Pin Cylinder: Single Acting, Spring Return

CJP Series

ø4, ø6, ø10, ø16

Embedded type

Panel mount type

How to Order

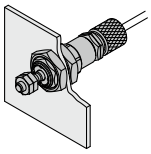
CJP B 16 – 15 H4 Z – T –

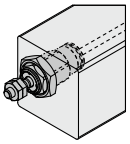
Pin cylinder

Mounting

B	Panel mount type
S	Embedded type

Panel mount type **Embedded type**





Bore size

4	4 mm
6	6 mm
10	10 mm
16	16 mm

Standard stroke [mm]

ø4, ø6, ø10, ø16	5, 10, 15

Hose nipple
(Applicable to the mounting type B panel mount type (ø6 to ø16) only.)
(Hose nipple is not attached to the embedded type.)

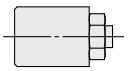
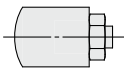
Nil	Without hose nipple
H4	For ø4/ø2.5 tubing
H6	For ø6/ø4 tubing

∗ For details, refer to page 8.

Rod end thread

Nil	With thread
B	Without thread

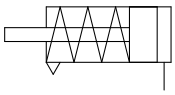
Rod end cap

Nil	Without cap
T	Rod end cap (Flat type) 
U	Rod end cap (Round type) 

∗ Rod end cap is included in the same package. Use the rod end nut of the standard cylinder to tighten the rod end cap.
∗ Applicable for rod end with thread type

Made to order (ø6 to ø16)
∗ For details, refer to the table below.

Symbol
Single acting, Spring return



Made to Order

Made to Order (ø6 to ø16)
(For details, refer to pages 6 and 7.)

Symbol	Specifications
XC17	Pin cylinder with rod quenched
XC22	Fluororubber seals

Moisture Control Tube IDK Series

When operating an actuator with a small diameter and a short stroke at a high frequency, dew condensation (water droplets) may occur inside the piping depending on the conditions. Simply connecting the moisture control tube to the actuator will prevent dew condensation from occurring. For details, refer to the **Web Catalog**.

Specifications

Action		Single acting, Spring return	
Maximum operating pressure		0.7 MPa	
Minimum operating pressure	**ø4**	0.3 MPa	
	ø6	0.2 MPa	
	ø10, ø16	0.15 MPa	
Proof pressure		1 MPa	
Ambient and fluid temperatures		–10 to 70°C (No freezing)	
Lubrication		Not required (Non-lube)	
Piston speed		50 to 500 mm/s	
Cushion		None	
Stroke length tolerance		$^{+1.0}_{0}$	
Rod end type		With thread/Without thread	
Mounting		Panel mount type	Embedded type
Accessory (Standard equipment)	**Standard equipment**	Mounting nut (2) Rod end nut (2)∗1	Mounting nut (1) Gasket (1) Rod end nut (2)∗1
	Option	Hose nipple (Excludes ø4)	—

∗1 When rod end is threaded
∗ For details about the hose nipple (accessory), refer to page 8.

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Weight

[g]

Bore size [mm]	Stroke [mm]		
	5	10	15
4	10	13	15
6	10.6	13.1	15.6
10	28	33	38
16	72	82	92

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

Hose Nipple Dedicated for Panel Mount Type (With fixed orifice)

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

Theoretical Output

[N]

Bore size [mm]	Operating direction	Operating pressure [MPa]		
		0.3	0.5	0.7
4	OUT	0.97	3.48	6.00
	IN	1.0		
6	OUT	4.56	10.2	15.9
	IN	1.42		
10	OUT	17.6	33.3	49.0
	IN	2.45		
16	OUT	44.5	84.7	124.9
	IN	5.04		

Spring Reaction Force

[N]

Bore size [mm]	Stroke [mm]	Spring reaction force	
		Secondary	Primary
4	5, 10, 15	2.80	1.00
6	5, 10, 15	3.92	1.42
10	5, 10, 15	5.98	2.45
16	5, 10, 15	15.78	5.04

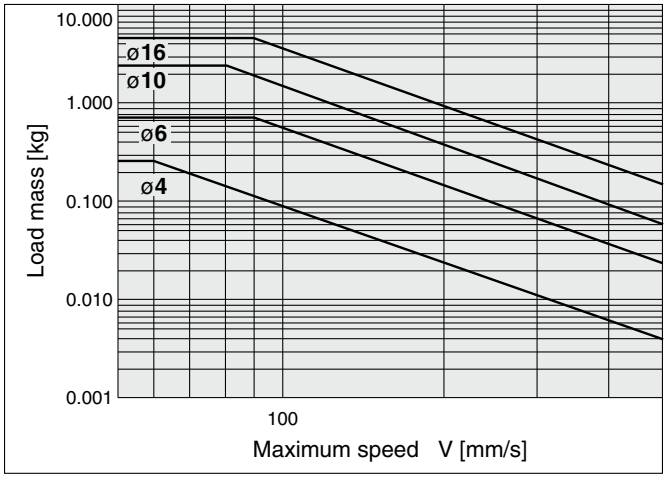
∗ Same spring force for each stroke

Allowable Kinetic Energy

⚠Caution

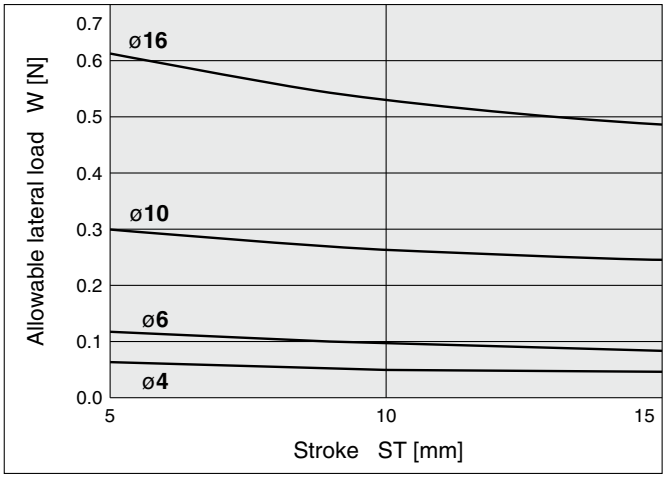
When driving an inertial load, operate a cylinder with kinetic energy within the allowable value. The range in the chart below that is delineated by bold solid lines indicates the relation between load mass and maximum driving speeds.

Bore size [mm]	**4**	**6**	**10**	**16**
Piston speed [m/s]	0.05 to 0.5			
Allowable kinetic energy [J]	0.5×10^{-3}	3×10^{-3}	8×10^{-3}	19×10^{-3}



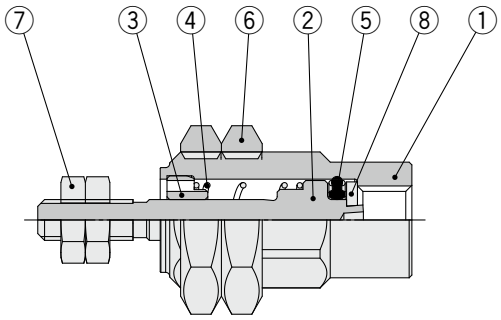
Allowable Lateral Load

Strictly observe the limiting range of lateral load on a piston rod. (Refer to the below graph.) If this product is used beyond the limits, it may shorten the machine's life or cause damage.

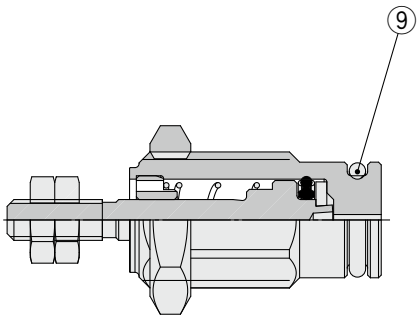


Construction (Not able to disassemble.)

Panel Mount Type



Embedded Type



Component Parts

No.	Description	Material		Note	
1	**Tube**	Brass		Electroless nickel plating	
2	**Piston**	Stainless steel			
3	**Collar**	ø4, ø6, ø10	Brass	ø4, ø6, ø10	Electroless nickel plating
		ø16	Oil-impregnated sintered alloy	ø16	—
4	**Return spring**	Steel wire		Zinc chromating	
5	**Piston seal**	NBR			
6	**Mounting nut**	ø4	Brass	Electroless nickel plating	
		ø6, ø10, ø16	Steel	Zinc chromating	
7	**Rod end nut**	Steel		Zinc chromating	
8	**Seal retainer**	Stainless steel		Only applicable to ø6, ø10, and ø16	
9	**Gasket**	NBR		Embedded type only	

Replacement Parts: Gasket

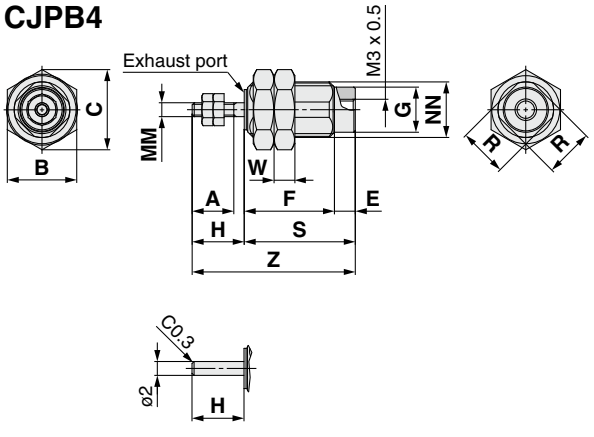
Bore size [mm]	Order no.	Contents
4	CJPS4-G	Above no. ⑨
6	CJPS6-G	
10	CJPS10-G	
16	CJPS16-G	

* For the embedded type
* Since gaskets (10 pcs./set) do not include a grease pack (10 g), order it separately.
  Grease pack part number:
  GR-S-010 (10 g)

Dimensions

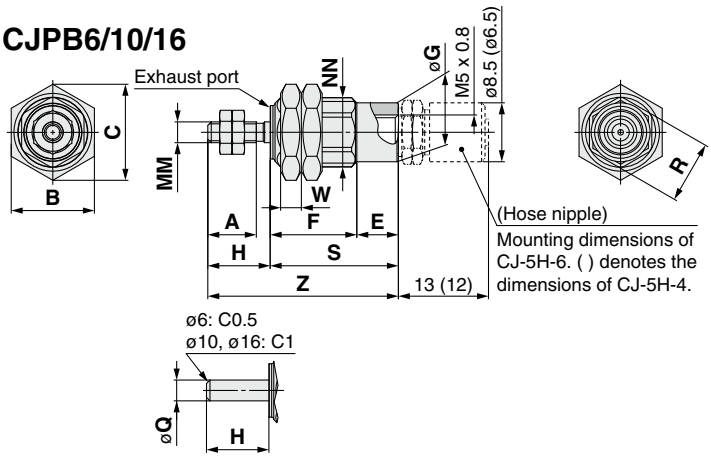
Panel Mount Type

CJPB4



Without rod end thread
CJPB4-□-B

CJPB6/10/16



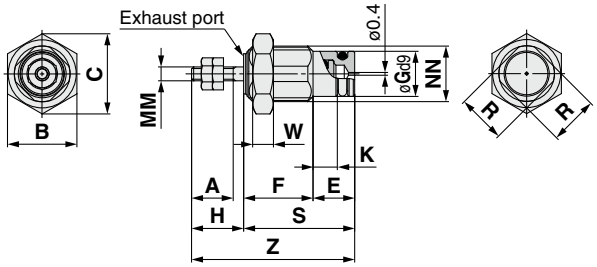
Without rod end thread
CJPB□-□-B

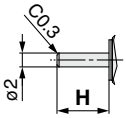
[mm]

Bore size	A	B	C	E	F			G	H	MM	NN	R	S			W	Z			Q
					5st	10st	15st						5st	10st	15st		5st	10st	15st	
4	6	10	11.5	3	13	21	29	6.5	7.5	M2 x 0.4	M8 x 1.0	7	16	24	32	3	23.5	31.5	39.5	2
6	7	12	13.9	6	12.5	19.5	26.5	8.5	9	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	M4 x 0.7	M15 x 1.5	13	20.5	27	34	4	32.5	39	46	5
16	12	27	31	7	16.5	22.5	29	19	14	M5 x 0.8	M22 x 1.5	20	23.5	29.5	36	5	37.5	43.5	50	6

Embedded Type

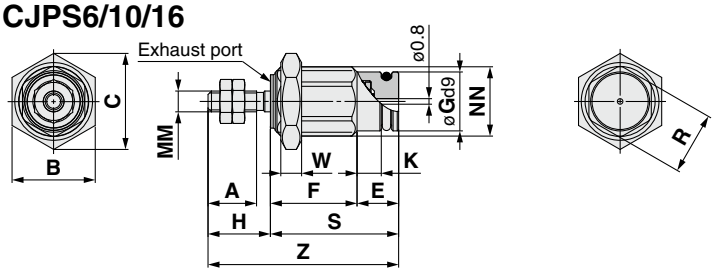
CJPS4

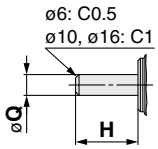




Without rod end thread
CJPS4-□-B

CJPS6/10/16





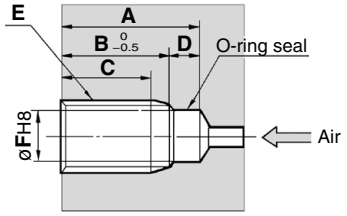
Without rod end thread
CJPS□-□-B

[mm]

Bore size	A	B	C	E	F			G	H	K	MM	NN	R	S			W	Z			Q
					5st	10st	15st							5st	10st	15st		5st	10st	15st	
4	6	10	11.5	6	10	18	26	6.5	7.5	3.5	M2 x 0.4	M8 x 1.0	7	16	24	32	3	23.5	31.5	39.5	2
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
16	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

Recommended Mounting Hole Dimensions for Embedded Type

Machining dimensions for mounting



[mm]

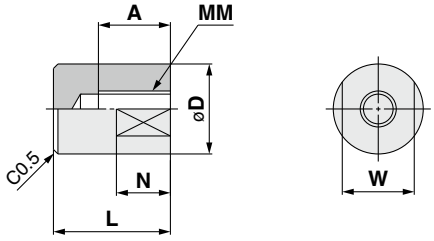
Bore size	Stroke	A	B	C	D	E	F
4	5	12	8.5	6	3.5	M8 x 1.0	6.5
	10	20	16.5	14			
	15	28	24.5	22			
6	5	16	12.5	10	3.5	M10 x 1.0	8.5
	10	23	19.5	17			
	15	30	26.5	24			
10	5	17	13.5	10.5	3.5	M15 x 1.5	12
	10	23.5	20	17			
	15	30.5	27	24			
16	5	19	14.5	11.5	4.5	M22 x 1.5	19
	10	25	20.5	17.5			
	15	31.5	27	24			

∗ E and øF should be machined in a concentric manner.

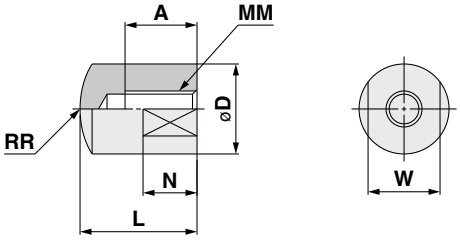
CJP Series
Accessory Bracket Dimensions

Rod End Cap

Flat Type: CJ-CF□



Round Type: CJ-CR□



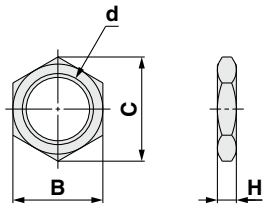
Material: Polyacetal [mm]

Part no.		Applicable bore size [mm]	A	D	L	MM	N	RR	W
Flat type	Round type								
CJ-CF004	**CJ-CR004**	**4**	5	6	9	M2 x 0.4	3	6	5
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**	**16**	10	12	15	M5 x 0.8	7	12	10

∗ Rod end nut is not included when rod end cap is ordered individually. (Please use the rod end nut of the standard cylinder.)
∗ Applicable only for the rod end with the thread type

Accessory

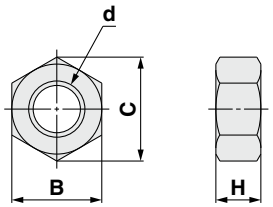
Mounting Nut (Standard equipment): SNPS-□□



Material: ø4 Brass ø6, ø10, ø16 Steel [mm]

Part no.	Applicable bore size [mm]	d	H	B	C	Maximum tightening torque [N·m]
SNPS-004	**4**	M8 x 1.0	3	10	11.5	1.2
SNPS-006C	**6**	M10 x 1.0	3	12	13.9	4.2
SNPS-010C	**10**	M15 x 1.5	4	19	22	16.7
SNPS-016C	**16**	M22 x 1.5	5	27	31	30.6

Rod End Nut (Standard equipment): NTJ-004, NTP-□



Material: Steel [mm]

Part no.	Applicable bore size [mm]	d	H	B	C	Maximum tightening torque [N·m]
NTJ-004	**4**	M2 x 0.4	1.6	4	4.6	0.1
NTP-006	**6**	M3 x 0.5	1.8	5.5	6.4	0.3
NTP-010	**10**	M4 x 0.7	2.4	7	8.1	0.8
NTP-016	**16**	M5 x 0.8	3.2	8	9.2	1.6

∗ With rod end thread

Related Products

Refer to the **Web Catalog**.

CJP Series
Made to Order Common Specifications

Please contact SMC for detailed dimensions, specifications, and delivery times.

Made to Order

Symbol
-XC17

1 Pin Cylinder with Rod Quenched

The piston rod material is changed and the rod end is quenched.

Applicable Series

Series	Description	Model	Action	Note
CJP	Pin cylinder	CJPB	Single acting (Panel mount)	Excludes ø4
		CJPS	Single acting (Embedded)	Excludes ø4

How to Order

Standard model no. **–XC17**

XC17: Pin cylinder with rod quenched

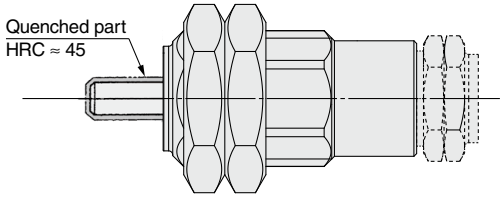
* Only the rod end without thread is available. The symbol B for the rod end type is not used any more.

Specifications: Same as the standard type

Construction (Dimensions are the same as the standard type.)

* The shape and the dimension of quenched part of the rod end are the same for both panel mount type and embedded type.
* The figure below shows the panel mount type.

CJPB



Symbol
-XC22

2 Fluororubber Seals

Applicable Series

Series	Description	Model	Action	Note
CJP	Pin cylinder	CJPB	Single acting (Panel mount)	Excludes ø4
		CJPS	Single acting (Embedded)	Excludes ø4

How to Order

Standard model no. **– XC22**

XC22: Fluororubber seals

Specifications

Seal material	Fluororubber
Specifications other than the above and dimensions	Same as the standard type

* Please confirm with SMC, as the type of chemical and the operating temperature may not allow the use of this product.