

Air Cylinder

Series *CJ1*

Double Acting: $\varnothing 4$ /Single Acting, Spring Return: $\varnothing 2.5, \varnothing 4$

Series Variations

Series	Action		Bore size (mm)	Cylinder standard stroke (mm)	Page
Standard Series <i>CJ1</i> 	Double acting	Single rod	4	5, 10, 15, 20	P.16
	Single acting	Single rod Spring return	2.5 4	5, 10 5, 10, 15, 20	P.18

CJ1

CJP

CJ2
-Z

CM2

CM2
-Z

CM2

CM3

CG1
-Z

CG1

CG3

MB
-Z

MB

MB1

CA2
-Z

CA2

CS1

CS2

D-□

-X□

Technical data



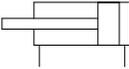
Air Cylinder: Double Acting

Series CJ1

Bore Size: $\varnothing 4$



Symbol
 Double acting,
 Single rod
 Without cushion



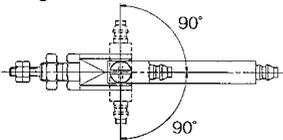
Formation of small series of a double acting cylinder

(A cylinder with $\varnothing 4$ bore has been added as a compact type to the existing CJ2: $\varnothing 6$ 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 $\pm 90^\circ$.)

■ The piping direction of the fitting on the rod cover side varies within a range of $\pm 90^\circ$.



⚠ Precautions

Be sure to read before handling. Refer to front matter 57 for Safety Instructions and pages 3 to 12 for Actuator and Auto Switch Precautions.

Piping

⚠ Caution

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

Mounting

⚠ Caution

- Do not install by directly grasping the cylinder tube, as this could cause a tube to deform and malfunction.
- Do not install it by directly grasping the piston rod with a pair of electrician's pliers. Scratches on the piston rod would cause a bearing or rod seal to get damaged, malfunction, and leak air.

How to Order/Double Acting

CJ1B 4 - 5 U4

Mounting style
B Basic style

Bore size
4 4 mm

Applicable tubing

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

Standard stroke (mm)
 5, 10, 15, 20

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
Stroke length tolerance	+0.5 mm 0
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

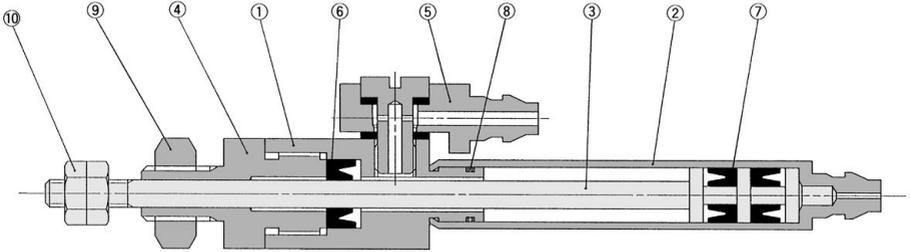
Theoretical Output

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

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

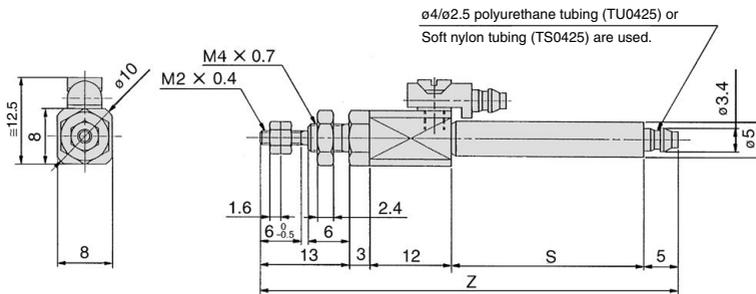
Construction



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 Gasket NBR + Stainless steel 304	Electroless nickel plated
6	Rod seal	NBR	
7	Piston seal	NBR	
8	Tube gasket	NBR	
9	Mounting nut	Steel	Nickel plated
10	Rod end nut	Steel	Zinc chromated

Dimensions: Double Acting, Basic Style



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

CJ1

CJP

CJ2
-Z

CJ2

CM2
-Z

CM2

CM3

CG1
-Z

CG1

CG3

MB
-Z

MB

MB1

CA2
-Z

CA2

CS1

CS2

D-□

-X□

Technical data

Air Cylinder

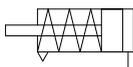
Single Acting: Spring Return

Series CJ1

Bore Size: $\phi 2.5, \phi 4$



Symbol
Single acting, Spring return



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 front matter 57 for Safety Instructions and pages 3 to 12 for Actuator and Auto Switch Precautions.

Piping

⚠ Caution

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

Mounting

⚠ Caution

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

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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)

$\phi 2.5$	5, 10
$\phi 4$	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

Single acting, Spring return

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
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)

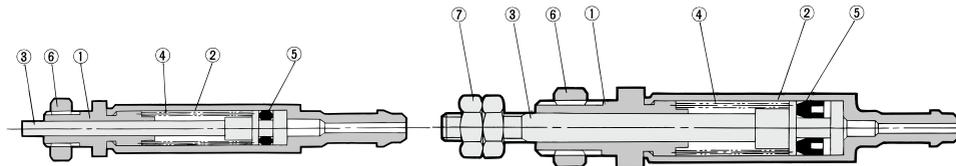
Bore size (mm)	Rod size (mm)	Operating direction	Piston area (mm ²)	Operating pressure (MPa)				
				0.3	0.4	0.5	0.6	0.7
2.5	1	OUT	4.9	0.34	0.83	1.32	1.81	2.30
		IN	—	0.64				
4	2	OUT	12.6	0.74	2.00	3.26	4.52	5.78
		IN	—	1.47				



Construction (Not able to disassemble)

CJ1B2-□SU4

CJ1B4-□SU4

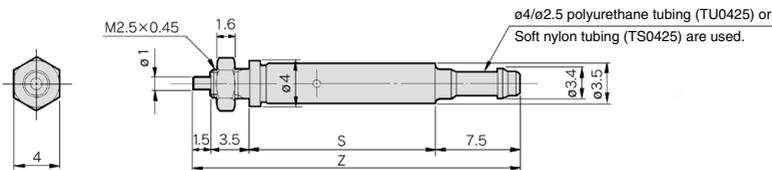


Component Parts

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	Zinc chromated

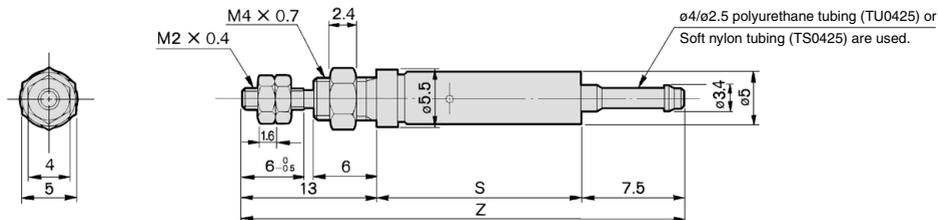
Basic Style

Bore size: $\phi 2.5$ /CJ1B2-□SU4



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

Bore size: $\phi 4$ /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

CJ1

CJP

CJ2
-Z

CJ2

CM2
-Z

CM2

CM3

CG1
-Z

CG1

CG3

MB
-Z

MB

MB1

CA2
-Z

CA2

CS1

CS2

D-□

-X□

Technical data