

Pneumatics

Simple Specials/Made to Order

[illegible]

Simple Specials ▶▶▶▶▶▶▶▶▶▶ **P.1379**

Simple Specials can be ordered using the Simple Specials System. Refer to front matter 49 for details.

Made to Order: Common Specifications ▶ **P.1395**

Made to Order: Individual Specifications ▶ P.1499

Specific Product Precautions

Be sure to read before handling.

Refer to front matters 54 and 55 for Safety Instructions and pages 3 to 11 for Actuator and Auto Switch Precautions.

Simple Specials/Made to Order

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Made to Order Simple Specials:



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Simple Specials: -XA0 to XA30: Change of Rod End Shape

These changes are dealt with Simple Specials System. Refer to front matter 49 for details.

1 Change of Rod End Shape

Applicable Series

Series			Action	Symbol for change of rod end shape	Note
CJP2	Pin cylinder	CJP2	Double acting, Single rod	XA0/1/10/11	
CJ2	Standard type	CJ2	Double acting, Single rod	XA0/1/10/11	Available with air cushion
			Single acting (Spring return/extend)	XA0/1/10/11	
		CJ2W	Double acting, Double rod	XA0/1/10/11	Available with air cushion
	Non-rotating rod type	CJ2K	Double acting, Single rod	XA0/1/10/11	
			Single acting (Spring return/extend)	XA0/1/10/11	
	With speed controller type	CJ2Z	Double acting, Single rod	XA0/1/10/11	
		CJ2ZW	Double acting, Double rod	XA0/1/10/11	
	Low friction type	CJ2□Q	Double acting, Single rod	XA0/1/10/11	
	Direct mount type	CJ2RA	Double acting, Single rod	XA0/1/10/11	
			Single acting (Spring return/extend)	XA0/1/10/11	
	Non-rotating rod, Direct mount type	CJ2RK	Double acting, Single rod	XA0/1/10/11	
			Single acting (Spring return/extend)	XA0/1/10/11	
CM2	Standard type	CM2	Double acting, Single rod	XA0 to 30	
			Single acting (Spring return/extend)	XA0 to 30	
		CM2W	Double acting, Double rod	XA0 to 30	
	Non-rotating rod type	CM2K	Double acting, Single rod	XA0/1/6/10/11/13/14/17/19/21	
	Direct mount type	CM2R	Double acting, Single rod	XA0 to 30	
	Non-rotating rod, Direct mount type	CM2RK	Double acting, Single rod	XA0/1/6/10/11/13/14/17/19/21	
	Low friction type	CM2Y	Double acting, Single rod	XA0 to 30	
	Centralized piping type	CM2□□P	Double acting, Single rod	XA0 to 30	
	End lock cylinder	CBM2	Double acting, Single rod	XA0 to 30	
	Standard type (Air-hydro type)	CM2H	Double acting, Single rod	XA0 to 30	
		CM2WH	Double acting, Double rod	XA0 to 30	
CG1	Standard type	CG1	Double acting, Single rod	XA0 to 30	
		CG1W	Double acting, Double rod	XA0 to 30	
	Non-rotating rod type	CG1K	Double acting, Single rod	XA0 to 30	
	Direct mount type	CG1R	Double acting, Single rod	XA0 to 30	
	End lock cylinder	CBG1	Double acting, Single rod	XA0 to 30	
	Low friction type	CG1Y	Double acting, Single rod	XA0 to 30	

Simple Specials: Change of Rod End Shape

Symbol

-XA0 to XA30

Series			Action	Symbol for change of rod end shape	Note
MB	Standard type	MB	Double acting, Single rod	XA0 to 30	
		MBW	Double acting, Double rod	XA0 to 30	
	Non-rotating rod type	MBK	Double acting, Single rod	XA0/1/6/10/11/13/14/17/19/21	
	Low friction type	MB□Q	Double acting, Single rod	XA0 to 30	
	With end lock type	MBB	Double acting, Single rod	XA0 to 30	
MB1	Standard type	MB1	Double acting, Single rod	XA0 to 30	
		MB1W	Double acting, Double rod	XA0 to 30	
	Non-rotating rod type	MB1K	Double acting, Single rod	XA0/1/6/10/11/13/14/17/19/21	
CA2	Standard type	CA2	Double acting, Single rod	XA0 to 30	
		CA2W	Double acting, Double rod	XA0 to 30	
	Non-rotating rod type	CA2K	Double acting, Single rod	XA0 to 30	ø40 to ø63
	Low friction type	CA2Y	Double acting, Single rod	XA0 to 30	
	Standard type (Air-hydro type)	CA2□H	Double acting, Single rod	XA1/3/5 to 8/10/11/13 to 23/26 to 30	
	End lock cylinder	CBA2	Double acting, Single rod	XA0 to 30	
CS1	Standard type	CS1	Double acting, Single rod	XA0 to 30	
		CS1W	Double acting, Double rod	XA0 to 30	
	Low friction type	CS1□Q	Double acting, Single rod	XA0 to 30	
CG5	Stainless steel cylinder	CG5-S	Double acting, Single rod	XA0 to 30	
CN MN CL	Cylinder with lock	CNG	Double acting, Single rod	XA0 to 30	
		MNB	Double acting, Single rod	XA0 to 30	
		CNA	Double acting, Single rod	XA0 to 30	
		CNS	Double acting, Single rod	XA0 to 30	
		CLS	Double acting, Single rod	XA0 to 30	
CL	Fine lock cylinder	CLJ2	Double acting, Single rod	XA0/1/10/11	
		CLM2	Double acting, Single rod	XA0 to 30	
		CLG1	Double acting, Single rod	XA0 to 30	
CL	Locked-up cylinder	CL1	Double acting, Single rod	XA0 to 30	
CV	Valve mounted cylinder	CVJ5	Double acting, Single rod	XA0/1/10/11	
		CVJ3	Single acting (Spring return/extend)	XA0/1/10/11	
		CVM5	Double acting, Single rod	XA0 to 30	
		CVM3	Single acting (Spring return/extend)	XA0 to 30	
		CV3	Double acting, Single rod	XA0 to 30	
		CVS1	Double acting, Single rod	XA0 to 30	
		CVM5K	Double acting, Single rod	XA0 to 30	
		CVM3K	Single acting (Spring return/extend)	XA0 to 30	
		CV3K	Double acting, Single rod	XA0 to 30	ø40 to ø63
		CVS1K	Double acting, Single rod	XA0 to 30	ø40 to ø63

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Individual
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Simple Specials: -XA0 to XA30: Change of Rod End Shape

These changes are dealt with Simple Specials System. Refer to front matter 49 for details.

⚠ Precautions

1. SMC will make appropriate arrangements if no dimension, tolerance, or finish instructions are given in the diagram.
2. Standard dimensions marked with "*" will be as follows to the rod diameter (D). Enter any special dimension you desire.
 $D \leq 6 \rightarrow D - 1 \text{ mm}$, $6 < D \leq 25 \rightarrow D - 2 \text{ mm}$, $D > 25 \rightarrow D - 4 \text{ mm}$
3. In the case of double rod type and single acting retraction type, enter the dimensions when the rod is retracted.
4. Only the single side of a double rod is able to manufacture.

Symbol: A0 	Symbol: A1 	Symbol: A2 	Symbol: A3
Symbol: A4 	Symbol: A5 	Symbol: A6 	Symbol: A7
Symbol: A8 	Symbol: A9 	Symbol: A10 	Symbol: A11
Symbol: A12 	Symbol: A13 	Symbol: A14 	Symbol: A15
Symbol: A16 	Symbol: A17 	Symbol: A18 	Symbol: A19
Symbol: A20 	Symbol: A21 	Symbol: A22 	Symbol: A23
Symbol: A24 	Symbol: A25 	Symbol: A26 	Symbol: A27
Symbol: A28 	Symbol: A29 	Symbol: A30 	

Simple Specials: -XA1/2/6/7/11/17/18: Change of Rod End Shape

These changes are dealt with Simple Specials System. Refer to front matter 49 for details.

2 CQS/CQ2 (ø12 to ø25): Change of Rod End Shape

Symbol

-XA1/2/6/7/11/17/18

Applicable Series

Series			Action	Symbol for change of rod end shape
CQS	Standard type	CQS	Double acting, Single rod	XA1/XA2/XA6
			Spring acting (Spring return)	XA7/XA11
		CQSW	Double acting, Double rod	XA17/XA18

Series			Action	Symbol for change of rod end shape
CQ2 (ø12 to ø25)	Standard type	CQ2	Double acting, Single rod ^{Note)}	XA1
			Spring acting (Spring return)	XA2
	Axial piping type (Centralized piping type)	CQ2W	Double acting, Double rod	XA6
		CQP2	Double acting, Single rod ^{Note)}	XA7
			Single acting (Spring return)	XA11
				XA17
				XA18

Note) Except ø12, with rubber bumper (CQ2□12-DC, CQ2P□12-DC).

⚠ Precautions

- SMC will make appropriate arrangements if no dimension, tolerance, or finish instructions are given in the diagram.
- Standard dimensions marked with "*" will be as follows to the rod diameter (D).
Enter any special dimension you desire.
ø12, ø16 → D - 1 mm ø20, ø25 → D - 2 mm
- In the case of double rod, fill in the dimension when the rod is retracted.
- It is impossible to manufacture when XA17 and XA18 are the same male thread diameter as the piston rod external diameter.
- Please contact SMC separately for the piston rod end pattern part numbers other than the table above and the cases other than the manufacturing conditions.

Series			Action	Symbol for change of rod end shape
CLQ (ø20 to ø25)	With lock	CLQ	Double acting, Single rod	"

Symbol: A1 	Symbol: A2 	Symbol: A6 	Symbol: A7 With chamfer
Symbol: A11 	Symbol: A17 	Symbol: A18 	

Conditions of Manufacture

Change of rod end shape/Symbol	Single rod type		Double rod type
XA1	For ø12	øM: 3 mm or more 5 mm or less	øM: ø5 mm or less
	ø16	øM: 3 mm or more 7 mm or less	øM: ø7 mm or less
	ø20	øM: 4 mm or more 8 mm or less	øM: ø8 mm or less
	ø25	øM: 4 mm or more 10 mm or less	øM: ø10 mm or less
XA2	For ø12	øJ: 4 mm or more, L: 6 mm or less	øJ: 3 mm or more, L: 6 mm or less
	ø16	øJ: 4 mm or more, L: 6 mm or less	øJ: 4 mm or more, L: 6 mm or less
	ø20	øJ: 5 mm or more, L: 11 mm or less	øJ: 5 mm or more, L: 11 mm or less
	ø25	øJ: 6 mm or more, L: 13 mm or less	øJ: 6 mm or more, L: 13 mm or less
XA6	For ø12	H: M4 or less	H: M4 or less
	ø16	H: M6 or less	H: M6 or less
	ø20	H: M6 or less	H: M6 or less
	ø25	H: M8 or less	H: M8 or less
XA7	For ø12	H: M4 or less	H: M4 or less
	ø16	H: M5 or less	H: M5 or less
	ø20	H: M6 or less	H: M6 or less
	ø25	H: M8 or less	H: M8 or less

Change of rod end shape/Symbol	Single rod type		Double rod type
XA11	For ø12	SR3 mm only	SR3 mm or more
	ø16	SR4 mm only	SR4 mm or more
	ø20	SR5 mm only	SR5 mm or more
	ø25	SR6 mm only	SR6 mm or more
XA17	For ø12	H: M5 or more, X: 20 mm or less	H: M5 or less
	ø16	H: M6 or more, X: 22.5 mm or less	H: M6 or less
	ø20	H: M8 or more, X: 26.5 mm or less	H: M8 or less
	ø25	H: M10 or more, X: 33 mm or less	H: M10 or less
XA18	For ø12	H: M5 or more, X: 20 mm or less	H: M5 or less
	ø16	H: M6 or more, X: 22.5 mm or less	H: M6 or less
	ø20	H: M8 or more, X: 26.5 mm or less	H: M8 or less
	ø25	H: M10 or more, X: 33 mm or less	H: M10 or less

-X□
Individual
-X□

Simple Specials:

-XA1 to XA23/-XA26 to XA30: Change of Rod End Shape

These changes are dealt with Simple Specials System. Refer to front matter 49 for details.

3 CQ2 (ø32 to ø100): Change of Rod End Shape

Applicable Series

Series			Action	Symbol for change of rod end shape
CQ2 CLQ	Standard type	CQ2	Double acting, Single rod	XA1 to 23 XA26 to 30
			Spring acting (Spring return)	
		CQ2W	Double acting, Double rod	
	Non-rotating rod type	CQ2K	Double acting, Single rod	
	Axial piping type (Centralized piping type)	CQP2	Double acting, Single rod	
			Single acting (Spring return)	
	With lock	CLQ	Double acting, Single rod	

⚠ Precautions

- SMC will make appropriate arrangements if no dimension, tolerance, or finish instructions are given in the diagram.
- Standard dimensions marked with "*" will be as follows to the rod diameter (D).
Enter any special dimension you desire.
D – 2 mm
- In the case of double rod, fill in the dimension when the rod is retracted.

Symbol: A1 	Symbol: A2 	Symbol: A3 	Symbol: A4
Symbol: A5 	Symbol: A6 	Symbol: A7 	Symbol: A8
Symbol: A9 	Symbol: A10 	Symbol: A11 	Symbol: A12

Simple Specials: Change of Rod End Shape

Symbol

-XA1 to XA23/-XA26 to XA30

<p>Symbol: A13</p>	<p>Symbol: A14</p>	<p>Symbol: A15</p>	<p>Symbol: A16</p>
<p>Symbol: A17</p>	<p>Symbol: A18</p>	<p>Symbol: A19</p>	<p>Symbol: A20</p>
<p>Symbol: A21</p>	<p>Symbol: A22</p>	<p>Symbol: A23</p>	<p>Symbol: A26</p>
<p>Symbol: A27</p>	<p>Symbol: A28</p>	<p>Symbol: A29</p>	<p>Symbol: A30</p>

-X□

Individual
-X□

Simple Specials -XA1 to XA38: Change of Rod End Shape

These changes are dealt with Simple Specials System. Refer to front matter 49 for details.

4 RSQ (ø20 to ø50)/RSG (ø40, ø50): Change of Rod End Shape

Symbol

-XA1 to XA38

Applicable Series

Series		Action	Symbol for change of rod end shape
RSQ RSG	Stopper cylinder Fixed mounting height	Double acting	• For round bar type XA1, 3, 6, 7, 8, 10, 11, 13, 19, 32, 33, 34
		Double acting with spring loaded	
		Single acting	
	Stopper cylinder Adjustable mounting height	Double acting	• For chamfered type XA35, 36, 37, 38
		Double acting with spring loaded	
		Single acting	

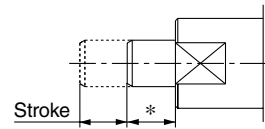
- For chamfered type (XA35 to XA38), make the H dimension to be equal to or less than the values on Table (1). (For the case with larger dimension than Table (1), it will be made-to-order separately.)

Table (1)

Bore size (mm)	H (mm)
ø20, ø32	63
ø40, ø50	83

⚠ Precautions

- SMC will make appropriate arrangements if no dimension, tolerance, or finish instructions are given in the diagram.
- Standard dimensions marked with "*" will be D – 2 mm to the rod diameter (D). Enter any special dimension you desire.
- Bore size ø12, ø16 requires the request for special separately.
- The following diagram shows piston rod at spring extend.



For the lengthwise dimension, enter the amount that you wish to add to the standard dimension.
(If the length is the same for the standard type, * in the figure on the left becomes 0.)

Round Bar

Symbol: A1 	Symbol: A3 	Symbol: A6 	Symbol: A7
Symbol: A8 	Symbol: A10 	Symbol: A11 	Symbol: A13
Symbol: A19 	Symbol: A32 	Symbol: A33 	Symbol: A34

Chamfered Type

Symbol: A35 	Symbol: A36 	Symbol: A37 	Symbol: A38
------------------------	------------------------	------------------------	------------------------

Simple Specials: -XA1/6/17/21: Change of Guide Rod End Shape

These changes are dealt with Simple Specials System. Refer to front matter 49 for details.

5 MGP/MGQ: Change of Guide Rod End Shape

Symbol

-XA1/6/17/21

Applicable Series

Series			Action	Symbol for change of rod end shape
MGP	Standard type	MGPM	Slide bearing	XA1, 6, 17, 21
		MGPA	Ball bushing bearing	XA1, 6
		MGPL		
	With lock	MLGPM	Slide bearing	XA1, 6, 17, 21
		MLGPL	Ball bushing bearing	XA1, 6
MGQ	Standard type	MGQM	Slide bearing	XA1, 6, 17, 21
		MGQL	Ball bushing bearing	XA1, 6
	With valve	MVGQM	Slide bearing	XA1, 6, 17, 21
		MVGQL	Ball bushing bearing	XA1, 6

* In the case of MGP, it is only applicable for the standard products with rubber bumper.

⚠ Precautions

- Ensure that the cylinder's overall length should not exceed the allowable overall length. In the case of exceeding the allowable overall length, it will be available as specials.
- In fig. (1), (2) below, E' dimension cannot make it into E dimension or less of the standard products. Confirm by referring to catalog.
- SMC will make appropriate arrangements if no dimension, tolerance, or finish instructions are given in the diagram.
- * dimension should be the guide rod diameter (D) – 2 mm. In the case that the preferred dimension is different, fill in that dimension.

		(mm)	
Bore size (mm)	Allowable overall length of cylinder		
12, 16	345		
20 to 32	540		
40 to 63	561		
80, 100	603		

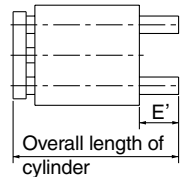


Fig. (1) For XA1, XA6

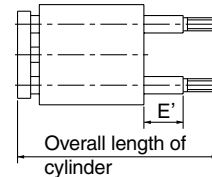
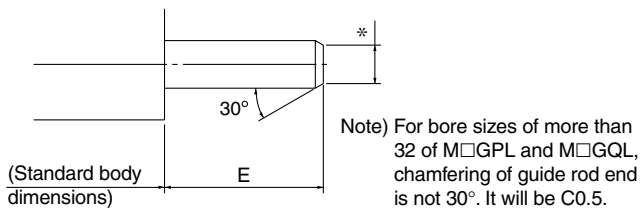


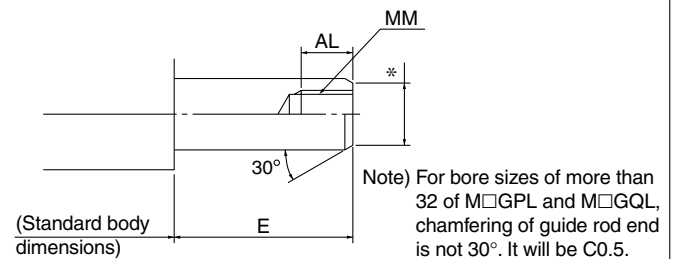
Fig. (2) For XA17, XA21

Guide Rod End Shape Pattern

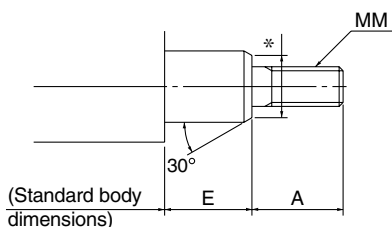
-XA1



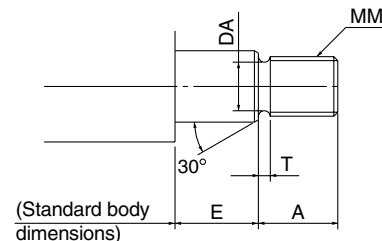
-XA6



-XA17



-XA21



-X□

Individual
-X□

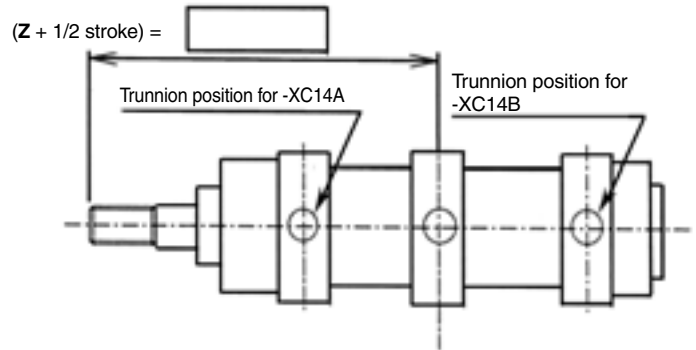
Simple Specials: -XC14: Change of Trunnion Bracket Mounting Position

These changes are dealt with Simple Specials System. Refer to front matter 49 for details.

6 Change of Trunnion Bracket Mounting Position

The position for mounting the trunnion pivot bracket on the cylinder can be moved from the standard mounting position to any desired position.

Series	Description	Model	Action	Note
MB	Standard type	MB	Double acting, Single rod	
		MBW	Double acting, Double rod	
	Non-rotating rod type	MBK	Double acting, Single rod	
	Low friction type	MB□Q	Double acting, Single rod	
	End lock cylinder	MBB	Double acting, Single rod	
CA2	Standard type	CA2	Double acting, Single rod	
		CA2W	Double acting, Double rod	
	Non-rotating rod type	CA2K	Double acting, Single rod	Applicable to ø40 to ø63
		CA2KW	Double acting, Double rod	Applicable to ø40 to ø63
	Low friction type	CA2Y	Double acting, Single rod	
	End lock cylinder	CBA2	Double acting, Single rod	
CS1	Standard type	CS1	Double acting, Double rod	
		CS1W	Double acting, Single rod	
	Low friction type	CS1□Q	Double acting, Single rod	
CNA	With lock	CNA	Double acting, Double rod	
		CNAW	Double acting, Single rod	
CNS		CNS	Double acting, Single rod	
CLS		CLS	Double acting, Single rod	
CL1	Locked-up cylinder	CL1	Double acting, Single rod	Applicable to ø40 to ø100
CVS1	Valve mounted cylinder	CVS1	Double acting, Single rod	
CVS1K		CVS1K	Double acting, Single rod	Applicable to ø40 to ø63



⚠ Precautions

1. Specify "Z + 1/2 stroke" in the case the trunnion bracket position is not -XC14A, B or trunnion is not a center trunnion.
2. SMC will make appropriate arrangements if no dimension, tolerance, or finish instructions are given in the diagram.
3. The possible range of trunnion bracket mounting position is indicated in the table below.
4. Some trunnion mounting positions do not allow auto switch mounting. Please consult with SMC for more information.
5. When the trunnion position is changed to somewhere close to the cover for the end lock cylinder, there is a possibility that the lock part and the trunnion pivot bracket may interfere with each other. Change the lock position (-X3) at the same time.

Series MB

Bore size (mm)	Symbol	Z + 1/2 stroke				
		For -XC14A	For -XC14B	For -XC14		Reference Standard (Center trunnion)
				Minimum	Maximum	
32		82.5	95.5 + Stroke	84	94 + Stroke	89 + 1/2 stroke
40		89	97 + Stroke	90	96 + Stroke	93 + 1/2 stroke
50		100.5	109.5 + Stroke	102	108 + Stroke	105 + 1/2 stroke
63		103.5	106.5 + Stroke	105	105 + Stroke	105 + 1/2 stroke
80		127	131 + Stroke	128	130 + Stroke	129 + 1/2 stroke
100		130	128 + Stroke	131	127 + Stroke	129 + 1/2 stroke
125		160	154 + Stroke	160.5	153.5 + Stroke	157 + 1/2 stroke

Series CA2/CBA2/CVS1

Bore size (mm)	Symbol	Z + 1/2 stroke				
		For -XC14A	For -XC14B	For -XC14		Reference Standard (Center trunnion)
				Minimum	Maximum	
40		89	97 + Stroke	89.5	96.5 + Stroke	93 + 1/2 stroke
50		99	107 + Stroke	99.5	106.5 + Stroke	103 + 1/2 stroke
63		103	111 + Stroke	103.5	110.5 + Stroke	107 + 1/2 stroke
80		125	133 + Stroke	125.5	132.5 + Stroke	129 + 1/2 stroke
100		132	138 + Stroke	132.5	137.5 + Stroke	135 + 1/2 stroke

Series CS1

Bore size (mm)	Symbol	Z + 1/2 stroke				
		For -XC14A	For -XC14B	For -XC14		Reference Standard (Center trunnion)
				Minimum	Maximum	
125		170	148 + Stroke	170.5	147.5 + Stroke	159 + 1/2 stroke
140		172.5	145.5 + Stroke	173	145 + Stroke	159 + 1/2 stroke
160		189	157 + Stroke	189.5	156.5 + Stroke	173 + 1/2 stroke
180		203.5	177.5 + Stroke	204	177 + Stroke	190.5 + 1/2 stroke
200		203.5	177.5 + Stroke	204	177 + Stroke	190.5 + 1/2 stroke
250		243.5	217.5 + Stroke	244	217 + Stroke	230.5 + 1/2 stroke
300		263.5	232.5 + Stroke	264	232 + Stroke	248 + 1/2 stroke

Simple Specials: Change of Trunnion Bracket Mounting Position

Symbol

-XC14

Series CNA

(mm)

Bore size (mm)	Z + 1/2 stroke					
	Without rod boot					
	For -XC14A	For -XC14B	For -XC14		Reference Standard (Center trunnion)	Minimum stroke
			Minimum	Maximum		
40	158	166 + Stroke	158.5	165.5 + Stroke	162 + 0.5 Stroke	25
50	177	185 + Stroke	177.5	184.5 + Stroke	181 + 0.5 Stroke	25
63	187	195 + Stroke	187.5	194.5 + Stroke	191 + 0.5 Stroke	32
80	227	235 + Stroke	227.5	234.5 + Stroke	231 + 0.5 Stroke	41
100	252	258 + Stroke	252.5	257.5 + Stroke	255 + 0.5 Stroke	45

Series CNS

(mm)

Bore size (mm)	Z + 1/2 stroke					
	Without rod boot					
	For -XC14A	For -XC14B	For -XC14		Reference Standard (Center trunnion)	Minimum stroke
			Minimum	Maximum		
125	375	353 + Stroke	375.5	352.5 + Stroke	364 + 0.5 Stroke	25
140	417.5	390.5 + Stroke	418	390 + Stroke	404 + 0.5 Stroke	30
160	479	447 + Stroke	479.5	446.5 + Stroke	463 + 0.5 Stroke	35
Bore size (mm)	Z + ℓ + 1/2 stroke					
	With rod boot					
	For -XC14A	For -XC14B	For -XC14		Reference Standard (Center trunnion)	Minimum stroke
			Minimum	Maximum		
125	398 + ℓ	376 + ℓ + Stroke	398.5 + ℓ	375.5 + ℓ + Stroke	387 + ℓ + 1/2 Stroke	30
140	440.5 + ℓ	413.5 + ℓ + Stroke	441 + ℓ	413 + ℓ + Stroke	427 + ℓ + 1/2 Stroke	30
160	500 + ℓ	468 + ℓ + Stroke	500.5 + ℓ	467.5 + ℓ + Stroke	484 + ℓ + 1/2 Stroke	35

Series CLS

(mm)

Bore size (mm)	Z + 1/2 stroke					
	Without rod boot					
	For -XC14A	For -XC14B	For -XC14		Reference Standard (Center trunnion)	Minimum stroke
			Minimum	Maximum		
125	280	258 + Stroke	280.5	257.5 + Stroke	269 + 0.5 Stroke	25
140	282.5	255.5 + Stroke	283	255 + Stroke	269 + 0.5 Stroke	30
160	321	289 + Stroke	321.5	288.5 + Stroke	305 + 0.5 Stroke	35
Bore size (mm)	With rod boot					
	For -XC14					
	For -XC14A	For -XC14B	For -XC14		Reference Standard (Center trunnion)	Minimum stroke
			Minimum	Maximum		
125	303 + 0.2 Stroke	281 + 1.2 Stroke	303.5 + 0.2 Stroke	280.5 + 1.2 Stroke	292 + 0.7 Stroke	25
140	305.5 + 0.2 Stroke	278.5 + 1.2 Stroke	306 + 0.2 Stroke	278 + 1.2 Stroke	292 + 0.7 Stroke	30
160	345 + 0.2 Stroke	310 + 1.2 Stroke	345.5 + 0.2 Stroke	309.5 + 1.2 Stroke	326 + 0.7 Stroke	35

Series CL1

(mm)

Bore size (mm)	Z + 1/2 stroke					
	Without rod boot					
	For -XC14A	For -XC14B	For -XC14		Reference Standard (Center trunnion)	Minimum stroke
			Minimum	Maximum		
40	158	166 + Stroke	158.5	165.5 + Stroke	162 + 1/2 Stroke	—
50	177	185 + Stroke	177.5	184.5 + Stroke	181 + 1/2 Stroke	—
63	187	195 + Stroke	187.5	194.5 + Stroke	191 + 1/2 Stroke	—
80	217	225 + Stroke	217.5	224.5 + Stroke	221 + 1/2 Stroke	—
100	232	238 + Stroke	232.5	237.5 + Stroke	235 + 1/2 Stroke	—
Bore size (mm)	Z + ℓ + 1/2 stroke					
	With rod boot					
	For -XC14A	For -XC14B	For -XC14		Reference Standard (Center trunnion)	Minimum stroke
			Minimum	Maximum		
40	166 + ℓ	174 + ℓ + Stroke	166.5 + ℓ	173.5 + ℓ + Stroke	170 + ℓ + 1/2 Stroke	20
50	185 + ℓ	193 + ℓ + Stroke	185.5 + ℓ	192.5 + ℓ + Stroke	189 + ℓ + 1/2 Stroke	20
63	195 + ℓ	203 + ℓ + Stroke	195.5 + ℓ	202.5 + ℓ + Stroke	199 + ℓ + 1/2 Stroke	20
80	226 + ℓ	234 + ℓ + Stroke	226.5 + ℓ	233.5 + ℓ + Stroke	230 + ℓ + 1/2 Stroke	20
100	241 + ℓ	247 + ℓ + Stroke	241.5 + ℓ	246.5 + ℓ + Stroke	244 + ℓ + 1/2 Stroke	20

-X□

Individual
-X□

Simple Specials: -XC15: Change of Tie-rod Length

These changes are dealt with Simple Specials System. Refer to front matter 49 for details.

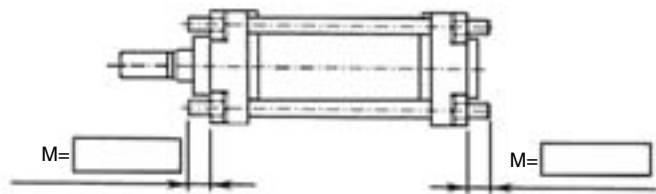
7 Change of Tie-rod Length

Symbol
-XC15

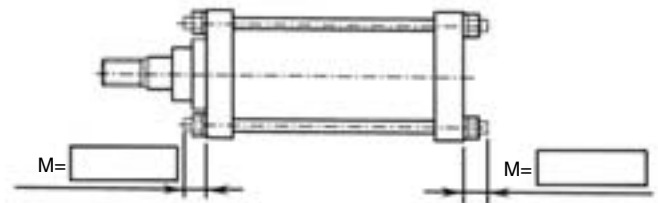
Cylinder with M dimension for tie-rod length changed from the standard length.

Series	Description	Model	Action	Note
CA2	Standard type	CA2	Double acting, Single rod	
		CA2W	Double acting, Double rod	
	Non-rotating rod type	CA2K	Double acting, Single rod	Applicable to ø40 to ø63
		CA2KW	Double acting, Double rod	Applicable to ø40 to ø63
	Low friction type	CA2Y	Double acting, Single rod	
	Air-hydro cylinder	CA2H	Double acting, Single rod	
CS1	Standard type	CBA2	Double acting, Single rod	
		CS1	Double acting, Single rod	
	Low friction type	CS1W	Double acting, Double rod	
CNA	Cylinder with lock	CS1□Q	Double acting, Single rod	
		CNA	Double acting, Single rod	
CV	Valve mounted cylinder	CNAW	Double acting, Double rod	
		CV3	Double acting, Single rod	
		CV3K	Double acting, Single rod	Applicable to ø40 to ø63
		CVS1	Double acting, Single rod	
		CVS1K	Double acting, Single rod	Applicable to ø40 to ø63

Series CA2, CNA, CBA2, CV



Series CS1



⚠ Precautions

1. To order, specify the M dimension as well as the part number.
2. SMC will make appropriate arrangements if no dimension, tolerance, or finish instructions are given in the diagram.
3. Tie-rod length changeable range is described in the below.

Tie-rod Length Changeable Range

(mm)

Model	CA2, CNA, CBA2, CV	CS1						
Bore size (mm)	All bore size	125	140	160	180	200	250	300
M Min.	0	15.5	18	20.5	22	26	32.5	
M Max.	300 ⁽¹⁾	270						

Note 1) The maximum value of M on the rod side for the CNA series is 50.

Simple Specials:

-XC79: Tapped Hole, Drilled Hole, Pinned Hole Machined Additionally

These changes are dealt with Simple Specials System. Refer to front matter 49 for details.

8

Tapped Hole, Drilled Hole, Pinned Hole Machined Additionally

Symbol

-XC79

This simple special is meant for machining additionally tapped hole, drilled hole, and pinned hole, as requested from customer, on parts designed largely for mounting a workpiece, etc. in the combined air cylinders.

But, for each model, since they have the portions which are impossible to machine additionally, refer to the additional machining limitation.

Applicable Series

Series			Type
MGP MGQ	Compact guide cylinder	MGP	Standard type
			With air cushion
			With end lock
		MLGP	With lock
		MGPA	High precision ball bushing bearing type
		MGQ	Standard type
		MVGQ	With valve

Series			Type
MGG MGC	Guide cylinder	MGG	Standard type
			With end lock
		MGC	Compact type
		MLGC	Compact type/With lock
MGF	Guide table	MGF	
MXH	Compact slide	MXH	Standard type

Applicable Series and Component Parts Machined Additionally

Applicable series	Component parts applicable for additional machining
MGP, MGQ, MLGP	Plate
MGG, MGC, MLGC	Front plate
MGF	Plate (Upper plate only)
MXH	Table

⚠ Precautions

- We cannot take any responsibility as for the intensity of holes machined additionally and the effects of decreased intensity for the product itself.
- It will not be plated again for the machined part additionally.
- Be sure to fill in "through" for through-hole, and "effective depth" for blind hole.
- When using by machining through-hole additionally, ensure that the tip of the bolt, etc. for mounting workpiece should not stick into the cylinder side. It may result in an unexpected problem.
- Use caution not to interfere the existing mounting hole on the standard products with the hole to be machined additionally. But it is possible to drill additionally the larger size of hole at the same position as the existing hole.

Common Complementary Explanation/Holes which can be additionally machined are the following 3 types.

Tapped hole

Designated nominal diameter and tapped hole of a pitch are machined additionally. (Maximum nominal thread diameter M20)
Blind hole is deep into the bottom of prepared hole which sums up A to C in Fig. 1 in contrast to the effective depth of tapped hole. When there is a condition which does not allow through-hole, etc., leave sufficient thickness in the inner part of hole.

The diagram shows a cross-section of a tapped hole. The total diameter is labeled 'D (Thread size)'. The depth of the threaded section is labeled 'A (Effective thread depth)'. Below the threaded section is an unthreaded section labeled 'B = 3 x P (Incomplete thread section)'. The total depth of the hole is labeled 'C = 0.3 x (D - P)'.

Note) P stands for thread pitch.

Drilled hole

Drilled hole of a designated internal diameter is machined. (Maximum hole diameter 20 mm)
If you wish for blind hole, instruct us with effective depth. (Refer to Fig. 2.) Besides, dimensional accuracy for internal diameter will be ± 0.2 mm.

The diagram shows a cross-section of a drilled hole. The diameter is labeled 'D'. The depth of the hole is labeled 'A (Effective depth)'. The bottom of the hole is labeled 'C = 0.3D'.

Pinned hole

Pinned hole of a designated diameter (reamer hole) is machined. (Maximum hole diameter 20 mm)
Internal dimension tolerates H7 tolerance to the designated hole diameter. (Refer to the table below.)

Hole dia.	3 or less	Over 3 to 6	Over 6 to 10	Over 10 to 18	Over 18 to 20
Tolerance	+0.01 0	+0.012 0	+0.015 0	+0.018 0	+0.021 0

The diagram shows a cross-section of a pinned hole. The diameter is labeled 'D H7'. The depth of the hole is labeled 'A (Effective depth)'.

-X□

Individual
-X□

Simple Specials:

-XC79: Tapped Hole, Drilled Hole, Pinned Hole Machined Additionally

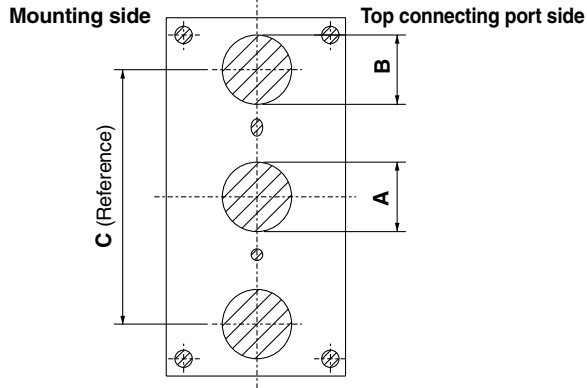
These changes are dealt with Simple Specials System. Refer to front matter 49 for details.

8 Tapped Hole, Drilled Hole, Pinned Hole Machined Additionally

Limitation for Machining Additionally/Since the slanted lines denote the restricted range for machining additionally, design the dimensions, referring to below.

Series MGP/MLGP/MGPA

Plate material: Steel

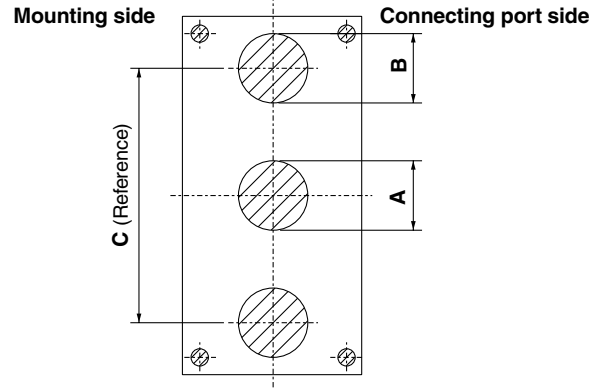


Dimensional Range Not Possible to Machine Additionally (mm)

Bore size (mm)	A	B	C
12	8	11	41
16	10	13	46
20	12	15	54
25	14	21	64
32	25	25	78
40	25	25	86
50	30	30	110
63	30	30	124
80	34	34	156
100	42	42	188

Series MGQ/MVGQ

Plate material: Steel

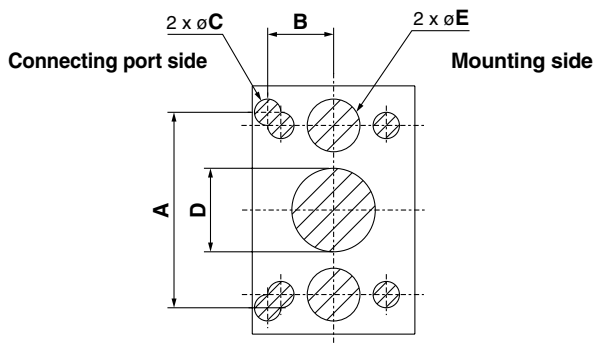


Dimensional Range Not Possible to Machine Additionally (mm)

Bore size (mm)	A	B	C
12	8	11	36
16	10	13	38
20	12	15	46
25	14	21	56
32	25	25	80
40	25	25	90
50	30	30	100
63	30	30	110
80	34	34	140
100	42	42	170

Series MGG

Front plate material: Steel

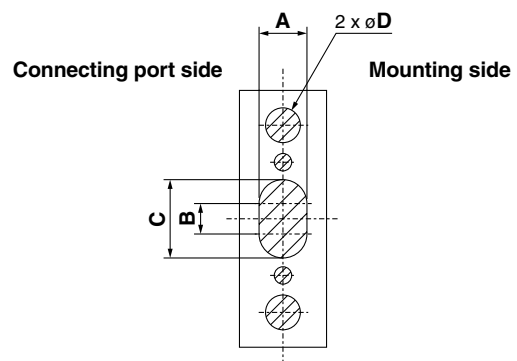


Dimensional Range Not Possible to Machine Additionally (mm)

Bore size (mm)	A	B	C	D	E
20	70	17.5	9	24	12.5
25	85	20	13	31	13
32	91	23	13	31	19
40	114	29	19	36	23
50	132	34	19	44	29
63	156	38	19	44	30
80	186	44	26	58	35
100	214	49	26	64	40

Series MGC/MLGC

Front plate material: Steel



Dimensional Range Not Possible to Machine Additionally/MGC (mm)

Bore size (mm)	A	B	C	D
20	19	10	28	12
25	24	13	36	13
32	24	13	36	16
40	30	15	42	20
50	36	19	52	25

Dimensional Range Not Possible to Machine Additionally/MLGC (mm)

Bore size (mm)	A	B	C	D
20	19	10	28	16
25	24	13	36	20
32	24	13	36	20
40	30	15	42	25

Simple Specials: Tapped Hole, Drilled Hole, Pinned Hole Machined Additionally

Symbol

-XC79

Limitation for Machining Additionally/Since the slanted lines denote the restricted range for machining additionally, design the dimensions, referring to below.

Series MGF

Top plate material: Aluminum

Connecting port side

Dimensional Range Not Possible to Machine Additionally

Model	A	B
MGF40	90	120
MGF63	120	160
MGF100	160	200

Series MXH

Table material: Aluminum

Dimensional Range Not Possible to Machine Additionally

Model	øD	LX
MXH6	11	27
MXH10	15.2	32
MXH16	20	38
MXH20	26	43

Made to Order Common Specifications:



	Page
1 -XB5 Oversized rod cylinder	1396
2 -XB6 Heat resistant cylinder (–10 to 150°C)	1397
3 -XB7 Cold resistant cylinder (–40 to 70°C)	1399
4 -XB9 Low speed cylinder (10 to 50 mm/s)	1400
5 -XB10 Intermediate stroke (Using exclusive body)	1401
6 -XB11 Long stroke type	1405
7 -XB12 External stainless steel cylinder	1408
8 -XB13 Low speed cylinder (5 to 50 mm/s)	1409
9 -XB14 Cylinder with heat resistant auto switch	1410
10 -XB19 High speed type	1411
11 -XB20 Stroke adjusting unit with adjusting bolt	1412
12 -XC3 Special port location	1416
13 -XC4 With heavy duty scraper	1420
14 -XC5 Heat resistant cylinder (–10 to 110°C)	1425
15 -XC6 Made of stainless steel	1426
16 -XC7 Tie-rod, cushion valve and tie-rod nut made of stainless steel	1429
17 -XC8 Adjustable stroke cylinder/Adjustable extension type	1430
18 -XC9 Adjustable stroke cylinder/Adjustable retraction type	1436
19 -XC10 Dual stroke cylinder/Double rod type	1441
20 -XC11 Dual stroke cylinder/Single rod type	1446
21 -XC12 Tandem cylinder	1452
22 -XC13 Auto switch rail mounting style	1454
23 -XC17 Pin cylinder with rod quenched	1459
24 -XC19 Intermediate stroke (Spacer type)	1460
25 -XC20 Head cover axial port	1461
26 -XC22 Fluororubber seals	1462
27 -XC24 With magnet shielding plate	1463
28 -XC25 No fixed throttle of connection port	1463
29 -XC27 Double clevis and double knuckle joint pins made of stainless steel	1464
30 -XC28 Compact flange made of SS400	1465
31 -XC29 Double knuckle joint with spring pin	1466
32 -XC30 Rod side trunnion	1467
33 -XC34 Non-rotating plate with work piece mounting screw (No extended part on the rod end)	1469
34 -XC35 With coil scraper	1470
35 -XC36 With boss in rod side	1476
36 -XC37 Larger throttle diameter of connection port	1476
37 -XC38 Vacuum (Rod through-hole)	1477
38 -XC42 Built-in shock absorber in head cover side	1478
39 -XC51 With hose nipple	1479
40 -XC52 Mounting nut with set screw	1479
41 -XC56 With knock pin holes	1480
42 -XC57 Rodless cylinder with floating joint	1483
43 -XC67 Dust seal band NBR lining specifications	1485
44 -XC69 Series MGP with shock absorber	1486
45 -XC71 Helical insert thread specifications	1489
46 -XC72 Without built-in auto switch magnet	1489
47 -XC73 Built-in cylinder with lock (CDNG)	1490
48 -XC74 With front plate for MGG cylinder	1493
49 -XC78 Auto switch mounting special dimensions at stroke end	1494
50 -XC82 Bottom mounting style	1495
51 -XC83 Built-in cylinder with lock (MDNB)	1496

-X ☐
Individual
-X ☐

Made to Order Common Specifications: -XB5: Oversized Rod Cylinder

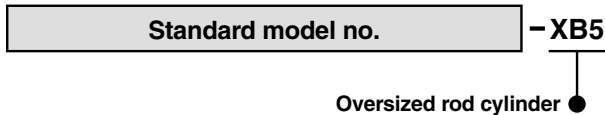


1 Oversized Rod Cylinder

Symbol
-XB5

A cylinder that has been made stronger through the use of a piston rod with a larger diameter. It is used for long stroke applications that pose the risk of bending or buckling of the piston rod.
(Please contact SMC if a lateral load must be applied to it.)

How to Order

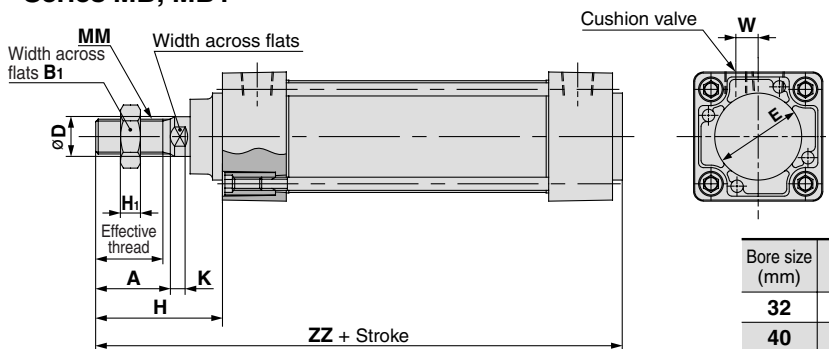


Applicable Series

Series	Description	Model	Action	Vol. no. (for std model)
MB	Air cylinder	MB	Double acting, Single rod	● From P. 290
MB1	Air cylinder	MB1	Double acting, Single rod	● From P. 332
CA2	Air cylinder	CA2	Double acting, Single rod	● From P. 356
CS1	Air cylinder	CS1	Double acting, Single rod	● From P. 412

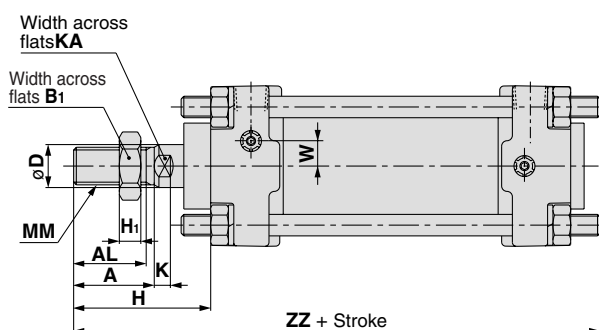
Dimensions (Dimensions other than below are the same as standard type.)

Series MB, MB1



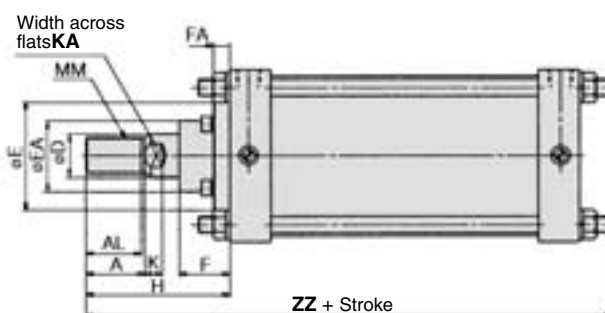
Bore size (mm)	A	Effective thread length	B1	ϕD	H	H_1	K	Width across flats	MM	W	ZZ
32	30	27	22	16	51	8	6	14	M14 x 1.5	7.2	139
40	35	32	27	20	58	11	7	18	M18 x 1.5	9.7	146
50	40	37	32	25	68	13	10	22	M22 x 1.5	10.5	166
63	40	37	32	25	68	13	10	22	M22 x 1.5	12	166
80	40	37	41	30	74	16	10	26	M26 x 1.5	14	192
100	50	47	46	36	90	18	16	31	M30 x 1.5	15	208

Series CA2



Bore size (mm)	A	AL	B1	ϕD	H	H_1	K	KA	MM	W	ZZ
40	35	32	27	20	58	11	7	18	M18 x 1.5	9	153
50	40	37	32	25	71	13	11	22	M22 x 1.5	9	172
63	40	37	32	25	71	13	11	22	M22 x 1.5	9	183
80	40	37	41	30	72	16	11	26	M26 x 1.5	0	205
100	50	47	46	36	85	18	15	31	M30 x 1.5	0	228

Series CS1



Bore size (mm)	A	AL	D	E	EA	F	FA	H	K	KA	MM	ZZ
125	63	60	50	115	74	48	17	135	20	46	M45 x 1.5	260
140	71	67	60	140	86	60	20	160	25	56	M56 x 2.0	285
160	71	67	60	140	86	60	20	160	25	56	M56 x 2.0	296.5
180	80	76	70	140	96	60	20	175	30	65	M64 x 2.0	321
200	80	76	70	140	96	60	20	175	30	65	M64 x 2.0	321

Made to Order Common Specifications: -XB6: Heat Resistant Cylinder (−10 to 150°C)



2 Heat Resistant Cylinder (−10 to 150°C)

Symbol

-XB6

Air cylinder which changed the seal material and grease, so that it could be used even at higher temperature up to 150 from −10°C.

Applicable Series

Series	Description	Model	Action	Note	Vol. no. (for std model)
CJP2	Pin cylinder	CJP2	Double acting, Single rod	Except clevis and trunnion style	② From P. 23
CJ2	Air cylinder	CJ2	Double acting, Single rod	Except with air cushion	② From P. 42
		CJ2W	Double acting, Double rod	Except with air cushion	
CM2	Air cylinder	CM2	Double acting, Single rod		② From P. 128
		CM2W	Double acting, Double rod		
	Non-rotating rod type	CM2K	Double acting, Single rod		
		CM2KW	Double acting, Double rod		
	Direct mount type	CM2R	Double acting, Single rod		
	Non-rotating rod, Direct mount type	CM2RK	Double acting, Single rod		
CG1	Air cylinder	CG1	Double acting, Single rod	Without a bumper for cylinders with a rubber bumper	② From P. 222
		CG1W	Double acting, Double rod	Without a bumper for cylinders with a rubber bumper	
	Direct mount type	CG1R	Double acting, Single rod	Without a bumper for cylinders with a rubber bumper	
MB	Air cylinder	MB	Double acting, Single rod	Except without air cushion	② From P. 290
		MBW	Double acting, Double rod	Except without air cushion	
MB1	Air cylinder	MB1	Double acting, Single rod	Except without air cushion	② From P. 332
		MB1W	Double acting, Double rod	Except without air cushion	
CA2	Air cylinder	CA2	Double acting, Single rod		② From P. 356
		CA2W	Double acting, Double rod		
	End lock cylinder	CBA2	Double acting, Single rod		
CS1	Air cylinder	CS1□N	Double acting, Single rod	Applicable bore size (ø125 to ø200)	② From P. 412
		CS1W□N	Double acting, Double rod		
CUJ	Mini free mount cylinder	CUJ	Double acting, Single rod	Except ø4	② From P. 466
CU	Free mount cylinder	CU	Double acting, Single rod		② From P. 483
	Non-rotating rod type	CUK	Double acting, Single rod		
	Long stroke	CU	Double acting, Single rod		
	Long stroke, Non-rotating rod	CUK	Double acting, Single rod		
CQS	Compact cylinder	CQS	Double acting, Single rod	Except with rubber bumper	② From P. 551
		CQSW	Double acting, Double rod	Except with rubber bumper	
CQ2	Compact cylinder	CQ2	Double acting, Single rod	Except with rubber bumper	② From P. 602
		CQ2W	Double acting, Double rod	Except with rubber bumper	
	Axial piping type (Centralized piping type)	CQP2	Double acting, Single rod	Except with rubber bumper	
CG5	Stainless cylinder	CG5	Double acting, Single rod	Without a bumper for cylinders with a rubber bumper (Grease for non-food is used.)	② From P. 840
CY3	Magnetically coupled rodless cylinder	CY3B	Basic type		② From P. 1174
MK	Rotary clamp	MK	Double acting		③ From P. 1236
MGP	Compact guide cylinder	MGPM	Double acting	Except those with air cushion or end lock	③ From P. 272
MGQ		MGQ	Double acting	Except ø12 to ø25 of MGQL (Ball bushing type)	③ From P. 338
MGG	Guide cylinder	MGG	Double acting	No shock absorber and rubber bumper are equipped.	③ From P. 356
MGC		MGC	Double acting	Without cushion	③ From P. 392
CXSJ	Dual rod cylinder	CXSJ	Compact type		③ From P. 549
CXS		CXS	Basic type		③ From P. 561

How to Order

Standard model no. **-XB6**

Heat resistant cylinder ●

Specifications

Ambient temperature range	−10 to 150°C (0 to 150°C for Series CS1)
Seals materials	Fluororubber
Grease	Heat resistant grease
Specifications other than above and external dimensions	Same as standard type

Warning Precautions

Be aware that smoking cigarettes, etc. after your hands have come into contact with the grease used in this cylinder can create a gas that is hazardous to humans.



Note 1) Operate without lubrication from a pneumatic system lubricator.

Note 2) Please contact SMC for details on the maintenance intervals for this cylinder, which differ from those of the standard cylinder.

Note 3) In principle, it is impossible to make built-in magnet type and the one with auto switch. But, as for the one with auto switch, and the heat resistant cylinder with heat resistant auto switch, since it will be differed depending on the series, please contact SMC.

Note 4) Piston speed is ranged from 50 to 500 mm/s.
But, for MGQ□80, 100 and MGP□80, 100, it will be 50 to 400 mm/s. 50 to 200 mm/s for Series MK.
The piston speed for the CY3B series is 50 to 400 mm/s.

Note 5) Please contact SMC for Series CQ2, CQS and MGQ with rubber bumper.

Note 6) As for the ambient temperature range of Series CY3B, since the magnetic holding force will be varied depending on the operating conditions, make sure that by referring to the next page.

-X□

Individual
-X□



Made to Order Common Specifications: -XB6: Heat Resistant Cylinder (−10 to 150°C)



2 Heat Resistant Cylinder (−10 to 150°C)

Symbol
-XB6

How to Order

CY3B **Bore size** **Port thread type** – **Stroke** –XB6
Heat resistant cylinder ●

Specifications

Applicable size	CY3B
Bore size (mm)	ø6 to ø63
Ambient and fluid temperature	50 to 150°C *
Maximum operating pressure	0.5 MPa
Piston speed	50 to 400 mm/s *

* When using in less than 100°C range, since it could make a difference in the maintenance cycle, depending on the operating speed, use it at 200 mm/s or less.

Operating Pressure Limit for Intermediate Stop and Vertical Operation

Maximum operating pressure at the intermediate stop	0.4 MPa *
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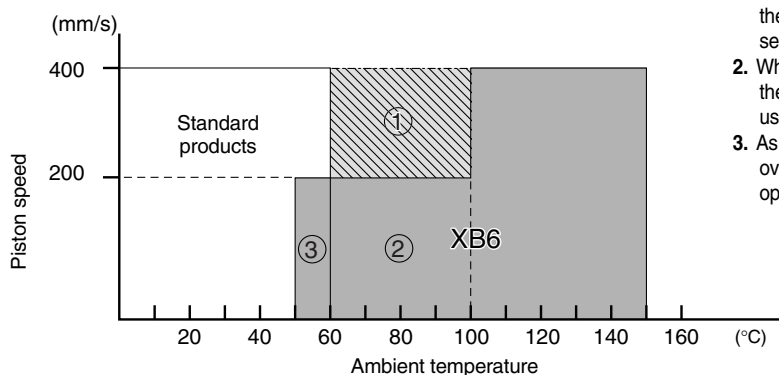
* Use caution that the magnet coupling will be removed, if it is used to stop in an intermediate stroke by an external stopper with the operating pressure over 0.4 MPa.

Magnetic Holding Force

(N)

Bore size (mm)	6	10	15	20	25	32	40	50	63
Holding force (at 150°C)	14.4	40.0	90.1	160	250	410	641	1000	1590
Holding force (at 100°C)	17.2	47.9	107	192	299	490	766	1190	1900

Temperature Range for Operating Cylinder and Piston Speed



1. When using with the operating temperature from 60 up to 100°C, and the piston speed of more than 200 mm/s, please consult with SMC separately.
2. When using with the operating temperature from 50 up to 100°C, and the piston speed of less than 200 mm/s, XB6 specifications can be used.
3. As for XB6, regarding the temperature range (over 50 to 60°C) which overlaps the one of standard products, consider the tendency of operating temperature (upper, lower limits), then choose a model.

When using with the operating temperature fluctuated between 50°C or less and 100°C or more, the operating speed, etc. will be largely restricted by the durability. Prior to use, please contact SMC.

<Reference>

Maintenance cycle for XB6 could vary substantially, depending on the operating condition and the ambient temperature.

Even if using in our recommended range, as a guide, conduct it in around 1/2 intervals, compared to the standard products.

Made to Order Common Specifications: -XB7: Cold Resistant Cylinder (−40 to 70°C)



3 Cold Resistant Cylinder (−40 to 70°C)

Symbol
-XB7

Air cylinder which changed the seal material and grease, so that it could be used even at lower temperature down to −40°C.

Applicable Series

Series	Description	Model	Action	Note	Vol. no. (for std model)
CJP2	Pin cylinder	CJP2	Double acting, Single rod	Except clevis, trunnion style, with switch	② From P. 23
CJ2	Air cylinder	CJ2	Double acting, Single rod	Except with air cushion, switch	② From P. 42
		CJ2W	Double acting, Double rod	Except with air cushion, switch	
CM2	Air cylinder	CM2	Double acting, Single rod	Except with air cushion	② From P. 128
		CM2W	Double acting, Double rod	Except with air cushion	
	Direct mount type	CM2R	Double acting, Single rod	Except with air cushion	
CG1	Air cylinder	CG1	Double acting, Single rod	Except with air cushion, cylinders with a rubber bumper have no bumper	② From P. 222 ⁽⁶⁾
		CG1W	Double acting, Double rod	Except with air cushion, cylinders with a rubber bumper have no bumper	
	Direct mount type	CG1R	Double acting, Single rod	Except with air cushion, cylinders with a rubber bumper have no bumper	
CU	Free mount cylinder	CU	Double acting, Single rod	Except with switch	② From P. 483
	Non-rotating rod type	CUK	Double acting, Single rod	Except with switch	
	Long stroke	CU	Double acting, Single rod	Except with switch	
	Long stroke, Non-rotating rod	CUK	Double acting, Single rod	Except with switch	
CQS	Compact cylinder	CQS	Double acting, Single rod	Except with switch, with rubber bumper, with bracket	② From P. 551
		CQSW	Double acting, Double rod	Except with switch, with rubber bumper, with bracket	
CQ2	Compact cylinder	CQ2	Double acting, Single rod	Except ø50 or more, with switch, with rubber bumper, with bracket	② From P. 602
		CQ2W	Double acting, Double rod	Except ø50 or more, with switch, with rubber bumper, with bracket	
	Axial piping type (Centralized piping type)	CQP2	Double acting, Single rod	Except ø50 or more, with switch, with rubber bumper, with bracket	

How to Order

Standard model no.	-XB7
	● Cold resistant cylinder



- Note 1) Operate without lubrication from a pneumatic system lubricator.
 Note 2) Use dry air which is suitable for heatless air dryer, etc. not to cause the moisture to be frozen.
 Note 3) Please contact SMC for details on the maintenance intervals for this cylinder, which differ from those of the standard cylinder.
 Note 4) Mounting auto switch is impossible.
 Note 5) Please contact SMC for the one with rubber bumper for CQ2, CQS.
 Note 6) No cushion type is adopted.

Specifications

Ambient temperature range	−40 to 70°C
Seals material	Low nitrile rubber
Grease	Cold resistant grease
Auto switch	Not mountable
Dimensions	Same as standard type
Additional specifications	Same as standard type

Warning Precautions

Be aware that smoking cigarettes, etc. after your hands have come into contact with the grease used in this cylinder can create a gas that is hazardous to humans.

-X□
Individual
-X□

Made to Order Common Specifications: -XB9: Low Speed Cylinder (10 to 50 mm/s)



4 Low Speed Cylinder (10 to 50 mm/s)

Symbol

-XB9

Even if driving at lower speeds 10 to 50 mm/s, there would be no stick-slip phenomenon and it can run smoothly.

Applicable Series

Series	Description	Model	Action	Note	Vol. no. (for std model)
CJ2	Air cylinder	CJ2	Double acting, Single rod	Except with air cushion	② From P. 42
CM2	Air cylinder	CM2	Double acting, Single rod	Except with air-hydro, with air cushion, with rod boot	② From P. 128
	Direct mount type	CM2R	Double acting, Single rod	Except with air cushion	
	End lock cylinder	CBM2	Double acting, Single rod	Except with air cushion	
CG1	Air cylinder	CG1	Double acting, Single rod	Except with air cushion	② From P. 222
	Direct mount type	CG1R	Double acting, Single rod	Except with air cushion	
CU	Free mount cylinder	CU	Double acting, Single rod		② From P. 483
	Non-rotating rod type	CUK	Double acting, Single rod		
	Long stroke standard type	CU	Double acting, Single rod		
	Long stroke, Non-rotating rod type	CUK	Double acting, Single rod		
CQS	Compact cylinder	CQS	Double acting, Single rod		② From P. 551
		CQSW	Double acting, Double rod		
CQ2	Compact cylinder	CQ2	Double acting, Single rod		② From P. 602
		CQ2W	Double acting, Double rod		
	Axial piping type (Centralized piping type)	CQP2	Double acting, Single rod		
CY	Magnetically coupled rodless cylinder	CY3B	Double acting		② From P. 1174
		CY1S	Double acting		
		CY1L	Double acting		
MGQ	Compact guide cylinder	MGQ	Double acting		③ From P. 338

How to Order

Standard model no.	-XB9
	Low speed cylinder ▼



Note) Operate without lubrication from a pneumatic system lubricator.

Specifications

Piston speed	10 to 50 mm/s (CY is ranged between 15 to 50 mm/s.)
Dimensions	Same as standard type
Additional specifications	Same as standard type

⚠ Warning Precautions

Be aware that smoking cigarettes, etc. after your hands have come into contact with the grease used in this cylinder can create a gas that is hazardous to humans.

Made to Order Common Specifications: -XB10: Intermediate Stroke (Using exclusive body)



5 Intermediate Stroke (Using exclusive body)

Symbol
-XB10

Cylinder which can reduce the mounting space by using an exclusive body which does not use a spacer to achieve that the full length dimension could be shortened when an intermediate stroke other than the standard stroke is required.

Applicable Series

Series	Description	Model	Action	Note	Vol. no. (for std model)
CQS	Compact cylinder	CQS	Double acting, Single rod Single acting (Spring return)	Long stroke is available, too.	② From P. 551
		CQSW	Double acting, Double rod		
CQ2	Compact cylinder	CQ2	Double acting, Single rod Single acting (Spring return)		② From P. 602
		CQ2W	Double acting, Double rod		
	Non-rotating rod type	CQ2K	Double acting, Single rod	Except ø12 to 32	
		CQ2	Double acting, Single rod	Except ø180, ø200	
	Large bore size	CQ2W	Double acting, Double rod	Except ø180, ø200	
		CQ2	Double acting, Single rod		
MGP	Compact guide cylinder	MGP	Double acting	Except those with air cushion or end lock	③ From P. 272
MGQ		MGQ	Double acting		③ From P. 338
MY1	Mechanically jointed rodless cylinder	MY1H	Linear guide type	Except ø10	② From P. 1020
MY2		MY2H/HT	Linear guide type		② From P. 1105
CY1	Magnetically coupled rodless cylinder	CY1H	Linear guide type		② From P. 1218
		CY1F			
REA	Sine rodless cylinder	REAH	Linear guide type		③ From P. 935
REB		REBH			

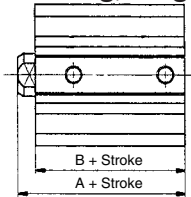
How to Order

Specifications: Same as standard type.

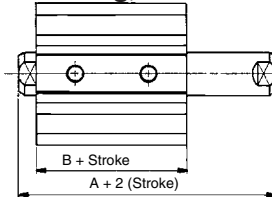
Standard model no. **-XB10**
Intermediate stroke ●

Dimensions: Series CQ2

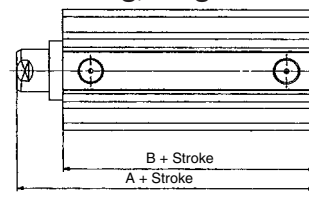
Double acting, Single rod



Double acting, Double rod



Double acting, Single rod/Long stroke



Bore size (mm)	Single rod type				Applicable stroke
	A		B		
	49 stroke or less	51 to 99 stroke	49 stroke or less	51 to 99 stroke	Range (mm)
12	20.5 (31.5)	—	17 (28)	—	6 to 29
16	22 (34)	—	18.5 (30.5)	—	
20	24 (36)	—	19.5 (31.5)	—	6 to 49
25	27.5 (37.5)	—	22.5 (32.5)	—	
32	30 (40)	40 (40)	23 (33)	33 (33)	6 to 99
40	36.5 (46.5)	46.5 (46.5)	29.5 (39.5)	39.5 (39.5)	
50	38.5 (48.5)	48.5 (48.5)	30.5 (40.5)	40.5 (40.5)	11 to 99
63	44 (54)	54 (54)	36 (46)	46 (46)	
80	53.5 (63.5)	63.5 (63.5)	43.5 (53.5)	53.5 (53.5)	
100	65 (75)	75 (75)	53 (63)	63 (63)	

Bore size (mm)	Single rod type (Long stroke)		Applicable stroke
	A	B	
	49 stroke or less	51 to 99 stroke	
32	62.5	45.5	101 to 299
40	72	55	
50	73.5	55.5	
63	75	57	
80	86	66	
100	97.5	75.5	

* Dimensions of "with auto switch" and those of "without auto switch" are the same.



* (): Denotes the dimensions of auto switch type.

* Dimensions other than listed at left are the same as standard type.

Note) Applicable stroke available by the 1 mm interval.

Bore size (mm)	Double rod type				Applicable stroke
	A		B		
	49 stroke or less	51 to 99 stroke	49 stroke or less	51 to 99 stroke	
12	32.2 (39.4)	—	25.2 (32.4)	—	6 to 29
16	33 (43)	—	26 (36)	—	
20	35 (47)	—	26 (38)	—	6 to 49
25	39 (49)	—	29 (39)	—	
32	44.5 (54.5)	54.5 (54.5)	30.5 (40.5)	40.5 (40.5)	6 to 99
40	54 (64)	64 (64)	40(50)	50 (50)	
50	56.5 (66.5)	66.5 (66.5)	40.5 (50.5)	50.5 (50.5)	11 to 99
63	58 (68)	68 (68)	42 (52)	52 (52)	
80	71 (81)	81 (81)	51 (61)	61 (61)	
100	84.5 (94.5)	94.5 (94.5)	60.5 (70.5)	70.5 (70.5)	

Bore size (mm)	Single rod type (Single acting/Return)		Applicable stroke
	A	B	
	49 stroke or less	51 to 99 stroke	
12	20.5 (31.5)	17 (28)	6 to 9
16	22 (34)	18.5 (30.5)	
20	24 (36)	19.5 (31.5)	6 to 9
25	27.5 (37.5)	22.5 (32.5)	
32	30 (40)	23 (33)	6 to 9
40	36.5 (46.5)	29.5 (39.5)	
50	38.5 (48.5)	30.5 (40.5)	11 to 19

* (): Denotes the dimensions of auto switch type.



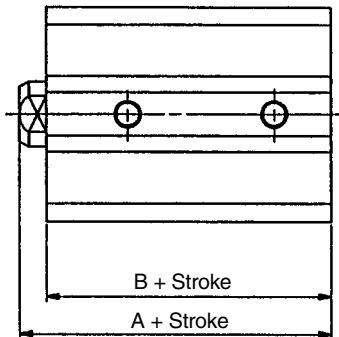
Made to Order Common Specifications: -XB10: Intermediate Stroke (Using exclusive body)



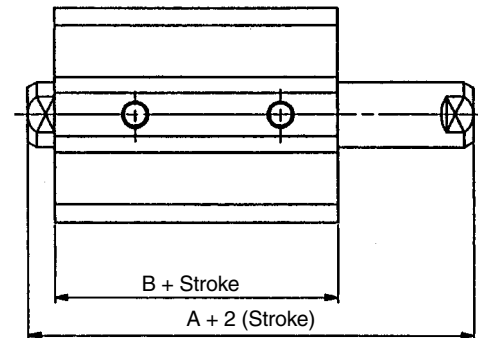
5 Intermediate Stroke (Using exclusive body)

Dimensions: Series CQS

Double acting,
Single rod/Long stroke



Double acting, Double rod



(mm)

Bore size (mm)	Single rod type		Applicable stroke
	A	B	
12	20.5 (25.5)	17 (22)	6 to 29
16	20.5 (25.5)	17 (22)	
20	24 (34)	19.5 (29.5)	6 to 49
25	27.5 (37.5)	22.5 (32.5)	

(mm)

Bore size (mm)	Double rod type		Applicable stroke
	A	B	
12	29 (34)	22 (27)	6 to 29
16	29 (34)	22 (27)	
20	35 (45)	26 (36)	6 to 49
25	39 (49)	29 (39)	

(mm)

Bore size (mm)	Single rod type (Long stroke)		Applicable stroke
	A	B	
12	45.5	32	31 to 99
16	45.5	32	
20	55.5	41	51 to 199
25	59	44	51 to 299

(mm)

Bore size (mm)	Single rod type (Single acting/Return)		Applicable stroke
	A	B	
12	20.5 (25.5)	17 (22)	6 to 9
16	20.5 (25.5)	17 (22)	
20	24 (34)	19.5 (29.5)	6 to 9
25	27.5 (37.5)	22.5 (32.5)	

* (): Denotes the dimensions with auto switch.



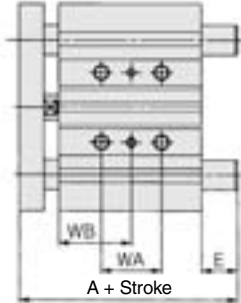
* (): Denotes the dimensions of auto switch style.

* In the case of long stroke, dimensions of "with auto switch" and those of "without auto switch" are the same.

* Dimensions other than listed at left are the same as standard type.

Note) Applicable stroke available by the 1 mm interval.

Dimensions: Series MGP



Stroke Range

Bore size (mm)	Stroke range (mm)
12, 16	11 to 249
20, 25	21 to 399
32, 40, 50, 63, 80, 100	26 to 399

* Specifications except the stroke range are the same as standard.
Note) Applicable stroke available by the 1 mm interval.

MGPM, MGPL-XB10/ WA, WB Dimensions

Bore size (mm)	Stroke range (mm)	WA				WB			
		11 to 39 st	41 to 99 st	101 to 199 st	201 to 249 st	11 to 39 st	41 to 99 st	101 to 199 st	201 to 249 st
12	11 to 249	20	40	110	200	15	25	60	105
16		24	44	110	200	17	27	60	105

Bore size (mm)	Stroke range (mm)	WA					WB				
		21 to 39 st	41 to 124 st	126 to 199 st	201 to 299 st	301 to 399 st	21 to 39 st	41 to 124 st	126 to 199 st	201 to 299 st	301 to 399 st
20	21 to 399	24	44	120	200	300	29	39	77	117	167
25		24	44	120	200	300	29	39	77	117	167

Bore size (mm)	Stroke range (mm)	WA					WB				
		26 to 49 st	51 to 124 st	126 to 199 st	201 to 299 st	301 to 399 st	26 to 49 st	51 to 124 st	126 to 199 st	201 to 299 st	301 to 399 st
32	26 to 399	24	48	124	200	300	33	45	83	121	171
40		24	48	124	200	300	34	46	84	122	172
50		24	48	124	200	300	36	48	86	124	174
63		28	52	128	200	300	38	50	88	124	174
80		28	52	128	200	300	42	54	92	128	178
100		48	72	148	220	320	35	47	85	121	171

MGPM (Slide bearing) A, E Dimensions

Bore size (mm)	A			E		
	11 to 74 st	76 to 99 st	101 to 249 st	11 to 74 st	76 to 99 st	101 to 249 st
12	42	60.5	85	0	18.5	43
16	46	64.5	95	0	18.5	49

Bore size (mm)	A			E		
	21 to 74 st	76 to 199 st	201 to 399 st	21 to 74 st	76 to 199 st	201 to 399 st
20	53	84.5	122	0	31.5	69
25	53.5	85	122	0	31.5	68.5

Bore size (mm)	A			E		
	26 to 74 st	76 to 199 st	201 to 399 st	26 to 74 st	76 to 199 st	201 to 399 st
32	97	102	140	37.5	42.5	80.5
40	97	102	140	31	36	74
50	106.5	118	161	34.5	46	89
63	106.5	118	161	29.5	41	84
80	115	142	193	18.5	45.5	96.5
100	137	162	203	21	46	87

* Dimensions except mentioned above are the same as standard type.

MGPL (Ball bushing bearing) A, E Dimensions

Bore size (mm)	A			E		
	11 to 39 st	41 to 99 st	101 to 249 st	10 to 39 st	41 to 99 st	101 to 249 st
12	43	55	85	1	13	43
16	49	65	95	3	19	49

Bore size (mm)	A				E			
	21 to 39 st	41 to 124 st	126 to 199 st	201 to 399 st	21 to 39 st	41 to 124 st	126 to 199 st	201 to 399 st
20	63	80	104	122	10	27	51	69
25	69.5	85.5	104.5	122	16	32	51	68.5

Bore size (mm)	A				E			
	26 to 74 st	76 to 124 st	126 to 199 st	201 to 399 st	26 to 74 st	76 to 124 st	126 to 199 st	201 to 399 st
32	81	98	118	140	21.5	38.5	58.5	80.5
40	81	98	118	140	15	32	52	74
50	93	114	134	161	21	42	62	89
63	93	114	134	161	16	37	57	84

Bore size (mm)	A				E			
	26 to 49 st	51 to 74 st	76 to 199 st	201 to 399 st	26 to 49 st	51 to 74 st	76 to 199 st	201 to 399 st
80	109.5	130	160	193	13	33.5	63.5	96.5
100	121	147	180	203	5	31	64	87

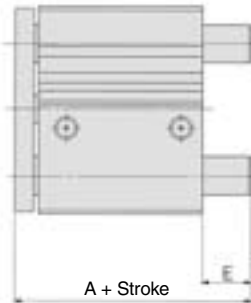
Made to Order Common Specifications: -XB10: Intermediate Stroke (Using exclusive body)



5 Intermediate Stroke (Using exclusive body)

Symbol
-XB10

Dimensions: Series MGQ



Stroke Range

Bore size (mm)	Stroke range (mm)
12, 16	11 to 99
20, 25	21 to 199
32, 40, 50, 63, 80, 100	26 to 199

* Specifications except the stroke range are the same as standard.
Note) Applicable stroke available by the 1 mm interval.

MGQM (Slide bearing) A, E Dimensions

Bore size (mm)	A		E	
	11 to 99 st		11 to 99 st	
12	39		0	
16	43		0	
Bore size (mm)	A		E	
	21 to 74 st	76 to 199 st	21 to 74 st	76 to 199 st
20	47	61.5	0	14.5
25	47.5	62	0	14.5
Bore size (mm)	A		E	
	26 to 199 st		26 to 199 st	
32	71.5		24	
40	71.5		17.5	
50	81		25	
63	81		20	
80	93		18.5	
100	105		21	

* Dimensions except mentioned above are the same as standard type.

MGQL (Ball bushing bearing) A, E Dimensions

Bore size (mm)	A		E	
	11 to 39 st	41 to 99 st	11 to 39 st	41 to 99 st
12	43	55	4	16
16	49	65	6	22
Bore size (mm)	A		E	
	21 to 39 st	41 to 199 st	21 to 39 st	41 to 199 st
20	57	74	10	27
25	63.5	79.5	16	32
Bore size (mm)	A		E	
	26 to 74 st	76 to 199 st	26 to 74 st	76 to 199 st
32	53	90	5.5	42.5
40	54	90	0	36
50	60	102	4	46
63	61	102	0	41
80	84	143	9.5	68.5
100	89	153	5	69

* Dimensions except mentioned above are the same as standard type.

REAH Bore size – Stroke – XB10
REBH

(Refer to the table below.) • Intermediate stroke

Strokes

Bore size	150	175	200	225	250	275	300	325	350	375	400	425	450	475	500	525	550	575	600	650	700	750	800	850	900	950	1000
REAH10	●	○	●	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
RE _B H15	●	○	●	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
REAH20	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
RE _B H25	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
RE _B HT25	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
RE _B HT32	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

●: Standard stroke
○: Strokes set for -XB10
—: No setting

Made to Order Common Specifications: -XB11: Long Stroke Type



6 Long Stroke Type

Symbol
-XB11

Stroke which exceeds the standard stroke length

Applicable Series

Series	Description	Model	Type	Note	Vol. no. (for std model)
CX2	Slide unit	CX2	Slide bearing type		⑨ From P. 464
CXW	Slide unit	CXWM	Slide bearing type		⑨ From P. 473
		CXWL	Ball bushing bearing type		
CXS	Dual rod cylinder	CXS	Standard type		⑨ From P. 561
		CXSW	Double rod type		
CY3	Magnetically coupled rodless cylinder	CY3B	Basic type		② From P. 1174
MY1	Mechanically jointed rodless cylinder	MY1B	Basic type		② From P. 956
		MY1M(W)	Slide bearing type	With cover (W) is also available.	
		MY1C(W)	Cam follower guide type	With cover (W) is also available.	
		MY1H	Linear guide type	Except ø10	
MY2	Mechanically jointed rodless cylinder	MY2C	Cam follower guide type		② From P. 1098
		MY2H/HT	Linear guide type		
MY3	Mechanically jointed rodless cylinder	MY3A	Basic short type		② From P. 1121
		MY3B	Basic standard type		
		MY3M	Slide bearing type		
CQ2	Compact cylinder	CQ2AH	Air-hydro type	Except with rubber bumper	② From P. 602
ML1	Hy-rodless cylinder	ML1C	Cam follower guide type		⑨ From P. 912
REA	Sine rodless cylinder	REA	Basic type		⑨ From P. 935

How to Order

Standard model no.

-XB11

Long stroke type
* Enter a symbol for stroke required.

Specifications: Same as standard type.

Stroke Range

Series	Bore size (mm)	Standard stroke (mm)	Long stroke (mm)
MY1B	10, 16, 20, 25, 32, 40, 50, 63, 80, 100	100 to 2000	2001 to 5000 (Up to 3000 for ø10, ø16)
MY1M(W)	16, 20, 25, 32, 40, 50, 63	100 to 2000	2001 to 5000 (3000 for ø16 only, 3000 for MY1MW)
MY1C(W)	16, 20, 25, 32, 40, 50, 63	100 to 2000	2001 to 5000 (3000 for ø16 only, 3000 for MY1CW)
MY1H	16, 20, 25, 32, 40	50 to 600	601 to 1500 (1000 for ø16 to ø20 only)
MY2C	16, 25, 40	100 to 2000	2001 to 5000 (Up to 3000 for ø16)
MY2H/HT	16, 25, 40	50 to 600	601 to 1500 (Up to 1000 for ø16)
MY3A MY3B MY3M	16, 25, 40, 63	100 to 2000	2001 to 3000
CXS	10	10 to 75	80, 90, 100, 110, 120, 125, 150
	15	10 to 100	110, 120, 125, 150
	20, 25, 32	10 to 100	110, 120, 125, 150, 175, 200
CXSW	10, 15	10, 20, 30, 40, 50	75, 100, 125, 150
	20, 25, 32	10, 20, 30, 40, 50, 75, 100	125, 150, 175, 200
CX2	15, 25	25 to 200	225, 250, 275, 300
CXWM	16, 20, 25, 32	25 to 200	225, 250, 275, 300 (CXWM16 to 25) 225, 250 (CXWM32)
			225, 250, 275 (CXWL16 to 25) 225 (CXWL32)
ML1	25, 32, 40	100 to 1000	1001 to 2000
CY3B	25, 32, 40, 50, 63	100 to 1000	2001 to 3000 (ø25 to ø40) 2001 to 5000 (ø50, ø63)
REA	25, 32, 40, 50, 63	200 to 1000	2001 to 4000 (ø25, ø32) 2001 to 5000 (ø40) 2001 to 6000 (ø50, ø63)
CQ2AH	32, 40, 50, 63, 80, 100	(5), 10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100	125, 150, 175, 200, 250, 300

-X□
Individual
-X□

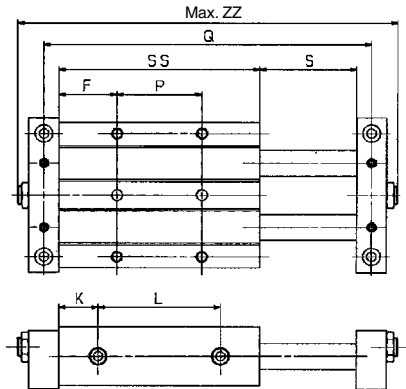
Made to Order Common Specifications: -XB11: Long Stroke Type



6 Long Stroke Type

Dimensions

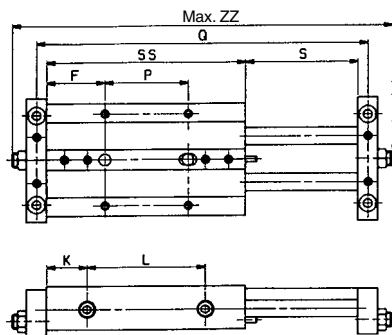
Series CX2: $\phi 15$, $\phi 25$



Model	F	L	K	P	Q	S	SS	Z	ZZ
CX2N15-225	89.5	238	15.5	90	506	227	269	496	528
CX2N15-250	102	263	15.5	90	556	252	294	546	578
CX2N15-275	114.5	288	15.5	90	606	277	319	596	628
CX2N15-300	127	313	15.5	90	656	302	344	646	678

Model	F	L	K	P	Q	S	SS	Z	ZZ
CX2N25-225	96	241	20.5	90	525	227	282	509	553
CX2N25-250	108.5	266	20.5	90	575	252	307	559	603
CX2N25-275	121	291	20.5	90	625	277	332	609	653
CX2N25-300	133.5	316	20.5	90	675	302	357	659	703

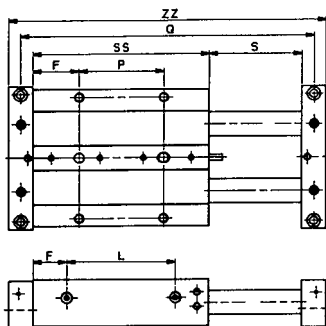
Series CXWM: $\phi 16$, $\phi 25$



Model	F	L	K	P	Q	S	SS	Z	ZZ
CXWM16-225	92.5	238	18.5	90	514	227	275	502	538
CXWM16-250	105	263	18.5	90	564	252	300	552	588
CXWM16-275	117.5	288	18.5	90	614	277	325	602	638
CXWM16-300	130	313	18.5	90	664	302	350	652	688

Model	F	L	K	P	Q	S	SS	Z	ZZ
CXWM25-225	96	241	20.5	90	525	227	282	509	553
CXWM25-250	108.5	266	20.5	90	575	252	307	559	603
CXWM25-275	121	291	20.5	90	625	277	332	609	653
CXWM25-300	133.5	316	20.5	90	675	302	357	659	703

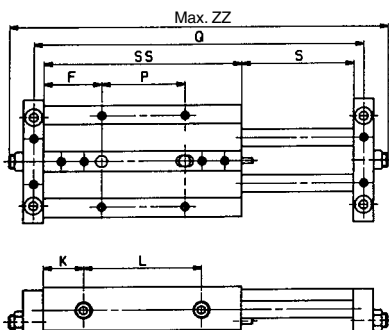
$\phi 20$, $\phi 32$



Model	F	L	K	P	Q	S	SS	Z	ZZ
CXWM20-225	94.5	239	20	90	520	227	279	506	534
CXWM20-250	107	264	20	90	570	252	304	556	584
CXWM20-275	119.5	289	20	90	620	277	329	606	634
CXWM20-300	132	314	20	90	670	302	354	656	684

Model	F	L	K	P	Q	S	SS	Z	ZZ
CXWM32-225	38	240	28	220	543	227	296	523	563
CXWM32-250	38	265	28	245	593	252	321	573	613

Series CXWL: $\phi 16$, $\phi 25$

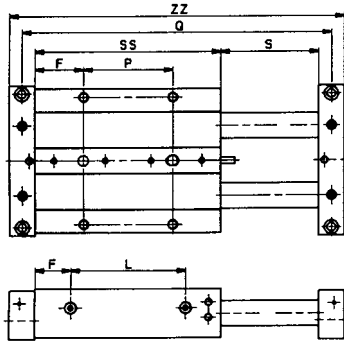


Model	F	L	K	P	Q	S	SS	Z	ZZ
CXWL16-225	115.5	239	41	90	560	227	321	548	584
CXWL16-250	128	264	41	90	610	252	346	598	634
CXWL16-275	140.5	289	41	90	660	277	371	648	684

Model	F	L	K	P	Q	S	SS	Z	ZZ
CXWL25-225	119	241	43.5	90	571	227	328	555	599
CXWL25-250	131.5	266	43.5	90	621	252	353	605	649
CXWL25-275	144	291	43.5	90	671	277	378	655	699

Dimensions

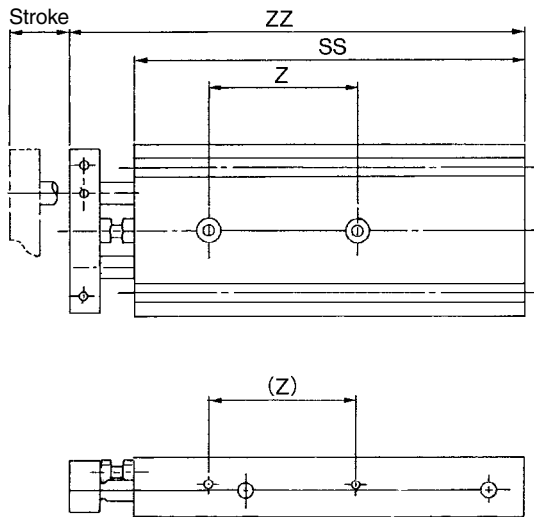
Series CXWL: $\varnothing 20$, $\varnothing 32$



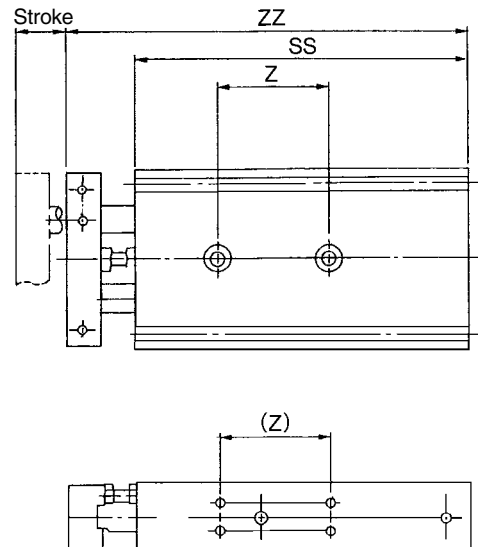
(mm)									
Model	F	L	K	P	Q	S	SS	Z	ZZ
CXWL20-225	116.5	239	42	90	564	227	323	550	578
CXWL20-250	129	264	42	90	614	252	348	600	628
CXWL20-275	141.5	289	42	90	664	277	373	650	678

Model	F	L	K	P	Q	S	SS	Z	ZZ
CXWL32-225	41	277	30	255	584	227	337	564	604

Series CXS^M_L: $\varnothing 10$, $\varnothing 15$



Series CXS^M_L: $\varnothing 20$, $\varnothing 25$, $\varnothing 32$



Model	CXS ^M _{L10}							CXS ^M _{L15}				CXS ^M _{L20}						CXS ^M _{L25}						CXS ^M _{L32}					
Stroke	80	90	100	110	120	125	150	110	120	125	150	110	120	125	150	175	200	110	120	125	150	175	200	110	120	125	150	175	200
SS	135	145	155	165	175	180	205	170	180	185	210	180	190	195	220	245	270	182	192	197	222	247	272	192	202	207	232	257	282
ZZ	152	162	172	182	192	197	222	189	199	204	229	204	214	219	244	269	294	206	216	221	246	271	296	222	232	237	262	287	312
Z	50	60			70		80		65		75		80		100				80		100				90				110

Note 1) Dimensions of each model except SS, ZZ and Z on the above table are the same as standard type.

Note 2) For the external dimensions of Series CXSW double rod, refer to the standard type of CXSW.

Series CQ2AH: $\varnothing 32$, $\varnothing 40$, $\varnothing 50$, $\varnothing 63$, $\varnothing 80$, $\varnothing 100$

Model	CQ2AH32/40/50										CQ2AH63/80/100									
Dimensions	External dimensions are the same as CQ2 long stroke type.										External dimensions are the same as CQ2 long stroke type.									

-X□

Individual
-X□

Made to Order Common Specifications: -XB12: External Stainless Steel Cylinder



7 External Stainless Steel Cylinder

Symbol
-XB12

A cylinder that uses stainless steel that excels in rust resistance for all external parts that are exposed to the surrounding environment. Its external dimensions and installation dimensions are identical to those of the standard Series CM2.

Applicable Series

Series	Description	Model	Action	Vol. no. (for std model)
CM2	Air cylinder	CM2	Double acting, Single rod	● From P. 128
			Single acting (Spring return/extend)	
	Non-rotating rod type	CM2W	Double acting, Double rod	
		CM2K	Double acting, Single rod	
			Single acting (Spring return/extend)	

How to Order

CM2 Standard model no. -XB12
 External stainless steel cylinder ●

Specifications

Material	External stainless steel 304	
Series	CM2, CM2K	CM2W
Cushion	Rubber bumper (Standard equipment)	
Mounting style	Basic style, Axial foot style, Rod side flange style, Head side flange style, Integral clevis style, Boss-cut basic style, Boss-cut rod side flange style	Basic style, Axial foot style, Flange style
Specifications other than above and external dimensions	Same as standard type	



Note) With air cushion, One-touch fitting integral type are not available.

Mounting Bracket Part No.

Description	Bore size (mm)			
	20	25	32	40
Foot ⁽¹⁾	CM-L020B-XB12	CM-L032B-XB12	CM-L040B-XB12	
Flange	CM-F020B-XB12	CM-F032B-XB12	CM-F040B-XB12	
Mounting nut	SN-020BSUS	SN-032BSUS	SN-040BSUS	
Rod end nut	NT-02SUS	NT-03SUS	NT-04SUS	
Single knuckle joint	I-020B-XB12	I-032B-XB12	I-040B-XB12	
Double knuckle joint ⁽²⁾	Y-020B-XB12	Y-032B-XB12	Y-040B-XB12	
Pin for double ⁽³⁾ knuckle joint	CDP-1-XC27		CDP-3-XC27	



Note 1) The minimum order quantity includes 2 foot brackets and 1 mounting nut. Order 2 pcs. per cylinder.

Note 2) With pin, retaining ring

Note 3) With retaining ring (Cotter pins for bore size ø40)

Made to Order Common Specifications: -XB13: Low Speed Cylinder (5 to 50 mm/s)



8 Low Speed Cylinder (5 to 50 mm/s) Symbol **-XB13**

Even if driving at lower speeds 5 to 50 mm/s (CY: 7 to 50 mm/s), there would be no stick-slip phenomenon and it can run smoothly.

Applicable Series

Series	Description	Model	Action	Note	Vol. no. (for std model)
CJ2	Air cylinder	CJ2	Double acting, Single rod	Except with air cushion	② From P. 42
CM2	Air cylinder	CM2	Double acting, Single rod	Except with air cushion	② From P. 128
	Direct mount type	CM2R	Double acting, Single rod	Except with air cushion	
CG1	Air cylinder	CG1	Double acting, Single rod	Except with air cushion	② From P. 222
	Direct mount type	CG1R	Double acting, Single rod	Except with air cushion	
MB	Air cylinder	MB	Double acting, Single rod		② From P. 290
CU	Free mount cylinder	CU	Double acting, Single rod		② From P. 483
	Non-rotating rod type	CUK	Double acting, Single rod		
	Long stroke, standard type	CU	Double acting, Single rod		
	Long stroke, non-rotating rod type	CUK	Double acting, Single rod		
CQS	Compact cylinder	CQS	Double acting, Single rod	Except long stroke, non-rotating and anti-lateral load types	② From P. 551
		CQSW	Double acting, Double rod	Except non-rotating type	
CQ2	Compact cylinder	CQ2	Double acting, Single rod	Except long stroke, non-rotating, large bore and anti-lateral load types	② From P. 602
		CQ2W	Double acting, Double rod	Except non-rotating and large bore types	
	Axial piping type (Centralized piping type)	CQP2	Double acting, Single rod		
CX2	Slide unit	CX2	Slide bearing type		③ From P. 464
CXW	Slide unit	CXWM	Slide bearing type		③ From P. 473
		CXWL	Ball bushing bearing type		
MXU	Compact slide	MXU	Double acting, Single rod		③ From P. 20
MXH		MXH	Double acting, Single rod		
CXSJ	Dual rod cylinder	CXSJ	Standard type		③ From P. 549
CXS		CXS	Standard type		③ From P. 561
MGP	Compact guide cylinder	MGP ^M _L	Standard type	Except those with air cushion or end lock	③ From P. 272
MGG	Guide cylinder	MGGM	Double acting	Shock absorber cannot be mounted.	③ From P. 356
MGC		MGCM	Double acting	With rubber bumper	③ From P. 392
CY	Magnetically coupled rodless cylinder	CY3B	Basic type		② From P. 1174
		CY1S	Slide bearing type		
		CY1L	Ball bushing bearing type		
CXT	Platform cylinder	CXT	Standard type	Except long stroke	③ From P. 524

How to Order

Standard model no.	-XB13
	Low speed cylinder ●



- Note 1) Operate without lubrication from a pneumatic system lubricator.
Note 2) For the speed adjustment, use speed controllers for controlling at lower speeds. (Series AS-FM/AS-M)

Specifications

Piston speed	5 to 50 mm/s (CY: 7 to 50 mm/s)
Dimensions	Same as standard type
Additional specifications	Same as standard type



Warning Operating Precautions

Be aware that smoking cigarettes, etc. after your hands have come into contact with the grease used in this cylinder can create a gas that is hazardous to humans.

-X□

Individual
-X□

Made to Order Common Specifications: -XB14: Cylinder with Heat Resistant Auto Switch



9 Cylinder with Heat Resistant Auto Switch Symbol **-XB14**

Heat resistant compact cylinder Series CDQ2 (ø16 to ø63) which can mount heat resistant solid state switch. (D-F7NJ $\frac{1}{2}$, Max. 150°C)

Applicable Series

Series	Description	Model	Action	Note	Vol. no. (for std model)
CQ2	Compact cylinder	CQ2	Double acting, Single rod	Applicable to ø16 to ø63 Except the one with rubber bumper	● From P. 602

How to Order

CDQ2 Standard model no. - F7NJL - XB14

Cylinder with heat resistant auto switch ●

Specifications

Applicable cylinder	Compact cylinder/Standard type
Series	CQ2
Bore size (mm)	16, 20, 25, 32, 40, 50, 63
Type	Non-lube
Fluid	Air
Proof pressure	1.5 MPa
Maximum operating pressure	1.0 MPa
Minimum operating pressure	0.05 MPa (For ø16 only, 0.07 MPa)
Ambient and fluid temperature	0 to 150°C
Rubber bumper	None
Rod end thread	Male or female thread
Stroke length tolerance	$\begin{smallmatrix} +1.0 \\ 0 \end{smallmatrix}$ mm
Piston speed	50 to 500 mm/s

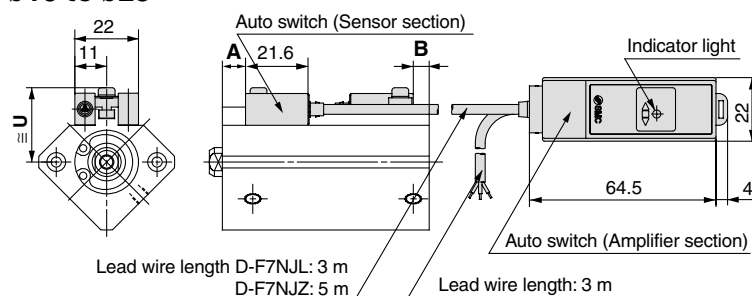
Bore size (mm)	Standard stroke (mm)									
	15	20	25	30	35	40	45	50	70	100
16	●	●	●	●						
20	●	●	●	●	●	●	●	●		
25	●	●	●	●	●	●	●	●		
32	●	●	●	●	●	●	●	●	●	●
40	●	●	●	●	●	●	●	●	●	●
50	●	●	●	●	●	●	●	●	●	●
63	●	●	●	●	●	●	●	●	●	●

● Manufacturing of intermediate strokes
Intermediate strokes by the 1 mm interval are available by using spacers with standard stroke cylinders.

Note) For detailed specifications about auto switch, refer to page 1319.

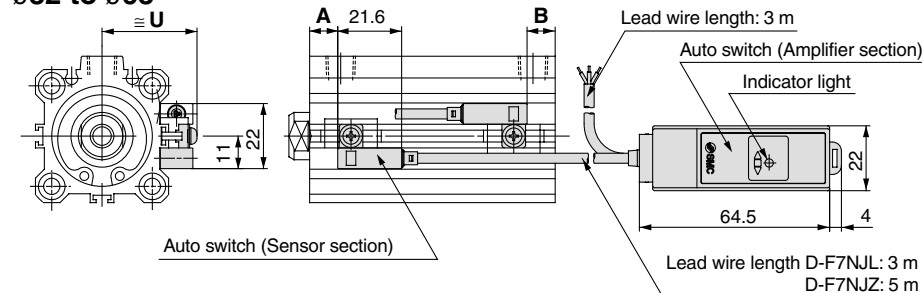
Proper Mounting Auto Switch Position (Detection at stroke end)

ø16 to ø25



Bore size (mm)	(mm)		
	A	B	U
16	8	5.5	23.5
20	8	7	25.5
25	8	7.5	28.5
32	9.5	6.5	32.5
40	13.5	9	36
50	11.5	12	42
63	14	15	48.5

ø32 to ø63



Auto Switch Mounting Bracket: Part No.

Auto switch model	Bore size (mm)						
	16	20	25	32	40	50	63
D-F7NJL(Z)	BQ-1			BQJ1-032			

Auto Switch Mounting Bracket Mass

Mounting bracket part no.	Mass (g)
BQ-1	1.5
BQJ1-032	8.5

* Dimensions on the cylinder body is equivalent to the standard type, double acting, single rod of Series CDQ2.

Note 1) Auto switches are shipped in the same package, but not assembled in order to protect it at the time of shipment. Assemble it by referring to A, B dimensions for mounting position shown in the table above.

Note 2) Tightening torque for auto switch mounting M3 screw should be set as 0.5 to 0.7 N·m.

Made to Order Common Specifications: -XB19: High Speed Type



10 High Speed Type

Symbol

-XB19

This is a high speed type of the dual rod cylinder series CXS.

The cylinder speed can reach a maximum of 1500 mm/s (1000 mm/s for $\phi 25$ and $\phi 32$) by enlarging the orifice diameter of the cylinder port.

The allowable kinetic energy is approximately four times that of the standard type.

Applicable Series

Series	Description	Model	Action	Vol. no. (for std model)
CXS	Dual rod cylinder	CXS	Double acting, Single rod	● P.561 to

How to Order

CXS Standard model no. -XB19
High speed type

Dimensions: Same as the standard type.

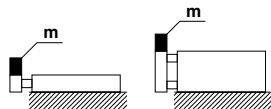
Specifications

Bore size (mm)	6	10	15	20	25	32
Minimum operating pressure	0.15 MPa	0.1 MPa		0.05 MPa		
Maximum operating pressure	0.7 MPa					
Proof pressure	1.05 MPa					
Fluid	Air (Non-lube)					
Ambient and fluid temperature	-10 to 60°C (No freezing)					
Piston speed	30 to 1500 mm/s				30 to 1000 mm/s	
Port size	M5 x 0.8				Rc 1/8	
Stroke adjustable range	0 to -5 mm compared to the standard stroke					
Bearing type	Slide bearing, Ball bushing bearing (Same dimensions)					
Cushion	Rubber bumper					

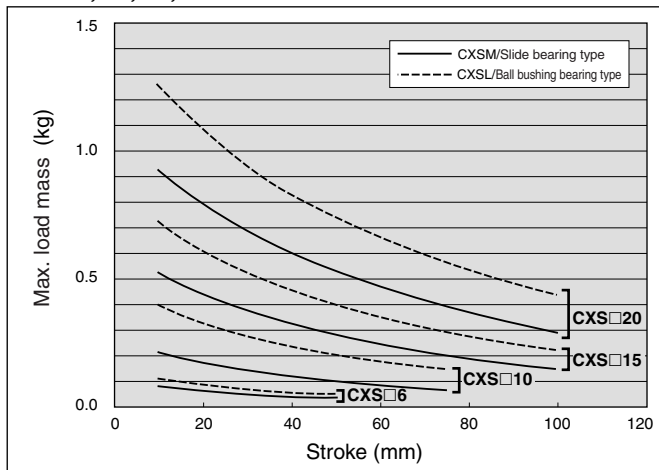
Operating Conditions

Maximum Load Mass

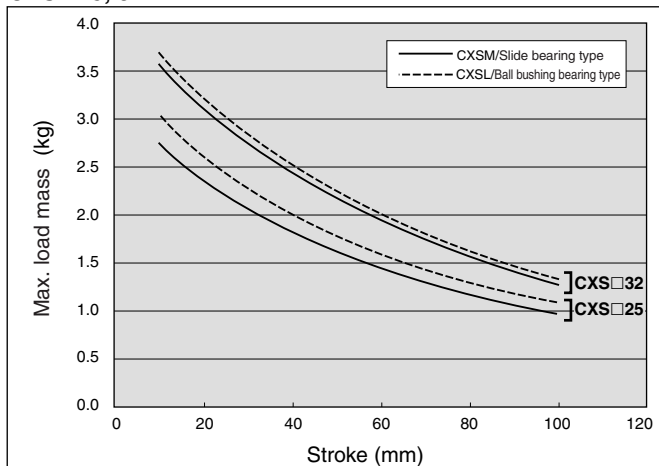
When the cylinder is mounted as shown in the diagrams on the right, the maximum load mass (m) should not exceed the values indicated in the graph below.



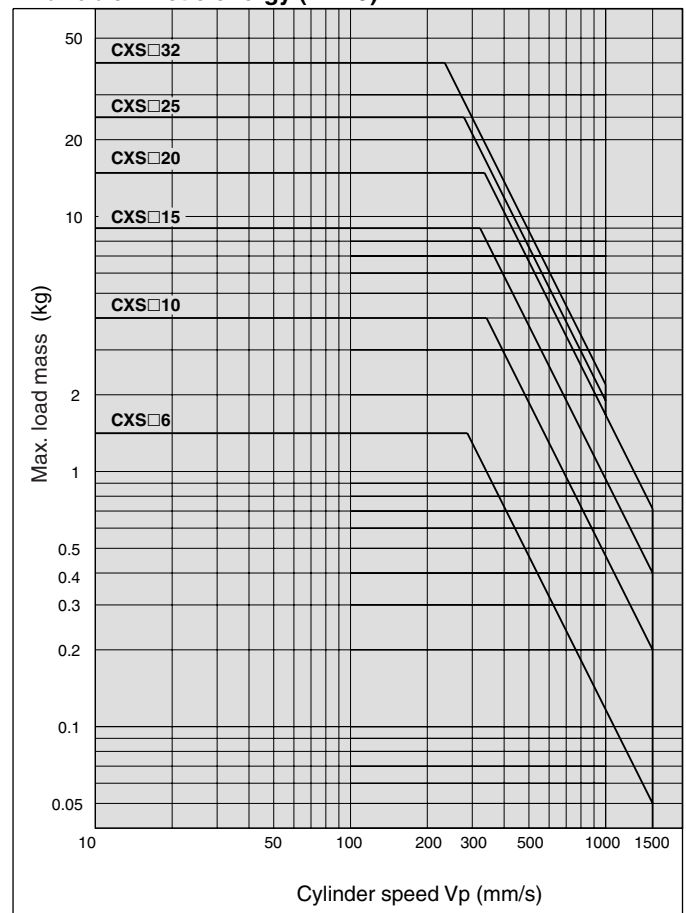
CXS□6, 10, 15, 20



CXS□25, 32



Allowable kinetic energy (XB19)



-X□
Individual
-X□

Made to Order Common Specifications: -XB20: Stroke Adjusting Unit with Adjusting Bolt



11 Stroke Adjusting Unit with Adjusting Bolt

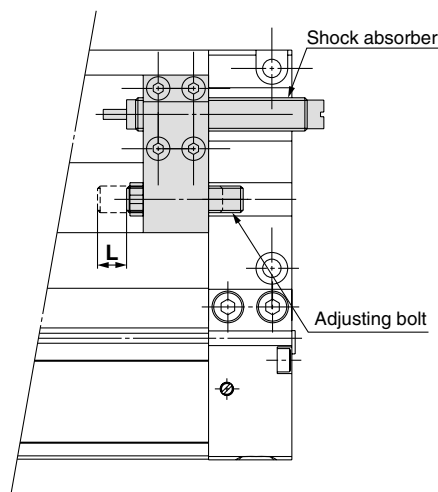
Stroke adjusting unit with an adjusting bolt.

Applicable Series

Series	Description	Model	Action	Note	Vol. no. (for std model)
MY2	Mechanically jointed rodless cylinder	MY2H	Linear guide (Single axis)		● From P. 1105
		MY2HT	Linear guide (Double axes)		

How to Order

MY2H
MY2HT **Standard model no.** -XB20



Stroke Adjustment Range of Adjusting Bolt (mm)

Bore size (mm)	L (mm)
16	5.6
25	11.5
40	16

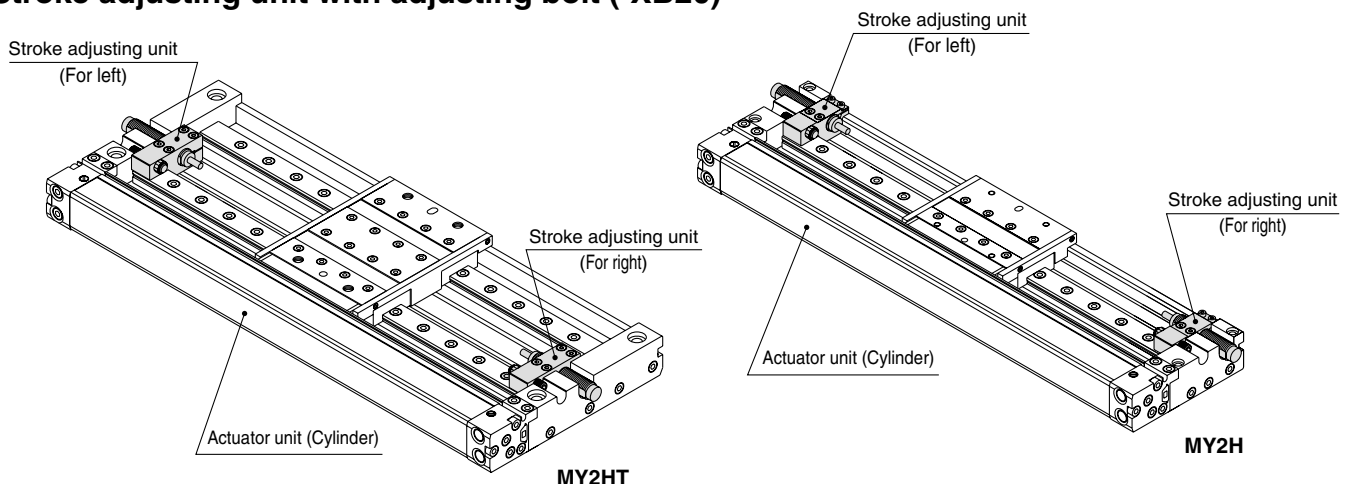
Stroke Adjusting Unit with Adjusting Bolt (Single Unit Order Part No.)

Model	Unit part no.	Bore size (mm)	16	25	40
MY2H	L unit	For left	MY2H-A16L1-XB20	MY2H-A25L1-XB20	MY2H-A40L1-XB20
		For right	MY2H-A16L2-XB20	MY2H-A25L2-XB20	MY2H-A40L2-XB20
	H unit	For left	MY2H-A16H1-XB20	MY2H-A25H1-XB20	MY2H-A40H1-XB20
		For right	MY2H-A16H2-XB20	MY2H-A25H2-XB20	MY2H-A40H2-XB20
MY2HT	L unit	For left	MY2HT-A16L1-XB20	MY2HT-A25L1-XB20	MY2HT-A40L1-XB20
		For right	MY2HT-A16L2-XB20	MY2HT-A25L2-XB20	MY2HT-A40L2-XB20
	H unit	For left	MY2HT-A16H1-XB20	MY2HT-A25H1-XB20	MY2HT-A40H1-XB20
		For right	MY2HT-A16H2-XB20	MY2HT-A25H2-XB20	MY2HT-A40H2-XB20

Note 1) Stroke adjusting unit with adjusting bolt (-XB20) cannot be mounted on the standard cylinder.

Note 2) Right and left sides are determined by viewing the port from the front.

Stroke adjusting unit with adjusting bolt (-XB20)



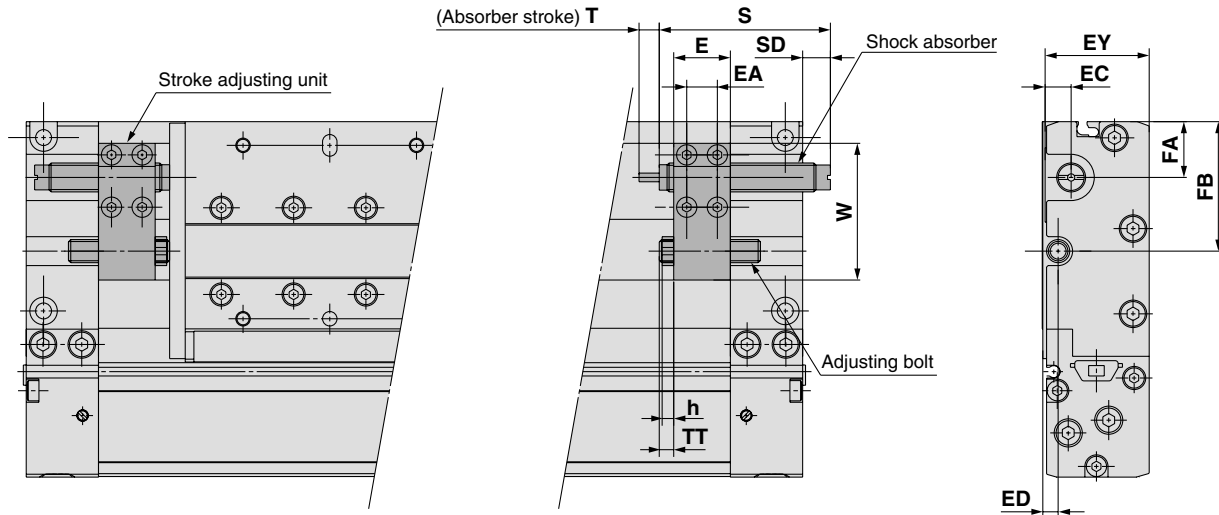
**Made to Order Common Specifications:
Stroke Adjusting Unit with Adjusting Bolt**

Symbol

-XB20

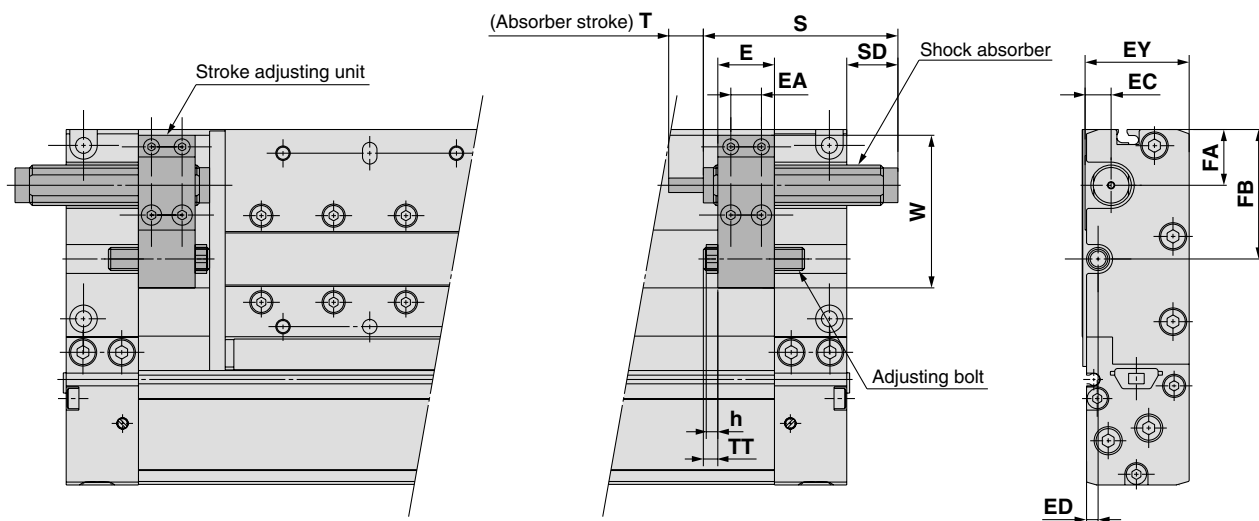
Dimensions (Dimensions other than below are the same as standard type.)

MY2H L unit



Applicable cylinder	E	EA	EC	ED	EY	FA	FB	h	S	T	SD	TT	W	Shock absorber model	Adjusting bolt	Adjustment range
MY2H16	15.8	8.4	6.2	5	28	12.4	30	3.2	40.8	6	1.3	4.2 (Max. 9.8)	34.5	RB0806	M5 x 0.8 x 25L	5.6
MY2H25	19.6	10.6	10	5.5	37	19.3	44.8	4	46.7	7	—	5 (Max. 16.5)	47.3	RB1007	M8 x 1.0 x 35L	11.5
MY2H40	29	16	13	8	57	17	49	5	67.3	12	—	6 (Max. 22)	59	RB1412	M10 x 1.0 x 50L	16

MY2H H unit



Applicable cylinder	E	EA	EC	ED	EY	FA	FB	h	S	SD	T	TT	W	Shock absorber model	Adjusting bolt	Adjustment range
MY2H16	15.8	8.4	6.2	5	28	12.4	30	3.2	46.7	7.2	7	4.2 (Max. 9.8)	35.5	RB1007	M5 x 0.8 x 25L	5.6
MY2H25	19.6	10.6	10	5.5	37	19.3	44.8	4	67.3	18.2	12	5 (Max. 16.5)	52.8	RB1412	M8 x 1.0 x 35L	11.5
MY2H40	29	16	13	8	57	17	49	5	73.2	—	15	6 (Max. 22)	59	RB2015	M10 x 1.0 x 50L	16

-X□

Individual
-X□

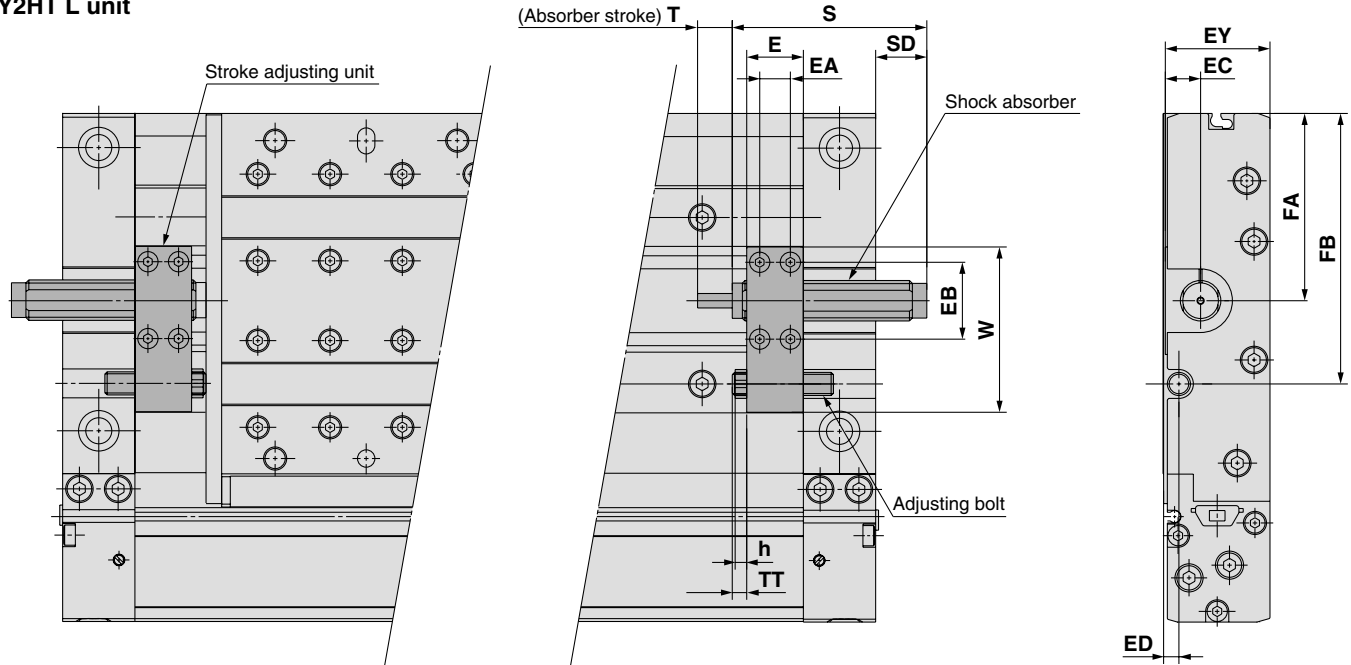
Made to Order Common Specifications: -XB20: Stroke Adjusting Unit with Adjusting Bolt



11 Stroke Adjusting Unit with Adjusting Bolt

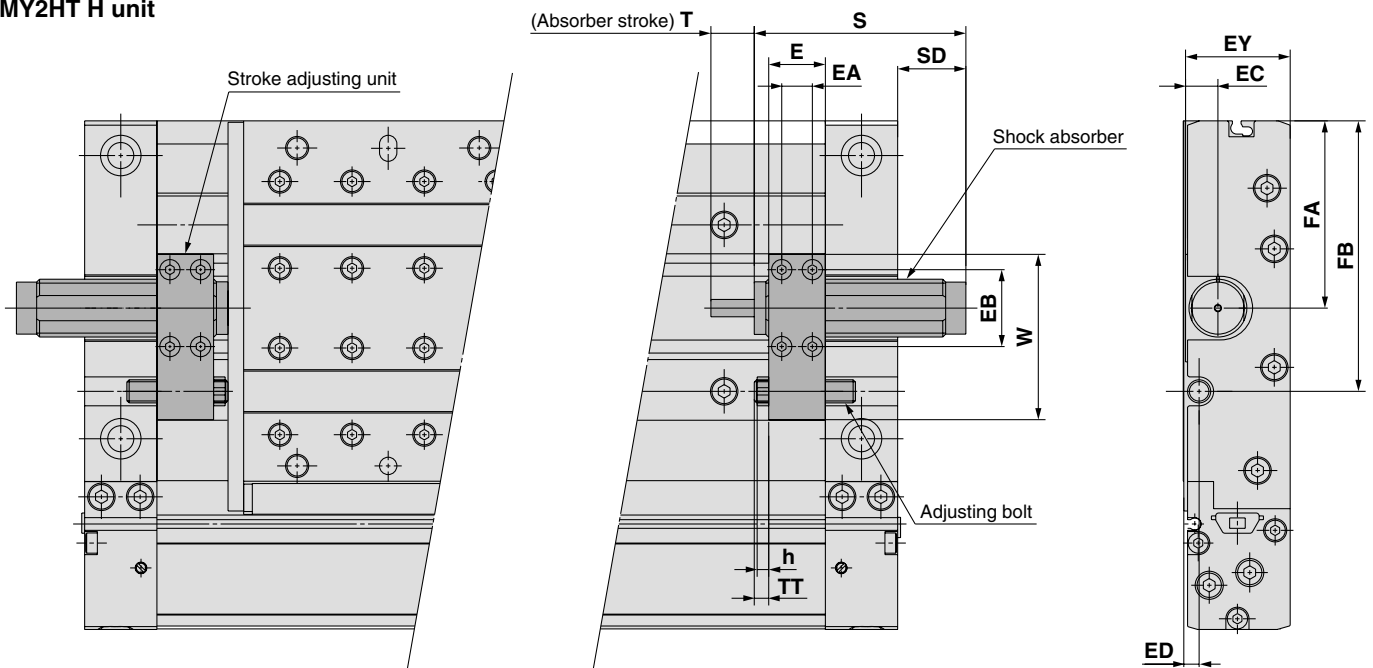
Dimensions (Dimensions other than below are the same as standard type.)

MY2HT L unit



Applicable cylinder	E	EA	EB	EC	ED	EY	FA	FB	h	S	SD	T	TT	W	Shock absorber model	Adjusting bolt	Adjustment range
MY2HT16	15.8	8.4	21	9	5	28	46.5	67	3.2	46.7	7.2	7	4.2 (Max. 9.8)	40.6	RB1007	M5 x 0.8 x 25L	5.6
MY2HT25	19.6	10.6	26.6	12.2	5.5	37	64.8	93.6	4	67.3	18.2	12	5 (Max. 16.5)	57.2	RB1412	M8 x 1.0 x 35L	11.5
MY2HT40	29	16	37	18.2	8	58	74.5	110.5	5	73.2	—	15	6 (Max. 22)	71.6	RB2015	M10 x 1.0 x 50L	16

MY2HT H unit



Applicable cylinder	E	EA	EB	EC	ED	EY	FA	FB	h	S	SD	T	TT	W	Shock absorber model	Adjusting bolt	Adjustment range
MY2HT16	15.8	8.4	21	9	5	28	46.5	67	3.2	67.3	27.8	12	4.2 (Max. 9.8)	40.6	RB1412	M5 x 0.8 x 25L	5.6
MY2HT25	19.6	10.6	26.6	12.2	5.5	37	64.8	93.6	4	73.2	24.1	15	5 (Max. 16.5)	57.2	RB2015	M8 x 1.0 x 35L	11.5
MY2HT40	29	16	37	18.2	8	58	74.5	110.5	5	99	24.5	25	6 (Max. 22)	71.6	RB2725	M10 x 1.0 x 50L	16

XB20 (Stroke Adjusting Unit with Adjusting Bolt)

⚠ Caution

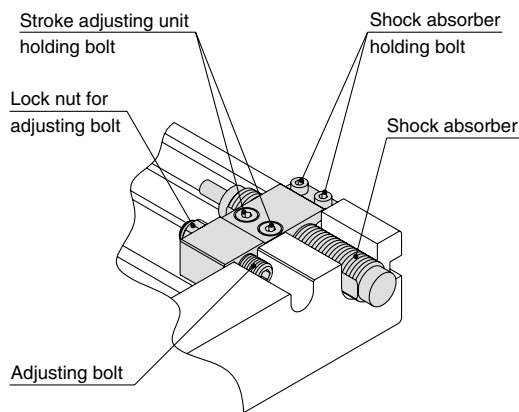
<Stroke adjustment with adjusting bolt>

1. Loosen the lock nut for the adjusting bolt and adjust a stroke by rotating the adjusting bolt.

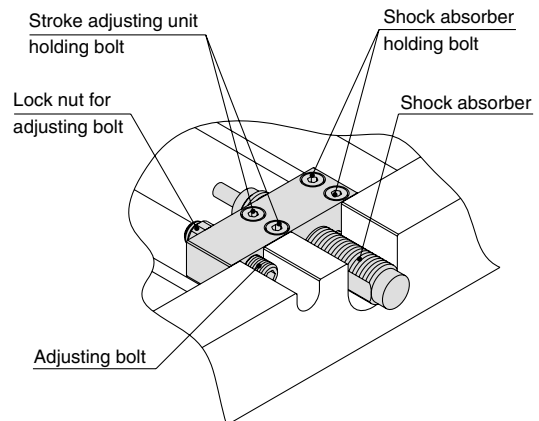
After adjusting the stroke, secure the adjusting bolt by tightening the lock nut.

If the effective stroke of the shock absorber is shortened by the stroke adjustment, its absorption capacity will be drastically reduced. Therefore, the adjusting bolt should be secured at a position where it projects about 0.5 mm farther than the shock absorber.

Tighten shock absorber holding bolts equally with the specified tightening torque.



MY2H(-XB20)



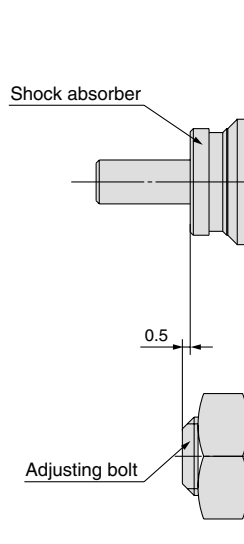
MY2HT(-XB20)

Tightening Torque for Stroke Adjusting Unit Holding Bolt (N·m)

Bore size (mm)	MY2H		MY2HT	
	L unit	H unit	L unit	H unit
16		0.6		
25		1.5		
40		5.0		

Tightening Torque for Shock Absorber Holding Bolt (N·m)

Bore size (mm)	MY2H		MY2HT	
	L unit	H unit	L unit	H unit
16		0.6		
25	1.5	0.6		1.5
40	5.0	1.5		5.0



2. Do not use the shock absorber and air cushion together.

Made to Order Common Specifications: -XC3: Special Port Location



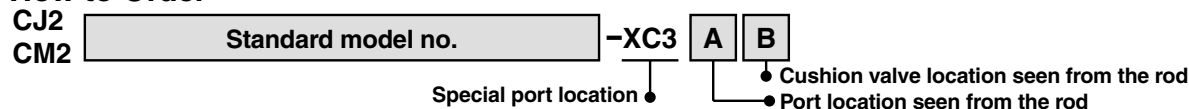
12 Special Port Location

Compared with the standard type, a cylinder which changes the connection port location of rod/head cover and the location of cushion valve.

Applicable Series

Series	Description	Model	Action	Note	Vol. no. (for std model)
CJ2	Air cylinder	CJ2	Double acting, Single rod	Except w/ rail mounting style auto switches, w/ air cushion	② From P. 42
	Non-rotating rod type	CJ2K	Double acting, Single rod	Except w/ rail mounting style auto switches	
CM2	Air cylinder	CM2	Double acting, Single rod		② From P. 128
			Single acting (Spring return/extend)		
		CM2W	Double acting, Double rod		
	Air-hydro type	CM2H	Double acting, Single rod		
	Non-rotating rod type	CM2K	Double acting, Single rod		
			Single acting (Spring return/extend)		
		CM2KW	Double acting, Double rod		
	Direct mount type	CM2R	Double acting, Single rod		
	Direct mount type, Air-hydro type	CM2RH	Double acting, Single rod		
MB	Air cylinder	MB	Double acting, Single rod		② From P. 290
		MBW	Double acting, Double rod		
	Non-rotating rod type	MBK	Double acting, Single rod		
MB1	Air cylinder	MB1	Double acting, Single rod		② From P. 332
		MB1W	Double acting, Double rod		
	Non-rotating rod type	MB1K	Double acting, Single rod		
CA2	Air cylinder	CA2	Double acting, Single rod		② From P. 356
		CA2W	Double acting, Double rod		
	End lock cylinder	CBA2	Double acting, Single rod		
CS1	Air cylinder	CS1	Double acting, Single rod		② From P. 412
	Low friction type	CS1□Q	Double acting, Single rod		
RSQ RSG	Stopper cylinder	RSQ	Double acting		③ From P. 1373
			Double acting with spring installed		
			Single acting		
		RSG	Double acting		
			Double acting with spring installed		
			Single acting		
CL1	Locked up cylinder	CL1	Double acting, Single rod		③ From P. 636
CLS	Cylinder with lock	CLS	Double acting, Single rod		③ From P. 786
CNA	Cylinder with lock	CNA	Double acting, Single rod	Unlocking cams are on the same side as cushion valves.	③ From P. 726
MXH	Compact slide	MXH	Double acting		③ From P. 20

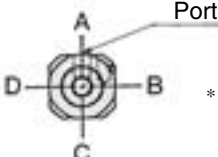
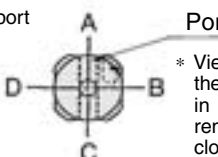
How to Order



Specifications: Same as standard type.

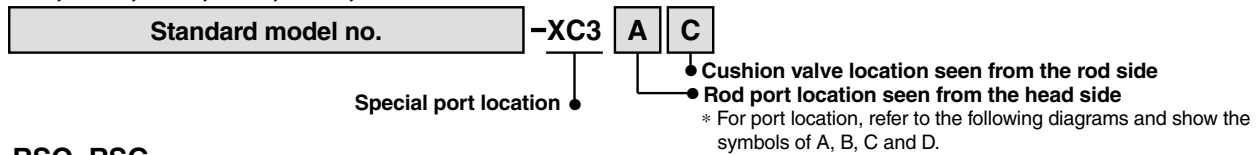
* For port location, refer to the following diagrams and show the symbols of A, B, C and D.

Relation between Port Location and Cushion Valve Location

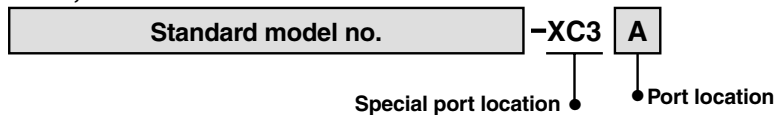
Series	Corresponding symbol of mounting bracket (Positional relationships)	
CJ2 CM2	 <p>* Viewed from the rod side, the ports are rendered A, B, C, and D, in the clockwise direction.</p>	 <p>* Viewed from the rod side, with the clevis positioned as shown in the diagram, the ports are rendered A, B, C, and D, in the clockwise direction.</p>
	1. Positional relationships between port and cushion valve cannot be changed.	2. Cylinder with cushion of CJ2 (CJ2-A) is not available for -XC3.

How to Order

MB, MB1, CA2, CS1, CNA, CL1



RSQ, RSG



Specifications: Same as standard type.

Relation between Port Location and Cushion Valve Location

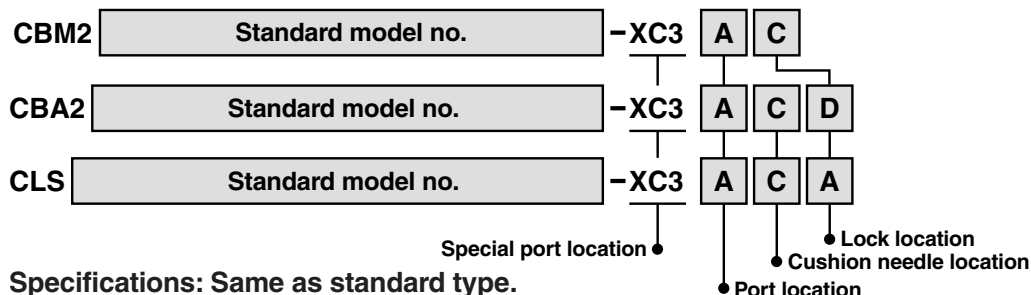
Series	Corresponding symbol of mounting bracket (Positional relationships)						
CA2 CS1 CNA CL1	Basic style 	Foot style 	Rod side flange style 	Head side flange style 	Single clevis style 	Double clevis style 	Center trunnion style
MB MB1	Basic style 	Foot style 	Rod side flange style 	Head side flange style 	Single clevis style 	Double clevis style 	Center trunnion (Except MB1)
RSQ RSG	<p>1. As shown in the above diagram, the symbols for the positions of the ports and cushion valves are as follows: viewed from the rod side, the top position is rendered A; then, B, C, and D, in the clockwise direction.</p> <p>2. The type in which the ports and the cushion valves are combined is applicable only when the rod cover and the head cover are changed to the same positions.</p> <p>3. The symbol indicated as "-XC3 [A][B]" is the standard specification, and there are no part numbers A or B.</p> <p>4. Those shown above are the same as standard, other than the symbols that indicate the positions of the ports and the cushion valves.</p> <p>In the case of standard type, the symbol for port and rod-chamfered positions are on the same surface and positioned upward. Define the port position at right to be A, and then B, C in a clockwise order.</p> <div> </div>						

Made to Order Common Specifications: -XC3: Special Port Location



12 Special Port Location

How to Order



Specifications: Same as standard type.

Relation between Port Location and Cushion Valve Location

Series	Corresponding symbol of mounting bracket (Positional relationships)	
CBM2	<p>Port location Rod side port and head side port are at the same location. Symbols of lock position and port location are as the following diagrams.</p> <p>Standard (AD) End lock</p> <p>Except with air cushion</p>	<p>Clevis style and trunnion style are based on the direction of clevis bracket.</p> <p>Standard (BA) CA DA</p> <p>Diagrams seen from the rod side</p>
CBA2	<p>Port and cushion needle are at the same rod/head position. Symbols of port location, cushion needle position and lock position are as the following diagrams.</p> <p>Standard (ABD) End lock Cushion valve</p>	<p>When the mounting bracket is attached, the conditions placed like below are on a basis.</p> <p>Foot style Rod side flange style Head side flange style Single clevis style Double clevis style Center trunnion style</p> <p>Diagrams seen from the rod side</p>
CLS	<div> <p>Basic style</p> </div> <div> <p>Foot style</p> </div> <div> <p>Rod side flange style</p> </div> <div> <p>Head side flange style</p> </div> <div> <p>Single clevis style</p> </div> <div> <p>Double clevis style</p> </div> <div> <p>Center trunnion style</p> </div> <ol style="list-style-type: none"> Symbols of port and cushion valve, and lock positions, have to be looked at from the rod side as shown in the figures above. Define the upper side to be A, and then B, C, and D in a clockwise order. The combination model of a port and a cushion valve is applicable when the rod and head covers are moved to the same position. Part number of -XC3[A][B][A] is not available since it indicates a standard type. For the rod side flange style, lock positions [B] and [D] cannot be manufactured since the brake cylinder and the mounting hole of the flange bracket interfere with each other. Symbols excluding those that indicate the locations of ports and cushion valves are the same as the standard type. 	

Made to Order Common Specifications:
Special Port Location

Symbol

-XC3□

The port location of a standard product is in the axial direction, and it is shipped as plugged on both sides. However, side ported types can be ordered. A shifting of the plugs is not required by the customer.

MXH

Standard model no.

— XC3□

Change of port location

Standard	-XC3A	-XC3B

-X□

Individual

-X□

Made to Order Common Specifications: -XC4: With Heavy Duty Scraper



13 With Heavy Duty Scraper

It is suitable for using cylinders under the environment, where there are much dusts in a surrounding area by using a heavy duty scraper on the wiper ring, or using cylinders under earth and sand exposed to the die-cast equipment, construction machinery, or industrial vehicles.

Applicable Series

Series	Description	Model	Action	Note	Vol. no. (for std model)
CM2	Air cylinder	CM2	Double acting, Single rod		② From P. 128
		CM2W	Double acting, Double rod		
	Centralized piping type	CM2□□P	Double acting, Single rod		
	End lock cylinder	CBM2	Double acting, Single rod	Head side locking type only (Except w/ air cushion)	
CG1	Air cylinder	CG1	Double acting, Single rod	ø32 to ø63 only	② From P. 222
MB	Air cylinder	MB	Double acting, Single rod		② From P. 290
		MBW	Double acting, Double rod		
MB1	Air cylinder	MB1	Double acting, Single rod		② From P. 332
		MB1W	Double acting, Double rod		
CA2 *	Air cylinder	CA2	Double acting, Single rod		② From P. 356
		CA2W	Double acting, Double rod		
	End lock cylinder	CBA2	Double acting, Single rod	Head side locking type only	
CS1	Air cylinder	CS1	Double acting, Single rod		② From P. 412
		CS1W	Double acting, Double rod		
CQ2	Air cylinder	CQ2	Double acting, Single rod	ø20 to ø100	② From P. 602
	Axial piping type (Centralized piping type)	CQP2	Double acting, Single rod	ø32 to ø100	
	Long stroke	CQ2	Double acting, Single rod		
RQ	Compact cylinder with air cushion	RQ	Double acting, Single rod		② From P. 774
CVM5	Valve mounted air cylinder	CVM5	Double acting, Single rod		③ From P. 1563
CV	Valve mounted cylinder	CV3	Double acting, Single rod		③ From P. 1604
		CVS1	Double acting, Single rod		
MGP	Compact guide cylinder	MGP	Double acting	ø20 to ø100 (Except with air cushion or end lock)	③ From P. 272
MGG	Guide cylinder	MGG	Double acting	Except ø20, ø25	③ From P. 356
MGC		MGC	Double acting	Except ø20, ø25	③ From P. 392
CNA	Cylinder with lock	CNA	Double acting, Single rod		③ From P. 726
CNG	Cylinder with lock	CNG	Double acting, Single rod	ø32, ø40 only	③ From P. 669

* CA2□H (Air-hydro type) comes with a heavy duty scraper as standard.

How to Order

Standard model no.	-XC4
	With heavy duty scraper • (SCB scraper)

* For Series MGP,
refer to page 1424.

Specifications: Same as standard type.

⚠ Caution

Do not replace heavy duty scrapers.

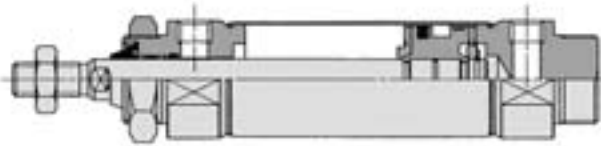
- Since heavy duty scrapers are press-fit, do not replace the cover only, but rather the entire rod cover assembly. (Holder plate assembly in the case of Series MGP)
- Series CM2 cannot replace either heavy duty scraper or rod seal.
(It goes for replacing retainer assembly for Series CS1.)

Symbol

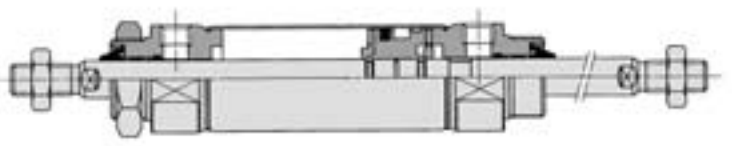
-XC4

Construction (Dimensions are the same as standard.)

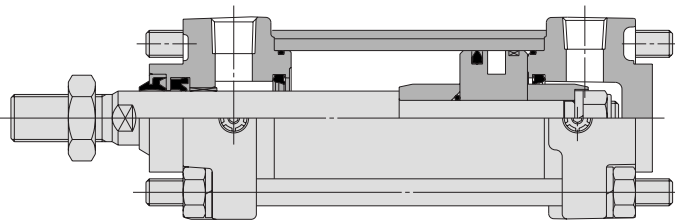
Series CM2



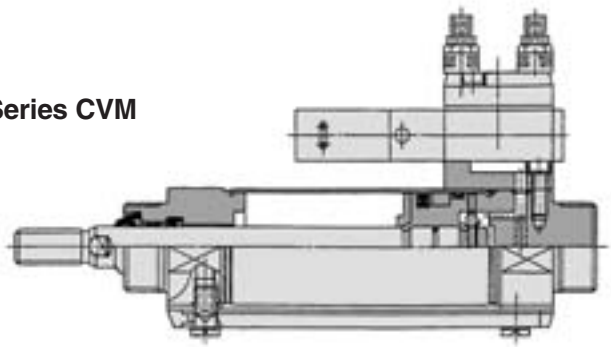
Series CM2W



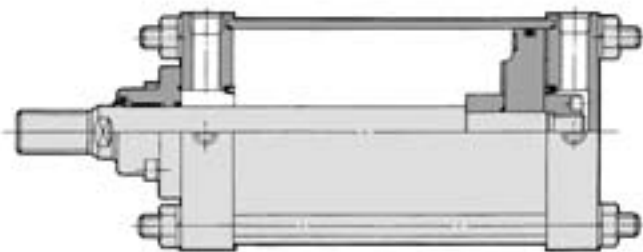
Series CA2



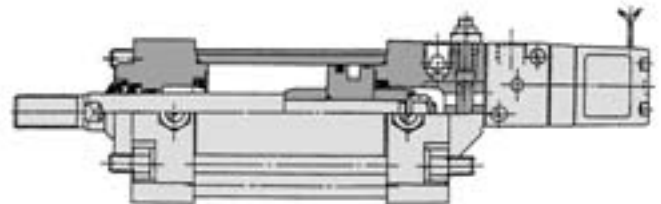
Series CVM



Series CS1



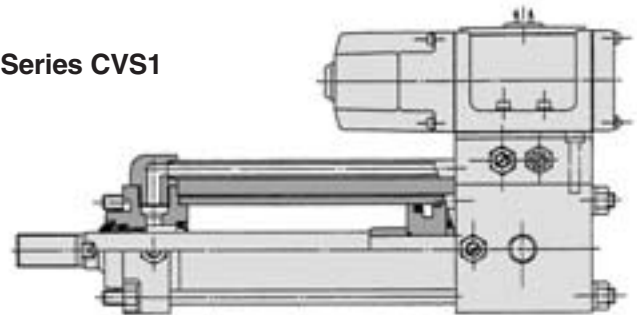
Series CV3



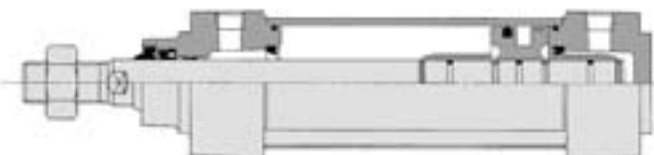
Series CBM (Only with head side locking)



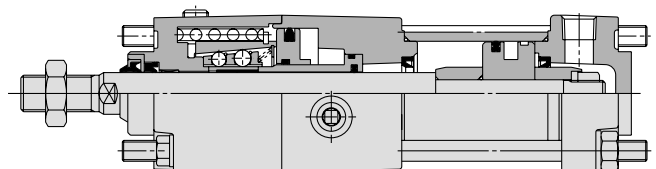
Series CVS1



Series MB



Series CNA



-X□

Individual
-X□

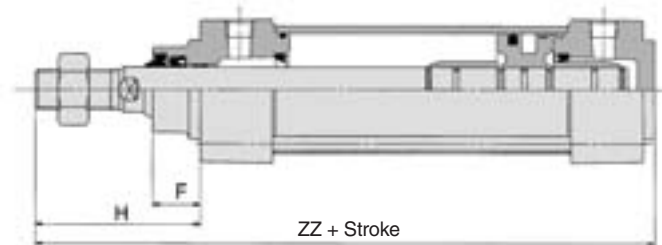
Made to Order Common Specifications: -XC4: With Heavy Duty Scraper



13 With Heavy Duty Scraper

Dimensions

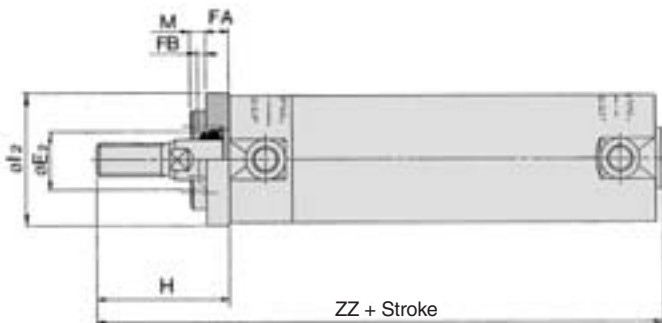
Series MB Series MB1



Series MB, MB1 (mm)

Bore size (mm)	F	H	ZZ
32	15	47	135
40	17	58	146
50	19	67	165
63	19	67	165
80	25	81	199
100	25	81	199

Series CG1



Series CG1 (mm)

Bore size (mm)	E ₂	FA	FB	M	I ₂	H	ZZ
32	17	8	3	5	38	48	121
40	21	8	3	6	48	58	138
50	26	9	3	8	59	66	158
63	26	9	3	10	72	66	158

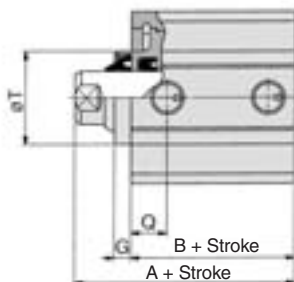
(mm)

Long stroke	ZZ
	129
	147
	170
	170

* Other dimensions are the same as double acting, single rod, standard type.

* On the axial foot style and the rod side flange style, the installation bracket is wedged and bolted between the cylinder and the scraper at the time of shipment. On other styles, it is placed in the same package (not assembled).

Series CQ2



- (): Denotes the dimensions with auto switch.
- Other dimensions are the same as for CQ2/standard type.
- Bore size 32, without switch, 5 strokes: Q-dimensions is 21.5.
- Relation between bore size 12 to 32 piping port and mounting holes is as the following diagram. Please contact SMC for bracket style.

Applicable stroke available by the 5 mm interval.



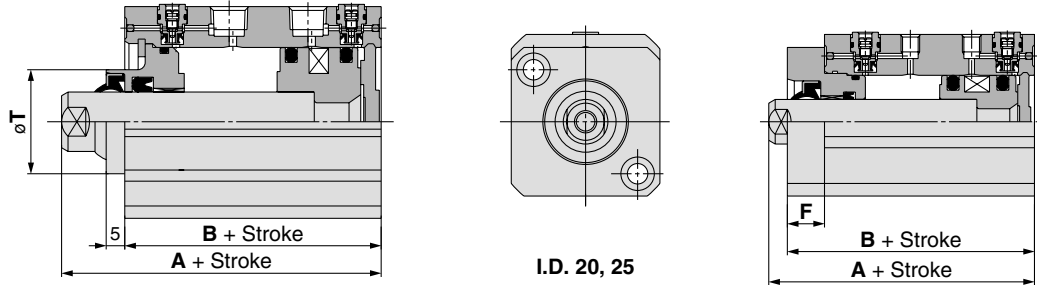
Without switch: Bore size 20 to 32 With switch: Bore size 20, 25
With switch: Bore size 32

Series CQ2

Bore size (mm)	A			B			T	G		Q	
	50 stroke or less	75, 100 stroke	125 to 300 stroke	50 stroke or less	75, 100 stroke	125 to 300 stroke		100 stroke or less	125 stroke or more	50 stroke or less	125 stroke or more
20	34 (46)	—	—	29.5 (41.5)	—	—	—	—	—	19 (20.5)	—
25	37.5 (47.5)	—	—	32.5 (42.5)	—	—	—	—	—	21 (21)	—
32	40 (50)	50 (50)	67.5 (67.5)	33 (43)	43 (43)	55.5 (55.5)	—	—	—	20.5 (20.5)	—
40	46.5 (56.5)	56.5 (56.5)	77 (77)	29.5 (39.5)	39.5 (39.5)	55 (55)	28	5	10	11 (11)	14 (14)
50	48.5 (58.5)	58.5 (58.5)	78.5 (78.5)	30.5 (40.5)	40.5 (40.5)	55.5 (55.5)	35	5	10	10.5 (10.5)	14 (14)
63	54 (64)	64 (64)	80 (80)	36 (46)	46 (46)	57 (57)	35	5	10	15 (15)	16.5 (16.5)
80	63.5 (73.5)	73.5 (73.5)	91 (91)	43.5 (53.5)	53.5 (53.5)	66 (66)	43	5	10	16 (16)	19 (19)
100	75 (85)	85 (85)	102.5 (102.5)	53 (63)	63 (63)	75.5 (75.5)	59	5	10	23 (23)	23 (23)

Dimensions (Dimensions other than below are the same as standard type.)

Series RQ



Bore size (mm)	A	B	T	F
20	46.5	42	—	10
25	51.5	46.5	—	10
32	54	47	—	10
40	61	44	28	—
50	67.5	49.5	35	—
63	73	55	35	—
80	83.5	63.5	43	—
100	98	76	59	—

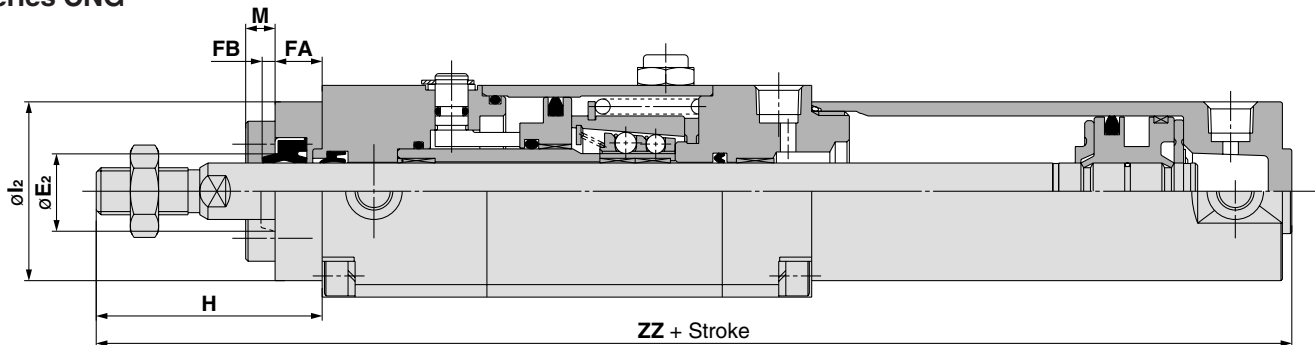
* Contact SMC for cylinders with I.D. 20 to 32 brackets.
* Only standard strokes are applicable.

Caution

Do not replace heavy duty scrapers.

- Since heavy duty scrapers are press-fit, do not replace the cover only, but rather the entire rod cover assembly.
- * Contact SMC for the rod cover assembly part number.

Series CNG



Bore size (mm)	E2	FA	FB	M	l2	H	ZZ
32	17	8	3	5	38	48	204
40	21	8	3	6	48	58	229

* Other dimensions are the same as the standard type. (The above figure shows the rubber bumper type.)
* On the axial foot style and the rod side flange style, the installation bracket is wedged and bolted between the cylinder and the scraper at the time of shipment.

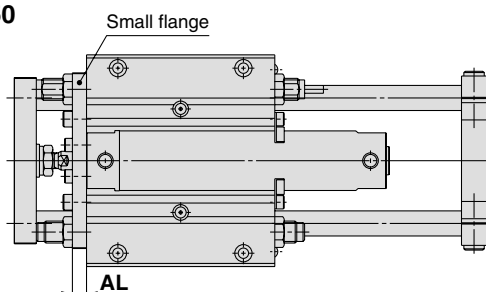
	ZZ
Long strokes	212
	238

Caution

Do not replace heavy duty scrapers.

- Since heavy duty scrapers are press-fit, they must be replaced together with the seal holder assembly.

Series MGG□B
ø32 to ø50



Bore size (mm)	AL
32	9
40	12
50	12

Specifications: Same as standard type.

- Note 1) Except ø20 and ø25
Note 2) Heavy duty scrapers are attached to the piston rod and guide rods (front and back).
Note 3) Rod side heavy duty scrapers for ø32 to ø50 are press-fit to large and small flanges. When replacing them, replace the large and small flange assemblies.

-X□
Individual
-X□

Made to Order Common Specifications: -XC4: With Heavy Duty Scraper

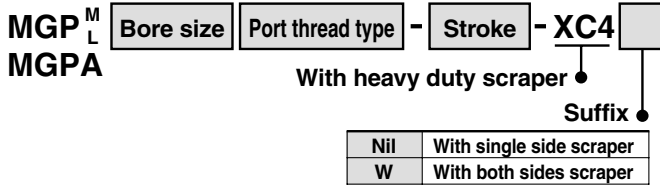


13 With Heavy Duty Scraper

Symbol

-XC4

How to Order/MGP

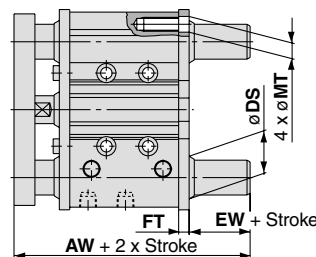
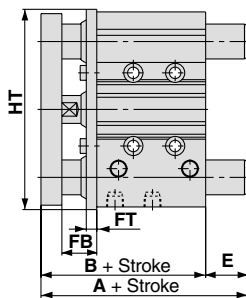


Specifications

Applicable series		MGPM	MGPL/MGPA
Bearing type		Slide bearing	Ball bushing bearing
Bore size (mm)		20, 25, 32, 40, 50, 63, 80, 100	
Minimum operating pressure	With single side	0.12 MPa	
	With both sides	0.14 MPa	

Specifications other than above are the same as standard type.

Dimensions (Dimensions other than below are the same as standard type.)



For cylinder with both sides scraper

Common Dimensions: MGPM, MGPL, MGPA (mm)

Bore size (mm)	B	FB	FT
20	63	16	5
25	63.5	16	5
32	69.5	20	6
40	76	20	6
50	82	22	6
63	87	22	6
80	106.5	28	6
100	126	35	9

With Both Sides Scraper Dimensions: AW, EW, MT, DS (mm)

Bore size (mm)	AW	EW	MT	DS*	
				MGPM	MGPL/MGPA
20	74	6	6	17	15
25	74.5	6	7	21	19
32	82.5	7	8.5	26	21
40	89	7	9	26	21
50	95	7	11	31	26
63	100	7	11	31	26
80	120.5	8	14	36	31
100	143	8	16	44	36

* Bypass port size for guide rod with bottom mounting

MGPM (Slide bearing) A, E, HT Dimensions (mm)

Bore size (mm)	A			E			HT
	50 st or less	Over 50 st to 200 st	Over 200 st	50 st or less	Over 50 st to 200 st	Over 200 st	
20	63	94.5	132	0	31.5	69	80
25	63.5	95	132	0	31.5	68.5	93
32	97	112	150	27.5	42.5	80.5	113
40	97	112	150	21	36	74	121
50	106.5	128	171	24.5	46	89	153
63	106.5	128	171	19.5	41	84	167
80	125	152	203	18.5	45.5	96.5	205
100	147	172	213	21	46	87	244

MGPL, MGPA (Ball bushing bearing) A, E, HT Dimensions (mm)

Bore size (mm)	A			E			HT
	30 st or less	Over 30 st to 100 st	Over 100 st to 200 st	30 st or less	Over 30 st to 100 st	Over 100 st to 200 st	
20	73	90	114	10	27	51	80
25	79.5	95.5	114.5	16	32	51	93

Bore size (mm)	A				E				HT
	50 st or less	Over 50 st to 100 st	Over 100 st to 200 st	Over 200 st	50 st or less	Over 50 st to 100 st	Over 100 st to 200 st	Over 200 st	
32	91	108	128	150	21.5	38.5	58.5	80.5	110
40	91	108	128	150	15	32	52	74	118
50	103	124	144	171	21	42	62	89	146
63	103	124	144	171	16	37	57	84	160

Bore size (mm)	A				E				HT
	25 st or less	Over 25 st to 50 st	Over 50 st to 200 st	Over 200 st	25 st or less	Over 25 st to 50 st	Over 50 st to 200 st	Over 200 st	
80	119.5	140	170	203	13	33.5	63.5	96.5	201
100	131	157	190	213	5	31	64	87	238

Made to Order Common Specifications: -XC5: Heat Resistant Cylinder (−10 to 110°C)



14 Heat Resistant Cylinder (−10 to 110°C)

Symbol
-XC5

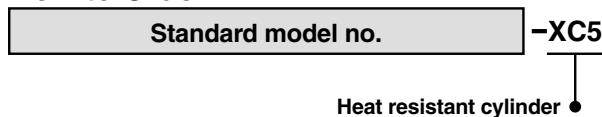
Cylinder which changed the seal material for heat resistance (up to 110°C) in order to use under the severe ambient temperature condition which exceeds the standard specifications of −10 to 70°C (0 to 70°C for Series CS1).

Applicable Series

Series	Description	Model	Action	Vol. no. (for std model)
CM2	Air cylinder	CM2	Double acting, Single rod	☎ From P. 128
		CM2W	Double acting, Double rod	
	Direct mount type	CM2R	Double acting, Single rod	
MB	Air cylinder	MB	Double acting, Single rod	☎ From P. 290
		MBW	Double acting, Double rod	
MB1	Air cylinder	MB1	Double acting, Single rod	☎ From P. 332
		MB1W	Double acting, Double rod	
CA2	Air cylinder	CA2	Double acting, Single rod	☎ From P. 356
		CA2W	Double acting, Double rod	
CS1*	Air cylinder	CS1	Double acting, Single rod	☎ From P. 412
		CS1W	Double acting, Double rod	

* Applicable bore size of Series CS1
Lube type: ø125 to ø300
Non-lube type: ø125 to ø200

How to Order



Note 1) Please contact SMC for details on the maintenance intervals for this cylinder, which differ from those of the standard cylinder.

Note 2) Manufacturing built-in magnet type and the one with auto switch is impossible.

Note 3) Material of rod boot is heat resistant tarpaulin.

Specifications

Ambient temperature range	−10 to 110°C (0 to 110°C for Series CS1)
Seal material	Fluororubber (In the case of CS1 cylinder, cushion seal is made of NBR.)
With auto switch	Unavailable ⁽²⁾
Specifications other than above and external dimensions	Same as standard type

-X□

Individual
-X□

Made to Order Common Specifications: -XC6: Made of Stainless Steel



15 Made of Stainless Steel

Suitable for the cases it is likely to generate rust by being immersed in the water and corrosion.

Applicable Series

Series	Description	Model	Action	Vol. no. (for std model)
CM2	Air cylinder	CM2	Double acting, Single rod	☎ From P. 128
		CM2W	Single acting (Spring return/extend)	
	Non-rotating rod type	CM2K	Double acting, Double rod	
		CM2K	Double acting, Single rod	
		CM2KW	Single acting (Spring return/extend)	
	Direct mount type	CM2RK	Double acting, Double rod	
		CM2R	Double acting, Single rod	
		CM2RK	Double acting, Single rod	
		CM2□□P	Double acting, Single rod	
		CM2Y	Double acting, Single rod	
CG1	Air cylinder	CG1	Double acting, Single rod	☎ From P. 222
		CG1W	Single acting (Spring return)	
	Double rod type	CG1W	Double acting, Double rod	
	Direct mount type	CG1R	Double acting, Single rod	
MB ⁽²⁾	Air cylinder	MB	Double acting, Single rod	☎ From P. 290
		MBW	Double acting, Double rod	
	Non-rotating rod type	MBK	Double acting, Single rod	
MB1 ⁽²⁾	Air cylinder	MB1	Double acting, Single rod	☎ From P. 332
		MB1W	Double acting, Double rod	
	Non-rotating rod type	MB1K	Double acting, Single rod	
CA2 ⁽²⁾	Air cylinder	CA2	Double acting, Single rod	☎ From P. 356
		CA2W	Double acting, Double rod	
	End lock cylinder	CBA2 ⁽¹⁾	Double acting, Single rod	
CS1 ⁽²⁾	Air cylinder	CA2H	Double acting, Single rod	☎ From P. 412
		CS1	Double acting, Single rod	
		CS1W	Double acting, Double rod	
		CS1H	Double acting, Single rod	

Series	Description	Model	Action	Vol. no. (for std model)
CQS	Compact cylinder	CQS	Double acting, Single rod	☎ From P. 551
		CQS	Single acting (Spring return/extend)	
	Non-rotating rod type	CQSW	Double acting, Double rod	
		CQSK	Double acting, Single rod	
CQ2	Lateral load resisting type	CQS□S	Double acting, Single rod	☎ From P. 602
		CQ2	Double acting, Single rod	
	Compact cylinder	CQ2	Double acting, Single rod	
		CQ2W	Single acting (Spring return/extend)	
	Axial piping type (Centralized piping type)	CQ2	Double acting, Double rod	
		CQP2	Double acting, Single rod	
CV	Long stroke	CQ2	Double acting, Single rod	☎ From P. 1563
		CQ2□S	Double acting, Single rod	
	Lateral load resisting type	CVM5	Double acting, Single rod	
		CV3	Double acting, Single rod	
MGP	Valve mounted cylinder	CVS1	Double acting, Single rod	☎ From P. 272
		MGP	Double acting, Single rod	
		MGG	Double acting, Single rod	
MGC	Guide cylinder	MGC	Double acting	☎ From P. 356
CXS	Guide cylinder	CXS	Double acting	☎ From P. 392
CXSJ	Dual rod cylinder	CXSJ	Double acting	☎ From P. 561
RHC	Dual rod cylinder compact type	RHC	Double acting	☎ From P. 549
	High power cylinder	RHC	Double acting	☎ From P. 1201

Note 1) Head side locking type only

Note 2) There is a maximum stroke limit for CA2, MB, MB1 (ø100) and CS1 cylinders.

Maximum Stroke

Series	Double acting, Single rod	Double acting rod with rod boot
CA2, MB, MB1 (Bore size 100) Others same as the standard type	1500 (Same as standard)	1400
CS1	1600	1400

How to Order

**CM2, CG1, MB, MB1, CA2, CS1,
CQS, CQ2, CV**

Standard model no.

-XC6

Made of stainless steel

Specifications

Parts changed to stainless steel	Piston rod, Rod end nut
Specifications other than above and external dimensions	Same as standard



Note 1) In the case of CS1 cylinder, the piston rod is only made of stainless steel. Rod end nut is not attached.

Note 2) In the case of CQ cylinder, its snap ring and piston rod are made of stainless steel.

Rod end nut is also made of stainless steel for rod end male thread type.

Series MGP

How to Order

MGP^M_L Standard model no. -XC6 A

Made of stainless steel ●

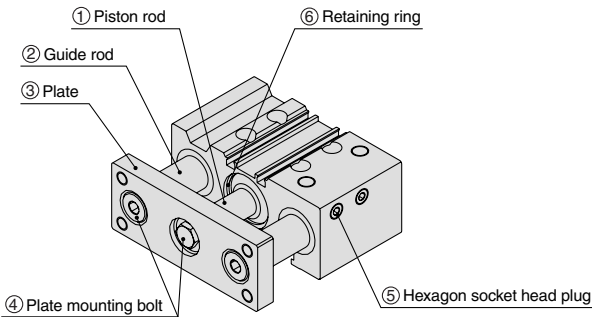
Suffix ●

A	Stainless steel used on all standard iron parts
B	Stainless steel rod parts

Stainless Steel Modified Parts

XC6A	①, ②, ③, ④, ⑤, ⑥
XC6B	①, ②, ⑤, ⑥

Specifications and external dimensions other than above are the same as standard type.



Series CXSJM

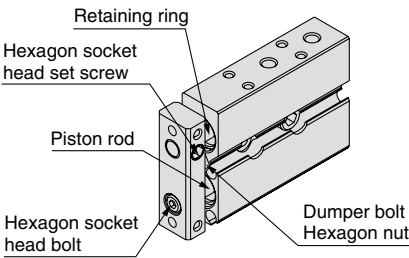
How to Order

CXSJM Standard model no. -XC6

Made of stainless steel ●

Specifications

Parts changed to stainless steel	Piston rod, retaining ring, hexagon socket head bolt, hexagon socket head set screw, dumper bolt, hexagon nut
Specifications other than above and external dimensions	Same as standard



Note) The head cover retaining ring for ø6 is made of special steel.

Series CXSM

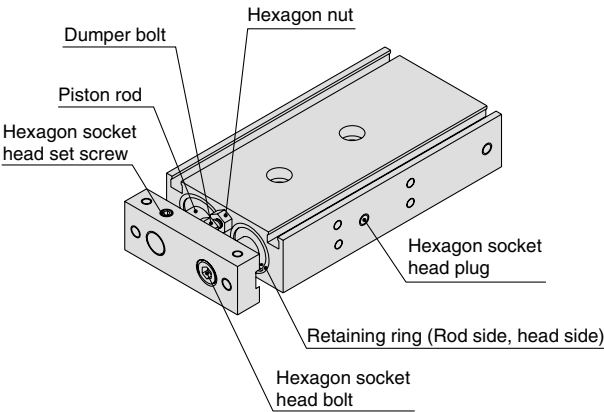
How to Order

CXSM Standard model no. -XC6

Made of stainless steel ●

Specifications

Parts changed to stainless steel	Piston rod, retaining ring, hexagon socket head bolt, hexagon socket head set screw, dumper bolt, hexagon nut, hexagon socket head plug
Specifications other than above and external dimensions	Same as standard



-X□

Individual
-X□

Made to Order Common Specifications: -XC6: Made of Stainless Steel



15 Made of Stainless Steel

Symbol
-XC6

Suitable for the cases it is likely to generate rust by being immersed in the water and corrosion.

Series MGG How to Order

MGG	Standard model no.	-XC6	
		Made of stainless steel	Suffix
Nil	Piston rod, rod end nut made of stainless steel		
A	Stainless steel used on all standard iron parts		
B	Stainless steel rod end moving parts		
C	Stainless steel rod parts		

Stainless Steel Modified Parts

Symbol	Bore size (mm)	Parts no.	Note
-XC6	20, 25, 32, 40, 50	④⑩	
	63, 80, 100	④⑩	
-XC6A	20, 25, 32, 40, 50	④⑩⑪⑫⑬⑭⑮⑯⑰⑱⑲⑳㉑㉒㉓㉔㉕㉖㉗㉘㉙㉚㉛㉜㉝㉞㉟㊱㊲㊳㊴㊵㊶㊷㊸㊹㊺㊻㊼㊽㊾㊿	⑲ is type L only.
	63, 80, 100	④⑩⑪⑫⑬⑭⑮⑯⑰⑱⑲⑳㉑㉒㉓㉔㉕㉖㉗㉘㉙㉚㉛㉜㉝㉞㉟㊱㊲㊳㊴㊵㊶㊷㊸㊹㊺㊻㊼㊽㊾㊿	⑰ is type L only, ⑳ is type B only, ㉑ and ㉒ are type F only.
-XC6B	20, 25, 32, 40, 50	④⑩⑪⑫⑬⑭⑮⑯⑰⑱⑲⑳㉑㉒㉓㉔㉕㉖㉗㉘㉙㉚㉛㉜㉝㉞㉟㊱㊲㊳㊴㊵㊶㊷㊸㊹㊺㊻㊼㊽㊾㊿	㉑ is rod side only.
	63, 80, 100	④⑩⑪⑫⑬⑭⑮⑯⑰⑱⑲⑳㉑㉒㉓㉔㉕㉖㉗㉘㉙㉚㉛㉜㉝㉞㉟㊱㊲㊳㊴㊵㊶㊷㊸㊹㊺㊻㊼㊽㊾㊿	㉑ is rod side only.
-XC6C	20, 25, 32, 40, 50	④⑩⑪⑫	
	63, 80, 100	④⑩⑪⑫	

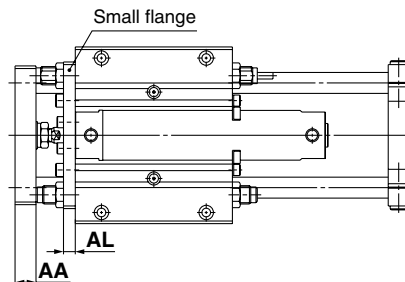
* Refer to the construction of the standard type (Best Pneumatics No. 3) for part numbers.

* Specifications other than the above are the same as the standard type.

Note) RBL (coolant resistant) type shock absorbers are used. (-XC6A only)

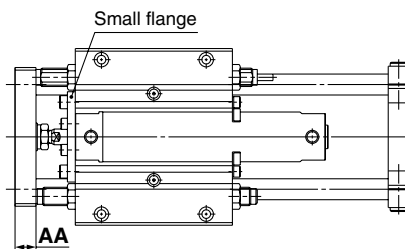
Dimensions (Dimensions other than below are the same as standard type.)

MGG□B20 to 50-□-XC6A



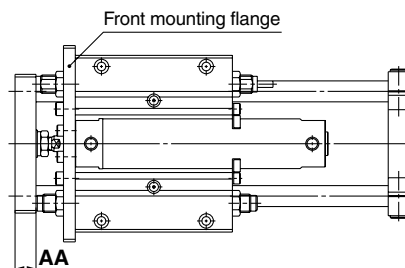
Bore size (mm)	AA	AL
20	12	9
25	16	9
32	16	9
40	19	12
50	25	12

MGG□B20 to 50-□-XC6B MGG□B20 to 50-□-XC6C



Bore size (mm)	AA
20	12
25	16
32	16
40	19
50	25

MGG□F20 to 50-□-XC6A MGG□F20 to 50-□-XC6B MGG□F20 to 50-□-XC6C



Bore size (mm)	AA
20	12
25	16
32	16
40	19
50	25

Series MGC How to Order

MGC	Bearing type	Mounting style	Bore size	Stroke	Equipped/Not equipped back plate	Auto switch	-XC6
						Made of stainless steel	Suffix

Stainless Steel Modified Parts

Symbol	Bore size (mm)	Parts no.	Note
-XC6	20, 25, 32, 40, 50	④⑩	
-XC6A	20, 25, 32, 40, 50	④⑩⑪⑫⑬⑭⑮⑯⑰⑱⑲⑳㉑㉒㉓㉔㉕㉖㉗㉘㉙㉚㉛㉜㉝㉞㉟㊱㊲㊳㊴㊵㊶㊷㊸㊹㊺㊻㊼㊽㊾㊿	㉑ is type L only
-XC6B	20, 25, 32, 40, 50	④⑩⑪⑫⑬⑭⑮⑯⑰⑱⑲⑳㉑㉒㉓㉔㉕㉖㉗㉘㉙㉚㉛㉜㉝㉞㉟㊱㊲㊳㊴㊵㊶㊷㊸㊹㊺㊻㊼㊽㊾㊿	
-XC6C	20, 25, 32, 40, 50	④⑩⑪⑫⑬⑭⑮⑯⑰⑱⑲⑳㉑㉒㉓㉔㉕㉖㉗㉘㉙㉚㉛㉜㉝㉞㉟㊱㊲㊳㊴㊵㊶㊷㊸㊹㊺㊻㊼㊽㊾㊿	

Nil	Piston rod, rod end nut made of stainless steel
A	Stainless steel used on all standard iron parts
B	Stainless steel rod end moving parts
C	Stainless steel rod parts

* Refer to the construction of the standard type (Best Pneumatics No. 3) for part numbers.

* Specifications and dimensions other than the above are the same as the standard type.

Made to Order Common Specifications: -XC7: Tie-rod, Cushion Valve, Tie-rod Nut, etc. Made of Stainless Steel



16 Tie-rod, Cushion Valve, Tie-rod Nut, etc. Made of Stainless Steel Symbol -XC7

When using in locations where the rust generation or corrosion likelihood exists, the standard parts material have been partly changed to the stainless steel.

Applicable Series

Series	Description	Model	Action	Vol. no. (for std model)
MB	Standard type	MB	Double acting, Single rod	☎ From P. 290
		MBW	Double acting, Double rod	
	Non-rotating rod type	MBK	Double acting, Single rod	
	Low friction type	MB□Q	Double acting, Single rod	
	Cylinder with end lock	MBB	Double acting, Single rod	
MB1	Standard type	MB1	Double acting, Single rod	☎ From P. 332
		MB1W	Double acting, Double rod	
	Non-rotating rod type	MB1K	Double acting, Single rod	
CA2	Standard type	CA2	Double acting, Single rod	☎ From P. 356
		CA2W	Double acting, Double rod	
	Non-rotating rod type	CA2K	Double acting, Single rod	
		CA2KW	Double acting, Double rod	
	End lock cylinder	CBA2	Double acting, Single rod	
CV	Valve mounted cylinder	CV3	Double acting, Single rod	☎ From P. 1604
		CVS1	Double acting, Single rod	
		CV3K	Double acting, Single rod	
		CVS1K	Double acting, Single rod	

How to Order

Standard model no. **-XC7**

Tie-rod, Cushion valve, Tie-rod nut, etc. made of stainless steel ●

Specifications

Component parts changed to stainless steel	Tie-rod, Tie-rod nut, Mounting bracket nut, Spring washer, Cushion valve, Lock nut
Additional specifications	Same as standard type
Dimensions	Same as standard type

-X□
Individual
-X□

Made to Order Common Specifications: -XC8: Adjustable Stroke Cylinder/ Adjustable Extension Type



17 Adjustable Stroke Cylinder/Adjustable Extension Type

It adjusts the extending stroke by the stroke adjustable mechanism equipped in the head side. (After the stroke is adjusted, with cushion on both sides is altered to single-sided, with cushion.)

Applicable Series

Series	Description	Model	Action	Note	Vol. no. (for std model)
CJ2	Air cylinder	CJ2	Double acting	Except with air cushion	② From P. 42
CM2	Air cylinder	CM2	Double acting		② From P. 128
	Non-rotating rod type	CM2K	Double acting		
	Direct mount type	CM2R	Double acting		
	End lock cylinder	CBM2	Double acting	Head side locking type only, Except with air cushion	
	Air-hydro type	CM2H	Double acting		
	Direct mount type, air-hydro type	CM2RH	Double acting		
CG1	Air cylinder	CG1	Double acting		② From P. 222
	Non-rotating rod type	CG1K	Double acting	Except with air cushion	
	Direct mount type	CG1R	Double acting	Except with air cushion	
	Non-rotating, Direct mount type	CG1KR	Double acting	Except with air cushion	
MB	Air cylinder	MB	Double acting	* Except head side flange and clevis styles	② From P. 290
	Non-rotating rod type	MBK	Double acting	* Except head side flange and clevis styles	
MB1	Air cylinder	MB1	Double acting	* Except head side flange and clevis styles	② From P. 332
	Non-rotating rod type	MB1K	Double acting	* Except head side flange and clevis styles	
CA2	Air cylinder	CA2	Double acting	* Except head side flange and clevis styles	② From P. 356
	Non-rotating rod type	CA2K	Double acting	* Except head side flange and clevis styles	
	End lock cylinder	CBA2	Double acting	* Except head side flange and clevis styles, Locking in head side only	
CS1	Air cylinder	CS1	Double acting	* Except head side flange and clevis styles	② From P. 412
	Air-hydro type	CS1H	Double acting	* Except head side flange and clevis styles	
CQS	Compact cylinder	CQS	Double acting	Except with rubber bumper and with bracket	② From P. 551
	Non-rotating rod	CQSK	Double acting	Except with rubber bumper and with bracket	
CQ2	Compact cylinder	CQ2	Double acting	Except with rubber bumper and with bracket	② From P. 602
	Non-rotating rod type	CQ2K	Double acting	Except with rubber bumper and with bracket	
	Air-hydro type	CQ2H	Double acting		
MTS	Precision cylinder	MTS	Double acting		② From P. 238
MGP	Compact guide cylinder	MGP	Double acting	Except those with air cushion or end lock	② From P. 272
		MGPA	High precision type	Except those with air cushion or end lock	
MGG	Guide cylinder	MGG	Double acting		② From P. 356
MGC		MGC	Double acting		② From P. 392

How to Order

CJ2	Mounting style		Bore size		Stroke		-	XC8		
CM2	Mounting style	Bore size	-	Stroke	Cushion	Stroke adjustment symbol	-	XC8		
CG1	Mounting style	Type	Bore size		-	Stroke	Stroke adjustment symbol	XC8		
CBM2	Mounting style	Bore size	-	Stroke	Stroke adjustment symbol	-H	Manual release type	XC8		
CBA2										
MB	Mounting style	Bore size	-	Stroke	Suffix	Stroke adjustment symbol	-	XC8		
MB1	* Except head side flange and clevis styles									
CA2	Mounting style	Bore size	-	Stroke	Suffix	Stroke adjustment symbol	-	XC8		
* Except head side flange and clevis styles										
CS1	Mounting style	Tubing material	Type	Bore size	-	Stroke	Suffix	Stroke adjustment symbol	XC8	
* Except head side flange and clevis styles										
CQ2B(H)	Bore size	-	Stroke	D(M)					XC8	
CQSB	Bore size	-	Stroke	D(M)					XC8	
MGG	Bearing type	Mounting style	Bore size	Port thread type	-	Stroke	Stroke adjustment symbol	-	XC8	
MGC	Bearing type	Mounting style	Bore size	Port thread type	-	Stroke	Stroke adjustment symbol	-	Equipped/Not equipped back plate	XC8
MGP	Bearing type	Bore size	-	Stroke	Stroke adjustment symbol				-	XC8
MTS	Bore size	-	Stroke	(R)					XC8	

Adjustable stroke cylinder/Adjustable extend type

Made to Order Common Specifications: Adjustable Stroke Cylinder/Adjustable Extension Type

Symbol

-XC8

Specifications

Series	Stroke adjustment symbol	Stroke adjustment range (mm)
CJ2	—	0 to 15
CM2 CG1 MB MB1 CA2 CS1	A	0 to 25
	B	0 to 50

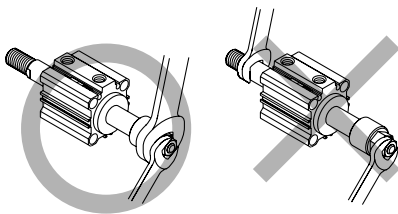
Note) Specifications other than above are the same as standard type.

Series	Stroke adjustment symbol	Stroke adjustment range (mm)
CQ2 CQS	—	0 to 10
MGG MGC	A	0 to 25
	B	0 to 50
MGP	A	0 to 10
	B	0 to 25
MTS	—	0 to 10 (ø8)
		0 to 25 (ø12 to ø40)

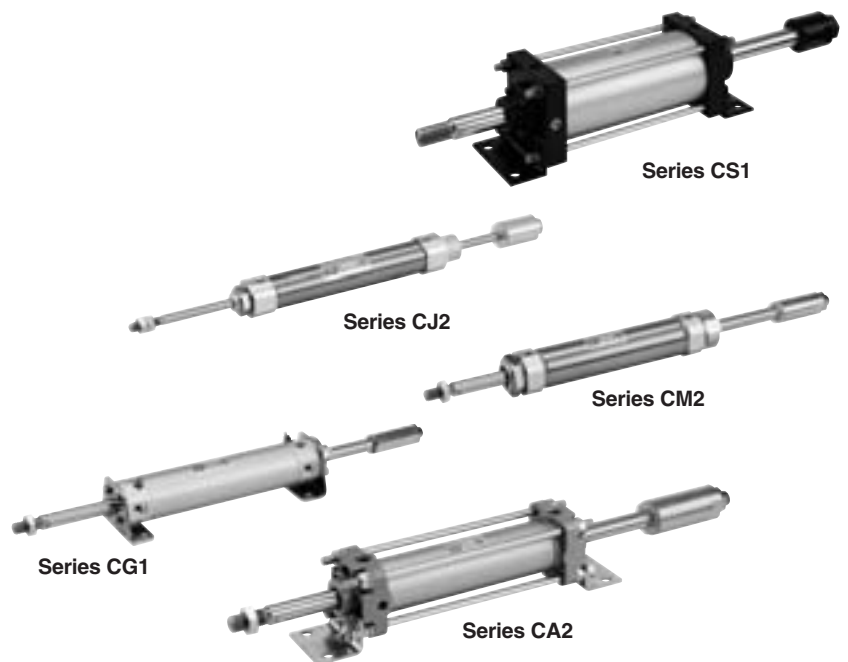
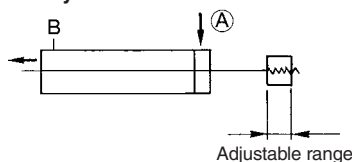
Precautions

⚠ Warning

1. When the cylinder is operating, if something gets caught between the stopper bracket for adjusting the stroke and the cylinder body, it could cause bodily injury or damage the peripheral equipment. Therefore, take preventive measures as necessary, such as installing a protective cover.
2. To adjust the stroke, make sure to secure the wrench flats of the stopper bracket by a wrench, etc. before loosening the lock nut. If the lock nut is loosened without securing the stopper bracket, be aware that the area that joins the load to the piston rod or the area in which the piston rod is joined with the load side and the stopper bracket side could loosen first. It may cause an accident or malfunction.



JIS Symbol



-X□

Individual
-X□

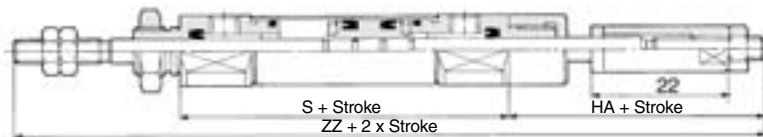
Made to Order Common Specifications: -XC8: Adjustable Stroke Cylinder/ Adjustable Extension Type



17 Adjustable Stroke Cylinder/Adjustable Extension Type

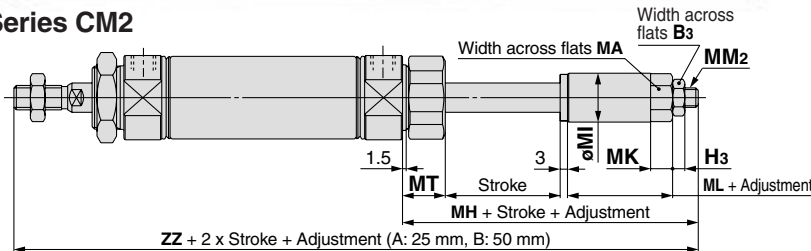
Dimensions (Dimensions other than below are the same as standard type.)

Series CJ2



(mm)			
Bore size (mm)	HA	S	ZZ
10	37	49	114
16	37	50	115

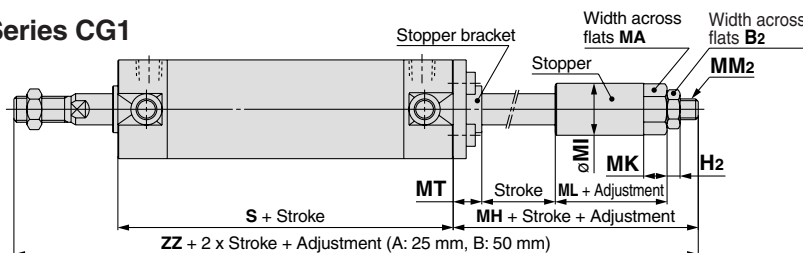
Series CM2



Series CM2

(mm)										
Bore size (mm)	B ₃	H ₃	MA	MI	MK	MM ₂	MT	MH	ML	ZZ
20	10	3.6	12	14	7	M6 x 1	16.5	47	18	150
25	13	5	17	20	9	M8 x 1.25	17.5	49	18	156
32	13	5	17	20	9	M8 x 1.25	17.5	49	18	158
40	17	6	19	25	10	M10 x 1.25	21.5	60	24	198

Series CG1



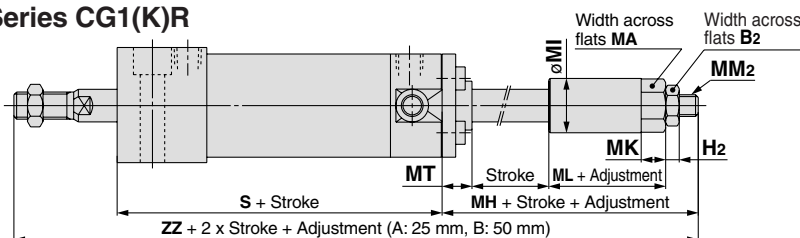
Series CG1

(mm)										
Bore size (mm)	B ₂	H ₂	MA	MH	MI	MK	ML	MM ₂	MT	ZZ
20	10	3.6	12	38	14	7	18	M6 x 1	9	150
25	13	5	17	41	20	9	18	M8 x 1.25	11	158
32	13	5	17	41	20	9	18	M8 x 1.25	11	160
40	17	6	19	47	25	10	24	M10 x 1.25	11	184
50	19	8	24	60	32	13	32	M14 x 1.5	11	220
63	19	8	24	60	32	13	32	M14 x 1.5	13	220



* On the axial foot style, the foot bracket is wedged and bolted between the cylinder and the stopper bracket at the time of shipment. On other styles, it is placed in the same package (not assembled).

Series CG1(K)R



Series CG1(K)R

(mm)										
Bore size (mm)	B ₂	H ₂	MA	MH	MI	MK	ML	MM ₂	MT	ZZ
20	10	3.6	12	38	14	7	18	M6 x 1	9	148
25	13	5	17	41	20	9	18	M8 x 1.25	11	158
32	13	5	17	41	20	9	18	M8 x 1.25	11	164
40	17	6	19	47	25	10	24	M10 x 1.25	11	189
50	19	8	24	60	32	13	32	M14 x 1.5	11	225
63	19	8	24	60	32	13	32	M14 x 1.5	13	231

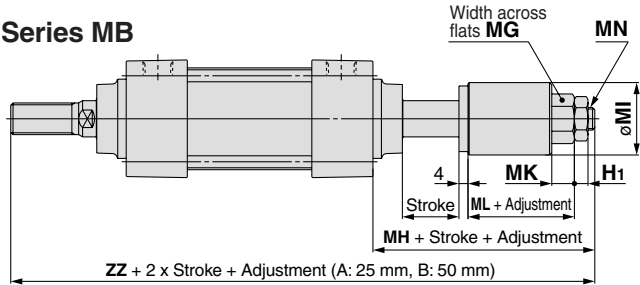
Made to Order Common Specifications: Adjustable Stroke Cylinder/Adjustable Extension Type

Symbol

-XC8

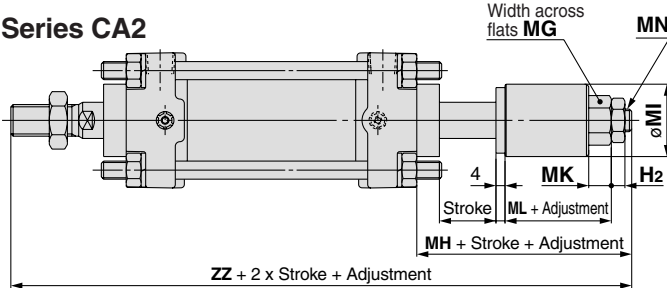
Dimensions (Dimensions other than below are the same as standard type.)

Series MB



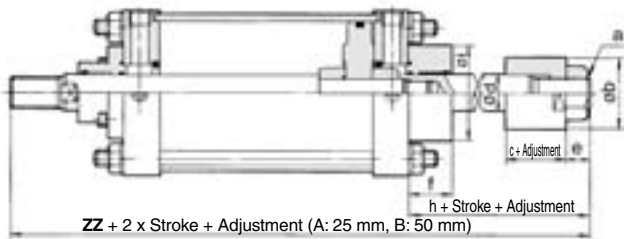
Bore size (mm)	MG	MH	MI	MK	ML	MN	ZZ
32	17	44	23	9	20	M8 x 1.25	175
40	19	48	32	10	22	M10 x 1.25	183
50	24	53	38	13	24	M14 x 1.5	205
63	24	53	38	13	24	M14 x 1.5	205
80	27	72	45	14	32	M16 x 1.5	258
100	32	75	55	17	35	M20 x 1.5	261

Series CA2



Bore size (mm)	MG	MH	MI	MK	ML	MN	ZZ
40	19	45	32	10	22	M10 x 1.25	180
50	24	49	38	13	24	M14 x 1.5	197
63	24	49	38	13	24	M14 x 1.5	205
80	27	66	45	14	32	M16 x 1.5	253
100	32	69	55	17	35	M20 x 1.5	267

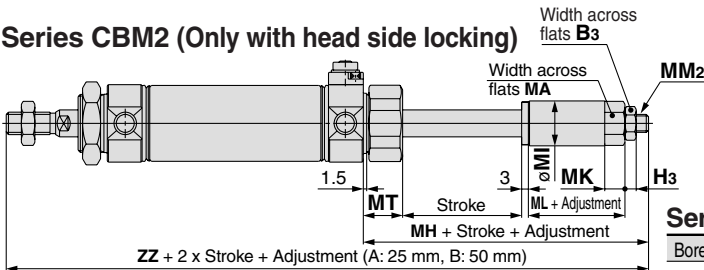
Series CS1



Bore size (mm)	a	øb	c	ød	e	f	h	øi	ZZ
125	M30 x 1.5	70	43	36	27	40	110	90	318
140	M30 x 1.5	70	43	36	27	40	110	90	318
160	M30 x 1.5	70	43	36	27	40	110	90	336
180	M42 x 1.5	80	50	45	37.5	45	132.5	115	378.5*
200	M42 x 1.5	80	50	50	37.5	45	132.5	115	378.5*
250	M56 x 2	110	70	60	50	55	175	140	476
300	M56 x 2	110	70	70	50	55	175	140	496

* With auto switch ø180: 382.5, ø200: 387.5

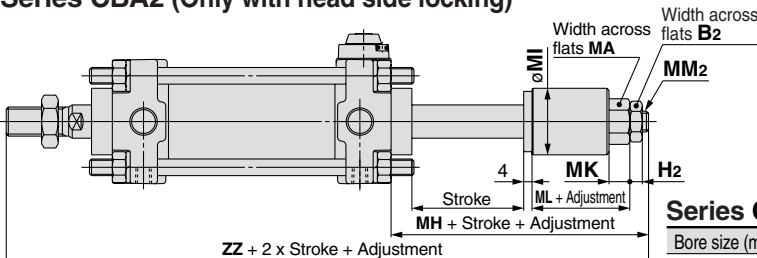
Series CBM2 (Only with head side locking)



Series CBM2

Bore size (mm)	B3	H3	MA	MI	MK	MM2	MT	MH	ML	ZZ
20	10	3.6	12	14	7	M6 x 1	16.5	47	18	150
25	13	5	17	20	9	M8 x 1.25	17.5	49	18	156
32	13	5	17	20	9	M8 x 1.25	17.5	49	18	158
40	17	6	19	25	10	M10 x 1.25	21.5	60	24	198

Series CBA2 (Only with head side locking)



Series CBA2

Bore size (mm)	B2	H2	MA	MI	MK	MM2	MH	ML	ZZ
40	17	6	19	32	10	M10 x 1.25	45	22	180
50	22	8	24	38	13	M14 x 1.5	51	24	199
63	22	8	24	38	13	M14 x 1.5	49	24	205
80	24	10	27	45	14	M16 x 1.5	66	32	253
100	30	12	32	55	17	M20 x 1.5	69	35	267

-X
Individual
-X

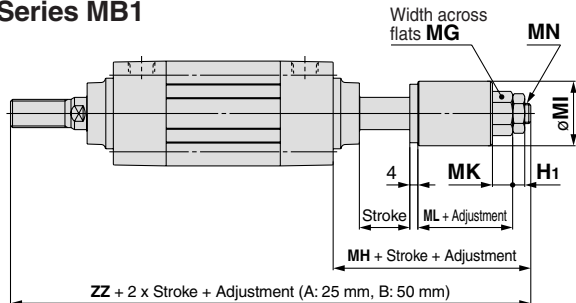
Made to Order Common Specifications: -XC8: Adjustable Stroke Cylinder/ Adjustable Extension Type



17 Adjustable Stroke Cylinder/Adjustable Extension Type

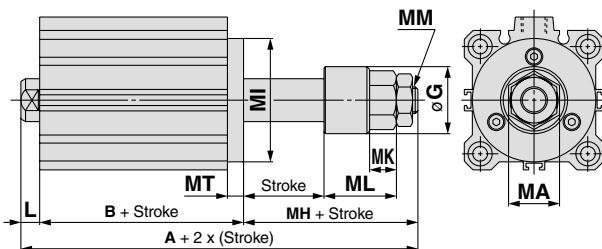
Dimensions (Dimensions other than below are the same as standard type.)

Series MB1



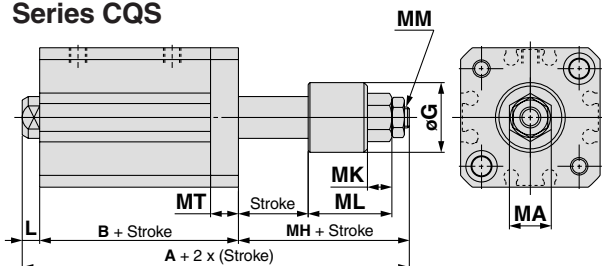
Bore size (mm)	MG	MH	MI	MK	ML	MN	ZZ
32	17	44	23	9	20	M8 x 1.25	175
40	19	48	32	10	22	M10 x 1.25	183
50	24	53	38	13	24	M14 x 1.5	205
63	24	53	38	13	24	M14 x 1.5	205
80	27	72	45	14	32	M16 x 1.5	258
100	32	75	55	17	35	M20 x 1.5	261

Series CQ2, CQ2BH



Bore size (mm)	A	B	L	MH	MT	MA	MI	MM	MK	ML	øG	Stroke adjustment range
12	57.7 (64.9)	30.2 (37.4)	3.5	24	5	8	□25	M4 x 0.7	5.5	20	14	5 to 30
16	58.5 (68.5)	31 (41)	3.5	24	5	10	□28	M5 x 0.8	5.5	20	14	5 to 50
20	67.5 (79.5)	34 (46)	4.5	29	8	12	□36	M6 x 1	7	24	20	5 to 50
25	71 (81)	37 (47)	5	29	8	12	□40	M6 x 1	7	24	20	5 to 50
32	78.5 (88.5)	36.5 (46.5)	7	35	6	17	ø38	M8 x 1.25	8	28.5	25	5 to 50
40	88 (98)	46 (56)	7	35	6	19	ø46	M10 x 1.25	10	27	25	5 to 50
50	100.5 (110.5)	48.8 (58.5)	8	44	8	24	ø57	M14 x 1.5	13	31	35	10 to 50
63	102 (112)	52 (62)	8	42	10	24	ø68	M14 x 1.5	13	31	35	10 to 50
80	125 (135)	63 (73)	10	52	12	32	ø90	M20 x 1.5	16	40	45	10 to 50
100	138.5 (148.5)	74.5 (84.5)	12	52	14	32	ø110	M20 x 1.5	16	40	45	10 to 50

Series CQS

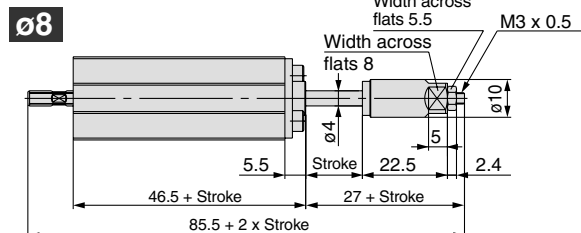


Note 1) (): Denotes the dimensions with auto switch.
Note 2) Applicable stroke available by the 5 mm interval.

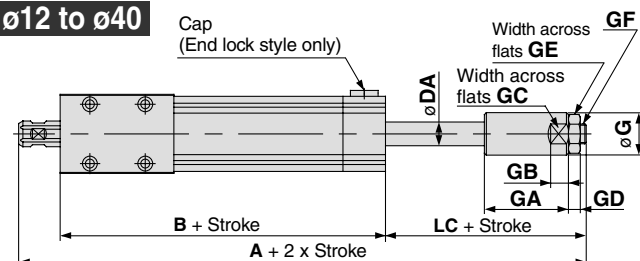
Bore size (mm)	A	B	L	MH	MT	MA	MM	MK	ML	øG	Stroke adjustment range
12	56.1 (61.1)	27 (27)	3.5	25.6	5	8	M4 x 0.7	5.5	20	14	5 to 30
16	56.5 (61.5)	27 (27)	3.5	26	5	10	M5 x 0.8	5.5	20	14	5 to 50
20	67.5 (77.5)	34 (36)	4.5	29	8	12	M6 x 1	7	24	20	5 to 50
25	71 (81)	37 (39)	5	29	8	12	M6 x 1	7	24	20	5 to 50

Note 1) (): Denotes the dimensions with auto switch.
Note 2) Applicable stroke available by the 5 mm interval.

Series MTS



ø12 to ø40



Basic Style

Bore size (mm)	A	B	LC	DA	G	GA	GB	GC	GD	GE	GF
12	145	80.5	49.5	6	13.5	42.5	6	11	4	8	M5 x 0.8
16	149.5	83	50.5	8	15.5	42.5	7	13	5	10	M6 x 1.0
20	175	106.5	50.5	10	19.5	42.5	8.5	17	5	13	M8 x 1.25
25	187	114.5	51.5	12	21.5	42.5	9	19	6	17	M10 x 1.25
32	222.5	142.5	56	16	27.5	45	10.5	24	8	22	M14 x 1.5
40	240	155	59	20	32.5	45	11.5	27	11	27	M18 x 1.5

With End Lock

Bore size (mm)	A	B
12	163	98.5
16	165.5	99
20	191.5	123
25	201.5	129
32	238.5	158.5
40	258.5	173.5

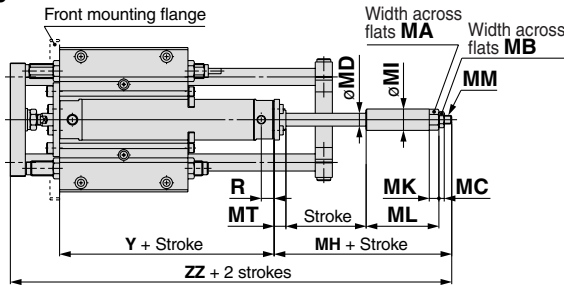
Made to Order Common Specifications: Adjustable Stroke Cylinder/Adjustable Extension Type

Symbol

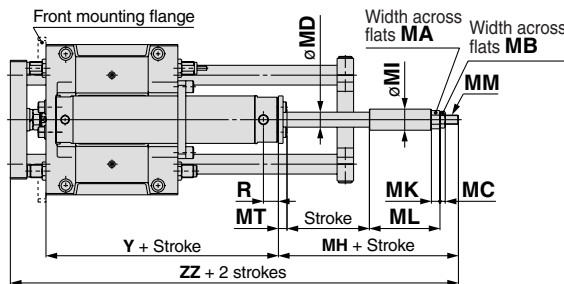
-XC8

Dimensions (Dimensions other than below are the same as standard type.)

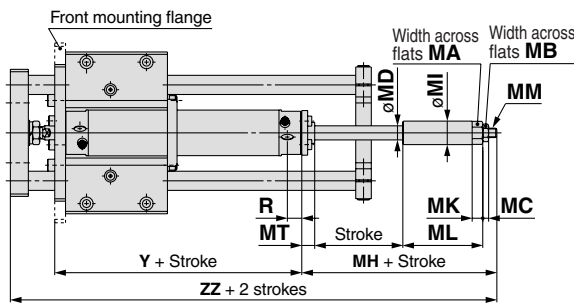
Series MGG ø20 to ø50



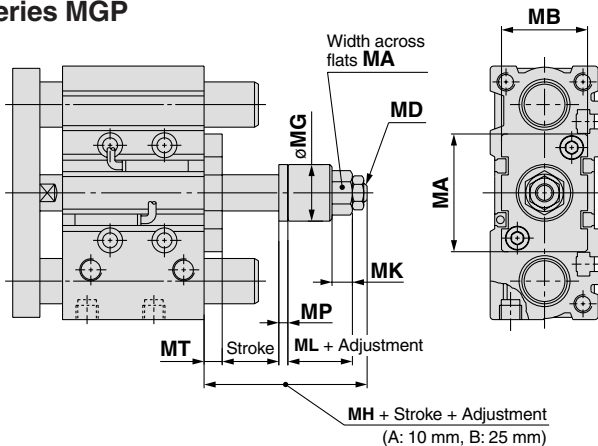
ø63



Series MGC ø20 to ø50



Series MGP



Series MGG

(mm)

Bore size (mm)	R	Y	MA	MB	MC	MD	MI	MK	MM	MT
20	12	77	12	10	3.6	8	14	7	M6 x 1	9
25	12	77	17	13	5	10	20	9	M8 x 1.25	11
32	12	79	17	13	5	12	20	9	M8 x 1.25	11
40	13	87	19	17	6	16	25	10	M10 x 1.25	11
50	14	102	24	19	8	20	32	13	M14 x 1.5	11
63	14	117	24	19	8	20	32	13	M14 x 1.5	13

Bore size (mm)	Adjustment 0 to 25 mm			Adjustment 0 to 50 mm		
	MH	ML	ZZ	MH	ML	ZZ
20	63	43	179	88	68	204
25	66	43	189	91	68	214
32	66	43	191	91	68	216
40	72	49	215	97	74	240
50	85	57	254	110	82	279
63	85	57	256	110	82	281

* The piston speed for the extension side is 50 to 500 mm/s.

Series MGC

(mm)

Bore size (mm)	R	Y	MA	MB	MC	MD	MI	MK	MM	MT
20	12	86	12	10	3.6	8	14	7	M6 x 1	9
25	12	86	17	13	5	10	20	9	M8 x 1.25	11
32	12	88	17	13	5	12	20	9	M8 x 1.25	11
40	13	99	19	17	6	16	25	10	M10 x 1.25	11
50	14	114	24	19	8	20	32	13	M14 x 1.5	11

Bore size (mm)	Adjustment 0 to 25 mm			Adjustment 0 to 50 mm		
	MH	ML	ZZ	MH	ML	ZZ
20	63	43	179	88	68	204
25	66	43	189	91	68	214
32	66	43	191	91	68	216
40	72	49	215	97	74	240
50	85	57	254	110	82	279

* The piston speed for the extension side is 50 to 500 mm/s.

MGPM, MGPL, MGPA Common Dimensions

(mm)

Bore size (mm)	MA	MB	MC	MD	øMG	MH	MK	ML	MP	MT
12	28	16	8	M4 x 0.7	14	22	5.5	10	3	5
16	29	19	10	M5 x 0.8	14	22	5.5	10	3	5
20	34	30	12	M6 x 1	20	30	7	14	3	8
25	40	30	12	M6 x 1	20	30	7	14	3	8
32	52	38	17	M8 x 1.25	25	37	9	18.5	4	8
40	60	38	19	M10 x 1.25	25	37	10	17	4	8
50	68	50	24	M14 x 1.5	35	47	13	21	4	9
63	84	50	24	M14 x 1.5	35	47	13	21	4	9
80	114	50	32	M20 x 1.5	45	58	16	30	4	12
100	140	65	32	M20 x 1.5	45	62	16	30	4	16

-X□
Individual
-X□

Made to Order Common Specifications: -XC9: Adjustable Stroke Cylinder/ Adjustable Retraction Type



18 Adjustable Stroke Cylinder/Adjustable Retraction Type

The retract stroke of the cylinder can be adjusted by the adjusting bolt.

Applicable Series

Series	Description	Model	Action	Note	Vol. no. (for std model)
CJ2	Air cylinder	CJ2	Double acting, Single rod	Except with air cushion	② From P. 42
CM2	Air cylinder	CM2	Double acting, Single rod		② From P. 128
	Non-rotating rod	CM2K	Double acting, Single rod		
	Direct mount type	CM2R	Double acting, Single rod		
	Non-rotating rod/Direct mount type	CM2RK	Double acting, Single rod		
	Low friction	CM2Y	Double acting, Single rod		
CG1	Air cylinder	CG1	Double acting, Single rod	* Except clevis style	② From P. 222
	Non-rotating rod	CG1K	Double acting, Single rod	* Except head side flange and clevis styles, Except with air cushion	
	Direct mount type	CG1R	Double acting, Single rod	Except with air cushion	
	Non-rotating rod/Direct mount type	CG1KR	Double acting	Except with air cushion	
MB	Air cylinder	MB	Double acting, Single rod	* Except head side flange and clevis styles	② From P. 290
	Non-rotating rod	MBK	Double acting, Single rod	* Except head side flange and clevis styles	
MB1	Air cylinder	MB1	Double acting, Single rod	* Except head side flange and clevis styles	② From P. 332
	End lock cylinder	MB1K	Double acting, Single rod	* Except head side flange and clevis styles	
CA2	Air cylinder	CA2	Double acting, Single rod	* Except head side flange and clevis styles	② From P. 356
	Non-rotating rod	CA2K	Double acting, Single rod	* Except head side flange and clevis styles	
	End lock cylinder	CBA2	Double acting, Single rod	* Except head side flange and clevis styles	
CS1	Air cylinder	CS1	Double acting, Single rod	* Except head side flange and clevis styles ø125 to ø160	② From P. 412
CQS	Compact cylinder	CQS	Double acting, Single rod	Except with rubber bumper and with bracket	② From P. 551
CQ2	Compact cylinder	CQ2	Double acting, Single rod	Except with rubber bumper and with bracket	② From P. 602
	Non-rotating rod	CQ2K	Double acting, Single rod	Except with rubber bumper and with bracket	
MGP	Compact guide cylinder	MGP	Double acting	Except those with air cushion or end lock	② From P. 272
MGG	Guide cylinder	MGG	Double acting		② From P. 356
MGC		MGC	Double acting		② From P. 392

How to Order

CJ2	Mounting style	Bore size	-	Stroke	-	XC9		
	* Except clevis style							
CM2	Mounting style	Bore size	-	Stroke	Cushion	Stroke adjustment symbol - XC9		
	* Except boss-cut and clevis styles							
CM2R	Mounting style	Bore size	-	Stroke	Stroke adjustment symbol	XC9		
CG1	Mounting style	Type	Bore size	-	Stroke	Stroke adjustment symbol - XC9		
	* Except clevis style							
MB MB1	Mounting style	Bore size	-	Stroke	Suffix	Stroke adjustment symbol - XC9		
	* Except head side flange and clevis styles							
CA2	Mounting style	Type	Bore size	-	Stroke	Suffix	Stroke adjustment symbol - XC9	
	* Except head side flange and clevis styles							
CS1	Mounting style	Tubing material	Type	Bore size	-	Stroke	Suffix	Stroke adjustment symbol - XC9
	* Except head side flange and clevis styles							
CQ2B	Bore size	-	Stroke	D (M)			XC9	
CQSB	Bore size	-	Stroke	D (M)			XC9	
MGG	Bearing type	Mounting style	Bore size	Port thread type	-	Stroke	Stroke adjustment symbol - XC9	
MGC	Bearing type	Mounting style	Bore size	Port thread type	-	Stroke	Stroke adjustment symbol - Equipped/Not equipped back plate - XC9	
MGP	Bearing type	Bore size	-	Stroke	Stroke adjustment symbol		- XC9	

Adjustable stroke cylinder/Adjustable retract type ●

(After adjusting stroke, both-side cushion style is changed into single side cushion style. CQ2 is without cushion.)

Made to Order Common Specifications: Adjustable Stroke/Adjustable Retraction Type

Symbol
-XC9

Specifications

Series	Stroke adjustment symbol	Stroke adjustment range (mm)
CJ2	—	0 to 15
CM2 CG1 MB MB1 CA2 CS1	A	0 to 25
	B	0 to 50

Note) Specifications other than above are the same as standard type.

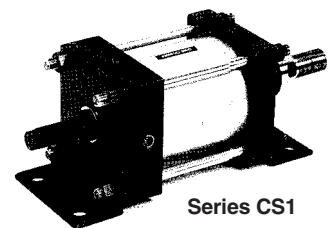
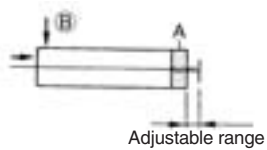
Series	Stroke adjustment symbol	Stroke adjustment range (mm)
CQ2 CQS	—	0 to 10
MGG MGC	A	0 to 25
	B	0 to 50
MGP	A	0 to 10
	B	0 to 25

Precautions

⚠ Caution

- When air is supplied to the cylinder, if the stroke adjusting bolt is loosened in excess of the allowable stroke adjustment amount, be aware that the stroke adjusting bolt could fly out or air could be discharged, which could injure personnel or damage the peripheral equipment.
- Adjust the stroke when the cylinder is not pressurized.
If it is adjusted in the pressurized state, the seal of the adjustment section could become deformed, leading to air leakage.

JIS Symbol



-X□

Individual
-X□

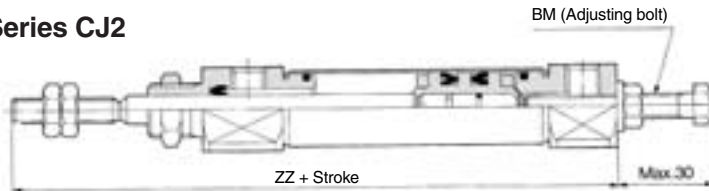
Made to Order Common Specifications: -XC9: Adjustable Stroke Cylinder/ Adjustable Retraction Type



18 Adjustable Stroke Cylinder/Adjustable Retraction Type

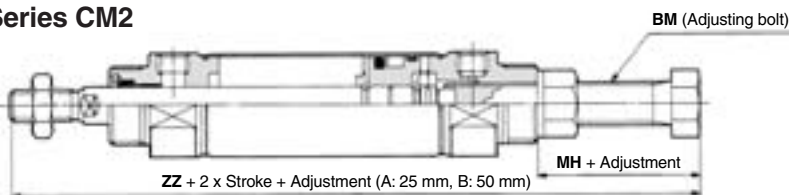
Dimensions (Dimensions other than below are the same as standard type.)

Series CJ2



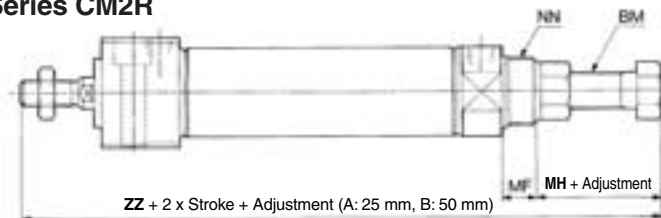
Bore size (mm)	BM	ZZ
10	M5 x 0.8	74
16	M5 x 0.8	75

Series CM2



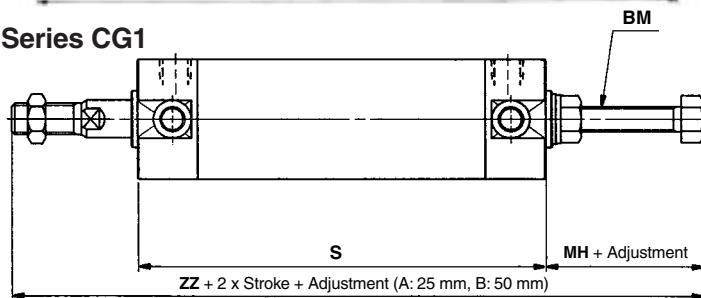
Bore size (mm)	BM	MH	ZZ
20	M10 x 1.25	26.5	142.5
25	M14 x 1.5	29	149
32	M14 x 1.5	29	151
40	M16 x 1.5	32	186

Series CM2R



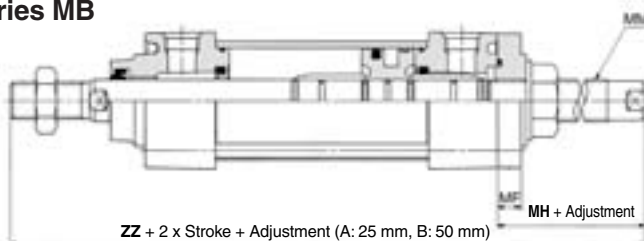
Bore size (mm)	BM	MF	MH	NN	ZZ
20	M10 x 12.5	13	26.5	M20 x 1.5	142.5
25	M14 x 1.5	13	29	M26 x 1.5	149
32	M14 x 1.5	13	29	M26 x 1.5	151
40	M16 x 1.5	16	32	M32 x 2	186

Series CG1

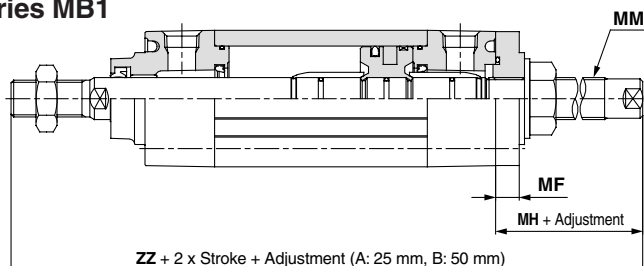


Bore size (mm)	BM	S	Rubber bumper		Air cushion	
			MH	ZZ	MH	ZZ
20	M6 x 1	77	23	135	21	133
25	M6 x 1	77	23	140	21	138
32	M8 x 1.25	79	25	144	25	144
40	M12 x 1.75	87	40	177	39	176
50	M12 x 1.75	102	33	193	37	197
63	M16 x 2	102	40	200	44	204

Series MB



Series MB1



* In the case of axial foot style, the cushion is shipped after mounting. On other styles, it is placed in the same package (not assembled).

* Dimensions other than above are the same as Series CG1, long stroke type.

MB, MB1 Common

Bore size (mm)	MH	MF	MM	ZZ
32	41.5	9.5	M12 x 1.25	172
40	41.5	9.5	M12 x 1.25	176
50	52.5	11.5	M20 x 1.5	204
63	52.5	11.5	M20 x 1.5	204
80	62.5	15.5	M24 x 1.5	248
100	62.5	15.5	M24 x 1.5	248

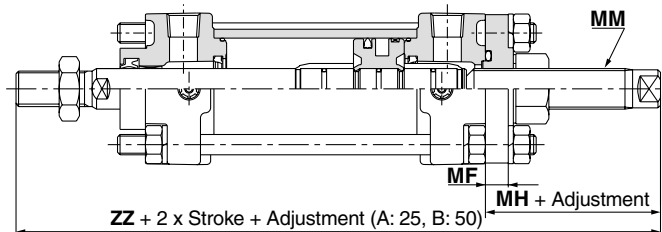
**Made to Order Common Specifications:
Adjustable Stroke/Adjustable Retraction Type**

Symbol

-XC9

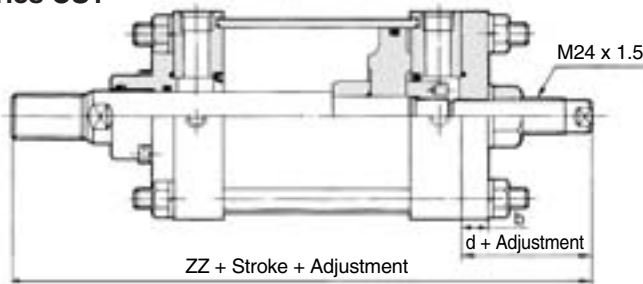
Dimensions (Dimensions other than below are the same as standard type.)

Series CA2



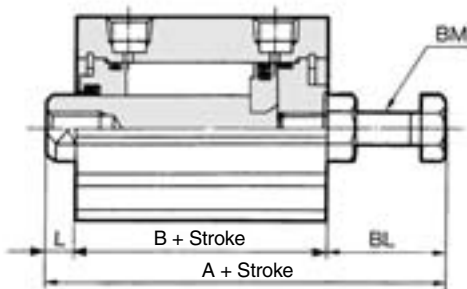
Bore size (mm)	MH	MF	MM	ZZ
40	44	9	M16 x 1.5	179
50	42	11	M16 x 1.5	190
63	48	11	M20 x 1.5	204
80	55	15	M24 x 1.5	242
100	57	15	M24 x 1.5	255

Series CS1



Bore size (mm)	b	d	ZZ
125	19	66	274
140	19	66	274
160	22	62	288

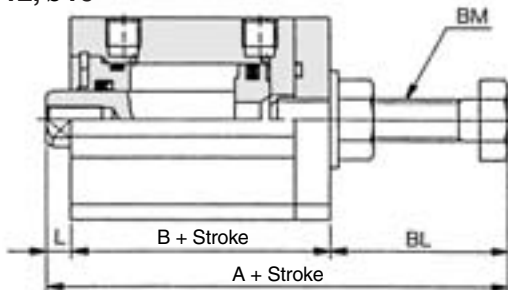
Series CQ2



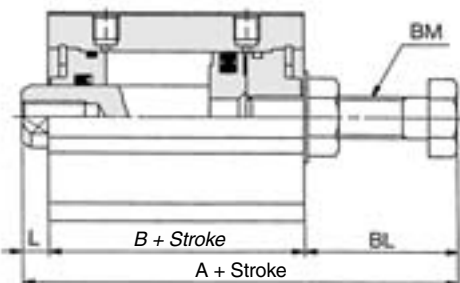
Bore size (mm)	A	B	L	BL	BM	Manufacturable stroke
12	52 (59.2)	25.2 (32.4)	3.5	23.3	M5 x 0.8	5 to 30
16	53 (63)	26 (36)	3.5	23.5	M6 x 1	
20	61 (73)	26 (38)	4.5	30.5	M8 x 1.25	5 to 50
25	63.5 (73.5)	29 (39)	5	29.5	M8 x 1.25	
32	65.5 (75.5)	30.5 (40.5)	7	28	M8 x 1.25	
40	84 (94)	40 (50)	7	37	M12 x 1.5	
50	84.5 (94.5)	40.5 (50.5)	8	36	M12 x 1.5	10 to 50
63	88.5 (98.5)	42 (52)	8	38.5	M16 x 1.5	
80	109.5 (119.5)	51 (61)	10	48.5	M20 x 1.5	
100	125 (135)	60.5 (70.5)	12	52.5	M24 x 1.5	

Series CQS

ø12, ø16



ø20, ø25



Note 1) (): Denotes the dimensions with auto switch.

Note 2) Applicable stroke available by the 5 mm interval.

Bore size (mm)	A	B	L	BL	BM	Manufacturable stroke
12	50.5 (54.5)	22 (27)	3.5	25 (29)	M5 x 0.8	5 to 30
16	51 (56)	22 (27)	3.5	25.5	M6 x 1	
20	61 (71)	26 (36)	4.5	30.5	M8 x 1.25	5 to 50
25	63.5 (73.5)	29 (39)	5	29.5	M8 x 1.25	

Note 1) (): Denotes the dimensions with auto switch.

Note 2) Applicable stroke available by the 5 mm interval.

-X□

Individual
-X□

Made to Order Common Specifications: -XC9: Adjustable Stroke Cylinder/ Adjustable Retraction Type

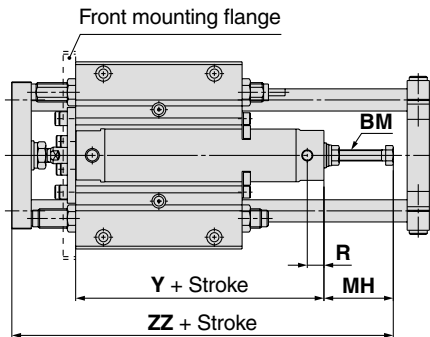


18 Adjustable Stroke Cylinder/Adjustable Retraction Type

Symbol
-XC9

Dimensions (Dimensions other than below are the same as standard type.)

Series MGG ø20 to ø50

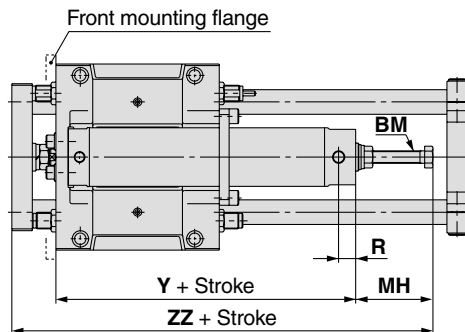


Series MGG

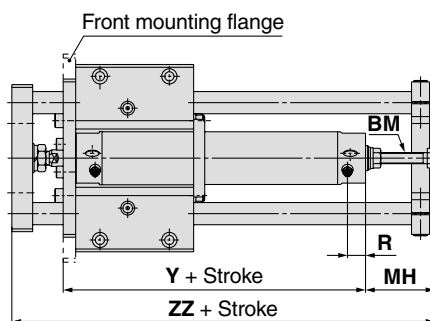
Bore size (mm)	R	Y	BM	(mm)			
				Adjustment 0 to 25 mm		Adjustment 0 to 50 mm	
				MH	ZZ	MH	ZZ
20	12	77	M6 x 1	48	164	73	189
25	12	77	M6 x 1	48	171	73	196
32	12	79	M8 x 1.25	50	175	75	200
40	13	87	M12 x 1.75	65	208	90	233
50	14	102	M12 x 1.75	58	227	83	252
63	14	117	M16 x 2	65	236	90	261

* The piston speed for the retraction side is 50 to 500 mm/s.

ø63



Series MGC ø20 to ø50

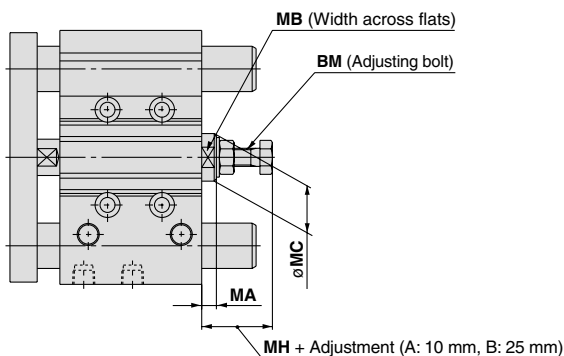


Series MGC

Bore size (mm)	R	Y	BM	(mm)			
				Adjustment 0 to 25 mm		Adjustment 0 to 50 mm	
				MH	ZZ	MH	ZZ
20	12	86	M6 x 1	46	162	71	187
25	12	86	M6 x 1	46	169	71	194
32	12	88	M8 x 1.25	50	175	75	200
40	13	99	M12 x 1.75	64	207	89	232
50	14	114	M12 x 1.75	62	231	87	256

* The piston speed for the retraction side is 50 to 500 mm/s.

Series MGP



MGPM, MGPL, MGPA Common Dimensions

Bore size (mm)	BM	MA	MB	MC	MH
12	M5 x 0.8	5	8	12.5	19
16	M6 x 1.0	5	10	14	19
20	M8 x 1.25	6.5	13	17.5	27
25	M8 x 1.25	6.5	13	17.5	26.5
32	M8 x 1.25	6.5	19	21	26.5
40	M12 x 1.5	9	27	30	33
50	M12 x 1.5	9	30	34	32.5
63	M16 x 1.5	10	36	40	37
80	M20 x 1.5	15	41	46	53.5
100	M24 x 1.5	18	46	52	57.5

Made to Order Common Specifications: -XC10: Dual Stroke Cylinder/ Double Rod Type



19 Dual Stroke Cylinder/Double Rod Type

Symbol
-XC10

Two cylinders are constructed as one cylinder in a back-to-back configuration allowing the cylinder stroke to be controlled in three steps.

Applicable Series

Series	Description	Model	Action	Note	Vol. no. (for std model)
CJ2	Air cylinder	CJ2	Double acting, Single rod	Except with air cushion	☎ From P. 42
	Non-rotating rod type	CJ2K	Double acting, Single rod		
CM2	Air cylinder	CM2	Double acting, Single rod	Except with air cushion	☎ From P. 128
	Non-rotating rod type	CM2K	Double acting, Single rod	Except with air cushion	
CG1	Air cylinder	CG1	Double acting, Single rod		☎ From P. 222
	Non-rotating rod type	CG1K	Double acting, Single rod	Except with air cushion	
MB	Air cylinder	MB	Double acting, Single rod	* Except clevis and trunnion styles	☎ From P. 290
	Non-rotating rod type	MBK	Double acting, Single rod	* Except clevis and trunnion styles	
	With end lock type	MBB	Double acting, Single rod	* Except clevis and trunnion styles	
MB1	Air cylinder	MB1	Double acting, Single rod	* Except clevis and trunnion styles	☎ From P. 332
	Non-rotating rod type	MB1K	Double acting, Single rod	* Except clevis and trunnion styles	
CA2	Air cylinder	CA2	Double acting, Single rod	* Except clevis and trunnion styles	☎ From P. 356
	Non-rotating rod type	CA2K	Double acting, Single rod	* Except clevis and trunnion styles	
	End lock cylinder	CBA2	Double acting, Single rod	* Except clevis and trunnion styles	
CS1	Air cylinder	CS1	Double acting, Single rod	* Except clevis and trunnion styles	☎ From P. 412
	Air-hydro cylinder	CS1H	Double acting, Single rod	* Except clevis and trunnion styles	
CQS	Compact cylinder	CQS	Double acting, Single rod	Except with bracket	☎ From P. 551
CQ2	Compact cylinder	CQ2	Double acting, Single rod	Except with bracket	☎ From P. 602
	Air-hydro cylinder	CQ2H	Double acting, Single rod	Except with bracket	

How to Order

CJ2	Mounting style	Bore size	—	Stroke A	+	Stroke B	—	XC10				
CM2	Mounting style	Bore size	—	Stroke A	Suffix	+	Stroke B	Suffix	—	XC10		
CG1	Mounting style	Type	Bore size	—	Stroke A	Suffix	+	Stroke B	Suffix	—	XC10	
MB MB1	Mounting style	Bore size	—	Stroke A	Suffix	+	Stroke B	Suffix	—	XC10		
* Except clevis and trunnion styles												
CA2	Mounting style	Type	Bore size	—	Stroke A	Suffix	+	Stroke B	Suffix	—	XC10	
* Except clevis and trunnion styles												
CS1	Mounting style	Tubing material	Type	Bore size	—	Stroke A	Suffix	+	Stroke B	Suffix	—	XC10
* Except clevis and trunnion styles												
CBA2	Mounting style	Type	Bore size	—	Stroke A	Suffix	—	Symbol of lock	Manual release type	+		
	Stroke B	Suffix	—	Lock position	Symbol of manual release						XC10	
* Except clevis and trunnion styles												
CQ2B	Bore size	Stroke S ₁			+	Stroke S ₂		D (C)(M)		—	XC10	
CQSB	Bore size	Stroke S ₁			+	Stroke S ₂		D (C)(M)		—	XC10	

Dual stroke cylinder

-X□
Individual
-X□

Made to Order Common Specifications: -XC10: Dual Stroke Cylinder/ Double Rod Type



19 Dual Stroke Cylinder/Double Rod Type

Specifications

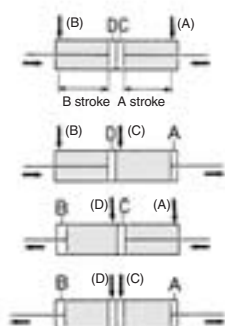
Series	Bore size (mm)	Maximum manufacturable stroke (mm)
CJ2	10, 16	300 (Maximum 150 on one side)
CM2	20 to 40	1000
CG1	20	350
	25	400
	32	450
	40	800
	50, 63	1200
MB MB1	32	600
	40	700
	50 to 100	900

* Specifications other than above are the same as standard type.

Series	Bore size (mm)	Maximum manufacturable stroke (mm)
CA2,CBA2	40 to 100	1000
CS1	125, 140	1000
	160 to 300	1200
CQS CQ2	12, 16	60 (Maximum 30 on one side)
	20, 25	100 (Maximum 50 on one side)
CQ2	32, 40	200 (Maximum 100 on one side)
	50 to 100	200 (Maximum 100 on one side)

JIS Symbol

Function



When air pressure is supplied to ports (A) and (B), both A and B strokes retract.

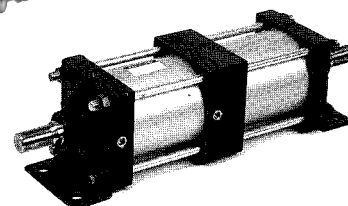
When air pressure is supplied to ports (B) and (C), A out strokes.

When air pressure is supplied to ports (A) and (D), B out strokes.

When air pressure is supplied to ports (C) and (D), both strokes A and B out strokes.



Series CJ2



Series CS1



Series CG1

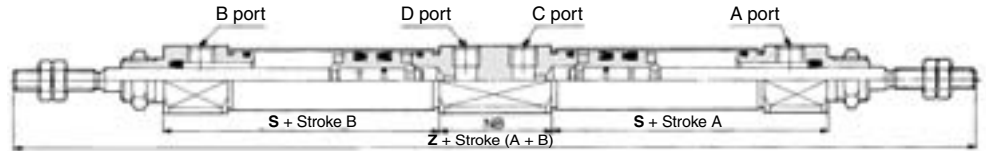


Series CA2

Dimensions (Dimensions other than below are the same as standard type.)

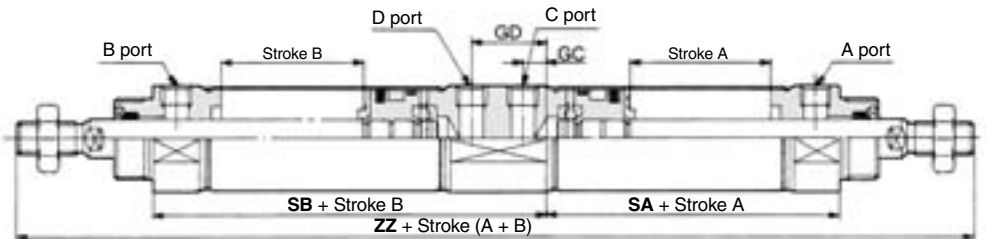
Series CJ2

Bore size (mm)	NB	S	Z
10	21	36.5	150
16	21	37.5	152

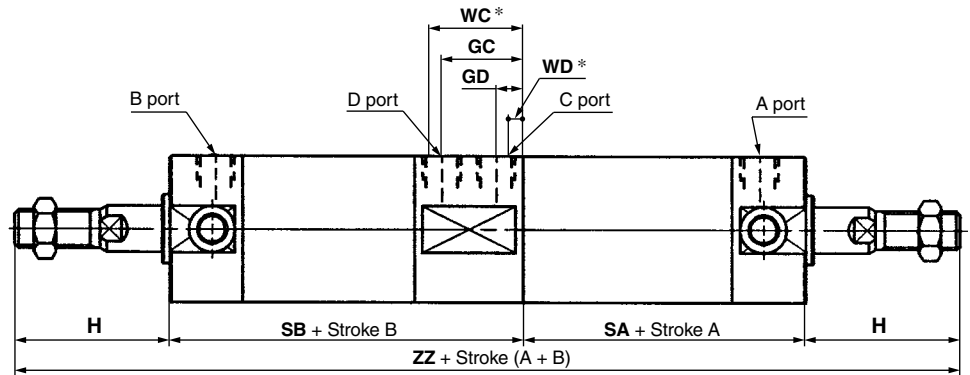
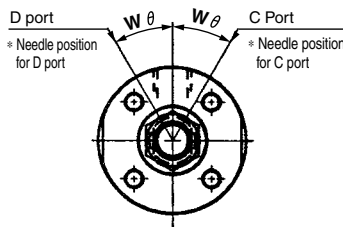


Series CM2

Bore size (mm)	GC	GD	SA	SB	ZZ
20	7	24	47	78	207
25	7	24	47	78	215
32	7	24	49	80	219
40	10.5	33.5	66.5	110.5	277



Series CG1

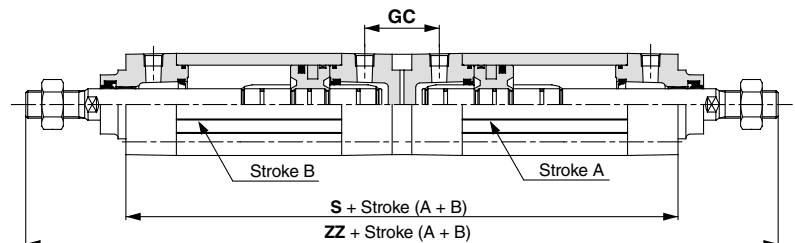
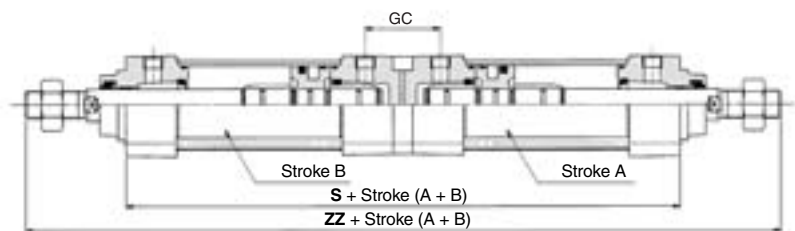


Bore size (mm)	GC	GD	H	SA	SB	Wθ	Air cushion		ZZ
							WC	WD	
20	21	9	35	56	86	30°	25	5	212
25	21	9	40	56	86	30°	25	5	222
32	23	9	40	58	90	30°	27	5	228
40	24	8	50	66	98	20°	27	5	264
50	28	12	58	76	116	20°	32	8	308
63	28	12	58	76	116	20°	32	8	308

Series MB

MB, MB1 Common

Bore size (mm)	GC	S	ZZ
32	36	178	272
40	38	178	280
50	41	198	314
63	43	198	314
80	52	242	386
100	52	242	386



Series MB1

-X□
Individual
-X□

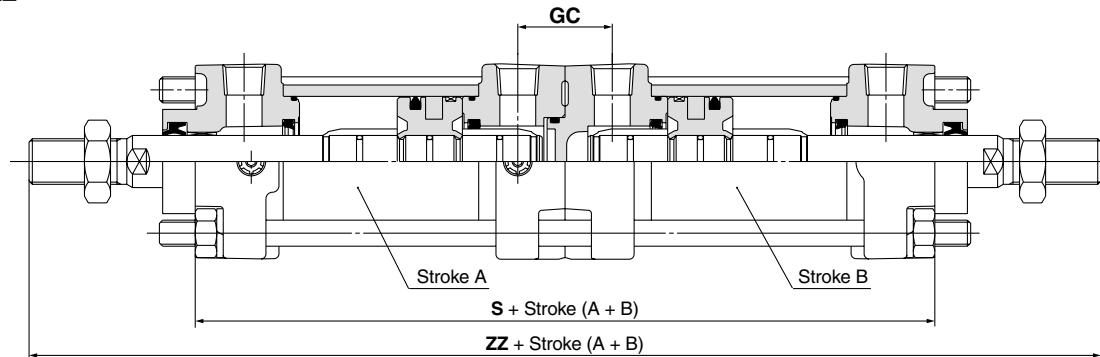
Made to Order Common Specifications: -XC10: Dual Stroke Cylinder/ Double Rod Type



19 Dual Stroke Cylinder/Double Rod Type

Dimensions (Dimensions other than below are the same as standard type.)

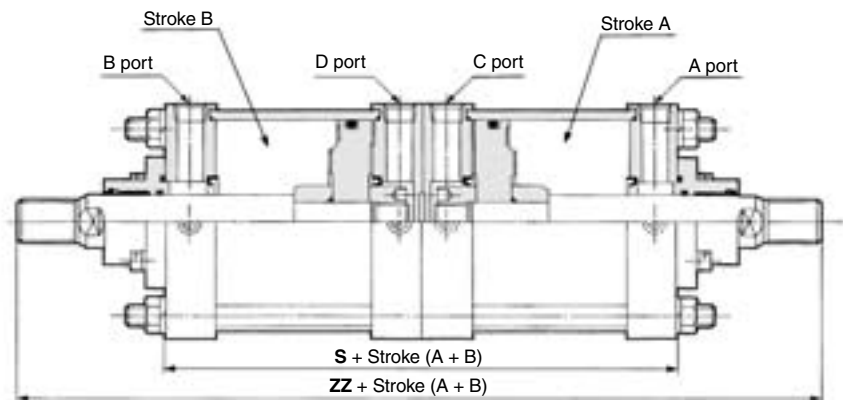
Series CA2



(mm)			
Bore size (mm)	GC	S	ZZ
40	29	167	269
50	33	179	295
63	33	195	311
80	41	231	373
100	41	251	395

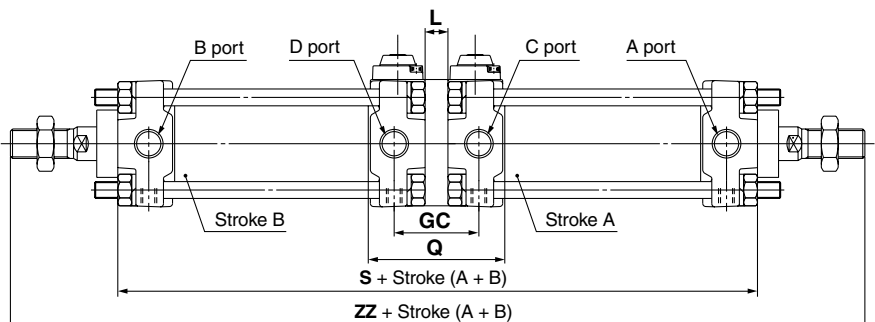
Series CS1

(mm)				
Bore size (mm)	Without auto switch		With auto switch	
	S	ZZ	S	ZZ
125	196	416	196	416
140	196	416	196	416
160	212	452	212	452
180	222	492	230	500
200	222	492	240	510
250	282	602	—	—
300	292	642	—	—



Series CBA2

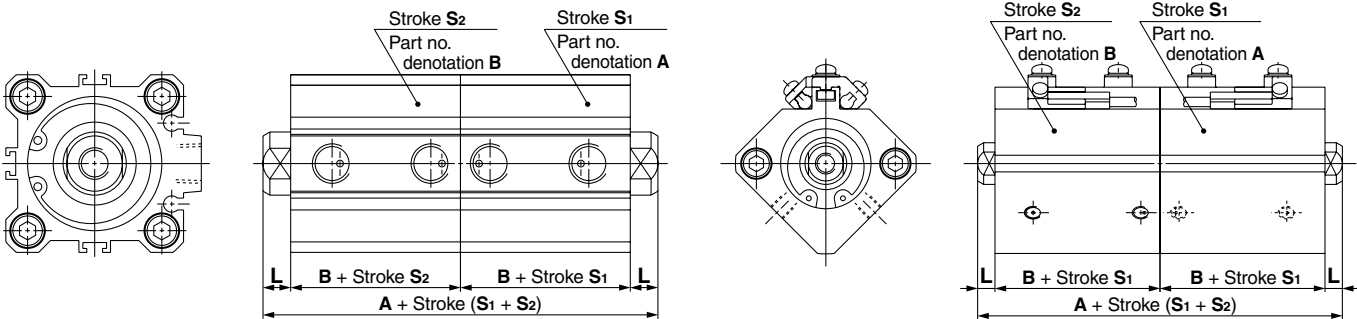
(mm)					
Bore size (mm)	GC	L	Q	S	ZZ
40	42	12	66	180	282
50	48	14	74	194	310
63	48	14	76	210	326
80	58	16	90	248	390
100	60	18	98	270	414



* The above diagram shows head side lock type and manual releasing non-locking type.
Dimensions of rod side locking type, both-side lock style and manual releasing lock type are the same as dimensions in the above table.

Construction/Dimensions (Other dimensions are the same as standard.)

Series CQ2



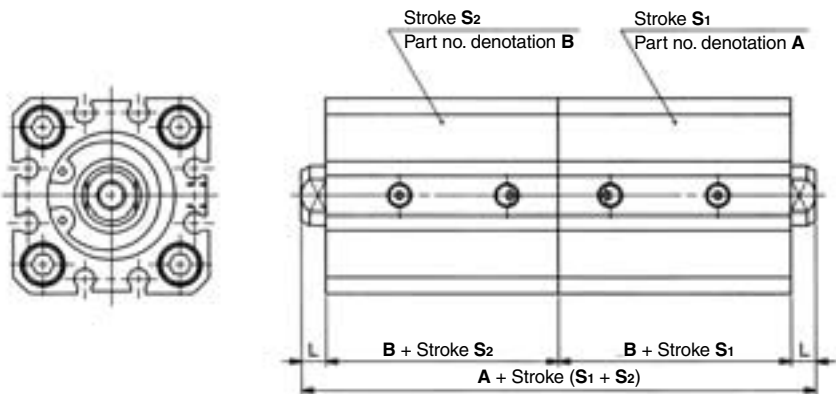
(mm)

Bore size (mm)	A		B		L	Stroke Both of S ₁ , S ₂
	50 st or less	75, 100 st	50 st or less	75, 100 st		
12	41 (63)	—	17 (28)	—	3.5	5 to 30
16	44 (68)	—	18.5 (30.5)	—	3.5	
20	48 (72)	—	19.5 (31.5)	—	4.5	
25	55 (75)	—	22.5 (32.5)	—	5	5 to 50
32	60 (80)	80 (80)	23 (33)	33 (33)	7	
40	73 (93)	93 (93)	29.5 (39.5)	39.5 (39.5)	7	
50	77 (97)	97 (97)	30.5 (40.5)	40.5 (40.5)	8	10 to 100
63	88 (108)	108 (108)	36 (46)	46 (46)	8	
80	107 (127)	127 (127)	43.5 (53.5)	53.5 (53.5)	10	
100	130 (150)	150 (150)	53 (63)	63 (63)	12	

Note 1) (): Denotes the dimensions with auto switch.
Note 2) Applicable stroke available by the 5 mm interval.

Note) In the case of bore sizes ø12 to ø25 with auto switch, port directions are different.

Series CQS



(mm)

Bore size (mm)	A	B	L	Stroke Both of S ₁ , S ₂
12	41 (51)	17 (22)	3.5	5 to 30
16	41 (51)	17 (22)	3.5	
20	48 (68)	19.5 (29.5)	4.5	5 to 50
25	55 (75)	22.5 (32.5)	5	

Note 1) (): Denotes the dimensions with auto switch.
Note 2) Applicable stroke available by the 5 mm interval.

Made to Order Common Specifications: -XC11: Dual Stroke Cylinder/ Single Rod Type



20 Dual Stroke Cylinder/Single Rod Type

Two cylinders can be integrated by connecting them in line, and the cylinder stroke can be controlled in two stages in both directions.
Do not operate Series CS1 at twice the output.

Applicable Series

Series	Description	Model	Action	Note	Vol. no. (for std model)
CJ2	Air cylinder	CJ2	Double acting, Single rod	Except with air cushion	② From P. 42
CM2	Air cylinder	CM2	Double acting, Single rod		② From P. 128
	Non-rotating rod	CM2K	Double acting, Single rod		
	Direct mount	CM2R	Double acting, Single rod		
	Non-rotating rod, Direct mount type	CM2RK	Double acting, Single rod	Except with air cushion	
CG1	Air cylinder	CG1	Double acting, Single rod		② From P. 222
	Non-rotating rod	CG1K	Double acting, Single rod	Except with air cushion	
MB	Air cylinder	MB	Double acting, Single rod	* Except trunnion style	② From P. 290
MB1	Air cylinder	MB1	Double acting, Single rod	* Except trunnion style	② From P. 332
CA2	Air cylinder	CA2	Double acting, Single rod	* Except trunnion style	② From P. 356
	Non-rotating rod	CA2K	Double acting, Single rod	* Except trunnion style	
CS1	Air cylinder	CS1	Double acting, Single rod	* Except trunnion style	② From P. 412
CQS	Compact cylinder	CQS	Double acting, Single rod	Except with bracket	② From P. 551
CQ2	Compact cylinder	CQ2	Double acting, Single rod	Except with bracket	② From P. 602
	Air-hydro cylinder	CQ2H	Double acting, Single rod	Except with bracket	
CNA	Cylinder with lock	CNA	Double acting, Single rod	* Except trunnion style	② From P. 726
MGG	Guide cylinder	MGG	Double acting		② From P. 356
MGC		MGC	Double acting		② From P. 392

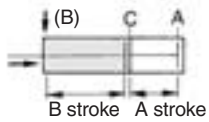
How to Order

CJ2	Mounting style	Bore size	-	Stroke A	+	Stroke B-A	-	XC11
CM2	Mounting style	Bore size	-	Stroke A	+	Stroke B-A	Suffix	- XC11
CG1	Mounting style	Type	Bore size	-	Stroke A	+	Stroke B-A	Suffix - XC11
MB MB1	Mounting style	Bore size	-	Stroke A	Suffix	+	Stroke B-A	Suffix - XC11
* Except trunnion style								
CA2	Mounting style	Type	Bore size	-	Stroke A	Suffix	+	Stroke B-A Suffix - XC11
* Except trunnion style								
CS1	Mounting style	Tubing material	Bore size	-	Stroke A	Suffix	+	Stroke B-A Suffix - XC11
* Except trunnion style								
CQ2B CQSB	Bore size	-	Stroke S ₁	+	Stroke S ₂ -S ₁	D(C)(M)	-	XC11
CNA	Mounting style	Type	Bore size	-	Stroke A	Suffix	+	Stroke B-A Suffix - D - XC11
MGG	Bearing type	Mounting style	Bore size	-	Stroke A	+	Stroke B-A	- XC11
MGC	Bearing type	Mounting style	Bore size	-	Stroke A	+	Stroke B-A	- Equipped/Not equipped back plate - XC11
								Dual stroke cylinder/Single rod ↓

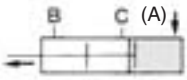
Specifications: Same as standard type. (Please contact SMC for each manufacturable stroke length.)

JIS Symbol

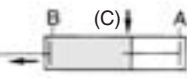
Function



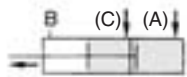
When air pressure is supplied to the port (B), both A and B strokes retract.



When air pressure is supplied from port (A), A stroke operates.



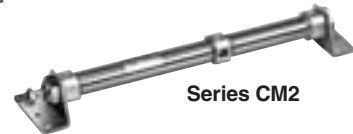
When air pressure is supplied from port (C), B stroke operates.



When air pressure is supplied from ports (A) and (C), both strokes A and B operate.



Series CJ2



Series CM2



Series CG1

Precautions

⚠ Caution

1. Do not supply air until the cylinder is fixed with the attached bolt.
2. If air is supplied without securing the cylinder, the cylinder could lurch, posing the risk of bodily injury or damage to the peripheral equipment.

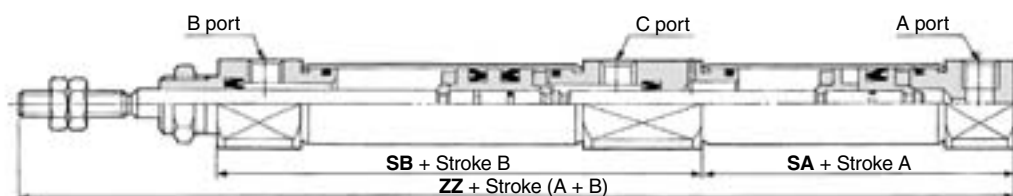
Made to Order Common Specifications: -XC11: Dual Stroke Cylinder/ Single Rod Type



20 Dual Stroke Cylinder/Single Rod Type

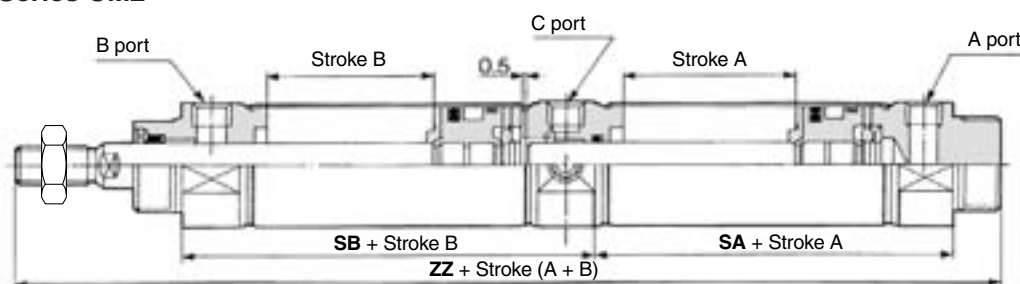
Dimensions (Dimensions other than below are the same as standard type.)

Series CJ2



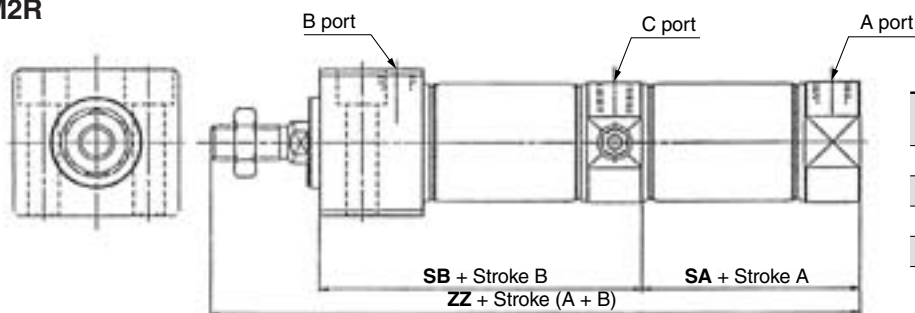
Bore size (mm)	SA	SB	Z
10	31	53.5	112.5
16	31.5	54.5	114

Series CM2



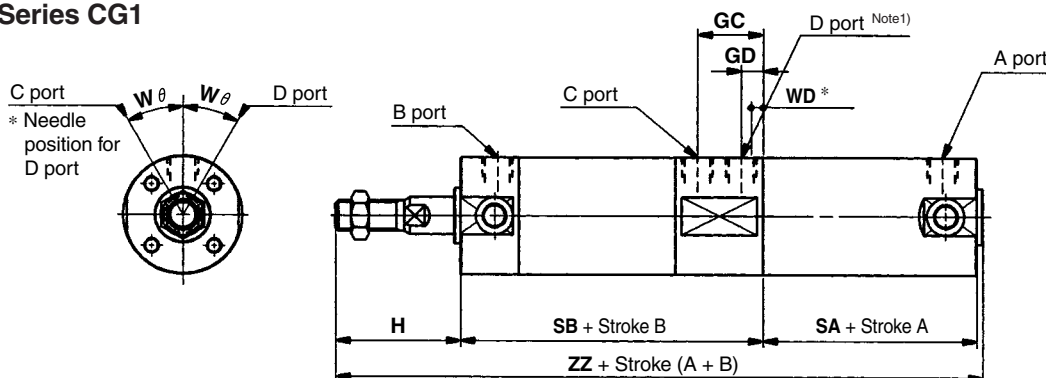
Bore size (mm)	SA	SB	ZZ
20	48	62	164
25	48	62	168
32	50	64	172
40	67.5	88.5	222

Series CM2R



Bore size (mm)	SA	SB	ZZ
20	48	76	151
25	48	76	155
32	50	78	159
40	67.5	104.5	206

Series CG1



Note 1) D port style Type N: Rubber bumper, element installation; Type A: Air cushion, element non-installation (Release to atmospheric pressure) (mm)

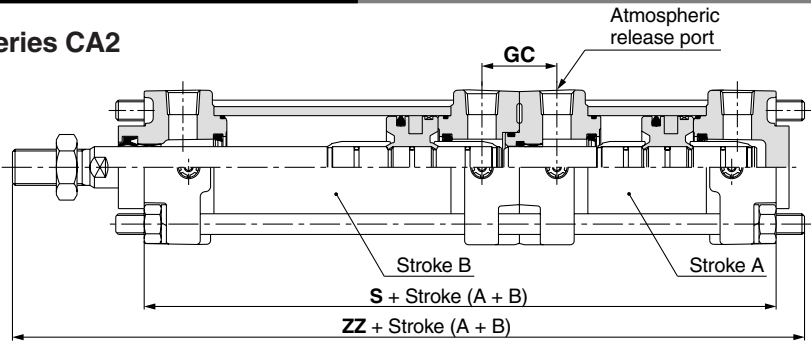
A Stroke Range

Bore size	Stroke range
ø20	to 200 mm
ø25, ø32	to 300 mm

Bore size (mm)	GC	GD	H	SA	GB	W_{θ}	ZZ	Air cushion WD	Long stroke SA	Long stroke ZZ
20	21	9	35	48	87	30°	172	5	—	—
25	21	9	40	48	87	30°	177	5	—	—
32	23	9	40	50	91	30°	183	5	—	—
40	24	8	50	57	99	20°	208	5	66	217
50	28	12	58	64	117	20°	241	8	76	253
63	28	12	58	64	117	20°	241	8	76	253

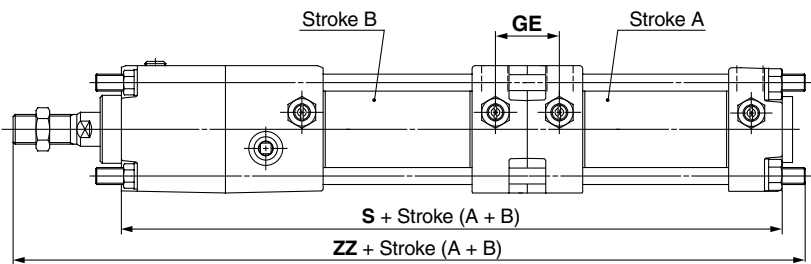
Construction/Dimensions

Series CA2



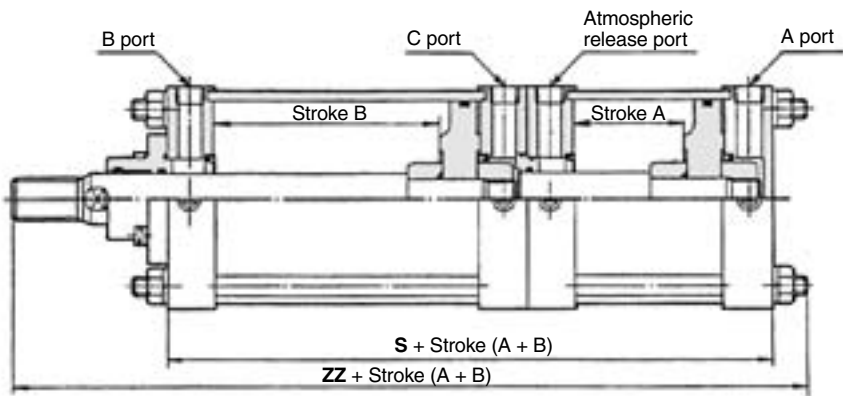
Bore size (mm)	(mm)		
	GC	S	ZZ
40	29	168	230
50	33	180	249
63	33	196	268
80	41	232	320
100	41	252	341

Series CNA



Bore size (mm)	(mm)		
	GE	S	ZZ
40	29	237	299
50	33	258	327
63	33	280	352
80	41	334	422
100	41	372	461

Series CS1



Bore size (mm)	(mm)			
	Without auto switch		With auto switch	
	S	ZZ	S	ZZ
125	197	334	197	334
140	197	334	197	334
160	213	363.5	213	363.5
180	223	393	231	401
200	223	393	241	411
250	283	484.5	—	—
300	293	519.5	—	—

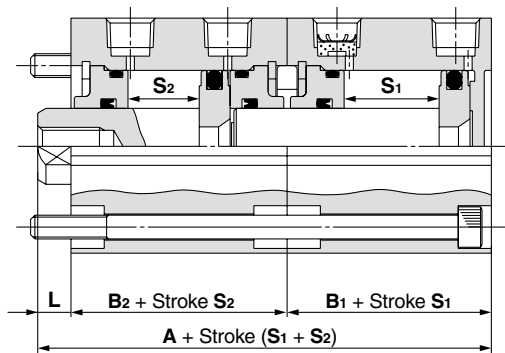
Made to Order Common Specifications: -XC11: Dual Stroke Cylinder/ Single Rod Type



20 Dual Stroke Cylinder/Single Rod Type

Construction/Dimensions

Series CQ2



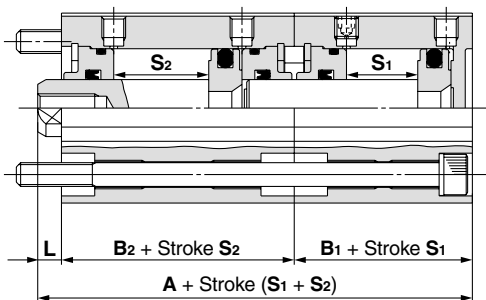
Bore size (mm)	A	B ₁	B ₂	L	Stroke Both of S ₁ , S ₂
12	45.7 (63.9)	17 (28)	25.2 (32.4)	3.5	5 to 30
16	48 (70)	18.5 (30.5)	26 (36)	3.5	
20	50 (74)	19.5 (31.5)	26 (38)	4.5	
25	56.5 (76.5)	22.5 (32.5)	29 (39)	5	5 to 50
32	60.5 (80.5)	23 (33)	30.5 (40.5)	7	
40	76.5 (96.5)	29.5 (39.5)	40 (50)	7	
50	79 (99)	30.5 (40.5)	40.5 (50.5)	8	10 to 50
63	86 (106)	36 (46)	42 (52)	8	
80	104.5 (124.5)	43.5 (53.5)	51 (61)	10	
100	125.5 (145.5)	53 (63)	60.5 (70.5)	12	

Note 1) (): Denotes the dimensions with auto switch.

Note 2) Applicable stroke available by the 5 mm interval.

Note 3) Please contact SMC for long stroke type.

Series CQS



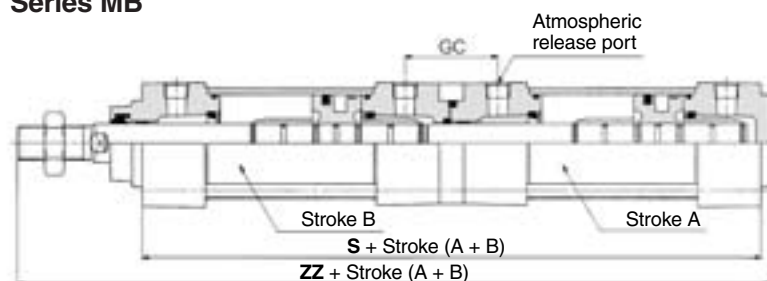
Bore size (mm)	A	B ₁	B ₂	L	Stroke Both of S ₁ , S ₂
12	42.5 (52.5)	17 (22)	22 (27)	3.5	5 to 30
16	42.5 (52.5)	17 (22)	22 (27)	3.5	
20	50 (70)	19.5 (29.5)	26 (36)	4.5	5 to 50
25	56.5 (76.5)	22.5 (32.5)	29 (39)	5	

Note 1) (): Denotes the dimensions with auto switch.

Note 2) Applicable stroke available by the 5 mm interval.

Note 3) Please contact SMC for long stroke type.

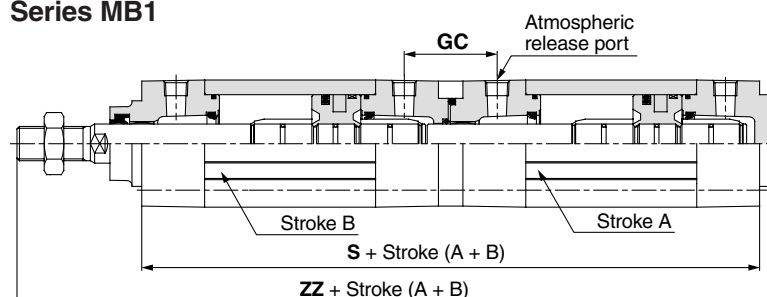
Series MB



MB, MB1 Common (mm)

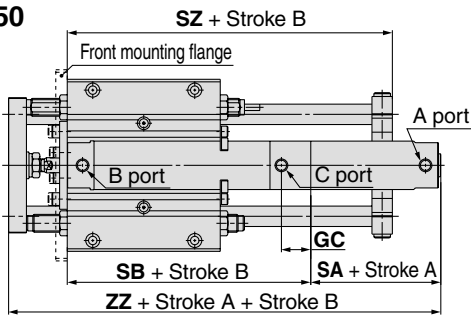
Bore size (mm)	GC	S	ZZ
32	36	179	230
40	38	179	234
50	41	199	261
63	43	199	261
80	52	243	319
100	52	243	319

Series MB1



Dimensions (Dimensions other than below are the same as standard type.)

Series MGG
ø20 to ø50

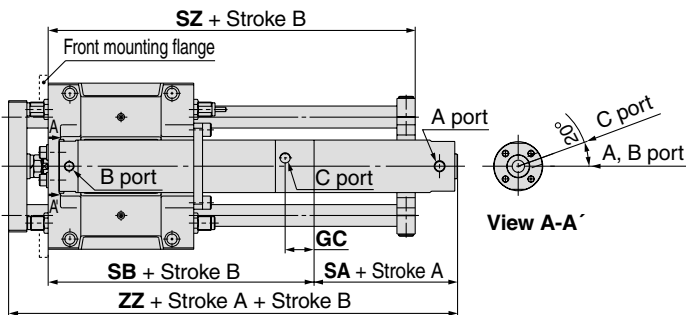


Series MGG (mm)

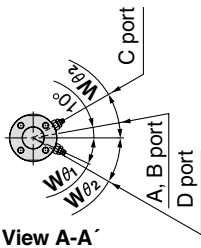
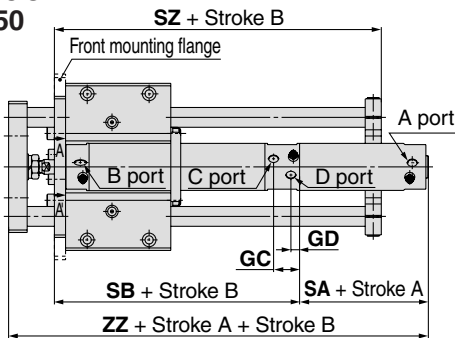
Bore size (mm)	GC	SA	SB	SZ	ZZ	Bracket mounting stroke (Stroke A + Stroke B)	Stroke A availability
20	21	50	87	118	176	35 st or more	to 200
25	21	50	87	129	183	60 st or more	to 300
32	23	52	91	155	189	80 st or more	
40	24	59	99	182	214	125 st or more	
50	28	66	117	218	250	160 st or more	
63	28	66	132	254	252	210 st or more	

* The piston speed for the B stroke retraction side is 50 to 500 mm/s.

ø63



Series MGC
ø20 to ø50



Series MGC (mm)

Bore size (mm)	GC	GD	SA	SB	Wθ ₁	Wθ ₂
20	21	9	50	96	30°	30°
25	21	9	50	96	30°	30°
32	23	9	52	100	25°	30°
40	24	8	59	111	20°	20°
50	28	12	66	129	20°	20°

Bore size (mm)	With R	Without R	ZZ	Bracket mounting stroke (Stroke A + Stroke B)	Stroke A availability
20	110	89	176	35 st or more	to 200
25	116	94	183	60 st or more	to 300
32	124	99	189	80 st or more	
40	144	112	214	125 st or more	
50	186	147	250	160 st or more	

* The piston speed for the B stroke retraction side is 50 to 500 mm/s.

Made to Order Common Specifications: -XC12: Tandem Cylinder



21 Tandem Cylinder

This is a cylinder produced with two air cylinders in line allowing double the output force.

Applicable Series

Series	Description	Model	Action	Note	Vol. no. (for std model)
CM2	Air cylinder	CM2	Double acting, Single rod	Except with air cushion	☎ From P. 128
	Direct mount type	CM2R	Double acting, Single rod	Except with air cushion	
CG1	Air cylinder	CG1	Double acting, Single rod	Except with air cushion	☎ From P. 222
	Non-rotating rod type	CG1K	Double acting, Single rod	Except with air cushion	
MB	Air cylinder	MB	Double acting, Single rod		☎ From P. 290
MB1	Air cylinder	MB1	Double acting, Single rod		☎ From P. 332
CA2	Air cylinder	CA2	Double acting, Single rod		☎ From P. 356

How to Order

Standard model no.

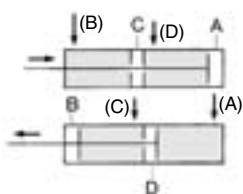
- XC12

Tandem cylinder



Series CG1

JIS Symbol



When air pressure is supplied to ports (B) and (D), the output force is doubled in the retract stroke.

When air pressure is supplied to ports (A) and (C), the output force is doubled in the out stroke.

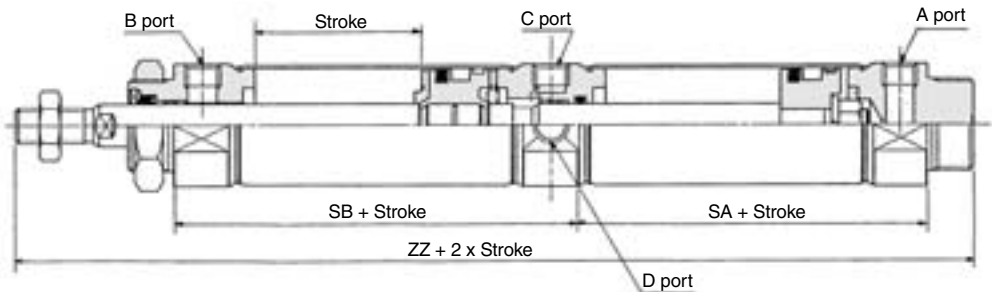
Specifications: Same as standard type.

Symbol

-XC12

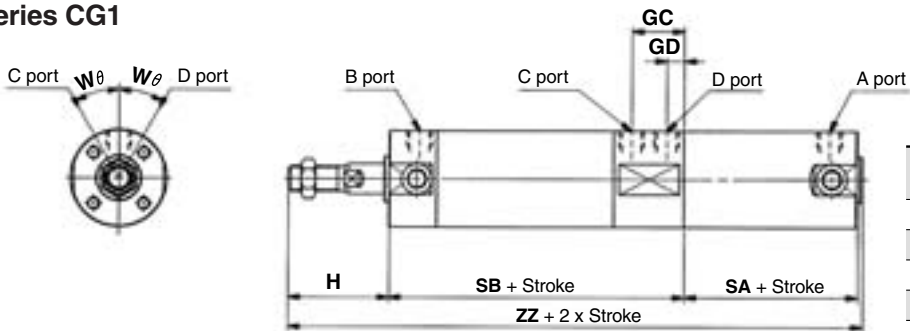
Dimensions (Dimensions other than below are the same as standard type.)

Series CM2



(mm)			
Bore size (mm)	SA	SB	ZZ
20	48	62	164
25	48	62	168
32	50	64	172
40	67.5	88.5	222

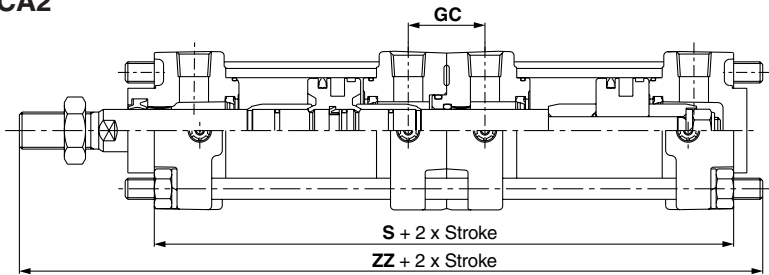
Series CG1



(mm)							
Bore size (mm)	GS	GD	H	SA	SB	Wθ	ZZ
20	21	9	35	48	87	30°	172
25	21	9	40	48	87	30°	177
32	23	9	40	50	91	30°	183
40	24	8	50	57	99	20°	208
50	28	12	58	64	117	20°	241
63	28	12	58	64	117	20°	241

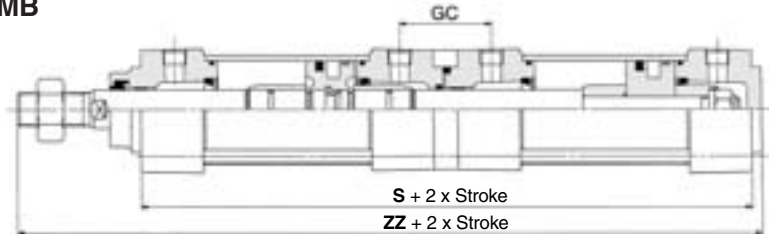
* Please contact SMC for long stroke (301 mm or more) since SA-dimensions and ZZ-dimensions are different from those in the above table.

Series CA2



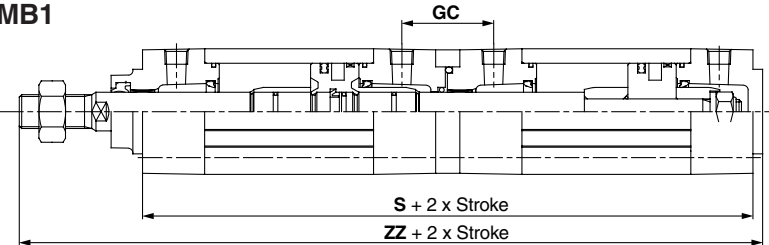
(mm)			
Bore size (mm)	GC	S	ZZ
40	29	169	231
50	33	181	250
63	33	197	269
80	41	233	321
100	41	253	342

Series MB



(mm)			
MB, MB1 Common			
Bore size (mm)	GC	S	ZZ
32	36	180	231
40	38	180	235
50	41	200	262
63	43	200	262
80	52	244	320
100	52	244	320

Series MB1



* Stroke range is shown as the addition of stroke length on both sides.
** External dimensions other than above are the same as standard type of each product series.

-X□

Individual
-X□

Made to Order Common Specifications: -XC13: Auto Switch Rail Mounting Style



22 Auto Switch Rail Mounting Style

A cylinder on which a rail is mounted to enable auto switches, in addition to the standard method for mounting auto switches (Band mounting style).

Applicable Series

Series	Description	Model	Action	Note	Vol. no. (for std model)
CM2	Air cylinder	CM2	Double acting, Single rod		② From P. 128
			Single acting (Spring return/extend)		
		CM2W	Double acting, Double rod		
	Non-rotating rod type	CM2K	Double acting, Single rod		
			Single acting (Spring return/extend)		
		CM2KW	Double acting, Double rod		
	Direct mount type	CM2R	Double acting, Single rod		
	Non-rotating rod, Direct mount type	CM2RK	Double acting, Single rod		
	Low friction	CM2Y	Double acting, Single rod		
	End lock cylinder	CBM2	Double acting, Single rod	For XC13A and XC13C only	
CG1	Air cylinder	CG1	Double acting, Single rod	Except the trunnion style	② From P. 222
	Double rod type	CG1W	Double acting, Double rod	Except the trunnion style	
	Non-rotating rod type	CG1K	Double acting, Single rod	Except the trunnion style	
	Direct mount type	CG1R	Double acting, Single rod	Except with air cushion	
CBG1	End lock cylinder	CBG1	Double acting, Single rod	For XC13A only	② From P. 268
MGG	Guide cylinder	MGG	Double acting		② From P. 356
MGC		MGC	Double acting		② From P. 392

How to Order

CDM2 **Standard model no.** - XC13A

CDG1 **Standard model no.** - XC13A

* Trunnion style of the Series CDG1 cannot be mounted.

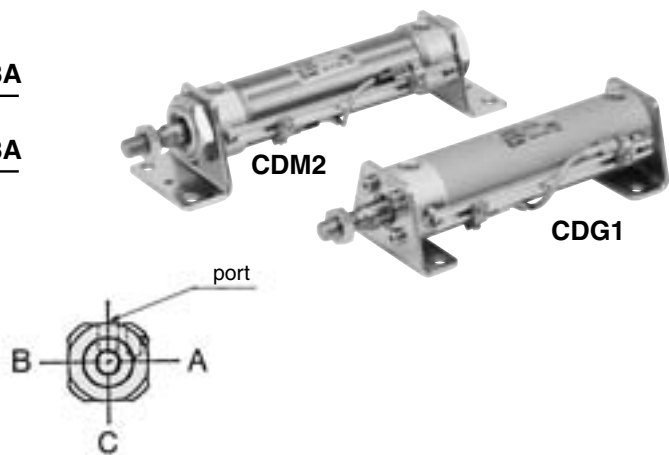
Rail mounting direction

XC13A	Mounted on the right side when viewed from the rod with the ports facing upwards.
XC13B*2 *3	Mounted on the left side when viewed from the rod.
XC13C*1 *2	Mounted on the underside when viewed from the rod.

* 1 Not available for CDG1.

* 2 Not available for CBG1.

* 3 Not available for CBM2.



CDM2 Applicable Auto Switches

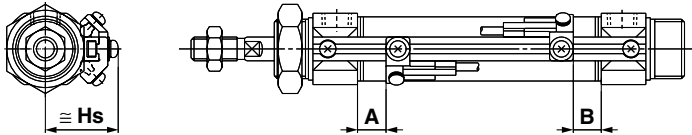
Rail mounting style	Solid state	D-F7□, D-F7□V, D-F7BA, D-F79F, D-F79W, D-F7□WV, D-J79, D-J79C, D-J79W
	Reed	D-A9□/A9□V, D-A7/A8, D-A7□H/A80H, D-A73C/A80C, D-A79W
Auto switch specifications		For detailed specifications about an auto switch for itself, refer to pages 1263 to 1371.

CDG1 Applicable Auto Switches

Rail mounting style	Solid state	D-M9□/M9□V, D-M9□W/M9□WV, D-M9□AL/M9□AVL, D-F7□, D-F7□V, D-F7BA, D-F79F, D-F79W, D-F7□WV, D-J79, D-J79C, D-J79W
	Reed	D-A7/A8, D-A7□H/A80H, D-A73C/A80C, D-A79W
Auto switch specifications		For detailed specifications about an auto switch for itself, refer to pages 1263 to 1371.

Proper Auto Switch Mounting Position (Detection at stroke end) and Its Mounting Height

Series CDM2



Proper Auto Switch Mounting Position

(mm)

Auto switch model Bore size (mm)	D-F7□/F79F/F7□V D-J79/J79C D-F7□W/J79W/F7□WV D-F7BAL/F7BAVL D-A72/A7□H/A80H D-A73C/A80C		D-F7NTL		D-A9□ D-A9□V D-A79W		D-A7□ D-A80	
	A	B	A	B	A	B	A	B
20	8 (5.5)	7 (4.5)	13 (10.5)	12 (9.5)	5 (2.5)	4 (1.5)	7.5 (5)	6.5 (4)
25	8 (5.5)	7 (4.5)	13 (10.5)	12 (9.5)	5 (2.5)	4 (1.5)	7.5 (5)	6.5 (4)
32	9 (6.5)	8 (5.5)	14 (11.5)	13 (10.5)	6 (3.5)	5 (2.5)	8.5 (6)	7.5 (5)
40	15	13	19	18	12	10	14.5	12.5

Note 1) (): With air cushion

Note 2) Adjust the auto switch after confirming the operating conditions in the actual setting.

Note 3) For the dimensions other than the proper auto switch mounting position and its mounting height, refer to standard type for series CM2.

Auto Switch Mounting Height

(mm)

D-F7□/F79F D-J79/F7NTL D-F7□W/J79W D-F7BAL D-A9□/A9□V A7□H/A80H	D-F7□V D-F7□WV D-F7BAVL	D-J79C	D-A7□ D-A80	D-A73C D-A80C	D-A79W
Hs	Hs	Hs	Hs	Hs	Hs
23.5	26	29	22.5	29.5	25
26.5	29	32	25.5	32.5	28
30	32.5	35.5	29	35	31.5
34	36.5	39.5	33	40	35.5

Minimum Auto Switch Mounting Stroke

(mm)

Auto switch model	No. of auto switch mounted		
	1	2 Same surface	n (n: No. of auto switches) Same surface
D-F7□V D-J79C	5	5	10 + 10 (n-2) (n=4, 6···)
D-F7□ D-J79	5	5	15 + 15 (n-2) (n=4, 6···)
D-F7□WV D-F7BAVL D-A79W	10	15	10 + 15 (n-2) (n=4, 6···)
D-F7□W/J79W D-F7BAL D-F79F/F7NTL	10	15	15 + 20 (n-2) (n=4, 6···)
D-A9□ D-A9□V	5	10	10 + 15 (n-2) (n=4, 6···)
D-A7□/A80 D-A7□H/A80H D-A73C/A80C	5	10	15 + 10 (n-2) (n=4, 6···)
D-A7□H D-A80H	5	10	15 + 15 (n-2) (n=4, 6···)

Operating range

(mm)

Auto switch model	Bore size (mm)			
	20	25	32	40
D-F7□/F79F/F7□V D-J79/J79C D-F7□W/J79W/F7□WV D-F7BAL/F7BAVL D-F7NTL	3.5	3.5	4	3.5
D-A9□/D-A9□V	5.5	6	6.5	6.5
D-A7□/A80 D-A7□H/A80H D-A73C/A80C	7.5	8	8.5	8.5
D-A79W	10	10.5	12.5	12.5

* Since the operating range is provided as a guideline including hysteresis, it cannot be guaranteed (assuming approximately ±30% dispersion). It may vary substantially depending on an ambient environment.

Auto Switch Mounting Bracket: Part No.

Auto switch model	Bore size (mm)
	ø20 to ø40
D-A9□/A9□V	BQ2-012

Note 1) When adding D-A9□(V), order a set of auto switch mounting brackets BQ-1 and BQ2-012 for the CDQ2 series (ø12 to ø25) separately.

When adding the auto switches other than D-A9□(V) mentioned on the left and D-F7BA(V)L, order auto switch mounting brackets BQ-1 separately.

Note 2) When adding the auto switch D-F7BA(V)L, order a stainless steel screw set BBA2 separately.

Made to Order Common Specifications: -XC13: Auto Switch Rail Mounting Style

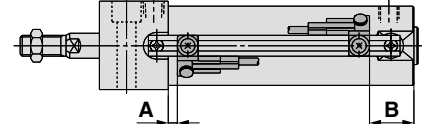
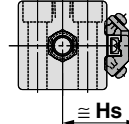
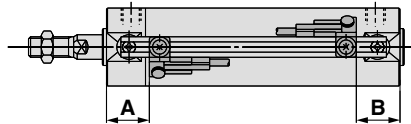
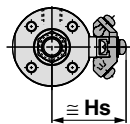


22 Auto Switch Rail Mounting Style

Proper Auto Switch Mounting Position (Detection at stroke end) and Its Mounting Height

Series CDG1

Series CDG1R (ø20 to ø63)



Proper Auto Switch Mounting Position/Applicable Cylinder Series: CDG1-XC13

(mm)

Auto switch model Bore size (mm)	D-M9□/M9□V D-M9□W/M9□WV D-M9□AL/M9□AVL		D-F7□/F79F/F7□V D-J79/J79C D-F7□W/J79W/F7□WV		D-F7BAL/F7BAVL D-A72/A7□H/A80H D-A73C/A80C		D-F7NTL		D-A7□ D-A80		D-A79W	
	A	B	A	B	A	B	A	B	A	B	A	B
20	31.5	22.5 (30.5)	30.5	21.5 (29.5)	35.5	26.5 (34.5)	29.5	20.5 (28.5)	27.5	18.5 (26.5)		
25	31.5	22.5 (30.5)	30.5	21.5 (29.5)	35.5	26.5 (34.5)	29.5	20.5 (28.5)	27.5	18.5 (26.5)		
32	32.5	23.5 (31.5)	31.5	22.5 (30.5)	36.5	27.5 (35.5)	30.5	21.5 (29.5)	28.5	19.5 (27.5)		
40	37.5	25.5 (34.5)	36.5	24.5 (33.5)	41.5	29.5 (38.5)	35.5	23.5 (32.5)	33.5	21.5 (30.5)		
50	44.5	30.5 (42.5)	43.5	29.5 (41.5)	48.5	34.5 (46.5)	42.5	28.5 (40.5)	40.5	26.5 (38.5)		
63	44.5	30.5 (42.5)	43.5	29.5 (41.5)	48.5	34.5 (46.5)	42.5	28.5 (40.5)	40.5	26.5 (38.5)		
80	54.5	38.5 (52.5)	53.5	37.5 (51.5)	58.5	42.5 (56.5)	52.5	36.5 (50.5)	50.5	34.5 (48.5)		
100	54.5	38.5 (52.5)	53.5	37.5 (51.5)	58.5	42.5 (56.5)	52.5	36.5 (50.5)	50.5	34.5 (48.5)		

Note 1) (): For long stroke and double rod type

Note 2) Adjust the auto switch after confirming the operating conditions in the actual setting.

Note 3) For the dimensions other than the proper auto switch mounting position and its mounting height, refer to standard type for series CG1.

Proper Auto Switch Mounting Position/Applicable Cylinder Series: CDG1R-XC13

(mm)

Auto switch model Bore size (mm)	D-M9□/M9□V D-M9□W/M9□WV D-M9□AL/M9□AVL		D-F7□/F79F/F7□V D-J79/J79C D-F7□W/J79W/F7□WV		D-F7BAL/F7BAVL D-A72/A7□H/A80H D-A73C/A80C		D-F7NTL		D-A7□ D-A80		D-A79W	
	A	B	A	B	A	B	A	B	A	B	A	B
20	10.5	22.5	9.5	21.5	14.5	26.5	8.5	20.5	6.5	18.5		
25	10.5	22.5	9.5	21.5	14.5	26.5	8.5	20.5	6.5	18.5		
32	11.5	23.5	10.5	22.5	15.5	27.5	9.5	21.5	7.5	19.5		
40	16.5	25.5	15.5	24.5	20.5	29.5	14.5	23.5	12.5	21.5		
50	18.5	30.5	17.5	29.5	22.5	34.5	16.5	28.5	14.5	26.5		
63	18.5	30.5	17.5	29.5	22.5	34.5	16.5	28.5	14.5	26.5		

Note 1) Adjust the auto switch after confirming the operating conditions in the actual setting.

Note 2) For the dimensions other than the proper auto switch mounting position and its mounting height, refer to standard type for series CG1R.

Proper Auto Switch Mounting Position/Applicable Cylinder Series: CDBG1-XC13 (mm)

Auto switch model Bore size (mm)	H (Head side)		R (Rod side)		W (Both sides)	
	A	B (2)	A	B	A	B (2)
20	+ 0	+ 12	+ 11	+ 0	+ 11	+ 12
25	+ 0	+ 12	+ 11	+ 0	+ 11	+ 12
32	+ 0	+ 10	+ 10	+ 0	+ 10	+ 10
40	+ 0	+ 14	+ 9	+ 0	+ 9	+ 14
50	+ 0	+ 17	+ 12	+ 0	+ 12	+ 17
63	+ 0	+ 17	+ 12	+ 0	+ 12	+ 17
80	+ 0	+ 22	+ 16	+ 0	+ 16	+ 22
100	+ 0	+ 22	+ 16	+ 0	+ 16	+ 22

Note 1) For end lock cylinders, add the above values to those listed in the table for CG1-XC13.

Note 2) For the head side and both sides lock, add the above values to CG1-XC13 (long stroke) to find B.

Note 3) Adjust the auto switch after confirming the operating conditions in the actual setting.

Note 4) For the dimensions other than the proper auto switch mounting position and its mounting height, refer to standard type for series CDBG1.

Auto Switch Mounting Height

(mm)

Auto switch model Bore size (mm)	D-M9□/M9□V D-M9□W/M9□WV D-M9□AL/M9□AVL D-F7□/F79F D-J79/F7NTL D-F7□W/J79W/F7BAL		D-F7□V D-F7□WV D-F7BAVL	D-J79C	D-A7□ D-A80	D-A73C D-A80C	D-A79W
	Hs	Hs	Hs	Hs	Hs	Hs	Hs
20	26.5	29	32	25.5	32.5	28	
25	29	31.5	34.5	28	35	30.5	
32	32.5	35	38	31.5	38.5	34	
40	36.5	39	42	35.5	42.5	38	
50	42	44.5	47.5	41	48	43.5	
63	49	51.5	54.5	48	55	50.5	
80	59	61.5	64.5	58	65	60.5	
100	69.5	72	75	68.5	75.5	71	

Made to Order Common Specifications: Auto Switch Rail Mounting Style

Symbol

-XC13

How to Order

MGG Bearing type Mounting style Bore size - Stroke - Auto switch - XC13

MGC Bearing type Mounting style Bore size - Stroke - Equipped/Not equipped rear plate - Auto switch - XC13

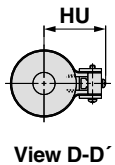
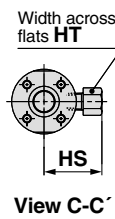
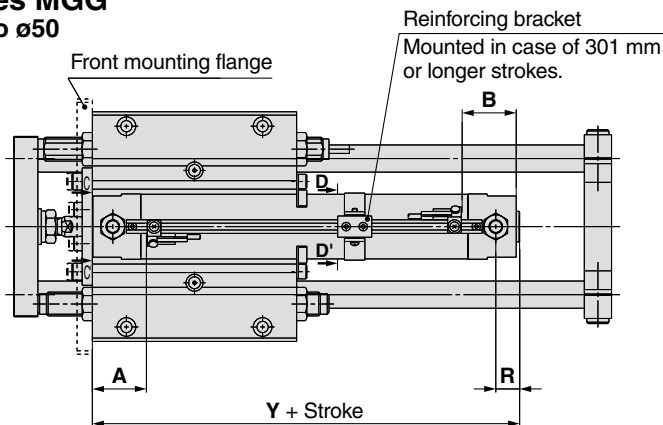
Auto switch rail mounting style

MGG/MGC Applicable Auto Switches

Rail mounting style	Solid state switch	D-M9□/M9□V, D-M9□W/M9□WV, D-M9□AL/M9□AVL, D-F7□, D-F7□V, D-F7BA, D-F79F, D-F79W, D-F7□WV, D-J79, D-J79C, D-J79W
	Reed switch	D-A7/A8, D-A7□H/A80H, D-A73C/A80C, D-A79W
Auto switch specifications		For detailed specifications about an auto switch for itself, refer to pages 1263 to 1371.

Dimensions (Dimensions other than below are the same as standard type.)

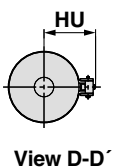
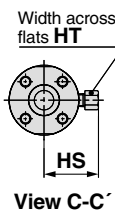
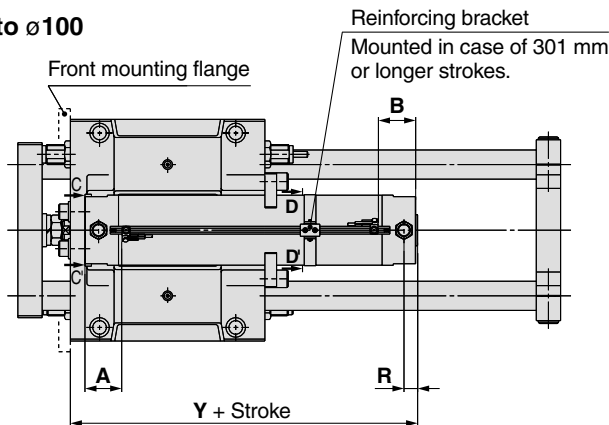
Series MGG ø20 to ø50



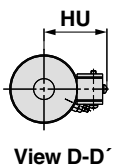
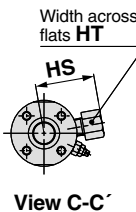
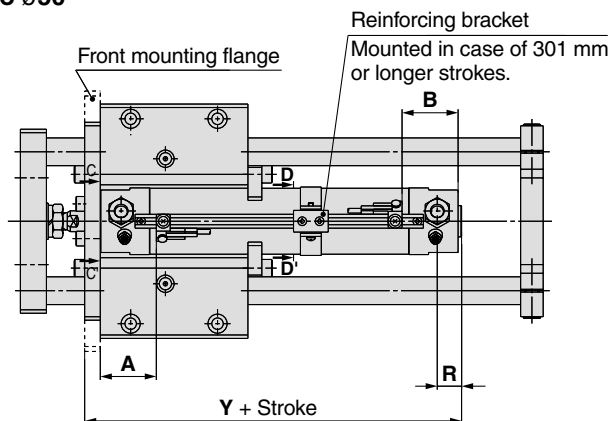
Series MGG (mm)

Bore size (mm)	R	Y	HS	HT	HU
20	14	99	28.5	14	30.7
25	14	99	31	14	33.2
32	14	101	34.5	14	36.5
40	15	109	39	14	41
50	16	124	49.5	17	46.2
63	16	139	56.5	17	53.2
80	23	165	75.5	23	62.2
100	23	165	86	26	72.7

ø63 to ø100



Series MGC ø20 to ø50



Series MGC (mm)

Bore size (mm)	R	Y	HS	HT	HU
20	14	108	26	7	30.7
25	14	108	28.5	7	33.2
32	14	110	34.5	14	36.5
40	15	121	39	14	41
50	16	136	49.5	17	46.2

-X□

Individual
-X□

Made to Order Common Specifications: -XC13: Auto Switch Rail Mounting Style



22 Auto Switch Rail Mounting Style

Symbol
-XC13

Proper Auto Switch Mounting Position (Detection at stroke end) and Its Mounting Height/CDG1, MGG, MGC

Proper Auto Switch Mounting Position

Auto switch model Bore size (mm)	D-M9□/M9□V D-M9□W/M9□WV D-M9□AL/M9□AVL		D-F7□/F79F/F7□V D-J79/J79C D-F7□W/J79W/F7□WV D-F7BAL/F7BAVL D-A72/A7□H/A80H D-A73C/A80C		D-F7NTL		D-A7□ D-A80		D-A79W	
	A	B	A	B	A	B	A	B	A	B
20	31.5	22.5	30.5	21.5	35.5	26.5	29.5	20.5	27.5	18.5
25	31.5	22.5	30.5	21.5	35.5	26.5	29.5	20.5	27.5	18.5
32	32.5	23.5	31.5	22.5	36.5	27.5	30.5	21.5	28.5	19.5
40	37.5	25.5	36.5	24.5	41.5	29.5	35.5	23.5	33.5	21.5
50	44.5	30.5	43.5	29.5	48.5	34.5	42.5	28.5	40.5	26.5
63	44.5	30.5	43.5	29.5	48.5	34.5	42.5	28.5	40.5	26.5
80	54.5	38.5	53.5	37.5	58.5	42.5	52.5	36.5	50.5	34.5
100	54.5	38.5	53.5	37.5	58.5	42.5	52.5	36.5	50.5	34.5

Auto Switch Mounting Height

Auto switch model Bore size (mm)	D-M9□/M9□V D-M9□W/M9□WV D-M9□AL/M9□AVL D-F7□/F79F D-J79/F7NTL D-F7□W/J79W/F7BAL		D-F7□V D-F7□WV D-F7BAVL		D-J79C		D-A7□ D-A80		D-A73C D-A80C		D-A79W	
	Hs	Hs	Hs	Hs	Hs	Hs	Hs	Hs	Hs	Hs	Hs	Hs
20	26.5	29	32	25.5	32.5	28	35	30.5	34	38	43.5	50.5
25	29	31.5	34.5	28	35	30.5	34	38	43.5	50.5	60.5	71
32	32.5	35	38	31.5	38.5	34	38	43.5	50.5	60.5	71	
40	36.5	39	42	35.5	42.5	38	43.5	50.5	60.5	71		
50	42	44.5	47.5	41	48	43.5	50.5	60.5	71			
63	49	51.5	54.5	48	55	50.5	60.5	71				
80	59	61.5	64.5	58	65	60.5	71					
100	69.5	72	75	68.5	75.5	71						

Note 1) Adjust the auto switch after confirming the operating conditions in the actual setting.

Note 2) For dimensions other than the proper auto switch mounting position and height, refer the standard type for Series CDG1, MGG and MGC.

Minimum Auto Switch Mounting Stroke/CDG1, MGG, MGC

Auto switch model	No. of auto switch mounted (mm)		
	1	2 Same surface	n (n: No. of auto switches) Same surface
D-M9□/M9□V D-F7□V D-J79C	5	5	10 + 10 (n-2) (n=4, 6...)
D-M9□WV D-M9□AVL D-F7□WV D-F7BAVL D-A79W	10	15	10 + 15 (n-2) (n=4, 6...)
D-M9□W D-M9□AL	10	15	15 + 15 (n-2) (n=4, 6...)
D-F7□ D-J79	5	5	15 + 15 (n-2) (n=4, 6...)
D-F7□W/J79W D-F7BAL D-F79F/F7NTL	10	15	15 + 20 (n-2) (n=4, 6...)
D-A7□/A80 D-A7□H/A80H D-A73C/A80C	5	10	15 + 10 (n-2) (n=4, 6...)
D-A7□H D-A80H	5	10	15 + 15 (n-2) (n=4, 6...)

Operating range/CDG1, MGG, MGC

Auto switch model	Bore size (mm)							
	20	25	32	40	50	63	80	100
D-M9□/M9□V D-M9□W/M9□WV D-M9□AL/M9□AVL	4	4	5	4	5.5	6.5	7.5	7
D-F7□/F79F/F7□V D-J79/J79C D-F7□W/J79W/F7□WV D-F7BAL/F7BAVL D-F7NTL	4.5	4	4.5	5	5	6	6	6
D-A7□/A80 D-A7□H/A80H D-A73C/A80C	9	9	10	11	11	13.5	13	13.5
D-A79W	11	11	13	14	14	16.5	16	16.5

* Since the operating range is provided as a guideline including hysteresis, it cannot be guaranteed. (Assuming approximately ±30% dispersion.) It may vary substantially depending on an ambient environment.

Auto Switch Mounting Bracket: Part No./CDG1, MGG, MGC

Auto switch model	Bore size (mm)
	ø20 to ø100
D-M9□/M9□V D-M9□W/M9□WV	BQ2-012
D-A9□AL/A9□AVL	BQ2-012S

Note 1) When adding D-M9□(V) and D-A9□W(V), order a set of auto switch mounting brackets BQ-1 and BQ2-012 for the CDQ2 series (ø12 to ø25) separately.

When ordering the auto switches other than D-M9□□□ mentioned on the left and D-F7BA(V)L, order auto switch mounting brackets BQ-1 separately.

Note 2) When adding D-M9□A(V)L, order a stainless steel screw set BBA2 together with BQ2-012S separately.

When adding the auto switch D-F7BA(V)L, order a stainless steel screw set BBA2 separately.

Made to Order Common Specifications: -XC17: Pin Cylinder with Rod Quenched



23

Pin Cylinder with Rod Quenched

Symbol
-XC17

The piston rod is made of carbon steel and induction hardened, and the surface is hard chrome plated.

Applicable Series

Series	Description	Model	Action	Note	Vol. no. (for std model)
CJP	Pin cylinder	CJPB	Single acting (Panel mount)	Except ø4	● From P. 34
		CJPS	Single acting (Embedded)	Except ø4	

How to Order

CJP

Standard model no.

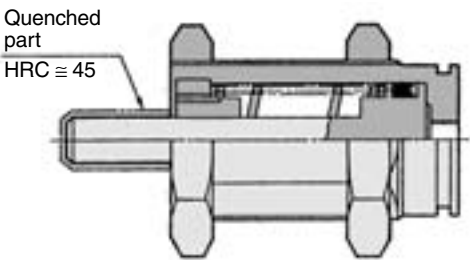
-XC17

(Note) Additional symbol for “-B” (without thread) is unnecessary when indicating the model no.
 Rod quenched specifications

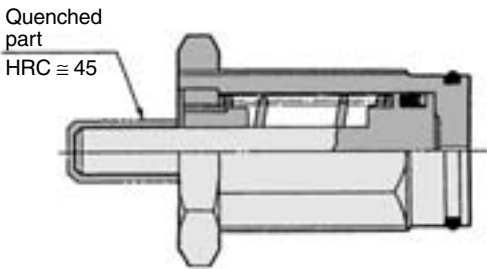
Specifications: Same as standard type.

Construction (Dimensions are the same as standard.)

Panel mount type: CJPB



Embedded type: CJPS



Made to Order Common Specifications: -XC19: Intermediate Stroke (Spacer Type)



24 Intermediate Stroke (Spacer type)

Symbol
-XC19

Dealing with the intermediate stroke by installing a spacer with the standard stroke cylinder.

Applicable Series

Series	Description	Model	Action	Note	Vol. no. (for std model)
CU	Free mount cylinder	CU	Double acting, Single rod	5 mm spacer only	● From P. 483
	Non-rotating rod type	CUK	Double acting, Single rod	5 mm spacer only	
	Long stroke	CU	Double acting, Single rod	5 mm spacer only	
	Long stroke, Non-rotating	CUK	Double acting, Single rod	5 mm spacer only	
CJP2	Pin cylinder	CJP2	Double acting, Single rod		● From P. 23
MGP	Compact guide cylinder	MGP ^M _A	Double acting	Air cushion type only	● From P. 272
MXH	Compact slide	MXH	Double acting	5 mm spacer only	● From P. 20
CXS	Dual rod cylinder	CXS ^M	Double acting	5 mm spacer only	● From P. 561
CXSJ	Dual rod cylinder compact type	CXSJ ^M	Double acting	5 mm spacer only	● From P. 549

How to Order

Standard model no.

-XC19

Intermediate stroke (Spacer type) ●

CU

Applicable Stroke (mm)

ø6, ø10, ø16	35, 45, 55
ø20, ø25, ø32	35, 45, 55, 65, 75, 85, 95

- Dealing with it by installing a 5 mm width spacer with the standard stroke cylinder.
- Specifications other than above are the same as standard type.
- External dimensions are the same as standard stroke products added by 5 mm for the required stroke.
- Please consult with SMC when stroke other than applicable stroke is required.

CJP

Applicable Stroke (mm)

ø6	1 mm intervals in 20 st or less
ø10	1 mm intervals in 30 st or less
ø15	1 mm intervals in 30 st or less

- Dealing with it by installing a 1 to 4 mm width spacer with the standard stroke cylinder.
- Specifications other than above are the same as standard type.
- External dimensions are the same as standard stroke products which is closed to the required intermediate stroke.
Example: For 11 ST, to b+e dealt with 4 mm spacer for 15 st body
- As for the one with switch, 5 st or less will not be available.

MGP(Air Cushion Type) Applicable Stroke

Description	Dealing with the stroke by the 1 mm interval by changing a collar of the standard stroke cylinder. Minimum manufacturable stroke ø16 to ø63: 15 mm ø80, ø100: 20 mm Select a rubber bumper type, because the cushion effect is not obtainable for less than this stroke.	
Part no.	Suffix "-XC19" to the end of standard part number.	
Applicable stroke (mm)	ø16	15 to 249
	ø20 to ø63	15 to 399
	ø80, ø100	20 to 399
Example	Part no. MGPM20-35A-XC19 15 mm width collar is installed in MGPM20-50A. C dimension is 112 mm.	

(Note) Intermediate strokes (by the 1 mm interval) with a special body are available by made-to-order.

MXH

Applicable Stroke (mm)

ø6, ø10, ø16, ø20	35, 45, 55
-------------------	------------

- Dealing with it by installing a 5 mm width spacer with the standard stroke cylinder.
- Specifications other than above are the same as standard type.
- External dimensions are the same as standard stroke products added by 5 mm for the required stroke.
- Please consult with SMC when stroke other than applicable stroke is required.

CXS

Applicable Stroke (mm)

ø6	15, 25, 35, 45
ø10	55, 65
ø15	55, 65, 85, 95
ø20	
ø25	
ø32	

- Dealing with it by installing a 5 mm width spacer with the standard stroke cylinder.
- Specifications other than above are the same as standard type.
- External dimensions are the same as standard stroke products added by 5 mm for the required stroke.
- Please consult with SMC when stroke other than applicable stroke is required.

CXSJ

Applicable Stroke (mm)

ø6	15, 25, 35, 45
ø10	15, 25, 35, 45, 70
ø15	15, 25, 35, 45, 70, 95
ø20	
ø25	
ø32	

- Dealing with it by installing a 5 mm width spacer with the standard stroke cylinder.
- Specifications other than above are the same as standard type.
- External dimensions are the same as standard stroke products added by 5 mm for the required stroke.
- Please consult with SMC when stroke other than applicable stroke is required.

Made to Order Common Specifications: -XC20: Head Cover Axial Port



25 Head Cover Axial Port

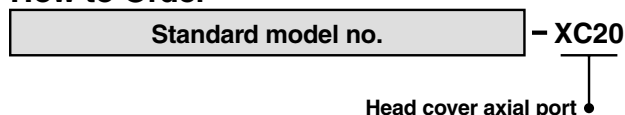
Symbol
-XC20

Head side port position is changed to the axial direction. (Standard head side port is plugged with hexagon socket head screw.)

Applicable Series

Series	Description	Model	Action	Note	Vol. no. (for std model)
CM2	Air cylinder	CM2	Double acting, Single rod	Except with air cushion	● From P. 128
			Single acting (Spring return/extend)		
	Non-rotating rod type	CM2K	Double acting, Single rod	Except with air cushion	
			Single acting (Spring return/extend)		
	Direct mount type	CM2R	Double acting, Single rod	Except with air cushion	
	Non-rotating rod, Direct mount type	CM2RK	Double acting, Single rod	Except with air cushion	
CG1	Low friction	CM2Y	Double acting, Single rod		● From P. 222
	Air cylinder	CG1	Double acting, Single rod	Except with air cushion	
	Direct mount type	CG1R	Double acting, Single rod	Except with air cushion	
	Non-rotating rod, Direct mount type	CG1KR	Double acting, Single rod	Except with air cushion	
	Low friction	CG1Y	Double acting, Single rod		

How to Order



Specifications: Same as standard type.

* Be sure to use the speed controller since head side port has no throttle.

Construction



Series CM2

Bore size (mm)	Port size
20, 25, 32	Rc 1/8
40	Rc 1/4

Series CG1

Bore size (mm)	Port size
20, 25, 32, 40	Rc 1/8
50, 63	Rc 1/4

* Same dimensions as standard type except port size.

-X□

Individual
-X□

Made to Order Common Specifications: -XC22: Fluororubber Seals



26 Fluororubber Seals

Symbol
-XC22

Applicable Series

Series	Description	Model	Action	Note	Vol. no. (for std model)
CJP	Pin cylinder	CJP2	Double acting, Single rod	Except ø4	② From P. 23
		CJPB	Single acting (Panel mounting)	Except ø4	
		CJPS	Single acting (Embedded)	Except ø4	
CJ2	Air cylinder	CJ2	Double acting, Single rod Single acting (Spring return/extend)	Except with air cushion	② From P. 42
		CJ2W	Double acting, Double rod	Except with air cushion	
	Non-rotating rod type	CJ2K	Double acting, Single rod		
	Direct mount type	CJ2R	Double acting, Single rod		
CM2	Air cylinder	CM2	Double acting, Single rod		② From P. 128
		CM2W	Double acting, Double rod		
	Non-rotating rod type	CM2K	Double acting, Single rod		
		CM2KW	Double acting, Double rod		
	Direct mount type	CM2R	Double acting, Single rod		
	Non-rotating rod, Direct mount type	CM2RK	Double acting, Single rod		
CG1	Air cylinder	CG1	Double acting, Single rod	Without a bumper for cylinders with a rubber bumper	② From P. 222 ⁽⁵⁾
		CG1W	Double acting, Double rod	Without a bumper for cylinders with a rubber bumper	
	Double rod type	CG1R	Double acting, Single rod	Without a bumper for cylinders with a rubber bumper	
		CG1R	Double acting, Single rod	Without a bumper for cylinders with a rubber bumper	
MB	Air cylinder	MB	Double acting, Single rod		② From P. 290
		MBW	Double acting, Double rod		
MB1	Air cylinder	MB1	Double acting, Single rod		② From P. 332
		MB1W	Double acting, Double rod		
CA2	Air cylinder	CA2	Double acting, Single rod		② From P. 356
		CA2W	Double acting, Double rod		
	End lock cylinder	CBA2	Double acting, Single rod		
CS1	Air cylinder	CS1	Double acting, Single rod	Applicable bore: Lube type 125 to 300, Non-lube type 125 to 200	② From P. 412
CU	Free mount cylinder	CU	Double acting, Single rod		② From P. 483
			Single acting (Spring return/extend)		
	Non-rotating rod type	CUK	Double acting, Single rod		
			Single acting (Spring return/extend)		
MGP	Compact guide cylinder	MGPM	Double acting	Slide bearing only. Except with air cushion and end lock	③ From P. 272 ⁽⁶⁾
		MGQM	Double acting	Slide bearing only	
MGG	Guide cylinder	MGG	Double acting	Without rubber bumper	③ From P. 356
MGC		MGC	Double acting		③ From P. 392
CV	Valve mounted cylinder	CV3	Double acting, Single rod		③ From P. 1604
		CVS1	Double acting, Single rod		
CEP1	High precision stroke reading cylinder	CEP1	Double acting, Single rod		③ From P. 1444
MXH	Compact slide	MXH	Double acting		③ From P. 20
CXS	Dual rod cylinder	CXS	Double acting		③ From P. 561
CXSJ	Dual rod cylinder compact type	CXSJ	Double acting		③ From P. 549
CX2	Slide unit	CX2	Double acting		③ From P. 464
CXW		CXW	Double acting		③ From P. 473

How to Order

Standard model no. **-XC22**

Specifications

Seal material	Fluororubber
Ambient temperature range	With auto switch : -10 to 70°C (No freezing) ⁽¹⁾ Without auto switch : -10 to 60°C (No freezing)
Specifications other than above and external dimensions	Same as standard type for each series



- Note 1) Please confirm with SMC, as the type of chemical and the operating temperature may not allow the use of this product.
- Note 2) Cylinders with auto switches can also be produced; however, auto switch related parts (auto switch units, mounting brackets, built-in magnets) are the same as standard products. Before using these, please contact SMC regarding their suitability for the operating environment.
- Note 3) It is only applicable for the cylinder main body section as to Series CV3, CVS1.
- Note 4) Series MGG is using a shock absorber RBL type.
- Note 5) No cushion is equipped for N type.
- Note 6) The MGP and MGQ series are without a cushion. Confirm the kinetic energy.

Made to Order Common Specifications:

-XC24: With Magnetic Shielding Plate

-XC25: No Fixed Throttle of Connection Port



27 With Magnetic Shielding Plate -XC24

Shields against the magnetic leaked from external slider.

Applicable Series

Series	Description	Model	Action	Vol. no. (for std model)
CY3	Magnetically coupled rodless cylinder	CY3B	Double acting	● From P. 1174
REA	Sine rodless cylinder	REA	Double acting	● From P. 935

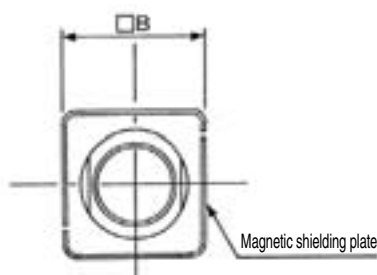
How to Order

CY3B
REA **Standard model no.** -XC24

With magnetic shielding plate

Specifications: Same as standard type.

Dimensions



Dimensions	Bore size (mm)								
	ø6	ø10	ø15	ø20	ø25	ø32	ø40	ø50	ø63
□B	19	27	37	38	48	62	72	88	102
Standard external (□B)	17	25	35	36	46	60	70	86	100

* Dimensions except mentioned above are the same as standard type.
* REA is ø25 to ø63.

28 No Fixed Orifice of Connection Port -XC25

Type with no restrictor on the port, since it's using air-hydro type on the rod cover and the head cover of air cylinder Series CM2.

Applicable Series

Series	Description	Model	Action	Vol. no. (for std model)
CM2	Air cylinder	CM2	Double acting, Single rod	● From P. 128
			Single acting (Spring return/extend)	
		CM2W	Double acting, Double rod	
	Non-rotating rod type	CM2K	Double acting, Single rod	
		CM2KW	Double acting, Double rod	
	Direct mount type	CM2R	Double acting, Single rod	
	Non-rotating rod, Direct mount type	CM2RK	Double acting, Single rod	

* Except with air cushion

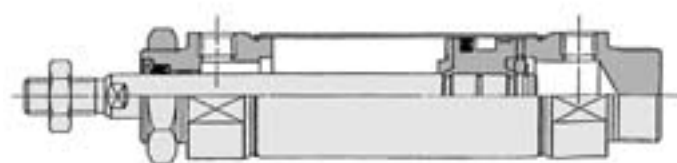
How to Order

CM2 **Standard model no.** -XC25

No fixed Throttle in connection port

Specifications: Same as standard type.

Construction



* External dimensions are the same as standard CM2 series.

⚠ Caution

1. Use a shock absorber, etc.

When the piston speed exceed 750 mm/s, make sure that direct impact does not apply on the cylinder cover by using an external stopper (shock absorber, etc).

-X□

Individual
-X□

Made to Order Common Specifications: -XC27: Double Clevis and Double Knuckle Joint Pins Made of Stainless Steel (SUS304)



29 Double Clevis and Double Knuckle Joint Pins Made of Stainless Steel -XC27

To prevent the oscillating portion of the double clevis or the double knuckle joint from rusting, the material of the pin and the snap ring (split pin) has been changed to stainless steel.

Applicable Series

Series	Description	Model	Action	Vol. no. (for std model)
CM2	Air cylinder	CM2	Double acting, Single rod	From P. 128
			Single acting (Spring return/extend)	
	Non-rotating rod type	CM2K	Double acting, Single rod	
			Single acting (Spring return/extend)	
	End lock cylinder	CBM2	Double acting, Single rod	
MB	Air cylinder	MB	Double acting, Double rod	From P. 290
	Non-rotating rod type	MBK	Double acting, Single rod	
	Low friction	MBQ	Double acting, Single rod	
	With end lock	MBB	Double acting, Single rod	
MB1	Air cylinder	MB1	Double acting, Single rod	From P. 332
	Non-rotating rod type	MB1K	Double acting, Double rod	
CA2	Air cylinder	CA2	Double acting, Single rod	From P. 356
	Non-rotating rod type	CA2K	Double acting, Single rod	
	End lock cylinder	CBA2	Double acting, Single rod	
CS1	Air cylinder	CS1	Double acting, Single rod	From P. 412
	Low friction	CS1Q	Double acting, Single rod	
CV	Valve mounted cylinder	CVS1	Double acting, Single rod	From P. 1624
		CVS1K	Double acting, Single rod	

Series	Description	Model	Action	Vol. no. (for std model)
CG1	Air cylinder	CG1	Double acting, Single rod	From P. 222
			Single acting (Spring return/extend)	
	Non-rotating rod type	CG1K	Double acting, Single rod	
	End lock cylinder	CBG1	Double acting, Single rod	
CQ2	Compact cylinder	CQ2	Double acting, Single rod	From P. 602
			Single acting (Spring return/extend)	
	Long stroke	CQ2□	Double acting, Single rod	
	Anti-lateral load type	CQ2□S	Double acting, Single rod	
	Non-rotating rod type	CQ2K	Double acting, Single rod	
	Magnetic field resistant	CDQ2□P	Double acting, Single rod	
	Copper-free compact cylinder	20-CQ2	Double acting, Single rod	
			Single acting (Spring return/extend)	
	Copper-free long stroke	20-CQ2□	Double acting, Single rod	
	Copper-free anti-lateral load type	20-CQ2□S	Double acting, Single rod	

How to Order

CQ2D	Standard model no.	-XC27
CG1D	Standard model no.	-XC27
CM2D	Standard model no.	-XC27
CA2D	Standard model no.	-XC27
CS1D	Standard model no.	-XC27
<div> <div>Double clevis style</div> <div>Double clevis pin made of stainless steel</div> </div>		
Y -	G012, Z015A, G02, G03, G04, G05, G08, G10	-XC27
Y -	020B, 032B, 040B	-XC27
Y -	04D, 05D, 08D, 10D	-XC27
Y -	12, 14, 16, 18, 20, 25, 30	-XC27
<div> <div>Double knuckle joint</div> <div>Double knuckle joint pin made of stainless steel</div> </div>		

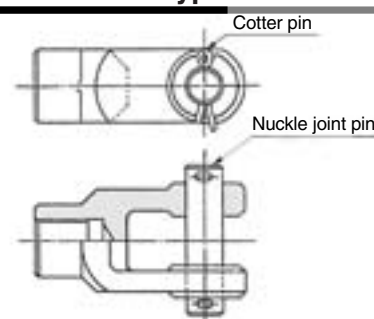
IY -	12, 14, 16, 18, 20, 25, 30	-XC27
IY -	G012, J015 Stainless steel, G02, G03, G04, G05, G08, G10 *	-XC27
CD -	M03, M05, M08	-XC27
CD -	G02, G25, G03, G04, G05, G06	-XC27
CDP -	1, 2, 3	-XC27
CDP -	2A, 3A, 4A, 5A, 6A, 7A	-XC27
<div> <div>Clevis pin</div> <div>Knuckle pin made of stainless steel</div> </div>		
<div> <div>Clevis pin</div> <div>Knuckle pin</div> </div>		

Specifications

Mounting style	Only double clevis style (D)
Pin material	Stainless steel 304
Specifications other than above	Same as standard type

Dimensions: Same as Standard Type

* For mounting bracket, cotter pin, clevis pin and knuckle joint pin are shipped together.



* Mounting method is the same as standard type.

Made to Order Common Specifications: -XC28: Compact Flange Made of SS400



30 Compact Flange Made of SS400

Symbol
-XC28

Width of a flange bracket on the rod and head side has the same dimensions as the cylinder's rod cover to save the mounting space. (Flange shape and FV-dimensions are only different from the standard type.)

Applicable Series

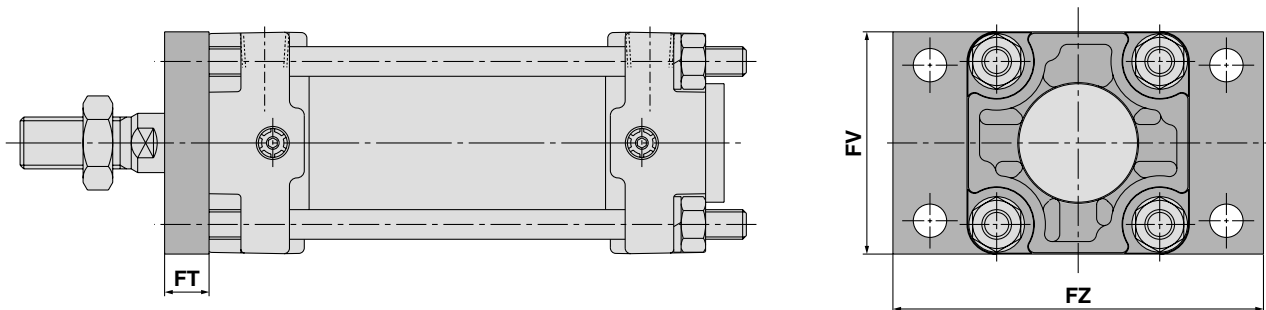
Series	Description	Model	Action	Vol. no. (for std model)
CA2	Air cylinder	CA2	Double acting, Single rod	② From P. 356
		CA2W	Double acting, Double rod	
	Non-rotating rod type	CA2K	Double acting, Single rod	
		CA2KW	Double acting, Double rod	
	With end lock	CBA2	Double acting, Single rod	
CV	Valve mounted cylinder	CVS1	Double acting, Single rod	③ From P. 1624
		CVS1K	Double acting, Single rod	

How to Order

CA2	F	Standard model no.	-XC28
CVS1	F	Compact flange made of SS400	
		• Mounting style	
	F	Rod side flange	
	G	Head side flange	

Specifications: Same as standard type.

Dimensions



Bore size (mm)	FT	FV	FZ
40	12	60	100
50	12	70	110
63	15	85	130
80	18	102	160
100	18	116	180

(mm)
* Other dimensions are the same as flange on the rod side and head side of standard type.
(Figure is the case of flange on the rod side.)

-X□

Individual
-X□

Made to Order Common Specifications: -XC29: Double Knuckle Joint with Spring Pin



31 Double Knuckle Joint with Spring Pin

Symbol
-XC29

To prevent loosening of the double knuckle joint of standard air cylinder (Series CM2/CA2)

Applicable Series

Series	Description	Model	Action	Vol. no. (for std model)
CM2	Air cylinder	CM2	Double acting, Single rod Single acting (Spring return/extend)	② From P. 128
		CM2W	Double acting, Double rod	
	Direct mount type	CM2R	Double acting, Single rod	
	Centralized piping type	CM2□□P	Double acting, Single rod	
	End lock cylinder	CBM2	Double acting, Single rod	
CG1	Air cylinder	CG1	Double acting, Single rod	② From P. 222

Series	Description	Model	Action	Vol. no. (for std model)
MB	Air cylinder	MB	Double acting, Single rod	② From P. 290
	Low friction	MBQ	Double acting, Single rod	
	Cylinder with end lock	MBB	Double acting, Single rod	
MB1	Air cylinder	MB1	Double acting, Single rod	② From P. 332
CA2	Air cylinder	CA2	Double acting, Single rod	② From P. 356
	End lock cylinder	CBA2	Double acting, Single rod	
CV	Valve mounted cylinder	CV3	Double acting, Single rod	② From P. 1604
		CVS1	Double acting, Single rod	

How to Order

Standard model no.

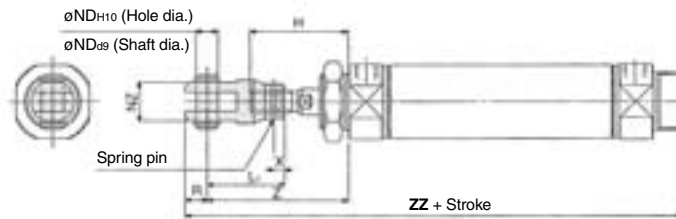
- XC29

Double knuckle joint with spring pin ●

Specifications: Same as standard type.

Dimensions (For mounting bracket, pin is shipped together.)

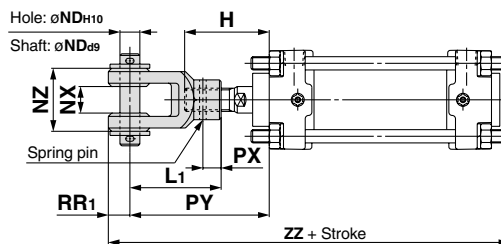
Series CM2



Bore size (mm)	H	L1	NDH10	NZ	R	Z	ZZ	Spring pin
20	41	36	9 ^{+0.058} ₀	18	10	61	146	ø3 x 16ℓ
25	45	38	9 ^{+0.058} ₀	18	10	65	150	ø3 x 16ℓ
32	45	38	9 ^{+0.058} ₀	18	10	65	152	ø3 x 16ℓ
40	50	55	12 ^{+0.070} ₀	38	13	83	200	ø4 x 24ℓ

* Other dimensions are the same as standard type.

Series CA2 (CBA2, CV3, CVS1)



Bore size (mm)	H	L1	PX	PY	ZZ	RR1	øND	H10	d9	NX	NZ	Spring pin
40	51	55	11	84	192	13	12	+0.070 0	-0.050 -0.093	16 ^{+0.3} _{+0.1}	38	ø4 x 24ℓ
50	58	60	12	91	207	15	12	+0.070 0	-0.050 -0.093	16 ^{+0.3} _{+0.1}	38	ø4 x 25ℓ
63	58	60	12	91	218	15	12	+0.070 0	-0.050 -0.093	16 ^{+0.3} _{+0.1}	38	ø4 x 25ℓ
80	71	71	16	105	257	19	18	+0.070 0	-0.050 -0.093	28 ^{+0.3} _{+0.1}	55	ø4 x 36ℓ
100	72	83	16	118	282	21	20	+0.084 0	-0.065 -0.117	30 ^{+0.3} _{+0.1}	61	ø4 x 40ℓ

* Dimensions except mentioned above are the same as standard type.

Made to Order Common Specifications: -XC30: Rod Side Trunnion



32 Rod Side Trunnion

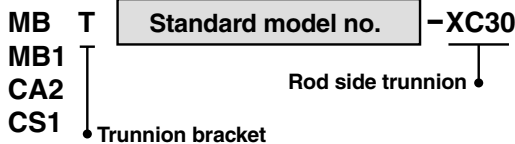
Symbol
-XC30

This cylinder shortens the distance between the fulcrum and the rod end by installing a trunnion bracket in front of the rod side cover.

Applicable Series

Series	Description	Model	Action	Vol. no. (for std model)
MB	Air cylinder	MB	Double acting, Single rod	☎ From P. 290
		MBW	Double acting, Double rod	
	Non-rotating rod type	MBK	Double acting, Single rod	
	Low friction	MB□Q	Double acting, Single rod	
	Cylinder with end lock	MBB	Double acting, Single rod	
MB1	Air cylinder	MB1	Double acting, Single rod	☎ From P. 332
		MB1W	Double acting, Double rod	
	Non-rotating rod type	MB1K	Double acting, Single rod	
CA2	Air cylinder	CA2	Double acting, Single rod	☎ From P. 356
CS1	Air cylinder	CS1	Double acting, Single rod	☎ From P. 412
		CS1W	Double acting, Double rod	

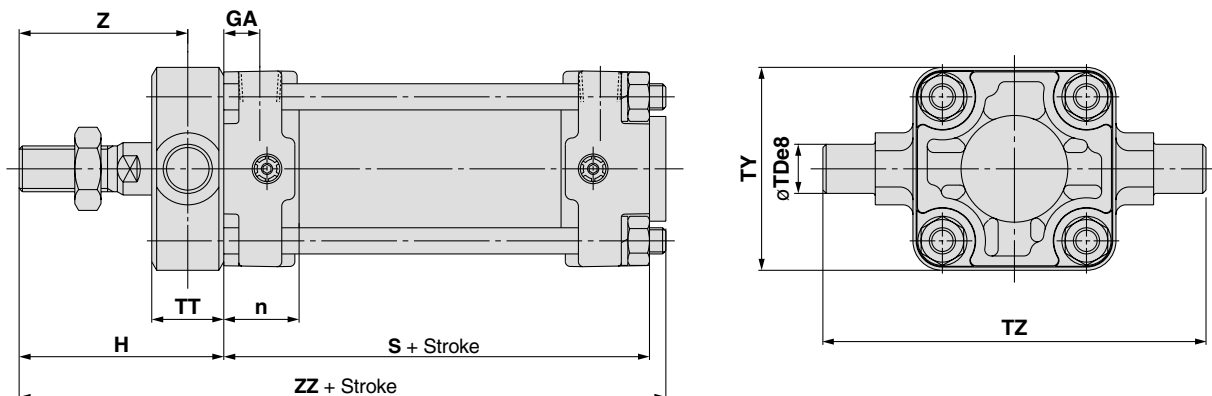
How to Order



Specifications: Same as standard type.

Dimensions (Dimensions other than below are the same as standard type.)

Series CA2



(mm)										
Bore size (mm)	n	øTDe8	GA	TT	TY	TZ	H	Z	ZZ	S
40	23	15 ^{-0.032} _{-0.059}	11	22	62	117	66	55	151	80
50	26	15 ^{-0.032} _{-0.059}	13	22	74	127	71	60	163	86
63	27	18 ^{-0.032} _{-0.059}	13	28	90	148	79	65	179	94
80	32	25 ^{-0.040} _{-0.073}	16	34	110	192	94.5	77.5	212.5	111
100	35	25 ^{-0.040} _{-0.073}	16	40	130	214	100	80	229	121

-X□
Individual
-X□

Made to Order Common Specifications: -XC30: Rod Side Trunnion

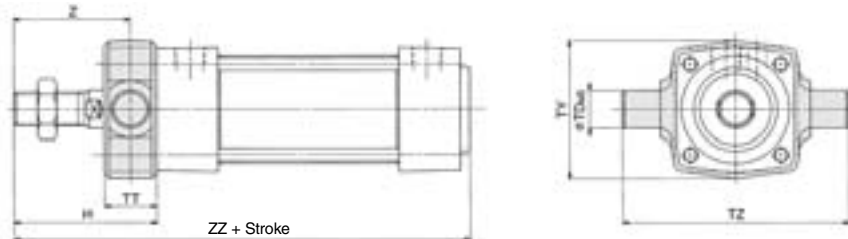


32 Rod Side Trunnion

Symbol
-XC30

Dimensions (Dimensions other than below are the same as standard type.)

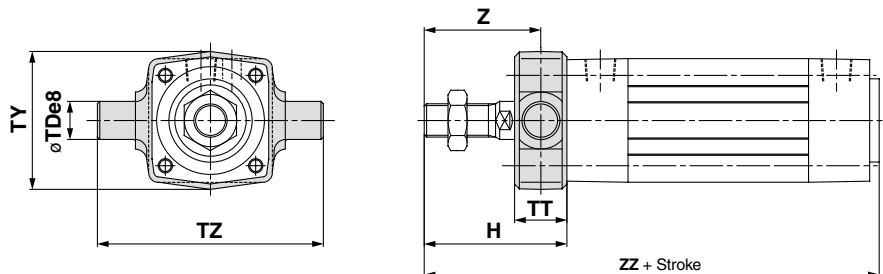
Series MB



Bore (mm)	Symbol	øTDe8	TT	TY	TZ	H	Z	ZZ
32	12	$\begin{smallmatrix} -0.032 \\ -0.059 \end{smallmatrix}$	17	49	74	47	38.5	135
40	16	$\begin{smallmatrix} -0.032 \\ -0.059 \end{smallmatrix}$	22	58	95	60	49	148
50	16	$\begin{smallmatrix} -0.032 \\ -0.059 \end{smallmatrix}$	22	71	107	66	55	164
63	20	$\begin{smallmatrix} -0.040 \\ -0.073 \end{smallmatrix}$	28	87	130	72	58	170
80	20	$\begin{smallmatrix} -0.040 \\ -0.073 \end{smallmatrix}$	34	110	150	86	69	204
100	25	$\begin{smallmatrix} -0.040 \\ -0.073 \end{smallmatrix}$	40	136	182	92	72	210

* Dimensions except mentioned above are the same as standard type.

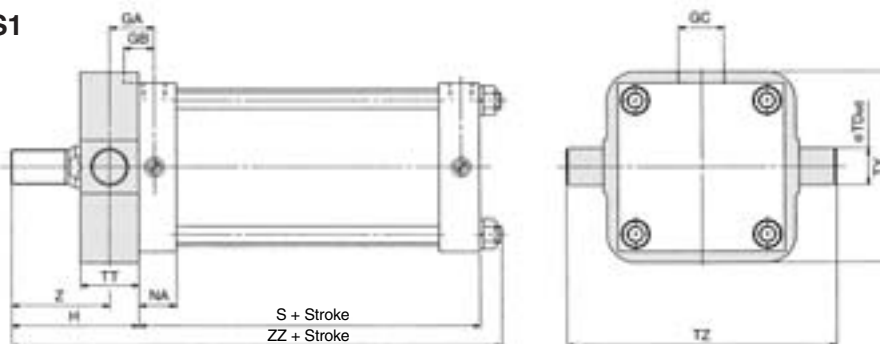
Series MB1



Bore size (mm)	øTDe8	TT	TY	TZ	H	Z	ZZ
32	12 ^{-0.032} _{-0.059}	17	49	74	47	38.5	135
40	16 ^{-0.032} _{-0.059}	22	58	95	60	49	148
50	16 ^{-0.032} _{-0.059}	22	71	107	66	55	164
63	20 ^{-0.040} _{-0.073}	28	87	130	72	58	170
80	20 ^{-0.040} _{-0.073}	34	110	150	86	69	204
100	25 ^{-0.040} _{-0.073}	40	136	182	92	72	210

* Dimensions except mentioned above are the same as standard type.

Series CS1



Bore (mm)	Symbol	GA	GB	GC	NA	S	øTDe8	TT	TV	TZ	H	Z	ZZ
125		38	23	45	32	95	$\begin{smallmatrix} -0.050 \\ -0.089 \end{smallmatrix}$	50	164	234	113	88.0	227
140		40.5	23	45	32	95	$\begin{smallmatrix} -0.050 \\ -0.089 \end{smallmatrix}$	55	184	262	113	85.5	227
160		45.5	25.5	50	36	103	$\begin{smallmatrix} -0.050 \\ -0.089 \end{smallmatrix}$	60	204	292	123	93.0	248
180		45	25.5	50	36	108	$\begin{smallmatrix} -0.050 \\ -0.089 \end{smallmatrix}$	59	228	326	138	108.5	272
200		45	25.5	50	36	108	$\begin{smallmatrix} -0.050 \\ -0.089 \end{smallmatrix}$	59	257	355	138	108.5	272
250		54.5	30	60	46	138	$\begin{smallmatrix} -0.060 \\ -0.106 \end{smallmatrix}$	69	325	447	163	128.5	331
300		59.5	30	70	46	143	$\begin{smallmatrix} -0.060 \\ -0.106 \end{smallmatrix}$	79	390	534	178	138.5	357

* Dimensions except mentioned above are the same as standard type.

1468



Made to Order Common Specifications: -XC34: Non-rotating Plate with Work Piece Mounting Screw (No extended part on the rod end)



33 Non-rotating Plate with Work Piece Mounting Screw (No extended part on the rod end) -XC34

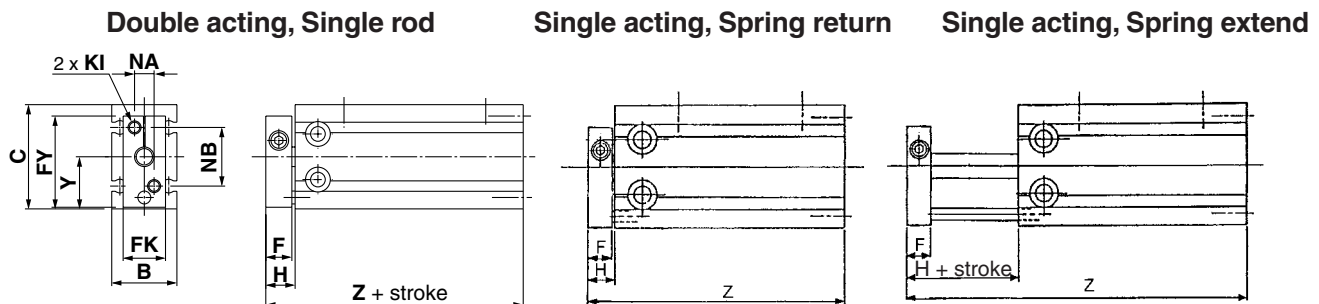
- The plate has work piece mounting screws.
- The dimension FL, the distance between a non-rotating plate to piston rod end, has been eliminated. The piston rod does not protrude from the plate.

Applicable model no. **- XC34**

Applicable Series

C(D)UK	Non-rotating rod/Double acting/Single rod
	Non-rotating rod/Single acting/Single rod (Spring return/extend)
	Non-rotating rod/Long stroke double acting/Single rod

Dimensions



(mm)

Bore size (mm)	B	C	FK	FY	KI	NA	NB	Y
6	13	22	11	20.5	M3 x 0.5	6	14	10.5
10	15	24	12	22	M3 x 0.5	7	15	11.5
16	20	32	13	28	M4 x 0.7	6	18	15.5
20	26	40	16	33	M4 x 0.7	8	20	19.5
25	32	50	20	43.5	M5 x 0.8	10	28	24.5
32	40	62	24	51.5	M5 x 0.8	12	32	30.5

(mm)

Bore size (mm)	Action	F	H	Double acting		Single acting (Spring return)						Single acting (Spring extend)					
				Z		Z						Z					
				Without switch	With switch	Without switch			With switch			Without switch			With switch		
						5st	10st	15st	5st	10st	15st	5st	10st	15st	5st	10st	15st
6		8	9	42	42	47	52	57	47	52	57	52	62	67	52	62	67
10		8	9	45	45	50	55	65	50	55	65	55	65	80	55	65	80
16		8	9	39	49	44	49	59	54	59	69	59	69	84	69	79	94
20		8	9	45	55	50	55	65	60	65	75	55	65	80	65	75	90
25		10	11	51	61	56	61	71	66	71	81	61	71	86	71	81	96
32		12	13	55	65	60	65	75	70	75	85	65	75	90	75	85	100

* Dimensions except mentioned above are the same as standard type.

-X□

Individual
-X□

Made to Order Common Specifications: -XC35: With Coil Scraper



34 With Coil Scraper

It gets rid of frost, ice, weld spatter, cutting chips adhered to the piston rod, and protects the seals, etc.

Applicable Series

Series	Description	Model	Action	Note	Vol. no. (for std model)
CM2	Air cylinder	CM2	Double acting, Single rod	Except with air cushion	② From P. 128
		CM2W	Double acting, Double rod	Except with air cushion	
	Cylinder with end lock	CBM2	Double acting, Single rod	Lock in head end only (Except with air cushion)	
CG1	Air cylinder	CG1	Double acting, Single rod		② From P. 222
MB	Air cylinder	MB	Double acting, Single rod		② From P. 290
		MBW	Double acting, Double rod		
MB1	Air cylinder	MB1	Double acting, Single rod		② From P. 332
		MBW	Double acting, Double rod		
CA2	Air cylinder	CA2	Double acting, Single rod		② From P. 356
		CA2W	Double acting, Double rod		
	Cylinder with end lock	CBA2	Double acting, Single rod		
CS1	Air cylinder	CS1	Double acting, Single rod		② From P. 412
		CS1W	Double acting, Double rod		
CQ2	Compact cylinder	CQ2	Double acting, Single rod	Applicable to ø32 to ø100, Except the one with bracket	② From P. 602
		CQ2W	Double acting, Double rod	Applicable to ø32 to ø100, Except the one with bracket	
RQ	Compact cylinder with air cushion	RQ	Double acting, Single rod	Applicable to ø32 to ø100	② From P. 774
MNB	Cylinder with lock	MNB	Double acting, Single rod		③ From P. 696
CNA	Cylinder with lock	CNA	Double acting, Single rod		③ From P. 726
CNG	Cylinder with lock	CNG	Double acting, Single rod		③ From P. 672
CLS	Cylinder with lock	CLS	Double acting, Single rod	Applicable to ø125 to ø160 (ø180 to ø250 as standard)	③ From P. 786
CLQ	Compact cylinder with lock	CLQ	Double acting, Single rod	Applicable to ø40 to ø100	③ From P. 816
CV	Valve mounted cylinder	CVS1	Double acting, Single rod		③ From P. 1624
MGP	Compact guide cylinder	MGP	Double acting	Applicable to ø20 to ø100 (Except with air cushion or end lock)	③ From P. 272
MGG	Guide cylinder	MGG	Double acting	Except ø20, ø25	③ From P. 356
MGC	Guide cylinder	MGC	Double acting	Except ø20, ø25	③ From P. 392

How to Order

Standard model no.	- XC35
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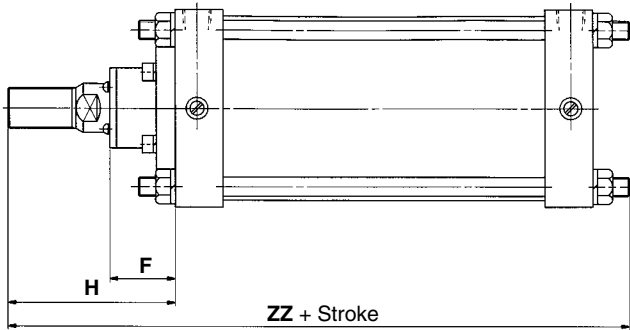
With coil scraper ●

* For Series MGP, refer to page 1474.

Specifications: Same as standard type.

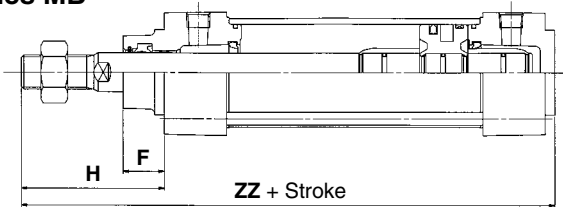
Dimensions (Dimensions other than below are the same as standard type.)

Series CS1



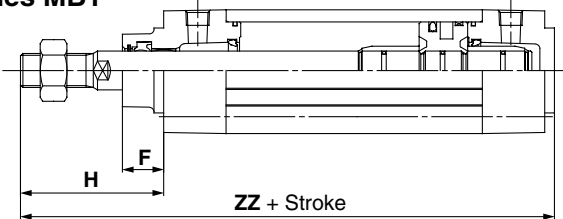
Bore size (mm)	Without auto switch			With auto switch		
	F	H	ZZ	F	H	ZZ
125	50	120	245	50	120	245
140	50	120	245	50	120	245
160	50	130	266.5	50	130	266.5
180	55	145	291	55	145	295
200	55	145	291	55	145	300
250	69	175	357.5	—	—	—
300	69	190	387.5	—	—	—

Series MB



Bore size (mm)	F	H	ZZ
32	15	47	135
40	17	58	146
50	19	67	165
63	19	67	165
80	25	81	199
100	25	81	199

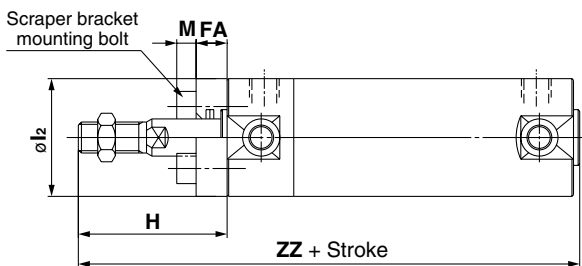
Series MB1



Bore size (mm)	F	H	ZZ
32	15	47	135
40	17	58	146
50	19	67	165

Bore size (mm)	F	H	ZZ
63	19	67	165
80	25	81	199
100	25	81	199

Series CG1



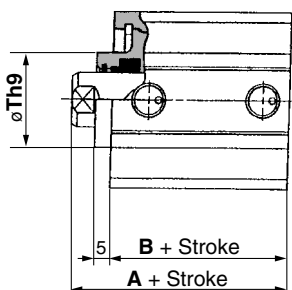
Bore size (mm)	Stroke range (mm)		FA	H	I ₂	M	ZZ
	Standard	Long stroke					
20	Up to 200	201 to 350	6	39	27	4	110 (118)
25	Up to 300	301 to 400	6	44	32	5	115 (123)
32	Up to 300	301 to 450	6	44	38	5	117 (125)
40	Up to 300	301 to 800	7	54	48	6	134 (143)
50	Up to 300	301 to 1200	7	62	59	8	154 (166)
63	Up to 300	301 to 1200	7	62	72	10	154 (166)

Note) (): Long stroke

* Other dimensions are the same as the double acting, single rod type.

* On the axial foot and rod side flange styles, the mounting bracket is wedged and bolted between the cylinder and the scraper at the time of shipment. Others are shipped together (but not assembled).

Series CQ2



Bore size (mm)	A		B		Th9
	50 stroke or less	51 to 100 stroke	50 stroke or less	51 to 100 stroke	
32	35 (45)	45 (45)	23 (33)	33 (33)	23 ⁰ _{-0.052}
40	41.5 (51.5)	51.5 (51.5)	29.5 (39.5)	39.5 (39.5)	28 ⁰ _{-0.052}
50	43.5 (53.5)	53.5 (53.5)	30.5 (40.5)	40.5 (40.5)	35 ⁰ _{-0.062}
63	49 (59)	59 (59)	36 (46)	46 (46)	35 ⁰ _{-0.062}
80	58.5 (68.5)	68.5 (68.5)	43.5 (53.5)	53.5 (53.5)	43 ⁰ _{-0.062}
100	70 (80)	80 (80)	53 (63)	63 (63)	59 ⁰ _{-0.074}

Note 1) (): Denotes the dimensions with auto switch.

Note 2) Applicable stroke available by the 5 mm interval.

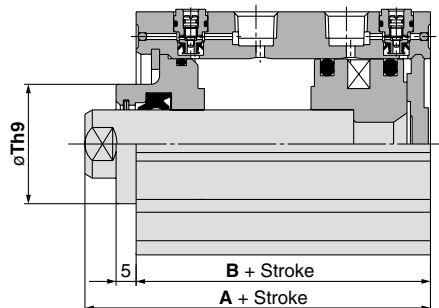
Made to Order Common Specifications: -XC35: With Coil Scraper



34 With Coil Scraper

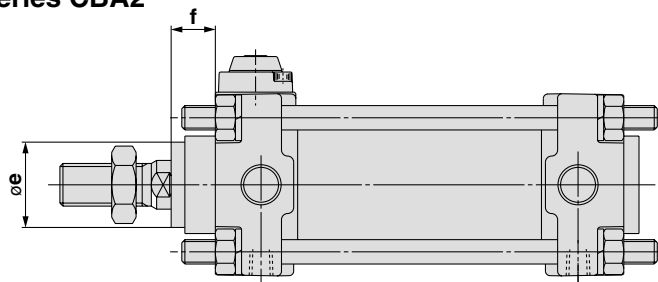
Dimensions (Dimensions other than below are the same as standard type.)

Series RQ



Bore size (mm)	A	B	Th9
32	49	37	23 ⁰ _{-0.052}
40	56	44	28 ⁰ _{-0.052}
50	62.5	49.5	35 ⁰ _{-0.062}
63	68	55	35 ⁰ _{-0.062}
80	78.5	63.5	43 ⁰ _{-0.062}
100	93	76	59 ⁰ _{-0.074}

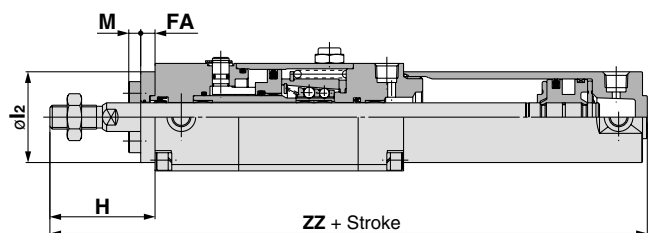
Series CBA2



Bore size (mm)	øe	f
		With rod side locking, With both-side locking
40	28	14.5
50	32	16.5
63	32	14
80	37	16
100	44	17.5

The above diagram shows the rod side locking and manual releasing non-locking types.
Series CBA2 head side locking type is the same as the standard type.
The dimensions of the manual releasing non-locking type are the same as indicated above.

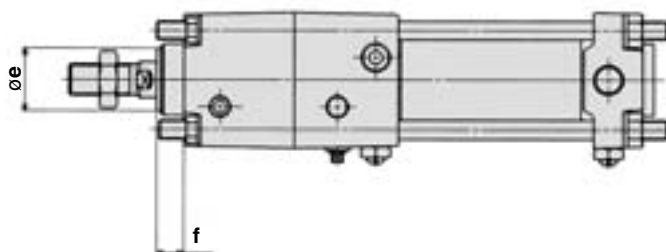
Series CNG



Bore size (mm)	FA	M	l ₂	H	ZZ
20	6	4	27	39	182
25	6	5	32	44	197
32	6	5	38	44	200
40	7	6	48	54	225
					ZZ
					190
					205
					208
					234

Long stroke

Series CNA



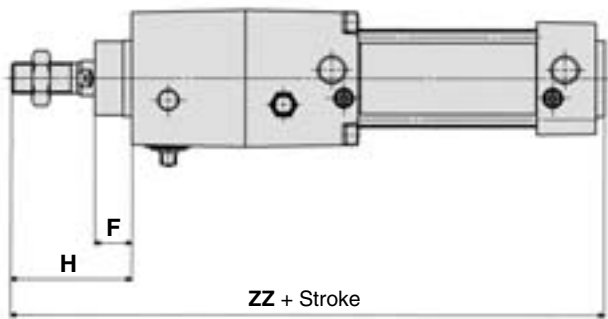
Bore size (mm)	e	f
40	28	12
50	32	12.5
63	32	12.5
80	37	16.5
100	44	17

* Other dimensions are the same as the standard type. (The figure shows a type with a rubber bumper.)

* On the axial foot and rod side flange styles, the mounting bracket is wedged and bolted between the cylinder and the scraper at the time of shipment.

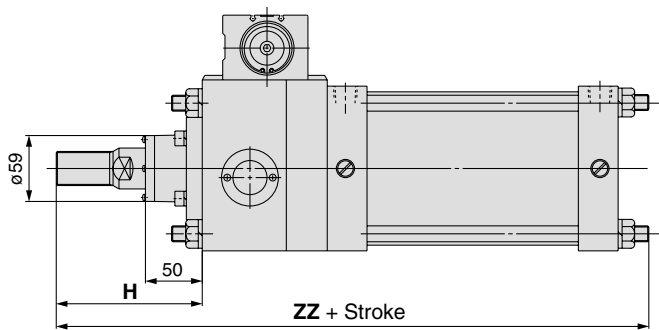
Dimensions (Dimensions other than below are the same as standard type.)

Series MNB



Bore size (mm)	F	H	ZZ
32	16	47	205
40	18	56	221
50	19	63	250
63	19	63	264
80	25	77	326
100	25	77	346

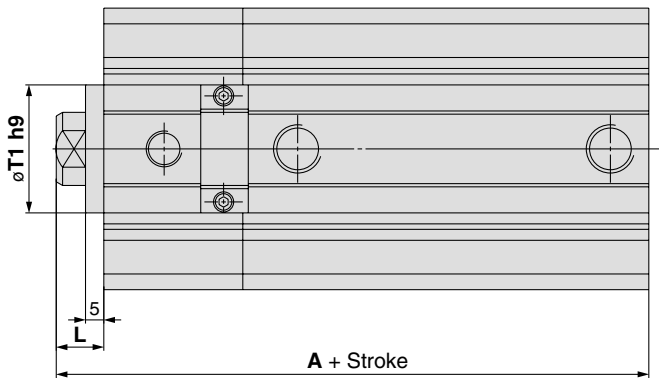
Series CLS



Bore size (mm)	H	ZZ
125	120	355
140	120	355
160	130	398.5

* ø180 to ø250: A coil scraper is attached as standard.

Series CLQ



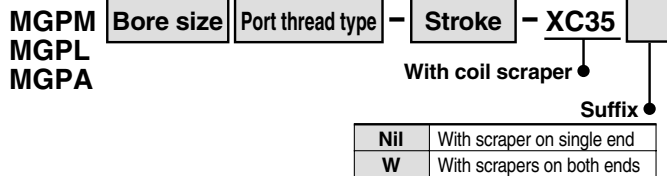
Bore size (mm)	Stroke range (mm)	A		L	T1 h9
		Without auto switch	With auto switch		
40	10 to 50	75.5	85.5	12	28 ⁰ _{-0.052}
	75,100	85.5			
50	10 to 50	78.5	88.5	13	35 ⁰ _{-0.062}
	75,100	88.5			
63	10 to 50	87	97	13	35 ⁰ _{-0.062}
	75,100	97			
80	10 to 50	101.5	111.5	15	43 ⁰ _{-0.062}
	75,100	111.5			
100	10 to 50	120	130	17	59 ⁰ _{-0.074}
	75,100	130			

Made to Order Common Specifications: -XC35: With Coil Scraper



34 With Coil Scraper

How to Order

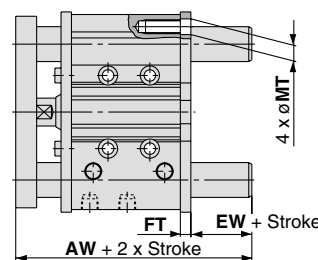
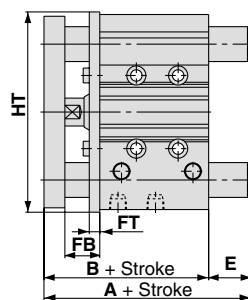


Specifications

Applicable series		MGPM	MGPL, MGPA
Bearing type		Slide bearing	Ball bushing bearing
Bore size (mm)		20, 25, 32, 40, 50, 63, 80, 100	
Minimum operating pressure	With single end	0.12 MPa	
	With both ends	0.14 MPa	

* Specifications other than above are the same as standard type.

Dimensions (Dimensions other than below are the same as standard type.)



Cylinder with scrapers in both sides

MGPM, MGPL, MGPA Common Dimensions (mm)

Bore size (mm)	B	FB	FT
20	63	16	5
25	63.5	16	5
32	69.5	20	6
40	76	20	6
50	82	22	6
63	87	22	6
80	106.5	28	6
100	126	35	9

With scrapers in both sides AW, EW, MT Dimensions (mm)

Bore size (mm)	AW	EW	MT
20	74	6	6
25	74.5	6	7
32	82.5	7	8.5
40	89	7	9
50	95	7	11
63	100	7	11
80	120.5	8	14
100	143	8	16

MGPM (Slide bearing) A, E, HT Dimensions (mm)

Bore size (mm)	A			E			HT
	50 st or less	Over 50 st to 200 st	Over 200 st	50 st or less	Over 50 st to 200 st	Over 200 st	
20	63	94.5	132	0	31.5	69	80
25	63.5	95	132	0	31.5	68.5	93
32	97	112	150	27.5	42.5	80.5	110
40	97	112	150	21	36	74	118
50	106.5	128	171	24.5	46	89	146
63	106.5	128	171	19.5	41	84	160
80	125	152	203	18.5	45.5	96.5	200
100	147	172	213	21	46	87	238

MGPL, MGPA (Ball bushing bearing) A, E, HT Dimensions (mm)

Bore size (mm)	A				E				HT
	30 st or less	Over 30 st to 100 st	Over 100 st to 200 st	Over 200 st	30 st or less	Over 30 st to 100 st	Over 100 st to 200 st	Over 200 st	
20	73	90	114	132	10	27	51	69	80
25	79.5	95.5	114.5	132	16	32	51	68.5	93

Bore size (mm)	A				E				HT
	50 st or less	Over 50 st to 100 st	Over 100 st to 200 st	Over 200 st	50 st or less	Over 50 st to 100 st	Over 100 st to 200 st	Over 200 st	
32	91	108	128	150	21.5	38.5	58.5	80.5	110
40	91	108	128	150	15	32	52	74	118
50	103	124	144	171	21	42	62	89	146
63	103	124	144	171	16	37	57	84	160

Bore size (mm)	A				E				HT
	25 st or less	Over 25 st to 50 st	Over 50 st to 200 st	Over 200 st	25 st or less	Over 25 st to 50 st	Over 50 st to 200 st	Over 200 st	
80	119.5	140	170	203	13	33.5	63.5	96.5	201
100	131	157	190	213	5	31	64	87	238

Symbol

-XC35

How to Order

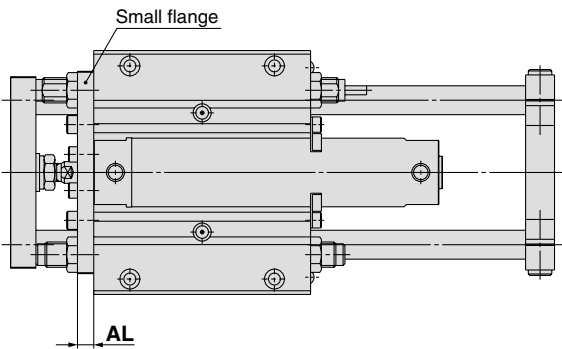
MGG Standard model no. **-XC35**
MGC
With coil scraper ●

Specifications: Same as the standard type of each series.

Note 1) Except ø20 and ø25
Note 2) Coil scrapers are attached to the piston rod and guide rods (front and back).

Dimensions (Dimensions other than below are the same as standard type.)

Series MGG□B
ø32 to ø50



(mm)	
Bore size (mm)	AL
32	9
40	12
50	12

-X□

Individual
-X□

Made to Order Common Specifications:

-XC36: With Boss in Rod Side

-XC37: Larger Throttle Dia. of Connection Port



35 With Boss in Rod Side

Symbol
-XC36

Cylinder with boss in rod side

Applicable Series

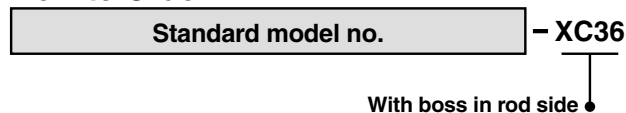
Series	Description	Model	Action	Vol. no. (for std model)
CQS	Compact cylinder	CQS	Double acting, Single rod	☛ From P. 551
		CQSW	Double acting, Double rod	
CQ2	Compact cylinder	CQ2	Double acting, Single rod	☛ From P. 602
			Single acting (Spring return/extend)	
	Axial piping type (Centralized piping type)	CQ2W	Double acting, Double rod	
		CQP2	Double acting, Single rod	
			Single acting (Spring return/extend)	

Note 1) For the double rod type, it comes with boss for both sides.

Note 2) Except with bracket

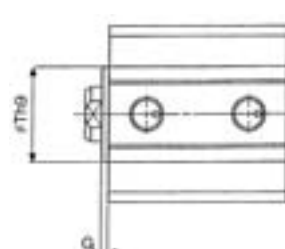
Note 3) ø125 or more is excluded in CQ2.

How to Order



Specifications: Same as standard type.

Dimensions



(mm)					
Series	CQ2		CQS		
Bore size (mm)	Th9	G	Th9	G	
12	15 ⁰ _{-0.043}	1.5	15 ⁰ _{-0.043}	1.5	
16	20 ⁰ _{-0.052}	1.5	20 ⁰ _{-0.052}	1.5	
20	13 ⁰ _{-0.043}	2	13 ⁰ _{-0.043}	2	
25	15 ⁰ _{-0.043}	2	15 ⁰ _{-0.043}	2	
32	21 ⁰ _{-0.052}	2	—	—	
40	28 ⁰ _{-0.052}	2	—	—	
50	35 ⁰ _{-0.062}	2	—	—	
63	35 ⁰ _{-0.062}	2	—	—	
80	43 ⁰ _{-0.062}	2	—	—	
100	59 ⁰ _{-0.074}	2	—	—	

* Dimensions except mentioned above are the same as standard type.

36 Larger Throttle Diameter of Connection Port

Symbol
-XC37

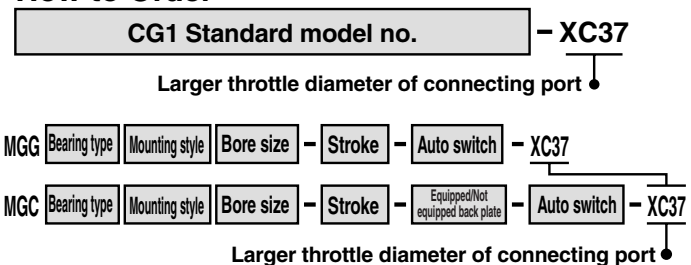
This is a cylinder with a piping port larger than the standard type.

Applicable Series

Series	Description	Model	Action	Vol. no. (for std model)
CG1	Air cylinder	CG1	Double acting, Single rod	☛ From P. 222
	Double rod type	CG1W	Double acting, Double rod	
MGG	Guide Cylinder	MGG	Double acting	☛ From P. 356
MGC		MGC	Double acting	☛ From P. 392

Note 1) Except ø80, 100

How to Order



Specifications: Same as standard type.

Dimensions (Throttle diameter of connection port)

Dimensions other than below are the same as standard type.

(mm)			
Series	CG1		
Bore size (mm)	With rubber bumper	With air cushion	Standard type
20	5	3	(2.1)
25	5	3.5	(2.5)
32	6	6	(3.3)
40	7	7	(3.9)
50	9	9	(4.5)
63	9	9	(5.7)

* Use external stopper, etc. not to be damaged with cylinder cover directly if exceeding the range of kinetic energy absorption.

Series MGG (mm)

Bore size (mm)	Throttle dia. (ø)
20	5
25	5
32	6
40	7
50	9
63	9

Series MGC (mm)

Bore size (mm)	Throttle dia. (ø)
20	3
25	3.5
32	6
40	7
50	9

Made to Order Common Specifications: -XC38: Vacuum (Rod through-hole)



37 Vacuum (Rod through-hole)

Symbol

-XC38

Through-hole of hollow rod can be used as the passage of vacuum air.

Applicable Series

Series	Description	Model	Action	Note	Vol. no. (for std model)
CM2	Air cylinder/Standard type	CM2W	Double acting, Double rod		● From P. 146
MTS	Precision cylinder	MTS	Double acting, Single rod	Available only for ø8 female thread	● From P. 238

How to Order

CM2 Standard model no.

- XC38

Vacuum (Rod through-hole)

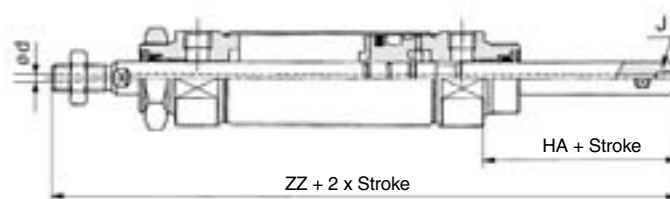


Specifications: Same as standard type.

Construction/Dimensions

(Other dimensions are the same as standard.)

Series CM2W



Bore size (mm)	d	J	HA	ZZ
20	3	M5 x 0.8	32	135
25	3	M5 x 0.8	32	139
32	3	M5 x 0.8	32	141
40	4	Rc1/8	36	174

MTS8 - Stroke (P) - XC38

Axial piping type

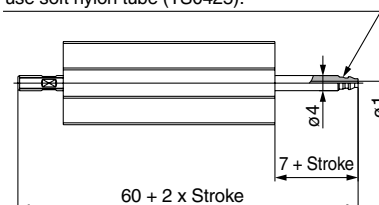
Vacuum (Rod through-hole)



Dimensions

Series MTS8

Use ø4/ø2.5 urethane tube (TU0425) or use soft nylon tube (TS0425).



⚠ Caution

1. Blow air for through-hole.

Flush the through-hole which is a passage for air pressure and vacuum to prevent dust.

Specifications

Bore size (mm)	8
Piping direction	Standard piping type, Axial piping type
Rod end configuration	Female thread

-X□

Individual
-X□

Made to Order Common Specifications: -XC42: Built-in Shock Absorber in Head Cover Side



38 Built-in Shock Absorber in Head Cover Side

Symbol
-XC42

A type of Series CG1 air cylinder in which a special shock absorber is enclosed in the head portion so that its ability to absorb energy during the retraction of the cylinder is considerably greater than the conventional air cushion.

Applicable Series

Series	Description	Model	Action	Vol. no. (for std model)
CG1	Air cylinder	CG1	Double acting, Single rod	● From P. 222

How to Order

CG1 Standard model no. -XC42

Built-in shock absorber in head cover side ●

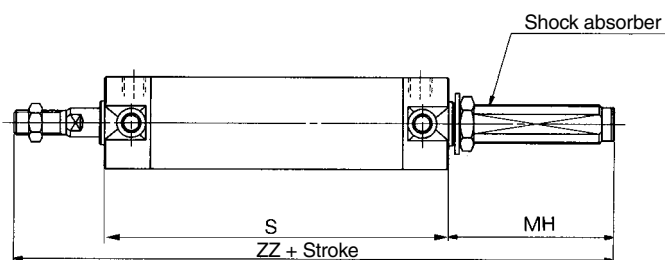


Specifications

Piston speed	Spring return side: 50 to 1000 mm/s, Spring extend side: 50 to 2000 mm/s
Additional specifications	Same as standard type

* On the axial foot and head side flange styles, the bracket is mounted at the time of shipment. Others are shipped together (but not assembled).

Construction/Dimensions (Other dimensions are the same as CG1 long stroke cylinder.)



The shock absorber service life is different from that of the CG1 cylinder. Refer to the Series RB Specific Product Precautions for the replacement period.

Bore (mm)	Stroke range	Shock absorber	S	MH	ZZ
20	10 to 350	RBAC0806	77	23.5	135.5
25	10 to 400	RBAC1007	77	31	148
32	15 to 450	RBAC1412	79	55	174
40	15 to 800	RBAC2015	87	62.5	199.5
50	15 to 1200	RBAC2015	102	55.5	215.5
63	25 to 1200	RBAC2725	102	92.5	252.5

* Shock absorbers are consumables.
The specifications for shock absorbers are the same as RBC□□□□, but use RBAC□□□□ when an external pressure is applied such as for a built-in cylinder.
The maximum absorption energy may decrease depending on the operating conditions.

Made to Order Common Specifications:

-XC51: With Hose Nipple

-XC52: Mounting Nut with Set Screw



39 With Hose Nipple **-XC51**

The one with hose nipple attached in order to save time for assembly at the time of shipment.

Applicable Series

Series	Description	Model	Action	Vol. no. (for std model)
CJ2	Air cylinder	CJ2	Double acting, Single rod	● From P. 42
			Single acting (Spring return/extend)	
		CJ2W	Double acting, Double rod	
	Non-rotating rod type	CJ2K	Double acting, Single rod	
			Single acting (Spring return/extend)	
	With speed controller	CJ2Z	Double acting, Single rod	
		CJ2ZW	Double acting, Double rod	
	Low friction type	CJ2□Q	Double acting, Single rod	
	Direct mount type	CJ2RA	Double acting, Single rod	
			Single acting (Spring return/extend)	
	Non-rotating rod, Direct mount type	CJ2RK	Double acting, Single rod	
			Single acting (Spring return/extend)	

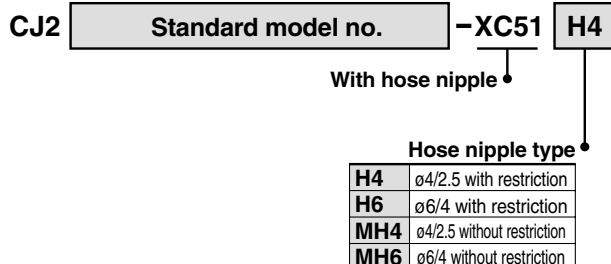
40 Mounting Nut with Set Screw **-XC52**

In order to prevent the mounting nut from being loosen, set screw should be tighten from the two directions to fix the mounting nut.

Applicable Series

Series	Description	Action	Action	Vol. no. (for std model)
CM2	Air cylinder	CM2	Double acting, Single rod	● From P. 128
			Single acting (Spring return/extend)	
		CM2W	Double acting, Double rod	
	Non-rotating rod type	CM2K	Double acting, Single rod	
			Single acting (Spring return/extend)	
		CM2KW	Double acting, Double rod	
	Centralized piping type	CM2□□P	Double acting, Single rod	
	End lock cylinder	CBM2	Double acting, Single rod	

How to Order



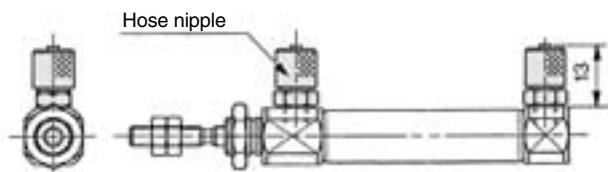
Specifications: Same as standard type.

Applicable Hose Nipple Type

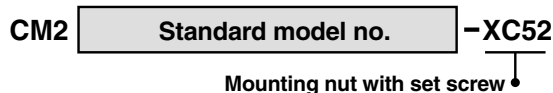
Symbol	Applicable bore size (mm)	Function	Hose nipple part no.
H4	ø4/2.5	With a fixed orifice (ø0.8)	CJ-5H-4
H6	ø6/4		CJ-5H-6
MH4	ø4/2.5	Without fixed orifice	M-5H-4
MH6	ø6/4		M-5H-6

Dimensions

(Dimensions other than below are the same as standard type.)



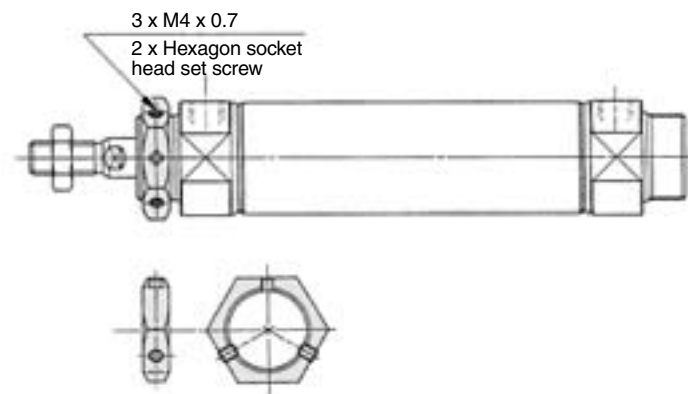
How to Order



Specifications: Same as standard type.

Dimensions

(Dimensions other than below are the same as standard type.)



-X□

Individual
-X□

Made to Order Common Specifications: -XC56: With Knock Pin Holes



41 With Knock Pin Holes

Cylinder with knock positioning pin hole.

Applicable Series

Series	Description	Model	Action	Note	Vol. no. (for std model)
MGG	Guide cylinder	MGG ^M _L B	Double acting	For basic style only	③ From P. 356
MGC	Guide cylinder	MGC ^M _L B	Double acting	For basic style only	③ From P. 392
MGQ	Compact guide cylinder	MGQ ^M _L	Double acting		③ From P. 338
MY1	Mechanically jointed rodless cylinder	MY1C	Cam follower guide		② From P. 1000
		MY1H	Linear guide		

How to Order

Standard model no.

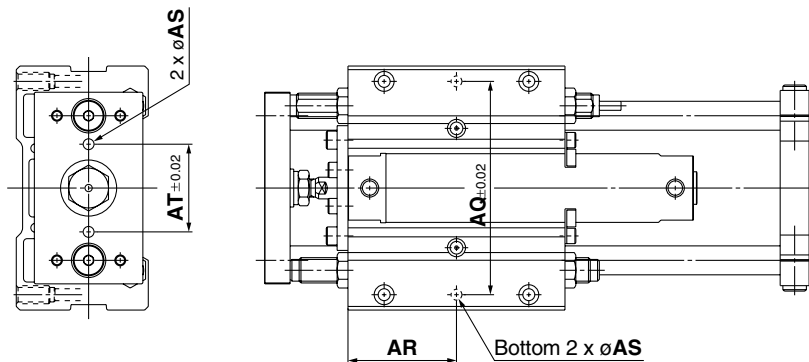
-XC56

With knock pin holes

Specifications: Same as standard type.

Dimensions (Dimensions other than below are the same as standard type.)

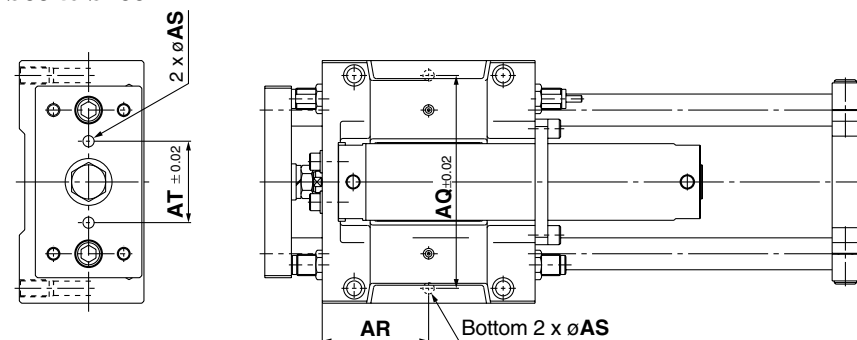
Series MGG ø20 to ø50



Series MGG (mm)

Bore size (mm)	AQ	AR	AS	AT
20	92	45	5 ^{+H7} ₀ ^{+0.012} ₀ depth 6	36
25	113	50	6 ^{+H7} ₀ ^{+0.012} ₀ depth 8	45
32	118	60	6 ^{+H7} ₀ ^{+0.012} ₀ depth 8	48
40	150	70	8 ^{+H7} ₀ ^{+0.015} ₀ depth 11	56
50	170	85	10 ^{+H7} ₀ ^{+0.015} ₀ depth 13	68
63	200	100	10 ^{+H7} ₀ ^{+0.015} ₀ depth 13	74
80	234	115	12 ^{+H7} ₀ ^{+0.018} ₀ depth 15	92
100	274	140	12 ^{+H7} ₀ ^{+0.018} ₀ depth 15	106

ø63 to ø100

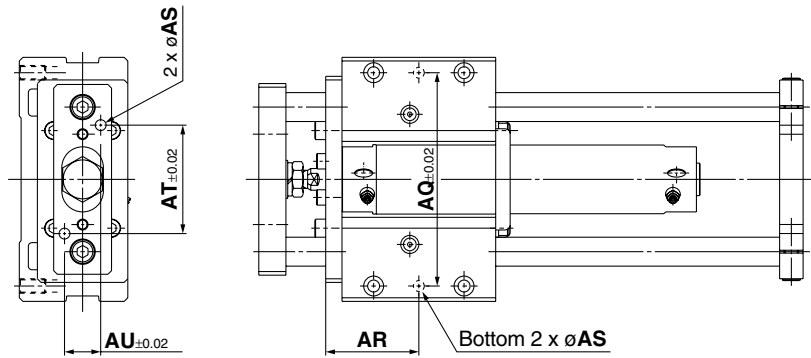


Symbol

-XC56

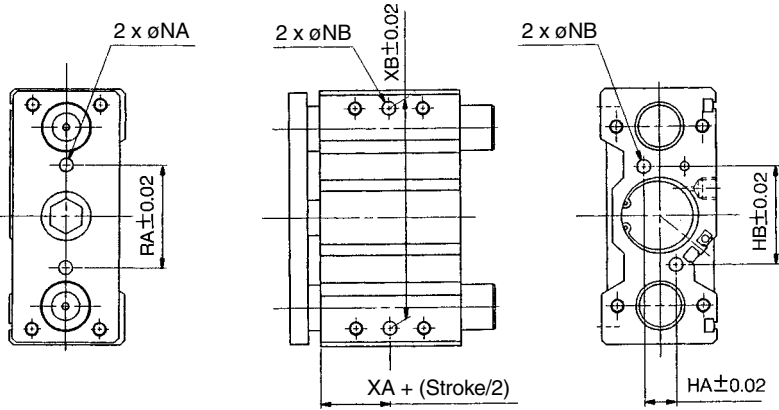
Dimensions (Dimensions other than below are the same as standard type.)

Series MGC
ø20 to ø50



Series MGC (mm)					
Bore size (mm)	AQ	AR	AS	AT	AU
20	90	46.5	$5^{H7}_{+0.012}_0$ depth 6	45	15
25	103	49	$6^{H7}_{+0.012}_0$ depth 8	55	20
32	118	51.5	$6^{H7}_{+0.012}_0$ depth 8	60	20
40	140	59.5	$8^{H7}_{+0.015}_0$ depth 11	70	22
50	170	77	$8^{H7}_{+0.015}_0$ depth 11	85	30

Series MGQ



Series MGQ (mm)							
Bore size (mm)	HA	HB	NA	NB	RA	XA	XB
12	0	19	$3^{H7}_{+0.010}_0$ depth 4	$3^{H7}_{+0.010}_0$ depth 4	21	14.5	50
16	7	22	$3^{H7}_{+0.010}_0$ depth 4	$3^{H7}_{+0.010}_0$ depth 4	22	16.5	54
20	9	26	$4^{H7}_{+0.012}_0$ depth 5	$4^{H7}_{+0.012}_0$ depth 5	28	18	64
25	12	30	$4^{H7}_{+0.012}_0$ depth 5	$4^{H7}_{+0.012}_0$ depth 5	34	19	76
32	14	44	$6^{H7}_{+0.012}_0$ through	$6^{H7}_{+0.012}_0$ depth 8	46	18.5	100
40	14	54	$6^{H7}_{+0.012}_0$ through	$6^{H7}_{+0.012}_0$ depth 8	50	22	110
50	20	62	$8^{H7}_{+0.015}_0$ through	$8^{H7}_{+0.015}_0$ depth 11	56	22	124
63	30	74	$8^{H7}_{+0.015}_0$ through	$8^{H7}_{+0.015}_0$ depth 11	66	24	132
80	36	94	$10^{H7}_{+0.015}_0$ through	$10^{H7}_{+0.015}_0$ depth 13	84	28.5	166
100	40	116	$10^{H7}_{+0.015}_0$ through	$10^{H7}_{+0.015}_0$ depth 13	110	32.5	200

-X□

Individual
-X□

Made to Order Common Specifications: -XC56: With Knock Pin Holes

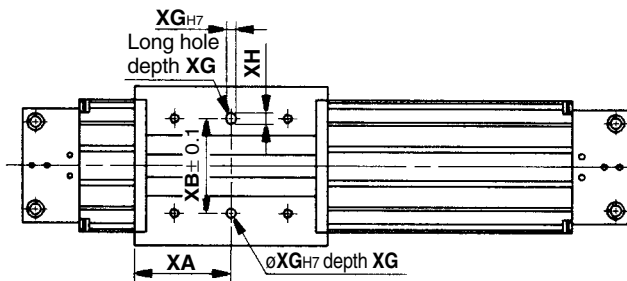


41 With Knock Pin Holes

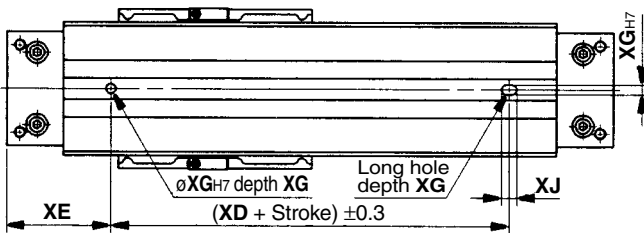
Symbol
-XC56

Dimensions (Dimensions other than below are the same as standard type.)

Series MY1C



Mounting surface of a workpiece for the slide table

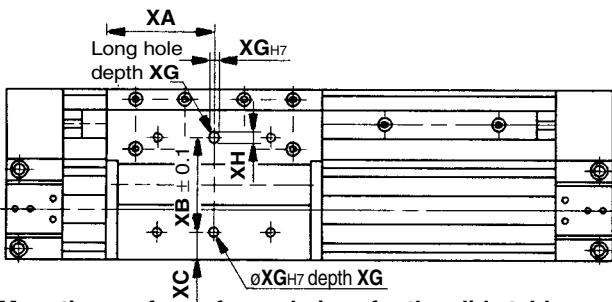


Mounting surface of cylinder tube

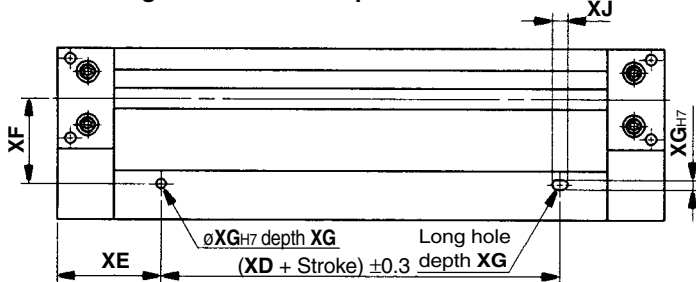
(mm)

Bore size (mm)	XA	XB	XD	XE	XG	XH	XJ
16	40	40	80	40	4	5	9
20	50	40	100	50	4	5	9
25	51	50	110	55	5	6	10
32	66	60	140	70	6	7	11
40	81	80	180	80	6	7	11
50	100	90	230	85	8	9	13
63	115	110	280	90	10	10	15

Series MY1H



Mounting surface of a workpiece for the slide table



Mounting surface of cylinder tube

(mm)

Bore size (mm)	XA	XB	XC	XD	XE
10	25	33	3.5	70	20
16	40	40	7.5	80	40
20	50	40	14.5	100	50
25	57	50	14.5	110	55
32	70	60	15	140	70
40	85	80	20.5	180	80

Bore size (mm)	XF	XG	XH	XJ
10	21.5	3	4	5
16	30	4	5	7
20	39	4	5	7
25	45	5	6	8
32	60	6	7	9
40	60.5	6	7	9

Made to Order Common Specifications: -XC57: Rodless Cylinder with Floating Joint



42 Rodless Cylinder with Floating Joint

Symbol
-XC57

A special floating joint has been added to Series CY3B, which reduces the amount of labor that is required for connecting the cylinder to the guide of another shaft (load side).

The bolts used for joining the floating joint to the load can be secured either from above or below. (CY1B with a $\phi 6$ or $\phi 10$ bore must be secured from above.)

Applicable Series

Series	Description	Model	Action	Vol. no. (for std model)
CY3	Magnetically coupled rodless cylinder	CY3B	Double acting	② From P. 1174
		CY3R	Double acting	
REA REB	Sine rodless cylinder	REA	Double acting	③ From P. 935
		REAR	Double acting	
		REBR	Double acting	

How to Order

Standard model no.

- XC57

Rodless cylinder with floating joint

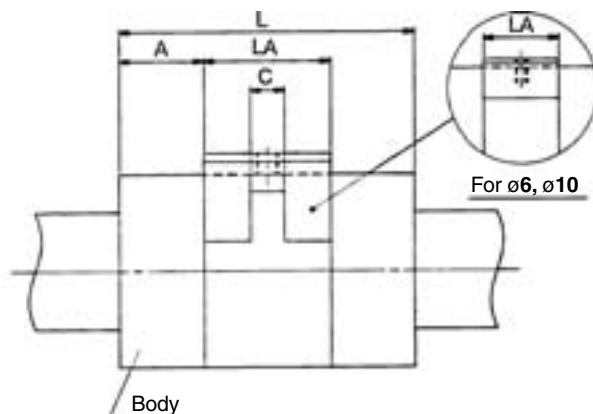
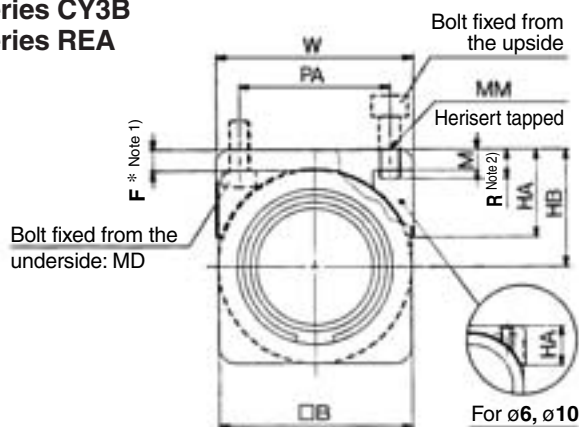


Note) The body of this cylinder is for connecting to the floating joint so that it cannot be connected to the body of the standard style. Therefore, please contact SMC for this.

Specifications: Same as standard type.

Construction/Dimensions (Other dimensions are the same as standard.)

Series CY3B Series REA



Bore size (mm)	A	□B	C	F* (1)	HA	HB	L	LA	MM	MD	M	PA	R (2)	W
6	10	17	—	2.5	6.3	11	35	15	M3 x 0.5 x 3 ℓ	—	—	12	—	18
10	10	25	—	2.5	9.5	15	38	18	M3 x 0.5 x 3 ℓ	—	—	17	—	26
15	16	35	6.5	5.5	16.5	23	57	25	M4 x 0.7	M3	4	25	6	36
20	18	36	6.5	5.5	17	23.5	66	30	M5 x 0.8	M3	4	27	6	37
25	20	46	8.0	5.5	21	28.5	70	30	M6 x 1.0	M4	5	36	7	47
32	22.5	60	9.5	6.0	27.5	36	80	35	M6 x 1.0	M5	6	47	8	61
40	26	70	9.5	6.0	28.5	41	92	40	M6 x 1.0	M5	6	55	8	71
50	35	86	11	6.0	35	49	110	40	M8 x 1.25	M6	8	65	11	87
63	36	100	18	7.0	42	57	122	50	M8 x 1.25	M6	10	80	11	101



Note 1) With dimension F*, the amount of clearance between the body and the floating joint is 1 mm. The self weight deflection of the cylinder tube is not taken into account. Before operating the cylinder, determine the proper value by taking the amount of self weight deflection and the amount of off-centering from the other shaft into consideration.

Note 2) When the bolts are secured from above, be aware that if the cylinder is operated when dimension R (on $\phi 6$ and $\phi 10$, 3 mm or over) is exceeded, the end of the bolt could come in contact with the body, without

-X□

Individual
-X□

Made to Order Common Specifications: -XC57: Rodless Cylinder with Floating Joint



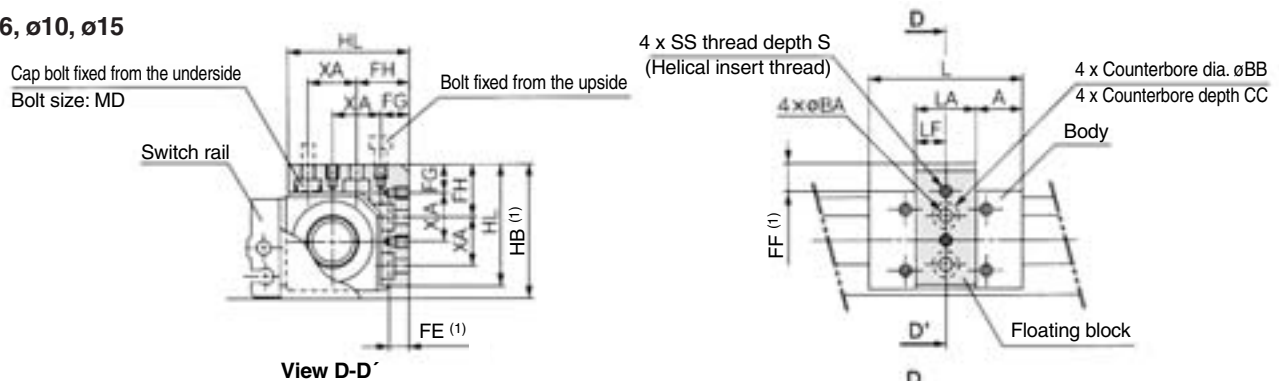
42 Rodless Cylinder with Floating Joint

Symbol
-XC57

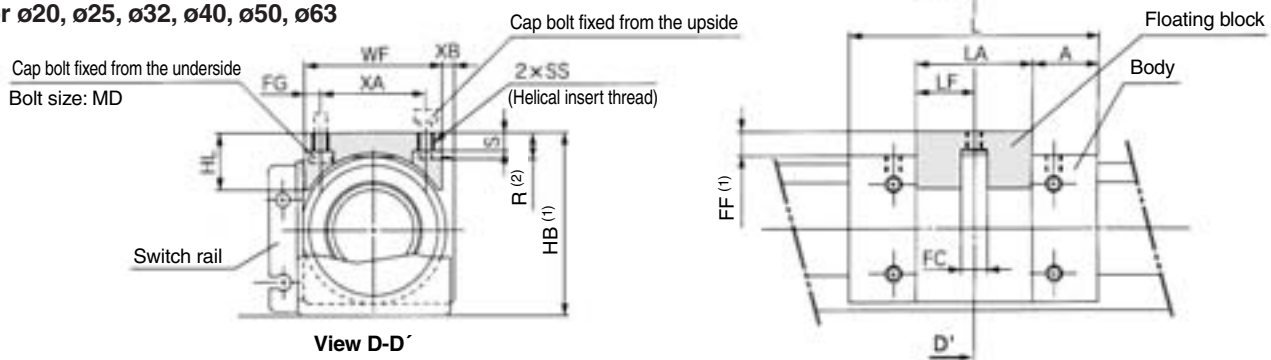
Construction/Dimensions

Series CY3R
Series REAR, REBR

For $\phi 6, \phi 10, \phi 15$



For $\phi 20, \phi 25, \phi 32, \phi 40, \phi 50, \phi 63$



Bore size (mm)	A	BA	BB	CC	FC	FE ⁽¹⁾	FF ⁽¹⁾	FG	FH	HB ⁽¹⁾	HL	L	LA	LF	MD	R ⁽²⁾	S	SS	WF	XA	XB
6	9.5	3.4	6.5	3.3	—	5	7	5.5	10.5	26	23	34	15	7.5	M3	—	3.5	M3 x 0.5	—	10	—
10	11.5	3.4	6.5	3.3	—	5	7	7	13	33	30	38	15	7.5	M3	—	3.5	M3 x 0.5	—	12	—
15	18	4.5	8	4.4	—	4.5	6.5	7.5	14.5	38.5	35.5	53	17	8.5	M4	—	4.5	M4 x 0.7	—	14	—
20	16.5	—	—	—	6.5	—	6	4	—	45	14	62	29	14.5	M3	7	4.5	M4 x 0.7	34	26	3
25	20.5	—	—	—	8	—	7	4	—	51	17	70	29	14.5	M4	8	5.5	M5 x 0.8	39	31	3
32	21	—	—	—	9.5	—	7.5	4.5	—	62.5	22	76	34	17	M5	10	6.5	M6 x 1	50	41	3
40	25.5	—	—	—	9.5	—	7.5	7.5	—	74.5	28	90	39	19.5	M5	10	6.5	M6 x 1	60	45	3
50	35.5	—	—	—	11	—	7.5	9	—	92.5	38	110	39	19.5	M6	15	10	M8 x 1.25	78	60	3
63	34.5	—	—	—	18	—	7.5	10	—	104.5	39	118	49	24.5	M6	15	10	M8 x 1.25	90	70	3



Note 1) With dimension FE, FF, and HB, the amount of clearance between the body and the floating joint is 1 mm. The self weight deflection of the cylinder tube is not taken into account. Before operating the cylinder, determine the proper value by taking the amount of self weight deflection and the amount of off-centering with the other shaft into consideration.

Note 2) When the bolts are secured from above, be aware that if the cylinder is operated when dimension R is exceeded, the end of the bolt could come in contact with the body, without being able to achieve the floating effect.

Made to Order Common Specifications: -XC67: Dust Seal Band NBR Lining Specifications



43 Dust Seal Band NBR Lining Specifications

Symbol

-XC67

The standard vinyl chloride lining specification is changed to NBR lining
Oil resistance and peeling resistance are improved.
Note) Please consult with SMC for specific details on oil resistance.

MY1 **B** **Bore size** - **Stroke** - **Auto switch** **Suffix** -XC67

• Series: Bore size

B	Basic type	10	16	20	25	32	40	50	63	80	100
M(W)	Slide bearing type (With cover)	•	•	•	•	•	•	•	•	•	•
C(W)	Cam follower guide type (With cover)	•	•	•	•	•	•	•	•	•	•
H	Linear guide type	•	•	•	•	•	•	•	•	•	•
HT	High rigidity/Linear guide type							•	•		

ø10, ø80 and ø100 are available only
in stainless steel plate and the NBR
lining specification is not available.

Example) MY1B40G-300L-Z73-XC67

For ordering dust seal band (NBR lining) only

MY **Bore size** - **16 B N** - **Stroke**

Dust seal band
NBR lining

Dust seal band
Hexagon socket head set
screw thread treatment

Nil	Black zinc chromated
W	Nickel plated

Example) MY25-16BNW-300

For details, refer to "Dust seal
band" in the construction of
each series.

-X□

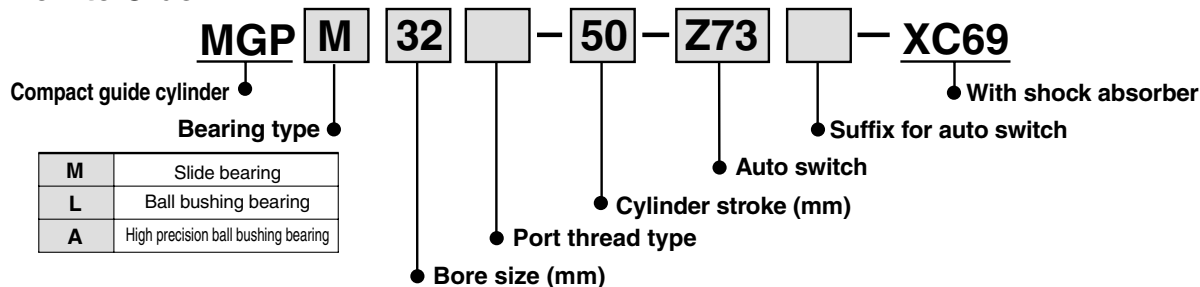
Individual
-X□

Made to Order Common Specifications: -XC69: Series MGP with Shock Absorber



44 Series MGP with Shock Absorber

How to Order

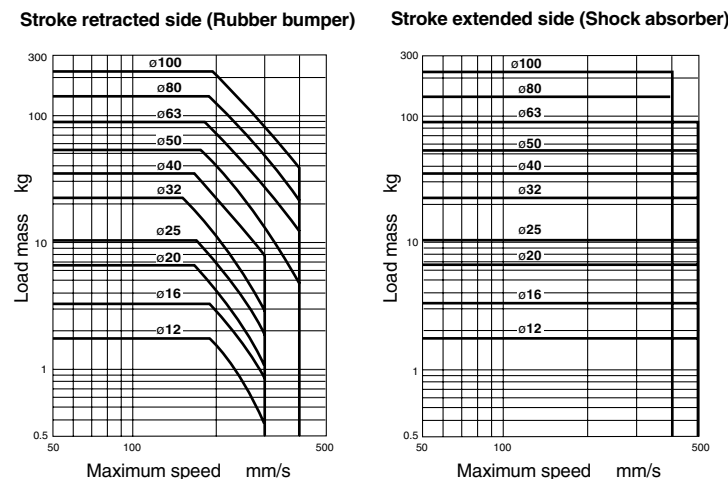


Specifications of Extension Adjusting Mechanism

Bore size (mm)	12, 16	20, 25	32, 40	50, 63	80, 100
Shock absorber model	RB0806	RB1007	RB1411	RB2015	RB2725
Maximum energy absorption (J)	2.94	5.88	19.6	58.8	147
Stroke adjustment range (mm)	0 to -15		0 to -25		0 to -30
Piston speed	Refer to the graph below.				

Allowable Kinetic Energy

Load mass and cylinder speed should be observed within the range given in the graph below.



The shock absorber service life is different from that of the MGP cylinder. Refer to the Series RB Specific Product Precautions for the replacement period.

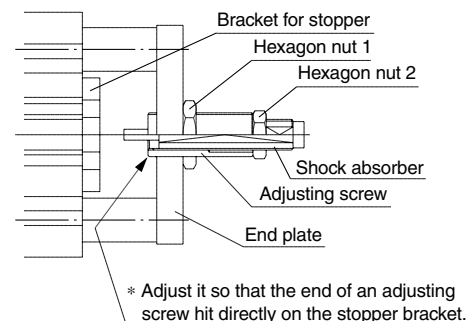
Mounting

Do not allow hands or fingers near the cylinder during its operation.

If finger, etc. were to get caught between shock absorber and body, it might damage on the human body and the peripheral equipment. Take protective measures by mounting a protective cover, etc. as necessary.

Basically, avoid bottom-mounting a cylinder.

Mounting space is limited owing to the guide rod and the end plate, etc. Mount a cylinder by the top mounting or side mounting.



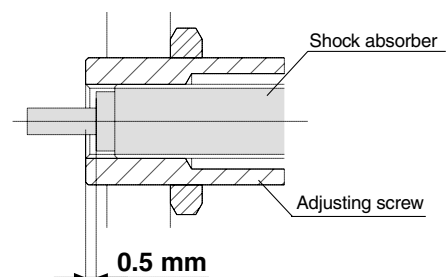
Adjustment

1. How to adjust an adjusting screw (Stroke adjustment)

Loosen only the hexagon nut 1, then turn the adjusting screw to adjust the stroke. After adjusting, lock it with the hexagon nut 1. Fix it at the position ejected from the end plate, so that the end face of an adjusting screw could hit the bracket for stopper directly. (Refer to the figure right above.)

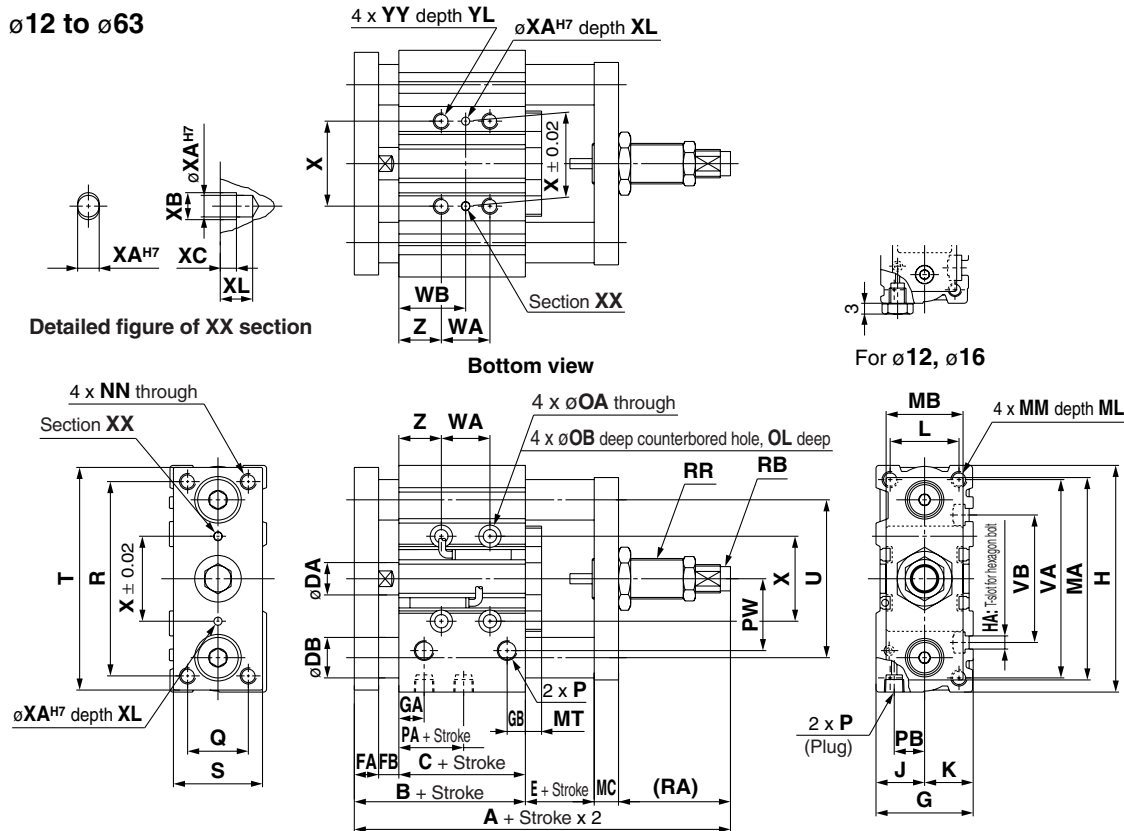
2. How to replace shock absorbers

Loosen hexagon nut 2, and turn a shock absorber counterclockwise for removal. For installing a new shock absorber, fix it at the position that the end face of an adjusting screw sticks out by 0.5 mm from a shock absorber. (Refer to the figure on the right.) After adjusting the position of shock absorber, be sure to secure with hexagon nut 2.



Dimensions

ø12 to ø63



T-slot dimensions

Bore size (mm)	T-slot dimensions				
	a	b	c	d	e
12	4.4	7.4	3.7	2	6.2
16	4.4	7.4	3.7	2.5	6.7
20	5.4	8.4	4.5	2.8	7.8
25	5.4	8.4	4.5	3	8.2
32	6.5	10.5	5.5	3.5	9.5
40	6.5	10.5	5.5	4	11
50	8.5	13.5	7.5	4.5	13.5
63	11	17.8	10	7	18.5

Common Dimensions

Bore size (mm)	Standard stroke (mm)	A	B	C	DA	DB		E	FA	FB	G	GA	GB	H	HA	J	K	L	MA	MB	MC	MT	MM	ML	NN
						Slide	Ball bushing																		
12	10, 20, 30, 40, 50, 75, 100	90	42	29	6	8	6	7	8	5	26	11	7.5	58	M4	13	13	18	51	19	8	6	M4 x 0.7	10	M4 x 0.7
16	125, 150, 175, 200, 250	94	46	33	8	10	8	7	8	5	30	11	8	64	M4	15	15	22	58	19	8	6	M5 x 0.8	12	M5 x 0.8
20	20, 30, 40, 50, 75, 100, 125, 150	109	53	37	10	12	10	9	10	6	36	10.5	8.5	83	M5	18	18	24	68	30	10	8	M5 x 0.8	13	M5 x 0.8
25	175, 200, 250, 300, 350, 400	109.5	53.5	37.5	12	16	13	9	10	6	42	11.5	9	93	M5	21	21	30	82	30	10	8	M6 x 1.0	15	M6 x 1.0
32	25, 50, 75, 100 125, 150, 175, 200 250, 300, 350, 400	135.5	59.5	37.5	16	20	16	9	12	10	48	12.5	9	112	M6	24	24	34	100	38	12	8	M8 x 1.25	20	M8 x 1.25
40		142	66	44	16	20	16	9	12	10	54	14	10	120	M6	27	27	40	108	38	12	8	M8 x 1.25	20	M8 x 1.25
50		155	72	44	20	25	20	10	16	12	64	14	11	148	M8	32	32	46	139	60	16	9	M10 x 1.5	22	M10 x 1.5
63		160	77	49	20	25	20	10	16	12	78	16.5	13.5	162	M10	39	39	58	153	60	16	9	M10 x 1.5	22	M10 x 1.5

Bore size (mm)	OA	OB	OL	P			PA	PB	PW	Q	R	RA	RB	RR	S	T	U	VA	VB	X	XA	XB	XC	XL	YY	YL	Z
				Nil	N	TF																					
12	4.3	8	4.5	M5 x 0.8	—	—	13	8	18	14	48	33	RB0806	M12 x 1.5	22	56	41	50	37	23	3	3.5	3	6	M5 x 0.8	10	5
16	4.3	8	4.5	M5 x 0.8	—	—	15	10	19	16	54	33	RB0806	M12 x 1.5	25	62	46	56	38	24	3	3.5	3	6	M5 x 0.8	10	5
20	5.4	9.5	5.5	Rc1/8	NPT1/8	G1/8	12.5	10.5	25	18	70	37	RB1007	M14 x 1.5	30	81	54	72	44	28	3	3.5	3	6	M6 x 1.0	12	17
25	5.4	9.5	5.5	Rc1/8	NPT1/8	G1/8	12.5	13.5	30	26	78	37	RB1007	M14 x 1.5	38	91	64	82	50	34	4	4.5	3	6	M6 x 1.0	12	17
32	6.6	11	7.5	Rc1/8	NPT1/8	G1/8	7	15	35.5	30	96	55	RB1412	M20 x 1.5	44	110	78	98	63	42	4	4.5	3	6	M8 x 1.25	16	21
40	6.6	11	7.5	Rc1/8	NPT1/8	G1/8	13	18	39.5	30	104	55	RB1412	M20 x 1.5	44	118	86	106	72	50	4	4.5	3	6	M8 x 1.25	16	22
50	8.6	14	9	Rc1/4	NPT1/4	G1/4	9	21.5	47	40	130	57	RB2015	M27 x 1.5	60	146	110	130	92	66	5	6	4	8	M10 x 1.5	20	24
63	8.6	14	9	Rc1/4	NPT1/4	G1/4	14	28	58	50	130	57	RB2015	M27 x 1.5	70	158	124	142	110	80	5	6	4	8	M10 x 1.5	20	24

MGP12 to 25 WA, WB Dimensions

(mm)

Bore size (mm)	WA					WB				
	30 st or less	Over 30 st to 100 st	Over 100 st to 200 st	Over 200 st to 300 st	Over 300 st	30 st or less	Over 30 st to 100 st	Over 100 st to 200 st	Over 200 st to 300 st	Over 300 st
12	20	40	110	200	—	15	25	60	105	—
16	24	44	110	200	—	17	27	60	105	—
20	24	44	120	200	300	29	39	77	117	167
25	24	44	120	200	300	29	39	77	117	167

MGP32 to 63 WA, WB Dimensions

(mm)

Bore size (mm)	WA					WB				
	25 st or less	Over 25 st to 100 st	Over 100 st to 200 st	Over 200 st to 300 st	Over 300 st	25 st or less	Over 25 st to 100 st	Over 100 st to 200 st	Over 200 st to 300 st	Over 300 st
32	24	48	124	200	300	33	45	83	121	171
40	24	48	124	200	300	34	46	84	122	172
50	24	48	124	200	300	36	48	86	124	174
63	28	52	128	200	300	38	50	88	124	174

Note) Refer to the Manufacture of Intermediate Strokes in Best Pneumatics No. 3 for intermediate strokes excluding the standard strokes.

• Bore size 12 and 16: M5 x 0.8 port only

• Bore size over 20: Rc, NPT or G ports selectable (Refer to Best Pneumatics No. 3.)



Made to Order Common Specifications: -XC69: Series MGP with Shock Absorber

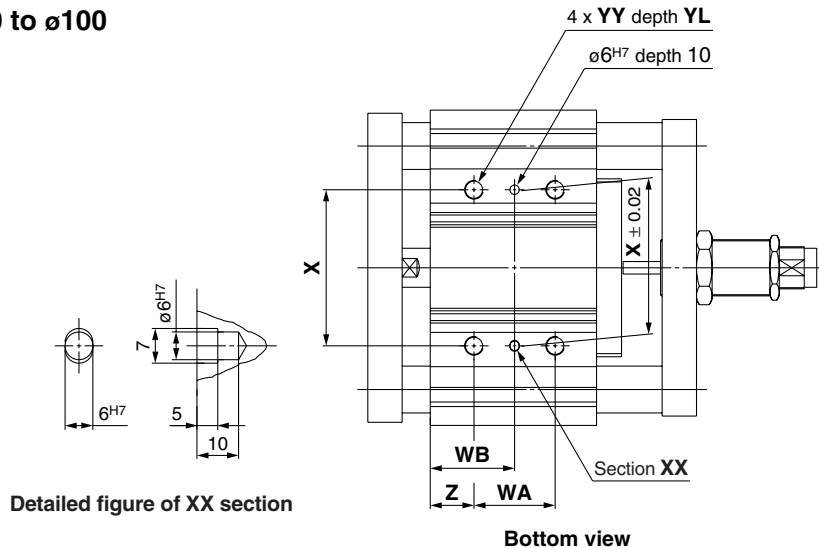


44 Series MGP with Shock Absorber

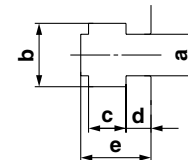
Symbol
-XC69

Dimensions

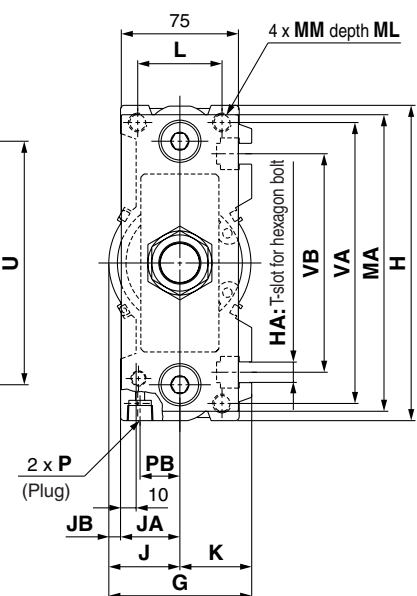
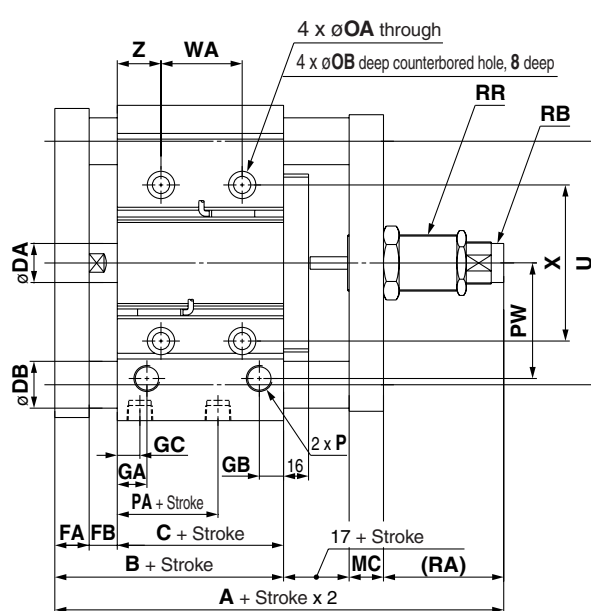
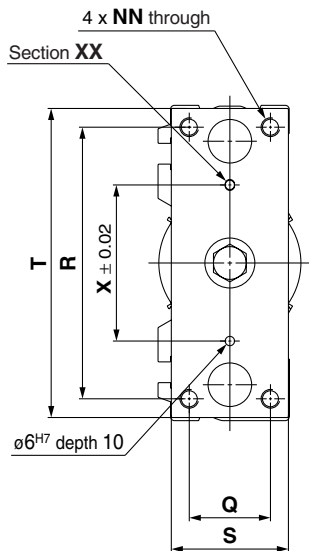
ø80 to ø100



T-slot dimensions



Bore size (mm)	T-slot dimensions				
	a	b	c	d	e
80	13.3	20.3	12	8	22.5
100	15.3	23.3	13.5	10	30



Common Dimensions

Bore size (mm)	Standard stroke (mm)	A	B	C	DA	DB		FA	FB	G	GA	GB	GC	H	HA	J	JA	JB	K	L	MA	MC
						Slide	Ball bushing															
80	25, 50, 75, 100, 125, 150, 175	212.5	96.5	56.5	25	30	25	22	18	91.5	19	15.5	14.5	202	M12	45.5	38	7.5	46	54	190	22
100	200, 250, 300, 350, 400	232	116	66	30	36	30	25	25	111.5	23	19	18	240	M14	55.5	45	10.5	56	62	228	25

Bore size (mm)	MM	ML	NN	OA	OB	P			PA	PB	PW	Q	R	RA	RB	RR	S	T	U	VA	VB
						Nil	N	TF													
80	M12 x 1.75	25	M12 x 1.75	10.6	17.5	Rc3/8	NPT3/8	G3/8	14.5	25.5	74	52	174	77	RB2725	M36 x 1.5	75	198	156	180	140
100	M14 x 2.0	31	M14 x 2.0	12.5	20	Rc3/8	NPT3/8	G3/8	17.5	32.5	89	64	210	74	RB2725	M36 x 1.5	90	236	188	210	166

Bore size (mm)	WA					WB					X	YY	YL	Z
	25 st or less	Over 25 st to 100 st	Over 100 st to 200 st	Over 200 st to 300 st	Over 300 st	25 st or less	Over 25 st to 100 st	Over 100 st to 200 st	Over 200 st to 300 st	Over 300 st				
80	28	52	128	200	300	42	54	92	128	178	100	M12 x 1.75	24	28
100	48	72	148	220	320	35	47	85	121	171	124	M14 x 2.0	28	11

Note) Refer to the Manufacture of Intermediate Strokes in Best Pneumatics No. 3 for the intermediate strokes excluding the standard strokes.

• Rc, NPT or G ports selectable (Refer to Best Pneumatics No. 3.)

1488



Made to Order Common Specifications:

-XC71: Helical Insert Thread Specifications

-XC72: Without Built-in Auto Switch Magnet



45 Helical Insert Thread Specifications

Symbol
-XC71

The guide body mounting threads are helical insert threads.

How to Order

MGG Bearing type **B** Bore size Port thread type — Stroke — Auto switch — **-XC71**

● Basic style

● Helical insert thread specifications

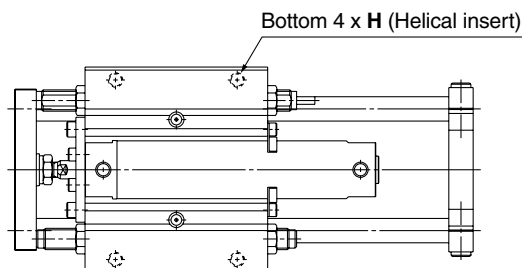
Specifications

Applicable series	MGG□B
Bore size (mm)	20, 25, 32, 40, 50
Mounting style	Basic style

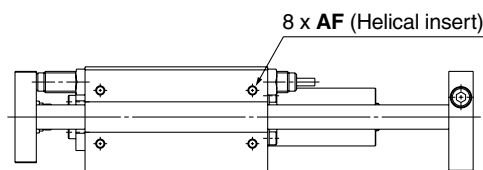
* Specifications other than above are the same as standard type.

Dimensions (Dimensions other than below are the same as standard type.)

ø20 to ø50



Bore size (mm)	H	AF
20	M6 x 1 depth 12	M5 x 0.8 depth 7.5
25	M8 x 1.25 depth 16	M6 x 1 depth 9
32	M8 x 1.25 depth 16	M6 x 1 depth 9
40	M10 x 1.5 depth 20	M8 x 1.25 depth 12
50	M12 x 1.75 depth 24	M10 x 1.5 depth 15



46 Without Built-in Auto Switch Magnet

Symbol
-XC72

This cylinder type does not have built-in auto switch magnet.

How to Order

MGG Standard model no. — **-XC72**

● Without built-in auto switch magnet

Specifications

Applicable series	MGG
Bore size (mm)	20, 25, 32, 40, 50
Auto switch	Not mountable

* Specifications and external dimensions other than above are the same as standard type.

-X□
Individual
-X□

Made to Order Common Specifications: -XC73: Built-in Cylinder with Lock (CDNG)



47 Built-in Cylinder with Lock (CDNG)

This type has a built-in cylinder with lock, which accommodates intermediate stops, emergency stops and drop prevention, etc.

How to Order

MGG Bearing type Mounting style Bore size — Stroke — Auto switch — **XC73**
Built-in cylinder with lock ●

Cylinder Specifications

Applicable series		MGG			
Bore size (mm)		20	25	32	40
Basic cylinder		CDNGBN	Bore size	– Stroke – D –	Auto switch
Minimum operating pressure		0.2 MPa (Horizontal with no load)			
Piston speed		50 to 1000 mm/s <small>Note</small>)			
Stroke adjustment range (One side) [Built-in adjusting bolts (2 pcs.)]		0 to –15 mm			
Non-rotating accuracy *2	Slide bearing	±0.06°	±0.05°		±0.04°
	Ball bushing bearing	±0.04°	±0.04°		±0.04°
Shock absorber model		RB1412	RB2015		

Note) When the piston is locked, the load mass is limited by the mounting orientation and the operating pressure.

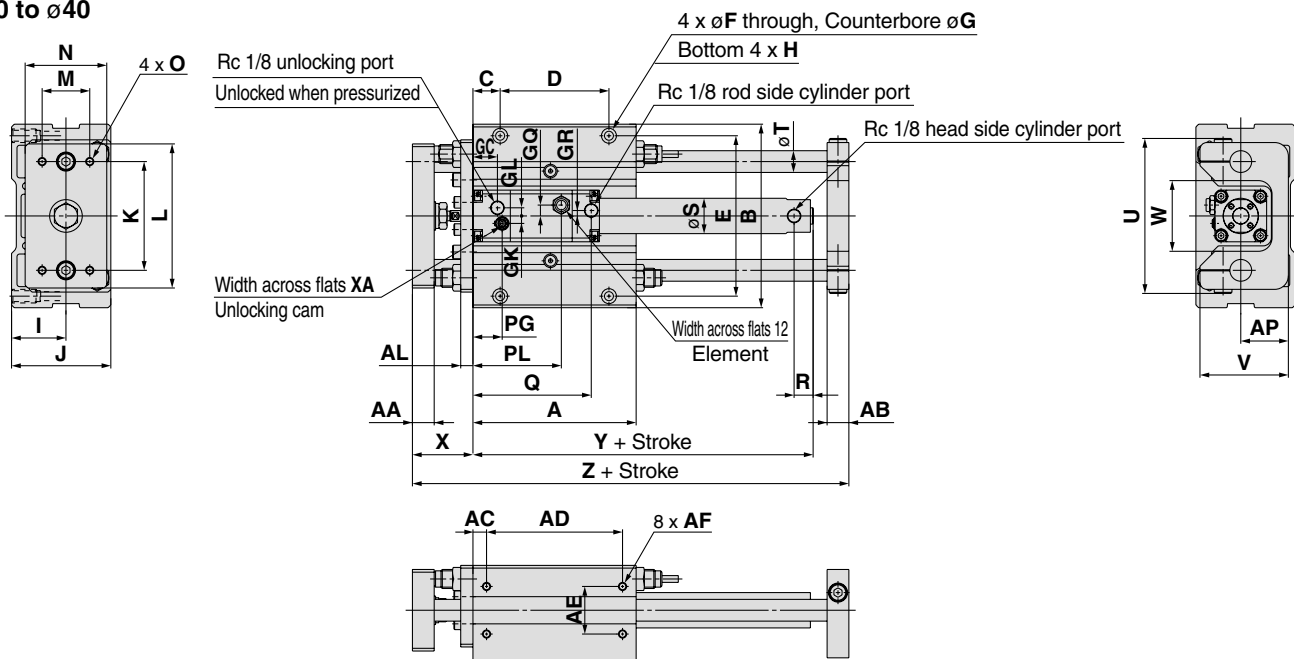
*1 Specifications other than shown on the left are the same as the standard type.

*2 Non-rotating rod accuracy must be below the values shown in the table at the retraction of the cylinder (initial value), and without loads or the conditions excluding the deflection of the guide rods.

Dimensions

Basic style/MGG□B

ø20 to ø40



Standard Stroke

Bore size (mm)	Stroke range (mm)	A	AA	AB	AC	AD	AE	AF	AL	AP	B	C	D	E	F	G	GC	GK	GL	GQ	GR	H	I	J
20	75, 100, 125, 150, 200	120	12	16	10	100	35	M6 x 1 depth 12	9	35	135	20	80	118	6.6	11 depth 8	18	5.5	6	8	4	M10 x 1.5 depth 18	40	73
25	75, 100, 125	140	16	19	10	120	40	M8 x 1.25 depth 16	9	45	170	20	100	150	9	14 depth 10	25	6.5	9	10	7	M12 x 1.75 depth 21	50	93
32	150, 200	140	16	19	10	120	40	M8 x 1.25 depth 16	9	45	170	20	100	150	9	14 depth 10	25	6.5	9	10	7	M12 x 1.75 depth 21	50	93
40	250, 300	170	19	21	10	150	45	M10 x 1.5 depth 20	12	50	194	25	120	170	11	17 depth 12	26	7	11	12	7	M14 x 2 depth 25	55	103

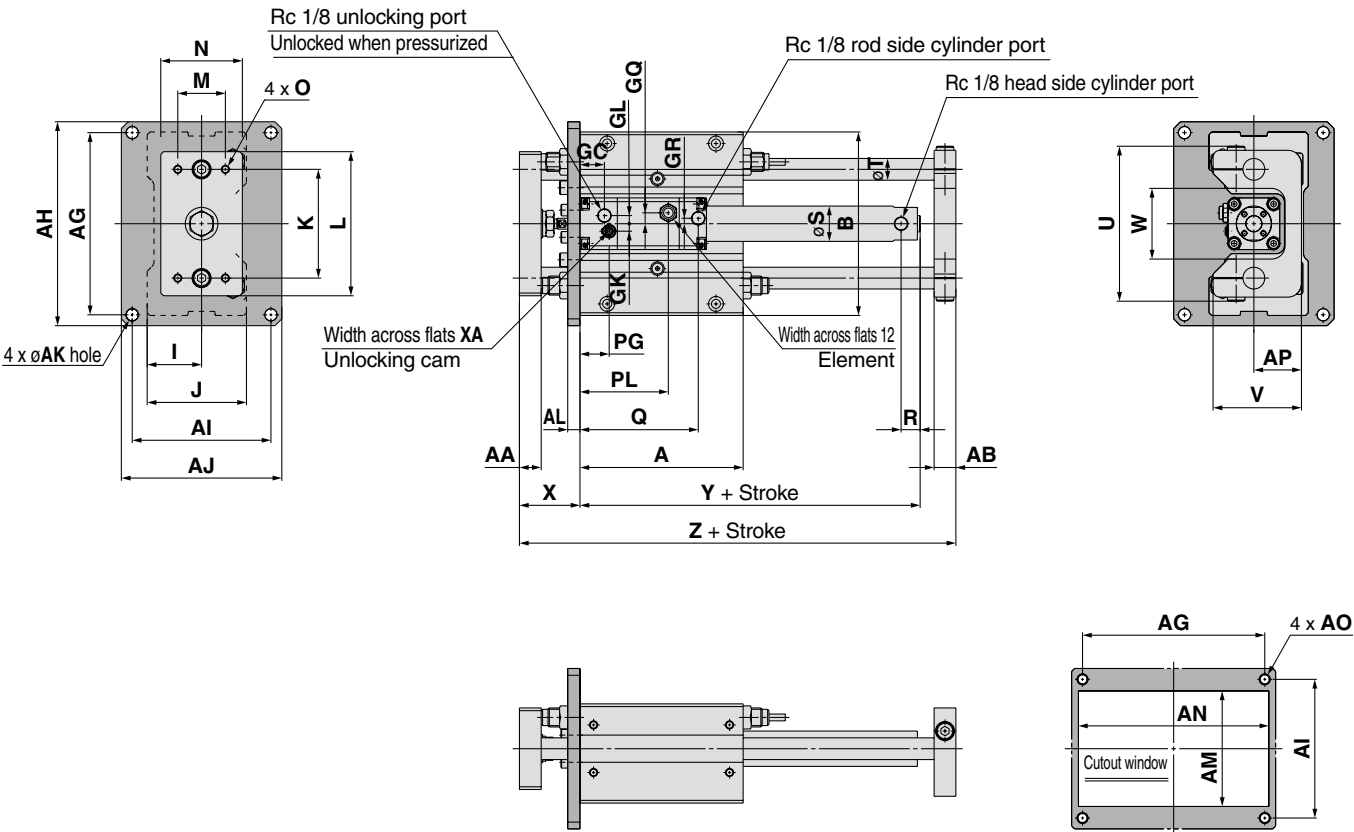
Long Stroke

Bore size (mm)	K	L	M	N	O	PG	PL	Q	R	S	T	U	V	W	X	XA	Y	Z
20	80	106	35	60	M6 x 1 depth 9	21.5	65	85	12	26	16	114	65	52	39	3	143	194
25	95	134	50	75	M8 x 1.25 depth 13	26.5	73	96	12	31	20	138	84	62	46	3	153	228
32	95	134	50	75	M8 x 1.25 depth 13	26.5	73	97	12	38	20	138	84	62	46	3	156	228
40	115	152	56	90	M10 x 1.5 depth 16	28	81	104	12	47	25	164	94	75	56	4	171	274

Bore size (mm)	Stroke range (mm)	R	Y
20	250 to 400	14	151
25	350 to 500	14	161
32	350 to 600	14	164
40	350 to 800	15	180

Dimensions

Front mounting flange style/MGG□F
ø20 to ø40



Mounting dimensions

Standard Stroke

Bore size (mm)	Stroke range (mm)	A	AA	AB	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	B	GC	GK	GL	GQ	GR	I	J	K	L	M	N
20	75, 100, 125, 150, 200	120	12	16	134	150	102	118	9	9	85	140	M8	35	135	18	5.5	6	8	4	40	73	80	106	35	60
25	75, 100, 125	140	16	19	170	186	134	150	9	9	105	175	M8	45	170	25	6.5	9	10	7	50	93	95	134	50	75
32	150, 200	140	16	19	170	186	134	150	9	9	105	175	M8	45	170	25	6.5	9	10	7	50	93	95	134	50	75
40	250, 300	170	19	21	190	210	140	160	11	12	115	200	M10	50	194	26	7	11	12	7	55	103	115	152	56	90

Long Stroke

Bore size (mm)	O	PG	PL	Q	R	S	T	U	V	W	X	XA	Y	Z	Bore size (mm)	Stroke range (mm)	R	Y
20	M6 x 1 depth 9	21.5	65	85	12	26	16	114	65	52	39	3	143	194	20	250 to 400	14	151
25	M8 x 1.25 depth 13	26.5	73	96	12	31	20	138	84	62	46	3	153	228	25	350 to 500	14	161
32	M8 x 1.25 depth 13	26.5	73	97	12	38	20	138	84	62	46	3	156	228	32	350 to 600	14	164
40	M10 x 1.5 depth 16	28	81	104	12	47	25	164	94	75	56	4	171	274	40	350 to 800	15	180

Made to Order Common Specifications:

-XC73: Built-in Cylinder with Lock (CDNG)

-XC74: With Front Plate for MGG Cylinder



47 Built-in Cylinder with Lock (CDNG)

This type has a built-in cylinder with lock, which accommodates intermediate stops, emergency stops and drop prevention, etc.

How to Order

MGC Bearing type Mounting style Bore size — Stroke — Equipped/Not equipped rear plate — Auto switch — XC73
Built-in cylinder with lock

Cylinder Specifications

Applicable series		MGC				
Bore size (mm)		20	25	32	40	
Basic cylinder		CDNGBA	Bore size	Stroke	D	Auto switch
Minimum operating pressure		0.2 MPa (Horizontal with no load)				
Piston speed		50 to 750 mm/s <small>Note)</small>				
Non-rotating accuracy *2	Slide bearing	±0.06°	±0.05°		±0.04°	
	Ball bushing bearing	±0.04°	±0.04°		±0.04°	

Note) When the piston is locked, the load mass is limited by the mounting orientation and the operating pressure.

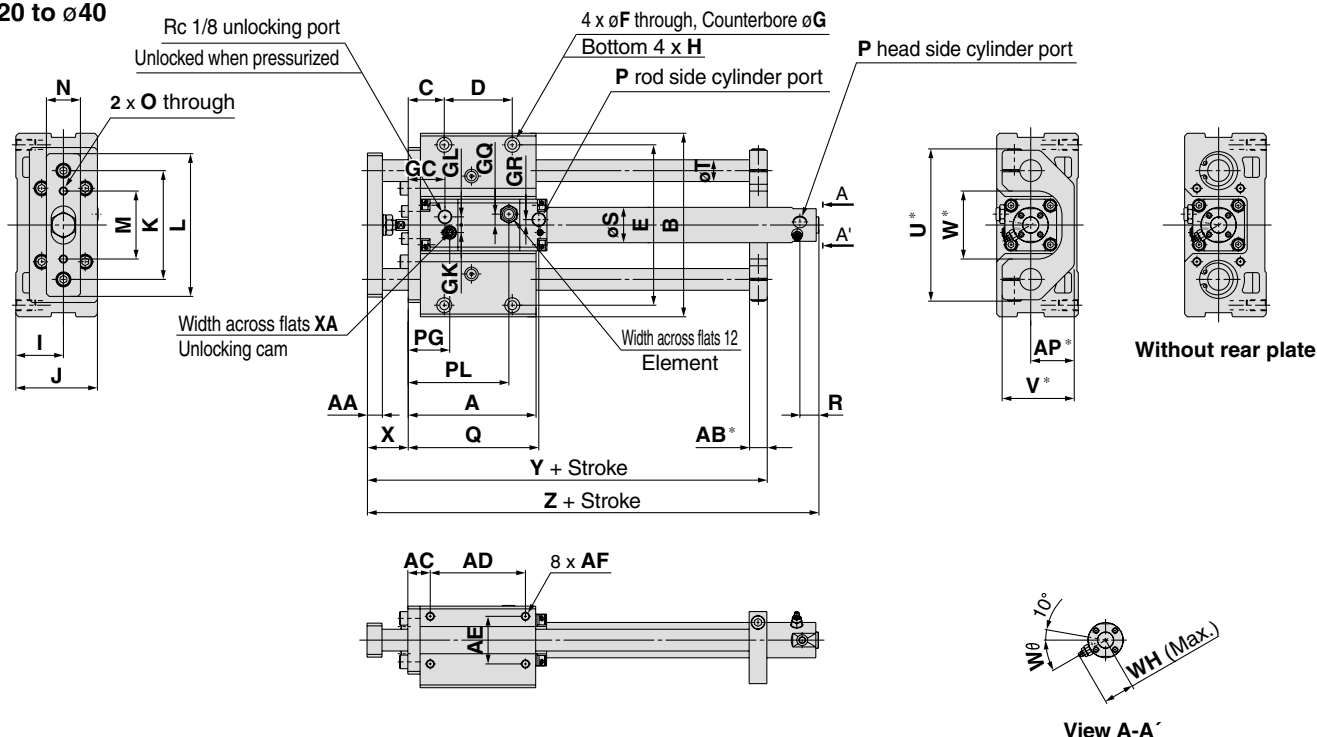
*1 Specifications other than shown on the left are the same as the standard type.

*2 Non-rotating rod accuracy must be below the values shown in the table at the retraction of the cylinder (initial value), and without loads or the conditions excluding the deflection of the guide rods.

Dimensions

Basic style/MGC□B

ø20 to ø40



Standard Stroke

Bore size (mm)	Stroke range (mm)	A	AA	AB*	AC	AD	AE	AF	AP*	B	C	D	E	F	G	GC	GK	GL	GQ	GR	H	I	J	K
20	75, 100, 125, 150, 200	94	12	13	16.5	70	35	M6 x 1 depth 12	32	135	26.5	50	118	6.8	11 depth 8	27	5.5	6	8	4	M8 x 1.25 depth 14	35	60	80
25	75, 100, 125	104	16	16	19	75	40	M8 x 1.25 depth 16	37	160	31.5	50	140	8.6	14 depth 10	34	6.5	9	10	7	M10 x 1.5 depth 18	40	70	95
32	150, 200	104	16	16	19	75	40	M8 x 1.25 depth 16	37	160	31.5	50	140	8.6	14 depth 10	34	6.5	9	10	7	M10 x 1.5 depth 18	40	70	95
40	250, 300	142	19	19	22	110	45	M10 x 1.5 depth 20	42	194	37	80	170	10.5	17 depth 12	38	7	11	12	7	M12 x 1.75 depth 21	45	82.5	115

Long Stroke

Bore size (mm)	L	M	N	O	P	PG	PL	Q	R	S	T	U*	V*	W*	WH	Wθ	X	XA	Y	Z	Bore size (mm)	Stroke range (mm)	R	Y
20	105	50	25	M6 x 1	M5 x 0.8	30.5	74	96	12	26	16	112	53	50	23	30°	30	3	148	182	20	250 to 400	14	190
25	125	60	32	M8 x 1.25	M5 x 0.8	35.5	82	106	12	31	20	132	63	60	25	30°	37	3	169	199	25	350 to 500	14	207
32	125	60	32	M8 x 1.25	Rc 1/8	35.5	82	106	12	38	20	132	63	60	28.5	25°	37	3	169	202	32	350 to 600	14	210
40	150	75	38	M8 x 1.25	Rc 1/8	40	93	116	12	47	25	162	73	70	33	20°	44	4	210	227	40	350 to 800	15	236

Note) Without rear plate: Dimensions with an asterisk (*) mark is not needed.

Made to Order Common Specifications:
Built-in Cylinder with Lock (CDNG)/With Front Plate for MGG Cylinder

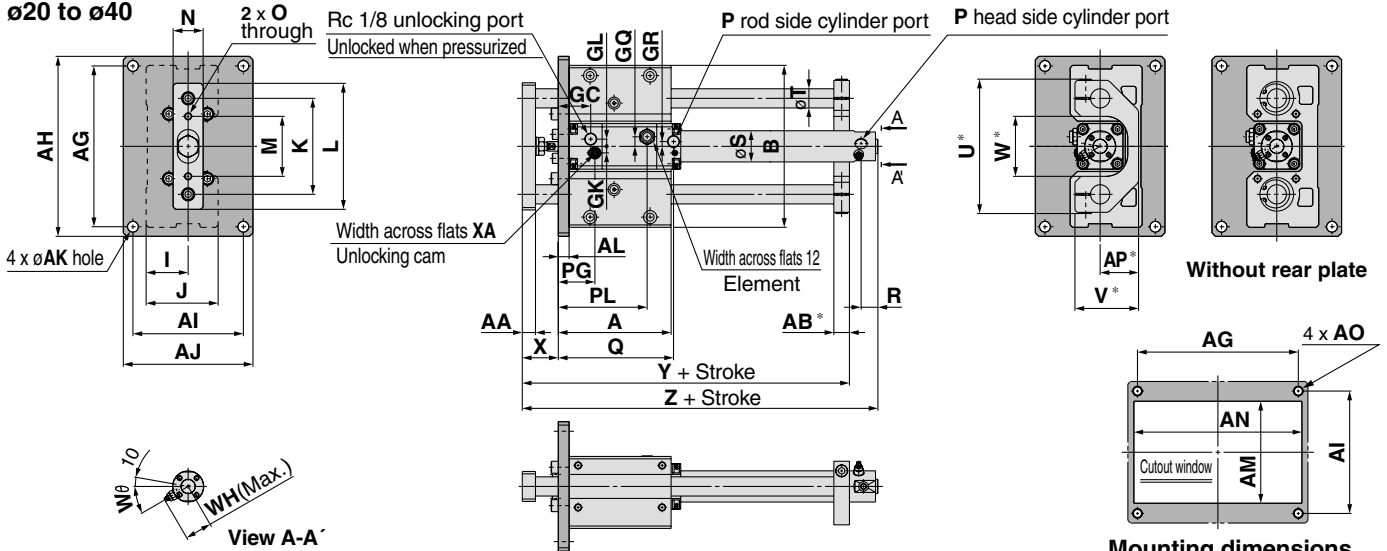
Symbol

-XC73

Dimensions

Front mounting flange style/MGC□F

ø20 to ø40



Standard Stroke

Bore size (mm)	Stroke range (mm)	A	AA	AB*	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP*	B	GC	GK	GL	GQ	GR	I	J	K	L	M	N
20	75, 100, 125, 150, 200	94	12	13	134	150	92	108	9	9	75	140	M8	32	135	27	5.5	6	8	4	35	60	80	105	50	25
25	75, 100, 125	104	16	16	160	176	110	125	9	9	88	165	M8	37	160	34	6.5	9	10	7	40	70	95	125	60	32
32	150, 200, 250	104	16	16	160	176	110	125	9	9	88	165	M8	37	160	34	6.5	9	10	7	40	70	95	125	60	32
40	300	142	19	19	190	210	115	135	11	12	96	200	M10	42	194	38	7	11	12	7	45	82.5	115	150	75	38

Long Stroke

Bore size (mm)	O	P	PG	PL	Q	R	S	T	U*	V*	W*	WH	Wθ	X	XA	Y	Z	Bore size (mm)	Stroke range (mm)	R	Y
20	M6 x 1	M5 x 0.8	30.5	74	96	12	26	16	112	53	50	23	30°	30	3	148	182	20	250 to 400	14	190
25	M8 x 1.25	M5 x 0.8	35.5	82	106	12	31	20	132	63	60	25	30°	37	3	169	199	25	350 to 500	14	207
32	M8 x 1.25	Rc 1/8	35.5	82	106	12	38	20	132	63	60	28.5	25°	37	3	169	202	32	350 to 600	14	210
40	M8 x 1.25	Rc 1/8	40	93	116	12	47	25	162	73	70	33	20°	44	4	210	227	40	350 to 800	15	236

Note) Without rear plate: Dimensions with an asterisk (*) mark is not needed.

48 With Front Plate for MGG Cylinder

Symbol

-XC74

This type uses a front plate equivalent to the MGG series.

How to Order

MGC **Standard model no. -XC74**

With front plate for MGG

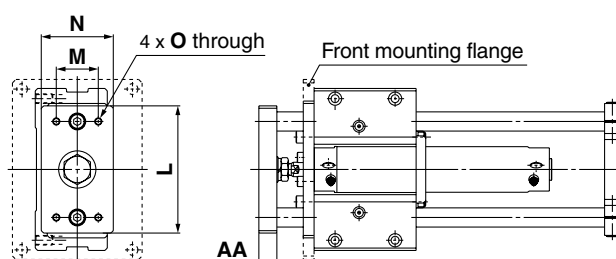
Specifications

Applicable series	MGC
Bore size (mm)	20, 25, 32, 40, 50
Fluid	Air
Minimum operating pressure	0.15 MPa (Horizontal, With no load)
Piston speed	50 to 750mm/s
Auto switch	Mountable

* Specifications other than above are the same as standard type.

Dimensions (Dimensions other than below are the same as standard type.)

ø20 to ø50



Bore size (mm)	L	M	N	O	AA
20	80	25	45	M6 x 1	12
25	100	35	54	M6 x 1	16
32	106	35	60	M6 x 1	16
40	134	50	75	M8 x 1.25	19
50	152	56	90	M10 x 1.5	25

-X□
Individual
-X□

Made to Order Common Specifications: -XC78: Auto Switch Mounting Special Dimensions at Stroke End



49 Auto Switch Mounting Special Dimensions at Stroke End

Symbol

-XC78

Auto switch mounting position at stroke end is assembled like below.

How to Order

MGC Standard model no. **-XC78**

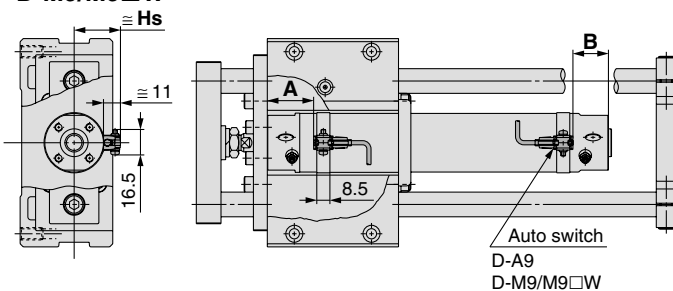
• Auto switch mounting special dimensions at stroke end

Specifications

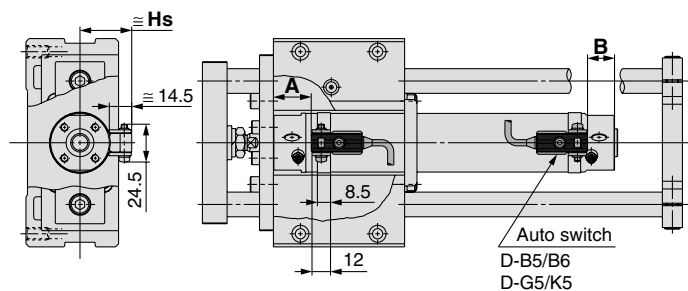
Applicable series	MGC
Bore size (mm)	20, 25, 32, 40, 50
Applicable cylinder	Guide cylinder
Specifications other than above	Same as standard type

Dimensions (Dimensions other than below are the same as standard type.)

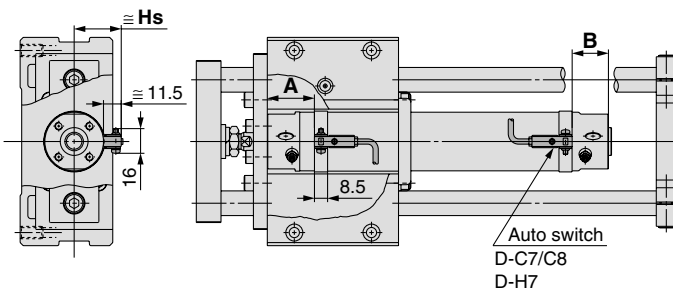
**D-A9
D-M9/M9□W**



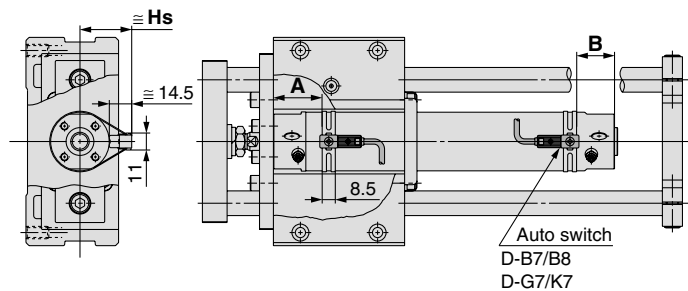
**D-B5/B6
D-G5/K5**



**D-C7/C8
D-H7**



**D-B7/B8
D-G7/K7**



Proper Auto Switch Mounting Position

Auto switch model Bore size (mm)	D-A9□		D-M9□ D-M9□W		D-B7/B8 D-B73C D-B80C D-G7/K7 D-K79C		D-C7□ D-C80 D-C73C D-C80C		D-B5□ D-B64		D-B59W		D-H7□ D-H7C D-H7NF D-H7□W D-H7BAL		D-G59F/G5□ D-K59 D-G5□W D-K59W D-G5NTL D-G5BAL	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
20	29	20 (28)	33	24 (32)	30.5	21.5 (29.5)	29.5	20.5 (28.5)	23.5	15.5 (22.5)	26.5	17.5 (25.5)	28.5	19.5 (27.5)	25	16 (24)
25	29	20 (28)	33	24 (32)	30.5	21.5 (29.5)	29.5	20.5 (28.5)	23.5	15.5 (22.5)	26.5	17.5 (25.5)	28.5	19.5 (27.5)	25	16 (24)
32	30	21 (29)	34	25 (33)	31.5	22.5 (30.5)	30.5	21.5 (29.5)	24.5	15.5 (23.5)	27.5	18.5 (26.5)	29.5	20.5 (28.5)	26	17 (25)
40	35	23 (32)	39	27 (36)	36.5	24.5 (33.5)	35.5	23.5 (32.5)	29.5	19 (26.5)	32	20.5 (29.5)	34.5	22.5 (31.5)	31	19 (28)
50	42	28 (40)	46	32 (36)	43.5	29.5 (41.5)	42.5	28.5 (40.5)	36.5	22.5 (34.5)	39.5	25.5 (37.5)	41.5	27.5 (39.5)	38	24 (36)

* (): Long stroke, double rod

Note) Adjust the auto switch after confirming the operating conditions in the actual setting.

Made to Order Common Specifications: -XC82: Bottom Mounting Style



50 Bottom Mounting Style

Symbol
-XC82

Since the guide rod does not protrude from the bottom at the retraction of the rod, relief holes for guide rods are not required.

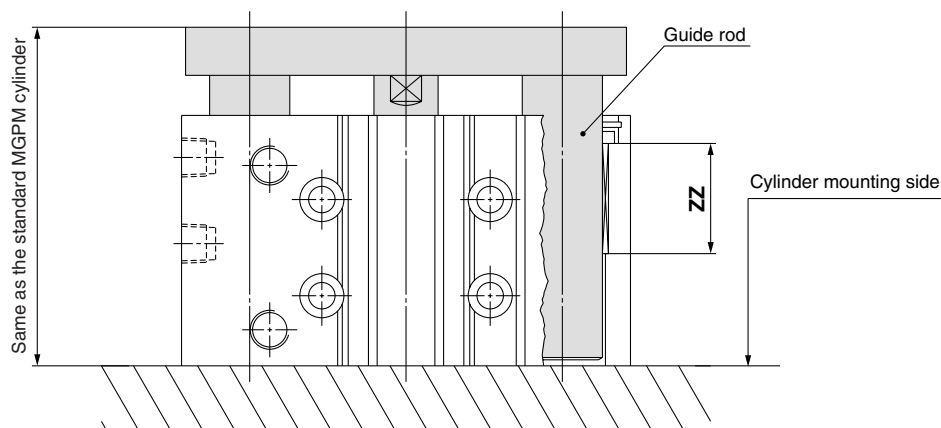
How to Order

MGP M 32 50 -XC82

- Compact guide cylinder
- Bearing Type (mm)
M Slide bearing
- Bore size (mm)

12	12 mm
16	16 mm
20	20 mm
25	25 mm
32	32 mm
40	40 mm
50	50 mm
63	63 mm
80	80 mm
100	100 mm
- Port thread type
- Cylinder stroke (mm)

Bore size (mm)	Applicable stroke (mm)
12 to 25	75, 100
32 to 100	25, 50, 75, 100
- Auto switch
- Suffix for auto switch
- Bottom mounting type



Note) The total length (ZZ) of the guide rod bushing is shorter than the standard type.

-X□

Individual
-X□

Made to Order Common Specifications: -XC83 Built-in Cylinder with Lock (MDNB)



51 Built-in Cylinder with Lock (MDNB)

This type has a built-in cylinder with lock, which accommodates intermediate stops, emergency stops and drop prevention, etc.

How to Order

MGG Bearing type Mounting style Bore size — Stroke — Auto switch —XC83

Specifications

Built-in cylinder with lock

Applicable series		MGG							
Bore size (mm)		50		63		80		100	
Basic cylinder		MDNBB	Bore size	—	Stroke	— D —	Auto switch	— X1189	
Minimum operating pressure		0.2 MPa (Horizontal with no load)							
Piston speed ^{Note)}		50 to 1000 mm/s			50 to 700 mm/s				
Stroke adjustment range (One side) [Built-in adjusting bolts (2 pcs.)]		0 to −15 mm							
Non-rotating accuracy *2	Slide bearing	±0.04°				±0.03°			
	Ball bushing bearing	±0.03°				±0.02°			
Shock absorber model		RB2015			RB2725				

Note) When the piston is locked, the load mass is limited by the mounting orientation and the operating pressure.

*1 Specifications other than shown above are the same as the standard type.

*2 Non-rotating rod accuracy must be below the values shown in the table at the retraction of the cylinder (initial value), and without loads or the conditions excluding the deflection of the guide rods.

Applicable Series/Refer to pages 1263 to 1371 for the detailed specifications of auto switches.

Type	Special function	Electrical entry	Indicator light	Wiring (output)	Load voltage		Auto switch part no.		Lead wire length (m)				Pre-wired connector	Applicable load						
					DC	AC	Tie-rod mounting	Band mounting	0.5 (Nil)	1 (M)	3 (L)	5 (Z)								
Solid state auto switch	—	Grommet	Yes	3-wire (NPN)	24V	5V, 12V	—	M9N	—	●	●	●	○	○	IC circuit	Relay, PLC				
				3-wire (PNP)				M9P	—	●	●	●	○	○						
		Terminal conduit		2-wire				M9B	—	●	●	●	○	○	—					
				3-wire (NPN)				—	G39	—	—	—	—							
	Diagnostic indication (2-color)	Grommet		2-wire	5V, 12V	—	—	K39	—	—	—	—	IC circuit							
				3-wire (NPN)			M9NW	—	●	●	●	○		○						
				3-wire (PNP)			M9PW	—	●	●	●	○	○	—						
				2-wire			M9BW	—	●	●	●	○	○							
	Water resistant (2-color indication)			3-wire (NPN)	5V, 12V		M9NA	—	○	○	●	○	○	—						
				3-wire (PNP)			M9PA	—	○	○	●	○	○							
				2-wire			M9BA	—	○	○	●	○	○	—						
Reed auto switch	—	Grommet	Yes	3-wire (NPN equivalent)	—	5V	—	A96	—	●	—	●	—	—	IC circuit	—				
			No	2-wire	24V	12V	100V	A93	—	●	—	●	—	—	—	Relay, PLC				
		Terminal conduit	Yes				100V or less	A90	—	●	—	●	—	—	IC circuit	PLC				
							—	A33	—	—	—	—	—	—	Relay, PLC					
		Din terminal					100V, 200V	A34	—	—	—	—	—							
							—	A44	—	—	—	—	—							

* Lead wire length symbols: 0.5 m Nil (Example) M9NW 1 m M (Example) M9NWM 3 m L (Example) M9NWL 5 m Z (Example) M9NWX

* Solid state auto switch with ○: Manufactured upon receipt of order.

* Refer to page 1497 since there are applicable auto switches other than listed above.

* Refer to pages 1328 and 1329 for the details of auto switches with a pre-wired connector.

* D-A9□/M9□/M9□W/M9□AL/M9□AVL auto switches are shipped together (not assembled).

(Auto switch mounting brackets for the models above are mounted when shipped.)

Auto Switch Mounting Bracket: Part No.

Auto switch model	Bore size (mm)			
	ø50	ø63	ø80	ø100
D-A9□/A9□V D-M9□/M9□V D-M9□W/M9□WV D-M9□AL/M9□AVL	BA7-040	BA7-040	BA7-063	BA7-063
D-A3□/A44 D-G39/K39	BMB1-050	BMB1-063	BMB1-080	BMB1-100
D-Z7□/Z80 D-Y59□/Y69□ D-Y7P/Y7PV D-Y7□W/Y7□WV D-Y7BAL	BMB4-050	BMB4-050	BA4-063	BA4-063

[Mounting screw set made of stainless steel]

The following set of mounting screws made of stainless steel (including nuts) is available. Use it in accordance with the operating environment. (Please order the auto switch mounting bracket separately, since it is not included.)

BBA1: Stainless steel screw set for D-A5/A6/F5/J5 types

Note) Refer to page 1365 for the details of BBA1.

When shipping cylinders with D-M9□AL/M9□AVL/Y7BAL auto switches, the stainless steel screws above are used to secure auto switch mounting brackets.

Besides the models listed on the previous page, the following auto switches are applicable.
Refer to pages 1263 and 1371 for details.

Auto switch type	Part no.	Electrical entry (Fetching direction)	Features
Reed	D-A93V, A96V	Grommet (Perpendicular)	—
	D-A90V		Without indicator light
	D-Z73, Z76	Grommet (In-line)	—
	D-Z80		Without indicator light
Solid state	D-M9NV, M9PV, M9BV	Grommet (Perpendicular)	—
	D-Y69A, Y69B, Y7PV		Diagnostic indication (2-color)
	D-M9NWV, M9PWV, M9BWV		Water resistant (2-color indication)
	D-Y7NWV, Y7PWV, Y7BWV		—
	D-M9NAVL, M9PAVL, M9BAVL	Grommet (In-line)	Diagnostic indication (2-color)
	D-Y59A, Y59B, Y7P		Water resistant (2-color indication)
	D-Y7NW, Y7PW, Y7BW		—
	D-Y7BAL		Diagnostic indication (2-color)

* For solid state switches, auto switches with a pre-wired connector are also available. Refer to pages 1328 and 1329 for details.

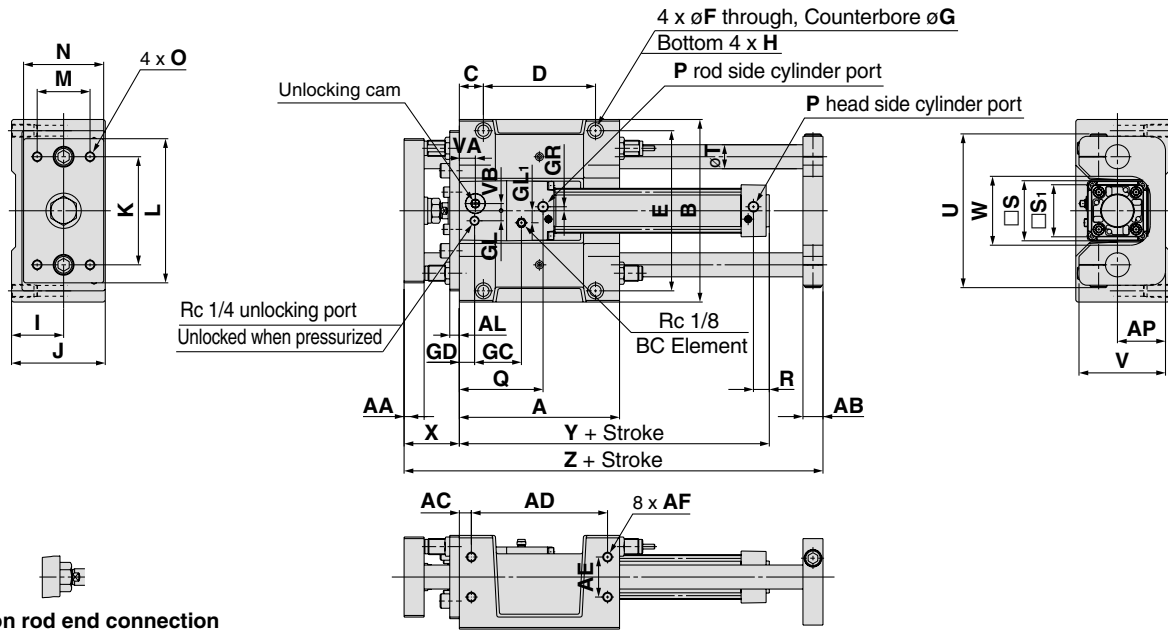
* Normally closed (NC = b contact) solid state auto switches (D-F9G/F9H/Y7G/Y7H types) are also available. Refer to pages 1290 and 1292 for details.

Refer to pages 322 to 327 for the minimum auto switch mounting stroke, proper auto switch mounting position and operating range of Series MDB.

Dimensions

Basic style

ø50 to ø100



ø100 piston rod end connection

Standard Stroke

Bore size (mm)	Stroke range (mm)	A	AA	AB	AC	AD	AE	AF	AL	AP	B	C	D	E	F	G	GC	GD	GL	GL1	GR	H	I
50	75, 100, 125 150, 200 250, 300	200	25	25	15	170	50	M12 x 1.75 depth 24	12	60	228	30	140	200	13.5	20 depth 14.5	58.5	19	12.5	15	5	M16 x 2 depth 28	65
63		230	25	27	15	200	55	M12 x 1.75 depth 24	12	70	262	30	170	234	13.5	20 depth 14.5	68	23	17.5	12	9	M16 x 2 depth 28	75
80		280	30	30	17.5	245	70	M14 x 2 depth 28	16	80	304	35	210	274	15	23 depth 17	81	33	22	18	11.5	M18 x 2.5 depth 32	85
100		280	32	30	17.5	245	70	M14 x 2 depth 28	16	80	304	35	210	274	15	23 depth 17	96	37.5	25	20	17	M18 x 2.5 depth 32	85

Long Stroke

Bore size (mm)	J	K	L	M	N	O	P	Q	R	S	S1	T	U	V	VA	VB	W	X	Y	Z	Bore size (mm)	Stroke range (mm)
50	117	135	180	66	100	M12 x 1.75 depth 23	Rc 1/4	104.5	19.5	75	65	30	192	108	20	9	86	69	187	323	50	350 to 1000
63	138	160	214	76	115	M12 x 1.75 depth 23	Rc 3/8	119.5	20.5	90	75	35	224	128	23	8.5	104	69	201	358	63	350 to 1000
80	153	190	245	80	125	M14 x 2 depth 28	Rc 3/8	150	23	102	95	40	262	143	33	10.5	128	87	249	431	80	350 to 1000
100	153	190	245	80	125	M14 x 2 depth 30	Rc 1/2	170	23	116	114	40	262	143	37.5	10.5	128	87	269	431	100	350 to 1000

Made to Order Common Specifications: -XC83 Built-in Cylinder with Lock (MDNB)

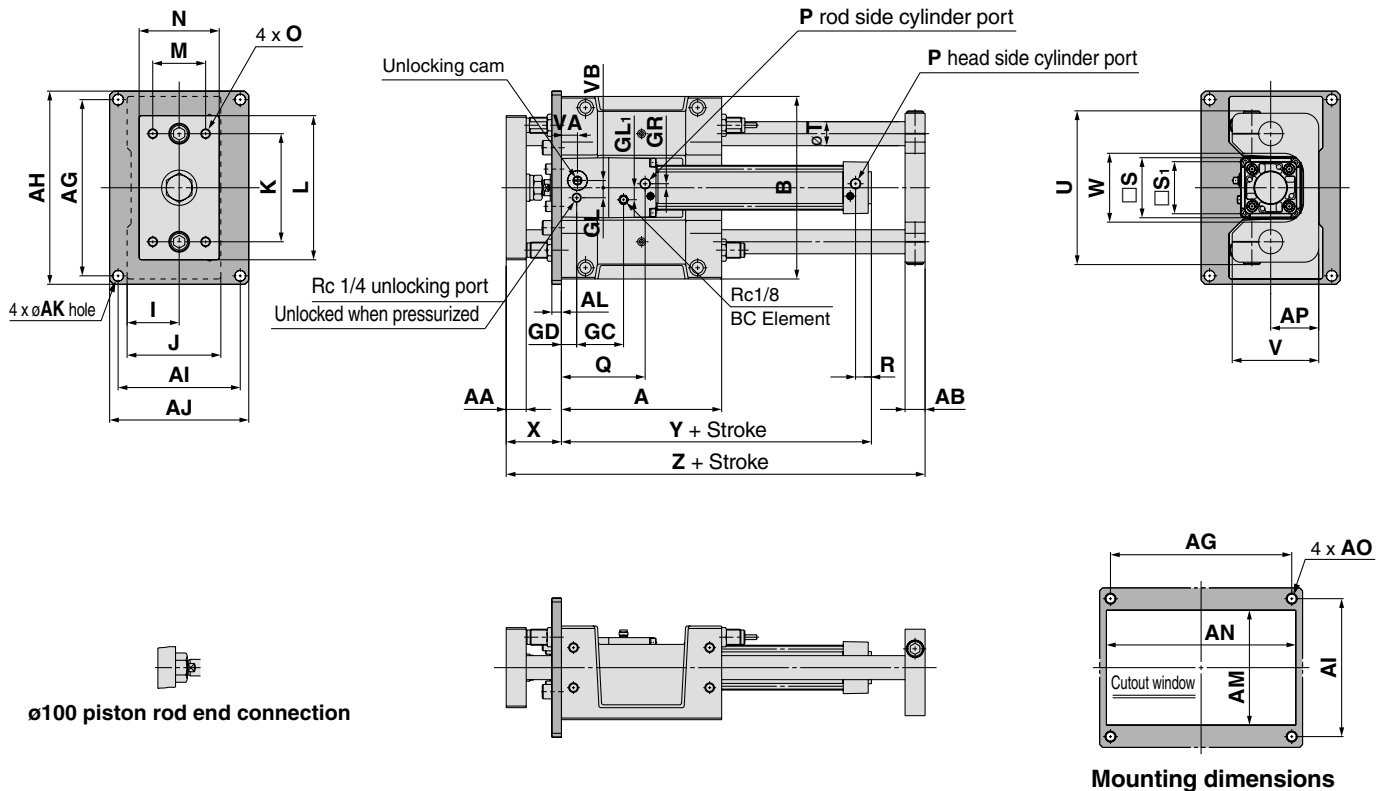


51 Built-in Cylinder with Lock (MDNB)

Symbol
-XC83

Dimensions

Front mounting flange style
ø50 to ø100



Standard Stroke

Bore size (mm)	Stroke range (mm)	A	AA	AB	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	B	GC	CD	GL	GL1	GR	I	J	K	L	M	N
50	75, 100, 125 150, 200 250, 300	200	25	25	228	250	158	180	14	12	135	234	M12	60	228	58.5	19	12.5	15	5	65	117	135	180	66	100
63		230	25	27	262	284	178	200	14	12	155	268	M12	70	262	68	23	17.5	12	9	75	138	160	214	76	115
80		280	30	30	300	326	200	226	16	16	175	310	M14	80	304	81	33	22	18	11.5	85	153	190	245	80	125
100		280	32	30	300	326	200	226	16	16	175	310	M14	80	304	96	37.5	25	20	17	85	153	190	245	80	125

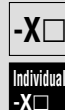
Long Stroke

Bore size (mm)	O	P	Q	R	S	S1	T	U	V	VA	VB	W	X	Y	Z	Bore size (mm)	Stroke range (mm)
50	M12 x 1.75 depth 23	Rc 1/4	104.5	19.5	75	65	30	192	108	20	9	86	69	187	323	50	350 to 1000
63	M12 x 1.75 depth 23	Rc 3/8	119.5	20.5	90	75	35	224	128	23	8.5	104	69	201	358	63	350 to 1000
80	M14 x 2 depth 28	Rc 3/8	150	23	102	95	40	262	143	33	10.5	128	87	249	431	80	350 to 1000
100	M14 x 2 depth 30	Rc 1/2	170	23	116	114	40	262	143	37.5	10.5	128	87	269	431	100	350 to 1000

Made to Order Individual Specifications:



■ Pin Cylinder/Series CJP2	Page
1-X1666 Clevis/Trunnion style mounting interchangeable	1502
■ Air Cylinder/Series CJ2	
1-X773 Short pitch mounting/Single acting spring return	1503
■ Compact Cylinder/Series CQ2/CQS	
1-X202 Full length dimension is the same as Series CQ1.	1504
2-X203 L dimension from rod cover is the same as Series CQ1.	1506
3-X293 Full length dimension is the same as Series CQ1W.	1507
4-X144 Special port location	1507
5-X235 Special piston rod end for double rod type cylinder	1508
6-X271 Fluororubber for seals	1508
7-X525 Long stroke of adjustable extension stroke cylinder (-XC8)	1509
8-X526 Long stroke of adjustable retraction stroke cylinder (-XC9)	1510
9-X633 Intermediate stroke of double rod type	1511
10-X636 Long stroke of dual stroke single rod type	1512
11-X1876 Cylinder tube: with concave boss on head end	1513
■ Square Tube Type Air Cylinder/Series MB1	
1-X846 Fastener strips mounted on switch mounting grooves ·	1514
■ Air Cylinder/Series MB	
1-X1184 Cylinder with heat resistant reed auto switch (-10°C to 120°C)	1515
■ Air Cylinder/Series CA2	
1-X1184 Cylinder with heat resistant reed auto switch (-10°C to 120°C)	1516
■ Air Slide Table/Series MXS	
1-X7 PTFE grease	1517
2-X9 Grease for food	1517
3-X33 Without built-in auto switch magnet	1517
4-X39 Fluororubber seal	1517
5-X42 Anti-corrosive specifications for guide unit	1517
6-X45 EPDM seal	1517
7-X11 Adjusting bolt, long specification (Adjustment range: 15 mm)	1518
8-X12 Adjusting bolt, long specification (Adjustment range: 25 mm)	1518
■ Air Slide Table/Series MXQ	
1-X7 PTFE grease	1519
2-X9 Grease for food	1519
3-X16 Heat treated metal stopper (Adjustment range: 5 mm)	1519
4-X17 Heat treated metal stopper (Adjustment range: 15 mm)	1519
5-X18 Heat treated metal stopper (Adjustment range: 25 mm)	1519
6-X33 Without built-in auto switch magnet	1520
7-X39 Fluororubber seal	1520
8-X42 Anti-corrosive specifications for guide unit	1520
9-X45 EPDM seal	1520
10-X11 Adjusting bolt, long specification (Adjustment range: 15 mm)	1520
11-X12 Adjusting bolt, long specification (Adjustment range: 25 mm)	1521
■ Air Slide Table/Series MXF	
1-X7 PTFE grease	1522
2-X9 Grease for food	1522
3-X33 Without built-in auto switch magnet	1522
4-X39 Fluororubber seal	1522
5-X42 Anti-corrosive specifications for guide unit	1522
6-X45 EPDM seal	1522
7-X11 Adjusting bolt, long specification (Adjustment range: 15 mm)	1523



Made to Order Individual Specifications:

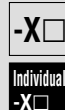


■ Air Slide Table/Series MXW	Page
1-X7 PTFE grease	1524
2-X9 Grease for food	1524
3-X33 Without built-in auto switch magnet	1524
4-X39 Fluororubber seal	1524
5-X42 Anti-corrosive specifications for guide unit	1524
6-X45 EPDM seal	1524
7-X11 Adjusting bolt, long specification (Adjustment range: 15 mm)	1525
■ Air Slide Table/Series MXJ	
1-X39 Fluororubber seal	1526
2-X42 Anti-corrosive specifications for guide unit	1526
3-X45 EPDM seal	1526
■ Air Slide Table/Series MXP	
1-X7 PTFE grease	1527
2-X9 Grease for food	1527
3-X16 Heat treated metal stopper bolt specification	1527
4-X39 Fluororubber seal	1527
5-X42 Anti-corrosive specifications for guide unit	1527
6-X45 EPDM grease	1528
7-X23 Axial piping port set screw specification	1529
8-X51 Long adjustment nut specification	1529
■ Air Slide Table/Series MXY	
1-X7 PTFE grease	1530
2-X9 Grease for food	1530
3-X39 Fluororubber seal	1530
4-X42 Anti-corrosive specifications for guide unit	1530
5-X45 EPDM seal	1530
6-X11 Adjusting bolt, long specification (Adjustment range: 15 mm)	1531
7-X12 Adjusting bolt, long specification (Adjustment range: 25 mm)	1531
■ Lock-up Cylinder/Series CL1	
1-X50 Large bore lock-up cylinder	1532
2-X51 Both-direction lock-up cylinder	1533
■ Slide Unit/Series CX2/CXW	
1-X138 Adjustable stroke	1534
2-X146 Hollow piston rod specifications	1534
3-X168 CX helical insert thread specifications	1535
4-X169 With 2 built-in magnets	1536
■ Platform Cylinder/Series CXT	
1-X138 Adjustable stroke	1537
2-X777 Fluororubber seal (Cylinder unit only)	1537
■ Compact Guide Cylinder/Series MGP	
1-X144 Symmetrical port position	1538
2-X867 Lateral piping type (Plug location changed)	1539
■ Compact Guide Cylinder/Series MGQ	
1-X168 Helical insert thread specifications	1540
2-X367 Bottom mounting style (MGQM type is only available.)	1540
3-X399 Long bushing type (MGQL type is only available.)	1541
4-X563 Magnetic field resistant auto switch (D-P4DW)	1541

Made to Order Individual Specifications:



■ Guide Cylinder/Series MGG/MGC	Page
1-X440 With piping ports for grease	1542
■ Guide Cylinder/Series MGG	
1-X440 With piping ports for grease (Water resistant type)	1543
2-X772 Auto switch rail mounting style with piping ports for grease	1544
2-X772 Auto switch rail mounting style/With piping ports for grease (Water resistant type)	1545
■ Non-rotating Double Power Cylinder/Series MGZ/MGZR	
1-X1247 Rod end one female threaded hole	1546
2-X1248 Rod end four female threaded holes	1546
■ Dual Rod Cylinder/Series CXS	
1-X593 Without plate	1547
■ Magnetically Coupled Rodless Cylinder/Series CY	
1-X116 Hydro specifications rodless cylinder	1548
2-X132 Air supply port relocated in axial direction	1548
3-X160 High speed rodless cylinder	1549
4-X168 Helical insert thread specifications	1549
5-X206 Additional moving element mounting taps	1549
6-X210 Non-lubricated exterior specifications	1549
7-X322 Cylinder tube outer circumference with hard chrome plated	1550
8-X324 Non-lubricated exterior specifications with dust seal	1550
9-X431 Auto switch rails on both side faces (With 2 pcs.)	1550
10-X1468 Interchangeable with CY1□6	1550
■ Mechanically Jointed Rodless Cylinder/Series MY1	
1-X416/X417 Holder mounting bracket I, II	1552
2-X168 Helical insert thread specifications	1553
■ Mechanically Jointed Rodless Cylinder/Series MY2	
1-X416/X417 Holder mounting bracket I, II	1554
2-XB20X416/XB20X417 Holder mounting bracket for XB20 I, II	1556
3-X168 Helical insert thread specifications	1557
■ Mechanically Jointed Rodless Cylinder/Series MY3	
1-X416/X417 Holder mounting bracket I, II	1558
2-X168 Helical insert thread specifications	1559
■ Sine Rodless Cylinder/Series REA/REB	
1-X168 Helical insert thread specifications	1560
2-X206 Additional moving element mounting taps	1560
3-X210 Non-lubricated exterior specifications	1560
4-X324 Non-lubricated exterior specifications with dust seal	1561
5-X431 Auto switch rails on both side faces (with 2 pcs.)	1561
■ Stroke Reading Rodless Cylinder with Brake/Series ML2B	
1-X416/X417 Holder mounting bracket I, II	1562
■ Mechanically Jointed Rodless Cylinder with Brake Hy-rodless Cylinder/Series ML1	
1-X416/X417 Holder mounting bracket I, II	1563
■ Escapement/Series MIW/MIS	
1-X4 Heat resistant (-10°C to 100°C)	1564
2-X5 Fluororubber seal	1564
3-X63 Fluorine grease	1564
4-X79 Grease for food	1564
■ Rotary Clamp Cylinder/Series MX2T	
1-X1859 With head end pin hole	1565



Made to Order Individual Specifications: Pin Cylinder Series *CJP2*



Please contact SMC for detailed dimensions, specifications, and lead times.

Refer to page 23 of Best Pneumatics No. 2 for the CJP2 series standard type.

1 Clevis/Trunnion Style Mounting Interchangeable

Symbol

-X1666

CJP2 series standard model no. — **X1666**

- Clevis/Trunnion style mounting interchangeable (Former CJP)

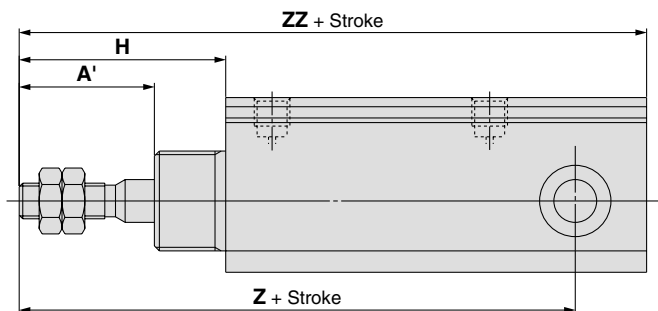
Specifications

Applicable series	CJP2
Bore size	ø6, ø10, ø16
Other specifications	Same as standard type.

* ø6 is available for both standard and built-in magnet types.

* ø10 and ø16 are available for the standard type (The built-in magnet type is interchangeable.)

Dimensions



Bore size (mm)	A'	H	Z	ZZ
6	18.5 (13.5)	26.5 (21.5)	43.5	47.5
10	17	25	49	55.5
16	19	29	53	63

* Dimensions other than above are same as basic type.

(): For the built-in magnet type

Made to Order Individual Specifications: Air Cylinder Series CJ2



Please contact SMC for detailed dimensions, specifications, and lead times.

Refer to page 42 of Best Pneumatics No. 2 for the CJ2 series standard type.

1 Short Pitch Mounting/Single Acting Spring Return

Symbol

-X773

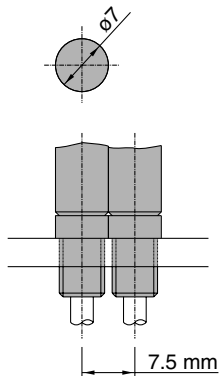
CJ2B6 — **Stroke** SU4 — **X773**

• Short pitch mounting

Mounting pitch is shortened when cylinders are used in parallel.

■ Changes rod cover and head cover dimensions to $\phi 7$.

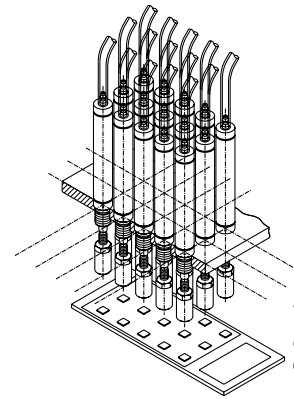
■ Shortens the full length with a head cover integrated with a barb fitting.



Note) Directly mounted with cylinder mounting screws



Application example

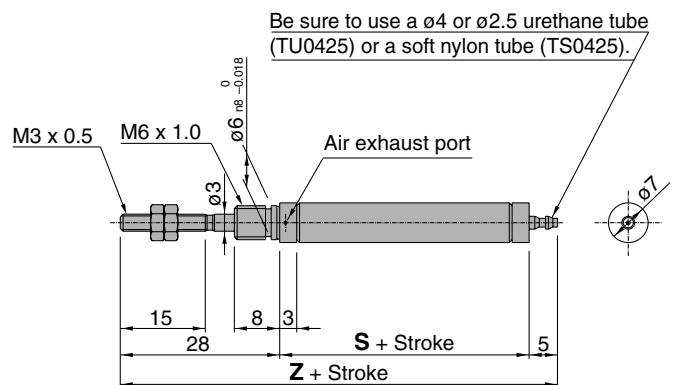


Verification of push button actuation for mobile phones, etc.

Specifications

Bore size (mm)	6
Action	Single acting, Spring return
Operating pressure range	0.2 to 0.7 MPa
Port size	With $\phi 4$ barb fitting (For soft tube)
Connecting port location	Head cover/Axial direction
Stroke (mm)	5 to 60
Auto switch	None

Dimensions



Stroke	5 to 15	16 to 30	31 to 45	46 to 60
S	30.5	39.5	43.5	57.5
Z	63.5	72.5	76.5	90.5

Note

- When mounting a cylinder, make sure that the air exhaust port on the rod cover is not blocked.
- When mounting a cylinder, apply thread-locking adhesive on the threaded part and hold the external diameter of the rod cover with a needle-nose pliers or regular pliers.

-X□

Individual
-X□

Made to Order Individual Specifications: Compact Cylinder Series CQ2



Please contact SMC for detailed dimensions, specifications, and lead times.

Refer to page 602 of Best Pneumatics No. 2 for the CQ2 series standard type.

1 Full Length Dimension is the Same as Series CQ1.

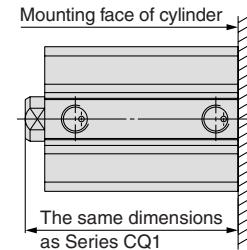
C□Q2 Mounting Bore size Stroke Action Option — X202

In a single rod style of Series CQ2, A dimensions (from the rod face to the rod end) and rod end female thread size are the same as Series CQ1 (previous model).

Applicable Model

Single rod	Double acting (Rubber bumper)	ø12, ø20, ø32, ø40, ø50, ø63, ø80, ø100
	Single acting (Spring return/ Spring extend)	ø12, ø20, ø32, ø40, ø50

Note 1) ø16 and ø25 are the new models so that they are not applicable.
Note 2) Strokes except mentioned below are available as standard products.

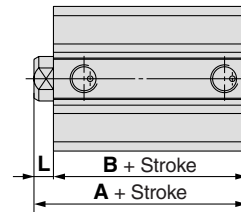
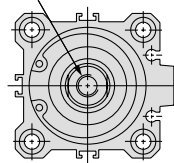


Specifications are the same as those of Series CQ2, standard type.

Dimensions (Without auto switch)

Double acting,
Single rod:
Female thread

H thread effective depth C



Symbol	Bore size	ø12		ø20		ø32		ø40		ø50		ø63		ø80		ø100	
	Stroke (mm)	15, 25	5, 10 20, 30 40, 50	15, 25 35, 45	5, 10 20, 30 40, 50	15, 25 35, 45	5, 10 20, 30 40, 50	15, 25 35, 45	10, 20 30, 40 50	15, 25 35, 45	10, 20 30, 40 50	15, 25 35, 45	10, 20 30, 40 50	15, 25 35, 45	10, 20 30, 40 50	15, 25 35, 45	
A	25.5	23 (25)	28	26.5 (28.5)	31.5	33	38	34	39	39.5	44.5	47	52	56.5	61.5		
B	22	19.5	24.5	23	28	29.5	34.5	30.5	35.5	36	41	43.5	48.5	53	58		
L	3.5	3.5 (5.5)	3.5	3.5 (5.5)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		
H	M3 x 0.5	M5 x 0.8		M6 x 1.0*		M6 x 1.0*		M8 x 1.25*		M10 x 1.5		M16 x 2.0		M20 x 2.5			
C	6	7		9*		11*		13*		15		21		27			

Note) (): Denotes at stroke 10 mm * H/C dimensions of ø32, ø40 and ø50 are different from the new model Series CQ2.

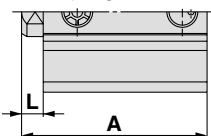
75 st, 100 st

Bore size Stroke	ø32	ø40	ø50	ø63	ø80	ø100
Symbol	75 100	75 100	75 100	75 100	75 100	75 100
A	36.5	43	44	49.5	57	66.5
B	33	39.5	40.5	46	53.5	63
L	3.5	3.5	3.5	3.5	3.5	3.5

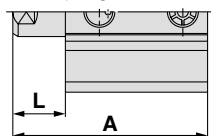
Note) H/C dimensions are the same as above.

Single acting

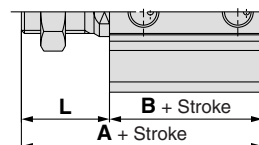
Spring return



Spring extend



Double acting: Rod end male thread



Action	Bore Stroke	ø20	ø32	ø40	ø50
Single acting, Spring return	A	28 35	31.5 38.5	38 43	44 54
	L	3.5 5.5	3.5 5.5	3.5	3.5
Single acting, Spring extend	A	33 45	36.5 48.5	43 53	54 74
	L	8.5 15.5	8.5 15.5	8.5 13.5	13.5 23.5

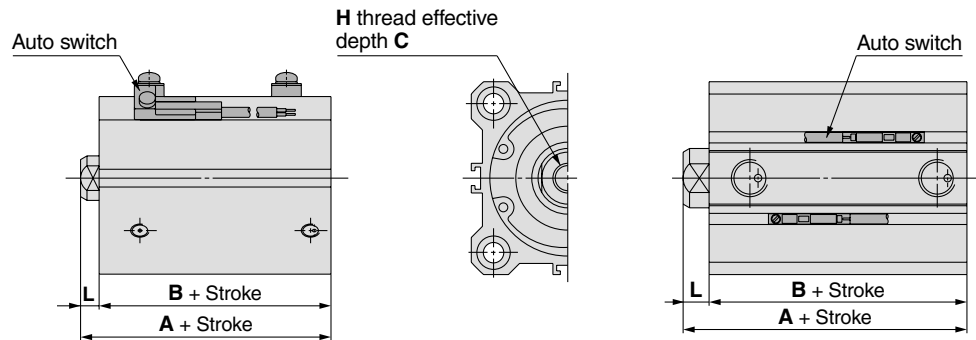
Bore Stroke	ø12	ø20	ø32	ø40	ø50	ø63	ø80	ø100
Symbol	15, 25	10	15, 25 35, 45	10	15, 25 35, 45	15, 25 35, 45	15, 25 35, 45	15, 25 35, 45
A	36	40	43	53.5	56.5	63	69	74.5
B	22	19.5	24.5	23	28	34.5	35.5	41
L	14	20.5	18.5	30.5	28.5	28.5	33.5	43.5

Dimensions (With auto switch)

Double acting, Single rod: Female thread

ø12 to ø25

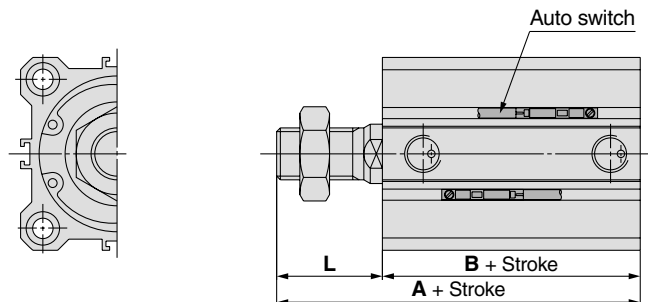
ø32 to ø100



Symbol	Bore	ø12		ø20		ø32		ø40		ø50		ø63		ø80		ø100	
	Stroke (mm)	15, 25	5, 10, 20 30, 40, 50	15, 25 35, 45	10, 20, 30, 40, 50, 75, 100	5, 15, 25 35, 45	10, 20, 30, 40, 50, 75, 100	5, 15, 25 35, 45	10, 20, 30, 40, 50, 75, 100	15, 25 35, 45	10, 20, 30, 40, 50, 75, 100	15, 25 35, 45	10, 20, 30, 40, 50, 75, 100	15, 25 35, 45	10, 20, 30, 40, 50, 75, 100	15, 25 35, 45	
A	36.5	38.5	43.5	36.5	41.5	43	48	44	49	49.5	54.5	57	62	66.5	71.5		
B	33	31.5	36.5	33	38	39.5	44.5	40.5	45.5	46	51	53.5	58.5	63	68		
L	3.5	7	7	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		
H	M3 x 0.5	M5 x 0.8	M6 x 1.0*		M6 x 1.0*		M8 x 1.25*		M10 x 1.5		M16 x 2.0		M20 x 2.5				
C	6	7	9*		11*		13*		15		21		27				

* H/C dimensions of ø32, ø40 and ø50 are different from the new model Series CQ2.

Double acting: Rod end male thread



Bore	ø12	ø20	ø32	ø40	ø50	ø63	ø80	ø100
Stroke (mm)	15, 25	5, 10, 20, 30, 40, 50	15, 25 35, 45	5, 15, 25 35, 45	5, 15, 25 35, 45	15, 25 35, 45	15, 25 35, 45	15, 25 35, 45
Symbol								
A	47	53.5	58.5	66.5	73	79	84.5	102
B	33	31.5	36.5	38	44.5	45.5	51	58.5
L	14	22	22	28.5	28.5	33.5	33.5	43.5

Made to Order Individual Specifications: Compact Cylinder Series CQ2



Please contact SMC for detailed dimensions, specifications, and lead times.

Refer to page 602 of Best Pneumatics No. 2 for the CQ2 series standard type.

2 L Dimension from Rod Cover is the Same as Series CQ1.

Symbol

-X203

C□Q2 **Mounting** **Bore size** — 10 **Action** **Option** — X203

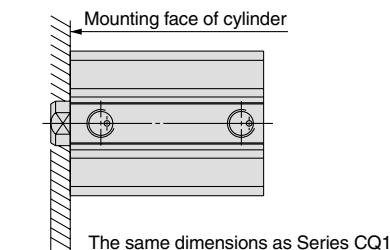
In a single rod style of Series CQ2, L dimension (from the rod face to the rod end) and rod end female thread size are the same as Series CQ1 (previous model).

Applicable Model

Single rod	Female thread	Double acting Rubber bumper	ø20, ø32, (ø40), (ø50), (ø63), (ø80), (ø100)
		Single acting (Spring return, Spring extend)	ø20, ø32, (ø40), (ø50)
	Male thread	Available as Series CQ2 standard.	

Note 1) ø16 and ø25 are the new models so that they are not applicable.

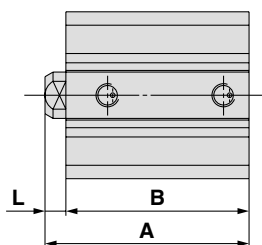
Note 2) (): Denotes the same dimensions as for -X202.



Specifications are the same as those of Series CQ2, standard type.

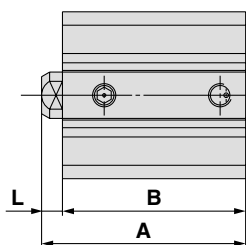
Dimensions: Available for CQ2B²⁰₃₂-10D(C) Only

Double acting, Single rod



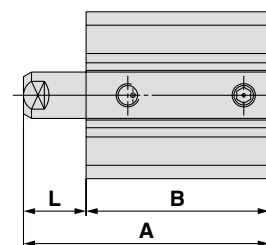
Symbol	Bore size	
	ø20	ø32
A	33	36.5
B	29.5	33
L	3.5	3.5

Single acting, Spring return



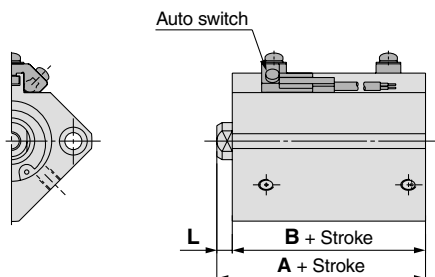
Symbol	Bore size	
	ø20	ø32
A	33	36.5
B	29.5	33
L	3.5	3.5

Single acting, Spring extend



Symbol	Bore size	
	ø20	ø32
A	43	46.5
B	29.5	33
L	13.5	13.5

With Auto Switch: Available for CQ2B-□D(C) Only



Symbol	Bore size	
	ø20	ø32
A	35	40
B	31.5	36.5
L	3.5	3.5

Made to Order Individual Specifications: Compact Cylinder Series CQ2



Please contact SMC for detailed dimensions, specifications, and lead times.

Refer to page 602 of Best Pneumatics No. 2 for the CQ2 series standard type.

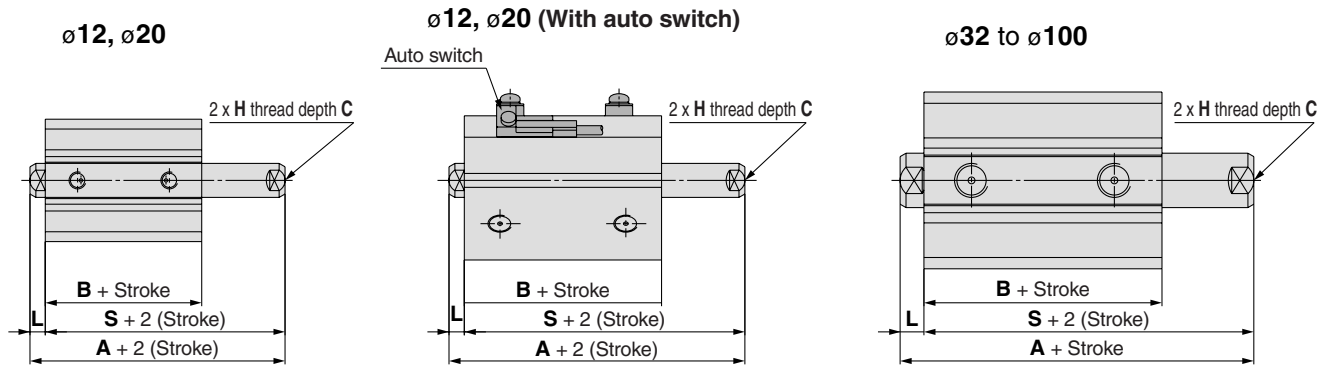
3 Full Length Dimension is the Same as Series CQ1W.

Symbol

-X293

CQ2W Standard model no. — X293

The same dimensions as CQ1W



Without Auto Switch

Bore (mm)	12	20	32	40	50	63	80	100
Stroke (mm)	5	5	10	10	15	15	15	15
Symbol	10	10	20	20	25	25	25	25
A	33	33	38	37	38	43	46.5	51.5
B	25.2	26	31	30.5	30.5	35.5	40	45
L	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
S	29.5	29.5	34.5	33.5	34.5	39.5	43	48
H	M3 x 0.5	M5 x 0.8	M5 x 0.8	M6 x 1	M6 x 1	M6 x 1	M6 x 1	M6 x 1
C	6	7	7	9	9	9	9	9

With Auto Switch

Bore (mm)	12	20	32	40	50	63	80	100
Stroke (mm)	5	5	10	10	15	15	15	15
Symbol	10	10	20	20	25	25	25	25
A	40	47	52	48	53	56.5	61.5	57.5
B	32.4	38	43	40.5	45.5	50	55	50.5
L	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
S	36	43.5	48.5	44.5	49.5	53	58	54
H	M3 x 0.5	M5 x 0.8	M5 x 0.8	M6 x 1	M6 x 1	M6 x 1	M6 x 1	M8 x 1.25
C	6	7	7	9	9	9	9	13

4 Special Port Location

Symbol

-X144

This style is available for changing port location. (Only for auto switches ø12 to ø25)

CDQ2 Standard model no. — X144 B

Special port location

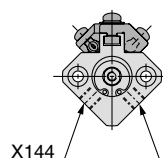
In the case of CDQ2□20/25, specify the port location with B, C and D.

Applicable Model

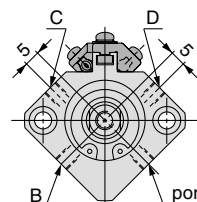
Bore size (mm)	12, 16, 20, 25
Action	Double acting, Single rod
Specification other than above	Same specifications as Series CDQ2

ø12, ø16

ø20, ø25



Standard port location



Standard port location

-X□
Individual
-X□

Made to Order Individual Specifications: Compact Cylinder Series CQ2/CQS



Please contact SMC for detailed dimensions, specifications, and lead times.

Refer to page 602 of Best Pneumatics No. 2 for the CQ2 series standard type.
Refer to page 551 of Best Pneumatics No. 2 for the CQS series standard type.

5 Special Piston Rod End for Double Rod Type Cylinder

Symbol

-X235

Male thread is used at one piston rod end of double rod style cylinder and female thread is used at the other end.

C□Q2W Mounting Bore size — Stroke D — X235

C□QSW Mounting Bore size — Stroke D — X235

"D" in the case of "-235"

Piston rod end
Male thread, Female thread

* Specifications: Same as standard type.

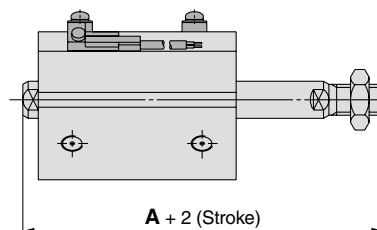
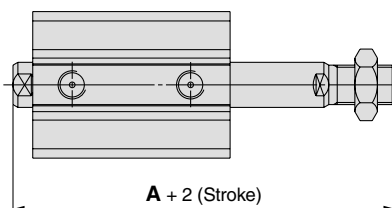
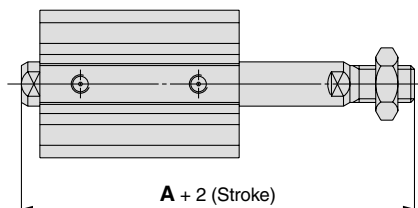
Note) Please contact SMC for mounting bracket.

Series CQ2

ø12 to ø25

ø32 to ø100

ø12 to ø25 (With auto switch)

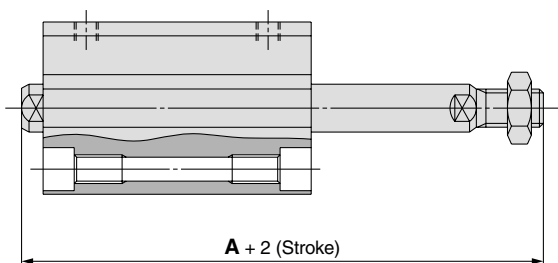


Symbol \ Bore (mm)	12	16	20	25	32	40	50	63	80	100
A	42.7 (49.9)	45 (55)	49 (61)	56.5 (66.5)	66 (76)	75.5 (85.5)	82 (92)	83.5 (93.5)	104.5 (114.5)	116 (126)
Applicable stroke	5 to 30		5 to 50				10 to 50			

Note 1) Applicable stroke is available by the 5 mm interval.

Note 2) (): Denotes the dimensions with auto switch.

Series CQS



Symbol \ Bore (mm)	12	16	20	25
A	39.5 (44.5)	41 (46)	49 (59)	56.5 (66.5)
Applicable stroke	5 to 30		5 to 50	

Note 1) Applicable stroke is available by the 5 mm interval.

Note 2) (): Denotes the dimensions with auto switch.

6 Fluororubber for Seals

Symbol

-X271

Material for seals is changed to fluororubber.

C□Q2 Standard model no. — X271

C□QS Standard model no. — X271

Fluororubber for seals

All series variations except non-rotating piston rod style of Series CQ2/CQS is available.
Specifications are the same as for each variation of CQ2/CQS.

Made to Order Individual Specifications: Compact Cylinder Series CQ2/CQS



Please contact SMC for detailed dimensions, specifications, and lead times.

Refer to page 602 of Best Pneumatics No. 2 for the CQ2 series standard type.
Refer to page 551 of Best Pneumatics No. 2 for the CQS series standard type.

7 Long Stroke of Adjustable Extension Stroke Cylinder (-XC8)

Symbol
-X525

C□Q2 **Mounting** **Bore size** — **Stroke** D(M) — X525

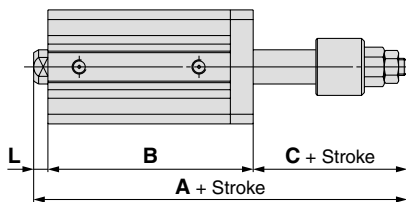
C□QS **Mounting** **Bore size** — **Stroke** D(M) — X525

Long stroke of XC8

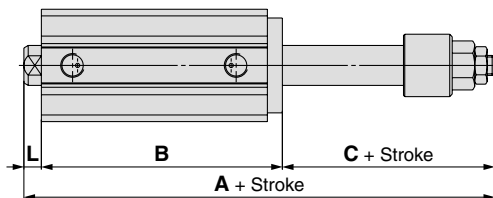
Specifications are the same as for -XC8 of Series CQ2/CQS.
Refer to "Made to Order Common Specifications".
Note) For the tap mounting style (ø12 to ø25—without switch) and mounting bracket, please contact SMC.

Series CQ2

ø12 to ø25

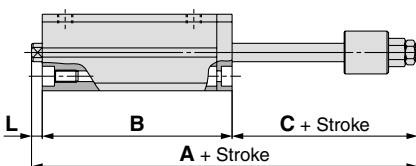


ø32 to ø100

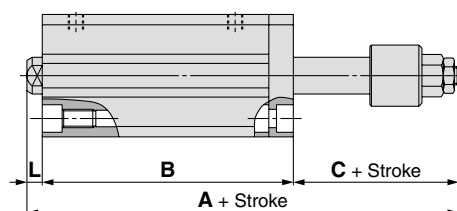


Series CQS

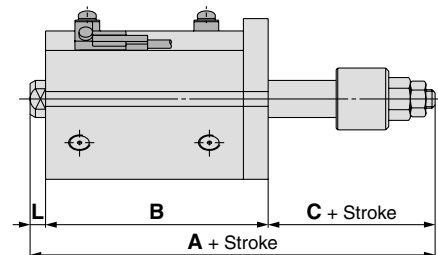
ø12, ø16



ø20, ø25



ø12 to ø25 (With auto switch)



ø12, ø16

Symbol Bore (mm) Stroke	A				B				C	L	Applicable stroke
	35st	40st	45st	50st	35st	40st	45st	50st			
12	99.9	104.9	109.9	114.9	72.4	77.4	82.4	87.4	24	3.5	35, 40
16	104.5	109.9	114.9	119.5	77	82	87	92	24	3.5	45, 50

ø20 to ø100

Symbol Bore (mm) Stroke	A						B						C	L	Applicable stroke
	55 to 75st	80 to 100st	105 to 125st	130 to 150st	155 to 175st	180 to 200st	55 to 75st	80 to 100st	105 to 125st	130 to 150st	155 to 175st	180 to 200st			
20	155.5	180.5	—	—	—	—	122	147	—	—	—	—	29	4.5	55 to 100
25	156	181	—	—	—	—	122	147	—	—	—	—	29	5	
32	—	—	213.5	238.5	263.5	288.5	—	—	171.5	196.5	221.5	246.5	35	7	55 to 200
40	—	—	223	248	273	298	—	—	181	206	231	256	35	7	
50	—	—	235.5	260.5	285.5	310.5	—	—	183.5	208.5	233.5	258.5	44	8	
63	—	—	237	262	287	312	—	—	187	212	237	262	42	8	
80	—	—	260	285	310	335	—	—	198	223	248	273	52	10	
100	—	—	273.5	298.5	323.5	348.5	—	—	209.5	234.5	259.5	284.5	52	12	

Note 1) Dimensions of both auto switch type and non-auto switch type are the same.

Note 2) Applicable stroke is available by the 5 mm interval.

ø12, ø16

Symbol Bore (mm) Stroke	A				B				C	L	Applicable stroke
	35st	40st	45st	50st	35st	40st	45st	50st			
12	91.1 (96.1)	96.1 (101.1)	101.1 (106.1)	106.1 (111.1)	62 (67)	67 (72)	72 (77)	77 (87)	25.6	3.5	35, 40, 45, 50
16	91.5 (96.5)	96.5 (101.5)	101.5 (106.5)	106.5 (111.5)	62 (67)	67 (72)	72 (77)	77 (87)	26	3.5	

ø20, ø25

Symbol Bore (mm) Stroke	A		B		C	L	Applicable stroke
	55 to 75st	80 to 100st	55 to 75st	80 to 100st			
20	142.5 (152.5)	167.5 (177.5)	109 (119)	134 (144)	29	4.5	55 to 100
25	146 (156)	171 (181)	112 (122)	137 (147)	29	5	

Note 1) (): Denotes dimensions with auto switch.

Note 2) Applicable stroke is available by the 5 mm interval.

-X□
Individual
-X□



Made to Order Individual Specifications: Compact Cylinder Series CQ2/CQS



Please contact SMC for detailed dimensions, specifications, and lead times.

Refer to page 602 of Best Pneumatics No. 2 for the CQ2 series standard type.
Refer to page 551 of Best Pneumatics No. 2 for the CQS series standard type.

8 Long Stroke of Adjustable Retraction Stroke Cylinder (-XC9)

Symbol

-X526

C□Q2 Mounting Bore size Stroke D(M) — X526

C□QS Mounting Bore size Stroke D(M) — X526

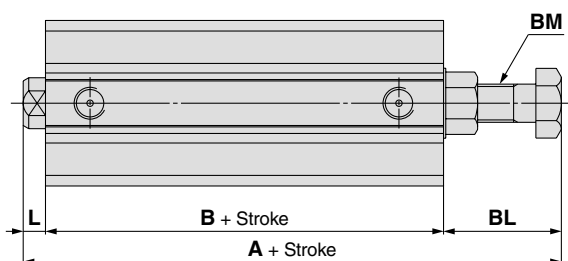
Long stroke of XC9

Specifications are the same as for -XC9 of Series CQ2/CQS.
Refer to "Made to Order Common Specifications".

Note) Please contact SMC for bracket style.

Dimensions

Series CQ2



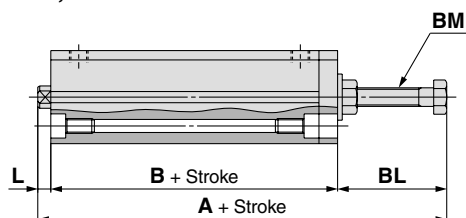
Bore (mm) \ Symbol	A	B	L	BL	BM	Applicable stroke
12	59.2 (56.4)	32.4	3.5	23.3 (20.5)	M5 x 0.8	35, 40, 45, 50
16	64	37	3.5	23.5	M6 x 1.0	
20	74	39	4.5	30.5	M8 x 1.25	75, 100
25	73.5	39	5	29.5	M8 x 1.25	
32	75.5	40.5	7	28	M8 x 1.25	75, 100, 125, 150, 175, 200
40	94	50	7	37	M12 x 1.5	
50	94.5	50.5	8	36	M12 x 1.5	
63	98.5	52	8	38.5	M16 x 1.5	
80	119.5	91	10	48.5	M20 x 1.5	
100	135	70.5	12	52.5	M24 x 1.5	

Note 1) (): Denotes the dimensions with auto switch.

Note 2) Intermediate stroke type (available by the 5 mm interval) is for spacer so that dimensions are the same as for each style of 75, 100, 125, 150, 175, 200 stroke.

Series CQS

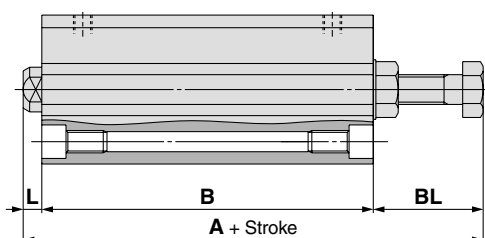
ø12, ø16



<div>Symbol</div> <div>Bore (mm)</div>	A	B	L	BL	BM	Applicable stroke
12	69.8	37	3.5	29.3	M5 x 0.8	35, 40, 45, 50, 75, 100
16	69.5	37	3.5	29	M6 x 1.0	
20	76	41	4.5	30.5	M8 x 1.25	75, 100, 125, 150, 175, 200
25	78.5	44	5	29.5	M8 x 1.25	75, 100, 125, 150, 175, 200, 250, 300

Note) Intermediate stroke type (available by the 5 mm interval) is for spacer, so that dimensions are the same as for each type of 75, 100, 125, 150, 175, 200, 250 and 300 stroke.

ø20, ø25



Made to Order Individual Specifications: Compact Cylinder Series CQ2/CQS



Please contact SMC for detailed dimensions, specifications, and lead times.

Refer to page 602 of Best Pneumatics No. 2 for the CQ2 series standard type.
Refer to page 551 of Best Pneumatics No. 2 for the CQS series standard type.

9 Intermediate Stroke of Double Rod Type

Symbol

-X633

C□Q2W Standard model no. — X633

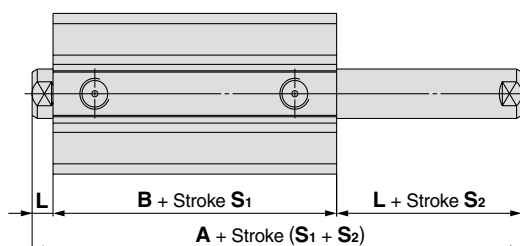
C□QSW Standard model no. — X633

* Specifications: Same as standard type.

Note) Please contact SMC for bracket style.

Dimensions

Series CQ2



Bore (mm)	Symbol	A	B	L	Stroke S ₁	Stroke S ₂
12		32.2 (39.4)	25.2 (32.4)	3.5	In the case of 5 to 30 stroke 5 mm intervals	In the case of 5 to 30 stroke 1 mm intervals
16		33 (43)	26 (36)	3.5		
20		35 (47)	26 (38)	4.5		
25		39 (49)	29 (39)	5		
32		44.5 (54.5)	30.5 (40.5)	7	In the case of 5 to 50 stroke 5 mm intervals	In the case of 5 to 50 stroke 1 mm intervals
40		54 (64)	40 (50)	7		
50		56.5 (66.5)	40.5 (50.5)	8		
63		58 (68)	42 (52)	8		
80		71 (81)	51 (61)	10	In the case of 10 to 50 stroke 5 mm intervals	In the case of 10 to 50 stroke 1 mm intervals
100		84.5 (94.5)	60.5 (70.5)	12		

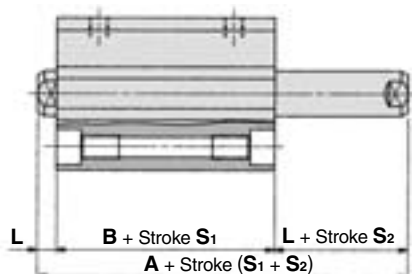
Note 1) (): Denotes the dimensions with auto switch.

Note 2) Installing a spacer inside the standard cylinder tube, stroke S₁ has 5 mm intervals to controlling intermediate stroke by the 1 mm interval.

Example) In the case of CDQ2WB40-18D, stroke S₁ is 20 mm and stroke S₂ is 18 mm.

Note 3) Please consult with SMC for damper style of ø40 to ø100.

Series CQS



Bore (mm)	Symbol	A	B ₁	L	Stroke S ₁	Stroke S ₂
12		29 (34)	22 (27)	3.5	In the case of 5 to 30 stroke 5 mm intervals	In the case of 5 to 30 stroke 1 mm intervals
16		29 (34)	22 (27)	3.5		
20		35 (45)	26 (36)	4.5		
26		39 (49)	29 (39)	5	In the case of 5 to 50 stroke 5 mm intervals	In the case of 5 to 50 stroke 1 mm intervals

Note 1) (): Denotes the dimensions with auto switch.

Note 2) Installing a spacer inside the standard cylinder tube, stroke S₁ has 5 mm intervals to controlling intermediate stroke by the 1 mm interval.

Example) In the case of CDQ2WB40-18D, stroke S₁ is 20 mm and stroke S₂ is 18 mm.

-X□

Individual
-X□

Made to Order Individual Specifications: Compact Cylinder Series CQ2/CQS



Please contact SMC for detailed dimensions, specifications, and lead times.

Refer to page 602 of Best Pneumatics No. 2 for the CQ2 series standard type.
Refer to page 551 of Best Pneumatics No. 2 for the CQS series standard type.

10 Long Stroke of Dual Stroke Single Rod Type

Symbol

-X636

C□Q2B Bore size — Stroke S₁ + Stroke S₂—S₁ (C)(M) — X636

C□QSB Bore size — Stroke S₁ + Stroke S₂—S₁ DC(M) — X636

Long stroke of
XC11

Applicable Stroke

(mm)

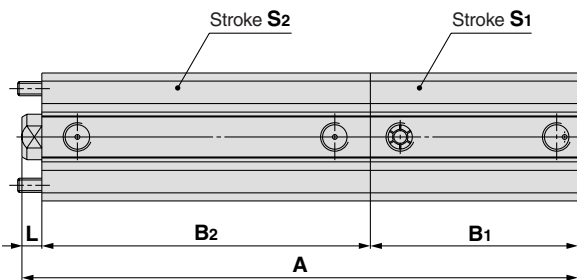
Bore size	Stroke
ø12, ø16	Max. stroke S ₂ : up to 50 mm
ø20 to ø100	Max. stroke S ₂ : up to 100 mm

Specifications are the same as for -XC11 of Series CQ2/CQS.

Refer to "Made to Order Common Specifications".

Note) Please contact SMC for tap mounting style and bracket mounting style.

Series CQ2



Bore Size: ø12, ø16

(mm)

Symbol Bore	A	B ₁	B ₂	L	Stroke range	
					S ₁	S ₂
ø12	52.9 (63.9) + Stroke (S ₁ + S ₂)	17 (28) + Stroke S ₁	32.4 + Stroke S ₂	3.5	5 to 30	35 to 50
ø16	58 (70) + Stroke (S ₁ + S ₂)	18.5 (30.5) + Stroke S ₁	36 + Stroke S ₂	3.5	5 to 30	35 to 50

Bore Size: ø20, ø25

(mm)

Symbol Stroke Bore	A		B ₁	B ₂		L	Stroke range	
	Stroke S ₂			Stroke S ₂			S ₁	S ₂
	55 to 75	80 to 100		55 to 75	80 to 100			
ø20	137 (149) + Stroke S ₁	162 (174) + Stroke S ₁	19.5 (31.5) + Stroke S ₁	113	138	4.5	5 to 50	55 to 100
ø25	141.5 (151.5) + Stroke S ₁	166.5 (176.5) + Stroke S ₁	22.5 (32.5) + Stroke S ₁	114	139	5	5 to 50	55 to 100

Bore Size: ø32 to ø100

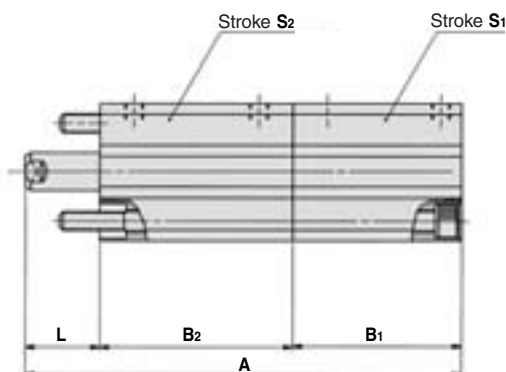
(mm)

Symbol Stroke Bore	A					B ₁			B ₂		L	Stroke range	
	Stroke S ₂ 55 to 75		Stroke S ₂ 80 to 100			Stroke S ₁			Stroke S ₂			S ₁	S ₂
	Stroke S ₁		Stroke S ₁			≤ 50	55 to 75	80 to 100	55 to 75	80 to 100			
	≤ 55	55 to 75	≤ 55	55 to 75	80 to 100								
ø32	145.4 (155.5) + Stroke S ₁	230.5	170.5 (180.5) + Stroke S ₁	255.5	280.5	23 (33) + Stroke S ₁	108	133	115.5	140.5	7	5 to 100	55 to 100
ø40	161.5 (171.5) + Stroke S ₁	246.5	186.5 (196.5) + Stroke S ₁	271.5	296.5	29.5 (39.5) + Stroke S ₁	114.5	139.5	125	150	7	5 to 100	55 to 100
ø50	164 (174) + Stroke S ₁	249	189 (199) + Stroke S ₁	274	299	30.5 (40.5) + Stroke S ₁	115.5	140.5	125.5	150.5	8	10 to 100	55 to 100
ø63	171 (181) + Stroke S ₁	256	196 (206) + Stroke S ₁	281	306	36 (46) + Stroke S ₁	121	146	127	152	8	10 to 100	55 to 100
ø80	189.5 (199.5) + Stroke S ₁	274.5	214.5 (224.5) + Stroke S ₁	299.5	324.5	43.5 (53.5) + Stroke S ₁	128.5	153.5	136	161	10	10 to 100	55 to 100
ø100	210.5 (220.5) + Stroke S ₁	295.5	235.5 (245.5) + Stroke S ₁	320.5	345.5	53 (63) + Stroke S ₁	138	163	145.5	170.5	12	10 to 100	55 to 100

Note 1) (): Denotes the dimensions with auto switch.

Note 2) Applicable stroke is available by the 5 mm interval.

Series CQS



Bore Size: ø12, ø16

(mm)

Symbol Bore	A	B ₁	B ₂	L	Stroke range	
					S ₁	S ₂
ø12	62.5 (67.5) + Stroke (S ₁ + S ₂)	17 (22) + Stroke S ₁	32 + Stroke S ₂	13.5	5 to 30	35 to 50
ø16	62.5 (67.5) + Stroke (S ₁ + S ₂)	17 (22) + Stroke S ₁	32 + Stroke S ₂	13.5	5 to 30	35 to 50

Bore Size: ø20, ø25

(mm)

Symbol Stroke Bore	A		B ₁	B ₂		L	Stroke range	
	Stroke S ₂			Stroke S ₂			S ₁	S ₂
	55 to 75	80 to 100		55 to 75	80 to 100			
ø20	150 (160) + Stroke S ₁	175 (185) + Stroke S ₁	19.5 (29.5) + Stroke S ₁	116	141	14.5	5 to 50	55 to 100
ø25	156.5 (166.5) + Stroke S ₁	181.5 (191.5) + Stroke S ₁	22.5 (32.5) + Stroke S ₁	119	144	15	5 to 50	55 to 100

Note 1) (): Denotes the dimensions with auto switch.

Note 2) Applicable stroke is available by the 5 mm interval.

Made to Order Individual Specifications:

Compact Cylinder

Series CQ2/CQS



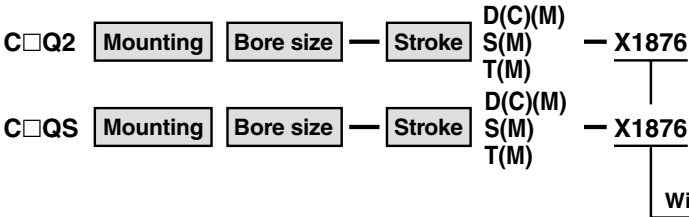
Please contact SMC for detailed dimensions, specifications, and lead times.

Refer to page 602 of Best Pneumatics No. 2 for the CQ2 series standard type.
Refer to page 551 of Best Pneumatics No. 2 for the CQS series standard type.

11 Cylinder Tube: With Concave Boss on Head End

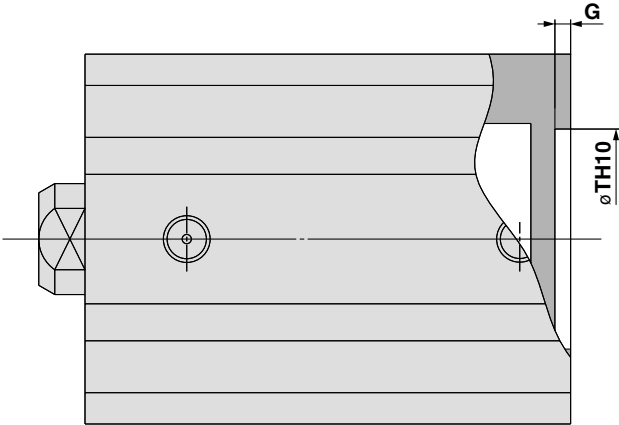
Symbol

-X1876



Specifications are the same as CQ2 and CQS.

Note 1) CQ2: Excluding $\phi 12$, $\phi 16$ and $\phi 125$ to $\phi 200$.
Note 2) CQS: Excluding $\phi 12$ and $\phi 16$.



Series	CQ2		CQS	
	TH10	G	TH10	G
Bore size (mm)				
20	19.3 ^{+0.084} ₀	1.4	19.3 ^{+0.084} ₀	1.4
25	23.8 ^{+0.084} ₀	1.4	23.8 ^{+0.084} ₀	1.4
32	30.9 ^{+0.100} ₀	1.4	—	—
40	39.3 ^{+0.100} ₀	1.3	—	—
50	48.7 ^{+0.100} ₀	2.1	—	—
63	61.5 ^{+0.120} ₀	2.4	—	—
80	78.3 ^{+0.120} ₀	3.3	—	—
100	98.9 ^{+0.140} ₀	2.8	—	—

-X□

Individual
-X□

Made to Order Individual Specifications: Square Tube Type Air Cylinder Series MB1



Please contact SMC for detailed dimensions, specifications, and lead times.

Refer to page 332 of Best Pneumatics No. 2 for the MB1 series standard type.

1

Fastener Strips Mounted on Switch Mounting Grooves

Symbol
-X846

It prevents splashing water or windblown dust to the cylinder body from making an ingress into the auto switch mounting groove and accumulating.

MB1

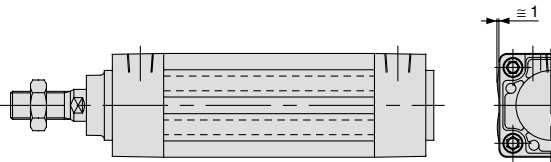
MDB1

Standard model no.

X846

With fasteners

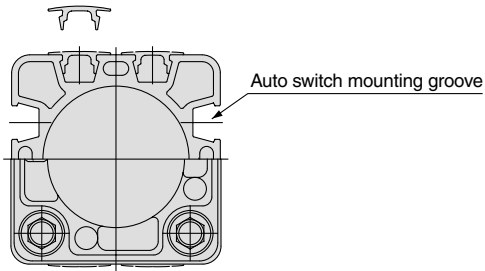
Dimensions



Fastener Specifications

Quantity	8 pcs. (6 pcs. when auto switches are mounted) <small>Note)</small>
Material	Vinyl chloride
Color	Urban white

Note) These cannot be installed on switch mounting grooves where auto switches have been mounted.



Sectional view

Made to Order Individual Specifications: Air Cylinder Series *MB*



Please contact SMC for detailed dimensions, specifications, and lead times.

Refer to page 290 of Best Pneumatics No. 2 for the MB series standard type.

1 Cylinder with Heat Resistant Reed Auto Switch (−10°C to 120°C) Symbol **-X1184**

MDB Standard model no. — Heat resistant reed auto switch — X1184

Switch model

Symbol	Description
Nil	Without switch
B30	D-B30
B30J	D-B30J
B31	D-B31
B31J	D-B31J
B35	D-B35
B35J	D-B35J

• For heat resistant auto switches (D-B3□)
(with built-in magnet)

No. of switches

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

* Refer to page 1351 for details of auto switches.

Specifications

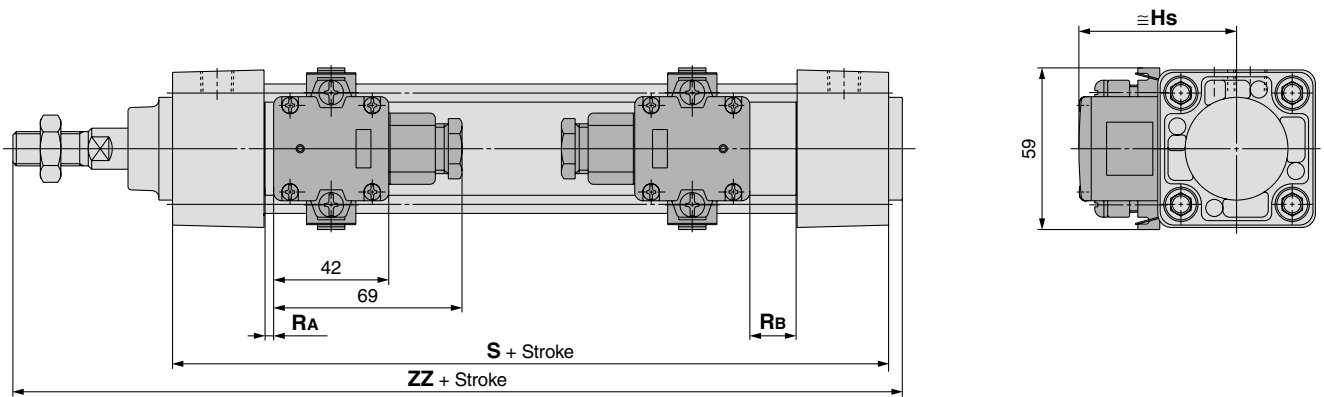
Ambient temperature range	−10°C to 120°C
Bore size (mm)	40, 50, 63, 80, 100
Seal material	Fluororubber
Grease	Heat resistant grease

⚠ Warning

Precautions

Be aware that smoking cigarettes, etc. after your hands have come into contact with the grease used in this cylinder can create a gas that is hazardous to humans.

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



Bore size (mm)	S	ZZ	Hs	RA	RB	Minimum mounting stroke		Auto switch mounting bracket: part no.
						Other than center trunnion	Center trunnion	
40	99	154	57.5	2.5	14.5	1 pc.: 50 st or more 2 pcs.: Different surfaces, 50 st or more 2 pcs.: Same surface, 220 st or more	200st or more	BMB2-040
50	109	171	62.5	3.5	14.5		200st or more	BMB1-050
63	109	171	69	0.5	14.5		200st or more	BMB1-063
80	129	205	78	2.5	22.5		210st or more	BMB1-080
100	129	205	88.5	1	22		210st or more	BMB1-100

-X□

Individual
-X□

Made to Order Individual Specifications: Air Cylinder Series CA2



Please contact SMC for detailed dimensions, specifications, and lead times.

Refer to page 356 of Best Pneumatics No. 2 for the CA2 series standard type.

1 Cylinder with Heat Resistant Reed Auto Switch (−10°C to 120°C) Symbol **-X1184**

CDA2 Standard model no. — Heat resistant reed auto switch — X1184

Switch model

Symbol	Description
Nil	Without switch
B30	D-B30
B30J	D-B30J
B31	D-B31
B31J	D-B31J
B35	D-B35
B35J	D-B35J

• For heat resistant auto switches (D-B3□)
(with built-in magnet)

No. of switches

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

* Refer to page 1351 for details of auto switches.

Specifications

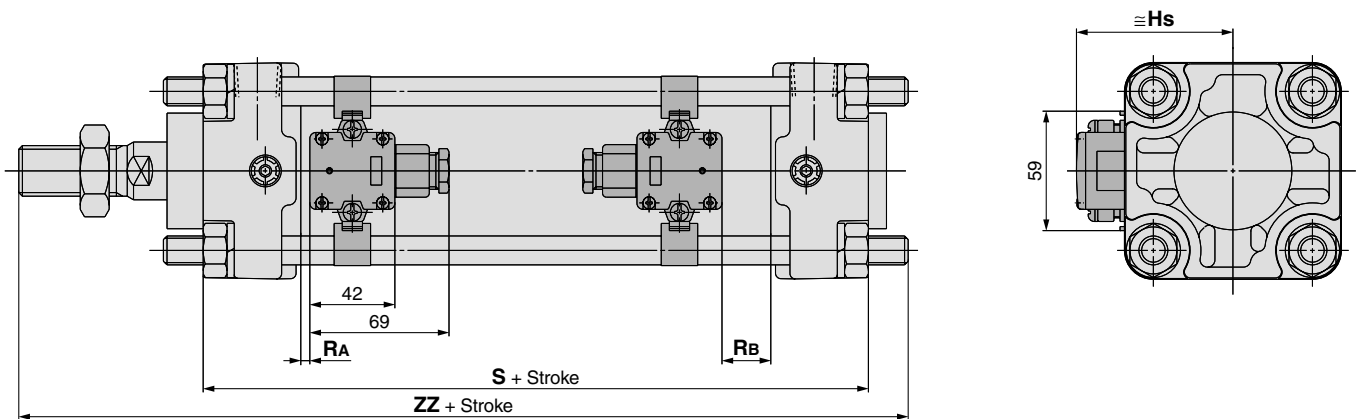
Ambient temperature range	−10°C to 120°C
Seal material	Fluororubber
Grease	Heat resistant grease

⚠ Warning

Precautions

Be aware that smoking cigarettes, etc. after your hands have come into contact with the grease used in this cylinder can create a gas that is hazardous to humans.

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



Bore size (mm)	S	ZZ	Hs	RA	RB	Minimum mounting stroke		Auto switch mounting bracket: part no.
						Other than center trunnion	Center trunnion	
40	99	161	58.5	2	15	1 pc.: 50 st or more 2 pcs.: Different surfaces, 50 st or more 2 pcs.: Same surface, 220 st or more	180st or more	BD1-04M
50	105	174	64	1.5	15.5		180st or more	BD1-05M
63	113	185	71	3	20		190st or more	BD1-06M
80	131	219	79.5	4	25		200st or more	BD1-08M
100	141	230	90	5	28		210st or more	BD1-10M

Made to Order Individual Specifications: Air Slide Table Series *MXS*



Please contact SMC for detailed dimensions, specifications, and lead times.

Refer to page 54 of Best Pneumatics No. 3 for the MXS series standard type.

1 PTFE Grease Symbol -X7

MXS Standard model no. — X7
● PTFE grease

PTFE grease is used for all parts that grease is applied.

Specifications

Type	PTFE grease
Bore size (mm)	6, 8, 12, 16, 20, 25

* Dimensions other than the above is the same as the standard type.

2 Grease for Food Symbol -X9

MXS Standard model no. — X9
● Grease for food

Grease for food is used for all parts that grease is applied.

Specifications

Type	Grease for food
Bore size (mm)	6, 8, 12, 16, 20, 25

* Dimensions other than the above is the same as the standard type.

3 Without Built-in Auto Switch Magnet Symbol -X33

MXS Standard model no. — X33
Without built-in auto switch magnet ●

Auto switch magnet is not built in.

Specifications

Type	Without built-in auto switch magnet
Bore size (mm)	6, 8, 12, 16, 20, 25
Auto switch	Not mountable

* Dimensions other than the above is the same as the standard type.

4 Fluororubber Seal Symbol -X39

MXS Standard model no. — X39
● Fluororubber seal

Change the materials for the piston seal, rod seal and O-rings to fluororubber.

Specifications

Type	Fluororubber seal
Bore size (mm)	6, 8, 12, 16, 20, 25
Seal material	Fluororubber

* Dimensions other than the above is the same as the standard type.

5 Anti-corrosive Specifications for Guide Unit Symbol -X42

MXS Standard model no. — X42
● Anti-corrosive Specifications for Guide Unit

Rail and guide are given anti-corrosive treatment.

Specifications

Type	Anti-corrosive guide unit
Bore size (mm)	6, 8, 12, 16, 20, 25
Surface treatment	Special anti-corrosive treatment (2)

* 1 Dimensions other than the above is the same as the standard type.

* 2 Special anti-corrosive treatment makes the rail and the guide black.

6 EPDM Seal Symbol -X45

MXS Standard model no. — X45
● EPDM seal

Change the materials for the piston seal, rod seal and O-rings to EPDM.

Specifications

Type	EPDM seal
Bore size (mm)	6, 8, 12, 16, 20, 25
Seal material	EPDM
Grease	PTFE grease

* Dimensions other than the above is the same as the standard type.

-X□

Individual
-X□

Made to Order Individual Specifications: Air Slide Table Series *MXS*



Please contact SMC for detailed dimensions, specifications, and lead times.

Refer to page 54 of Best Pneumatics No. 3 for the MXS series standard type.

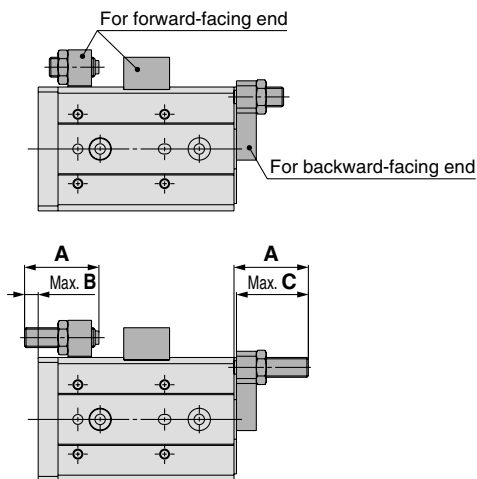
7 Adjusting Bolt, Long Specification (Adjustment range: 15 mm) **-X11**

MXS Standard model no. — **X11**
 ● Adjusting bolt, long specification
 (Adjustment range: 15 mm)

* -X11 is not available for those with a shock absorber (BS, BT, B).

The average adjusting stroke range was extended from 5 mm to 15 mm with a long adjusting bolt.

Dimensions



	(mm)		
Model	A	B	C
MXS6 (L)	26.5	9	25.5
MXS8 (L)	26.5	7	25.5
MXS12 (L)	30	5.5	29
MXS16 (L)	34.5	5.5	33.5
MXS20 (L)	37.5	3.5	36.5
MXS25 (L)	42.5	2.5	41.5

8 Adjusting Bolt, Long Specification (Adjustment range: 25 mm) **-X12**

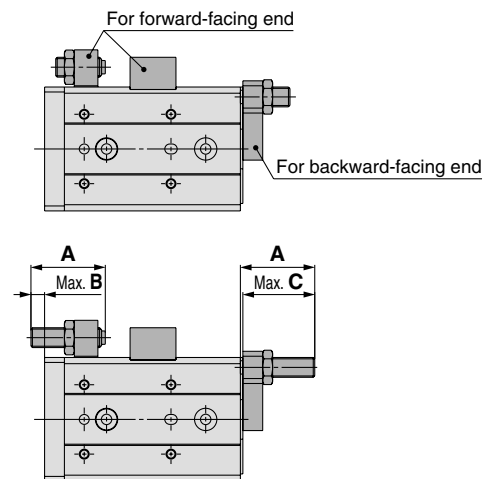
MXS Standard model no. — **X12**
 ● Adjusting bolt, long specification
 (Adjustment range: 25 mm)

* -X12 is not available for MXS6.

* -X12 is not available for those with a shock absorber (BS, BT, B).

The average adjusting stroke range was extended from 5 mm to 25 mm with a long adjusting bolt.

Dimensions



	(mm)		
Model	A	B	C
MXS8 (L)	36.5	17	35.5
MXS12 (L)	40	15.5	39
MXS16 (L)	44.5	15.5	43.5
MXS20 (L)	47.5	13.5	46.5
MXS25 (L)	52.5	12.5	51.5

Made to Order Individual Specifications: Air Slide Table Series *MXQ*



Please contact SMC for detailed dimensions, specifications, and lead times.

Refer to page 92 of Best Pneumatics No. 3 for the MXQ series standard type.

1 PTFE Grease Symbol -X7

MXQ Standard model no. — X7
● PTFE grease

PTFE grease is used for all parts that grease is applied.

Specifications

Type	PTFE grease
Bore size (mm)	6, 8, 12, 16, 20, 25

* Dimensions other than the above is the same as the standard type.

2 Grease for Food Symbol -X9

MXQ Standard model no. — X9
● Grease for food

Grease for food is used for all parts that grease is applied.

Specifications

Type	Grease for food
Bore size (mm)	6, 8, 12, 16, 20, 25

* Dimensions other than the above is the same as the standard type.

3 Heat Treated Metal Stopper Bolt (Adjustment range: 5 mm) Symbol -X16

MXQ Standard model no. — X16
● Heat treated metal stopper bolt

Heat treated chrome-molybdenum steel (SCM435) stroke adjusting thread is used to reduce wearing of metal stopper.

Specifications

Type	Heat treated metal stopper bolt
Bore size (mm)	6, 8, 12, 16, 20, 25
Piston speed	50 to 200 mm/s
Cushion	None
Stroke adjustment range	0 to 5 mm

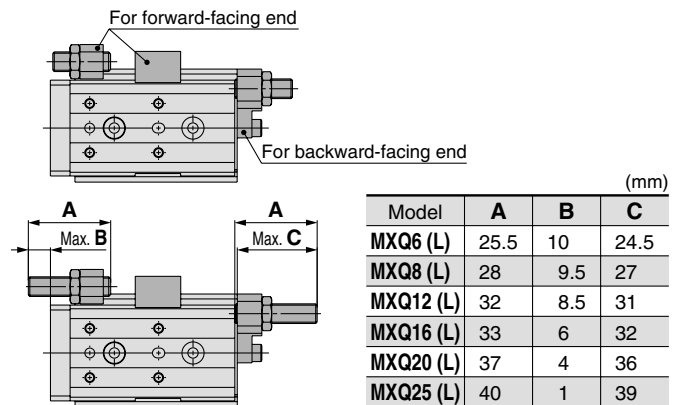
* Dimensions other than the above is the same as the standard type.

4 Heat Treated Metal Stopper Bolt (Adjustment range: 15 mm) Symbol -X17

MXQ Standard model no. — X17
● Heat treated metal stopper bolt (Adjustment range: 15 mm)

Heat treated chrome-molybdenum steel (SCM435) stroke adjusting thread is used to reduce wearing of metal stopper.
The average adjusting stroke range was extended from 5 mm to 15 mm with a long adjusting bolt.

Dimensions



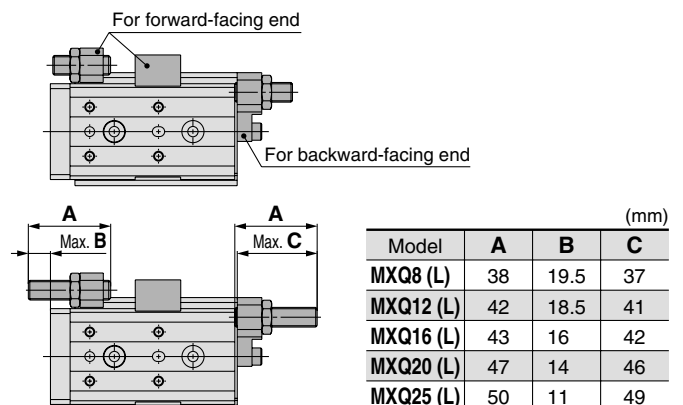
5 Heat Treated Metal Stopper Bolt (Adjustment range: 25 mm) Symbol -X18

MXQ Standard model no. — X18
● Heat treated metal stopper bolt (Adjustment range: 25 mm)

* -X18 is not available for MXQ6.

Heat treated chrome-molybdenum steel (SCM435) stroke adjusting thread is used to reduce wearing of metal stopper.
The average adjusting stroke range was extended from 5 mm to 25 mm with a long adjusting bolt.

Dimensions



-X□
Individual
-X□



Made to Order Individual Specifications: Air Slide Table Series *MXQ*



Please contact SMC for detailed dimensions, specifications, and lead times.

Refer to page 92 of Best Pneumatics No. 3 for the MXQ series standard type.

6 Without Built-in Auto Switch Magnet **Symbol -X33**

MXQ Standard model no. — **X33**
Without built-in auto switch magnet

Auto switch magnet is not built-in.

Specifications

Type	Without built-in auto switch magnet
Bore size (mm)	6, 8, 12, 16, 20, 25
Auto switch	Not mountable

* Dimensions other than the above is the same as the standard type.

7 Fluororubber Seal **Symbol -X39**

MXQ Standard model no. — **X39**
Fluororubber seal

Change the materials for the piston seal, rod seal, O-rings and scrapers (rubber lined parts) to fluororubber.

Specifications

Type	Fluororubber seal
Bore size (mm)	6, 8, 12, 16, 20, 25
Seal material	Fluororubber

* Dimensions other than the above is the same as the standard type.

8 Anti-corrosive Specifications for Guide Unit **Symbol -X42**

MXQ Standard model no. — **X42**
Anti-corrosive specifications for guide unit

Martensitic stainless steel is used for table and guide block. Use this treatment if more effective anti-corrosiveness is necessary. Table and guide block are given anti-corrosive treatment.

Specifications

Type	Anti-corrosive guide unit
Bore size (mm)	6, 8, 12, 16, 20, 25
Surface treatment	Special anti-corrosive treatment ⁽²⁾

* 1 Dimensions other than the above is the same as the standard type.

* 2 Special anti-corrosive treatment makes table and the guide block black.

9 EPDM Seal **Symbol -X45**

MXQ Standard model no. — **X45**
EPDM seal

Change the materials for the piston seal, rod seal, O-rings and scrapers (rubber lined parts) to EPDM.

Specifications

Type	EPDM seal
Bore size (mm)	6, 8, 12, 16, 20, 25
Seal material	EPDM
Grease	PTFE grease

* Dimensions other than the above is the same as the standard type.

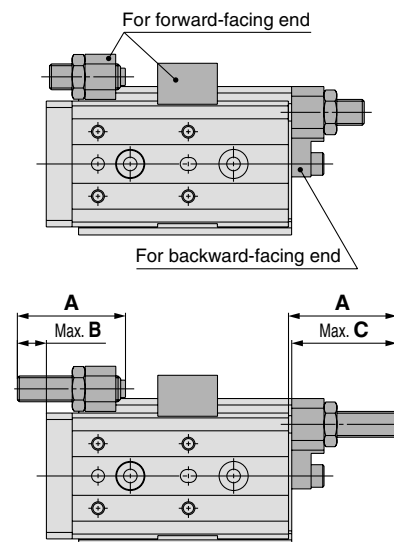
10 Adjusting Bolt, Long Specification (Adjustment range: 15 mm) **Symbol -X11**

MXQ Standard model no. — **X11**
Adjusting bolt, long specification (Adjustment range: 15 mm)

* -X11 is not available for those with a shock absorber (BS, BT, B).

The average adjusting stroke range was extended from 5 mm to 15 mm with a long adjusting bolt.

Dimensions



Rubber Stopper (AS, AT, A) (mm)

Model	A	B	C
MXQ6 (L)	26.5	10	25.5
MXQ8 (L)	29.5	10	28.5
MXQ12 (L)	33.5	9	32.5
MXQ16 (L)	34.5	6.5	33.5
MXQ20 (L)	37.5	3.5	36.5
MXQ25 (L)	42.5	2.5	41.5

Metal Stopper (CS, CT, C) (mm)

Model	A	B	C
MXQ6 (L)	25.5	10	24.5
MXQ8 (L)	28	9.5	27
MXQ12 (L)	32	8.5	31
MXQ16 (L)	33	6	32
MXQ20 (L)	37	4	36
MXQ25 (L)	40	1	39

Made to Order Individual Specifications: Air Slide Table Series *MXQ*



Please contact SMC for detailed dimensions, specifications, and lead times.

Refer to page 92 of Best Pneumatics No. 3 for the MXQ series standard type.

11 Adjusting Bolt, Long Specification (Adjustment range: 25 mm) **-X12**

MXQ Standard model no. — **X12**

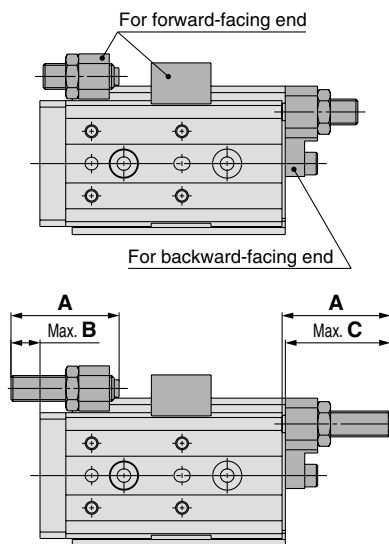
● Adjusting bolt, long specification
(Adjustment range: 25 mm)

* -X12 is not available for MXQ6.

* -X12 is not available for those with a shock absorber (BS, BT, B).

The average adjusting stroke range was extended from 5 mm to 25 mm with a long adjusting bolt.

Dimensions



Rubber Stopper (AS, AT, A) (mm)

Model	A	B	C
MXQ8 (L)	39.5	20	38.5
MXQ12 (L)	43.5	19	42.5
MXQ16 (L)	44.5	16.5	43.5
MXQ20 (L)	47.5	13.5	46.5
MXQ25 (L)	52.5	12.5	51.5

Metal Stopper (CS, CT, C) (mm)

Model	A	B	C
MXQ8 (L)	38	19.5	37
MXQ12 (L)	42	18.5	41
MXQ16 (L)	43	16	42
MXQ20 (L)	47	14	46
MXQ25 (L)	50	11	49

-X□

Individual
-X□

Made to Order Individual Specifications: Air Slide Table Series *MXF*



Please contact SMC for detailed dimensions, specifications, and lead times.

Refer to page 136 of Best Pneumatics No. 3 for the MXF series standard type.

1 PTFE Grease Symbol -X7

MXF Standard model no. — X7
● PTFE grease

PTFE grease is used for all parts that grease is applied.

Specifications

Type	PTFE grease
Bore size (mm)	8, 12, 16, 20

* Dimensions other than the above is the same as the standard type.

2 Grease for Food Symbol -X9

MXF Standard model no. — X9
● Grease for food

Grease for food is used for all parts that grease is applied.

Specifications

Type	Grease for food
Bore size (mm)	8, 12, 16, 20

* Dimensions other than the above is the same as the standard type.

3 Without Built-in Auto Switch Magnet Symbol -X33

MXF Standard model no. — X33
● Without built-in auto switch magnet

Auto switch magnet is not built in.

Specifications

Type	Without built-in auto switch magnet
Bore size (mm)	8, 12, 16, 20
Auto switch	Not mountable

* Dimensions other than the above is the same as the standard type.

4 Fluororubber Seal Symbol -X39

MXF Standard model no. — X39
● Fluororubber seal

Change the materials for the piston seal, rod seal and O-rings to fluororubber.

Specifications

Type	Fluororubber seal
Bore size (mm)	8, 12, 16, 20
Seal material	Fluororubber

* Dimensions other than the above is the same as the standard type.

5 Anti-corrosive Specifications for Guide Unit Symbol -X42

MXF Standard model no. — X42
● Anti-corrosive Specifications for Guide Unit

Rail and guide are given anti-corrosive treatment.

Specifications

Type	Anti-corrosive guide unit
Bore size (mm)	8, 12, 16, 20
Surface treatment	Special anti-corrosive treatment (2)

* 1 Dimensions other than the above is the same as the standard type.

* 2 Special anti-corrosive treatment makes the rail and the guide black.

6 EPDM Seal Symbol -X45

MXF Standard model no. — X45
● EPDM seal

Change the materials for the piston seal, rod seal and O-rings to EPDM.

Specifications

Type	EPDM seal
Bore size (mm)	8, 12, 16, 20
Seal material	EPDM
Grease	PTFE grease

* Dimensions other than the above is the same as the standard type.

Made to Order Individual Specifications:

Air Slide Table

Series *MXF*



Please contact SMC for detailed dimensions, specifications, and lead times.

Refer to page 136 of Best Pneumatics No. 3 for the MXF series standard type.

7

Adjusting Bolt, Long Specification (Adjustment range: 15 mm)

Symbol

-X11

MXF

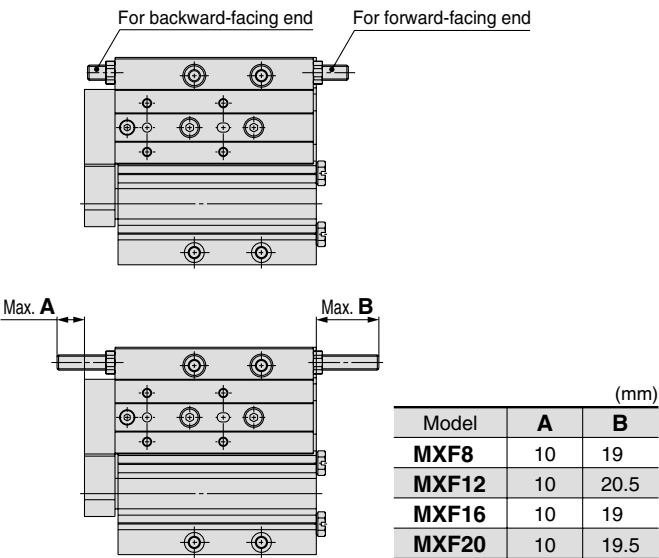
Standard model no.

— X11

● Adjusting bolt, long specification
(Adjustment range: 15 mm)

The average adjusting stroke range was extended from 5 mm to 15 mm with a long adjusting bolt.

Dimensions



Made to Order Individual Specifications: Air Slide Table Series *MXW*



Please contact SMC for detailed dimensions, specifications, and lead times.

Refer to page 150 of Best Pneumatics No. 3 for the MXW series standard type.

1 PTFE Grease Symbol -X7

MXW Standard model no. — X7
● PTFE grease

PTFE grease is used for all parts that grease is applied.

Specifications

Type	PTFE grease
Bore size (mm)	8, 12, 16, 20, 25

* Dimensions other than the above is the same as the standard type.

2 Grease for Food Symbol -X9

MXW Standard model no. — X9
● Grease for food

Grease for food is used for all parts that grease is applied.

Specifications

Type	Grease for food
Bore size (mm)	8, 12, 16, 20, 25

* Dimensions other than the above is the same as the standard type.

3 Without Built-in Auto Switch Magnet Symbol -X33

MXW Standard model no. — X33
Without built-in auto switch magnet ●

Auto switch magnet is not built in.

Specifications

Type	Without built-in auto switch magnet
Bore size (mm)	8, 12, 16, 20, 25
Auto switch	Not mountable

* Dimensions other than the above is the same as the standard type.

4 Fluororubber Seal Symbol -X39

MXW Standard model no. — X39
● Fluororubber seal

Change the materials for the piston seal, rod seal, O-rings and scrapers (rubber lined parts) to fluororubber.

Specifications

Type	Fluororubber seal
Bore size (mm)	8, 12, 16, 20, 25
Seal material	Fluororubber

* Dimensions other than the above is the same as the standard type.

5 Anti-corrosive Specifications for Guide Unit Symbol -X42

MXW Standard model no. — X42
● Anti-corrosive Specifications for Guide Unit

Rail and guide are given anti-corrosive treatment.

Specifications

Type	Anti-corrosive guide unit
Bore size (mm)	8, 12, 16, 20, 25
Surface treatment	Special anti-corrosive treatment (2)

* 1 Dimensions other than the above is the same as the standard type.

* 2 Special anti-corrosive treatment makes the rail and the guide black.

6 EPDM Seal Symbol -X45

MXW Standard model no. — X45
● EPDM seal

Change the materials for the piston seal, rod seal, O-rings and scrapers (rubber lined parts) to EPDM.

Specifications

Type	EPDM seal
Bore size (mm)	8, 12, 16, 20, 25
Seal material	EPDM
Grease	PTFE grease

* Dimensions other than the above is the same as the standard type.

Made to Order Individual Specifications: Air Slide Table Series *MXW*



Please contact SMC for detailed dimensions, specifications, and lead times.

Refer to page 150 of Best Pneumatics No. 3 for the MXW series standard type.

7 Adjusting Bolt, Long Specification (Adjustment range: 15 mm) **-X11**

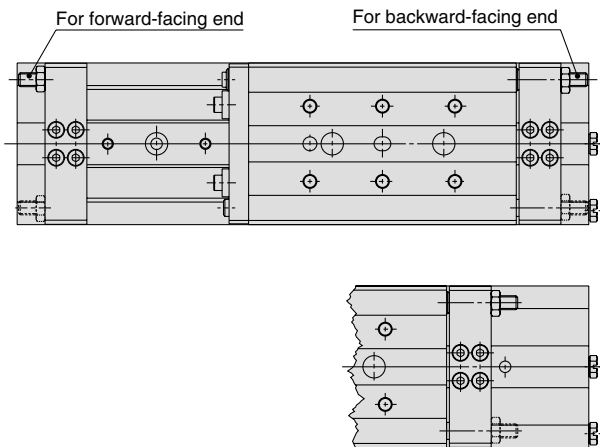
MXW **Standard model no.** — **X11**

● Adjusting bolt, long specification
(Adjustment range: 15 mm)

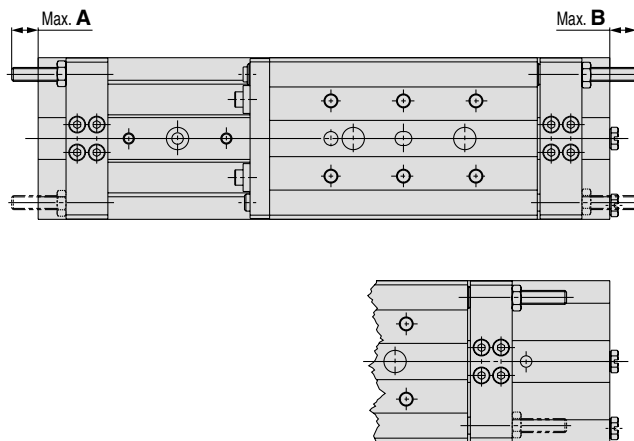
The average adjusting stroke range was extended from 5 mm to 15 mm with a long adjusting bolt.

Dimensions

Standard product



-X11



(mm)			
Model	Stroke	A	B
MXW8	25, 50	9	9
	75 to 150	9	—
MXW12	50, 75	9.5	9.5
	100 to 150	9.5	—
MXW16	75, 100	9.5	9.5
	125 to 200	9.5	—
MXW20	100, 125	10	10
	150 to 250	10	—
MXW25	100 to 150	9	9
	175 to 300	9	—

-X□

Individual
-X□

Made to Order Individual Specifications: Air Slide Table Series *MXJ*



Please contact SMC for detailed dimensions, specifications, and lead times.

Refer to page 173 of Best Pneumatics No. 3 for the MXJ series standard type.

1 Fluororubber Seal Symbol -X39

MXJ Standard model no. — X39
● Fluororubber seal

Change the materials for the piston seal, rod seal and O-rings to fluororubber.

Specifications

Type	Fluororubber seal
Bore size (mm)	4.5, 6, 8
Seal material	Fluororubber

* Dimensions other than the above is the same as the standard type.

2 Anti-corrosive Specifications for Guide Unit Symbol -X42

MXJ Standard model no. — X42
● Anti-corrosive specifications for guide unit

Martensitic stainless steel is used for the table and body. Use this treatment if more effective anti-corrosive measures are necessary. Anti-corrosive treatment is applied to the table and body.

Specifications

Type	Anti-corrosive guide unit
Bore size (mm)	4.5, 6, 8
Surface treatment	Special anti-corrosive treatment ⁽²⁾

* 1 Dimensions other than the above is the same as the standard type.

* 2 The special anti-corrosive treatment turns the table and body black.

3 EPDM Seal Symbol -X45

MXJ Standard model no. — X45
● EPDM seal

Change the materials for the piston seal, rod seal and O-rings to EPDM.

Specifications

Type	EPDM seal
Bore size (mm)	4.5, 6, 8
Seal material	EPDM
Grease	PTFE grease

* Dimensions other than the above is the same as the standard type.

Made to Order Individual Specifications: Air Slide Table Series *MXP*



Please contact SMC for detailed dimensions, specifications, and lead times.

Refer to page 194 of Best Pneumatics No. 3 for the MXP series standard type.

1 PTFE Grease Symbol -X7

MXP Standard part no. — X7

MXPJ Standard part no. — X7

●PTFE grease

PTFE grease is used for all parts that grease is applied.

Specifications

Type	PTFE grease
Bore size (mm)	6, 8, 10, 12, 16

* Dimensions other than the above is the same as the standard type.

2 Grease for Food Symbol -X9

MXP Standard part no. — X9

MXPJ Standard part no. — X9

●Grease for food

Grease for food is used for all parts that grease is applied.

Specifications

Type	Grease for food
Bore size (mm)	6, 8, 10, 12, 16

* Dimensions other than the above is the same as the standard type.

3 Heat Treated Metal Stopper Bolt Symbol -X16

MXP Standard part no. — X16

●Heat treated metal stopper bolt

To reduce wear on the metal stopper, heat treated chrome molybdenum steel (SCM435) is used for the stroke adjustment screw.

Specifications

Type	Heat treated metal stopper bolt		
Bore size (mm)	6	8, 10	12, 16
Speed range	50 to 200 mm/s		
Cushion	None		
Stroke adjustment	Singe end: 0 to 6 mm	Double ends: 0 to 5 mm each	Double ends: 0 to 4 mm each

* Dimensions other than the above is the same as the standard type.

4 Fluororubber Seal Symbol -X39

MXP Standard part no. — X39

MXPJ Standard part no. — X39

●Fluororubber seal

Change the materials for the piston seal, rod seal, O-rings and scrapers (rubber lined parts) to fluororubber.

Specifications

Type	Fluororubber seal
Bore size (mm)	6, 8, 10, 12, 16
Seal material	Fluororubber

* Dimensions other than the above is the same as the standard type.

5 Anti-corrosive Specifications for Guide Unit Symbol -X42

MXP Standard part no. — X42

MXPJ Standard part no. — X42

●Anti-corrosive specifications for guide unit

Martensitic stainless steel is used for the table, body and guide block. Use this treatment if more effective anti-corrosive measures are necessary.

Anti-corrosive treatment is applied to the table, body and guide block.

Specifications

Type	Anti-corrosive guide unit
Bore size (mm)	6, 8, 10, 12, 16
Surface treatment	Special anti-corrosive treatment ⁽²⁾

* 1 Dimensions other than the above is the same as the standard type.

* 2 The special anti-corrosive treatment turns the table, body and guide block black.

-X□

Individual
-X□

Made to Order Individual Specifications: Air Slide Table Series ***MXP***



Please contact SMC for detailed dimensions, specifications, and lead times.

Refer to page 194 of Best Pneumatics No. 3 for the MXP series standard type.

6 EPDM Seal

Symbol

-X45

MXP Standard part no. — **X45**

MXPJ Standard part no. — **X45**

● EPDM seal

Change the materials for the piston seal, rod seal, O-rings and scrapers (rubber lined parts) to EPDM.

Specifications

Type	EPDM seal
Bore size (mm)	6, 8, 10, 12, 16
Seal material	EPDM
Grease	PTFE grease

* Dimensions other than the above is the same as the standard type.

Made-to-Order Application Chart		MXPJ6	MXP6	MXP8	MXP10	MXP12	MXP16	Note
PTFE grease	X7	●	●	●	●	●	●	
Grease for food	X9	●	●	●	●	●	●	
Heat treated metal stopper bolt	X16		●	●	●	●	●	Metal stopper only
Axial piping port set screw	X23	●	●	●	●	●	●	
Fluororubber seal	X39	●	●	●	●	●	●	
Anti-corrosive Specifications for Guide Unit	X42	●	●	●	●	●	●	
EPDM seal	X45	●	●	●	●	●	●	
Long adjustment nut	X51			●	●	●	●	Except with shock absorber

Made to Order Individual Specifications: Air Slide Table Series *MXP*



Please contact SMC for detailed dimensions, specifications, and lead times.

Refer to page 194 of Best Pneumatics No. 3 for the MXP series standard type.

7 Axial Piping Port Set Screw Specification

Symbol

-X23

MXP Standard part no. → How to Order in Best Pneumatics No. 3 — **X23**

MXPJ6 Standard part no. → How to Order in Best Pneumatics No. 3 — **X23**

Axial piping port set screw specification

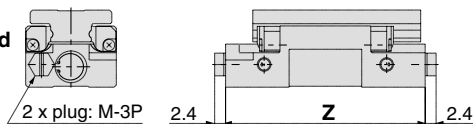
The axial piping port plug (M-3P, M-5P) is changed to a hexagon socket head set screw, and the overall length is shortened.

Note: The hexagon socket head screw is secured with an anaerobic adhesive and cannot be removed.

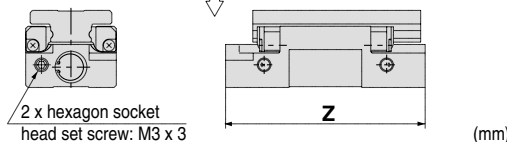
Dimensions

MXPJ6

Standard product



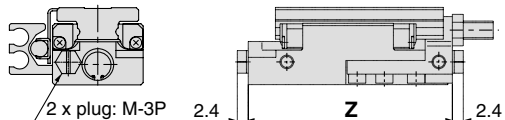
-X23



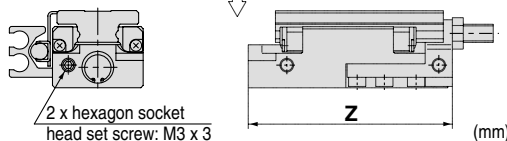
Model	Z
MXPJ6-5-X23	44
MXPJ6-10-X23	59

MXP6

Standard product



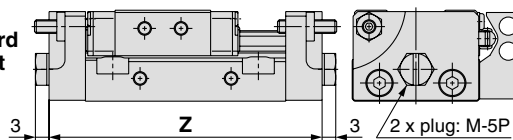
-X23



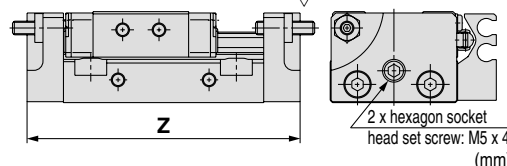
Model	Z
MXP6-5-X23	45
MXP6-10-X23	60

MXP8,10,12,16

Standard product



-X23



Model	Z
MXP8-10-X23	60
MXP8-20-X23	90
MXP10-10-X23	60
MXP10-20-X23	90
MXP12-15-X23	76
MXP12-25-X23	106
MXP16-20-X23	102
MXP16-30-X23	128

8 Long Adjustment Nut Specification **-X51**

Symbol

-X51

MXP Standard part no. → How to Order in Best Pneumatics No. 3 — **X51**

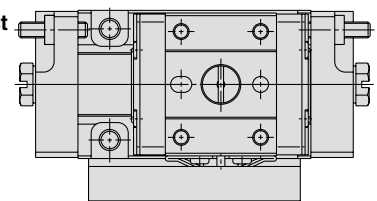
Long adjustment nut specification

The overall length of the adjustment nut is increased to allow stroke adjustment work from any direction.

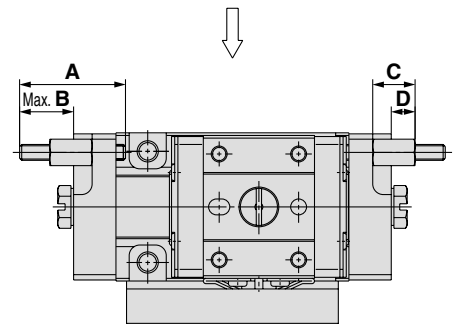
Dimensions

MXP8, 10, 12, 16

Standard product



-X51



Model	A	B	C	D
MXP8-□-X51	20	10.5	8	4.5
MXP8-□-C-X51	25	10.5		
MXP10-□-X51	20	10.5	8	4.5
MXP10-□-C-X51	25	10.5		
MXP12-□-X51	20	10	9	5
MXP12-□-C-X51	25	9		
MXP16-□-X51	25	12	10	6
MXP16-□-C-X51	35	14		

-X□

Individual
-X□



Made to Order Individual Specifications: Air Slide Table Series *MXY*



Please contact SMC for detailed dimensions, specifications, and lead times.

Refer to page 220 of Best Pneumatics No. 3 for the MXY series standard type.

1 PTFE Grease Symbol -X7

MXY Standard model no. — X7
● PTFE grease

PTFE grease is used for all parts that grease is applied.

Specifications

Type	PTFE grease
Bore size (mm)	6, 8, 12

* Dimensions other than the above is the same as the standard type.

2 Grease for Food Symbol -X9

MXY Standard model no. — X9
● Grease for food

Grease for food is used for all parts that grease is applied.

Specifications

Type	Grease for food
Bore size (mm)	6, 8, 12

* Dimensions other than the above is the same as the standard type.

3 Fluororubber Seal Symbol -X39

MXY Standard model no. — X39
● Fluororubber seal

Change the materials for the piston seal, rod seal, O-rings and scrapers (rubber lined parts) to fluororubber.

Specifications

Type	Fluororubber seal
Bore size (mm)	6, 8, 12
Seal material	Fluororubber

* Dimensions other than the above is the same as the standard type.

4 Anti-corrosive Specifications for Guide Unit Symbol -X42

MXY Standard model no. — X42
● Anti-corrosive specifications for guide unit

Martensitic stainless steel is used for the rail and guide block. Use this treatment if more effective anti-corrosive measures are necessary. Anti-corrosive treatment is applied to the rail and guide block.

Specifications

Type	Anti-corrosive guide unit
Bore size (mm)	6, 8, 12
Surface treatment	Special anti-corrosive treatment ⁽²⁾

* 1 Dimensions other than the above is the same as the standard type.

* 2 The special anti-corrosive treatment turns rail and guide block black.

5 EPDM Seal Symbol -X45

MXY Standard model no. — X45
● EPDM seal

Change the materials for the piston seal, rod seal, O-rings and scrapers (rubber lined parts) to EPDM.

Specifications

Type	EPDM seal
Bore size (mm)	6, 8, 12
Seal material	EPDM
Grease	PTFE grease

* Dimensions other than the above is the same as the standard type.

Made to Order Individual Specifications: Air Slide Table Series *MXY*



Please contact SMC for detailed dimensions, specifications, and lead times.

Refer to page 220 of Best Pneumatics No. 3 for the MXY series standard type.

6 Adjusting Bolt, Long Specification (Adjustment range: 15 mm) **-X11**

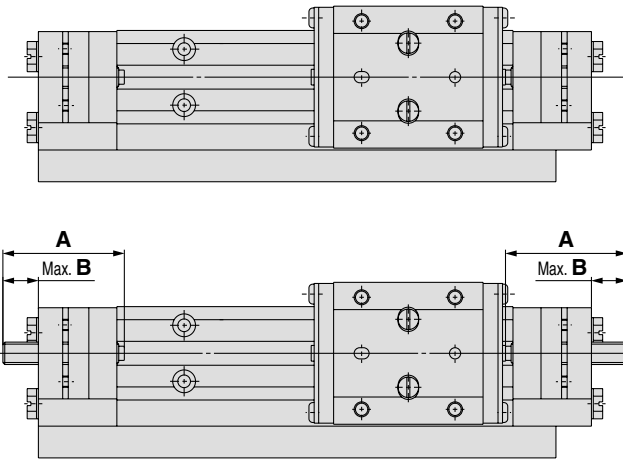
MXY Standard model no. — **X11**

● Adjusting bolt, long specification
(Adjustment range: 15 mm)

* -X11 is not available for those with a shock absorber (BS, BT, B).

The average adjusting stroke range was extended from 5 mm to 15 mm with a long adjusting bolt.

Dimensions



Rubber Stopper (AS, AT, A) (mm)

Model	A	B
MXY6	32.5	10
MXY8	32.5	10
MXY12	33	10

Metal Stopper (CS, CT, C) (mm)

Model	A	B
MXY6	32.5	10
MXY8	32.5	10
MXY12	33	10

7 Adjusting Bolt, Long Specification (Adjustment range: 25 mm) **-X12**

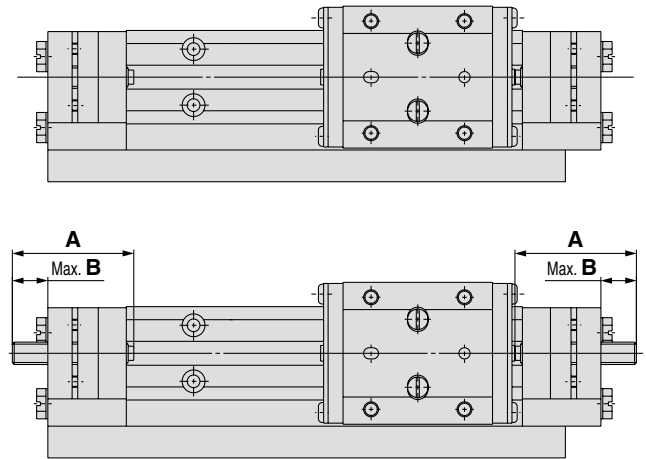
MXY Standard model no. — **X12**

● Adjusting bolt, long specification
(Adjustment range: 25 mm)

* -X12 is not available for those with a shock absorber (BS, BT, B).

The average adjusting stroke range was extended from 5 mm to 25 mm with a long adjusting bolt.

Dimensions



Rubber Stopper (AS, AT, A) (mm)

Model	A	B
MXY6	42.5	20
MXY8	42.5	20
MXY12	43	20

Metal Stopper (CS, CT, C) (mm)

Model	A	B
MXY6	42.5	20
MXY8	42.5	20
MXY12	43	20

-X□

Individual
-X□

Made to Order Individual Specifications:

Lock-up Cylinder

Series CL1



Please contact SMC for detailed dimensions, specifications, and lead times.

Refer to page 636 of Best Pneumatics No. 3 for the CL1 series standard type.

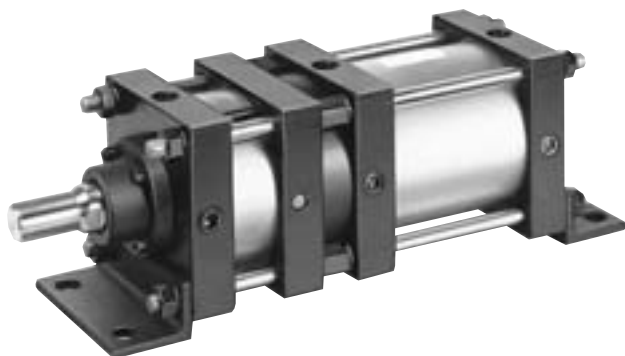
1 Large Bore Lock-up Cylinder

Symbol

-X50

CL1 Mounting style Bore size — Stroke Locking direction — Suffix — X50

This is a lock-up cylinder with a self-locking system that can be mounted onto a large bore air cylinder (Series CS1) from $\phi 180$ to $\phi 300$, and contains a ring that is tilted by a spring force, which is further tilted by the thrust of the cylinder to securely lock the piston rod.



Specifications

Applicable bore size	$\phi 180, \phi 200, \phi 250, \phi 300$
Maximum operating pressure	0.97 MPa
Locked-up releasing pressure	0.2 MPa or more (at no-load)
Locked-up starting pressure	0.05 MPa or less
Locked-up direction	One way (Locking direction is selectable.)
Mounting	Basic style, Foot style, Rod side flange style Head side flange style, Single clevis style Double clevis style, Center trunnion style
Maximum speed at locked-up	200 mm/sec

Maximum Load and Holding Force of Locking (Max. static load)

Bore size (mm)		180	200	250	300
Max. load according to mounting orientation (N)	Horizontal mounting	12250	14700	24000	29400
	Vertical mounting	6125	7350	12000	14700
Holding force (N)		24500	29400	48000	58800

* The cylinder can be used to 1/2 of its holding force or below if only a stationary load is applied, such as for drop prevention.
Note) Produced upon receipt of order.

Dimensions

(A) Rc BT lock-up port

Unlocked when pressurized

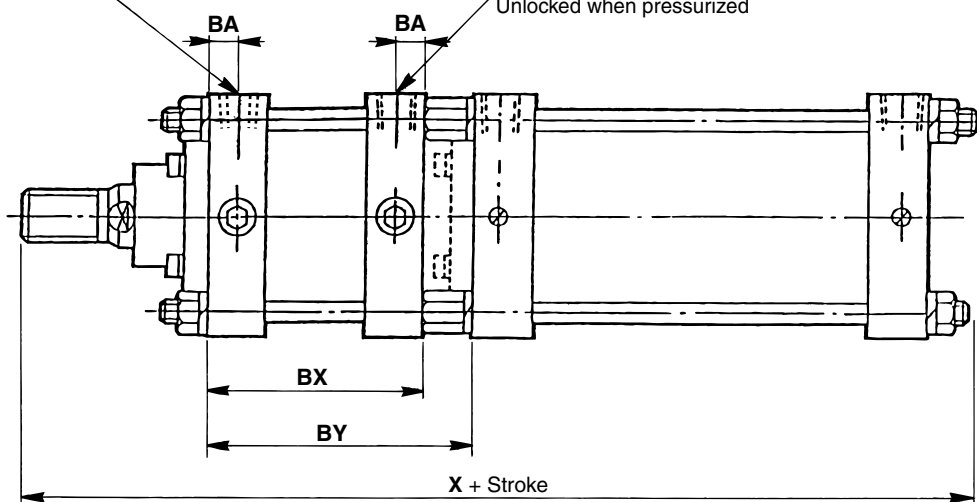
Position of locked-up port

(A) Lock at forward

(B) Lock at backward

(B) Rc BP lock-up port

Unlocked when pressurized



Bore size (mm)	BA	BP	BX	BY	X
180	18.5	$\frac{3}{4}$	142	180	461
200	18.5	$\frac{3}{4}$	149	191	472
250	23	1	184	235	577.5
300	23	1	220	280	652.5

* For dimensions according to mounting style, refer to Series CS1.
* Added the length of BY for full length dimension.

Made to Order Individual Specifications: Lock-up Cylinder Series CL1



Please contact SMC for detailed dimensions, specifications, and lead times.

Refer to page 636 of Best Pneumatics No. 3 for the CL1 series standard type.

2 Both-direction Lock-up Cylinder

Symbol
-X51

CL1 **Mounting style** **Bore size** — **Stroke** — **Suffix** — X51

A style of Series CA1 (ø40 to ø100) and Series CS1 (ø125 to ø160) air cylinder, this is a bi-directional locked-up cylinder in which two uni-directional locked-up units have been assembled by facing them away from each other.



Cylinder Specifications

Maximum operating pressure	ø40 to ø100	1 MPa
	ø125 to ø160	0.97 MPa
Minimum operating pressure	0.08 MPa	
Action	Double acting	
Piston speed *	50 to 200 mm/s	
Cushion	Equipped	



* A maximum speed of 500 mm/s is possible if the piston is locked in the stationary state for the purpose of drop prevention. Make sure that the piston speed does not exceed 200 mm/s during locking.

Locked-up Unit Specifications

Locked-up releasing pressure	0.2 MPa or more (at no-load)
Locked-up starting pressure	0.05 MPa or less
Locked-up direction	Both directions
Maximum speed at locked-up	200 mm/s

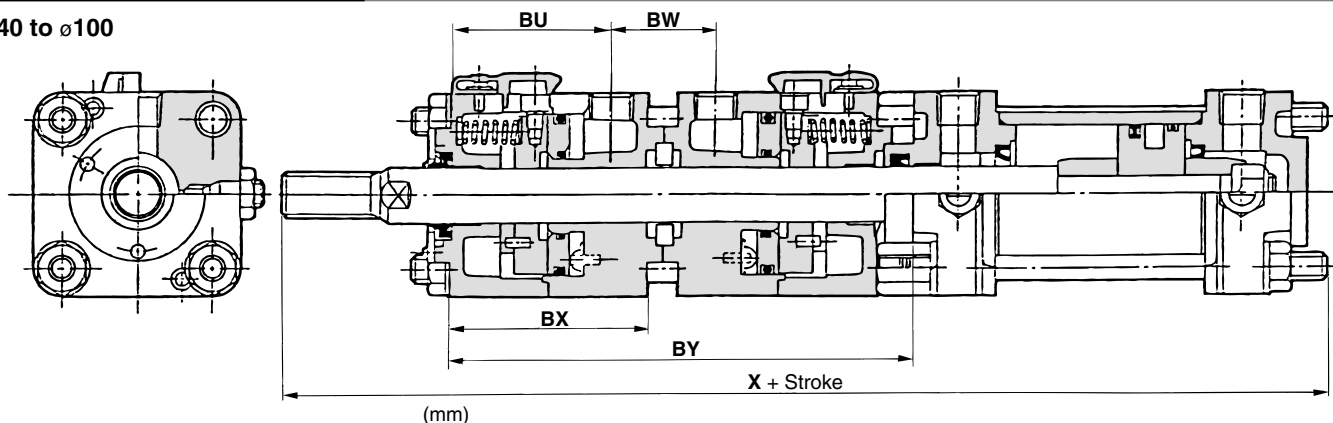
Maximum Load and Holding Force of Locking (Max. static load)

Bore size (mm)		40	50	63	80	100	125	140	160
Max. load according to mounting orientation (N)	Horizontal mounting	588	981	1470	2450	3820	6010	7540	9850
	Vertical mounting	294	490	735	1230	1910	3000	3770	4920
Holding force (N)		1230	1920	3060	4930	7700	12100	15100	19700

* The cylinder can be used to 1/2 of its holding force or below if only a stationary load is applied, such as for drop prevention.

Construction/Dimensions

ø40 to ø100



Bore size (mm)	BU	BW	BX	BY	X
40	48	31	59	137	283
50	56	30	67	153	312
63	62	30	73	165	335
80	66	34	77	181	385
100	74	34	85	197	412



* For dimensions according to mounting style, refer to Series CNA.

Bore size (mm)	BU	BP	BX	BY	X
125	95.5	3/8	191	220	455
140	104.5	3/8	209	238	473
160	112.5	3/8	225	259	515.5

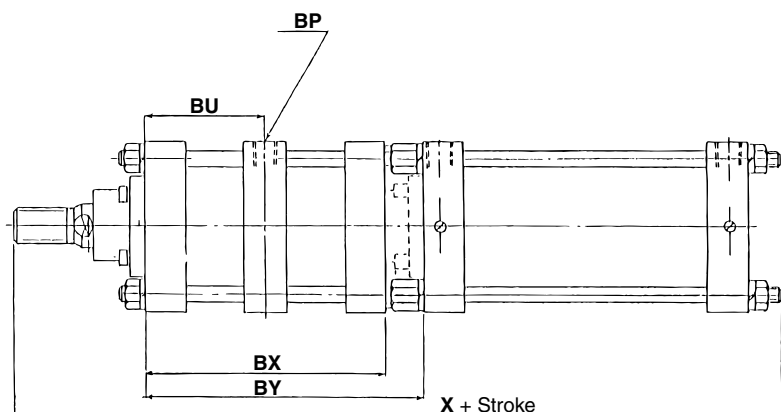


* For dimensions according to mounting style, refer to Series CS1.

* Added the length of BY for full length dimension.

Note) Locked-up port: ø40 to ø100 — 2 positions, ø125 to ø160 — 1 position. In the case of lock releasing of ø40 to ø100, be sure to supply air to both locked-up ports and to release the lock.

ø125 to ø160



-X□
Individual
-X□

Made to Order Individual Specifications: Slide Unit Series CX2/CXW



Please contact SMC for detailed dimensions, specifications, and lead times.

Refer to page 464 of Best Pneumatics No. 3 for the CX series standard type.

Applicable Series

No.	Symbol	Specifications/Description	Slide bearing		Ball bushing bearing
			CX2	CXWM	CXWL
1	-X138	Adjustable stroke	●	●	●
2	-X146	Hollow piston rod	●	●	●

1 Adjustable Stroke

Symbol
-X138

C Auto switch X Type Bore size — Stroke — X138

Adjustable stroke

Adjustment of +2 to -25 mm (max. -12.5 mm on one side) is possible exceeding the stroke adjustment range (±2 mm stroke) of standard type.

Specifications

Bearing	Slide bearing		Ball bushing bearing
Series	CX2□	CXWM	CXWL
Type	Non-lube/Air-hydro	Non-lube	Non-lube
Bore size	ø10, ø15, ø25 *	ø10, ø16, ø20, ø25, ø32	
Cushion	With shock absorber (option)	Built-in shock absorber	
Stroke adjustable range	+2 mm to -25 mm (One side: Maximum -12.5 mm)		

* Air-hydro type is not available for size ø10.

Select adjustable stroke type auto switch (-X138)

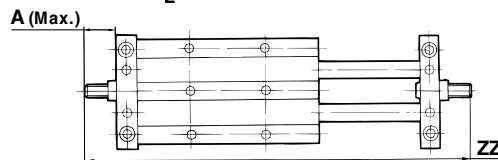
⚠ Caution

When 50 strokes are adjusted to 40 strokes or less with the adjustable stroke type (-X138), auto switches may not be able to be mounted properly since they interfere with each other if the 2 in-line entry auto switches are used.

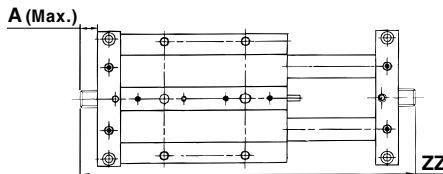
When strokes are adjusted to 40 strokes or less, select the perpendicular entry type or additionally select auto switches with 2 built-in magnets (-X169).

Dimensions

CX2N10 to 25/CXWM^M10 to 25



CXWM^M20/32



Model	A (Max.)	ZZ							
		25 st	50 st	75 st	100 st	125 st	150 st	175 st	200 st
CX2N10	19	150	200	250	300	—	—	—	—
CX2□15	18	152	202	252	302	352	402	452	502
CX2□25	19	179	229	279	329	379	429	479	529
CXWM10	20	176 ⁽¹⁾	204	254	304	—	—	—	—
CXWM16	18	184 ⁽¹⁾	212	262	312	362	412	462	512
CXWM20	8	175 ⁽²⁾	200	250	300	350	400	450	500
CXWM25	19	203 ⁽¹⁾	229	279	329	379	429	479	529
CXWM32	10	221 ⁽²⁾	271 ⁽²⁾	283	333	383	433	483	533
CXWL10	20	188	238	288	338	—	—	—	—
CXWL16	18	208	258	308	358	408	458	508	558
CXWL20	8	194	244	294	344	394	444	494	544
CXWL25	19	225	275	325	375	425	475	525	575
CXWL32	10	262 ⁽²⁾	274	324	374	424	474	524	574

Note 1) In the case of 25 strokes of CXWM10, 16, and 25, the shock absorber is mounted on both side plate and it also serves as -X138.

Note 2) In the case of 25 stroke type of CXWM20, 25 and 50 stroke type of CXWM32 and 25 stroke type of CXWL32, the shock absorber is mounted on one side plate and it also serves as -X138. Adjustable bolt for -X138 is mounted on a plate on opposite side of the shock absorber.

2 Hollow Piston Rod Specifications

-X146

C Auto switch X Type Bore size — Stroke — X146

Hollow piston rod

Piping on the plate side can be used pressurization and evacuation. For cylinder drive, piping shall be on the housing port. (The slide unit operation with piping on the plate side impossible.)

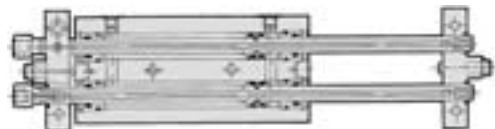
Specifications

Bearing	Slide bearing		Ball bushing bearing
Series	CX2□	CXWM	CXWL
Type	Non-lube/Air-hydro	Non-lube	Non-lube
Bore size (mm)	ø10, ø15, ø25 *	ø10, ø16, ø20, ø25, ø32	
Cushion	With shock absorber (option)	Built-in shock absorber	

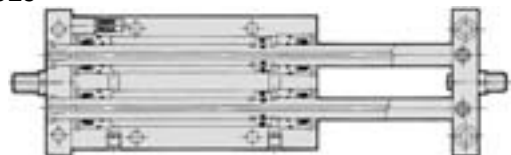
* Air-hydro type is not available for size ø10.

Construction

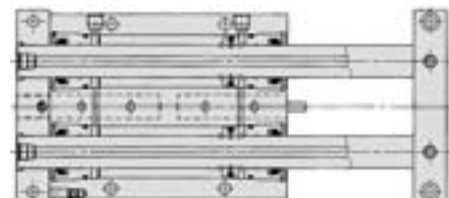
ø10



ø15, ø16, ø25



ø20, ø32



Made to Order Individual Specifications: Slide Unit Series CX2/CXW



Please contact SMC for detailed dimensions, specifications, and lead times.

Refer to page 464 of Best Pneumatics No. 3 for the CX series standard type.

3 CX Helical Insert Thread Specifications

Symbol

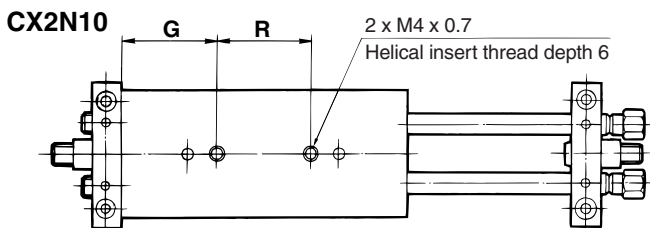
-X168

C Auto switch X Type Bore size — Stroke — X168

Helical insert thread specifications

In this style, helical insert thread is used for mounting the housing.

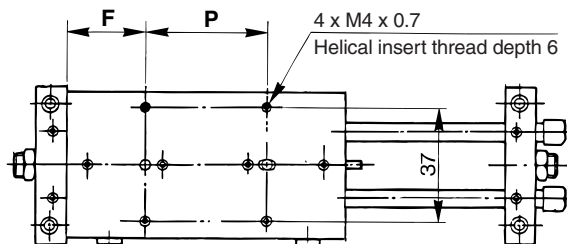
Dimensions



CX2N10

Model	G	R
CX2N10-25	19.5	28
CX2N10-50	30	32
CX2N10-75	35	47
CX2N10-100	35	72

CXWM10, CXWL10



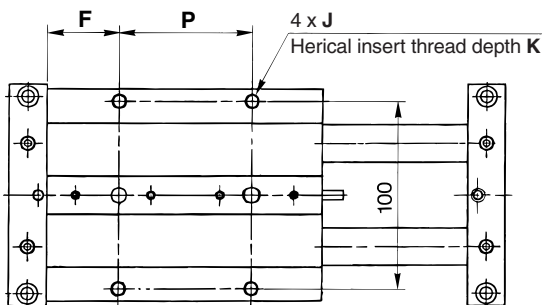
CXWM10

Model	F	P
CXWM10-25	21	25
CXWM10-50	26	40
CXWM10-75	26	65
CXWM10-100	26	90

CXWL10

Model	F	P
CXWL10-25	35.5	30
CXWL10-50	38	50
CXWL10-75	40.5	70
CXWL10-100	43	90

CXWM20, CXWL20, CXWM32, CXWL32



Stroke	CXWM20		CXWL20		CXWM32		CXWL32	
	F	P	F	P	F	P	F	P
25 mm	27	25	35.5	52	37	22	55	
50 mm	34.5	35	48			45	80	
75 mm	34.5	60	56.5	60		70	105	
100 mm	39.5	75	54			95	130	
125 mm	44.5		66.5		38	125	155	41
150 mm	57		79	90		145	180	
175 mm	69.5		91.5			175	205	
200 mm	82		104			195	230	

Specifications

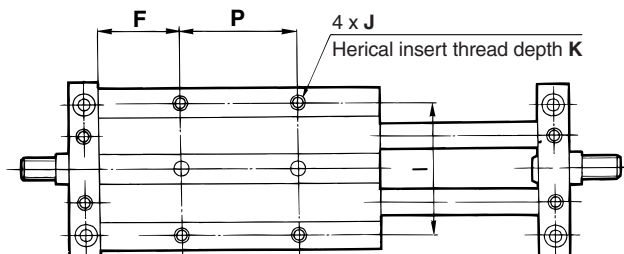
Bearing	Slide bearing		Ball bushing bearing
Series	CX2□	CXWM	CXWL
Type	Non-lube/Air-hydro	Non-lube	Non-lube
Bore size	ø10, ø15, ø25 *	ø10, ø16, ø20, ø25, ø32	
Cushion	With shock absorber (option)	Built-in shock absorber	

* Air-hydro type is not available for size ø10.

Helical Insert Thread

Series	Bore size	J	K
CX2□	ø15	4 x M5 x 0.8	Helical insert thread depth 7
	ø25	4 x M6 x 1.0	Helical insert thread depth 9
CXWM	ø16	4 x M5 x 0.8	Helical insert thread depth 7
	ø25	4 x M6 x 1.0	Helical insert thread depth 9
CXWL	ø16	4 x M5 x 0.8	Helical insert thread depth 7
	ø25	4 x M6 x 1.0	Helical insert thread depth 9

CX2□15, CXWM16, CXWL16, CX2□25, CXWM25, CXWL25



CX2□15

Stroke	F	P	I
25 mm	24.5	20	
50 mm	24.5	45	
75 mm	27	65	
100 mm	27	90	
125 mm	39.5	90	
150 mm	52	90	
175 mm	64.5	90	
200 mm	77	90	

CXWM16

Stroke	F	P	I
25 mm	25	25	
50 mm	35	30	
75 mm	32.5	60	
100 mm	37.5	75	
125 mm	42.5	90	
150 mm	55	90	
175 mm	67.5	90	
200 mm	80	90	

CXWL16

Stroke	F	P	I
25 mm	34.5	52	
50 mm	47	52	
75 mm	53	65	
100 mm	53	90	
125 mm	65.5	90	
150 mm	78	90	
175 mm	90.5	90	
200 mm	103	90	

CX2□25, CXWM25

Stroke	F	P	I
25 mm	28.5	25	
50 mm	31	45	
75 mm	33.5	65	
100 mm	33.5	90	
125 mm	46	90	
150 mm	58.5	90	
175 mm	71	90	
200 mm	83.5	90	

CXWL25

Stroke	F	P	I
25 mm	31.5	65	
50 mm	31.5	90	
75 mm	56.5	65	
100 mm	56.5	90	
125 mm	69	90	
150 mm	81.5	90	
175 mm	94	90	
200 mm	106.5	90	

-X□
Individual
-X□

Made to Order Individual Specifications:
Slide Unit
Series CX2/CXW



Please contact SMC for detailed dimensions, specifications, and lead times.

Refer to page 464 of Best Pneumatics No. 3 for the CX series standard type.

4 With 2 Built-in Magnets

Symbol
-X169

C Auto switch X Type Bore size — Stroke — X169

With 2 built-in magnets

Two magnets for auto switch detection are built in.
* 25 strokes: 2 magnets as standard. This specification is applicable for 50 strokes or more.

Specifications

Bearing	Slide bearing		Ball bushing bearing
Series	CX2□	CXWM	CXWL
Type	Non-lube/Air-hydro	Non-lube	Non-lube
Bore size	ø10, ø15, ø25 *	ø10, ø16, ø20, ø25, ø32	
Cushion	With shock absorber (option)	Built-in shock absorber	

Made to Order Individual Specifications: Platform Cylinder Series CXT



Please contact SMC for detailed dimensions, specifications, and lead times.

Refer to page 524 of Best Pneumatics No. 3 for the CXT series standard type.

1 Adjustable Stroke

Symbol

-X138

The stroke adjustment range may be expanded with a long adjusting bolt.

How to Order

CXT Standard model no. — X138

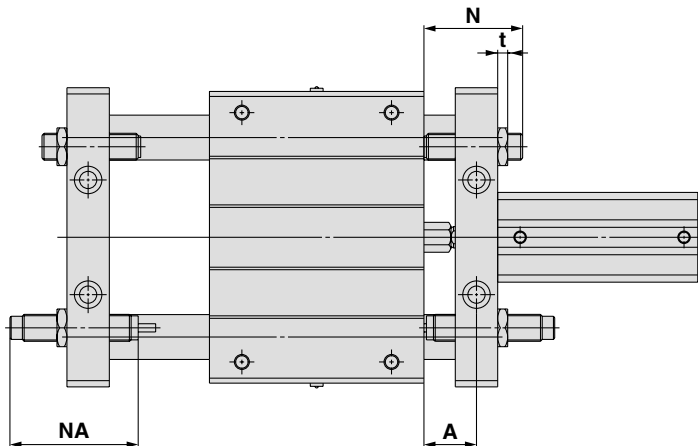
• Adjustable Stroke

Specifications

Model	CXT□12, 16	CXT□20, 25	CXT□32	CXT□40
Stroke adjustment range	−26 mm (Single side −13 mm)	−28 mm (Single side −14 mm)	−44 mm (Single side −22 mm)	−40 mm (Single side −20 mm)

* Specifications other than the above are the same as the standard type.

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



(mm)				
Cylinder bore (mm)	A	N	NA	t
12	8.5 to 21.5	32	40.8	4
16	7.5 to 20.5	32	40.8	4
20	9.5 to 23.5	37	46.7	4
25	9.5 to 23.5	39	67.3	6
32	10.5 to 32.5	49	73.2	6
40	11.5 to 31.5	49	73.2	6

2 Fluororubber Seal (Cylinder Unit Only)

Symbol

-X777

Fluororubber is used only for the cylinder unit seal.

How to Order

CXT Standard model no. — X777

• Fluororubber seal (Cylinder unit only)

Specifications

Seal material	Fluororubber (Cylinder unit only)
---------------	-----------------------------------

* Specifications other than the above are the same as the standard type.

-X□

Individual
-X□

Made to Order Individual Specifications: Compact Guide Cylinder Series *MGP*



Please contact SMC for detailed dimensions, specifications, and lead times.

Refer to page 272 of Best Pneumatics No. 3 for the MGP series standard type.

1 Symmetrical Port Position

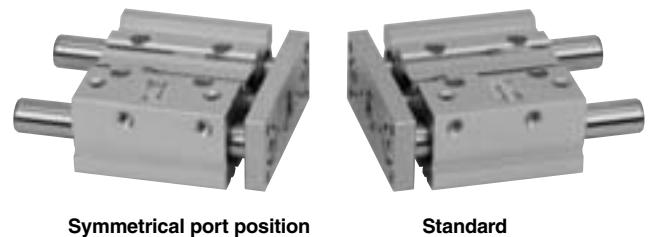
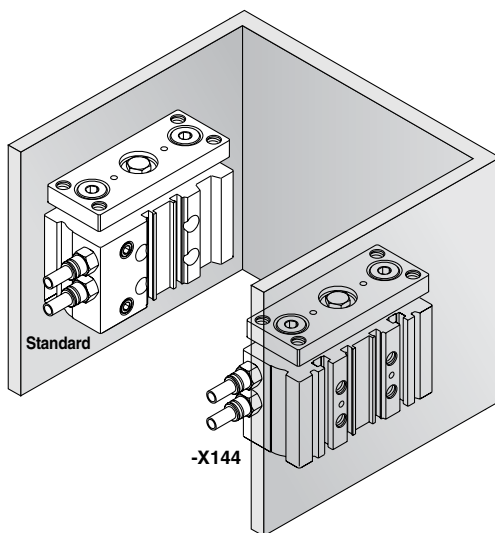
Symbol
-X144

How to Order

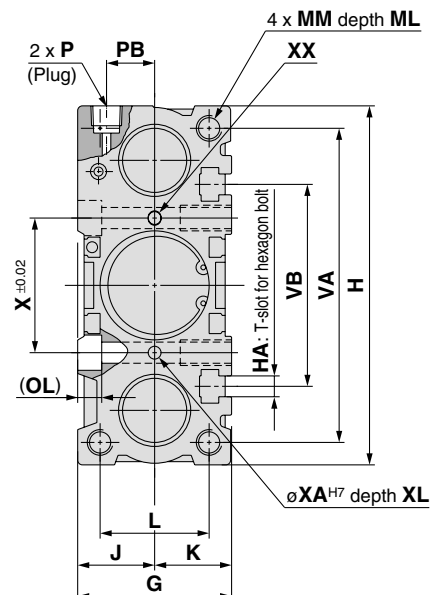
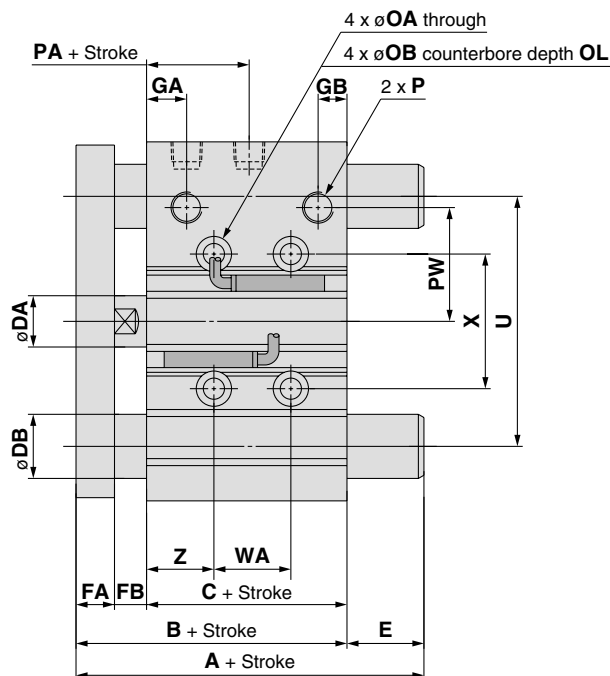
MGP ^M_L_A Bore size — Stroke — Auto switch type — Lead wire length — No. of auto switches — **X144**
Symmetrical port position ●

Ports are mounted symmetrically.

This makes it easy to remove and rotate piping when it is mounted on a wall where mounting space is limited.



Dimensions



* Refer to the dimensions of the MGP series standard type for the dimensions above.

Made to Order Individual Specifications: Compact Guide Cylinder Series *MGP*



Please contact SMC for detailed dimensions, specifications, and lead times.

Refer to page 272 of Best Pneumatics No. 3 for the MGP series standard type.

2 Lateral Piping Type (Plug location changed)

Symbol

-X867

Applicable Series

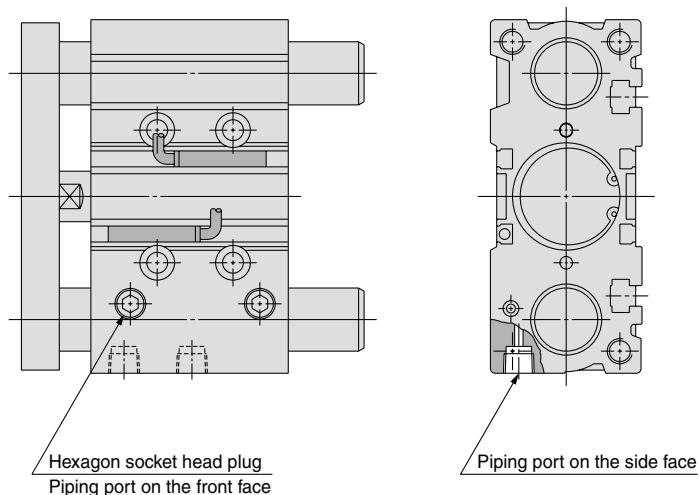
Series	Type	Model	Bearing type	Page for the standard type
MGP	Basic type Rubber bumper	MGPM	Slide bearing	③ P. 272
		MGPL	Ball bushing	
		MGPS	Heavy duty guide rod type	③ P. 320
		MGPA	High precision ball bushing type	③ P. 330
	Air cushion	MGPM	Slide bearing	③ P. 290
		MGPL	Ball bushing	
		MGPA	High precision ball bushing type	③ P. 330
	End lock	MGPM	Slide bearing	③ P. 308
		MGPL	Ball bushing	
		MGPA	High precision ball bushing type	③ P. 330

How to Order

MGP **Standard model no. — X867**

- Lateral piping type (Plug location changed)

This is the type with the port on the top plugged in order to use the piping port on the side.



-X□

Individual
-X□

Made to Order Individual Specifications: Compact Guide Cylinder Series *MGQ*



Please contact SMC for detailed dimensions, specifications, and lead times.

Refer to page 338 of Best Pneumatics No. 3 for the MGQ series standard type.

1 Helical Insert Thread Specifications

Symbol
-X168

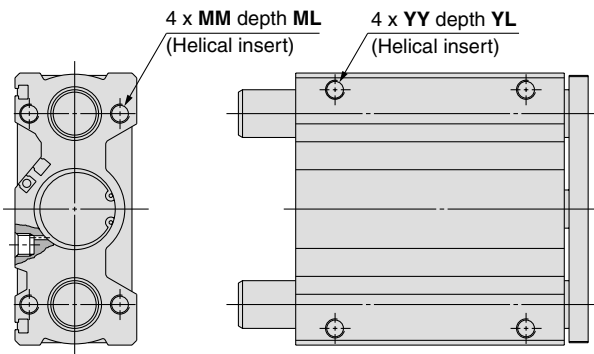
MGQ^M_L **Bore size** — **Stroke** — **Auto switch type** **Lead wire length** **No. of auto switches** —X168

Helical insert thread specifications ●

Mounting thread type has been changed to the helical insert thread type.

Specifications

Bearing type	Slide bearing	Ball bushing bearing
Series	MGQM	MGQL
Bore size (mm)	32, 40, 50, 63, 80, 100	
Lubrication	Non-lube	
Auto switch	Mountable	



Bore size (mm)	MM	ML	YY	YL
32	M6 x 1.0	12	M6 x 1.0	9
40	M6 x 1.0	12	M6 x 1.0	9
50	M8 x 1.25	16	M8 x 1.25	12
63	M8 x 1.25	16	M8 x 1.25	12
80	M10 x 1.5	20	M10 x 1.5	15
100	M12 x 1.75	24	M12 x 1.75	18

Note) Other dimensions are the same as standard type.

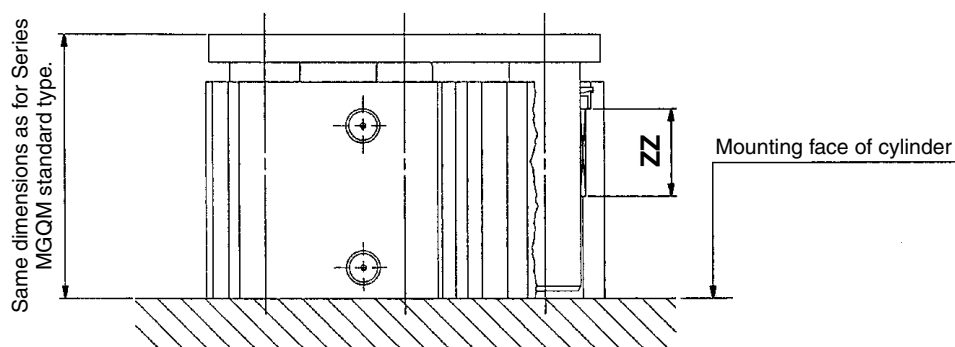
2 Bottom Mounting Style (MGQM type is only available.)

Symbol
-X367

MGQM **Bore size** — **Stroke** — **Auto switch type** **Lead wire length** **No. of auto switches** —X367

Bottom mounting ●

Because the guide rods do not protrude from the bottom surface of the body, it is not necessary to machine relief holes for the guide rods.



Note) Full length dimension of bushing for guide rod (ZZ) is shorter than the standard type.

Made to Order Individual Specifications: Compact Guide Cylinder Series *MGQ*



Please contact SMC for detailed dimensions, specifications, and lead times.

Refer to page 338 of Best Pneumatics No. 3 for the MGQ series standard type.

3 Long Bushing Type (MGQL type is only available.)

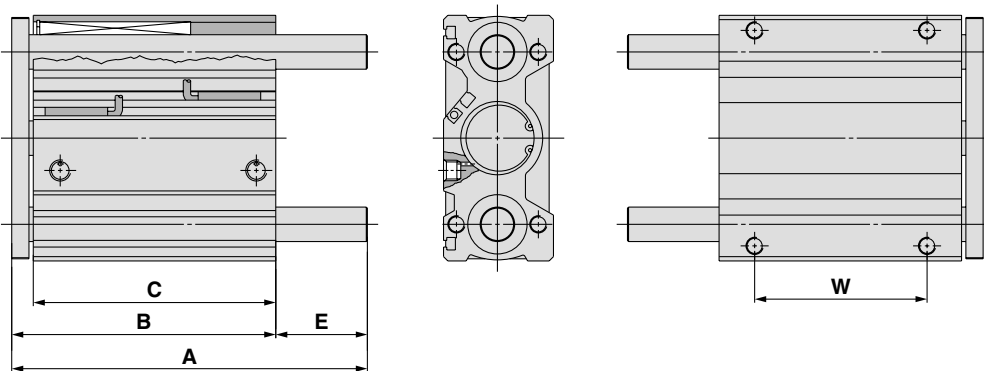
Symbol

-X399

MGQL Bore size — Stroke — Auto switch type Lead wire length No. of auto switches —X399

ø32 to ø100/MGQL-X399: Long bushing type

Long bushing type ●



Bore (mm)	Applicable stroke	A	B	C	E	W
32	5, 10, 15, 20, 25, 30, 40, 50	165	122.5	112.5	42.5	80
40		165	129	119	36	85
50		177	131	119	46	85
63		177	136	124	41	85
80		218	149.5	131.5	68.5	90
100		228	159	141	69	90

(mm)



Note 1) Dimensions are the same as for standard type of 75 stroke.

Note 2) Applicable stroke is available at 5 mm intervals and the spacer is installed inside.

Note 3) Ball bushing bearing type with 50 stroke or less is twice as long as the normal bearing length to strengthen the guide.

4 Magnetic Field Resistant Auto Switch (D-P4DW)

Symbol

-X563

MGQ^M_L Bore size — Stroke — P4DW Lead wire length No. of auto switches —X563

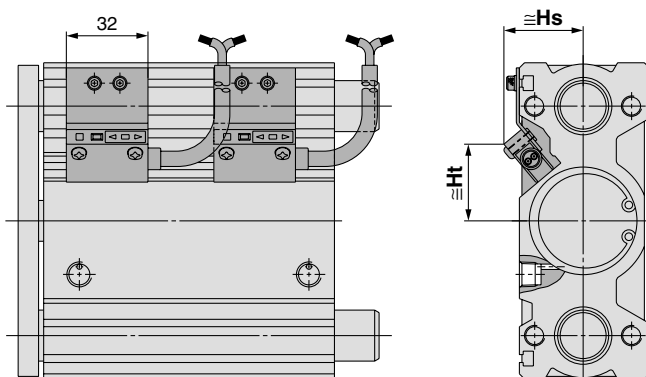
Magnetic field resistant auto switch (D-P4DW) ●

Specifications

Bearing type	Slide bearing	Ball bushing bearing
Series	MGQM	MGQL
Bore size (mm)	40, 50, 63, 80, 100	
Lubrication	Non-lube	
Auto switch	Mountable	



Note) For 25, 50 stroke, the number of available auto switch is 1 pc.



Bore size (mm)	Hs	Ht
40	31.5	30.1
50	35.0	34.7
63	42.5	36.1
80	53.5	38.7
100	60.5	45.1

-X ☐
Individual
-X ☐



Made to Order Individual Specifications: Guide Cylinder Series *MGG/MGC*



Please contact SMC for detailed dimensions, specifications, and lead times.

Refer to page 356 of Best Pneumatics No. 3 for the MGG series standard type.
Refer to page 392 of Best Pneumatics No. 3 for the MGC series standard type.

1 With Piping Ports for Grease

Symbol

-X440

This type is equipped with Rc 1/8 piping ports for grease on both sides of the guide body.

How to Order

MGG
MGC **Standard How to Order for each series** **-X440**

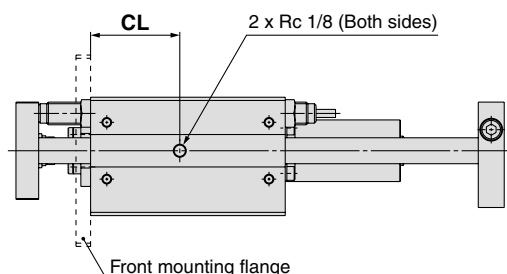
With piping port for grease ●

Applicable series	MGG	MGC
Bore size (mm)	20, 25, 32, 40, 50 63, 80, 100	20, 25, 32, 40, 50
Fluid	Air	
Minimum operating pressure	0.15 MPa (Horizontal, No load)	
Piston speed	50 to 1000 mm/s	50 to 750 mm/s
Auto switch	Mountable	
Specifications other than above	Same as the standard type of each series	

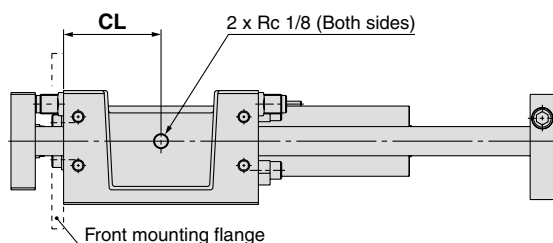
Dimensions (Dimensions other than those below are the same as the standard type.)

Series MGG

ø20 to ø50



ø63 to ø100

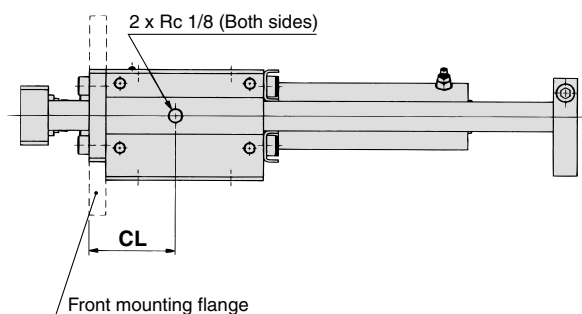


(mm)		
Series	MGG	MGC
Bore size (mm)	CL	CL
20	40	42
25	45	44
32	55	46.5
40	65	54.5
50	80	70.5
63	100	—
80	115	—
100	140	—

* The standard grease supply port has a hexagon socket head set screw.

Series MGC

ø20 to ø50



Made to Order Individual Specifications: Guide Cylinder Series *MGG*



Please contact SMC for detailed dimensions, specifications, and lead times.

Refer to page 356 of Best Pneumatics No. 3 for the MGG series standard type.

1 With Piping Ports for Grease (Water resistant type)

Symbol

-X440

Type with piping port (Rc 1/8) for grease on both sides of water resistant cylinder guide body.

How to Order

MGG M	Mounting style	Bore size	Port thread type	R	Stroke	G5BAL	Suffix for auto switch	X440
	● Slide bearing						With piping ports for grease ●	
							● Water resistant 2-color indication	
							Solid state auto switch	

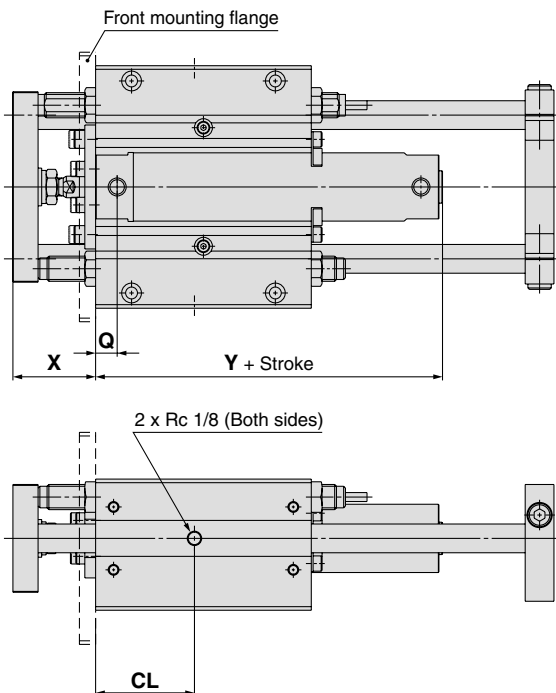
Specifications

Applicable series	MGGM
Bore size (mm)	32, 40, 50, 63, 80, 100
Fluid	Air
Minimum operating pressure	0.15 MPa (Horizontal, No-load)
Piston speed	50 to 1000 mm/s
Auto switch	Available for mounting (Water resistant type)
Bearing type	Slide bearing
Specifications other than above	Same as standard type.

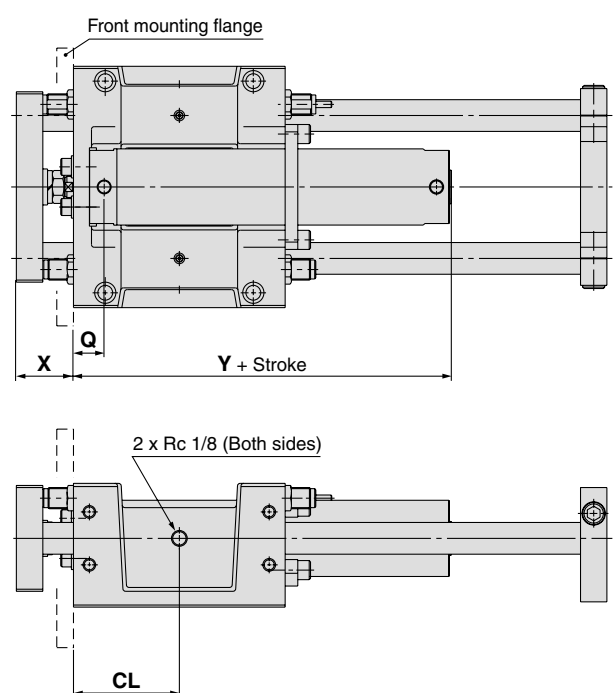
* RBL (coolant resistant) type shock absorbers are used.

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

ø20 to ø50



ø63 to ø100



Bore size (mm)	Q	X	Y	CL
32	16	48	77 (85)	55
40	17	58	84 (93)	65
50	19	69	97 (109)	80
63	34	56	112 (124)	100
80	46	68	137 (151)	115
100	47	68	138 (152)	140

* (): Denotes the dimensions for long stroke.

* The standard grease supply port has a hexagon socket head set screw.

-X
Individual
-X



1543

Made to Order Individual Specifications: Guide Cylinder Series *MGG*



Please contact SMC for detailed dimensions, specifications, and lead times.

Refer to page 356 of Best Pneumatics No. 3 for the MGG series standard type.

2 Auto Switch Rail Mounting Style With Piping Ports for Grease

Symbol

-X772

Cylinder with auto switch rail mounting with piping ports (Rc 1/8) for grease on both sides of guide body.

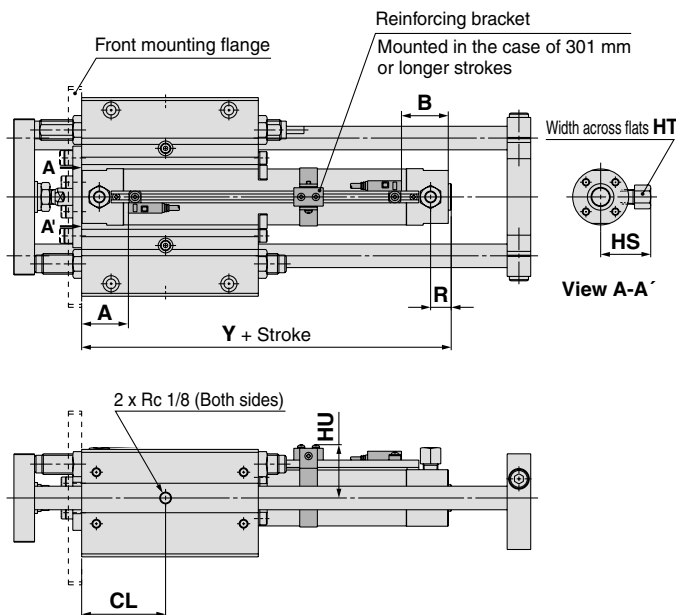
How to Order

MGG **Bearing type** **Mounting style** **Bore size** — **Stroke** — **Auto switch** — **X772**

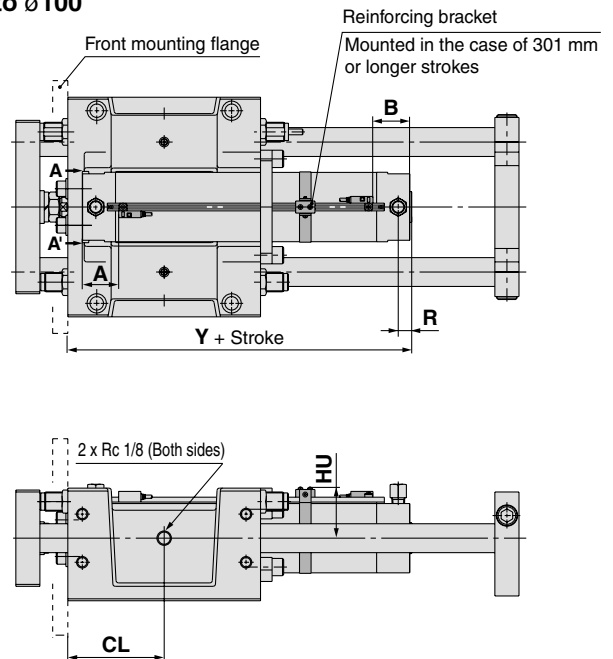
● Auto switch rail mounting style
With piping ports for grease

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

ø20 to ø50



ø63 to ø100



Bore size (mm)	R	Y	CL	HS	HT	HU
20	14	99	40	28.5	14	30.7
25	14	99	45	31	14	33.2
32	14	101	55	34.5	14	36.5
40	15	109	65	39	14	41
50	16	124	80	49.5	17	46.2
63	16	139	100	56.5	17	53.2
80	23	165	115	75.5	23	62.2
100	23	165	140	86	26	72.7

* The standard grease supply port has a hexagon socket head set screw.

Proper Auto Switch Mounting Position

Applicable bore size (mm)	Auto switch model	D-M9□/M9□V D-M9□W/M9□WV D-M9□AL/M9□AVL		D-F7□/F79F/F7□V D-J79/J79C D-F7□W/J79W/F7□WV D-F7BAL/F7BAVL D-A72/A7□H/A80H D-A73C/A80C		D-F7NTL		D-A7□ D-A80		D-A79W	
		A	B	A	B	A	B	A	B	A	B
		A	B	A	B	A	B	A	B	A	B
20		31.5	22.5	30.5	21.5	35.5	26.5	29.5	20.5	27.5	18.5
25		31.5	22.5	30.5	21.5	35.5	26.5	29.5	20.5	27.5	18.5
32		32.5	23.5	31.5	22.5	36.5	27.5	30.5	21.5	28.5	19.5
40		37.5	25.5	36.5	24.5	41.5	29.5	35.5	23.5	33.5	21.5
50		44.5	30.5	43.5	29.5	48.5	34.5	42.5	28.5	40.5	26.5
63		44.5	30.5	43.5	29.5	48.5	34.5	42.5	28.5	40.5	26.5
80		54.5	38.5	53.5	37.5	58.5	42.5	52.5	36.5	50.5	34.5
100		54.5	38.5	53.5	37.5	58.5	42.5	52.5	36.5	50.5	34.5

Note 1) Adjust the auto switch after confirming the operating conditions in the actual setting.

Note 2) Refer to the MGG and MGC series standard types for dimensions other than the auto switch mounting position and mounting height.

Auto Switch Mounting Height

D-M9□/M9□V D-M9□W/M9□WV D-M9□AL/M9□AVL D-F7□/F79F D-J79/F7NTL D-F7□W/J79W/F7BAL	D-F7□V D-F7□WV D-F7BAVL	D-J79C	D-A7□ D-A80	D-A73C D-A80C	D-A79W
Hs	Hs	Hs	Hs	Hs	Hs
26.5	29	32	25.5	32.5	28
29	31.5	34.5	28	35	30.5
32.5	35	38	31.5	38.5	34
36.5	39	42	35.5	42.5	38
42	44.5	47.5	41	48	43.5
49	51.5	54.5	48	55	50.5
59	61.5	64.5	58	65	60.5
69.5	72	75	68.5	75.5	71

Made to Order Individual Specifications: Guide Cylinder Series *MGG*



Please contact SMC for detailed dimensions, specifications, and lead times.

Refer to page 356 of Best Pneumatics No. 3 for the MGG series standard type.

2 Auto Switch Rail Mounting Style/With Piping Ports for Grease (Water resistant type) **-X772**

Type with piping port (Rc 1/8) for grease on both sides of water resistant cylinder guide body.

How to Order

MGG	M	Mounting style	Bore size	R	Stroke	-F7BAL	Suffix for auto switch	-X772
		● Slide bearing		● Water resistant cylinder		● Water resistant 2-color indication		● Auto switch rail mounting with piping ports for grease
			R	NBR seals (Nitrile rubber)				
			V	FKM seals (Fluororubber)				

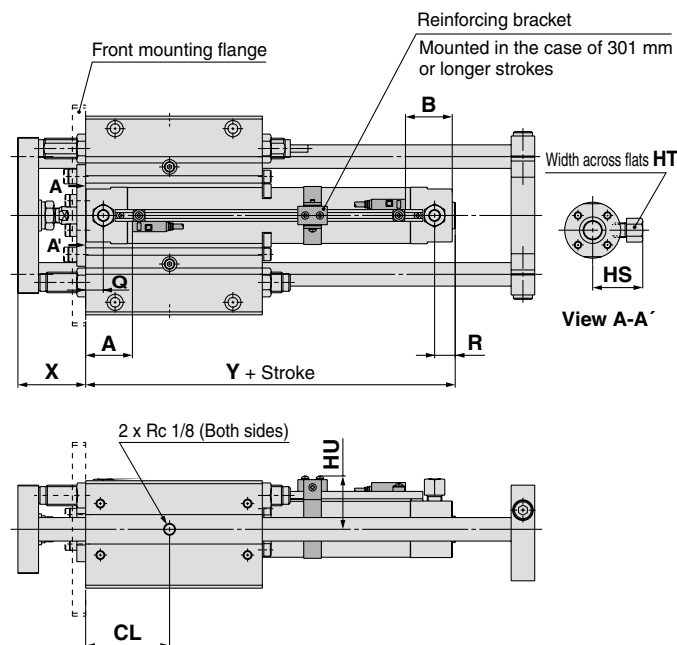
Specifications

Applicable series	MGGM
Bore size (mm)	32, 40, 50, 63, 80, 100
Fluid	Air
Minimum operating pressure	0.15 MPa (Horizontal, No-load)
Piston speed	50 to 1000 mm/s
Auto switch	Available for mounting (Water resistant type)
Bearing type	Slide bearing
Other specifications	Same as standard type.

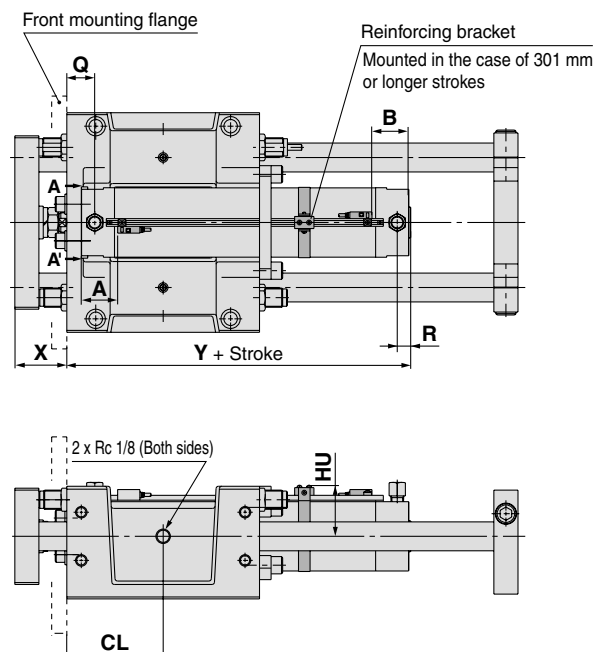
* RBL (coolant resistant) type shock absorbers are used.

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

ø32 to ø50



ø63 to ø100



Bore size (mm)	Q	R	X	Y	CL	HS	HT	HU
32	16	14	48	105	55	34.5	14	36.5
40	17	15	58	113	65	39	14	41
50	19	16	69	129	80	49.5	17	46.2
63	34	16	56	144	100	56.5	17	53.2
80	46	23	68	171	115	75.5	23	62.2
100	47	23	68	172	140	86	26	72.2

* The standard grease supply port has a hexagon socket head set screw.

Proper Auto Switch Mounting Position (mm)

Applicable bore size (mm)	Auto switch model	D-F7BAL/F7BAVL	
		A	B
32		41.5	40.5
40		46.5	43.5
50		53.5	51.5
63		53.5	51.5
80		63.5	51.5
100		63.5	51.5

Note) Adjust the auto switch after confirming the operating conditions in the actual setting.

Auto Switch Mounting Height (mm)

Applicable bore size (mm)	Auto switch model	D-F7BAL	D-F7BAVL
		Hs	Hs
32		32.5	34.5
40		37	39
50		42	44.5
63		49	51.5
80		58	60.5
100		69	71

-X□
Individual
-X□



Made to Order Individual Specifications: Non-rotating Double Power Cylinder Series *MGZ/MGZR*



Please contact SMC for detailed dimensions, specifications, and lead times.

Refer to page 428 of Best Pneumatics No. 3 for the MGZ/MGZR series standard type.

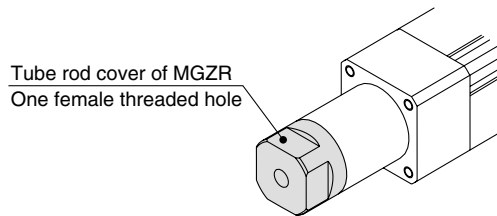
1 Rod End One Female Threaded Hole **-X1247**

Symbol

The tube rod cover of MGZR is the same as that mounted on MGZ.

MGZ **Refer to How to Order** **-X1247**

* The rod end shape and dimensions are identical to those of MGZR.



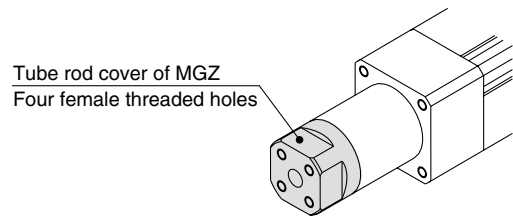
2 Rod End Four Female Threaded Holes **-X1248**

Symbol

The tube rod cover of MGZ is the same as that mounted on MGZR.

MGZR **Refer to How to Order** **-X1248**

* The rod end shape and dimensions are identical to those of MGZ.



Made to Order Individual Specifications: Dual Rod Cylinder Series CXS



Please contact SMC for detailed dimensions, specifications, and lead times.

Refer to page 561 of Best Pneumatics No. 3 for the CXS series standard type.

1 Without Plate

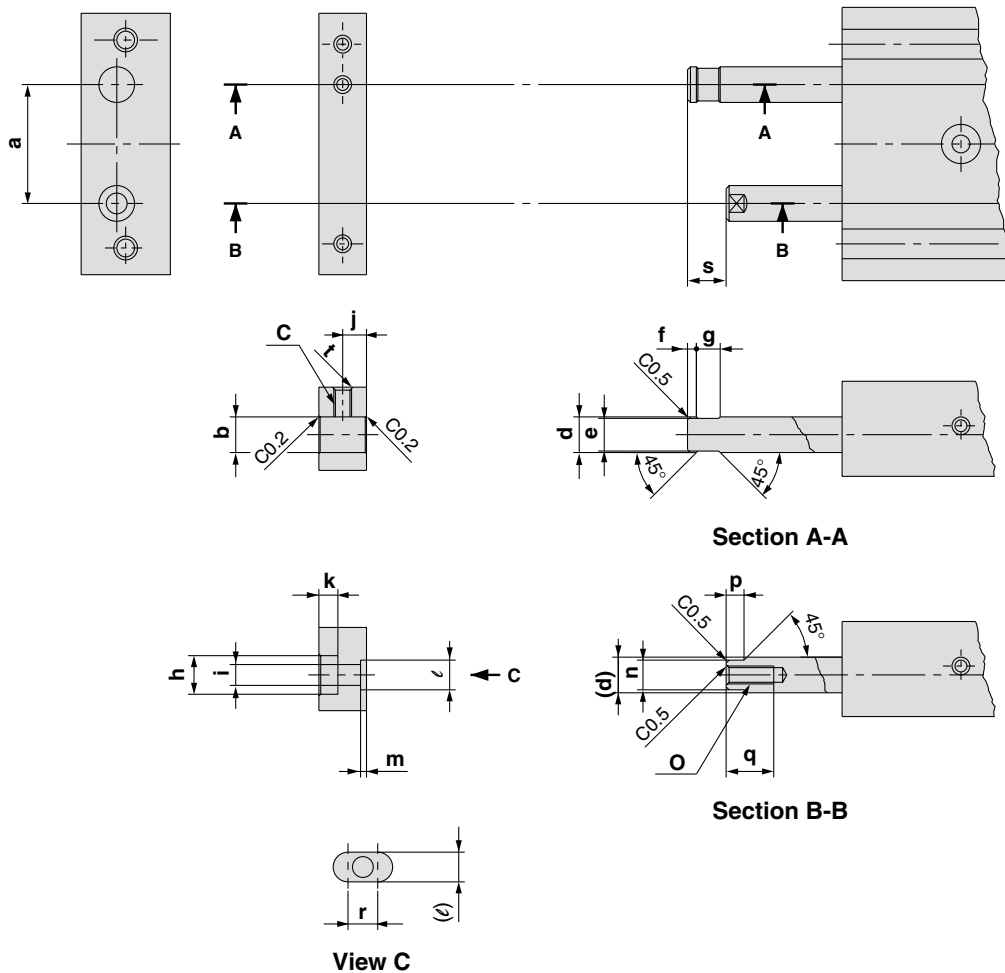
Symbol

-X593

CXS Bore size - Stroke - Auto switch - X593

Without plate ●

This specification is for the cylinder without a plate. This cylinder is suitable for mounting your own plate. Please note that the rod end dimensions of this cylinder are different from those of the standard cylinder.



Model	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t
CXS <input type="text"/> 6	16 ^{+0.1} ₀	ø4 ^{+0.013} _{+0.001}	M3 x 0.5	ø4	ø3.5	1	3	ø5.5	ø6 ⁰ _{-0.2}	2.75	2.8 ^{+0.2} ₀	3.5 ^{+0.1} ₀	0.5 ^{+0.2} ₀	3.5 ^{-0.05} _{-0.15}	M2.5 x 0.45	3	4.5	3.5	4.75	C0.5
CXS <input type="text"/> 10	20 ^{+0.1} ₀	ø6 ^{+0.016} _{+0.001}	M5 x 0.8	ø6	ø5.5	1.25	4.5	ø6.5	ø3.5 ⁰ _{-0.2}	4	3.2 ^{+0.2} ₀	5 ^{+0.1} ₀	1 ^{+0.2} ₀	5 ^{-0.05} _{-0.15}	M3 x 0.5		8	5	6.5	C0.5
CXS <input type="text"/> 15	25 ^{+0.1} ₀	ø8 ^{+0.016} _{+0.001}	M6 x 1.0	ø8	ø7.5	2	5	ø9.5	ø5.5 ⁰ _{-0.2}	5	5.2 ^{+0.3} ₀	6 ^{+0.2} ₀	1.5 ^{+0.2} ₀	6 ^{-0.05} _{-0.15}	M5 x 0.8		8	7	8	C0.5
CXS <input type="text"/> 20	28 ^{+0.1} ₀	ø10 ^{+0.016} _{+0.001}	M8 x 1.25	ø10	ø9.5	2	7	ø11	ø6.6 ⁰ _{-0.2}	6	6.2 ^{+0.3} ₀	8 ^{+0.2} ₀	2 ^{+0.2} ₀	8 ^{-0.05} _{-0.15}	M6 x 1.0		10	8	9.5	C0.5
CXS <input type="text"/> 25	35 ^{+0.1} ₀	ø12 ^{+0.019} _{+0.001}	M8 x 1.25	ø12	ø11.5	2	7	ø11	ø6.6 ⁰ _{-0.2}	6	6.2 ^{+0.3} ₀	10 ^{+0.2} ₀	2 ^{+0.2} ₀	10 ^{-0.05} _{-0.15}	M6 x 1.0		12	8.5	9.5	C0.7
CXS <input type="text"/> 32	44 ^{+0.1} ₀	ø16 ^{+0.019} _{+0.001}	M10 x 1.5	ø16	ø15.5	3.5	8	ø14	ø9 ⁰ _{-0.2}	8	8.2 ^{+0.4} ₀	13 ^{+0.2} ₀	2 ^{+0.2} ₀	13 ^{-0.05} _{-0.15}	M8 x 1.25		12.5	11	13.5	C0.7

Note 1) Unless indicated otherwise, the dimensional tolerance conforms to the ordinary dimensional difference (matching) per JIS B 0405.

Note 2) Piston rod A and B must be extended in order to install a plate. Apply pressure (0.2 MPa or more) from the supply port of the extended end when installing a plate.

To secure the plate to the rods, attach it first to piston rod B, and then to piston rod A. Make sure to apply Loctite to the threaded portion.

After anchoring the plate, operate the cylinder to check for proper operation (e.g., the cylinder operates smoothly when moved by hand or at least operates properly at the minimum operating pressure).



Made to Order Individual Specifications: Magnetically Coupled Rodless Cylinder Series *CY*



Please contact SMC for detailed dimensions, specifications, and lead times.

Refer to page 1174 of Best Pneumatics No. 2 for the CY series standard type.

Applicable Series

No.	Symbol	Specifications/Description	Basic type CY3B	Direct mount type CY3R	Slider type		
					Slide bearing type CY1S	Ball bushing type CY1L	High precision guide type CY1H
1	-X116	Hydro rodless cylinder	● (ø25 to ø63)	● (ø25 to ø63)	● (ø25 to ø40)	● (ø25 to ø40)	—
2	-X132	Air supply port relocated in axial direction	● (ø6 to ø63)	—	—	—	—
3	-X160	High speed rodless cylinder	● (ø20 to ø63)	● (ø20 to ø63)	—	—	—
4	-X168	Helical insert thread specifications	● (ø20 to ø63)	—	● (ø20 to ø40)	● (ø20 to ø40)	● (ø20 to ø32)
5	-X206	Additional moving element mounting taps	● (ø6 to ø63)	—	—	—	—
6	-X210	Non-lubricated exterior specifications	● (ø6 to ø63)	—	● (ø6 to ø40)	—	—
7	-X322	Cylinder tube outer circumference with hard chrome plated	● (ø15 to ø63)	● (ø15 to ø63)	● (ø15 to ø40)	● (ø15 to ø40)	—
8	-X324	Non-lubricated exterior specifications with dust seal	● (ø10 to ø63)	—	● (ø10 to ø40)	—	—
9	-X431	Auto switch rails on both side faces (With 2 pcs.)	—	—	● (ø6 to ø40)	—	—
10	-X1468	Interchangeable with CY1□6	● (ø6)	● (ø6)	—	—	—

1 Hydro Specifications Rodless Cylinder

Symbol

-X116

This type is applicable for precision constant speed feed, intermediate stop and skip feed.

<Basic type> <Direct mount type>

CY3B Bore size Port thread type — Stroke — **X116**

<Slider type>

CY1S Bore size Magnetic holding force — Stroke Damper type Switch — **X116**

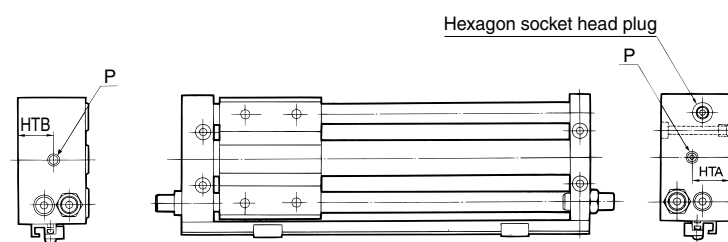
Hydro type ●

Specifications

Type	Basic type, Direct mount type, Slider type
Bore size	Basic type CY3B25 to 63, CY3R25 to 63 Slider type CY1S25 to 40, CY1L25 to 40
Fluid	Turbine oil
Piston speed	15 to 300 mm/s

Note) Piping is from each plate on both sides.

Dimensions



(mm)				
Model	HTA	HTB	P	Throttle dia.
CY1S25	20	20	Rc 1/8	7.5
CY1L25	20	23		8.2
CY1S32	24	24	Rc 1/8	7.5
CY1L32	24	26.5		8.2
CY1S40	25	25	Rc 1/4	8
CY1L40	25	30.5		11

* Dimensions other than the above are the same as the standard type.

2 Air Supply Port Relocated in Axial Direction

Symbol

-X132

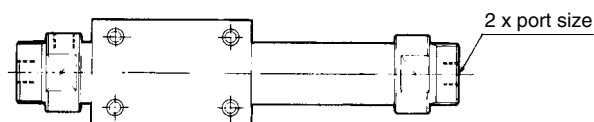
CY3B Bore size Port thread type — Stroke — **X132**

Air supply port relocated in axial direction ●

The air supply port has been changed to an axial position on the head cover.

Specifications

Applicable series	CY3B
Bore size	ø6 to ø63



The port size is the same as the standard type.

Made to Order Individual Specifications: Magnetically Coupled Rodless Cylinder Series *CY*



Please contact SMC for detailed dimensions, specifications, and lead times.

Refer to page 1174 of Best Pneumatics No. 2 for the CY series standard type.

3 High Speed Rodless Cylinder **-X160**

CY3B Bore size Port thread type - Stroke - X160
CY3R

High speed rodless cylinder

This makes a high speed piston drive of 1,500 mm/s possible (basic type, without load), but it is not applicable for all conditions. Consult with SMC for the operating conditions, etc.

Specifications

Applicable series	CY3B/CY3R
Bore size	ø20 to ø63
Piston speed (no load)	1500 mm/s (Max.)

Note 1) When operating this cylinder at high speed, a shock absorber must be provided.
Note 2) CY1L drives the piston at a maximum of 1,000 mm/s as standard.
Note 3) Speed tends to decrease over a period of time depending on the operating conditions. Apply grease periodically if necessary.

4 Helical Insert Thread Specifications **-X168**

CY3B Bore size Port thread type - Stroke - X168

CY1S Bore size Magnetic holding force - Stroke - X168
CY1L
CY1H

Helical insert thread specifications

Helical insert thread is used for standard mounting thread.

Specifications

Applicable series	CY3B/CY1S/CY1L/CY1H
Bore size	CY3B: ø20 to ø63 CY1S/CY1L: ø20 to ø40 CY1H: ø20 to ø32

5 Additional Moving Element Mounting Taps **-X206**

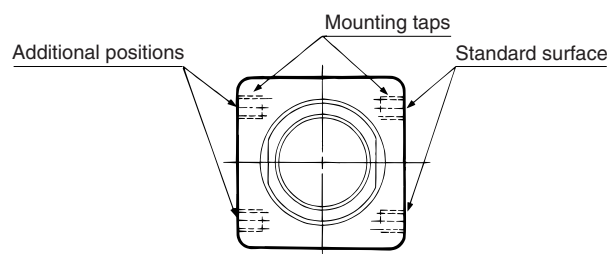
CY3B Bore size Port thread type - Stroke - X206

Additional moving element mounting taps

Mounting taps have been added on the surface opposite the standard positions.

Specifications

Applicable series	CY3B
Bore size	ø6 to ø63



*Dimensions are the same as the standard product.

6 Non-lubricated Exterior Specifications **-X210**

CY3B Bore size Port thread type - Stroke - X210

CY1S Bore size Magnetic holding force - Stroke - X210

Non-lubricated exterior specifications

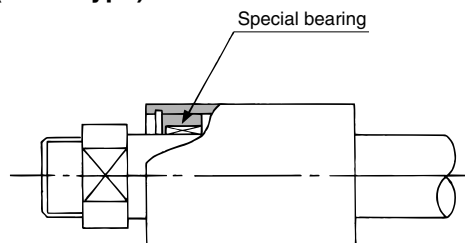
Suitable for environments where oil is not tolerated. A scraper is not installed. A separate version -X324 (with a felt dust seal) is available in cases in which dust, etc. is dispersed throughout the environment.

Specifications

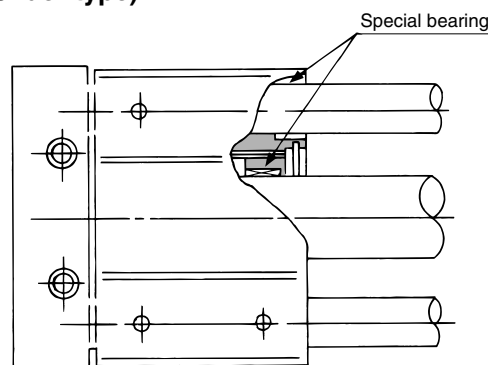
Applicable series	CY3B/CY1S
Bore size	CY3B ø6 to ø63 CY1S ø6 to ø40

Construction

CY3B (Basic type)



CY1S (Slider type)



-X□

Individual
-X□

Made to Order Individual Specifications: Magnetically Coupled Rodless Cylinder Series CY



Please contact SMC for detailed dimensions, specifications, and lead times.

Refer to page 1174 of Best Pneumatics No. 2 for the CY series standard type.

7 Cylinder Tube Outer Circumference with Hard Chrome Plated -X322

CY3B CY3R (G)	Bore size	Port thread type	Stroke	X322
CY1S CY1L	Bore size	Magnetic holding force	Stroke	X322

Cylinder tube outer circumference with hard chrome plated

The cylinder tube outer circumference is plated with hard chrome, which further reduces bearing abrasion.

* Be sure to install a shock absorber to the stroke end.

Note 1) The maximum stroke is 3,500 st, or the maximum stroke for the standard type.

CY3R is compatible with the maximum stroke for the standard type.

Note 2) When exceeding 2,000 strokes, contact SMC separately.

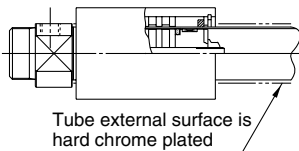
Note 3) The slider style (slide block) is provided with a greasing port.

Specifications

Applicable series	Bore size
CY3B/3R *	ø15 to ø63
CY1S/L	ø15 to ø40

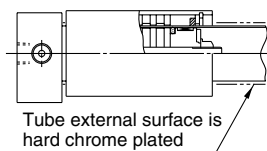
Construction/Dimensions

CY3B



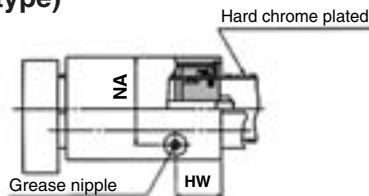
Tube external surface is hard chrome plated

CY3R



Tube external surface is hard chrome plated

CY1S/L (Slider type)



Grease nipple

Hard chrome plated

(mm)

Bore size (mm)	CY1S		CY1L	
	NA	HW	NA	HW
15	12.5	30.0	33.0	37.5
20	10.0	35.0	38.0	43.0
25	17.0	21.0	43.0	43.0
32	25.5	28.0	50.0	50.0
40	32.5	30.0	61.0	68.0

8 Non-lubricated Exterior Specifications with Dust Seal -X324

CY3B	Bore size	Port thread type	Stroke	X324
CY1S	Bore size	Magnetic holding force	Stroke	X324

Non-lubricated exterior specifications with dust seal

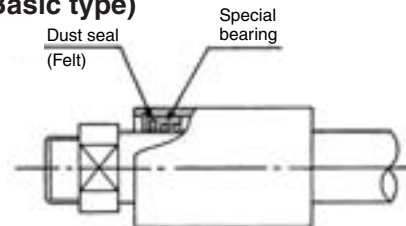
Non-lubricated exterior type with a felt dust seal on the cylinder body.

Specifications

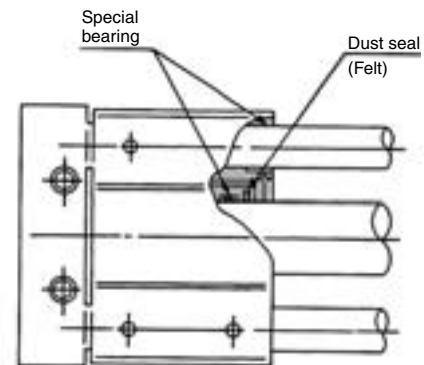
Applicable series	Bore size
CY3B	ø10 to ø63
CY1S	ø10 to ø40

Construction

CY3B (Basic type)



CY1S (Slider type)



9 Auto Switch Rails on Both Side Faces (With 2 pcs.) -X431

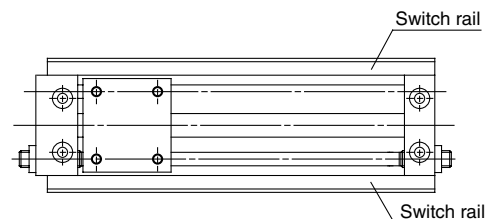
CDY1S	Bore size	Magnetic holding force	Stroke	X431
-------	-----------	------------------------	--------	------

Auto switch rails on both side faces (With 2 pcs.)

This auto switch is effective in the case of short strokes.

Specifications

Applicable series	CY1S
Bore size	ø6 to ø40



10 Interchangeable with CY1□6 -X1468

CY3B CY3R	Bore size	Port thread type	Stroke	X1468
--------------	-----------	------------------	--------	-------

Can be interchanged with CY1□6.

Interchangeable with CY1□6

1550



Made to Order Individual Specifications: Mechanically Jointed Rodless Cylinder Series MY1



Please contact SMC for detailed dimensions, specifications, and lead times.

Refer to page 956 of Best Pneumatics No. 2 for the MY1 cylinder standard type.

1 Holder Mounting Bracket.....I, II

Holder mounting brackets are used to fix the stroke adjusting unit at an intermediate stroke position.

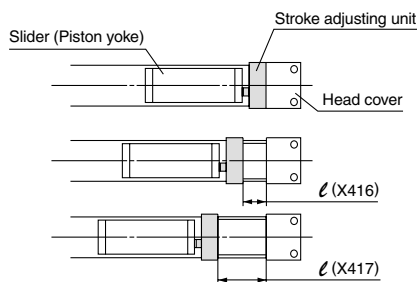
Holder mounting bracket I.... -X416 Holder mounting bracket II.... -X417

Fine Stroke Adjustment Range

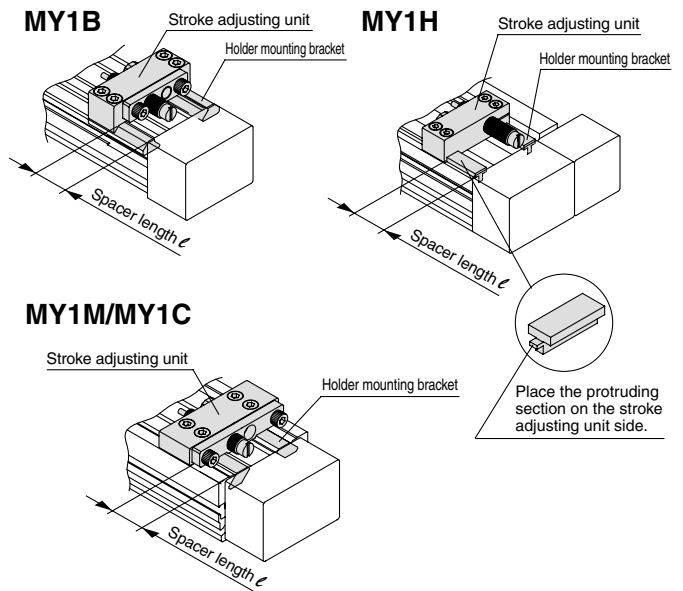
(Any fine strokes outside the parameters in the adjustment ranges above are considered to be a special order and processed accordingly.)

considered to be a special order and processed accordingly.) (mm)

Bore size (mm)	-X416 (One side)					-X417 (One side)				
	Spacer length ℓ	Adjustment range				Spacer length ℓ	Adjustment range			
		MY1B	MY1M	MY1C	MY1H		MY1B	MY1M	MY1C	MY1H
16	5.6	-5.6 to -11.2				11.2	-11.2 to -16.8			
20	6	-6 to -12				12	-12 to -18			
25	11.5	-11.5 to -23				23	-23 to -34.5			
32	12	-12 to -24				24	-24 to -36			
40	16	-16 to -32				32	-32 to -48			
50	20	—	-20 to -40		—	40	—	-40 to -60		—
63	25	—	-25 to -50		—	50	—	-50 to -75		—



Holder Mounting Bracket Illustration



MY1 **B** Bore size - 300 L - X416

Combination symbol

For applicable symbol, refer to the table below.

Holder mounting bracket

For applicable symbol, refer to the table below.

Stroke adjusting unit

For applicable symbol, refer to the table below.

Stroke

Note) Indicates the stroke prior to mounting the stroke adjusting unit.

Series: Bore size

		10	16	20	25	32	40	50	63	80	100
B	Basic type	●	●	●	●	●	●	●	●	●	●
M (W)	Slide bearing guide type (With cover)	●	●	●	●	●	●	●	●	●	●
C (W)	Cam follower guide type (With cover)	●	●	●	●	●	●	●	●	●	●
H	Linear guide type (Except end lock)	●	●	●	●	●	●	●	●	●	●

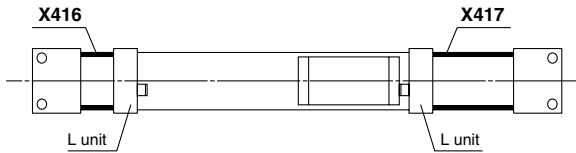
Stroke adjusting unit	Holder mounting bracket	Suffix	Mounting pcs.		Combination description
			X416	X417	
A, L, H, AS, LS, HS	X416	Nil	1	—	X416 on one side
A, L, H		W	2	—	X416 on both sides
AL, AH		Z	1	1	X416 on one side, X417 on the other side
AL, LH		A	1	—	X416 on A unit side
AH, LH		L	1	—	X416 on L unit side
AH, LH		H	1	—	X416 on H unit side
AL, AH		AZ	1	1	X416 on A unit side, X417 on the other side
AL, LH		LZ	1	1	X416 on L unit side, X417 on the other side
AH, LH		HZ	1	1	X416 on H unit side, X417 on the other side
A, L, H, AS, LS, HS	X417	Nil	—	1	X417 on one side
A, L, H		W	—	2	X417 on both sides
AL, AH		A	—	1	X417 on A unit side
AL, LH		L	—	1	X417 on L unit side
AH, LH		H	—	1	X417 on H unit side

Note) For AS, LS and HS, the stroke adjusting unit is mounted on one side only.

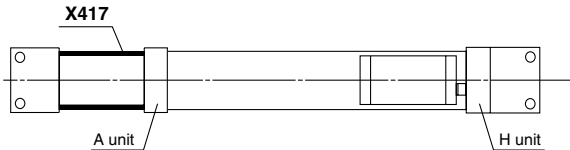
Symbol
-X416/X417

Example

- For L units with one each of X416 and X417
MY1B25G-300L-X416Z



- In the case of mounting -X417 on A unit side only of A/H units and mounting nothing on H unit side.
MY1B25G-300AH-X417A



How to order stroke adjusting unit or holder mounting bracket by itself:

MYH-A16A1 - X417

Suffix

Nil	Stroke adjusting unit + Holder mounting bracket
N	Holder mounting bracket only

Holder mounting bracket

X416	Holder mounting bracket I
X417	Holder mounting bracket II

Stroke adjusting unit model

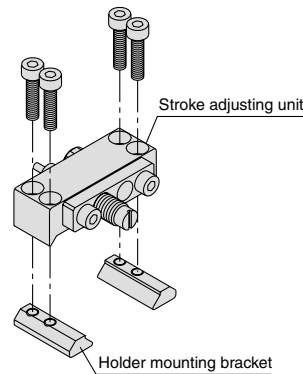
Note) Refer to the option table of "How to Order" for each series.

MY1B → P. 958
MY1M → P. 982
MY1C → P. 1002
MY1H → P. 1022
MY1CW → P. 1070
MY1MW → P. 1070

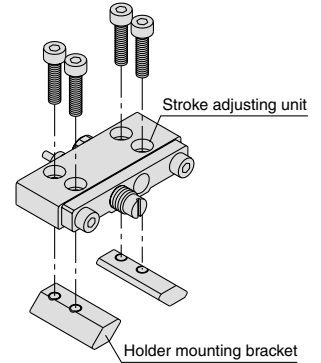
Example

- Stroke adjusting unit with holder mounting bracket
MY-A25L1-X416 (L unit for MY1B25 and X416 bracket)
 - Holder mounting bracket only
MY-A25L1-X416N (X416 bracket for MY1B25, L unit)
- Holder mounting brackets are a set of right and left brackets.

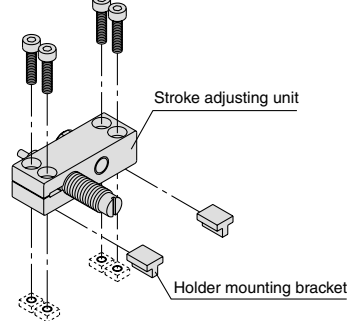
MY1B



MY1M/MY1C



MY1H



Note) Holder mounting brackets are shipped together for the stroke adjusting unit with holder mounting brackets for MY1H.

2 Helical Insert Thread Specifications

Symbol
-X168

Helical insert thread is used for the slide table mounting thread, the thread size is the same as the standard model.

MY1 B Bore size - Stroke - Auto switch Suffix -X168

Series: Bore size

		10	16	20	25	32	40	50	63	80	100
B	Basic type	(●)	●	●	●	●	●	●	●	●	●
M	Slide bearing guide type	●	●	●	●	●	●	●	●	●	●
C	Cam follower guide type	●	●	●	●	●	●	●	●	●	●
H	Linear guide type	(●)	●	●	●	●	●	●	●	●	●
HT	High rigidity/Linear guide type	●	●	●	●	●	●	●	●	●	●

(●) indicates available by special order.

Example) **MY1B40G-300L-Z73-X168**

-X□
Individual
-X□

Made to Order Individual Specifications: Mechanically Jointed Rodless Cylinder Series MY2



Please contact SMC for detailed dimensions, specifications, and lead times.

Refer to page 1098 of Best Pneumatics No. 2 for the MY2 cylinder standard type.

1 Holder Mounting Bracket.....I, II

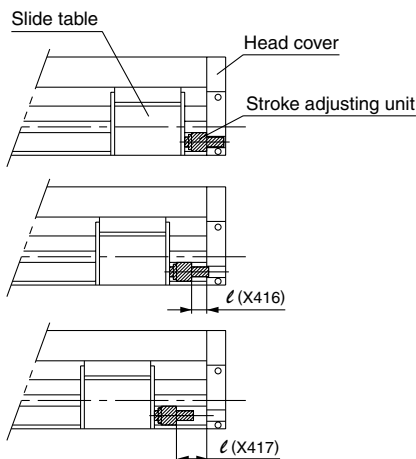
Holder mounting brackets are used to fix the stroke adjusting unit at an intermediate stroke position.

Holder mounting bracket I.....X416 Holder mounting bracket II.....X417

Fine Stroke Adjustment Range

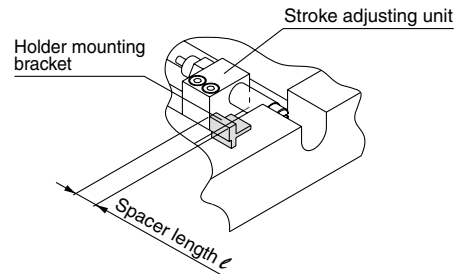
(Any fine strokes outside the parameters in the adjustment ranges above are considered to be a special order and processed accordingly.)

Bore size (mm)	-X416 (One side)		-X417 (One side)	
	Spacer length ℓ	Adjustment range	Spacer length ℓ	Adjustment range
16	5.6	-5.6 to -11.2	11.2	-11.2 to -16.8
25	11.5	-11.5 to -23	23	-23 to -34.5
40	16	-16 to -32	32	-32 to -48

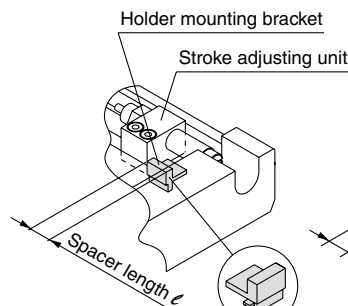


Holder Mounting Bracket Illustration

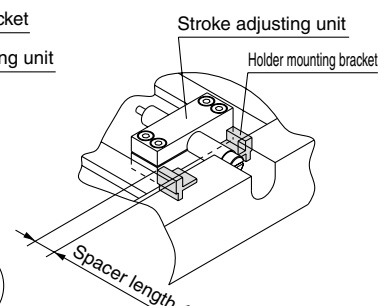
MY2C



MY2H



MY2HT



Place the protruding section on the stroke adjusting unit side.

MY2 [] Bore size - 300 L - X416 []

Combination symbol

For applicable symbol, refer to the table below.

Holder mounting bracket

For applicable symbol, refer to the table below.

Stroke adjusting unit

For applicable symbol, refer to the table below.

Stroke

Note) Indicates the stroke prior to mounting the stroke adjusting unit.

Series: Bore size

		16	25	40
C	Cam follower guide type	●	●	●
H	Linear guide type (Single axis)	●	●	●
HT	Linear guide type (Double axis)	●	●	●

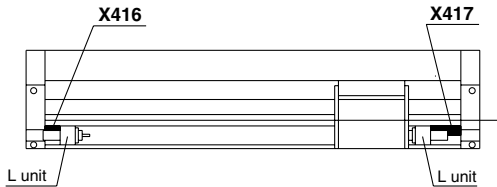
Stroke adjusting unit	Holder mounting bracket	Suffix	Mounting pcs.		Combination description
			X416	X417	
L, H, LS, HS	X416	Nil	1	—	With X416 (1 pc.) on only one side
L, H		W	2	—	With X416 (2 pcs.) (With each 1 pc. for both sides)
LH		Z	1	1	With X416 on one side, X417 on the other side (1 pc.)
LH		L	1	—	With X416 (1 pc.) on L unit side only
LH		H	1	—	With X416 (1 pc.) on H unit side only
LH		LZ	1	1	With X416 on L unit side only, X417 on the other side (1 pc.)
LH		HZ	1	1	With X416 on H unit side only, X417 on the other side (1 pc.)
L, H, LS, HS	X417	Nil	—	1	With X417 on one side only (1 pc.)
L, H		W	—	2	With X417 (2 pcs.) (1 pc. on each side)
LH		L	—	1	With X417 (1 pc.) on L unit side only
LH		H	—	1	With X417 (1 pc.) on H unit side only

Note) For LS and HS, the stroke adjusting unit is mounted on one side only.

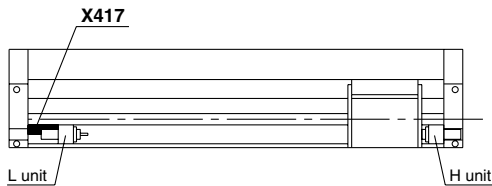
Symbol
-X416/X417

Example

- For L units with one each of X416 and X417
MY2H25G-300L-X416Z



- In the case of mounting -X417 on L unit side only of L/H units and mounting nothing on H unit side.
MY2H25G-300LH-X417L



How to order stroke adjusting unit or holder mounting bracket by itself:

MY2H-A16L1

MY2HT-A16L1

-

X417

• Suffix

Nil	Stroke adjusting unit + Holder mounting bracket
N	Holder mounting bracket only

• Holder mounting bracket

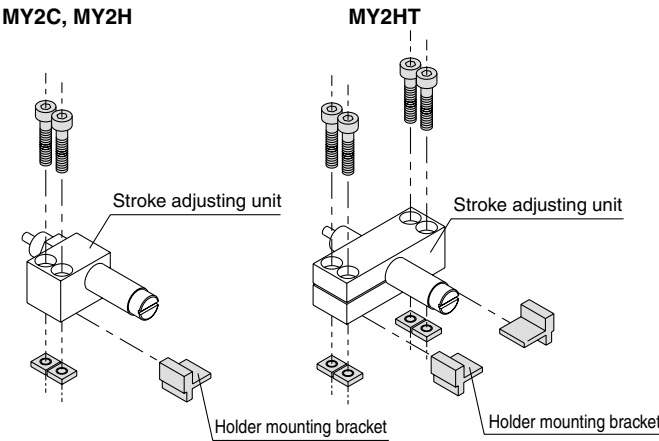
X416	Holder mounting bracket I
X417	Holder mounting bracket II

• Stroke adjusting unit model

Note) Refer to the option table of "How to Order". (Refer to pages 1100 and 1107.)

Example

- Stroke adjusting unit with holder mounting bracket
MY2H-A25L1-X416 (L unit for MY2H25 and X416 bracket)
- Holder mounting bracket only
MY2H-A25L1-X416N (X416 bracket for MY2H25, L unit)
- * Holder mounting brackets are a set of right and left brackets.



Note) Holder mounting brackets are shipped together for the stroke adjusting unit with holder mounting brackets for MY2.

-X□
Individual
-X□

Made to Order Individual Specifications: Mechanically Jointed Rodless Cylinder Series MY2



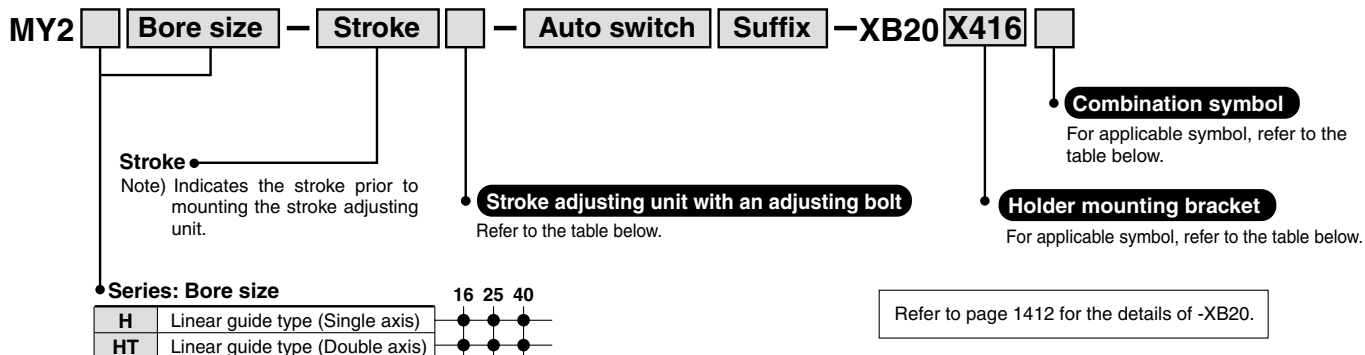
Please contact SMC for detailed dimensions, specifications, and lead times.

Refer to page 1098 of Best Pneumatics No. 2 for the MY2 cylinder standard type.

2 Holder Mounting Bracket for XB20.....I, II

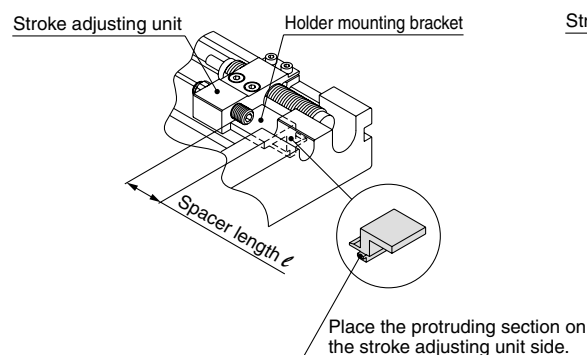
Holder mounting brackets are used to fix the stroke adjusting unit with an adjusting bolt (-XB20) at an intermediate stroke position.

Holder mounting bracket I.....X416 **Holder mounting bracket II.....X417**

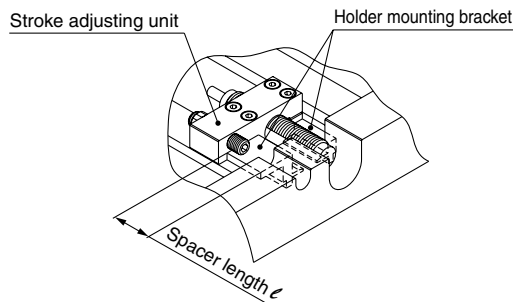


Stroke adjusting unit	Holder mounting bracket	Suffix	Mounting pcs.		Combination description
			X416	X417	
L, H, LS, SL, HS, SH	X416	Nil	1	—	X416 on one side
L, H		W	2	—	X416 on both sides
		Z	1	1	X416 on one side, X417 on the other side
		L	1	—	X416 on L unit side
		H	1	—	X416 on H unit side
LH, HL		LZ	1	1	X416 on L unit side, X417 on the other side
		HZ	1	1	X416 on H unit side, X417 on the other side
L, H, LS, SL, HS, SH	X417	Nil	—	1	X417 on one side
L, H		W	—	2	With X417 (2 pcs.) (1 pc. on each side)
		L	—	1	X417 on L unit side
		H	—	1	X417 on H unit side
LH, HL					

MY2H (-XB20)



MY2HT (-XB20)

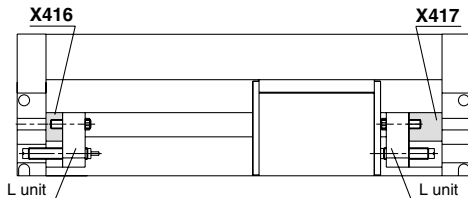


Symbol

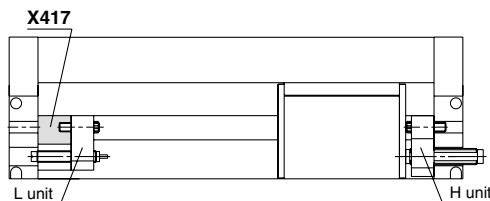
-XB20X416/XB20X417

Example

- For L units with one each of X416 and X417
MY2H25G-300L-XB20X416Z



- In the case of mounting -X417 on L unit side only of L/H units and mounting nothing on H unit side.
MY2H25G-300LH-XB20X417L



How to order the stroke adjusting unit with an adjusting bolt and holder mounting bracket:

MY2H-A16L1-XB20

MY2HT-A16L1-XB20

X417

• Suffix

Nil	Stroke adjusting unit + Holder mounting bracket
N	Holder mounting bracket only

• Holder mounting bracket

X416	Holder mounting bracket
X417	Holder mounting bracket

• Stroke adjusting unit with adjusting bolt

Example

- Stroke adjusting unit with holder mounting bracket (For left side)
MY2H-A25L1-XB20X416 (L unit for MY2H25 and X416 bracket)

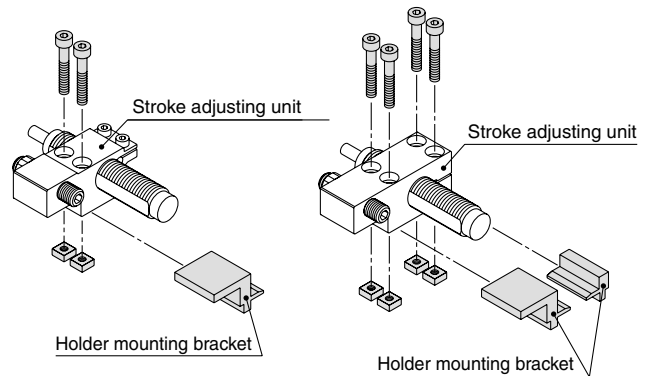
- Holder mounting bracket only

MY2H-A25L1-XB20X416N (X416 bracket for MY2H25, L unit)

* Holder mounting brackets are a set of right and left brackets.

MY2H(-XB20)

MY2HT(-XB20)



Note) Holder mounting brackets are shipped together for the stroke adjusting unit with holder mounting brackets for MY2.

Stroke Adjusting Unit with Adjusting Bolt (Unit Order Part No.)

Model	Bore size (mm)		16	25	40
	Unit symbol	For left side			
MY2H	L unit	For left side	MY2H-A16L1-XB20	MY2H-A25L1-XB20	MY2H-A40L1-XB20
		For right side	MY2H-A16L2-XB20	MY2H-A25L2-XB20	MY2H-A40L2-XB20
	H unit	For left side	MY2H-A16H1-XB20	MY2H-A25H1-XB20	MY2H-A40H1-XB20
		For right side	MY2H-A16H2-XB20	MY2H-A25H2-XB20	MY2H-A40H2-XB20
MY2HT	L unit	For left side	MY2HT-A16L1-XB20	MY2HT-A25L1-XB20	MY2HT-A40L1-XB20
		For right side	MY2HT-A16L2-XB20	MY2HT-A25L2-XB20	MY2HT-A40L2-XB20
	H unit	For left side	MY2HT-A16H1-XB20	MY2HT-A25H1-XB20	MY2HT-A40H1-XB20
		For right side	MY2HT-A16H2-XB20	MY2HT-A25H2-XB20	MY2HT-A40H2-XB20

Note) A stroke adjusting unit with an adjusting bolt (-XB20) cannot be mounted on the standard cylinder.

3 Helical Insert Thread Specifications

Symbol

-X168

Helical insert thread is used for the slide table mounting thread, the thread size is the same as the standard model.

MY2 [] **Bore size** - **Stroke** - **Auto switch** **Suffix** - **X168**

• Series: Bore size

		16	25	40
C	Cam follower guide type	●	●	●
H	Linear guide type (Single axis)	●	●	●
HT	Linear guide type (Double axis)	●	●	●

Example) MY2H40G-300L-A93-X168



Made to Order Individual Specifications: Mechanically Jointed Rodless Cylinder Series *MY3*



Please contact SMC for detailed dimensions, specifications, and lead times.

Refer to page 1136 of Best Pneumatics No. 2 for the MY3 cylinder standard type.

1 Holder Mounting Bracket.....I, II

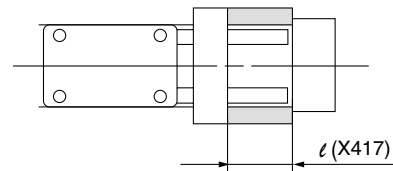
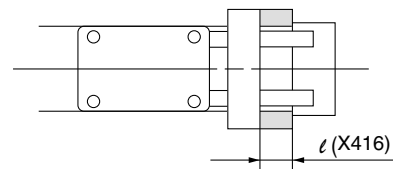
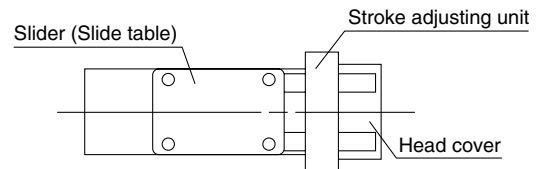
Holder mounting brackets are used to fasten the stroke adjusting unit at an intermediate stroke position.

Holder mounting bracket I.....X416 Holder mounting bracket II.....X417

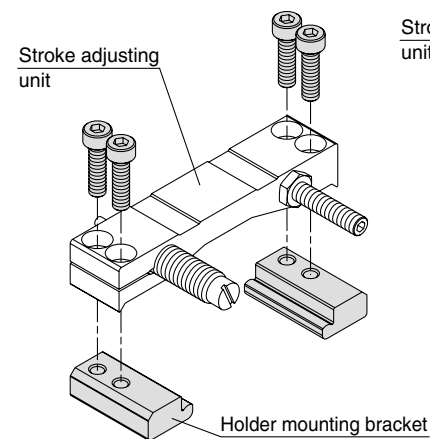
Fine Stroke Adjustment Range

(Treated as a special order when exceeding the adjustment ranges shown below.) Unit: mm

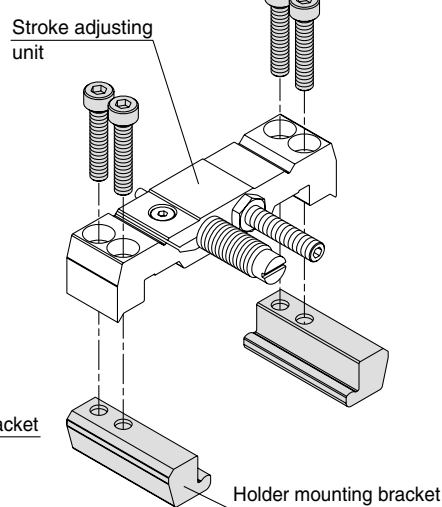
Bore size (mm)	-X416 (one side)		-X417 (one side)	
	Spacer	Adjustment range	Spacer	Adjustment range
	Length (ℓ)	MY3B/MY3M	Length (ℓ)	MY3B/MY3M
16	10	-10 to -20	20	-20 to -30
25	12	-12 to -24	24	-24 to -36
40	16	-16 to -32	32	-32 to -48
63	24	-24 to -48	48	-48 to -72



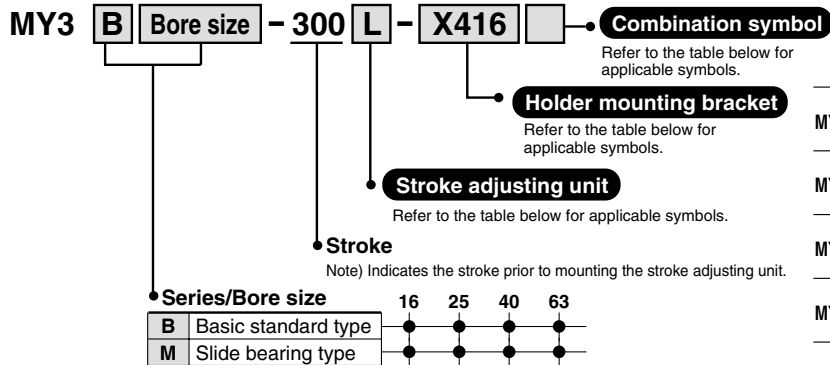
MY3B



MY3M



Symbol
-X416/X417



Stroke adjustment range

		0	-10	-20	-30	-40	-50	-60	-70	-80
MY3□16	L unit	0 to 10	10 to 20	20 to 30						
	H unit	Standard	-X416	-X417						
MY3□25	L unit	0 to 12	12 to 24	24 to 36						
	H unit	Standard	-X416	-X417						
MY3□40	L unit	0 to 16	16 to 32	32 to 48						
	H unit	Standard	-X416	-X417						
MY3□63	L unit	0 to 24	24 to 48	48 to 72						
	H unit	Standard	-X416	-X417						

Stroke adjusting unit	Holder mounting bracket	Symbol	Mounting pcs.		Combination description
			X416	X417	
L, H, LS, SL, HS, SH	X416	Nil	1		X416 on one side <small>Note 1)</small> <small>Note 2)</small>
L, H		W	2		X416 on both sides
		Z	1	1	X416 on the left side, X417 on the other side <small>Note 1)</small> <small>Note 2)</small>
LH, HL		L	1		X416 on L unit side
		H	1		X416 on H unit side
		LZ	1	1	X416 on L unit side, X417 on the other side
		HZ	1	1	X416 on H unit side, X417 on the other side
L, H, LS, SL, HS, SH	X417	Nil		1	X417 on one side <small>Note 1)</small> <small>Note 2)</small>
L, H		W		2	X417 on both sides
LH, HL		L		1	X417 on L unit side
		H		1	X417 on H unit side

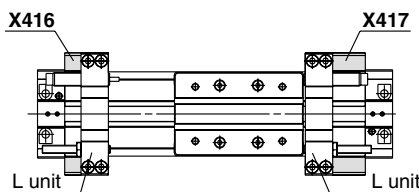
Note 1) For LS, SL, HS and SH, the stroke adjusting unit is mounted on one side only.

Note 2) The stroke adjusting unit is installed on the left side (or right side in case of SL and SH) at the time of shipment. It can however be moved to the right side (or left side).

Example

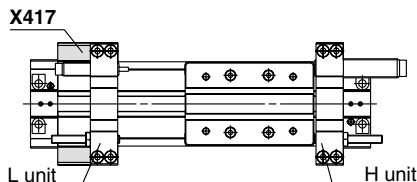
- L units with one each of X416 and X417

MY3B25-300L-X416Z



- L and H units, where X417 is mounted on L unit only and nothing on H unit

MY3B25-300LH-X417L



- How to order single pieces of stroke adjusting unit

MY3B-A16L1 - X417

Holder mounting bracket
X416 Holder mounting bracket I
X417 Holder mounting bracket II

- Stroke adjusting unit model

Note) Refer to the options table of "How to Order" for each series.

MY3B → Page 1137, MY3M → Page 1151

Example) MY3B-A25L1-X416

(X416 bracket for left side L unit of MY3B25)

Example

- How to order single pieces of holder mounting bracket

MY3 **B** - **A** **25** - **X417** **N**

Holder mounting bracket
X416 Holder mounting bracket I
X417 Holder mounting bracket II

Series/Bore size

B Basic standard type	16	25	40	63
M Slide bearing type				

Note) The holder mounting bracket can be commonly used on the L and H units as well as the left and right sides.

Example) MY3B-A25-X416N

(X416 bracket for L and H units of MY3B)

2 Helical Insert Thread Specifications **-X168**

Helical insert thread is used for the slide table mounting thread, the thread size is the same as the standard model.

MY3 **B** **Bore size** - **Stroke** - **Auto switch** **Suffix** -X168

Stroke adjusting unit model
(*MY3B, 3M only)

Port thread type

Series: Bore size

A Basic short type	16	25	40	63
B Basic standard type				
M Slide bearing type				

Example) MY3B16-300L-M9B-X168

-X□
Individual
-X□

Made to Order Individual Specifications: Sine Rodless Cylinder Series *REA/REB*



Please contact SMC for detailed dimensions, specifications, and lead times.

Refer to page 935 of Best Pneumatics No. 3 for the REA/REB series standard type.

1 Helical Insert Thread Specifications **-X168**

REA
REAS
REAL **Bore size** - **Stroke** - **X168**
REAH
REBH

Helical insert thread specifications

The standard mounting threads have been changed to helical insert specifications.

Specifications

Applicable series	REA/REAS/REAL/REAH/REBH
Bore size	REA: $\phi 25$ to $\phi 63$ REAS/REAL: $\phi 20$ to $\phi 40$ REAH: $\phi 20$ to $\phi 32$ REBH: $\phi 25$, $\phi 32$

The mounting thread positions and size are the same as standard.

2 Additional Moving Element Mounting Taps **-X206**

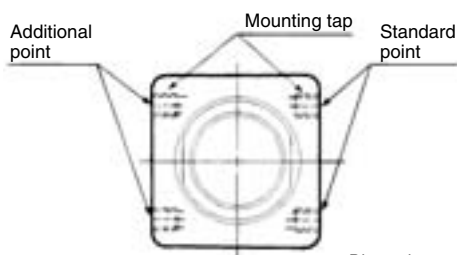
REA **Bore size** - **Stroke** - **X206**

Additional moving element mounting taps

Mounting taps have been added on the surface opposite the standard positions.

Specifications

Applicable series	REA
Bore size	$\phi 25$ to $\phi 63$



* Dimensions are the same as standard products.

3 Non-lubricated Exterior Specifications **-X210**

REA **Bore size** - **Stroke** - **X210**
REAS

Non-lubricated exterior specifications

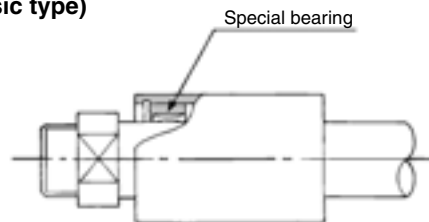
Suitable for environments where oils are not tolerated. A scraper is not installed. A separate version -X324 (with a felt dust seal) is available for cases in which dust, etc., is scattered throughout the environment.

Specifications

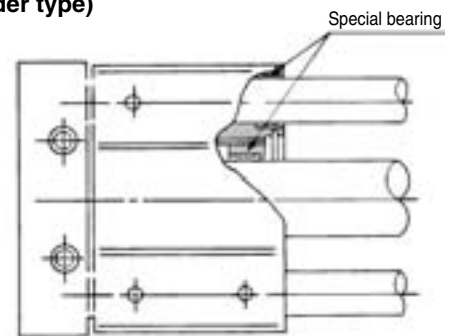
Applicable series	REA/REAS
Bore size	REA: $\phi 25$ to $\phi 63$ REAS: $\phi 10$ to $\phi 40$

Construction

REA (Basic type)



REAS (Slider type)



Made to Order Individual Specifications: Sine Rodless Cylinder Series *REA/REB*



Please contact SMC for detailed dimensions, specifications, and lead times.

Refer to page 935 of Best Pneumatics No. 3 for the REA/REB series standard type.

4 Non-lubricated Exterior Specifications with Dust Seal **-X324**

REA **REAS** **Bore size** - **Stroke** - **X324**

Non-lubricated exterior specifications with dust seal

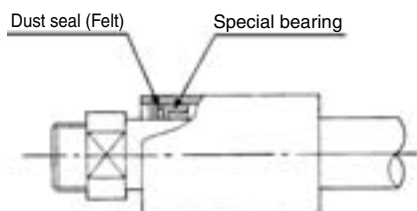
This unit has non-lubricated exterior specifications, with a felt dust seal provided on the cylinder body.

Specifications

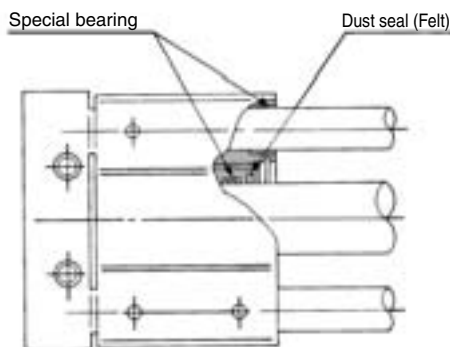
Applicable series		REA/REAS
Bore size	REA	ø25 to ø63
	REAS	ø10 to ø40

Construction

REA (Basic type)



REAS (Slider type)



5 Auto Switch Rails on Both Side Faces (with 2 pcs.) **-X431**

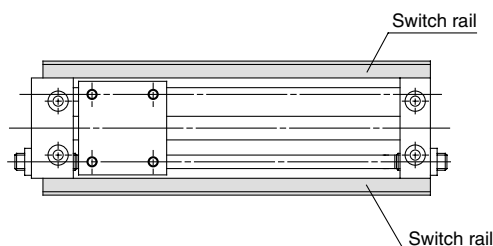
REAS **Bore size** - **Stroke** - **X431**

Auto switch rails on both side faces (With 2 pcs.)

Effective in cases with switches when the stroke is short.

Specifications

Applicable series	REAS
Bore size	ø10 to ø40



-X□

Individual
-X□

Made to Order Individual Specifications: Stroke Reading Rodless Cylinder with Brake Series *ML2B*



Please contact SMC for detailed dimensions, specifications, and lead times.

Refer to page 1512 of Best Pneumatics No. 3 for the ML2B series standard type.

1 Holder Mounting Bracket.....I, II

Symbol

-X416/X417

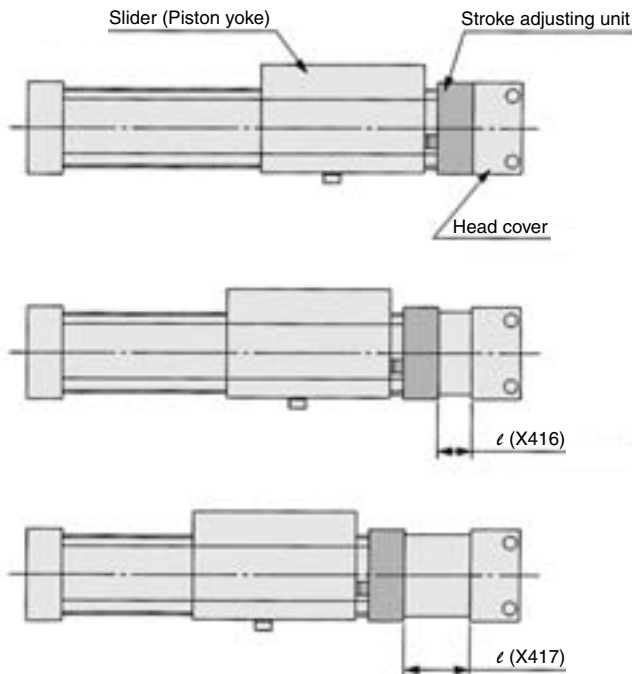
Holder mounting brackets are used to fix the stroke adjusting unit at an intermediate stroke position.

Holder mounting bracket I..... -X416 Holder mounting bracket II..... -X417

Fine Stroke Adjustment Range

(When requiring the cylinder exceeds the following adjusting range, it is made-to-order.)

Holder mounting bracket			-X416	-X417
Spacer length ℓ (mm)	ML2B25		11.5	23
	ML2B32		12	24
	ML2B40		16	32
Fine stroke adjustment range (mm)	ML2B25	One side	-11.5 to -23	-23 to -34.5
		Both ends	-23 to -46	-46 to -69
	ML2B32	One side	-12 to -24	-24 to -36
		Both ends	-24 to -48	-48 to -72
	ML2B40	One side	-16 to -32	-32 to -48
		Both ends	-32 to -64	-64 to -96



How to Order

1) When a stroke adjusting unit is incorporated into the cylinder body

(Example) ML2B25 - 300 L - X416 Z

Note) The indicated stroke shows the cylinder stroke before a stroke adjusting unit is mounted.

Stroke adjusting unit

Nil	Without adjusting unit
L	Shock absorber + Adjusting bolt

Suffix for stroke adjusting unit

Nil	2 pcs.
S	1 pc.

Suffix of holder mounting bracket
X416, X417

Note) For length, refer to the separate table.

Suffix for a combination of brackets

Nil	One side only
W	Aforementioned brackets are used on both sides.
Z	A bracket for X417 is used on one side.

2) To order a stroke adjusting unit itself

Suffix "-X416" or "-X417" to the end of part number.

(Example) MY-A25L-X416

3) To order a holder mounting bracket itself

Suffix "N" to the end of unit number.

(Example) MY-A25L-X416N

Made to Order Individual Specifications: Mechanically Jointed Rodless Cylinder with Brake Hy-rodless Cylinder Series *ML1*



Please contact SMC for detailed dimensions, specifications, and lead times.

Refer to page 912 of Best Pneumatics No. 3 for the ML1 series standard type.

1 Holder Mounting Bracket.....I, II

Symbol

-X416/X417

Holder mounting brackets are used to fix the stroke adjusting unit at an intermediate stroke position.

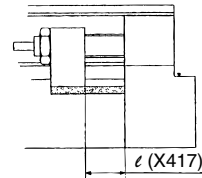
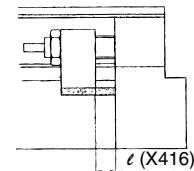
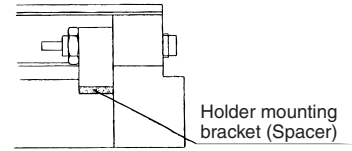
Holder mounting bracket I..... -X416

Holder mounting bracket II..... -X417

Fine Stroke Adjustment Range

(When requiring the cylinder exceeds the following adjusting range, it is made-to-order.)

Holder mounting bracket		-X416	-X417
Spacer length ℓ (mm)	ML1C25	11.5	23
	ML1C32	12	24
	ML1C40	16	32
Fine stroke adjustment range (mm)	ML1C25	One side	-11.5 to -23
		Both ends	-23 to -46
	ML1C32	One side	-12 to -24
		Both ends	-24 to -48
	ML1C40	One side	-16 to -32
		Both ends	-32 to -64



How to Order

1) When a stroke adjusting unit is incorporated into the cylinder body

(Example) **ML1C25G – 300H – X416 Z**

● **Suffix for holder mounting bracket**
X416 X417
Note) For length, refer to the separate table.

● **Stroke adjusting unit**

Nil	Without adjusting unit
H	Shock absorber + Adjusting bolt

Part no. of shock absorber for stroke adjusting unit

$\phi 25$	$\phi 32$	$\phi 40$
RB1412	RB2015	RB2015

● **Suffix for a combination of bracket**

Nil	One side only
W	Aforementioned brackets are used on both sides.
Z Note)	A bracket for X417 is used on one side.

Note) Symbol Z is not attached when the aforementioned holder mounting bracket symbol is X417.

2) To order a stroke adjusting unit itself

Suffix "-X416" or "-X417" to the end of part number.

(Example) **ML1-A25H-X416**

3) To order a holder mounting bracket itself

Suffix "N" to the end of unit number.

(Example) **ML1-A25H-X416N**

-X□

Individual
-X□

Made to Order Individual Specifications: Escapement Series *MIW/MIS*



Please contact SMC for detailed dimensions, specifications, and lead times.

Refer to page 1422 of Best Pneumatics No. 3 for the MIW/MIS series standard type.

1 Heat Resistant (−10 to 100°C)

Symbol

-X4

Change seal material and greases, so that it can be used at an ambient temperature range from −10 °C to up to 100 °C.

How to Order

MIW
MIS Standard model no. — **X4**

● Heat resistant

Note) Magnets are built-in, but the applicable ambient temperature is from −10 °C to 60 °C when auto switches are used.

Specifications

Ambient temperature range	−10°C to 100°C
Seal material	Fluororubber
Grease	Heat resistant grease (GR-F)
Bore size (mm)	8, 12, 20, 25, 32

* Dimensions other than the above is the same as the standard type.

2 Fluororubber Seal

Symbol

-X5

How to Order

MIW
MIS Standard model no. — **X5**

● Fluororubber seal

Note) Since the same magnets as for the standard type are built-in, contact SMC for the product adaptability to the operating environment before handling.

Specifications

Seal material	Fluororubber
Bore size (mm)	8, 12, 20, 25, 32

* Dimensions other than the above is the same as the standard type.

3 Fluorine Grease

Symbol

-X63

How to Order

MIW
MIS Standard model no. — **X63**

● Fluoro grease

Specifications

Grease	PTFE grease (GR-F)
Bore size (mm)	8, 12, 20, 25, 32

* Dimensions other than the above is the same as the standard type.

4 Grease for Food

Symbol

-X79

How to Order

MIW
MIS Standard model no. — **X79**

● Grease for food

Specifications

Grease	Grease for food
Bore size (mm)	8, 12, 20, 25, 32

* Dimensions other than the above is the same as the standard type.

⚠ Warning

Precautions

Be aware that smoking cigarettes, etc. after your hands have come into contact with the PTFE grease used for -X4 and -X63 may generate gas that is hazardous.

Made to Order Individual Specifications: Rotary Clamp Cylinder Series *MK2T*



Please contact SMC for detailed dimensions, specifications, and lead times.

Refer to page 1254 of Best Pneumatics No. 3 for the MK2T series standard type.

1 With Head End Pin Hole

Symbol

X1859

How to Order

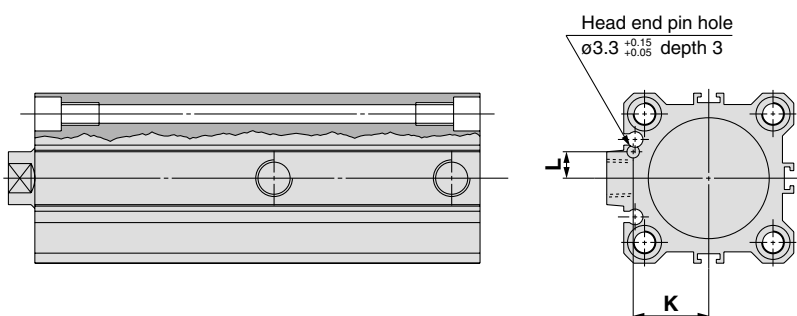
MK2T Standard model no. — **X1859**

● With head end pin hole

Specifications

Applicable series	MK2T
Bore size	ø32, ø40, ø50, ø63
Specifications other than above	Same as standard product

Dimensions



Bore size (mm)	K	L
32	20 ±0.15	7 ±0.15
40	24 ±0.15	7 ±0.15
50	30 ±0.15	8 ±0.15
63	35 ±0.15	9 ±0.15

* Dimensions other than above are same as basic type.

-X□

Individual
-X□