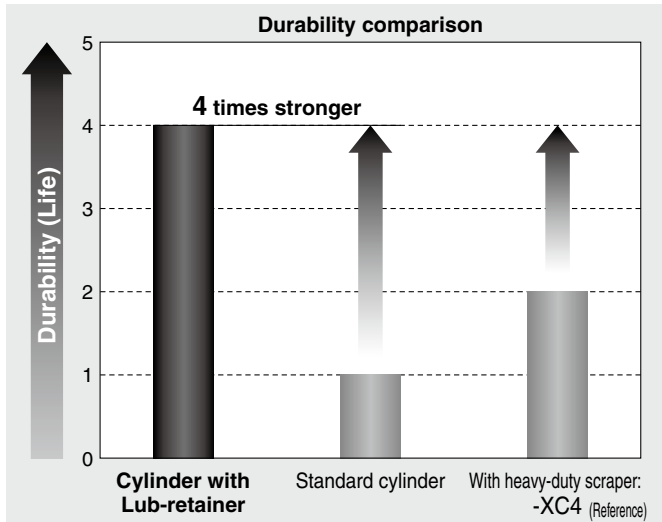


Applicable to operation in micro-powder (10 to 100 μm)/general environments

Cylinder with Stable Lubrication Function (Lub-retainer)

Durability is 4 times stronger than the standard model in micro-powder environments.

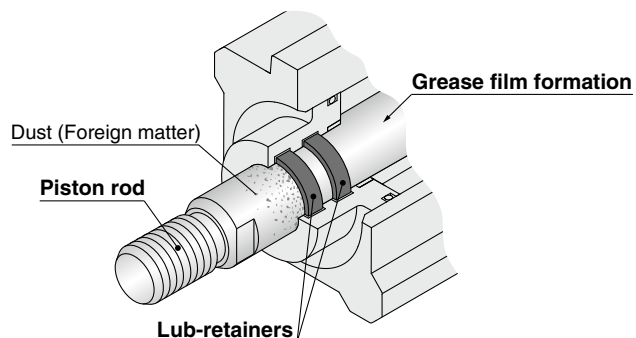


Comparison with the standard model and model with heavy-duty scraper (-XC4) (Relative ratio of B10)

* The durability test is conducted in accordance with SMC test conditions.







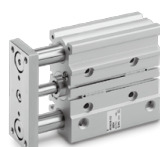
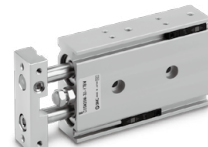
As the Lub-retainer is mounted at two locations,

- Grease film is formed on the piston rod surface to improve the durability.
- Entry of dust and foreign matter is prevented.



- The number of operating cycles can be improved even in general environments.

Applicable Cylinders

Air Cylinder Series CM2 $\phi 20$ to $\phi 40$  RoHS	Air Cylinder Series CG1 $\phi 20$ to $\phi 100$  RoHS	Air Cylinder Series CA2 $\phi 40$ to $\phi 100$  RoHS	Compact Cylinder/Compact Type Series CQS $\phi 20$ and $\phi 25$  RoHS
Compact Cylinder Series CQ2 $\phi 32$ to $\phi 100$  RoHS	Air Slide Table Series MXQ□A $\phi 6$ to $\phi 25$  RoHS	Compact Guide Cylinder Series MGP $\phi 20$ to $\phi 100$  RoHS	Dual Rod Cylinder Series CXS $\phi 6$ to $\phi 32$  RoHS

Series **CM2/CG1/CA2/CQS/CQ2/MXQ/MGP/CXS** 

Air Cylinder with Stable Lubrication Function (Lub-retainer)

Standard: Double Acting, Single Rod

Series CM2

Ø20, Ø25, Ø32, Ø40

RoHS



How to Order

CM2 C 20 M - 50 [] Z - N V

With auto switch CDM2 C 20 M - 50 [] Z - N V - M9BW []

With auto switch
(Built-in magnet)

Mounting

B	Basic (Double-side bossed)
L	Axial foot
F	Rod flange
G	Head flange
C	Single clevis
D	Double clevis
T	Head trunnion
U	Rod trunnion
E	Integral clevis
V	Integral clevis (90°)
BZ	Boss-cut/Basic
FZ	Boss-cut/Rod flange
UZ	Boss-cut/Rod trunnion

Bore size

20	20 mm
25	25 mm
32	32 mm
40	40 mm

With stable lubrication function (Lub-retainer)

Cylinder stroke

Bore size (mm)	Standard stroke (mm)	Maximum stroke (mm)
20	25, 50, 75, 100, 125, 150, 200, 250, 300	1000
25	25, 50, 75, 100, 125, 150, 200, 250, 300	
32	25, 50, 75, 100, 125, 150, 200, 250, 300	
40	25, 50, 75, 100, 125, 150, 200, 250, 300	

* Manufacture of intermediate strokes in 1 mm intervals is possible.

Number of auto switches

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

Auto switch

Nil	Without auto switch
-----	---------------------

* Applicable auto switch is the same as for the standard model.

Rod end bracket

Nil	None
V	Single knuckle joint
W	Double knuckle joint

* No bracket is provided for the female rod end type.
* A knuckle joint pin is not provided with the single knuckle joint.
* Rod end bracket is shipped together with the product, but not assembled.

Pivot bracket

Nil	None
N	Pivot bracket is shipped together with the product, but not assembled.

* Only for C, T, U, E, V, UZ mounting types.
* Pivot bracket is shipped together with the product, but not assembled.

Rod end thread

Nil	Male rod end
F	Female rod end

Specifications

Bore size (mm)	20	25	32	40
Minimum operating pressure	0.1 MPa			
Other specifications	Same as the standard model			
Dimensions	Same as the standard model			

Air Cylinder with Stable Lubrication Function (Lub-retainer)

Standard: Double Acting, Single Rod

Series CG1

RoHS

ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100



How to Order

CG1 B N 20 M - 100 [] Z - [] V

With auto switch **CDG1 D N 20 M - 100 [] Z - N W - M9BW []**

With auto switch
(Built-in magnet)

Mounting

B	Basic
Z*	Basic (without trunnion mounting female thread)
L	Axial foot
F	Rod flange
G	Head flange
T*	Head trunnion
D	Clevis

* Not available for ø80 or ø100.
* Mounting bracket is shipped together with the product, but not assembled.
* The cylinder for F, G, L, D mounting types is Z: Basic (without trunnion mounting female thread).

Bore size

20	20 mm
25	25 mm
32	32 mm
40	40 mm
50	50 mm
63	63 mm
80	80 mm
100	100 mm

Rod end thread

Nil	Male rod end
F	Female rod end

Pivot bracket

Nil	None
N	Pivot bracket is shipped together with the product, but not assembled.

* Only for D, T mounting types
* Pivot bracket is shipped together with the product, but not assembled.

Auto switch

Nil	Without auto switch
-----	---------------------

* Applicable auto switch is the same as for the standard model.

Number of auto switches

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

Rod end bracket

Nil	None
V	Single knuckle joint
W	Double knuckle joint

* No bracket is provided for the female rod end type.
* Rod end bracket is shipped together with the product, but not assembled.
* A knuckle joint pin is not provided with the single knuckle joint.

Cylinder stroke

Bore size (mm)	Standard stroke (mm) (Note)
20	25, 50, 75, 100, 125, 150, 200
25	
32	
40	
50, 63	25, 50, 75, 100, 125, 150, 200, 250, 300
80	
100	

With stable lubrication function (Lub-retainer)

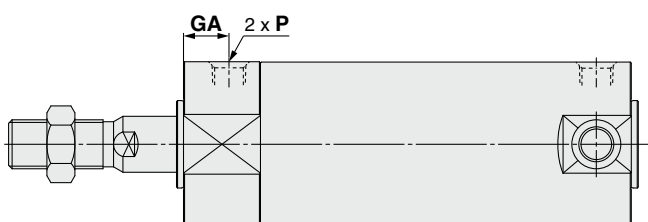
Specifications

Bore size (mm)	20	25	32	40	50	63	80	100
Minimum operating pressure	0.1 MPa							
Other specifications	Same as the standard model							
Dimensions	See below							

Note) Manufacture of intermediate strokes in 1 mm intervals is possible. (Spacers are not used.) Produced upon receipt of order.

Dimensions (Dimensions other than those shown below are the same as the standard model.)

* No trunnion mounting female thread is provided on the rod side. (For B: Basic)



Bore size	GA	P
20	14	M5 x 0.8
25	13	M5 x 0.8
32	(12)	(Rc 1/8)
40	(13)	(Rc 1/8)
50	(14)	(Rc 1/4)
63	(14)	(Rc 1/4)
80	(20)	(Rc 3/8)
100	(20)	(Rc 1/2)

* When female thread is used, use a washer, etc. to prevent the contact part at the rod end from being deformed depending on the material of the workpiece.
(): Same as the standard model.

* The mounting dimensions of the mounting bracket are the same as the standard model.

Air Cylinder with Stable Lubrication Function (Lub-retainer)

Standard: Double Acting, Single Rod

Series CA2

ø40, ø50, ø63, ø80, ø100

RoHS



How to Order

CA2 L 50 M - 100 **Z** **-** **-** **-**

With auto switch **CDA2 D 50 M - 100** **Z** **N** **W** **- M9BW** **-** **-**

With auto switch
(Built-in magnet)

Mounting

B	Basic
L	Axial foot
F	Rod flange
G	Head flange
C	Single clevis
D	Double clevis
T	Center trunnion

Bore size

40	40 mm
50	50 mm
63	63 mm
80	80 mm
100	100 mm

With stable lubrication function (Lub-retainer)

Cylinder stroke

Bore size (mm)	Standard stroke (mm)*	Long stroke (L and F only) (mm)
40	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400, 450, 500	800
50, 63	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400, 450, 500, 600	1200
80, 100	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400, 450, 500, 600, 700	ø80 : 1400 ø100: 1500

* Intermediate strokes not listed above are produced upon receipt of order.

Bracket 1

Nil	Without bracket
N	Pivot bracket

* Only for D, T mounting types
* Pivot bracket is shipped together with the product, but not assembled.

Bracket 2

Nil	Without bracket
V	Single knuckle joint
W	Double knuckle joint

* A knuckle joint pin is not provided with the single knuckle joint.
* Rod end bracket is shipped together with the product, but not assembled.

Number of auto switches

Nil	2 pcs.
S	1 pc.
3	3 pcs.
n	n pcs.

Auto switch

Nil	Without auto switch
------------	---------------------

* Applicable auto switch is the same as for the standard model.

Made to Order

Symbol	Specifications
-XA	Change of rod end shape
-XC7	Tie-rod, cushion valve, tie-rod nut, etc. made of stainless steel
-XC14	Change of trunnion bracket mounting position
-XC15	Change of tie-rod length

Cylinder suffix

	Nil	None
Rod boot	J	Nylon tarpaulin
	K	Heat resistant tarpaulin

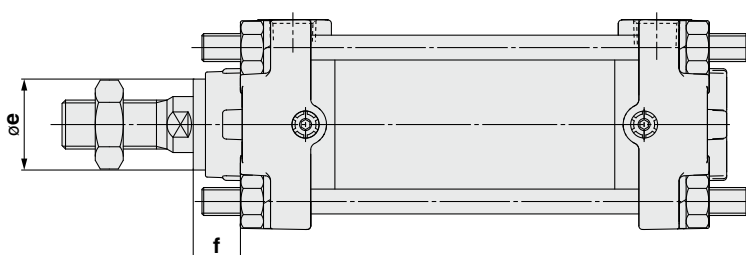
Built-in Magnet Cylinder Model

If a built-in magnet cylinder without an auto switch is required, there is no need to enter the symbol for the auto switch.
(Example) CDA2L40M-100Z

Specifications

Bore size (mm)	40	50	63	80	100
Minimum operating pressure	0.1 MPa				
Other specifications	Same as the standard model				
Dimensions	See below				

Dimensions (Dimensions other than those shown below are the same as the standard model.)



Bore size	øe	f
40	26	13.5
50	30	12.5
63	30	12.5
80	36	16.5
100	42	16

* The mounting dimensions of the mounting bracket are the same as the standard model.

Compact Cylinder with Stable Lubrication Function (Lub-retainer)

Standard: Double Acting, Single Rod

Series CQS

ø20, ø25

RoHS



How to Order

With auto switch

CDQS B 20 M - 30 D - M9BW

With auto switch
(Built-in magnet)

Mounting

B	Through-hole/Both ends tapped common (Standard)
L	Foot
LC	Compact foot
F	Rod side flange
G	Head side flange
D	Double clevis

* Mounting brackets are shipped together, (but not assembled).

Bore size

20	20 mm
25	25 mm

With stable lubrication function (Lub-retainer)

Cylinder stroke

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

Number of auto switches

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

Auto switch

Nil	Without auto switch
------------	---------------------

* Applicable auto switch is the same as for the standard model.

Body option

<Standard stroke>

Nil	Standard
M	Rod end male thread
F	Boss on head end

* Combination of body options (FM) is available.

Action

D	Double acting
----------	---------------

Built-in Magnet Cylinder Model

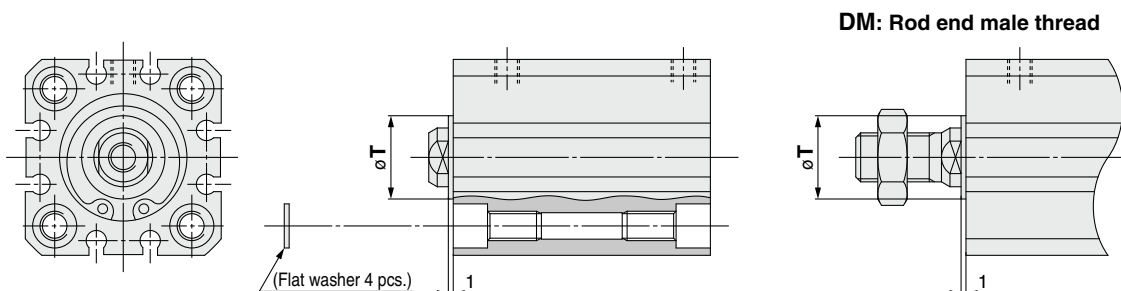
If a built-in magnet cylinder without an auto switch is required, there is no need to enter the symbol for the auto switch.

(Example) CDQSL25M-30D

Specifications

Bore size (mm)	20	25
Minimum operating pressure	0.1 MPa	
Other specifications	Same as the standard model	
Dimensions	See below	

Dimensions (Dimensions other than those shown below are the same as the standard model.)



Bore size	Standard stroke	(mm)
20	5, 10, 15, 20, 25, 30,	T
25	35, 40, 45, 50	15
		18

* The mounting dimensions of the mounting bracket are the same as the standard model.

Mounting Bracket Part No.

Bore size (mm)	Foot	Compact foot	Flange
20	CQS-LM020	CQS-LCM020	CQS-FM020
25	CQS-LM025	CQS-LCM025	CQS-FM025

* The double clevis type is the same as the standard model.

* When ordering foot and compact foot brackets, order 2 pieces per cylinder.

Compact Cylinder with Stable Lubrication Function (Lub-retainer)

Standard: Double Acting, Single Rod

Series CQ2

ø32, ø40, ø50, ø63, ø80, ø100

RoHS



How to Order

With auto switch

CDQ2 B 32 M - 30 D M Z - L W - M9BW

With auto switch
(Built-in magnet)

Mounting

B	Through-hole (Standard)
A	Both ends tapped
L	Foot
LC	Compact foot
F	Rod flange
G	Head flange
D	Double clevis

* Mounting brackets are shipped together, (but not assembled).

Bore size

32	32 mm
40	40 mm
50	50 mm
63	63 mm
80	80 mm
100	100 mm

With stable lubrication function (Lub-retainer)

Cylinder stroke

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

Action

D	Double acting
----------	---------------

Body option

Nil	Standard (Rod end female thread)
F	With boss on head end
M	Rod end male thread

* Combination of body options (FM) is available.

Number of auto switches

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

Auto switch

Nil	Without auto switch
------------	---------------------

* Applicable auto switch is the same as for the standard model.

Mounting bolt

Nil	None
L	Shipped together

* Mounting bolt is shipped together only when the mounting bracket is "B".

* Mounting bolt size is the same as the standard model.

* Mounting bolt is shipped together.

Rod end bracket

Nil	None
D	Simple joint A type + Joint
E	Simple joint B type + Joint
V	Single knuckle joint
W	Double knuckle joint

* The single knuckle joint and double knuckle joint cannot be mounted for the rod end female thread.

* A knuckle joint pin is not provided with the single knuckle joint.

* The simple joint A and B types cannot be mounted for the rod end male thread.

* Rod end bracket is shipped together with the product, but not assembled.

Auto switch mounting groove

Z	ø32 to ø100	4 surfaces
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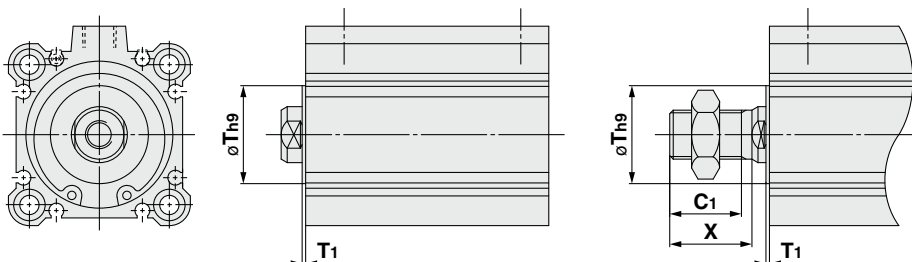
Specifications

Bore size (mm)	32	40	50	63	80	100
Minimum operating pressure	0.1 MPa					
Other specifications	Same as the standard model					
Dimensions	See below					

Dimensions (Dimensions other than those shown below are the same as the standard model.)

ø32 to ø100

DMZ: Rod end male thread



Bore size	T	T1	C1	X
32	22	1	20.5	23.5
40	28	1	20.5	23.5
50	35	2	24	26.5
63	35	2	24	26.5
80	—	—	32.5	35.5
100	—	—	32.5	35.5

* The mounting dimensions of the mounting bracket are the same as the standard model.

Air Slide Table with Stable Lubrication Function (Lub-retainer) Double Ported Type

Series **MXQ** **A**

ø6, ø8, ø12, ø16, ø20, ø25

RoHS



How to Order

MXQ 12 A M - 30 ZA - M9BW

With stable lubrication function (Lub-retainer)

Number of auto switches

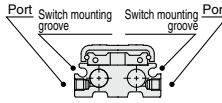
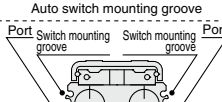
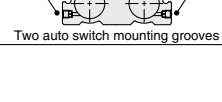



Nil	2 pcs.
S	1 pc.
n	n pcs.

Auto switch

Nil	Without auto switch
-----	---------------------

* Refer to Best Pneumatics No. 3 for applicable auto switches.

Adjuster option combinations

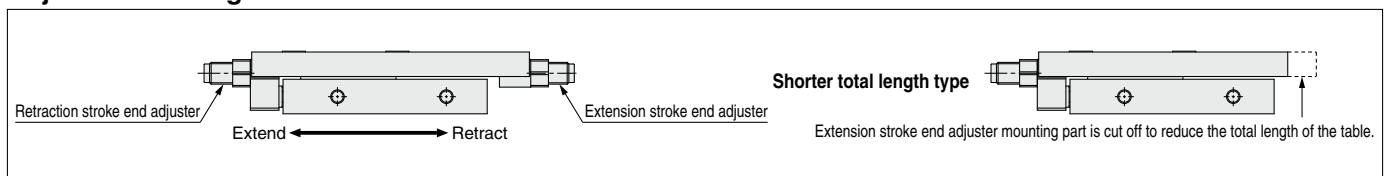
Bore size	Body option: Double ported type	Standard stroke (mm)
	A	
6		10, 20, 30, 40, 50
8		10, 20, 30, 40, 50, 75
12		10, 20, 30, 40, 50, 75, 100
16		10, 20, 30, 40, 50, 75, 100, 125
20		10, 20, 30, 40, 50, 75, 100, 125, 150
25		10, 20, 30, 40, 50, 75, 100, 125, 150

Symbol	Adjuster type	Adjuster mounting position <small>Note 1)</small>	
		Extension stroke end	Retraction stroke end
Z	Without adjuster		
ZA	Metal stopper with bumper (Not available for ø6)	●	●
ZB		●	
ZC			●
ZD	Rubber stopper	●	●
ZE		●	
ZF			●
ZG	Shock absorber (RJ) (Not available for ø6 and ø8)	●	●
ZH		●	
ZJ			●
ZN	Without adjuster		
ZP	Rubber stopper		●
ZQ	Shock absorber (RJ) (Not available for ø6 and ø8)		●
ZS	Metal stopper with bumper (Not available for ø6)		●

Note 1) ● Shipped together with the product, but not assembled. Without any symbols for the adjuster mounting position, the adjuster can be mounted afterward.

Note 2) Extension stroke end adjuster mounting holes are removed to reduce the total length. As the total length is reduced by removing the extension stroke end adjuster mounting holes, an extension stroke end adjuster cannot be mounted afterward. (Retraction stroke end adjuster can be mounted afterward.)

Adjuster Mounting Position



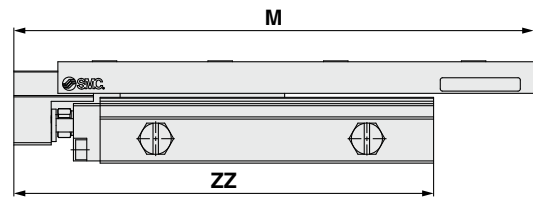
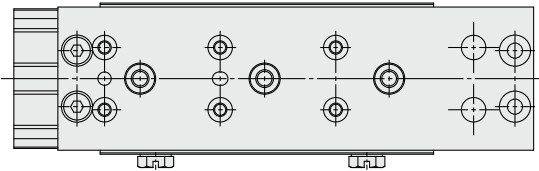
Specifications

Bore size (mm)		6	8	12	16	20	25
Minimum operating pressure	Without adjuster	0.15 MPa					
	Rubber stopper						
	Shock absorber						
	Metal stopper with bumper						
Other specifications		Same as the standard model					
Dimensions		Refer to next page.					

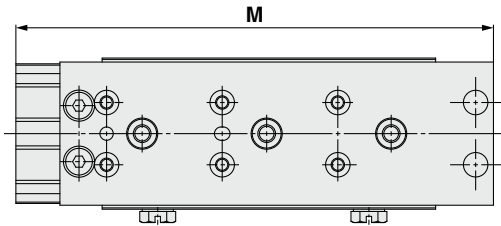
Series **MXQ□A**

Dimensions (Dimensions other than those shown below are the same as the standard model.)

MXQ6AM

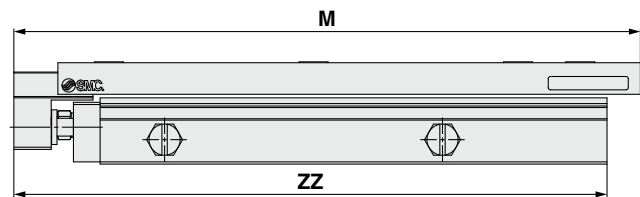
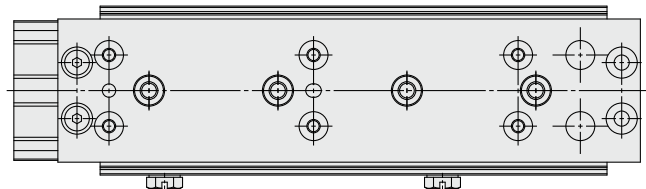


Shorter total length type

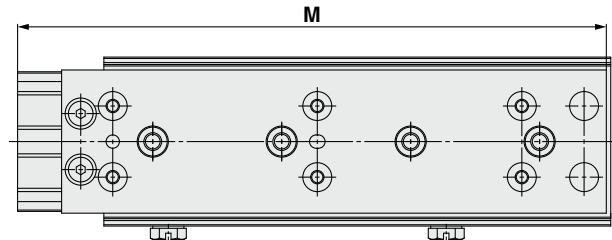


Model	M		ZZ
	Standard type	Shorter total length type	
MXQ6AM-10Z	74	64.5	69.5
MXQ6AM-20Z	84	74.5	69.5
MXQ6AM-30Z	105	95.5	82.5
MXQ6AM-40Z	117	107.4	94.5
MXQ6AM-50Z	127	117.5	104.5

MXQ8AM



Shorter total length type



Model	M		ZZ
	Standard type	Shorter total length type	
MXQ8AM-10Z	78	69.5	70.5
MXQ8AM-20Z	88	79.5	80.5
MXQ8AM-30Z	98	89.5	90.5
MXQ8AM-40Z	114	105.5	106.5
MXQ8AM-50Z	141	132.5	133.5
MXQ8AM-75Z	166	157.5	135.5

The MXQ12AM/MXQ16AM/MXQ20AM/MXQ25AM dimensions are the same as the standard model.

Compact Guide Cylinder with Stable Lubrication Function (Lub-retainer)

Series *MGP*

RoHS

Ø20, Ø25, Ø32, Ø40, Ø50, Ø63, Ø80, Ø100



How to Order

Compact guide cylinder

MGP M 25 M - **30 Z** - **M9BW**

Compact guide cylinder

Bearing type

M	Slide bearing
L	Ball bushing

Bore size

20	20 mm
25	25 mm
32	32 mm
40	40 mm
50	50 mm
63	63 mm
80	80 mm
100	100 mm

With stable lubrication function (Lub-retainer)

Port thread type

Nil	Rc
TN	NPT
TF	G

Number of auto switches

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

Auto switch

Nil	Without auto switch (Built-in magnet)
------------	------------------------------------------

* Applicable auto switch is the same as for the standard model.

Cylinder stroke

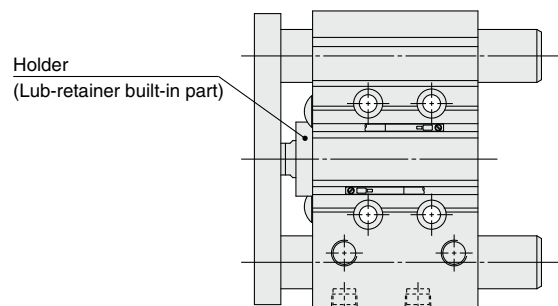
Bore size (mm)	Standard stroke (mm)
20, 25	20, 30, 40, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400
32 to 100	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400

* Intermediate strokes are the same as standard model.

Specifications

Bore size (mm)	20	25	32	40	50	63	80	100
Minimum operating pressure	0.15 MPa							
Other specifications	Same as the standard model							
Dimensions	See right side							

Dimensions (Dimensions are the same as the standard model.)

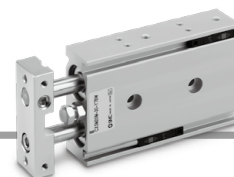


Dual Rod Cylinder with Stable Lubrication Function (Lub-retainer)

Series CXS

ø6, ø10, ø15, ø20, ø25, ø32

RoHS



How to Order

• With stable lubrication function (Lub-retainer)

CXS **M** **20** **M** - **100** - **Y7BW**

• Bearing type

M	Slide bearing
L	Ball bushing bearing

• Bore size/Standard stroke

Bore size (mm)	Standard stroke (mm)
6	10, 20, 30, 40, 50
10	10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 75
15, 20, 25, 32	10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 75, 80, 90, 100

• Number of auto switches

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

• Auto switch

Nil	Without auto switch (Built-in magnet)
------------	---------------------------------------

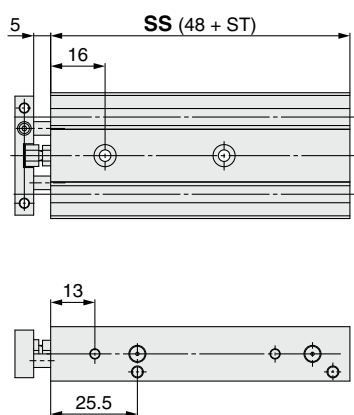
* Applicable auto switch is the same as for the standard model.

Specifications

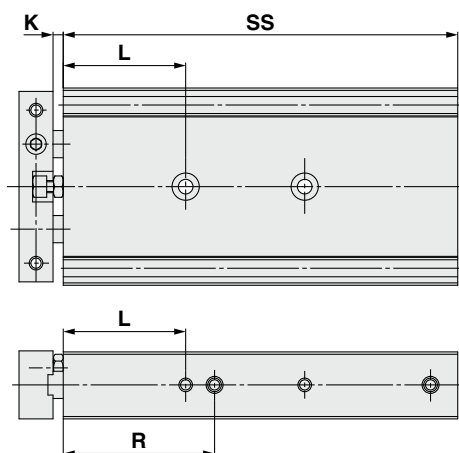
Bore size (mm)	6	10	15	20	25	32
Minimum operating pressure	0.2 MPa	0.15 MPa			0.1 MPa	
Piston speed	50 to 300 mm/s	50 to 800 mm/s	50 to 700 mm/s		50 to 600 mm/s	
Other specifications	Same as the standard model					
Dimensions	See below					

Dimensions (Dimensions other than those shown below are the same as the standard model.)

CXS□6



CXS□10 to 32



(mm)

Model	K	L	R
CXS□10	4	25	35
CXS□15	3	36	44.5
CXS□20	6	36	50.5
CXS□25	6	36	52
CXS□32	4	40	66

</

SMC Corporation

Akihabara UDX 15F,
4-14-1, Sotokanda, Chiyoda-ku, Tokyo 101-0021, JAPAN
Phone: 03-5207-8249 Fax: 03-5298-5362
<http://www.smcworld.com>
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