

Standard: Double Acting Double Rod

Series CJ2W



ø6, ø10, ø16

How to Order

Bore size

6	6mm
10	10mm
16	16mm

Standard stroke

ø6, ø10, ø16	15, 30, 45, 60
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Mounting

B	Basic
L	Axial foot
F	Front flange

Cushion

—	Rubber bumper
A	Air cushion (Except for ø6)

Standard CJ2W L 16 — 45 A

With auto switch CDJ2W L 16 — 45 A C73

With auto switch (built-in magnet)

Auto switch

* Refer to the table below for selecting applicable auto switches.

* If requiring a built-in magnet cylinder without an auto switch, refer to the model number example below.

Number of switches

—	2
S	1
n	n

- CJ1
- CJP
- CJ2**
- CM2
- C85
- CG1
- MB
- C95
- CA1
- CS1

Applicable Auto Switches/Refer to p.5.3-2 for further information on auto switch.

Style	Special function	Electrical entry	Indicator	Wiring (Output)	Load voltage		Auto switch model**		Lead wire*				Applicable load					
					DC	AC	Band (ø6, ø10, ø16)	Rail (ø10, ø16) Perp. In-line	0.5 (-)	3 (L)	5 (Z)	None (N)						
Reed switch	—	Grommet	Yes	3 wire (NPN)	—	5V	—	C76	—	A76H	●	●	—	—	IC	Relay PLC		
					—	—	200V	—	A72	A72H	●	●	—	—				
				2 wire	12V	100V	C73	A73	A73H	●	●	●	—	—				
					5V, 12V	≤100V	C80	A80	A80H	●	●	—	—	IC				
				Connector	Yes	12V	—	C73C	A73C	—	—	●	●	●	●		—	IC
					No	5V, 12V	≤24V	C80C	A80C	—	—	●	●	●	●		—	IC
Solid state switch	Diagnostic indication (2 color)	Grommet	Yes	3 wire (NPN)	5V, 12V	—	H7A1	F7NV	F79	●	●	○	—	IC	Relay PLC			
					—	—	H7A2	F7PV	F7P	●	●	○	—					
				3 wire (PNP)	—	—	H7B	F7BV	J79	●	●	○	—					
					12V	—	H7C	J79C	—	●	●	●	●	—				
				2 wire	Connector	Yes	3 wire (NPN)	5V, 12V	—	H7NW	F7NWV	F79W	●	●		○	—	IC
								—	—	H7PW	—	F7PW	●	●		○	—	
	3 wire (PNP)	Grommet	Yes	2 wire	12V	—	H7BW	F7BWV	J79W	●	●	○	—	IC				
					—	—	H7BA	—	F7BA	—	●	○	—					
	Water resistant (2 color)	Grommet	Yes	3 wire (NPN)	5V, 12V	—	—	—	F7NT	—	●	○	—	IC				
					—	—	H7NF	—	F79F	●	●	○	—					
	With timer	Grommet	Yes	4 wire (NPN)	—	—	—	—	F7LF	—	●	●	○	—	—			
					—	—	—	—	—	—	—	—	—	—	—			

Part No. of Cylinder with Built-in Magnet

Symbol "-A" (rail mounting) or "-B" (band mounting) should be suffixed to the part No. of the cylinder with auto switch.

Ex.	Rail mounting	CDJ2WB16-60-A
	Band mounting	CDJ2WB10-45-B

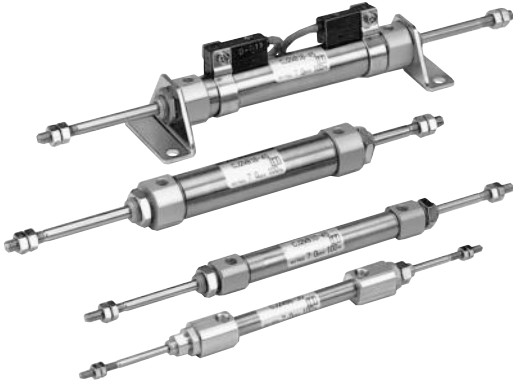
* Lead wire length 0.5m..... e.g.) C73C 5m.....Z e.g.) C73CZ
3m.....L C73CL None.....N C73CN

* Solid state switches marked with "○" are manufactured upon receipt of order.

** "D-A79W" cannot be mounted on bore size ø10 cylinder with air cushion.

** "D-H7□W", "D-H7BA" and "D-H7□F" cannot be mounted on bore size ø6 cylinder.

Series CJ2W



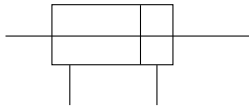
Specifications

Action	Double acting/Double rod	
Fluid	Air	
Proof pressure	1.05MPa	
Max. operating pressure	0.7MPa	
Min. operating pressure	ø6	0.15MPa
	ø10, ø16	0.1MPa
Ambient and fluid temperature	Without auto switch: -10°C to 70°C, With auto switch: -10°C to 60°C*	
Cushion	Rubber bumper/Air cushion	
Lubrication	Non-lube	
Thread tolerance	JIS class 2	
Stroke tolerance	+1.0 0	
Piston speed	50 to 750mm/s	
Allowable kinetic energy	ø6	0.012J
	ø10	0.035J
	ø16	0.090J

* No freezing

JIS Symbol

Double acting/Double rod



Order Made Made to Order

Refer to p.5.4-1 for made to order products of series CJ2W.

⚠ Precautions

Be sure to read before handling. Refer to p.0-39 to 0-46 for Safety Instructions and common precautions.

⚠ Caution

Mounting

- During installation, secure the rod cover and tighten by applying an appropriate tightening force to the retaining nut or to the rod cover body. If the head cover is secured or the head cover body is tightened, the cover could rotate, leading to a deviation.
- Tighten the retaining screws to an appropriate tightening torque within the range given below.
ø6: 2.1 to 2.5Nm, ø10: 5.9 to 6.4Nm, ø16: 10.8 to 11.8Nm
- 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 C type snap ring). In particular, use a pair of ultra-mini pliers such as the Super Tool CSM-07A for removing and installing the snap rings on the ø10 cylinder.
- In the case of auto switch rail mounting, do not remove the rail that is mounted. Because the retaining screws extend into the cylinder, this could lead to an air leak.

Standard Stroke

(mm)

Bore size	Standard stroke
6, 10, 16	15, 30, 45, 60

Minimum Strokes for Auto Switch Mounting

Mounting	Auto switch model	Number of switches	Min. stroke (mm)	
Band mounting (ø6) (ø10) (ø16)	D-C7 D-C8	2 (same surface)	50	
		2 (different surfaces)	15	
		1	10	
	D-H7□ D-H7□W ⁽¹⁾ D-H7BAL ⁽¹⁾ D-H7NF ⁽¹⁾	2 (same surface)	60	
		2 (different surfaces)	15	
		1	10	
	D-C73C D-C80C D-H7C	2 (same surface)	65	
		2 (different surfaces)	15	
		1	10	
	Rail mounting (ø10) (ø16)	D-H7LF ⁽¹⁾	2 (same surface)	65
			2 (different surfaces)	25
			1	15
D-A7/A8 D-A7□H/A80H D-A73C/A80C		2	10	
		1	5	
		D-F7 D-J79 D-F7□V D-J79C	2	5
1	5			
D-A79W D-F7□W D-J79W D-F7BAL D-F7□WV D-F79F	2		15	
	1	10		
	D-F7LF	2	15	
1		15		

Note 1) Cannot be mounted on ø6 cylinder.

Standard: Double Acting Double Rod *Series CJ2W*

Mounting Accessories/Refer to p.1.3-12 details.

Mounting		Basic	Foot	Flange
Standard	Mounting nut	●	●	●
	Rod end nut	●	●	●
Option	Single knuckle joint	●	●	●
	Double knuckle joint*	●	●	●

* Double clevis or double knuckle joint is packaged with knuckle pins and set rings.

Mounting Bracket Part No.

Mounting bracket	Bore size (mm)		
	6	10	16
Foot	CJ-L006B	CJ-L010B	CJ-L016B
Flange	CJ-F006B	CJ-F010B	CJ-F016B

Auto Switch Mounting Bracket Part No. (Band mounting)

Bore size (mm)	Bracket part No.	Note
6	BJ2-006	Common use to all of D-C7, C8 and D-H7
10	BJ2-010	
16	BJ2-016	

Note) A set of stainless steel mounting screws "BBA4" is attached. (A switch mounting band is not attached. Please order the band separately.)
 "BBA4" screws are used for D-C7/C8/H7.
 "D-H7BAL" switch is set on the cylinder with the screws above when shipped.
 Also, when a switch only is shipped, "BBA4" screws are attached.

With Air Cushion

CJ2W **Mounting** **Bore size** **Stroke** **A**
 With air cushion ●

With covers on both sides equipped with the cushion function, the cylinder absorbs the impact during high-speed operation.



Specifications

Action	Double acting/Double rod
Lubrication	Non-lube
Bore size (mm)	ø10, ø16
Max. operating pressure	0.7MPa
Min. operating pressure	0.1MPa
Piston speed	50 to 1000mm/s
Mounting	Basic, Foot, Flange

Cushion Mechanism

Bore size mm	Effective cushion length (mm)	Allowable kinetic energy (J)
10	9.4	0.07J
16	9.4	0.18J

* Refer to p.1.3-16 for the construction.

Weight

Bore size (mm)		6	10	16
Basic weight*		27	35	70
Additional weight for each 15 of stroke		3	6	9
Mounting bracket weight	Foot	16	16	40
	Flange	5	5	15

* This basic weight includes weights of mounting nut and rod end nut.

Calculation example)

CJ2WL10-45

- Basic weight: 35 (ø10)
- Additional weight: 6/15 stroke
- Cylinder stroke: 45 stroke
- Mounting bracket weight: 16 (Foot)
35+6/15 X 45+16=69g
- Refer to p.1.3-4 for weight of the accessory.

Theoretical Force

Refer to the "Double acting cylinder" in Theoretical Force Table 1 of Technical data 3 on p.5.6-7
 In the case of the double rod style, the force at IN side will be its theoretical force.

Copper Free

20-CJ2W **Mounting** **Bore size** **Stroke**
 Copper free ●

To eliminate influences of copper ions or halogen ions during CRT manufacturing processes, copper and fluorine materials are not used as component parts.



Specifications

Action	Double acting/Double rod	
Bore size (mm)	ø6, ø10, ø16	
Max. operating pressure	0.7MPa	
Min. operating pressure	ø6	0.15MPa
	ø10, ø16	0.1MPa
Cushion	Rubber	
Standard stroke (mm)	15, 30, 45, 60mm	
Auto switch	Possible to be mounted	
Mounting	Basic, Foot, Flange	

Series CJ2W

Clean Series

10-CJ2W Mounting Bore size Stroke

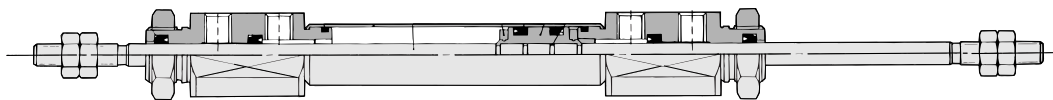
• Clean series

The rod section of actuator is reinforced with the double-seal structure. The air cylinder can be incorporated in the system which directly discharges the external leak from the clean room through the relief port.

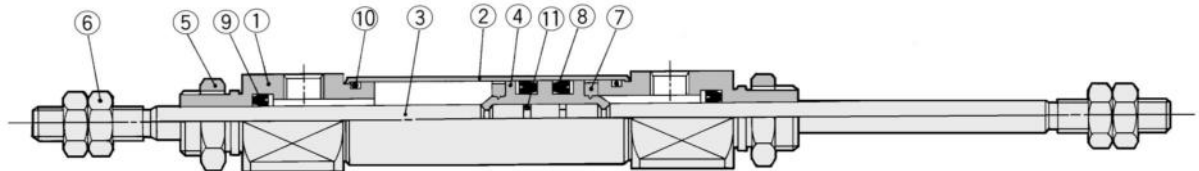
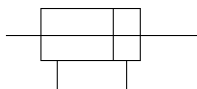
Specifications

Action	Double acting/Double rod
Bore size	ø10, ø16
Max. operating pressure	0.7MPa
Min. operating pressure	0.1MPa
Cushion	Rubber bumper
Standard stroke	Same as the standard (Refer to p.1.3-14)
Auto switch	Possible to be mounted
Mounting	Basic, Axial foot, Front flange

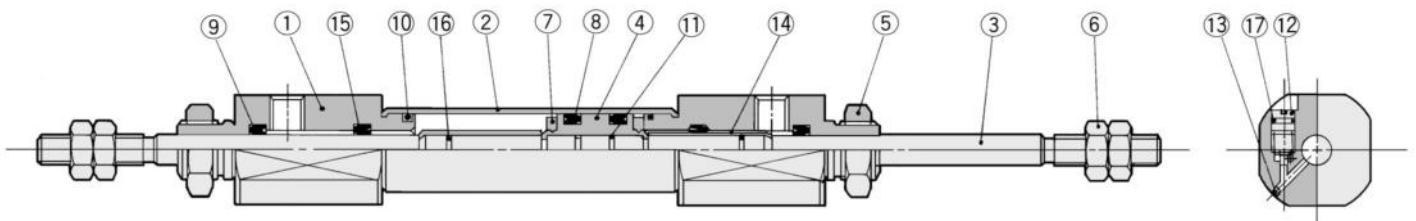
Construction



Construction (The cylinder cannot be disassembled.)



With air cushion




Component Parts

No.	Description	Material	Note
①	Rod cover	Aluminum alloy	White anodized
②	Cylinder tube	Stainless steel	
③	Piston rod	Stainless steel	
④	Piston	Brass	
⑤	Mounting nut	Brass	Nickel plated
⑥	Rod end nut	Rolled steel	Nickel plated
⑦	Bumper	Urethane	
⑧	Piston seal	NBR	
⑨	Rod seal	NBR	
⑩	Tube gasket	NBR	
⑪	Piston gasket	NBR	

For Air Cushion Style

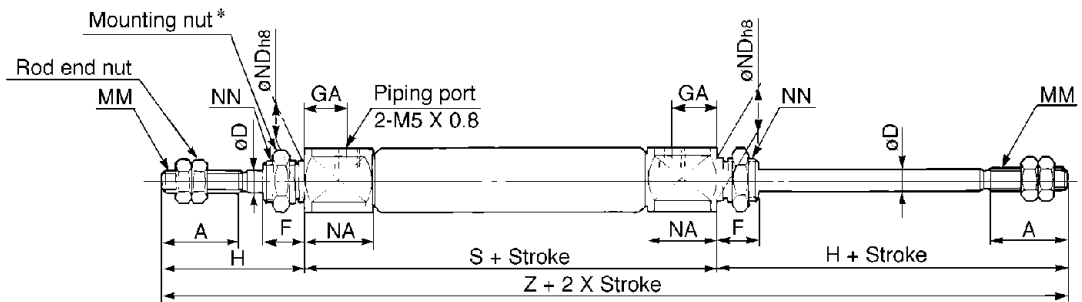
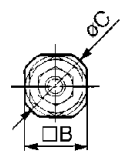
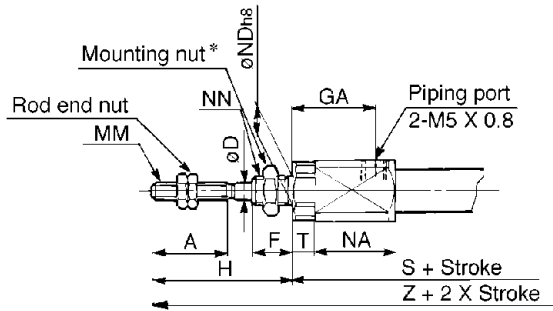
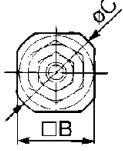
No.	Description	Material	Note
⑫	Cushion needle	Stainless steel	
⑬	Steel ball	Bearing steel	
⑭	Cushion ring	Brass	
⑮	Check seal	NBR	
⑯	Cushion ring gasket	NBR	
⑰	Needle seal	NBR	

Standard: Double Acting Double Rod *Series CJ2W*

Basic (B) 

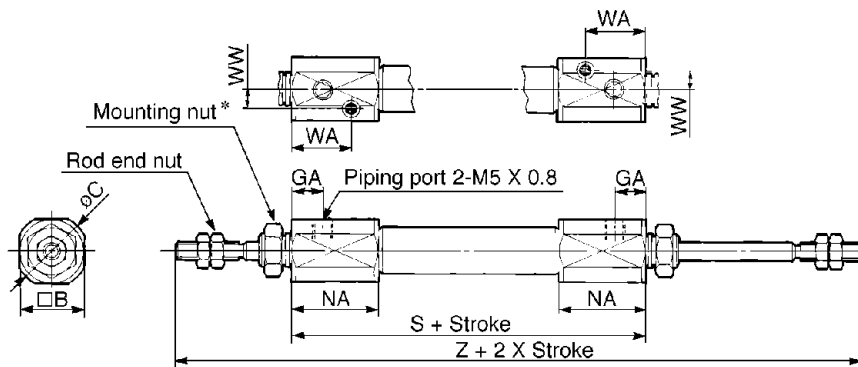
CJ2WB Bore size Stroke

CJ2WB6 Rod cover

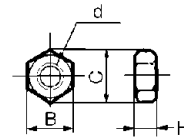


- CJ1
- CJP
- CJ2**
- CM2
- C85
- CG1
- MB
- C95
- CA1
- CS1

With air cushion: CJ2WB Bore size Stroke A



Rod end nut



Material: Iron

Part No.	Bore size	B	C	d	H
NTJ-006A	6	5.5	6.4	M3 X 0.5	2.4
NTJ-010A	10	7	8.1	M4 X 0.7	3.2
NTJ-015A	16	8	9.2	M5 X 0.8	4

* Refer to p.1.3-12 for details of the mounting nut.

Bore	A	B	C	D	F	GA	H	MM	NA	ND h8	NN	S*	T	Z*
6	15	12	14	3	8	14.5	28	M3 X 0.5	16	6 ⁰ _{-0.018}	M6 X 1.0	61 (66)	3	117 (122)
10	15	12	14	4	8	8	28	M4 X 0.7	12.5	8 ⁰ _{-0.022}	M8 X 1.0	49	—	105
16	15	18	20	5	8	8	28	M5 X 0.8	12.5	10 ⁰ _{-0.022}	M10 X 1.0	50	—	106

With air cushion/Dimensions not mentioned in the below table are the same as the above table.

Bore	B	C	GA	NA	WA	WW	S	Z
10	15	17	7.5	21	14.5	4.5	66	122
16	18	20	7.5	21	14.5	5.5	67	123



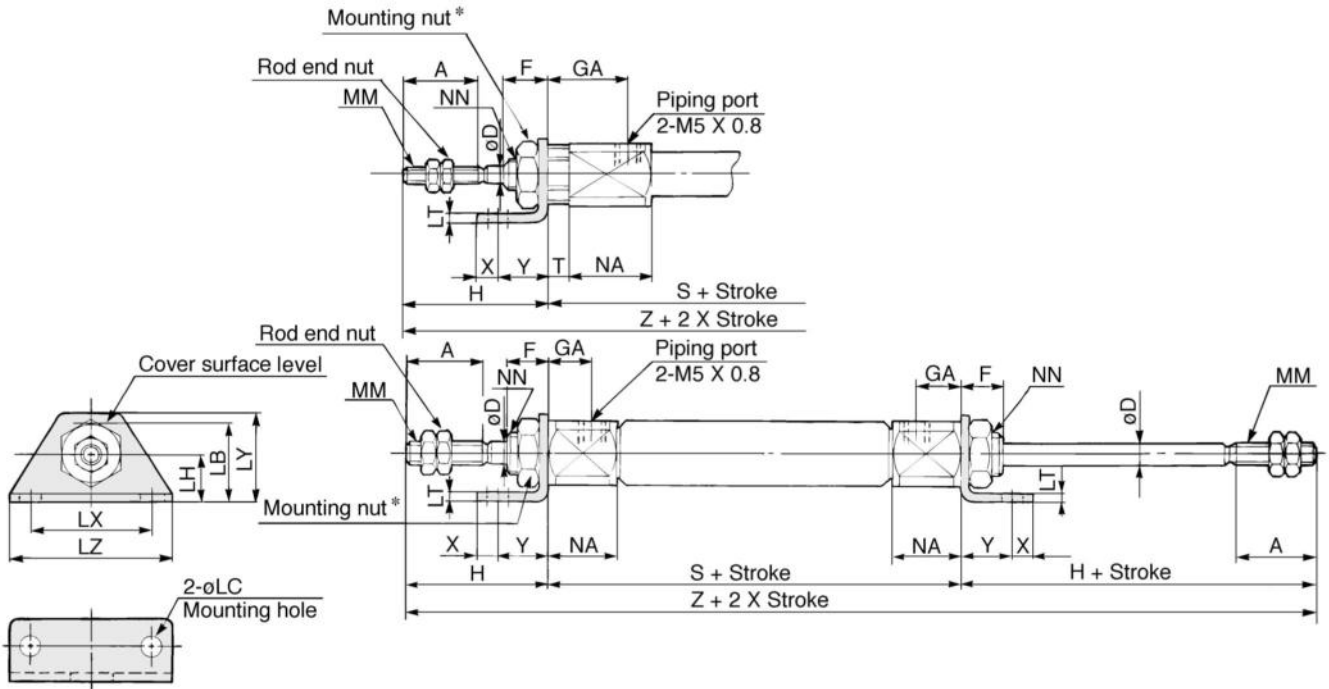
Basic
 CJ2WB6.....SCJ26, #6
 CJ2WB10.....SCJ210, #6
 CJ2WB16.....SCJ216, #6

* The data shows auto switch styles.
 Please delete the unnecessary parts.

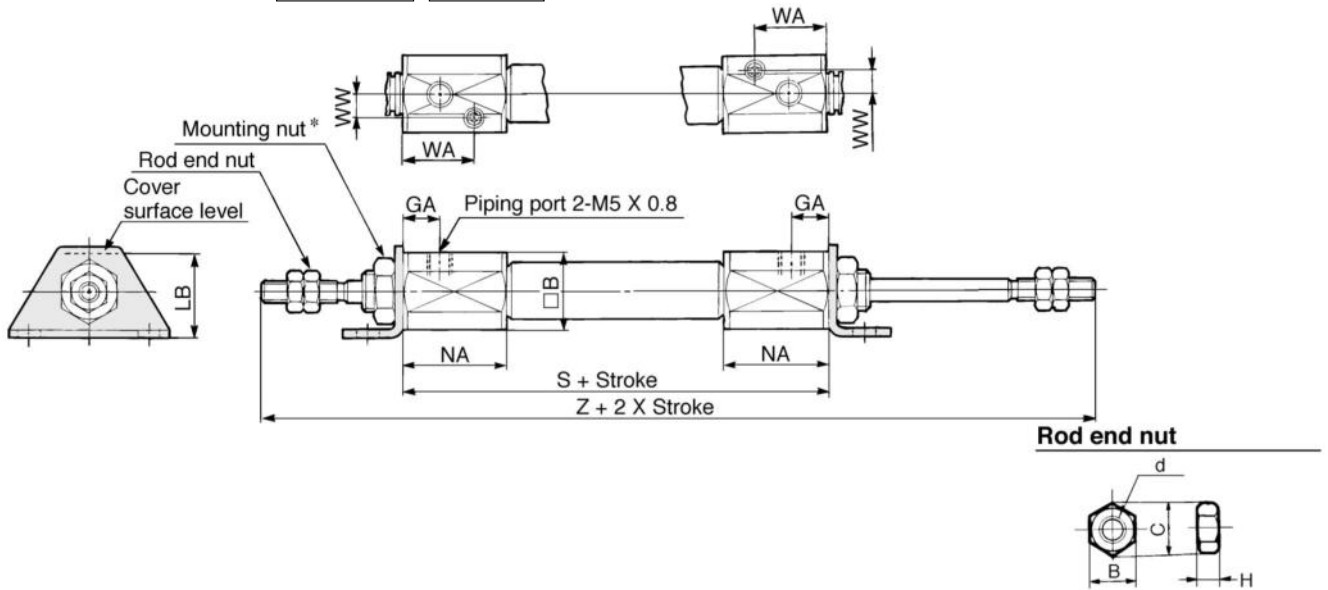
Series CJ2W



CJ2WL Bore size Stroke



With air cushion: CJ2WL Bore size Stroke A



Material: Iron

Part No.	Bore	B	C	d	H
NTJ-006A	6	5.5	6.4	M3 X 0.5	2.4
NTJ-010A	10	7	8.1	M4 X 0.7	3.2
NTJ-015A	16	8	9.2	M5 X 0.8	4

* Refer to p.1.3-12 for details of the mounting nut.

Bore	A	D	F	GA	H	LB	LC	LH	LT	LX	LY	LZ	MM	NA	NN	S*	T	X	Y	Z*
6	15	3	8	14.5	28	15	4.5	9	1.6	24	16.5	32	M3 X 0.5	16	M6 X 1.0	61 (66)	3	5	7	117 (122)
10	15	4	8	8	28	15	4.5	9	1.6	24	16.5	32	M4 X 0.7	12.5	M8 X 1.0	49	—	5	7	105
16	15	5	8	8	28	23	5.5	14	2.3	33	25	42	M5 X 0.8	12.5	M10 X 1.0	50	—	6	9	106

With air cushion / Dimensions not mentioned in the below table are the same as the above table.

Bore	B	GA	LB	NA	WA	WW	S	Z
10	15	7.5	16.5	21	14.5	4.5	66	122
16	18	7.5	23	21	14.5	5.5	67	123

* () in S or Z dimensions: With auto switch



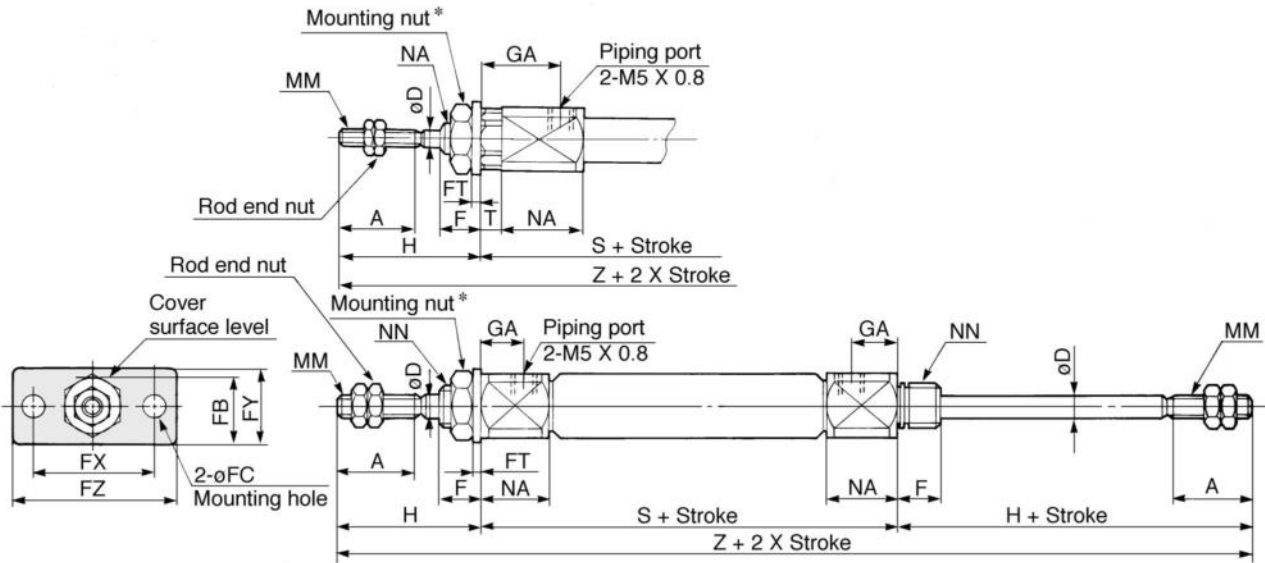
Basic With foot
 CJ2WL6.....SCJ26, #6 SCJ26, #6, #3
 CJ2WL10.....SCJ210, #6 SCJ210, #6, #3
 CJ2WL16.....SCJ216, #6 SCJ216, #6, #3

* The data shows auto switch styles.
 Please delete the unnecessary parts.

Standard: Double Acting Double Rod *Series CJ2W*

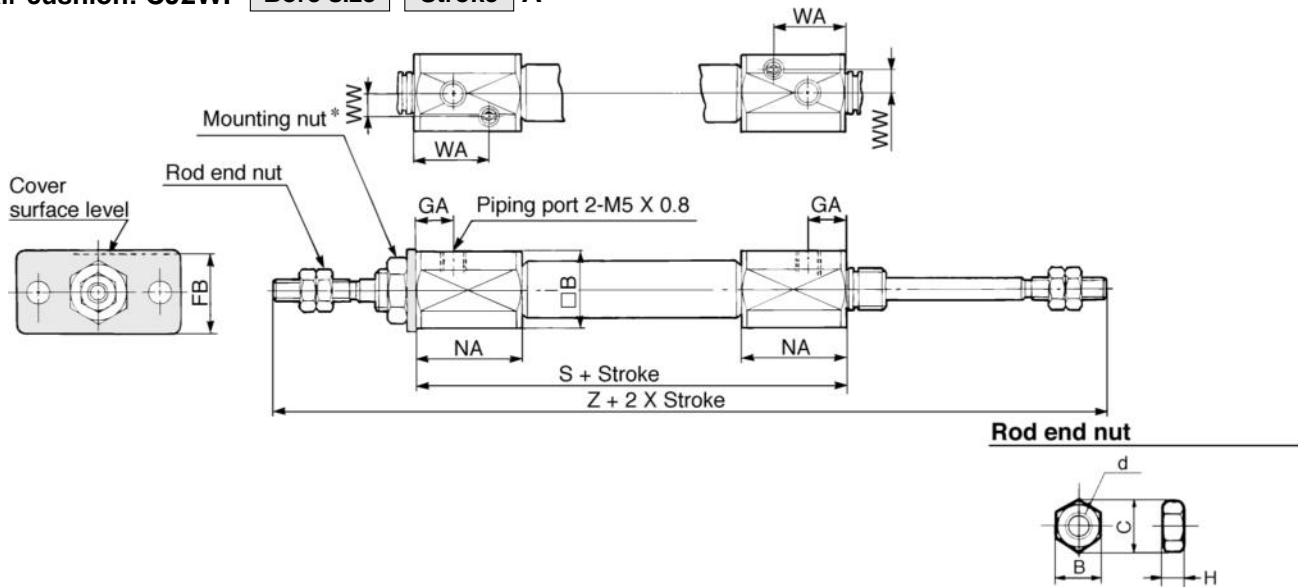


CJ2WF Bore size Stroke



- CJ1
- CJP
- CJ2**
- CM2
- C85
- CG1
- MB
- C95
- CA1
- CS1

With air cushion: CJ2WF Bore size Stroke A



Material: Iron

Part No.	Bore	B	C	d	H
NTJ-006A	6	5.5	6.4	M3 X 0.5	2.4
NTJ-010A	10	7	8.1	M4 X 0.7	3.2
NTJ-015A	16	8	9.2	M5 X 0.8	4

* Refer to p.1.3-12 for details of the mounting nut.

Bore	A	D	F	FB	FC	FT	FX	FY	FZ	GA	H	MM	NA	NN	S*	T	Z*
6	15	3	8	13	4.5	1.6	24	14	32	14.5	28	M3 X 0.5	16	M6 X 1.0	61 (66)	3	117 (122)
10	15	4	8	13	4.5	1.6	24	14	32	8	28	M4 X 0.7	12.5	M8 X 1.0	49	—	105
16	15	5	8	19	5.5	2.3	33	20	42	8	28	M5 X 0.8	12.5	M10 X 1.0	50	—	106

With air cushion / Dimensions not mentioned in the below table are the same as the above table.

Bore	B	FB	GA	NA	WA	WW	S	Z
10	15	14.5	7.5	21	14.5	4.5	66	122
16	18	19	7.5	21	14.5	5.5	67	123



Basic Flange
 CJ2WF6.....SCJ26, #6 SCJ26, #6, #4
 CJ2WF10.....SCJ210, #6 SCJ210, #6, #4
 CJ2WF16.....SCJ216, #6 SCJ216, #6, #4
 * The data shows auto switch styles.
 Please delete the unnecessary parts.