

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	1/8	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	1/4										
	11-CM2X□25	25											
	11-CM2X□32	32											
11-CM2X□40	40												

Specifications

	Bore size (mm)	20/25/32/40
Item		
Proof pressure		1.5 MPa
Maximum operating pressure		1.0 MPa
Minimum operating pressure		10-: 0.035 MPa, 11-: 0.025 MPa
Ambient and fluid temperature		Without auto switch: -10°C to 70°C With auto switch: -10°C to 60°C (No freezing)
Piston speed		10-: 1 to 200 mm/s, 11-: 0.5 to 200 mm/s
Stroke length tolerance		$^{+0.4}_{0}$
Mounting		Basic/Axial foot/Rod flange/Head flange
Grease		Fluorine grease
Cleanliness class (ISO class)		10-: Class 4
		11-: Class 3

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

Suction Flow Rate of Vacuum Suction Type (Reference values)

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

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-CQSX $\varnothing 12, \varnothing 16, \varnothing 20, \varnothing 25$ Low Speed Cylinder

How to Order

● Clean series

10	Relief type
11	Vacuum suction type

10 — C D QSX 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 1) 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 ^{Note 1)}	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 ^{Note 1)}	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.