switch Mounting Position (Detection at stroke end) and Its Mounting Height

D-90, D-90A

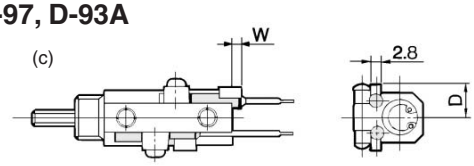


Most sensitive position and operating range of auto switch





D-97, D-93A



Bore size (mm)	A dimension		B dimension			C dimension		W dimension		D
	5, 10, 15, 20 (st)	30 (st)	5 (st)	10, 15, 20 (st)	30 (st)	5, 10, 15, 20 (st)	30 (st)	5, 10, 15, 20 (st)	30 (st)	
6	3.5	—	—	5	—	1.5	—	7.5	—	9.5
10	2.5		—	4		3		9		10
15	2		—	3.5		3.5		9.5		11

Note 1) For 5 stroke cylinders, only one auto switch may be mounted either at the stroke end of the rod side or head side. Also, for the auto switch mounting position of the rod side for 25 stroke cylinders, it will be A dimension + 5 mm.

Note 2) There are two ways to mount the auto switches as showa in the above figure. For the b, c, method, the auto switch in the head side will extend slightly past the edge.

⚠Precautions

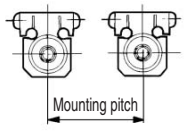
Before handling auto switches, refer to page 6-16-1 for Auto Switches.

⚠Caution

1. If auto switch cylinders are used in parallel keep the distance between cylinders in accordance with the chart below.

Bore size (mm)	6	10	15
Mounting pitch (mm)	20	30	35

Use caution not to use them, getting closer than the specified pitch. Otherwise, it may cause auto switch to malfunction.



Operating Range

Auto switch model	Bore size (mm)		
	6	10	15
D-9□, D-9□A	5.5	8	9

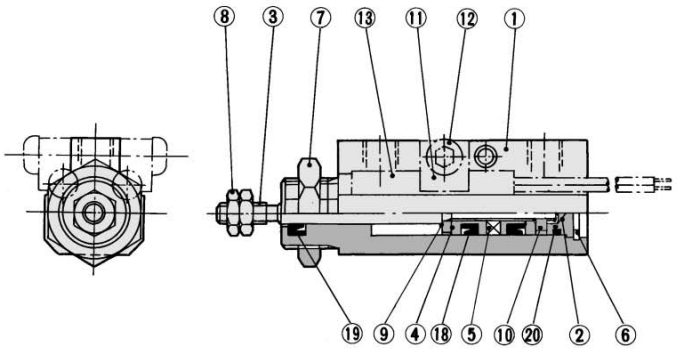
∗ Since this is a guideline including hysteresis, not meant to be guaranteed. (Assuming approximately ±30% dispersion)
There may be the case it will vary substantially depending on an ambient environment.

Other than the applicable auto switches listed in “How to Order”, the following auto switches can be mounted. For detailed specifications, refer to page 6-16-1.

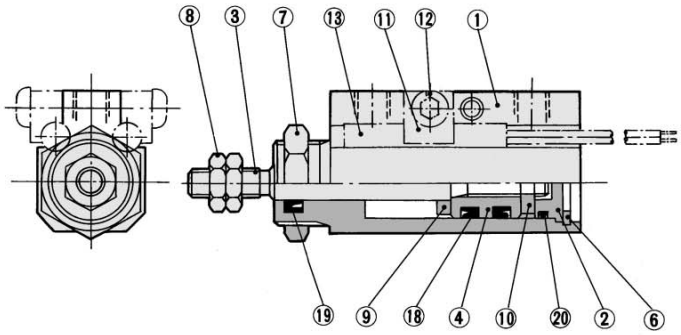
Type	Model	Electricalentry (Fetching direction)	Features
Reed switch	D-90	Grommet (In-line)	Without indicator light, Parallel cord
	D-90A	Grommet (In-line)	Without indicator light, Cabtire cord

Construction

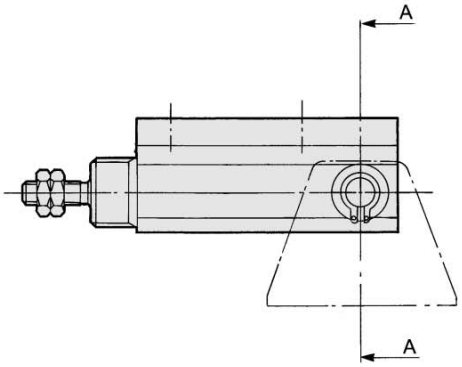
C□JPB6



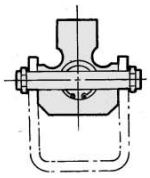
C□JPB10
C□JPB15



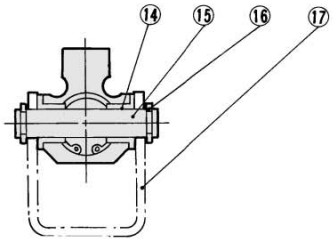
CJP$^{D}_{T}$6 to 15 (Construction is the same as CJPB 6 to 15.)



ø6



ø10, ø15



Section A-A

Component Parts

No.	Description		Material	Note
①	Body		Brass	Electroless nickel plated
②	Head cover		Brass	Electroless nickel plated
③	Piston rod		Stainless steel	
④	Piston	ø6	Brass	
		ø10, ø15	Brass	With switch: Magnetic substance
⑤	Magnet		Magnetic material	With auto switch only
⑥	Snap ring		Carbon tool steel	Black zinc chromated
⑦	Mounting nut		Brass	Electroless nickel plated
⑧	Rod end nut		Carbon steel	Nickel plated
⑨	Bumper A		Urethane	
⑩	Bumper B		Urethane	
⑪	Switch mounting bracket		Aluminum alloy	Black anodized
⑫	Switch mounting screw		Steel	Black zinc chromated
⑬	Auto switch		—	D-90, D-97, D-90A, D-93A
⑭	Flange bushing		Resin	The 6 mm bore cylinder is not available.
⑮	Trunnion pin		Stainless steel	Only used for trunnion style mounting
⑯	Snap ring		Carbon tool steel	Black zinc chromated
⑰	Trunnion pin		Carbon steel	Black zinc chromated
⑱	Piston seal		NBR	
⑲	Rod seal		NBR	
⑳	Gasket		NBR	

Replacement Parts: Seal Kit

Bore size (mm)	Kit no.	Contents
6	CJPB6D-PS	Set of nos. above ⑱, ⑲, ⑳
10	CJPB10D-PS	
15	CJPB15D-PS	

∗ No. ⑱, ⑲ and ⑳ are one seal kit. Please order a seal kit with each part number of tube bore size.

⚠ Precautions

Be sure to read before handling. Refer to pages 6-20-3 to 6-20-6 for Safety Instructions and Actuator Precautions.

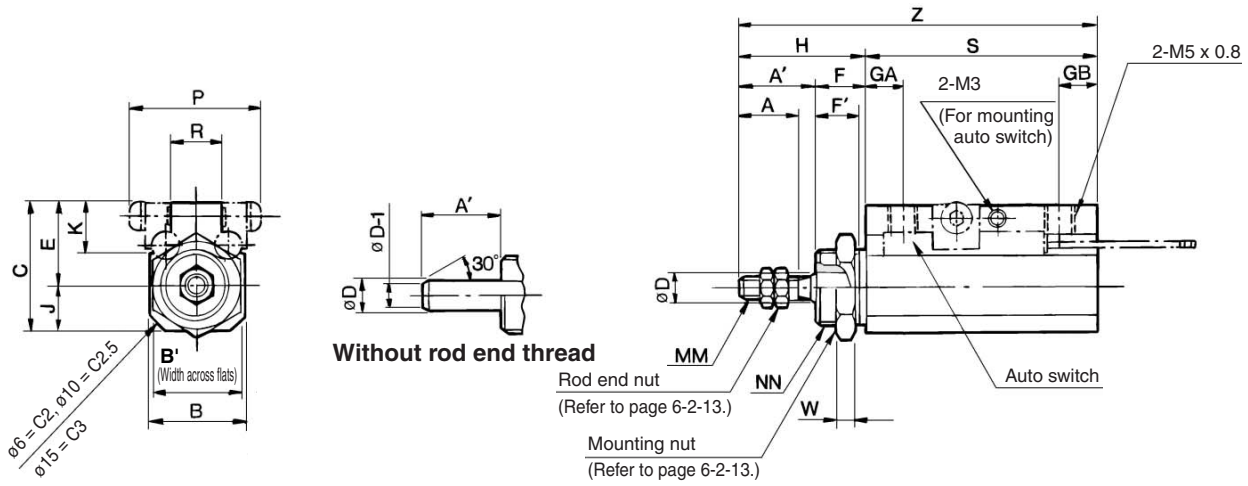
Snap Ring Installation/Removal

⚠ Caution

1. To replace seals or grease the cylinder during maintenance, use an appropriate pair of pliers (tool for installing a type C snap ring for hole).
   After re-installing the cylinder, make sure that the snap ring is placed securely in the groove before supplying air.
2. 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 type C snap ring for hole). In particular, use a pair of ultra-mini pliers, for removing and installing the snap rings on the ø6 cylinder.

Basic Style

C□JPB

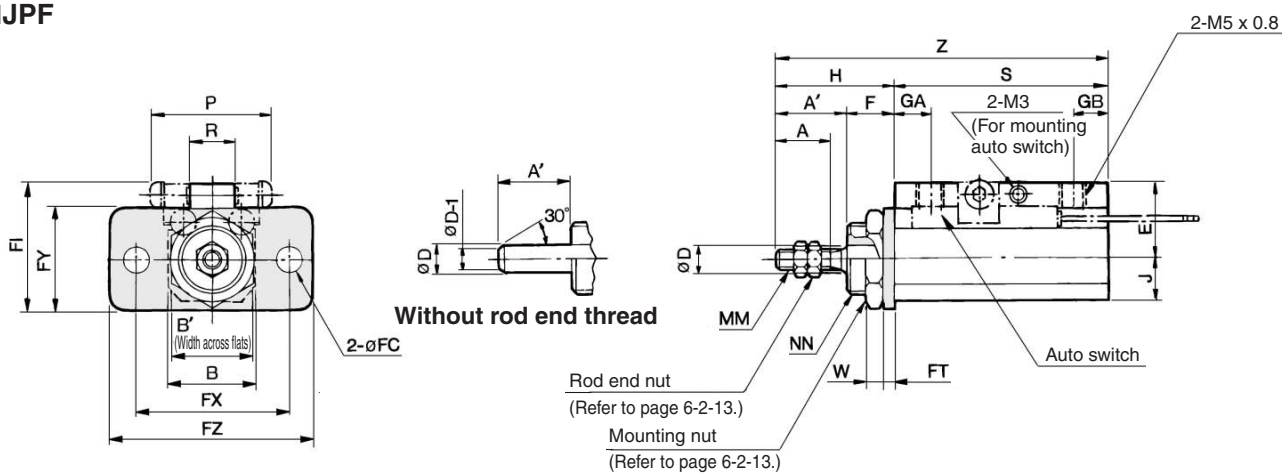


Bore size (mm) \ Symbol	A	A'	B	B'	D	F	F'	GA	GB	H	J	K	MM	NN	R	S				
																5 st	10 st	15 st	20 st	30 st
6	7	9	14	14	3	8	6.5	6	6	17	6	8	M3 x 0.5	M10 x 1.0	7	30.5	35.5	40.5	45.5	—
10	10	12	15	17	5	8	6.5	6	7	20	7	8	M4 x 0.7	M12 x 1.0	8	30.5	35.5	40.5	45.5	55.5
15	12	14	20	19	6	10	8.5	6	7	24	9	8	M5 x 0.8	M14 x 1.0	10	30.5	35.5	40.5	45.5	55.5

Bore size (mm) \ Symbol	W	Z					With auto switch		
		5 st	10 st	15 st	20 st	30 st	C	E	P
6	3	47.5	52.5	57.5	62.5	—	16.5	10.5	20
10	3	50.5	55.5	60.5	65.5	75.5	20	13	21
15	4	54.5	59.5	64.5	69.5	79.5	24.5	15.5	23

Flange Style

C□JPF

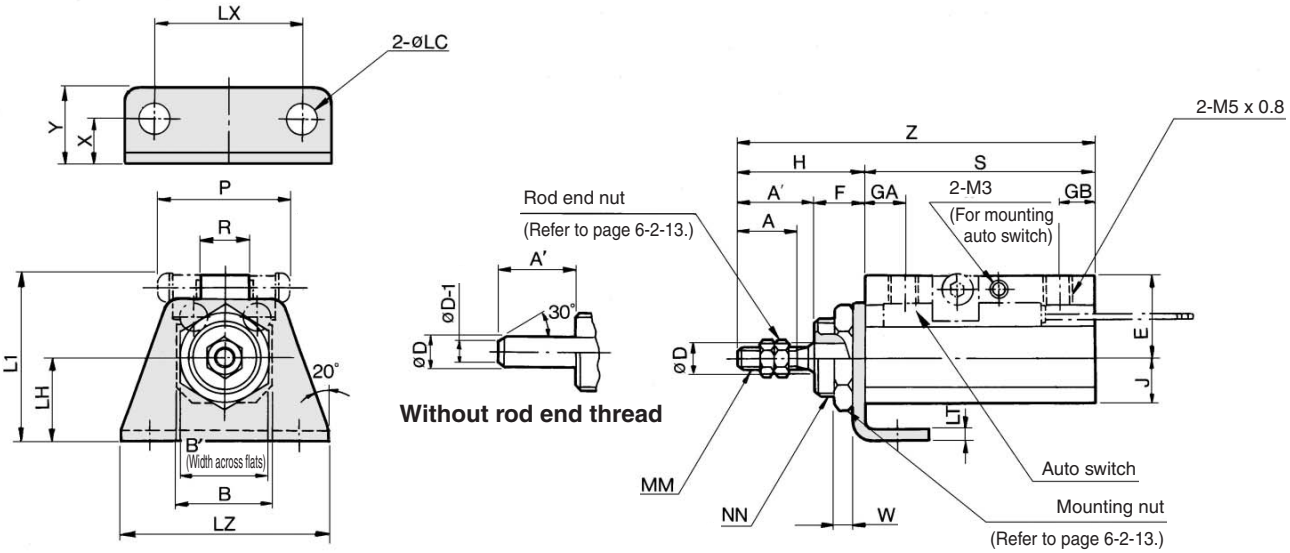


Bore size (mm) \ Symbol	A	A'	B	B'	D	E	F	GA	GB	H	J	MM	NN	R	FC	FT	FX	FY	FZ
6	7	9	14	14	3	10.5	8	6	6	17	6	M3 x 0.5	M10 x 1.0	7	3.4	1.6	24	16	32
10	10	12	15	17	5	13	8	6	7	20	7	M4 x 0.7	M12 x 1.0	8	4.5	1.6	28	18	37
15	12	14	20	19	6	15.5	10	6	7	24	9	M5 x 0.8	M14 x 1.0	10	5.5	2.3	36	22	49

Bore size (mm) \ Symbol	S					W	Z					With auto switch	
	5 st	10 st	15 st	20 st	30 st		5 st	10 st	15 st	20 st	30 st	P	FI
6	30.5	35.5	40.5	45.5	—	3	47.5	52.5	57.5	62.5	—	20	18.5
10	30.5	35.5	40.5	45.5	55.5	3	50.5	55.5	60.5	65.5	75.5	21	22
15	30.5	35.5	40.5	45.5	55.5	4	54.5	59.5	64.5	69.5	79.5	23	26.5

Foot Style

C□JPL

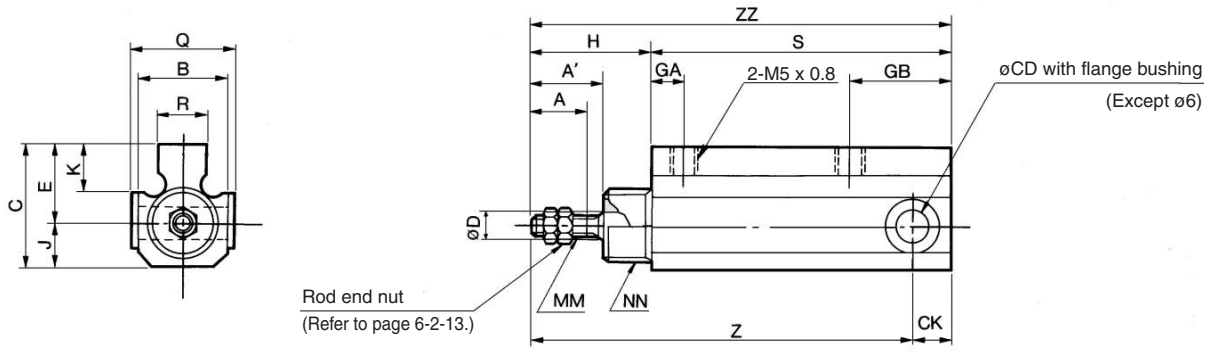


Bore size (mm) \ Symbol	A	A'	B	B'	D	E	F	GA	GB	H	MM	NN	R	X	Y	LC	LH	LT	LX	LZ
6	7	9	14	14	3	10.5	8	6	6	17	M3 x 0.5	M10 x 1.0	7	6.5	10.5	3.4	11	1.6	20	28
10	10	12	15	17	5	13	8	6	7	20	M4 x 0.7	M12 x 1.0	8	7	12	4.5	13	1.6	24	33
15	12	14	20	19	6	15.5	10	6	7	24	M5 x 0.8	M14 x 1.0	10	10	16.5	5.5	18	2.3	30	43

Bore size (mm) \ Symbol	S					W	Z					J	With auto switch	
	5 st	10 st	15 st	20 st	30 st		5 st	10 st	15 st	20 st	30 st		P	L1
6	30.5	35.5	40.5	45.5	—	3	47.5	52.5	57.5	62.5	—	6	20	21.5
10	30.5	35.5	40.5	45.5	55.5	3	50.5	55.5	60.5	65.5	75.5	7	21	26
15	30.5	35.5	40.5	45.5	55.5	4	54.5	59.5	64.5	69.5	79.5	9	23	33.5

Clevis Style

CJPD/Without auto switch



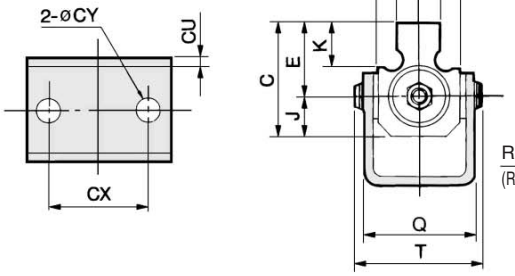
Bore size (mm) \ Symbol	A	A'	B	C	D	E	GA	GB	H	J	K	MM	NN	Q	R	CD	CK
6	7	9	14	16.5	3	10.5	6	11	17	6	8	M3 x 0.5	M10 x 1.0	—	7	$3^{+0.040}_{0}$	4
10	10	12	15	20	5	13	6	17	20	7	8	M4 x 0.7	M12 x 1.0	$17^{0}_{-0.5}$	8	$5^{+0.065}_{0}$	6.5
15	12	14	20	24.5	6	15.5	6	18.5	24	9	8	M5 x 0.8	M14 x 1.0	$22^{0}_{-0.5}$	10	$6^{+0.065}_{0}$	8

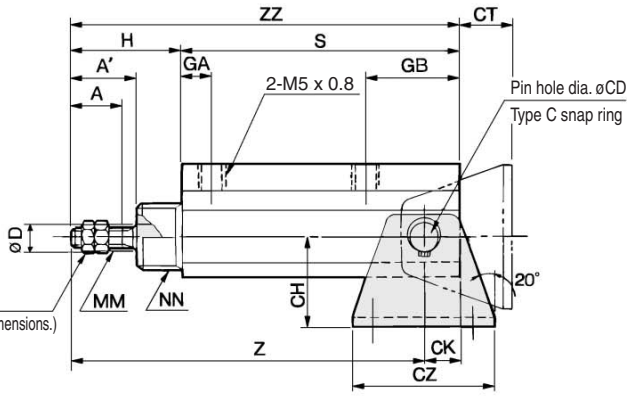
Bore size (mm) \ Symbol	S					Z					ZZ				
	5 st	10 st	15 st	20 st	30 st	5 st	10 st	15 st	20 st	30 st	5 st	10 st	15 st	20 st	30 st
6	35.5	40.5	45.5	50.5	—	48.5	53.5	58.5	63.5	—	52.5	57.5	62.5	67.5	—
10	40.5	45.5	50.5	55.5	65.5	54	59	64	69	79	60.5	65.5	70.5	75.5	85.5
15	42	47	52	57	67	58	63	68	73	83	66	71	76	81	91

Trunnion Style

CJPT/Without auto switch

Mounting dimensions of trunnion pivot bracket



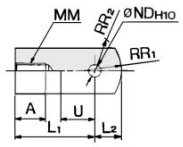


Bore size (mm) \ Symbol	A	A'	B	C	D	E	GA	GB	H	J	K	MM	NN	Q	T	CD	CH	CK	CT	CU	CX	CY	CZ
6	7	9	14	16.5	3	10.5	6	11	17	6	8	M3 x 0.5	M10 x 1.0	18.5	20.4	3	16	4	12	1.6	18	3.4	26
10	10	12	15	20	5	13	6	17	20	7	8	M4 x 0.7	M12 x 1.0	20.5	23.9	5	20	6.5	13.5	1.6	24	4.5	33
15	12	14	20	24.5	6	15.5	6	18.5	24	9	8	M5 x 0.8	M14 x 1.0	28	31.7	6	25	8	17	2.9	29	5.5	42

Bore size (mm) \ Symbol	S					Z					ZZ					R
	5 st	10 st	15 st	20 st	30 st	5 st	10 st	15 st	20 st	30 st	5 st	10 st	15 st	20 st	30 st	
6	35.5	40.5	45.5	50.5	—	48.5	53.5	58.5	63.5	—	52.5	57.5	62.5	67.5	—	7
10	40.5	45.5	50.5	55.5	65.5	54	59	64	69	79	60.5	65.5	70.5	75.5	85.5	8
15	42	47	52	57	67	58	63	68	73	83	66	71	76	81	91	10

Accessory Bracket Dimensions

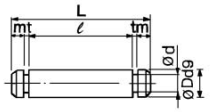
Single knuckle joint



Material: Rolled steel

Part no.	Applicable bore (mm)	A	B	L_1	L_2	MM	ND_{H10}	NX	R_1	R_2	U
I-P006	6	5	6	12	3.5	M3 x 0.5	$3^{+0.040}_{0}$	3	5	4	5
I-P010	10	6.5	10	16	5.5	M4 x 0.7	$5^{+0.048}_{0}$	5	8	6.3	7
I-P015	15	7	12	19	7	M5 x 0.8	$6^{+0.048}_{0}$	6	10	7.8	9

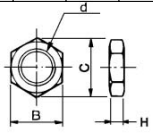
Knuckle pin



Material: Stainless steel

Part no.	Applicable bore (mm)	D d9	L	d	ℓ	m	t	Snap ring
IY-P006	6	$3^{-0.020}_{-0.045}$	9	2.85	6.2	0.75	0.65	Clip type C3
IY-P010	10	$5^{-0.030}_{-0.060}$	13.6	4.8	10.2	1	0.7	Type C 5
IY-P015	15	$6^{-0.030}_{-0.060}$	15.8	5.7	12.2	1	0.8	Type C 6

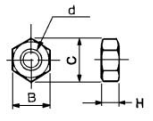
Mounting nut



Material: Brass

Part no.	Applicable bore (mm)	d	H	B	C
SNP-006	6	M10 x 1.0	3	14	16.2
SNP-010	10	M12 x 1.0	3	17	19.6
SNP-015	15	M14 x 1.0	4	19	21.9

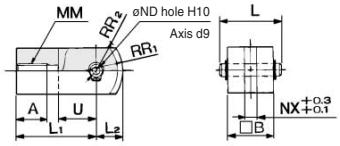
Rod end nut



Material: Iron

Part no.	Applicable bore (mm)	d	H	B	C
NTP-006	6	M3 x 0.5	1.8	5.5	6.4
NTP-010	10	M4 x 0.7	2.4	7	8.1
NTP-015	15	M5 x 0.8	3.2	8	9.2

Double knuckle joint

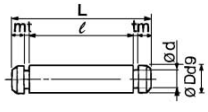


∗ Knuckle pin and set ring are shipped together.

Material: Rolled steel

Part no.	Applicable bore (mm)	A	B	L	L_1	L_2	MM	ND_{d9}	ND_{H10}	NX	R_1	R_2	U
Y-P006	6	5	6	9	12	3.5	M3 x 0.5	$3^{-0.020}_{-0.045}$	$3^{+0.040}_{0}$	3	5	4	5
Y-P010	10	6.5	10	13.6	16	5.5	M4 x 0.7	$5^{-0.030}_{-0.060}$	$5^{+0.048}_{0}$	5	8	6.3	7
Y-P015	15	7	12	15.8	19	7	M5 x 0.8	$6^{-0.030}_{-0.060}$	$6^{+0.048}_{0}$	6	10	7.8	9

Trunnion pin

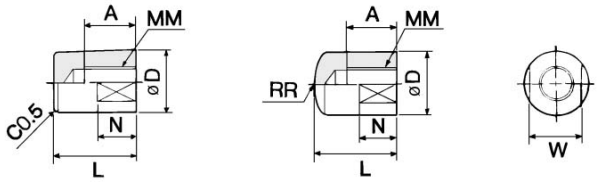


Material: Stainless steel

Part no.	Applicable bore (mm)	D d9	L	d	ℓ	m	t	Snap ring
CT-P006	6	$3^{-0.020}_{-0.045}$	20.4	2.85	17.6	0.75	0.65	Clip type C3
CT-P010	10	$5^{-0.030}_{-0.060}$	23.9	4.8	20.5	1	0.7	Type C 5
CT-P015	15	$6^{-0.030}_{-0.060}$	31.7	5.7	28.1	1	0.8	Type C 6

Rod end cap

Flat type/CJ-CF□□□ Round type/CJ-CR□□□



Material: Polyacetal

Part no.		Applicable bore (mm)	A	D	L	MM	N	R	W
Flat type	Round type								
CJ-CF006	**CJ-CR006**	6	6	8	11	M3 x 0.5	5	8	6
CJ-CF010	**CJ-CR010**	10	8	10	13	M4 x 0.7	6	10	8
CJ-CF016	**CJ-CR016**	15	10	12	15	M5 x 0.8	7	12	10

Pin Cylinder
Single Acting, Single Rod, Single Return
Series CJP
ø6, ø10, ø15

A short stroke miniature cylinder with a shorter overall length.

The installation space can be significantly reduced because this cylinder can be recessed directly into a machine body or installed on a panel.
Thus, the machine can be made more compact.

Plug mounting style Panel mounting style

How to Order

CJP | B | 10 | 15 | H4 |

Pin cylinder

Mounting style

B	Panel mounting style
S	Plug mounting style

Bore size

6	6 mm
10	10 mm
15	15 mm

Standard stroke (mm)

ø6, ø10, ø15	5, 10, 15

Hose nipple
(Applicable to panel mounting style only.)
(Hose nipple is not attached to embedded style.)

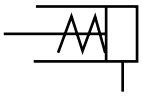
H4	ø4/For ø2.5 tubing
H6	ø6/For ø4 tubing
Nil	Without hose nipple *

* Refer to ⚠ caution on piping on page 6-2-15.

Rod end thread

Nil	With thread
B	Without thread

JIS Symbol
Single acting,
Spring return



Made to Order Specifications
(For details, refer to page 6-17-1.)

Symbol	Specifications
-XC17	Pin cylinder with rod quenched
-XC22	Fluoro rubber seals

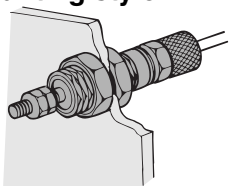
Specifications

Action		Single acting, Spring return	
Maximum operating pressure		0.7 MPa	
Minimum operating pressure	ø6	0.2 MPa	
	ø10, ø15	0.15 MPa	
Proof pressure		1.05 MPa	
Ambient and fluid temperature		–10 to 70°C (No freezing)	
Lubrication		Not required (Non-lube)	
Piston speed		50 to 500 mm/s	
Cushion		None	
Stroke length tolerance		$^{+1.0}_{0}$	
Thread tolerance		JIS Class 2	
Rod end configuration		With thread/Without thread	
Mounting bracket		Panel mounting style	Plug mounting style
Accessory (Standard equipment)	Standard equipment	Mounting nut (2) Rod end nut * (2)	Mounting nut (1) Gasket (1) Rod end nut * (2)
	Option	Hose nipple	

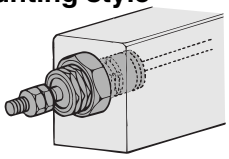
* When rod end is threaded.

Mounting Style

Panel mounting style

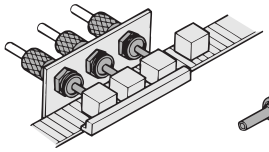


Plug mounting style

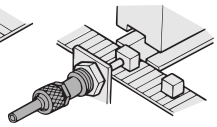


Application Example

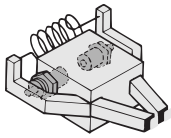
Clamper



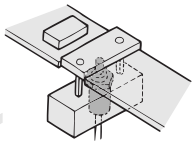
Ejector



Gripper



Stopper



Standard Stroke

Bore size (mm)	Stroke (mm)
6	5, 10, 15
10	5, 10, 15
15	5, 10, 15

Spring Reaction Force (N)

Bore size (mm)	Stroke (mm)	Retracted side	Extended side
6	5, 10, 15	3.92	1.42
10	5, 10, 15	5.98	2.45
15	5, 10, 15	10.8	4.41

∗ Same spring force for each stroke.

Weight (g)

Model	Stroke (mm)		
	5	10	15
CJP□6	10.6	13.1	15.6
CJP□10	28	33	38
CJP□15	72	82	92

∗ Weight of hose nipple (4 g) for panel mounting is excluded.

Hose Nipple Dedicated for Panel Mounting Style (With fixed orifice)

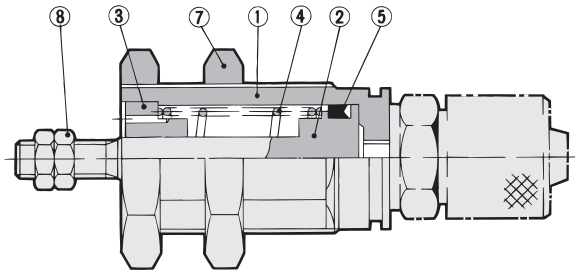
Applicable tubing	Part no.
ø4/For ø2.5 tubing	CJ-5H-4
ø6/For ø4 tubing	CJ-5H-6

Theoretical Output (N)

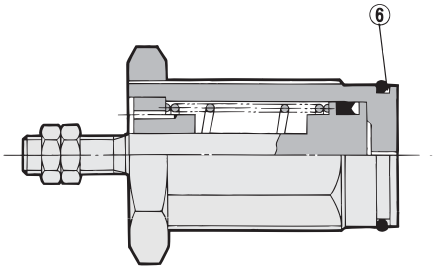
Bore size (mm)	Operating direction	Operating pressure (MPa)		
		0.3	0.5	0.7
6	OUT	4.56	10.2	15.9
	IN	1.42		
10	OUT	17.6	33.3	49.0
	IN	2.45		
15	OUT	42.2	77.5	113
	IN	4.41		

Construction (Not able to disassemble.)

Panel mounting style



Plug mounting style



Component Parts

No.	Description	Material	Note
①	Cover	Brass	Electroless nickel plated
②	Piston	Stainless steel	
③	Collar	Oil-impregnated sintered alloy	ø6, ø10 Phosphor bronze
④	Return spring	Piano wire	Zinc chromated
⑤	Piston seal	NBR	
⑥	Gasket	NBR	Special product (O-ring) for embedded style
⑦	Mounting nut	Brass	Electroless nickel plated
⑧	Rod end nut	Steel	Nickel plated

Dedicated Nut Part No.

Description \ Bore size (mm)	6	10	15
Mounting nut	SNPS-006	SNPS-010	SNPS-015
Rod end nut	NTP-006	NTP-010	NTP-015

⚠ Precautions

Be sure to read before handling. Refer to pages 6-20-3 to 6-20-6 for Safety Instructions and Actuator Precautions.

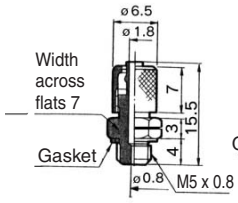
Piping

⚠ Caution

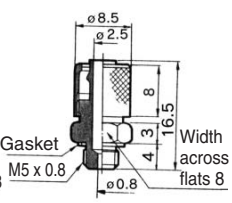
1. Use a dedicated hose nipple.
On the panel mounting style, use the CJ-5H-4 or CJ-5H-6, a dedicated hose nipple (with a fixed orifice) that is provided. If a different fitting must be used due to unavoidable circumstances, make sure to install a speed controller and use it by adjusting it to 500 mm/s or less.

Hose nipple

CJ-5H-4 (ø4/For ø2.5 tubing)



CJ-5H-6 (ø6/For ø4 tubing)



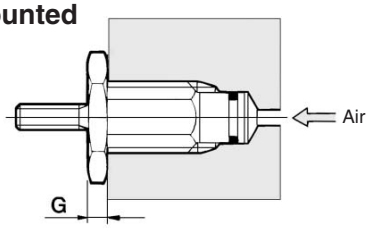
Mounting

⚠ Caution

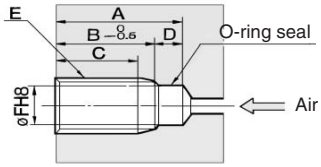
1. Do not use it in such a way that a load could be applied to the piston rod during the retraction.
The spring that is built into the cylinder provides only enough force to retract the piston rod. Thus, if a load is applied, the piston rod will not be able to retract to the end of the stroke.

Recommended Mounting Hole Dimensions for Plug Mounting Style

When plug mounted



Machining dimensions for mounting

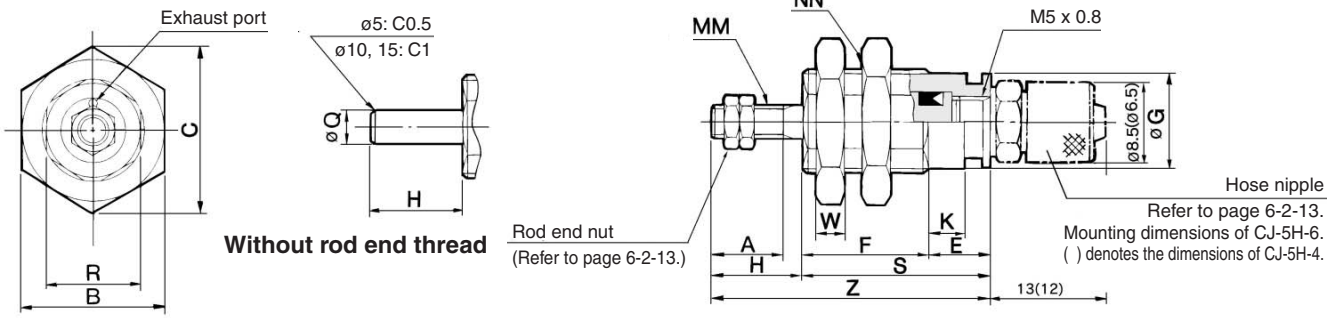


Bore size (mm)	Stroke	A	B	C	D	E	F	G
6	5	16	12.5	10	3.5	M10 x 1.0	8.5	3
	10	23	19.5	17				
	15	30	26.5	24				
10	5	17	13.5	10.5	3.5	M15 x 1.5	12	4
	10	23.5	20	17				
	15	30.5	27	24				
15	5	19	14.5	11.5	4.5	M22 x 1.5	19	5
	10	25	20.5	17.5				
	15	31.5	27	24				

Note) E and øF should be machined in a concentric manner.

Panel Mounting Style

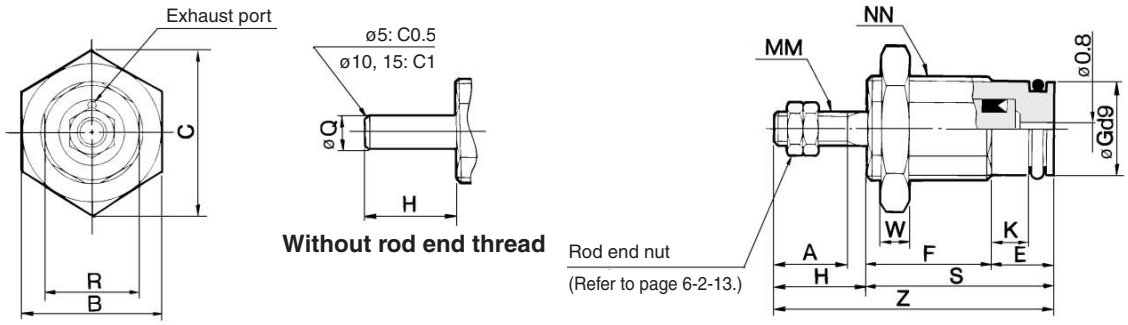
CJPB



Bore size (mm)	A	B	C	E	F			G	H	K	MM	NN	R	S			W	Z			Q
					5 st	10 st	15 st							5 st	10 st	15 st		5 st	10 st	15 st	
6	7	12	13.9	6	12.5	19.5	26.5	8.5	9	3.5	M3 x 0.5	M10 x 1.0	9	18.5	25.5	32.5	3	27.5	34.5	41.5	3
10	10	19	22	6	14.5	21	28	12	12	3.5	M4 x 0.7	M15 x 1.5	13	20.5	27	34	4	32.5	39	46	5
15	12	27	31	7	16.5	22.5	29	19	14	4.2	M5 x 0.8	M22 x 1.5	20	23.5	29.5	36	5	37.5	43.5	50	6

Plug Mounting Style

CJPS



Bore size (mm)	A	B	C	E	F			G	H	K	MM	NN	R	S			W	Z			Q
					5 st	10 st	15 st							5 st	10 st	15 st		5 st	10 st	15 st	
6	7	12	13.9	6	12.5	19.5	26.5	8.5	9	3.5	M3 x 0.5	M10 x 1.0	9	18.5	25.5	32.5	3	27.5	34.5	41.5	3
10	10	19	22	6	14.5	21	28	12	12	3.5	M4 x 0.7	M15 x 1.5	13	20.5	27	34	4	32.5	39	46	5
15	12	27	31	7	16.5	22.5	29	19	14	4.2	M5 x 0.8	M22 x 1.5	20	23.5	29.5	36	5	37.5	43.5	50	6