Double Acting: ø4/Single Acting, Spring Return: ø2.5, ø4

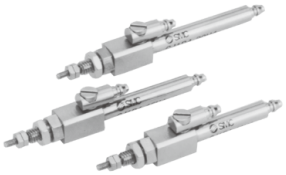
Series Variations

Series	Action		Bore size (mm)	Cylinder standard stroke (mm)	Page
Standard ***CJ1*** ***Series*** 	Double acting	Single rod	4	5, 10, 15, 20	P.34
	Single acting	Single rod Spring return	2.5	5, 10	P.36
			4	5, 10, 15, 20	

Air Cylinder: Double Acting

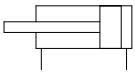
CJ1 Series

Bore Size: ø4



Symbol

Double acting,
Single rod
Without cushion



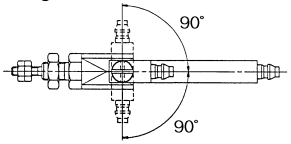
Formation of small series of a double acting cylinder

(A cylinder with ø4 bore has been added as a compact type to the current 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 this before handling the products. Refer to page 20 for safety instructions and pages 21 to 30 for actuator and auto switch 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. 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. 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 type

B	Basic type

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

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	$^{+0.5}_{0}$ mm
Mounting	Basic type
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)

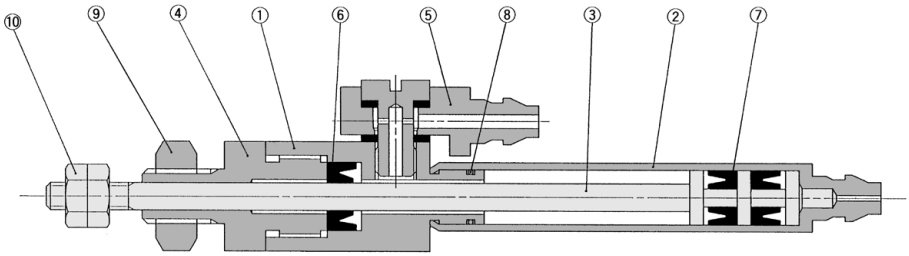
Bore size (mm)	Rod size (mm)	Action	Piston area (mm²)	Operating pressure (MPa)					
				0.2	0.3	0.4	0.5	0.6	0.7
4	**2**	OUT	12.6	2.52	3.78	5.04	6.30	7.56	8.82
		IN	9.4	1.88	2.82	3.76	4.70	5.64	6.58

Weight

(g)

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

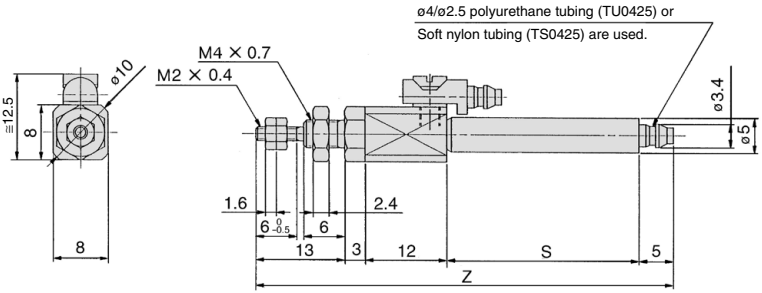
Construction



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 NBR + Stainless steel 304	
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

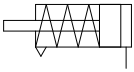
Dimensions: Double Acting, Basic Type



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

Air Cylinder
Single Acting: Spring Return
CJ1 Series
Bore Size: ø2.5, ø4

Symbol
Single acting, Spring return



Spring Force (N)

Bore size (mm)	Spring reaction force	
	Secondary	Primary
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 this before handling the products. Refer to page 20 for safety instructions and pages 21 to 30 for actuator and auto switch 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. 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.

How to Order/Single Acting

CJ1B 4 – 10 S U4

Mounting type

B	Basic type

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
Stroke length tolerance	$^{+0.5}_{0}$ mm
Mounting	Basic type
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

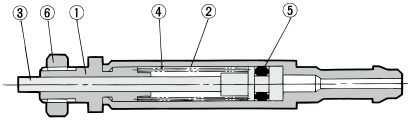
Tubing type	Material	Size		Model no.
		O.D.	Bore size	
Metric size	Polyurethane	4 mm	2.5 mm	TU0425
	Soft nylon	4 mm	2.5 mm	TS0425

Theoretical Output (N)

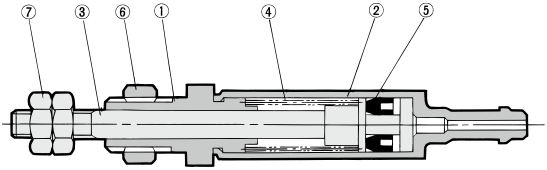
Bore size (mm)	Rod size (mm)	Operating direction	Piston area (mm^2)	Operating pressure (MPa)				
				0.3	0.4	0.5	0.6	0.7
2.5	**1**	OUT	4.9	0.34	0.83	1.32	1.81	2.30
		IN	—	0.64				
4	**2**	OUT	12.6	0.74	2.00	3.26	4.52	5.78
		IN	—	1.47				

Construction (Not able to disassemble)

CJ1B2-□SU4



CJ1B4-□SU4

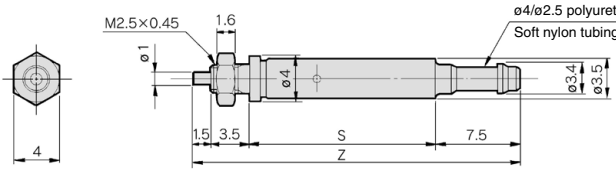


Component Parts

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

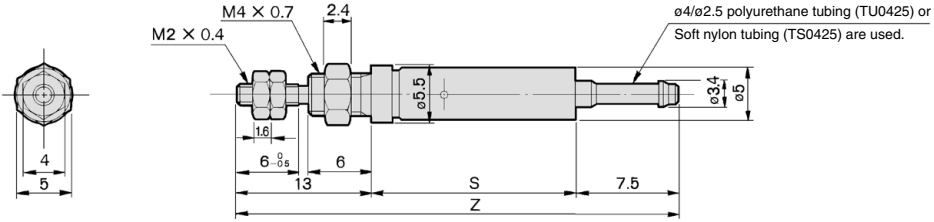
Basic Type

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