

Air Cylinder: Built-in Speed Controller Type Double Acting, Single Rod

CJ2Z Series

ø10, ø16

RoHS

How to Order



With auto switch

CJ2Z **B** **16** - **60** **Z** - **M9BW** - **B**

1 2 3 4 5 6 7 8 9 10

With auto switch (Built-in magnet)

1 Mounting

B	Basic
E	Double-side bossed
D	Double clevis
L	Single foot
M	Double foot
F	Rod flange
G	Head flange

*: Foot/Flange brackets are shipped together with the product, but not assembled.

2 Bore size

10	10 mm
16	16 mm

4 Head cover port location

Nil	Perpendicular to axis	
R	Axial	

*: For double clevis, the product is perpendicular to the cylinder axis.

*: For double-side bossed, the product is perpendicular to the cylinder axis.

3 Cylinder standard stroke [mm]

Refer to "Standard Strokes" on page 108.

5 Pivot bracket

Nil	None
N	Pivot bracket is shipped together with the product.

*: Only for the double clevis type

*: Pivot bracket is shipped together with the product, but not assembled.

6 Rod end bracket

Nil	None
V	Single knuckle joint
W**	Double knuckle joint
T	Rod end cap (Flat type)
U	Rod end cap (Round type)

*: Rod end bracket is shipped together with the product, but not assembled.
**: Refer to page 63 for the double knuckle joint (with one-touch connecting pin).

7 Auto switch

Nil	Without auto switch
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*: For applicable auto switches, refer to the table below.

★ Enter the auto switch mounting type (A or B) even when a built-in magnet cylinder without an auto switch is required.

8 Number of auto switches

Nil	2 pcs.
S	1 pc.
n	"n" pcs.

9 Auto switch mounting type

A	Rail mounting
B	Band mounting

*: For rail mounting, screws and nuts for 2 auto switches come with the rail.

*: Refer to page 148 for auto switch mounting brackets.

10 Made to Order

Refer to page 108 for details.

*: Refer to "Ordering Example of Cylinder Assembly" on page 108.

Applicable Auto Switches/Refer to pages 1575 to 1701 for further information on auto switches.

Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage		Auto switch model				Lead wire length [m]					Pre-wired connector	Applicable load		
					DC	AC	Band mounting		Rail mounting		0.5 (Nil)	1 (M)	3 (L)	5 (Z)	None (N)				
							Perpendicular	In-line	Perpendicular	In-line									
Solid state auto switch	—	Grommet	—	3-wire (NPN)	5 V, 12 V	24 V	—	M9NV	M9N	M9NV	M9N	●	●	●	○	○	IC circuit	Relay, PLC	
		3-wire (PNP)		M9PV				M9P	M9PV	M9P	●	●	○	○	○				
		Connector		2-wire				M9BV	M9B	M9BV	M9B	●	●	●	○	○			○
				—				H7C	J79C	—	●	—	—	●	—	—			
	Diagnostic indication (2-color indicator)	Yes	3-wire (NPN)	M9NVV	M9NW	M9NVV	M9NW	●	●	●	○	○	○	IC circuit					
			3-wire (PNP)	M9PWV	M9PW	M9PWV	M9PW	●	●	○	○	○	○						
	Water resistant (2-color indicator)	Grommet	2-wire	M9BWW	M9BW	M9BWW	M9BW	●	●	●	○	○	○	○	IC circuit				
			3-wire (NPN)	M9NAV ^{*1}	M9NA ^{*1}	M9NAV ^{*1}	M9NA ^{*1}	○	○	○	○	○	○	○					
			3-wire (PNP)	M9PAV ^{*1}	M9PA ^{*1}	M9PAV ^{*1}	M9PA ^{*1}	○	○	○	○	○	○	○					
			2-wire	M9BAV ^{*1}	M9BA ^{*1}	M9BAV ^{*1}	M9BA ^{*1}	○	○	●	○	○	○	○					
With diagnostic output (2-color indicator)	—	4-wire (NPN)	5 V, 12 V	—	H7NF	—	F79F	●	—	●	○	○	○	○	IC circuit				
Reed auto switch	—	Grommet	Yes	3-wire (NPN equivalent)	5 V	—	A96V	A96	A96V	A96	●	—	●	—	—	IC circuit	Relay, PLC		
				—	200 V	—	A72	A72H	●	—	●	—	—	—					
		Connector	No	2-wire	24 V	12 V	100 V	A93V ^{*2}	A93	A93V ^{*2}	A93	●	●	●	—	—			
						100 V or less	A90V	A90	A90V	A90	●	—	●	—	—	—			
	Diagnostic indication (2-color indicator)	Grommet	Yes	2-wire	24 V	12 V	—	C73C	A73C	—	—	—	●	●	●	—		IC circuit	
						24 V or less	—	C80C	A80C	—	—	—	●	●	●	—		IC circuit	
						—	—	—	A79W	—	●	—	●	—	—	—			
						—	—	—	—	—	—	—	—	—	—	—		—	

*1: Water resistant type auto switches can be mounted on the above models, but in such case SMC cannot guarantee water resistance.

Please contact SMC regarding water resistant types with the above model numbers.

*2: 1 m type lead wire is only applicable to D-A93.

*: Lead wire length symbols: 0.5 m..... Nil (Example) M9NV 5 m..... Z (Example) M9NVZ
1 m..... M (Example) M9NWM None..... N (Example) H7CN
3 m..... L (Example) M9NWL

*: Since there are other applicable auto switches than listed, refer to page 149 for details.

*: Solid state auto switches marked with "○" are produced upon receipt of order.

*: The D-A91/M91/A71/A801/F71/J71 auto switches are shipped together, but not assembled. (For band mounting, only auto switch mounting brackets are assembled before being shipped.)



CJ1

CJP

CJ2

JCM

CM2

CM3

CG1

CG3

JMB

MB

MB1

CA2

CS1

CS2

D-□

-X□

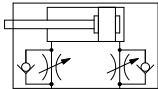
Technical Data

Space-saving air cylinder with speed controller built-in cylinder cover



Symbol

Double acting, Single rod, Rubber bumper



Made to Order: Individual Specifications
(For details, refer to page 150.)

Symbol	Specifications
-X446	PTFE grease

Made to Order

Click here for details

Symbol	Specifications
-XA□	Change of rod end shape
-XC51	With hose nipple
-XC85	Grease for food processing equipment

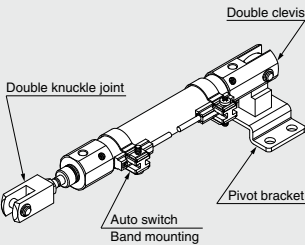


Precautions

Refer to page 152 before handling.

Ordering Example of Cylinder Assembly

Cylinder model: CDJ2ZD16-60Z-NW-M9BW-B



Mounting D: Double clevis
Pivot bracket N: Yes
Rod end bracket W: Double knuckle joint
Auto switch D-M9BW: 2 pcs.
Auto switch mounting B: Band mounting

*: Pivot bracket, double knuckle joint and auto switch are shipped together with the product, but not assembled.

Specifications

Bore size [mm]	10	16
Action	Double acting, Single rod	
Fluid	Air	
Proof pressure	1 MPa	
Maximum operating pressure	0.7 MPa	
Minimum operating pressure	0.06 MPa	
Ambient and fluid temperature	Without auto switch: -10°C to 70°C (No freezing) With auto switch: -10°C to 60°C	
Cushion	Rubber bumper	
Lubrication	Not required (Non-lube)	
Stroke length tolerance	+1.0 0	
Speed controller	Built-in	
Piston speed	50 to 750 mm/s	
Allowable kinetic energy	0.035 J	0.090 J

Standard Strokes

Bore size	Standard stroke	Maximum manufacturable stroke [mm]
10	15, 30, 45, 60, 75, 100, 125, 150	400
16	15, 30, 45, 60, 75, 100, 125, 150, 175, 200	400

- *: Manufacture of intermediate strokes in 1 mm increments is possible. (Spacers are not used.)
- *: Applicable strokes should be confirmed according to the usage. For details, refer to "Air Cylinders Model Selection" on front matter pages. In addition, the products that exceed the standard stroke might not be able to fulfill the specifications due to the deflection etc.

Mounting and Accessories

Refer to page 42 for the list of brackets and page 63 for details about part numbers and dimensions.

- ...Mounted on the product. ○...Can be ordered within the cylinder model. △...Order separately.

Mounting		Basic	Foot	Flange	Double clevis	Double clevis (including T-bracket)
Standard	Mounting nut	●	●	●	—	—
	Rod end nut	●	●	●	●	●
	Clevis pin (including retaining rings)	—	—	—	●	●
	Single knuckle joint	○	○	○	○	○
Option	Double knuckle joint (including a pin and retaining rings)	○	○	○	○	○
	Double knuckle joint (With one-touch connecting pin)	△	△	△	△	○
	Rod end cap (Flat/Round type)	○	○	○	○	○
	Pivot bracket (T-bracket)	—	—	—	○	●

- *: Stainless steel mounting brackets and accessories are also available. Refer to page 63-1 for details.

Mounting Brackets/Part No.

Mounting bracket	Bore size [mm]	
	10	16
Foot	CJ-L010C	CJ-L016C
Flange	CJ-F010C	CJ-F016C
Pivot bracket (T-bracket)*1	CJ-T010C	CJ-T016C

- *1: The pivot bracket (T-bracket) is used with double clevis (D).

Refer to pages 142 to 149 for cylinders with auto switches.

- Auto switch proper mounting position (detection at stroke end) and its mounting height
- Minimum stroke for auto switch mounting
- Operating range
- Auto switch mounting brackets/Part no.