

# Series 10-11-CM2X-Z

ø20, ø25, ø32, ø40 Low Speed Cylinder  
Double Acting, Single Rod

## How to Order

**Clean series**

10	Relief type
11	Vacuum suction type

**Built-in magnet**

Nil	No
D	With auto switch (Built-in magnet)

**Mounting**

B	Basic (Double-side bossed)
L	Axial foot
F	Rod flange
G	Head flange
BZ	Boss-cut, Basic
FZ	Boss-cut, Rod flange

**Bore size (mm)**

**Port thread type**

Nil	Rc
TN	NPT*
TF	G*

\* Rubber bumper only

**Cylinder stroke (mm)**

**Auto switch**

Nil	Without auto switch
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\* For applicable auto switches, refer to the "Applicable Auto Switch List".  
\* The minimum stroke for auto switch mounting, operating range and auto switch mounting brackets/part no. are the same as standard products.

**Number of auto switches**

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

**Rod end thread**

Nil	Male rod end
F	Female rod end

## Model

Model		Bore size (mm)	Port size	Lubrication	Action	Standard stroke (mm)	Auto switch mounting	Cushion Rubber
Vacuum suction type	Relief type	10-CM2X□20	20	Non-lube	Double acting, Single Rod	25, 50, 75, 100, 125, 150, 200, 250, 300	○	○
		10-CM2X□25	25					
		10-CM2X□32	32					
		10-CM2X□40	40					
		11-CM2X□20	20					
		11-CM2X□25	25					
		11-CM2X□32	32					
		11-CM2X□40	40					

Directional Control Valves  
Air Cylinders  
Rotary Actuators  
Air Grippers  
Air Preparation Equipment  
Modular F. R.  
Pressure Control Equipment  
Fittings & Tubing  
Flow Control Equipment  
Pressure Switches/ Pressure Sensors

### Specifications

	Bore size (mm)	20/25/32/40
Item		
<b>Proof pressure</b>		1.5 MPa
<b>Maximum operating pressure</b>		1.0 MPa
<b>Minimum operating pressure</b>		0.05 MPa
<b>Ambient and fluid temperature</b>		Without auto switch: -10°C to 70°C With auto switch: -10°C to 60°C (No freezing)
<b>Piston speed</b>		30 to 400 mm/s
<b>Stroke length tolerance</b>		$^{+1.4}$ $0$
<b>Mounting</b>		Basic/Axial foot/Rod flange/Head flange
<b>Grease</b>		Fluorine grease
<b>Cleanliness class (ISO class)</b>		10-: Class 4
		11-: Class 3

### Suction Flow Rate of Vacuum Suction Type (Reference values)

Bore size (mm)	Suction flow rate L/min (ANR)
20/25/32/40	2

Dimensions and applicable auto switches are the same as 10-/11-CM2-Z.  
Refer to pages 701 to 707.

## Specific Product Precautions

Be sure to read this before handling.

### Handling

#### Warning

**1. Do not rotate the cover.**

If a cover is rotated when installing a cylinder or screwing a fitting into the port, it is likely to damage the junction part with cover.

#### Caution

**1. Use caution to the popping of a retaining ring.**

When replacing rod seals and removing and mounting a retaining ring, be much careful with the popping of a retaining ring.

### Maintenance

#### Caution

**1. Grease pack**

When maintenance requires only grease, use the following part number to order.

Grease pack part no.: GR-X-005 (5 g)

# Series 10-11-CQSBX $\varnothing 12, \varnothing 16, \varnothing 20, \varnothing 25$ Low Speed Cylinder

## How to Order

**Clean series**

10	Relief type
11	Vacuum suction type

**10-C D QSBX B 20 30 D M9B**

**Built-in magnet**

Nil	No
D	With auto switch (Built-in magnet)

**Low speed cylinder**

**Mounting**

B	Through-hole/Both ends tapped (Standard)
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**Bore size**

12	12 mm
16	16 mm
20	20 mm
25	25 mm

**Cylinder stroke (mm)**

Bore size (mm)	Standard stroke (mm)
12, 16	5, 10, 15, 20, 25, 30
20	5, 10, 15, 20, 25, 30, 35, 40, 45, 50
25	

\*Manufacturing of intermediate strokes  
Intermediate strokes in 1 mm increments are available by using spacers with standard stroke cylinders. The overall length of cylinder is the same as a standard stroke one size longer than this intermediate stroke.

Example) 10-CQSB25-47D: Install a 3 mm width spacer in a standard stroke cylinder 10-CQSB25-50D.

**Number of auto switches**

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

**Auto switch**

Reed switch	A93
Solid state	F9B, F91

\* The minimum stroke for auto switch mounting and operating range are the same as standard products.

**Rod end thread**

Nil	Standard (Rod end female thread)
M	Rod end male thread

**Action**

D	Double acting
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## Model

	Model	Bore size (mm)	Port size	Lubrication	Action	Standard stroke (mm)	Auto switch mounting	Cushion	
								Rubber	Air
Relief type	10-CQSB12	12	M5 x 0.8	Non-lube	Double acting Single rod	5, 10, 15, 20, 25, 30	○	-	-
	10-CQSB16	16							
	10-CQSB20	20							
	10-CQSB25	25							
Vacuum suction type	11-CQSB12	12	M5 x 0.8	Non-lube	Double acting Single rod	5, 10, 15, 20, 25, 30, 35, 40, 45, 50	○	-	-
	11-CQSB16	16							
	11-CQSB20	20							
	11-CQSB25	25							

**Specifications**

Bore size (mm)	10- (Relief type)			
	12	16	20	25
Fluid	Air			
Proof pressure	1.5 MPa			
Maximum operating pressure	1.0 MPa			
Minimum operating pressure	0.04 MPa		0.035 MPa	
Ambient and fluid temperature	Without auto switch: -10 to 70°C (With no freezing)			
	With auto switch: -10 to 60°C (With no freezing)			
Piston speed	1 to 200 mm/s			
Stroke length tolerance	+1.0 0 mm			
Port size	M5 x 0.8			
Relief port	M5 x 0.8			
Grease	Fluorine grease			
Cleanliness class (ISO class)	Class 4			

Bore size (mm)	11- (Vacuum suction type)			
	12	16	20	25
Fluid	Air			
Proof pressure	1.5 MPa			
Maximum operating pressure	1.0 MPa			
Minimum operating pressure	0.03 MPa		0.025 MPa	
Ambient and fluid temperature	Without auto switch: -10 to 70°C (With no freezing)			
	With auto switch: -10 to 60°C (With no freezing)			
Piston speed	1 to 200 mm/s		0.5 to 200 mm/s	
Stroke length tolerance	+1.0 0 mm			
Port size	M5 x 0.8			
Vacuum suction port	M5 x 0.8			
Grease	Fluorine grease			
Cleanliness class (ISO class)	Class 3			
Suction flow rate (Reference values)	5 L/min (ANR)			

Dimensions and applicable auto switches are the same as 10-/11-CQS.  
Refer to pages 750 to 754.

# Series 10-11-CQ2X

ø32, ø40, ø50, ø63  
Low Speed Cylinder

## How to Order

**Clean series**

10	Relief type
11	Vacuum suction type

**10 - C D Q2XB 40 - 30 D [ ] J79 [ ]**

**Built-in magnet**

Nil	No
D	With auto switch (Built-in magnet)

**Low speed cylinder**

**Bore size**

32	32 mm
40	40 mm
50	50 mm
63	63 mm

**Cylinder stroke (mm)**

Bore size (mm)	Standard stroke (mm)
32, 40	5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100
50, 63	10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100

\*Manufacturing of intermediate strokes  
Intermediate strokes in 1 mm increments are available by using spacers with standard stroke cylinders.  
Please contact SMC for ø40 with bumper.  
Example) 10-CQ2XB40-57D: Install an 18 mm width spacer in a standard stroke cylinder 10-CQ2XB40-75D.

**Number of auto switches**

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

**Auto switch**

Reed switch	A73, A93
Solid state	J79, M9B, F79, M9N

\* The minimum stroke for auto switch mounting and operating range are the same as standard products.

**Rod end thread**

Nil	Standard (Rod end female thread)
M	Rod end male thread

**Action**

D	Double acting
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## Model

	Model	Bore size (mm)	Port size	Lubrication	Action	Standard stroke (mm)	Auto switch mounting	Cushion	
								Rubber	Air
Relief type	10-CQ2XB32	32	M5 x 0.8, Rc1/8 <sup>Note 1)</sup>	Non-lube	Double acting Single rod	5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100	○	—	—
	10-CQ2XB40	40	Rc1/8						
	10-CQ2XB50	50	Rc1/4						
	10-CQ2XB63	63	Rc1/4						
Vacuum suction type	11-CQ2XB32	32	M5 x 0.8, Rc1/8 <sup>Note 1)</sup>	Non-lube	Double acting Single rod	5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100	○	—	—
	11-CQ2XB40	40	Rc1/8						
	11-CQ2XB50	50	Rc1/4						
	11-CQ2XB63	63	Rc1/4						

Note 1) For ø32 without an auto switch, M5 x 0.8 is used for 5 mm stroke only.

## Low Speed Cylinder **10-CQ2X/11-CQ2X**

### Specifications

Bore size (mm)	10- (Relief type)			
	32	40	50	63
Fluid	Air			
Proof pressure	1.5 MPa			
Maximum operating pressure	1.0 MPa			
Minimum operating pressure	0.035 MPa		0.03 MPa	
Ambient and fluid temperature	Without auto switch: -10 to 70°C (With no freezing) With auto switch: -10 to 60°C (With no freezing)			
Piston speed	1 to 200 mm/s			
Stroke length tolerance	$^{+1.0}_0$ mm			
Port size	M5 x 0.8, 1/8	1/8		1/4
Relief port	M5 x 0.8			
Grease	Fluorine grease			
Cleanliness class (ISO class)	Class 4			

Bore size (mm)	11- (Vacuum suction type)			
	32	40	50	63
Fluid	Air			
Proof pressure	1.5 MPa			
Maximum operating pressure	1.0 MPa			
Minimum operating pressure	0.025 MPa		0.02 MPa	
Ambient and fluid temperature	Without auto switch: -10 to 70°C (With no freezing) With auto switch: -10 to 60°C (With no freezing)			
Piston speed	0.5 to 200 mm/s			
Stroke length tolerance	$^{+1.0}_0$ mm			
Port size	M5 x 0.8, 1/8	1/8		1/4
Vacuum suction port	M5 x 0.8			
Grease	Fluorine grease			
Cleanliness class (ISO class)	Class 3			
Suction flow rate (Reference values)	5 L/min (ANR)		10 L/min (ANR)	

Dimensions and applicable auto switches are the same as 10-/11-CQ2.  
Refer to pages 759 to 762.