

Smooth Cylinder

Series CM2Y

Ø 20, Ø 25, Ø 32, Ø 40

How to Order

CM2Y L 40 - 150 Z -

With auto switch **CDM2Y L 40 - 150 Z - M9BW -**

With auto switch
(Built-in magnet)

Mounting

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

Bore size

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

Port thread type

—	Rc
TN	NPT
TF	G

Number of auto switches

—	2 pcs.
S	1 pc.
n	"n" pcs.

Made to Order
Refer to page 2 for details.

Auto switch

—	Without auto switch
---	---------------------

* For applicable auto switches, refer to the table below.

Rod end thread

—	Male rod end
F	Female rod end

Cylinder stroke [mm]
Refer to "Standard Strokes" on page 2.

Built-in Magnet Cylinder Model
If a built-in magnet cylinder without an auto switch is required, there is no need to enter the symbol for the auto switch.
(Example) CDM2YB20-100Z

Applicable Auto Switches/Refer to the Auto Switch Guide for further information on auto switches.

Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage		Auto switch model		Lead wire length [m]					Pre-wired connector	Applicable load											
					DC	AC	Perpendicular	In-line	0.5 (—)	1 [m]	3 (L)	5 (Z)	None (N)													
Solid state auto switch	—	Grommet	Yes	3-wire (NPN)	24 V	5 V, 12 V	—	M9NV	M9N	●	—	●	○	—	○	IC circuit	Relay, PLC									
				3-wire (PNP)				M9PV	M9P	●	—	●	○	—	○											
		Connector		2-wire				12 V	M9BV	M9B	●	—	●	○	—			○								
				Terminal conduit				3-wire (NPN)	5 V, 12 V	—	H7C	●	—	●	●			—	—							
	Diagnostic indication (2-colour indication)	Grommet			2-wire	12 V	—	G39A	—	—	—	—	●	—	—	IC circuit										
				3-wire (NPN)	5 V, 12 V	—	M9NWV	M9NW	●	●	●	○	—	○	IC circuit											
				3-wire (PNP)												—		K39A	—	—	—	—	●	—		
				2-wire												M9PWV		M9PW	●	●	●	○	—	○		
				2-wire												M9BWV		M9BW	●	●	●	○	—	○		
				Water resistant (2-colour indication)	Grommet	3-wire (NPN)	5 V, 12 V	—	M9NAV***	M9NA***	○	○	●	○	—	○		IC circuit								
						3-wire (PNP)													M9PAV***	M9PA***	○	○	●	○	—	○
						2-wire													M9BAV***	M9BA***	○	○	●	○	—	○
						4-wire (NPN)													5 V, 12 V	—	H7NF	●	—	●	○	—
				With diagnostic output (2-colour indication)	Grommet	3-wire (NPN equivalent)	—	5 V	—	A96V	A96	●	—	●	—	—		—	IC circuit	—						
						—	24 V	12 V	100 V	A93V	A93	●	—	●	●	—		—	—	—						
									100 V or less	A90V	A90	●	—	●	—	—		—	IC circuit	Relay, PLC						
100 V, 200 V	—	B54	●						—	●	●	—	—	—												
200 V or less	—	B64	●						—	●	—	—	—	—												
12 V	—	—	C73C					●	—	●	●	●	—	—	—											
	24 V or less	—	C80C					●	—	●	●	●	—	IC circuit	—											
	—	—	A33A					—	—	—	—	●	—	—	PLC											
	100 V, 200 V	—	A34A					—	—	—	—	●	—	—	Relay, PLC											
—	—	A44A	—			—	—	—	●	—	—															
Diagnostic indication (2-colour indication)	Grommet	—	—			—	B59W	●	—	●	—	—	—	—												

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

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

* Lead wire length symbols: 0.5 m (Example) M9NV
1 m M (Example) M9NW
3 m L (Example) M9NL
5 m Z (Example) M9NZ
None N (Example) H7CN

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

* Do not indicate suffix "N" for no lead wire on the D-A3□A/A44A/G39A/K39A models.

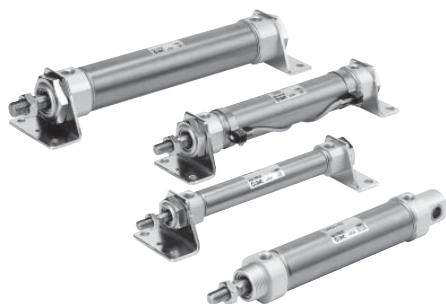
* Since there are other applicable auto switches than listed above, refer to page 17 for details.

* For details about auto switches with pre-wired connector, refer to the Auto Switch Guide.

* The D-A9□□/M9□□□ auto switches are shipped together, (but not assembled). (However, only the auto switch mounting brackets are assembled before shipment.)

* The D-C7□□/C80□□/H7□□ auto switches are assembled before shipment.

Series CM2Y



Integral clevis

Symbol

Double acting, Single rod, Rubber bumper



Made to Order

Symbol	Specifications
-XA□	Change of rod end shape
-XC3	Special port location
-XC6	Made of stainless steel
-XC9	Adjustable stroke cylinder/Adjustable retraction type
-XC10	Dual stroke cylinder/Double rod type
-XC13	Auto switch rail mounting
-XC20	Head cover axial port
-XC25	No fixed throttle of connection port
-XC27	Double clevis and double knuckle joint pins made of stainless steel
-XC29	Double knuckle joint with spring pin
-XC52	Mounting nut with set screw
-X1854	Low friction cylinder mounting

* Refer to page 3 for "-X1854".

Replacement Parts/Rod Seal

Bore size [mm]	Part no.
20	CM20Z-PS
25	CM25Z-PS
32	CM32Z-PS
40	CM40Z-PS

Grease Pack for Maintenance

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

Grease pack part number: **GR-L-005** (5 g)
GR-L-010 (10 g)
GR-L-150 (150 g)

Specifications

Bore size [mm]	20	25	32	40
Action	Double acting, Single rod			
Piston speed	5 to 500 mm/s			
Fluid	Air			
Proof pressure	1.05 MPa			
Maximum operating pressure	0.7 MPa			
Ambient and fluid temperature	Without auto switch: -10 °C to 70 °C With auto switch: -10 °C to 60 °C (No freezing)			
Lubrication	Not required (Non-lube)			
Stroke length tolerance	+1.4 0 mm			
Cushion	Rubber bumper			
Allowable leakage rate	0.5 l/min (ANR) or less			

Minimum Operating Pressure

Bore size [mm]	20	25	32	40
Minimum operating pressure	0.02			

Unit: MPa

Mounting Brackets/Part No.

Mounting bracket	Min. order q'ty	Bore size [mm]				Contents (for minimum order quantity)
		20	25	32	40	
Axial foot*	2	CM-L020B	CM-L032B	CM-L040B		2 feet, 1 mounting nut
Flange	1	CM-F020B	CM-F032B	CM-F040B		1 flange
Single clevis**	1	CM-C020B	CM-C032B	CM-C040B		1 single clevis, 3 liners
Double clevis (with pin)***	1	CM-D020B	CM-D032B	CM-D040B		1 double clevis, 3 liners, 1 clevis pin, 2 retaining rings
Trunnion (with nut)	1	CM-T020B	CM-T032B	CM-T040B		1 trunnion, 1 trunnion nut

* Order 2 feet per cylinder.

** 3 liners are included with a clevis bracket for adjusting the mounting angle.

*** A clevis pin and retaining rings (split pins for Ø 40) are included.

Mounting and Accessories

Accessories	Standard			Option				
	Mounting nut	Rod end nut	Clevis pin	Single knuckle joint	Note 3) Double knuckle joint	Note 4) Clevis pivot bracket	Note 6) Pivot bracket	Note 7) Pivot bracket pin
Basic (Double-side bossed)	● (1 pc.)	●	—	●	●	—		
Axial foot	● (2)	●	—	●	●	—		
Rod flange	● (1)	●	—	●	●	—		
Head flange	● (1)	●	—	●	●	—		
Integral clevis	— Note 1)	●	—	●	●	●		
Single clevis	— Note 1)	●	—	●	●	—	●	●
Double clevis Note 3)	— Note 1)	●	● Note 5)	●	●	—	—	—
Rod trunnion	● (1) Note 2)	●	—	●	●	—	●	—
Head trunnion	● (1) Note 2)	●	—	●	●	—		
Boss-cut/Basic	● (1)	●	—	●	●	—		
Boss-cut/Flange	● (1)	●	—	●	●	—		
Boss-cut/Trunnion	● (1) Note 2)	●	—	●	●	—		

Note 1) Mounting nuts are not attached to the integral clevis, single clevis and double clevis types.

Note 2) Trunnion nuts are mounted on the rod trunnion and head trunnion types.

Note 3) A pin and retaining rings (split pins for Ø 40) are included with the double clevis and double knuckle joint types.

Note 4) A pin and retaining rings are included with the clevis pivot bracket.

Note 5) Retaining rings (split pins for Ø 40) are included with the clevis pin.

Note 6) A pin and retaining rings are included with the pivot bracket.

Note 7) Retaining rings are included with the pivot bracket pin.

Standard Strokes

Bore size [mm]	Standard stroke [mm]
20, 25, 32, 40	25, 50, 75, 100, 125, 150, 200, 250, 300

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

Note 2) As the stroke increases, more sliding resistance may result due to the deflection of the piston rod and other factors. Take measures such as the installation of a guide.

Weights

Bore size [mm]		[kg]			
		20	25	32	40
Basic weight	Basic (Double-side bossed)	0.14	0.21	0.28	0.56
	Axial foot	0.29	0.37	0.44	0.83
	Flange	0.20	0.30	0.37	0.68
	Integral clevis	0.12	0.19	0.27	0.52
	Single clevis	0.18	0.25	0.32	0.65
	Double clevis	0.19	0.27	0.33	0.69
	Trunnion	0.18	0.28	0.34	0.66
	Boss-cut/Basic	0.13	0.19	0.26	0.53
	Boss-cut/Flange	0.19	0.28	0.35	0.65
	Boss-cut/Trunnion	0.17	0.26	0.32	0.63
Additional weight per 50 mm of stroke		0.04	0.06	0.08	0.13
Option bracket	Clevis bracket (with pin)	0.07	0.07	0.14	0.14
	Single knuckle joint	0.06	0.06	0.06	0.23
	Double knuckle joint (with pin)	0.07	0.07	0.07	0.20
	Pivot bracket	0.06	0.06	0.06	0.06
	Pivot bracket pin	0.02	0.02	0.02	0.03

Calculation: Example) **CM2YL32-100Z**

- Basic weight.....0.44 (Foot, Ø 32)
 - Additional weight.....0.08/50 stroke
 - Cylinder stroke.....100 stroke
- $$0.44 + 0.08 \times 100/50 = 0.60 \text{ kg}$$

Same Mounting Dimensions as the Low Friction Cylinder**CM2Y** **Mounting** **Bore size** – **Stroke** **Z – X1854**

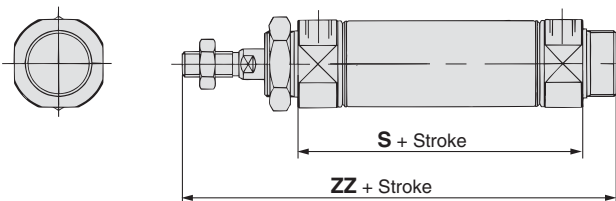
Same mounting dimensions as the CM2Q ↓

In order to adjust the mounting dimensions of the low friction cylinder (CM2Q), extend the longitudinal dimension (S, ZZ) by 3 mm.

Specifications

Cylinder bore size [mm]	20	25	32	40
Action	Double acting, Single rod			
Direction of low friction	Bi-directional			
Fluid	Air			
Proof pressure	1.05 MPa			
Maximum operating pressure	0.7 MPa			

* Low friction operates bi-directionally.

Dimensions

Bore size [mm]	S	ZZ
20	65	119
25	65	123
32	67	125
40	91	157

* Add 3 mm to S and ZZ dimensions of the double acting, single rod type on pages 4 to 10 for the dimensions for each mounting bracket other than the basic type.

⚠ Precautions

Be sure to read before handling. Refer to back cover for Safety Instructions. For Actuator and Auto Switch Precautions, refer to “Handling Precautions for SMC Products” and the Operation Manual on SMC website, <http://www.smcworld.com>

Operating Precautions**⚠ Warning****1. Do not rotate the cover.**

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

⚠ Caution**1. Not able to disassemble.**

Cover and cylinder tube are connected to each other by caulking method, thus making it impossible to disassemble. Therefore, internal parts of a cylinder other than rod seal are not replaceable.

2. Use caution to the popping of a retaining ring.

When replacing rod seals and removing and mounting a retaining ring, use a proper tool (retaining ring plier: tool for installing a type C retaining ring). Even if a proper tool is used, it is likely to inflict damage to a human body or peripheral equipment, as a retaining ring may be flown out of the tip of a plier. Be much careful with the popping of a retaining ring. Besides, be certain that a retaining ring is placed firmly into the groove of rod cover before supplying air at the time of installment.

3. Do not use an air cylinder as an air-hydro cylinder.

If it uses turbine oil in place of fluids for cylinder, it may result in oil leakage.

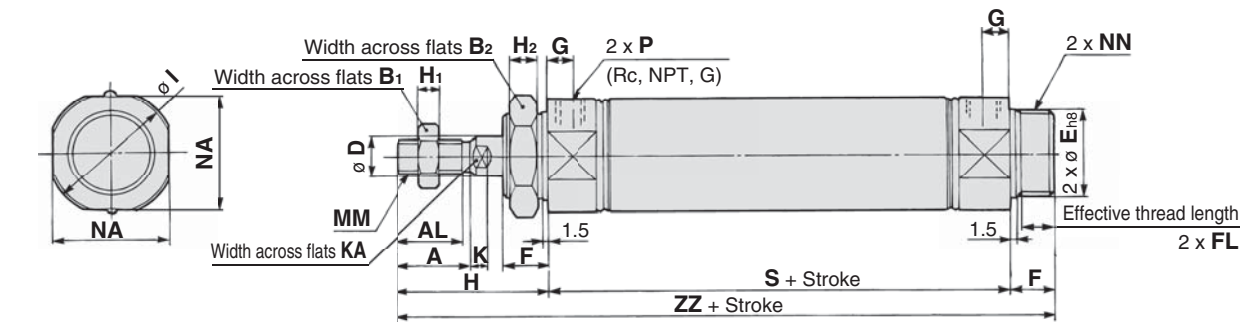
4. The oil stuck to the cylinder is grease.**5. The base oil of grease may seep out.**

The base oil of grease in the cylinder may seep out of the tube, cover, crimped part or rod bushing depending on the operating conditions (ambient temperature 40°C or more, pressurised condition, low frequency operation).

Series CM2Y

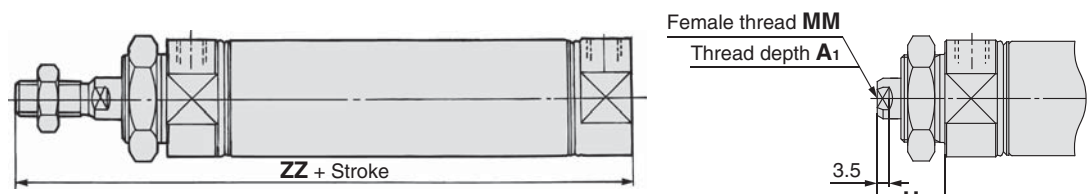
Basic (Double-side Bossed) (B)

CM2YB Bore size – Stroke Z



Boss-cut

Female rod end



Bore size	A	AL	B1	B2	D	E	F	FL	G	H	H1	H2	I	K	KA	MM	NA	NN	P	S	ZZ
20	18	15.5	13	26	8	20 ⁰ _{-0.033}	13	10.5	8	41	5	8	28	5	6	M8 x 1.25	24	M20 x 1.5	1/8	62	116
25	22	19.5	17	32	10	26 ⁰ _{-0.033}	13	10.5	8	45	6	8	33.5	5.5	8	M10 x 1.25	30	M26 x 1.5	1/8	62	120
32	22	19.5	17	32	12	26 ⁰ _{-0.033}	13	10.5	8	45	6	8	37.5	5.5	10	M10 x 1.25	34.5	M26 x 1.5	1/8	64	122
40	24	21	22	41	14	32 ⁰ _{-0.039}	16	13.5	11	50	8	10	46.5	7	12	M14 x 1.5	42.5	M32 x 2	1/4	88	154

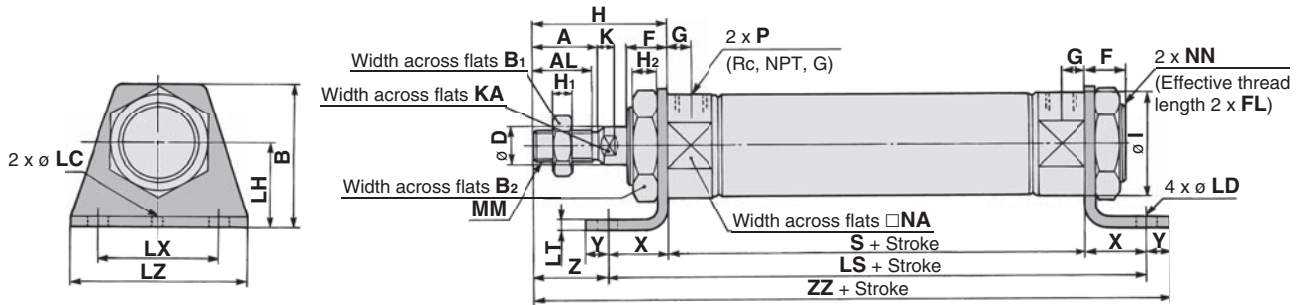
Bore size	ZZ
20	103
25	107
32	109
40	138

Bore size	A1	H	MM	ZZ
20	8	20	M4 x 0.7	95
25	8	20	M5 x 0.8	95
32	12	20	M6 x 1	97
40	13	21	M8 x 1.25	125

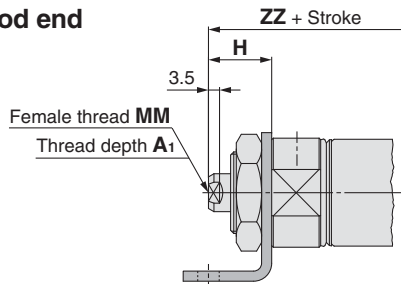
- * When female thread is used, use a thin wrench when tightening the piston rod.
- * When female thread is used, use a washer etc. to prevent the contact part at the rod end from being deformed depending on the material of the workpiece.

Axial Foot (L)

CM2YL Bore size – Stroke Z



Female rod end



Female Rod End

[mm]

Bore size	A1	H	MM	ZZ
20	8	20	M4 x 0.7	110
25	8	20	M5 x 0.8	110
32	12	20	M6 x 1	112
40	13	21	M8 x 1.25	142

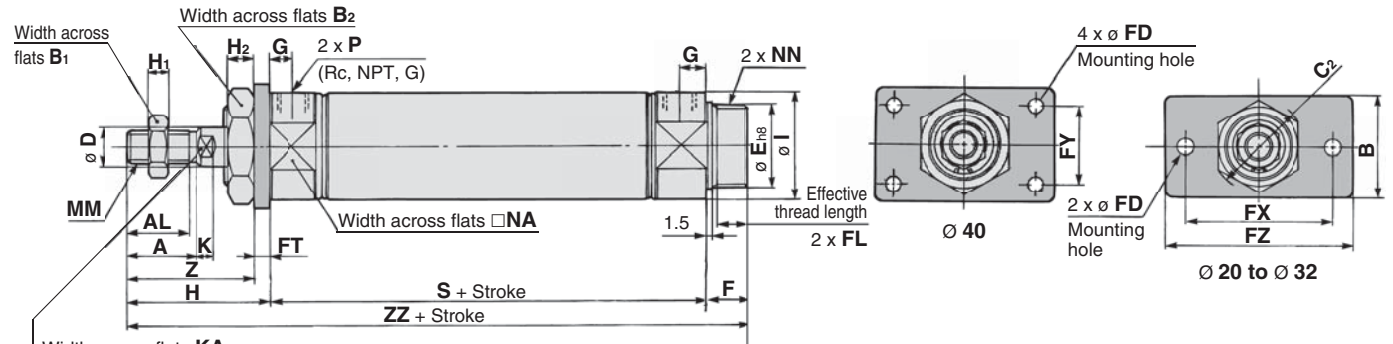
- * When female thread is used, use a thin wrench when tightening the piston rod.
- * When female thread is used, use a washer etc. to prevent the contact part at the rod end from being deformed depending on the material of the workpiece.

* Mounting bracket is shipped together with the product.

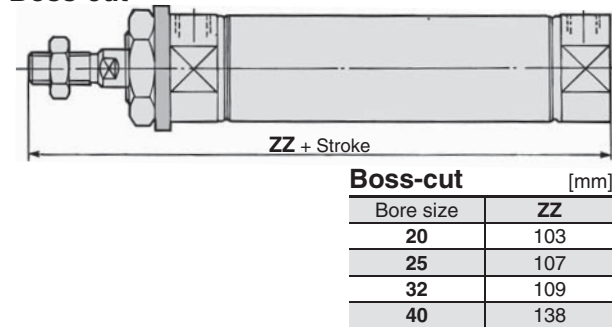
Bore size	A	AL	B	B1	B2	D	F	FL	G	H	H1	H2	I	K	KA	LC	LD	LH	LS	LT	LX	LZ	MM	NA	NN	P	S	X	Y	Z	ZZ
20	18	15.5	40	13	26	8	13	10.5	8	41	5	8	28	5	6	4	6.8	25	102	3.2	40	55	M8 x 1.25	24	M20 x 1.5	1/8	62	20	8	21	131
25	22	19.5	47	17	32	10	13	10.5	8	45	6	8	33.5	5.5	8	4	6.8	28	102	3.2	40	55	M10 x 1.25	30	M26 x 1.5	1/8	62	20	8	25	135
32	22	19.5	47	17	32	12	13	10.5	8	45	6	8	37.5	5.5	10	4	6.8	28	104	3.2	40	55	M10 x 1.25	34.5	M26 x 1.5	1/8	64	20	8	25	137
40	24	21	54	22	41	14	16	13.5	11	50	8	10	46.5	7	12	4	7	30	134	3.2	55	75	M14 x 1.5	42.5	M32 x 2	1/4	88	23	10	27	171

Rod Flange (F)

CM2YF Bore size – Stroke Z



Boss-cut

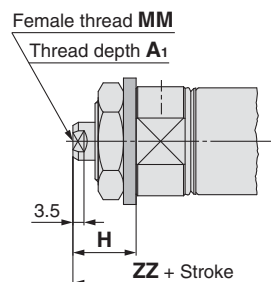


Boss-cut

[mm]

Bore size	ZZ
20	103
25	107
32	109
40	138

Female rod end



Female Rod End

[mm]

Bore size	A1	H	MM	ZZ
20	8	20	M4 x 0.7	95
25	8	20	M5 x 0.8	95
32	12	20	M6 x 1	97
40	13	21	M8 x 1.25	125

- * When female thread is used, use a thin wrench when tightening the piston rod.
- * When female thread is used, use a washer etc. to prevent the contact part at the rod end from being deformed depending on the material of the workpiece.

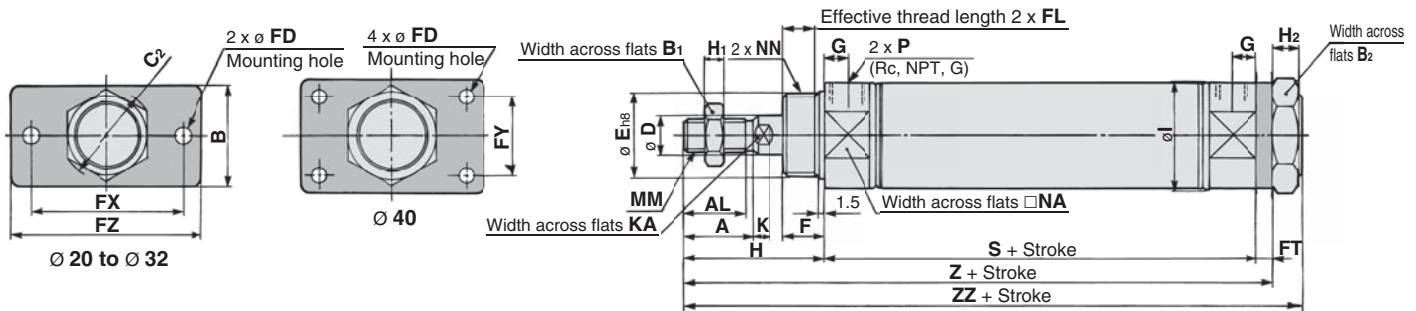
* Mounting bracket is shipped together with the product.

Bore size	A	AL	B	B1	B2	C2	D	E	F	FL	FD	FT	FX	FY	FZ	G	H	H1	H2	I	K	KA	MM	NA	NN	P	S	Z	ZZ
20	18	15.5	34	13	26	30	8	20 ⁰ _{-0.033}	13	10.5	7	4	60	—	75	8	41	5	8	28	5	6	M8 x 1.25	24	M20 x 1.5	1/8	62	37	116
25	22	19.5	40	17	32	37	10	26 ⁰ _{-0.033}	13	10.5	7	4	60	—	75	8	45	6	8	33.5	5.5	8	M10 x 1.25	30	M26 x 1.5	1/8	62	41	120
32	22	19.5	40	17	32	37	12	26 ⁰ _{-0.033}	13	10.5	7	4	60	—	75	8	45	6	8	37.5	5.5	10	M10 x 1.25	34.5	M26 x 1.5	1/8	64	41	122
40	24	21	52	22	41	47.3	14	32 ⁰ _{-0.039}	16	13.5	7	5	66	36	82	11	50	8	10	46.5	7	12	M14 x 1.5	42.5	M32 x 2	1/4	88	45	154

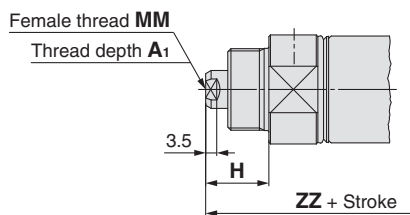
Series CM2Y

Head Flange [g]

CM2YG Bore size – Stroke Z



Female rod end



* Mounting bracket is shipped together with the product.

Bore size	A	AL	B	B ₁	B ₂	C ₂	D	E	F	FL	FD	FT	FX	FY	FZ	G	H	H ₁	H ₂	I
20	18	15.5	34	13	26	30	8	20 ⁰ _{-0.033}	13	10.5	7	4	60	—	75	8	41	5	8	28
25	22	19.5	40	17	32	37	10	26 ⁰ _{-0.033}	13	10.5	7	4	60	—	75	8	45	6	8	33.5
32	22	19.5	40	17	32	37	12	26 ⁰ _{-0.033}	13	10.5	7	4	60	—	75	8	45	6	8	37.5
40	24	21	52	22	41	47.3	14	32 ⁰ _{-0.039}	16	13.5	7	5	66	36	82	11	50	8	10	46.5

Bore size	K	KA	MM	NA	NN	P	S	Z	ZZ
20	5	6	M8 x 1.25	24	M20 x 1.5	1/8	62	107	116
25	5.5	8	M10 x 1.25	30	M26 x 1.5	1/8	62	111	120
32	5.5	10	M10 x 1.25	34.5	M26 x 1.5	1/8	64	113	122
40	7	12	M14 x 1.5	42.5	M32 x 2	1/4	88	143	154

Female Rod End

Bore size	A ₁	H	MM	ZZ
20	8	20	M4 x 0.7	95
25	8	20	M5 x 0.8	95
32	12	20	M6 x 1	97
40	13	21	M8 x 1.25	125

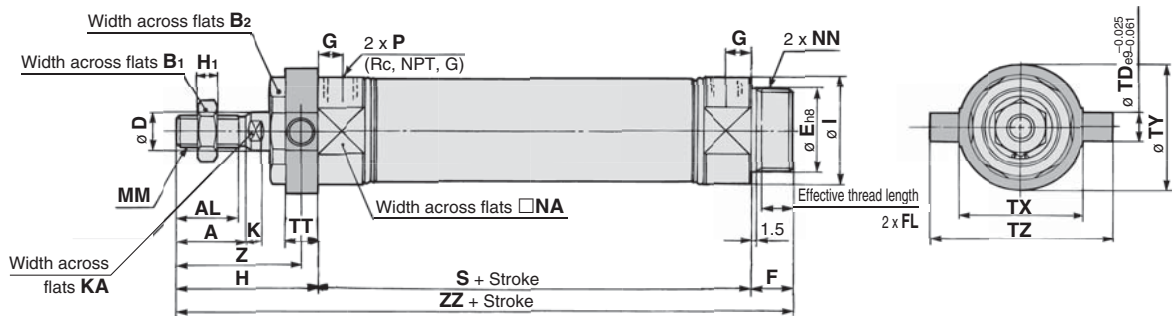
* When female thread is used, use a thin wrench when tightening the piston rod.

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

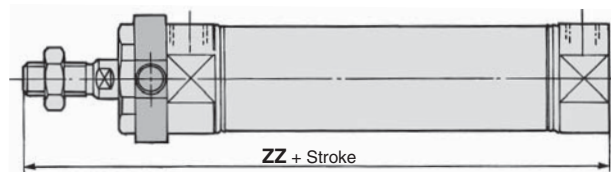
Series CM2Y

Rod Trunnion (U)

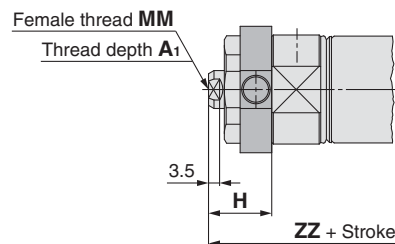
CM2YU Bore size – Stroke Z



Boss-cut



Female rod end



* Mounting bracket is shipped together with the product.

Bore size	A	AL	B ₁	B ₂	D	E	F	FL	G	H	H ₁	I	K	KA	MM	NA	NN	P
20	18	15.5	13	26	8	20 ⁰ _{-0.033}	13	10.5	8	41	5	28	5	6	M8 x 1.25	24	M20 x 1.5	1/8
25	22	19.5	17	32	10	26 ⁰ _{-0.033}	13	10.5	8	45	6	33.5	5.5	8	M10 x 1.25	30	M26 x 1.5	1/8
32	22	19.5	17	32	12	26 ⁰ _{-0.033}	13	10.5	8	45	6	37.5	5.5	10	M10 x 1.25	34.5	M26 x 1.5	1/8
40	24	21	22	41	14	32 ⁰ _{-0.039}	16	13.5	11	50	8	46.5	7	12	M14 x 1.5	42.5	M32 x 2	1/4

Bore size	S	TD	TT	TX	TY	TZ	Z	ZZ
20	62	8	10	32	32	52	36	116
25	62	9	10	40	40	60	40	120
32	64	9	10	40	40	60	40	122
40	88	10	11	53	53	77	44.5	154

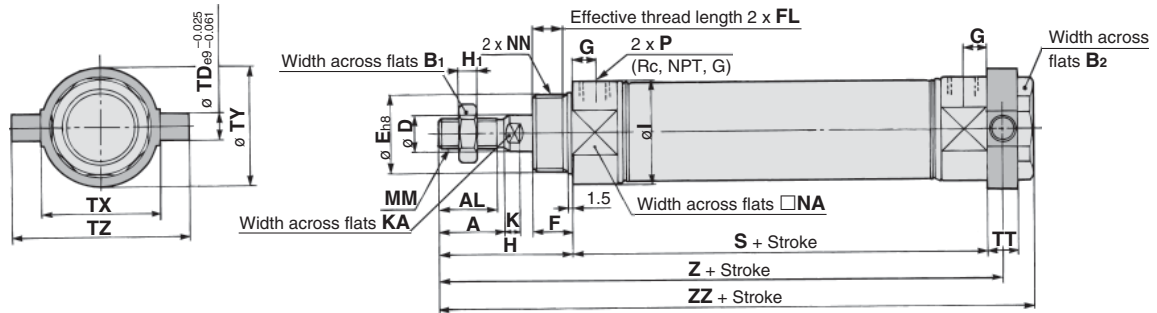
Bore size	ZZ
20	103
25	107
32	109
40	138

Bore size	A ₁	H	MM	ZZ
20	8	20	M4 x 0.7	95
25	8	20	M5 x 0.8	95
32	12	20	M6 x 1	97
40	13	21	M8 x 1.25	125

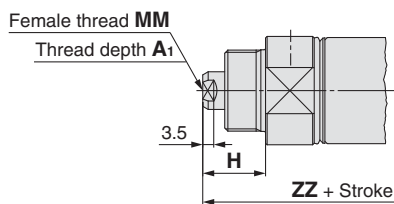
* When female thread is used, use a thin wrench when tightening the piston rod.
 * When female thread is used, use a washer etc. to prevent the contact part at the rod end from being deformed depending on the material of the workpiece.

Head Trunnion (T)

CM2YT Bore size – Stroke Z



Female rod end



* Mounting bracket is shipped together with the product.

Bore size	A	AL	B1	B2	D	E	F	FL	G	H	H1	I	K	KA	MM	NA	NN	P
20	18	15.5	13	26	8	20 ⁰ _{-0.033}	13	10.5	8	41	5	28	5	6	M8 x 1.25	24	M20 x 1.5	1/8
25	22	19.5	17	32	10	26 ⁰ _{-0.033}	13	10.5	8	45	6	33.5	5.5	8	M10 x 1.25	30	M26 x 1.5	1/8
32	22	19.5	17	32	12	26 ⁰ _{-0.033}	13	10.5	8	45	6	37.5	5.5	10	M10 x 1.25	34.5	M26 x 1.5	1/8
40	24	21	22	41	14	32 ⁰ _{-0.039}	16	13.5	11	50	8	46.5	7	12	M14 x 1.5	42.5	M32 x 2	1/4

Bore size	S	TD	TT	TX	TY	TZ	Z	ZZ
20	62	8	10	32	32	52	108	118
25	62	9	10	40	40	60	112	122
32	64	9	10	40	40	60	114	124
40	88	10	11	53	53	77	143.5	154

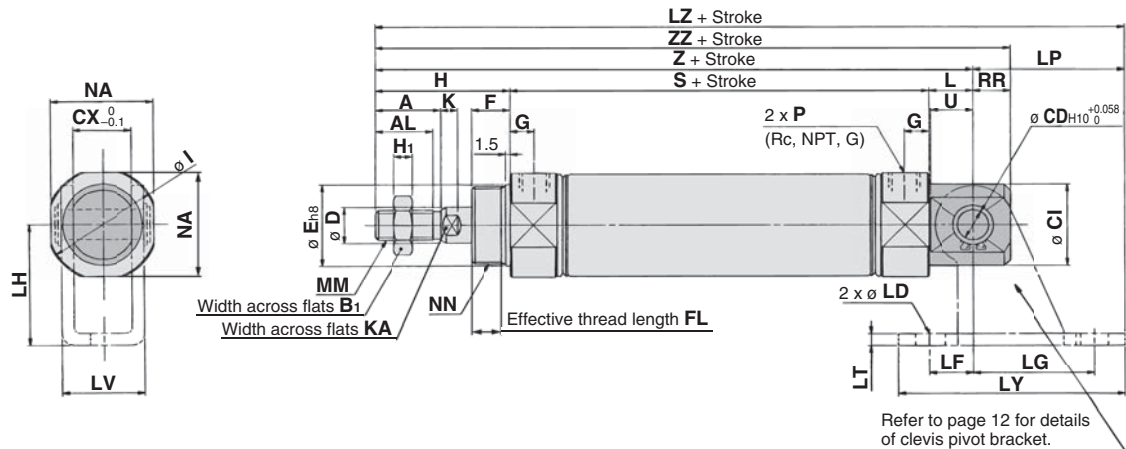
Bore size	A1	H	MM	ZZ
20	8	20	M4 x 0.7	97
25	8	20	M5 x 0.8	97
32	12	20	M6 x 1	99
40	13	21	M8 x 1.25	125

- * When female thread is used, use a thin wrench when tightening the piston rod.
- * When female thread is used, use a washer etc. to prevent the contact part at the rod end from being deformed depending on the material of the workpiece.

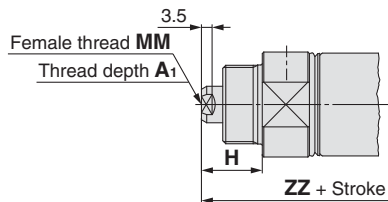
Series CM2Y

Integral Clevis (E)

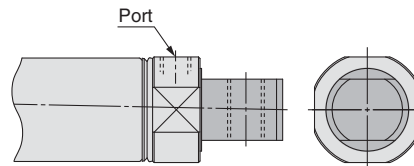
CM2YE Bore size – Stroke Z



Female rod end



Integral clevis (90°) (V)



* The outer dimensions are the same as those for the integral clevis (E).

Bore size	A	AL	B ₁	CD	CI	CX	D	E	F	FL	G	H	H ₁	I	K	KA	L	MM	NA	NN
20	18	15.5	13	8	20	12	8	20 ⁰ _{-0.033}	13	10.5	8	41	5	28	5	6	12	M8 x 1.25	24	M20 x 1.5
25	22	19.5	17	8	22	12	10	26 ⁰ _{-0.033}	13	10.5	8	45	6	33.5	5.5	8	12	M10 x 1.25	30	M26 x 1.5
32	22	19.5	17	10	27	20	12	26 ⁰ _{-0.033}	13	10.5	8	45	6	37.5	5.5	10	15	M10 x 1.25	34.5	M26 x 1.5
40	24	21	22	10	33	20	14	32 ⁰ _{-0.039}	16	13.5	11	50	8	46.5	7	12	15	M14 x 1.5	42.5	M32 x 2

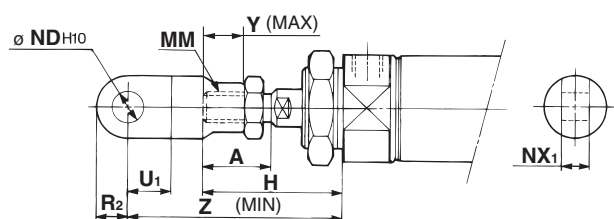
Bore size	P	RR	S	U	Z	ZZ
20	1/8	9	62	11.5	115	124
25	1/8	9	62	11.5	119	128
32	1/8	12	64	14.5	124	136
40	1/4	12	88	14.5	153	165

Bore size	A ₁	H	MM	ZZ
20	8	20	M4 x 0.7	103
25	8	20	M5 x 0.8	103
32	12	20	M6 x 1	111
40	13	21	M8 x 1.25	136

- * When female thread is used, use a thin wrench when tightening the piston rod.
- * When female thread is used, use a washer etc. to prevent the contact part at the rod end from being deformed depending on the material of the workpiece.

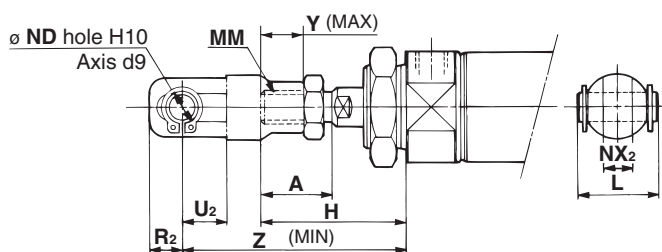
Series CM2Y

With Single Knuckle Joint



[mm]									
Bore size	A	H	MM	ND _{H10}	NX ₁	U ₁	R ₂	Y	Z
20	18	41	M8 x 1.25	9 ^{+0,058} ₀	9 ^{+0,1} _{0,2}	14	10	11	66
25, 32	22	45	M10 x 1.25	9 ^{+0,058} ₀	9 ^{+0,1} _{0,2}	14	10	14	69
40	24	50	M14 x 1.5	12 ^{+0,070} ₀	16 ^{+0,1} _{0,3}	20	14	13	92

With Double Knuckle Joint

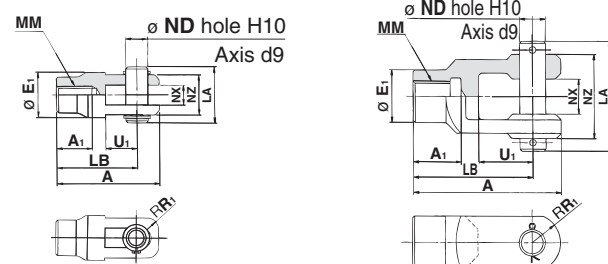


										[mm]
Bore size	A	H	L	MM	ND	NX ₂	R ₂	U ₂	Y	Z
20	18	41	25	M8 x 1.25	9	9 _{+0.2} _{-0.1}	10	14	11	66
25, 32	22	45	25	M10 x 1.25	9	9 _{+0.2} _{-0.1}	10	14	14	69
40	24	50	49.7	M14 x 1.5	12	16 _{+0.3} _{-0.1}	13	25	13	92

Double Knuckle Joint

Y-020B, 032B Material: Carbon steel

Y-040B Material: Cast iron

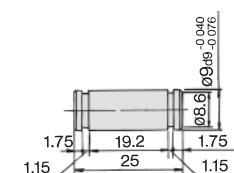


														[mm]
Part no.	Applicable bore size	A	A ₁	E ₁	LA	LB	MM	ND	NX	NZ	R ₁	U ₁	Included pin part number	Retaining ring split pin size
Y-020B	20	46	16	20	25	36	M8 x 1.25	9	9 ^{+0.2} _{+0.1}	18	5	14	CDP-1	Type C 9 for axis
Y-032B	25, 32	48	18	20	25	38	M10 x 1.25	9	9 ^{+0.2} _{+0.1}	18	5	14	CDP-1	Type C 9 for axis
Y-040B	40	68	22	24	49.7	55	M14 x 1.5	12	16 ^{+0.3} _{+0.1}	38	13	25	CDP-3	Ø 3 x 18 L

* A knuckle pin and retaining rings (split pins for Ø 40) are included.

Double Clevis Pin/Material: Carbon steel [mm]

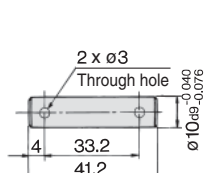
Bore size/Ø 20, Ø 25, Ø 32
CDP-1



Retaining ring: Type C9 for axis

* Retaining rings (split pins for Ø 40) are included.

Bore size/Ø 40
CDP-2

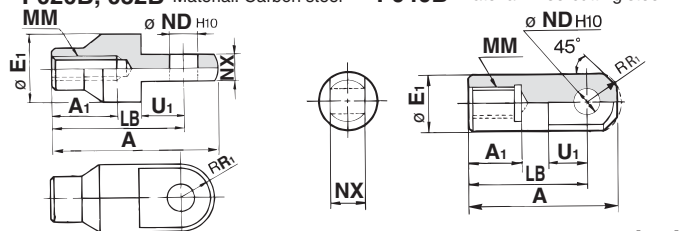


Split pin: Ø 3 x 18 L

Single Knuckle Joint

I-020B, 032B Material: Carbon steel

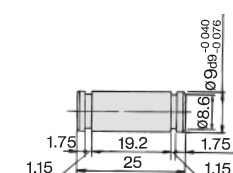
I-040B Material: Free-cutting steel



[mm]										
Part no.	Applicable bore size	A	A ₁	E ₁	LB	MM	ND _{H10}	NX	R ₁	U ₁
I-020B	20	46	16	20	36	M8 x 1.25	9 ^{+0.058} _{-0.2}	9 ^{+0.1} _{-0.2}	10	14
I-032B	25, 32	48	18	20	38	M10 x 1.25	9 ^{+0.058} _{-0.2}	9 ^{+0.1} _{-0.2}	10	14
I-040B	40	69	22	24	55	M14 x 1.5	12 ^{+0.070} _{-0.1}	16 ^{+0.1} _{-0.2}	15.5	20

Double Knuckle Pin/Material: Carbon steel [mm]

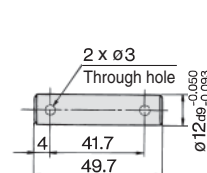
Bore size/Ø 20, Ø 25, Ø 32
CDP-1



Retaining ring: Type C9 for axis

* Retaining rings (split pins for Ø 40) are included.

Bore size/Ø 40
CDP-3

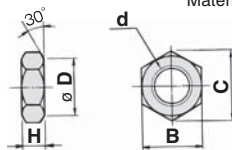


Split pin: Ø 3 x 18 L

Series CM2Y

Rod End Nut

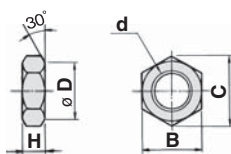
Material: Carbon steel



Part no.	Applicable bore size	B	C	D	d	H
NT-02	20	13	15.0	12.5	M8 x 1.25	5
NT-03	25, 32	17	19.6	16.5	M10 x 1.25	6
NT-04	40	22	25.4	21.0	M14 x 1.5	8

Mounting Nut

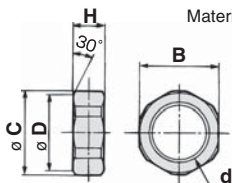
Material: Carbon steel



Part no.	Applicable bore size	B	C	D	d	H
SN-020B	20	26	30	25.5	M20 x 1.5	8
SN-032B	25, 32	32	37	31.5	M26 x 1.5	8
SN-040B	40	41	47.3	40.5	M32 x 2.0	10

Trunnion Nut

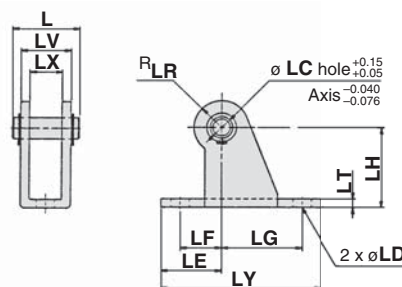
Material: Carbon steel



Part no.	Applicable bore size	B	C	D	d	H
TN-020B	20	26	28	25.5	M20 x 1.5	10
TN-032B	25, 32	32	34	31.5	M26 x 1.5	10
TN-040B	40	41	45	40.5	M32 x 2	10

Clevis Pivot Bracket (For CM2YE(V))

Material: Carbon steel



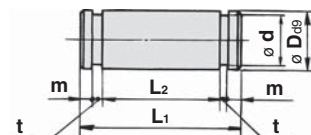
Part no.	Applicable bore size	L	LC	LD	LE	LF	LG	LH	LR	LT	LX	LY	LV	Included pin part no.
CM-E020B	20, 25	24.5	8	6.8	22	15	30	30	10	3.2	12	59	18.4	CD-S02
CM-E032B	32, 40	34	10	9	25	15	40	40	13	4	20	75	28	CD-S03

Note 1) A clevis pivot bracket pin and retaining rings are included.

Note 2) It cannot be used for the single clevis (CM2YC) and the double clevis (CM2YD).

Clevis Pivot Bracket Pin (For CM2YE(V))

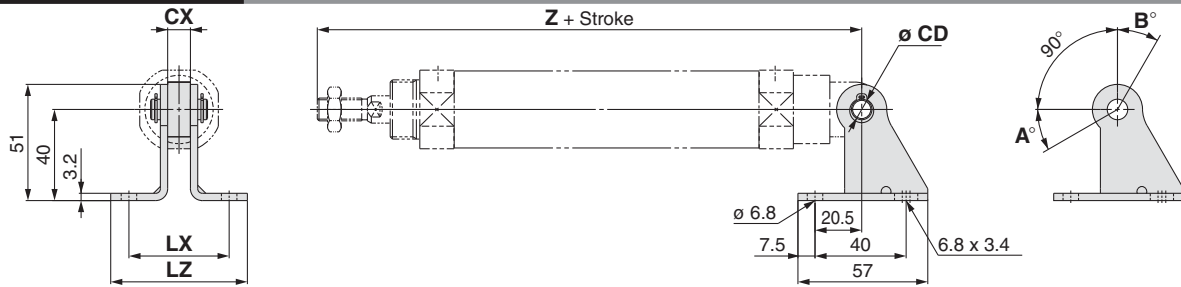
Material: Carbon steel



Part no.	Applicable bore size	D _{d9}	d	L ₁	L ₂	m	t	Included retaining ring
CD-S02	20, 25	8 ^{+0.040} _{-0.076}	7.6	24.5	19.5	1.6	0.9	Type C 8 for axis
CD-S03	32, 40	10 ^{+0.040} _{-0.076}	9.6	34	29	1.35	1.15	Type C 10 for axis

Note) Retaining rings are included.

With Single Clevis



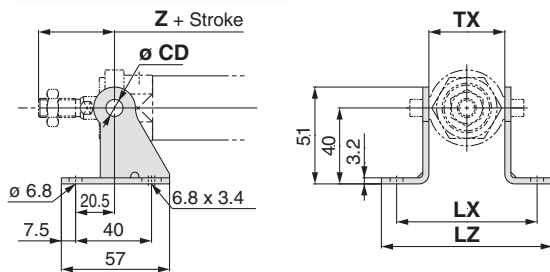
Rotation Angle

Bore size [mm]	A°	B°	A° + B° + 90°
20	25	85	200
25, 32	21	81	192
40	26	86	202

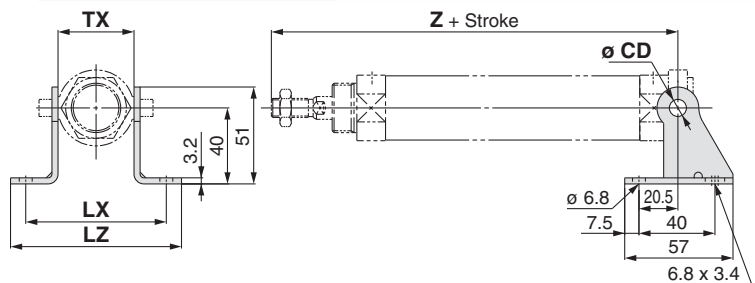
Mounting	Part no.	Applicable bore size	CX	Z + Stroke	CD	LX	LZ
CM2YC (Single clevis)	CM-B032	20	10	133	9	44	60
		25		137			
		32		139			
	CM-B040	40	15	177	10	49	65

Note) A pivot bracket pin and retaining rings are not included with the pivot bracket.

With Rod Trunnion



With Head Trunnion

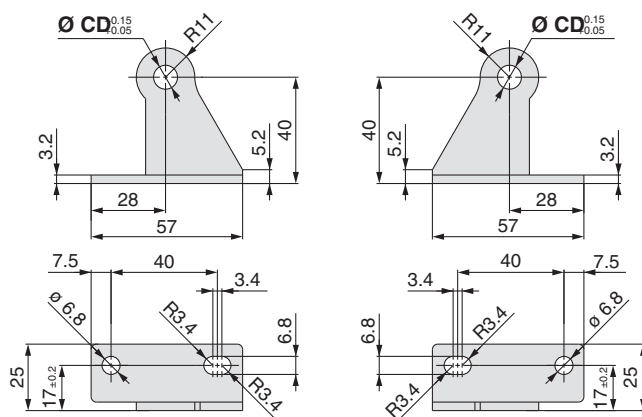


Mounting	Part no.	Applicable bore size	TX	Rod trunnion Z + Stroke	Head trunnion Z + Stroke	CD	LX	LZ
CM2YU/CM2YT (Rod/Head trunnion)	CM-B020	20	32	36	108	8	66	82
	CM-B032	25	40	40	112	9	74	90
		32			114			
	CM-B040	40	53	44.5	143.5	10	87	103

Note) A pivot bracket pin and retaining rings are not included with the pivot bracket.

Pivot Bracket

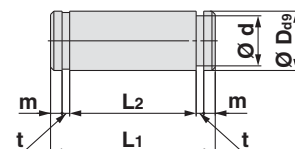
* Pivot brackets consists of a set of two brackets.



Part no.	CD
CM-B020 Note 2)	8
CM-B032	9
CM-B040	10

Note 1) A pivot bracket pin and retaining rings are not included with the pivot bracket.
Note 2) Only for the trunnion

Pivot Bracket Pin (For CM2YC)



Applicable bore size	Part no.	Dd9	d	L1	L2	m	t	Included retaining ring
20 to 32	CDP-1	9 ^{+0.040} _{-0.076}	8.6	25	19.2	1.75	1.15	Type C 9 for axis
40	CD-S03	10 ^{+0.040} _{-0.076}	9.6	34	29	1.35	1.15	Type C 10 for axis

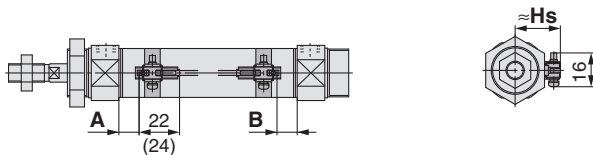
Note) Retaining rings are included with the pivot bracket pin.

Auto Switch Mounting

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

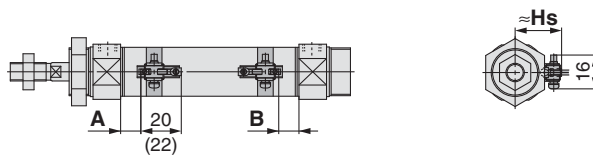
Solid state auto switch

D-M9□
D-M9□W
D-M9□A



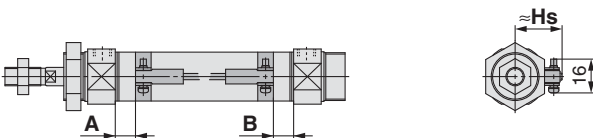
(): Dimension of the D-M9□A
A and B are the dimensions from the end of the head cover/rod cover to the end of the auto switch.

D-M9□V
D-M9□WV
D-M9□AV

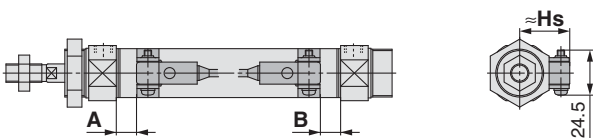


(): Dimension of the D-M9□AV
A and B are the dimensions from the end of the head cover/rod cover to the end of the auto switch.

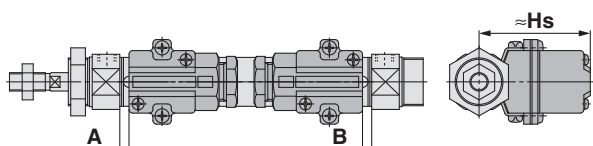
D-H7□/H7□W/H7NF/H7BA/H7C



D-G5NT

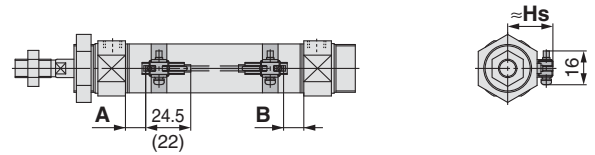


D-G39A/K39A



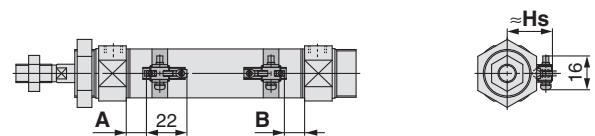
Reed auto switch

D-A9□



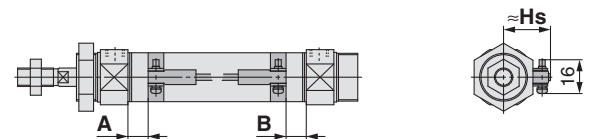
(): Dimension of the D-A96
A and B are the dimensions from the end of the head cover/rod cover to the end of the auto switch.

D-A9□V

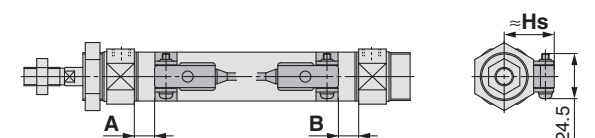


A and B are the dimensions from the end of the head cover/rod cover to the end of the auto switch.

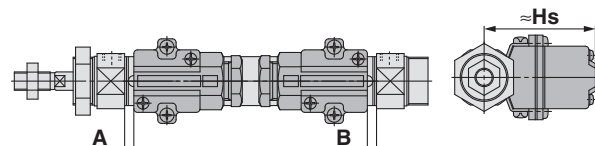
D-C7/C8/C73C/C80C



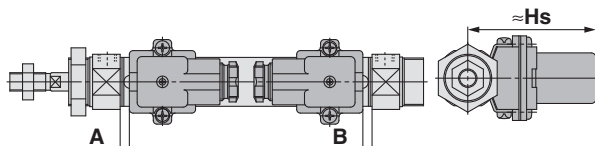
D-B5/B6/B59W



D-A33A/A34A



D-A44A



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

Auto Switch Proper Mounting Position

[mm]

Auto switch model	D-M9□(V) D-M9□W(V) D-M9□A(V)		D-A9□(V)		D-B5□ D-B64		D-C7□ D-C80 D-C73C D-C80C		D-B59W		D-A3□A D-G39A D-K39A D-A44A		D-H7□ D-H7C D-H7□W D-H7NF		D-G5NT	
Bore size	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
20	10.5	9.5	6.5	5.5	1	0	7	6	4	3	0.5	0	6	5	2.5	1.5
25	10.5	9.5	6.5	5.5	1	0	7	6	4	3	0.5	0	6	5	2.5	1.5
32	11.5	10.5	7.5	6.5	2	1	8	7	5	4	1.5	0.5	7	6	3.5	2.5
40	17.5	15.5	13.5	11.5	7	6	13	12	10	9	6.5	5.5	12	11	8.5	7.5

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

Auto Switch Mounting Height

[mm]

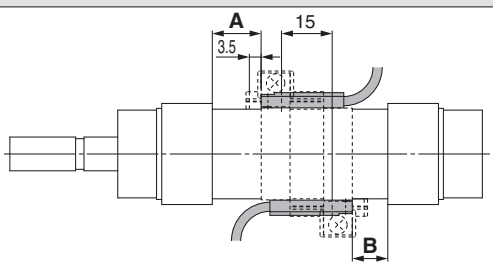
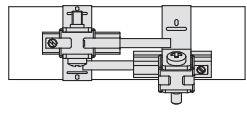
Auto switch model	D-M9□V D-M9□WV D-M9□AV D-A9□V	D-B5□ D-B64 D-B59W D-G5NT D-H7C	D-M9□ D-M9□W D-M9□A D-A9□ D-C7□ D-C80 D-H7□ D-H7□W D-H7NF	D-C73C D-C80C	D-A3□A D-G39A D-K39A	D-A44A
Bore size	Hs	Hs	Hs	Hs	Hs	Hs
20	23.5	25.5	22.5	25	60	69.5
25	26	28	25	27.5	62.5	72
32	29.5	31.5	28.5	31	66	75.5
40	33.5	35.5	32.5	35	70	79.5

Minimum Stroke for Auto Switch Mounting

Auto switch model	Number of auto switches				
	With 1 pc.	With 2 pcs.		With n pcs. (n: Number of auto switches)	
		Different surfaces	Same surface	Different surfaces	Same surface
D-M9□	5	15 Note 1)	40 Note 1)	$20 + 35 \frac{(n-2)}{2}$ (n = 2, 4, 6...) ^{Note 3)}	$55 + 35 (n-2)$ (n = 2, 3, 4, 5...)
D-M9□W	10	15 Note 1)	40 Note 1)	$20 + 35 \frac{(n-2)}{2}$ (n = 2, 4, 6...) ^{Note 3)}	$55 + 35 (n-2)$ (n = 2, 3, 4, 5...)
D-M9□A	10	25	40 Note 1)	$25 + 35 \frac{(n-2)}{2}$ (n = 2, 4, 6...) ^{Note 3)}	$60 + 35 (n-2)$ (n = 2, 3, 4, 5...)
D-A9□	5	15	30	$15 + 35 \frac{(n-2)}{2}$ (n = 2, 4, 6...) ^{Note 3)}	$50 + 35 (n-2)$ (n = 2, 3, 4, 5...)
D-M9□V	5	20	35	$20 + 35 \frac{(n-2)}{2}$ (n = 2, 4, 6...) ^{Note 3)}	$35 + 35 (n-2)$ (n = 2, 3, 4, 5...)
D-A9□V	5	15	25	$15 + 35 \frac{(n-2)}{2}$ (n = 2, 4, 6...) ^{Note 3)}	$25 + 35 (n-2)$ (n = 2, 3, 4, 5...)
D-M9□WV D-M9□AV	10	20	35	$20 + 35 \frac{(n-2)}{2}$ (n = 2, 4, 6...) ^{Note 3)}	$35 + 35 (n-2)$ (n = 2, 3, 4, 5...)
D-C7□ D-C80	10	15	50	$15 + 45 \frac{(n-2)}{2}$ (n = 2, 4, 6...) ^{Note 3)}	$50 + 45 (n-2)$ (n = 2, 3, 4, 5...)
D-H7□ D-H7□W D-H7NF	10	15	60	$15 + 45 \frac{(n-2)}{2}$ (n = 2, 4, 6...) ^{Note 3)}	$60 + 45 (n-2)$ (n = 2, 3, 4, 5...)
D-C73C D-C80C D-H7C	10	15	65	$15 + 50 \frac{(n-2)}{2}$ (n = 2, 4, 6...) ^{Note 3)}	$65 + 50 (n-2)$ (n = 2, 3, 4, 5...)
D-B5□/B64 D-G5NT	10	15	75	$15 + 50 \frac{(n-2)}{2}$ (n = 2, 4, 6...) ^{Note 3)}	$75 + 55 (n-2)$ (n = 2, 3, 4, 5...)
D-B59W	15	20	75	$20 + 50 \frac{(n-2)}{2}$ (n = 2, 4, 6...) ^{Note 3)}	$75 + 55 (n-2)$ (n = 2, 3, 4, 5...)
D-A3□A/G39A D-K39A/A44A	10	35	100	$35 + 30 (n-2)$ (n = 2, 3, 4, 5...)	$100 + 100 (n-2)$ (n = 2, 3, 4, 5...)

Note 3) When "n" is an odd number, an even number that is one larger than this odd number is used for the calculation.

Note 1) Auto switch mounting

Auto switch model	With 2 auto switches	
	Different surfaces	Same surface
	 <p>The proper auto switch mounting position is 3.5 mm inward from the switch holder edge.</p>	 <p>The auto switch is mounted by slightly displacing it in a direction (cylinder tube circumferential exterior) so that the auto switch and lead wire do not interfere with each other.</p>
D-M9□ D-M9□W	Less than 20 stroke Note 2)	Less than 55 stroke Note 2)
D-M9□A	Less than 25 stroke Note 2)	Less than 60 stroke Note 2)
D-A9□	—	Less than 50 stroke Note 2)

Note 2) Minimum stroke for auto switch mounting in styles other than those in Note 1.

Operating Range

Auto switch model	Bore size [mm]			
	20	25	32	40
D-M9□(V) D-M9□W(V) D-M9□A(V)	3.5	3	3.5	3
D-A9□(V)	6	6	6	6
D-C7□/C80 D-C73C/C80C	7	8	8	8
D-B5□/B64 D-A3□A/A44A	8	8	9	9

Auto switch model	Bore size [mm]			
	20	25	32	40
D-B59W	12	12	13	13
D-H7□/H7□W D-G5NT/H7NF	4	4	4.5	5
D-H7C	7	8.5	9	10
D-G39A/K39A	8	9	9	9

* Values which include hysteresis are for guideline purposes only, they are not a guarantee (assuming approximately ±30 % dispersion) and may change substantially depending on the ambient environment.
Note) The D-A9□ and D-A9□V cannot be mounted on Ø 50.

Auto Switch Mounting Brackets/Part No.

Auto switch model	Bore size [mm]			
	Ø 20	Ø 25	Ø 32	Ø 40
D-M9□(V) D-M9□W(V) D-A9□(V)	BM5-020 (A set of a, b, c, d)	BM5-025 (A set of a, b, c, d)	BM5-032 (A set of a, b, c, d)	BM5-040 (A set of a, b, c, d)
D-M9□A(V)	BM5-020S (A set of b, c, d, e)	BM5-025S (A set of b, c, d, e)	BM5-032S (A set of b, c, d, e)	BM5-040S (A set of b, c, d, e)

D-C7□/C80 D-C73C/C80C D-H7□ D-H7□W D-H7NF	BM2-020A (A set of band and screw)	BM2-025A (A set of band and screw)	BM2-032A (A set of band and screw)	BM2-040A (A set of band and screw)
D-H7BA	BM2-020AS (A set of band and screw)	BM2-025AS (A set of band and screw)	BM2-032AS (A set of band and screw)	BM2-040AS (A set of band and screw)
D-B5□/B64 D-B59W D-G5NT D-G5NB	BA2-020 (A set of band and screw)	BA2-025 (A set of band and screw)	BA2-032 (A set of band and screw)	BA2-040 (A set of band and screw)
D-A3□A/A44A Note 3) D-G39A/K39A	BM3-020 (A set of band and screw)	BM3-025 (A set of band and screw)	BM3-032 (A set of band and screw)	BM3-040 (A set of band and screw)

Note 1) Since the switch bracket (made from nylon) are affected in an environment where alcohol, chloroform, methylamines, hydrochloric acid or sulfuric acid is splashed over, so it cannot be used. Please contact SMC regarding other chemicals.

Note 2) Avoid the indicator LED for mounting the switch bracket. As the indicator LED is projected from the switch unit, indicator LED may be damaged if the switch bracket is fixed on the indicator LED.

Note 3) The D-A3□A/A44A/G39A/K39A cannot be mounted on the CDM2□P series centralised piping type.

Band Mounting Brackets Set Part No.

Set part no.	Contents
BM2-□□□A(S) * S: Stainless steel screw	<ul style="list-style-type: none"> • Auto switch mounting band (c) • Auto switch mounting screw (d)
BJ4-1	<ul style="list-style-type: none"> • Switch bracket (White/PBT) (e) • Switch holder (b)
BJ5-1	<ul style="list-style-type: none"> • Switch bracket (Transparent/Nylon) (a) • Switch holder (b)

Other than the applicable auto switches listed in “How to Order”, the following auto switches are mountable.

Refer to **the Auto Switch Guide** for the detailed specifications.

Type	Model	Electrical entry	Features
Solid state	D-H7A1/H7A2/H7B	Grommet (In-line)	—
	D-H7NW/H7PW/H7BW		Diagnostic indication (2-colour indication)
	D-H7BA		Water resistant (2-colour indication)
	D-G5NT		With timer
Reed	D-B53/C73/C76		—
	D-C80		Without indicator light

* With pre-wired connector is also available for solid state auto switches. For details, refer to **the Auto Switch Guide**.

* Normally closed (NC = b contact) solid state auto switches (D-F9G/F9H) are also available. For details, refer to **the Auto Switch Guide**.

* Wide range detection type, solid state auto switch (D-G5NB) is also available. For details, refer to **the Auto Switch Guide**.



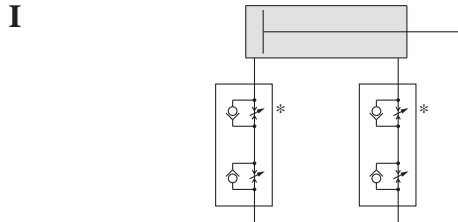
Smooth Cylinders/Low Speed Cylinders Specific Product Precautions 1

Be sure to read before handling. Refer to back cover for Safety Instructions. For Actuator and Auto Switch Precautions, refer to “Handling Precautions for SMC Products” and the Operation Manual on SMC website, <http://www.smcworld.com>

Recommended Pneumatic Circuit

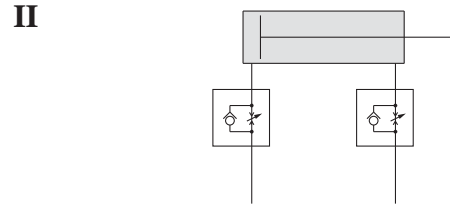
Warning

Horizontal Operation



Dual speed controller

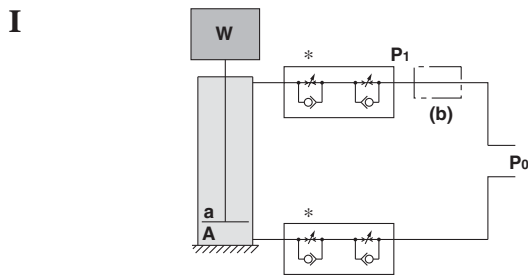
Speed is controlled by meter-out circuit. Using concurrently the meter-in circuit can alleviate the stick-slip. More stable low speed operation can be achieved than meter-in circuit alone.



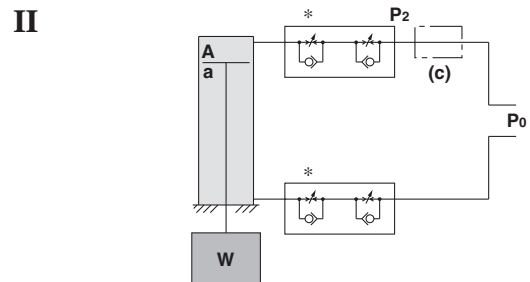
Meter-in speed controller

Meter-in speed controllers can reduce lurching while controlling the speed. The two adjustment needles facilitate adjustment.

Vertical Operation



- (1) Speed is controlled by meter-out circuit. Using concurrently the meter-in circuit can alleviate the stick-slip.*
- (2) Depending on the size of the load, installing a regulator with check valve at position **(b)** can reduce lurching during descent and operation delay during ascent.
As a guide,
when $W + P_0a > P_0A$,
adjust P_1 to make $W + P_1a = P_0A$.



- (1) Speed is controlled by meter-out circuit. Using concurrently the meter-in circuit can alleviate the stick-slip.*
- (2) Installing a regulator with check valve at position **(c)** can reduce lurching during descent and operation delay during ascent.
As a guide,
adjust P_2 to make $W + P_2A = P_0a$.

W : Load [N] P_0 : Operating pressure [MPa] P_1, P_2 : Reduced pressure [MPa] a : Rod side piston area [mm²] A : Head side piston area [mm²]



Smooth Cylinders/Low Speed Cylinders Specific Product Precautions 2

Be sure to read before handling. Refer to back cover for Safety Instructions. For Actuator and Auto Switch Precautions, refer to “Handling Precautions for SMC Products” and the Operation Manual on SMC website, <http://www.smcworld.com>

Design

⚠ Caution

- 1. Provide a construction that does not apply a lateral load to the cylinder.**
Applying a lateral load to the cylinder may cause a malfunction.
(Only for low speed cylinders)
- 2. Design the system to prevent vibration from being applied to the cylinder.**
A malfunction may occur due to the vibration.
- 3. Avoid using a guide with obvious variations in operating resistance.**
Operation may become unstable when using a guide that manifests variations in operating resistance, or when the external load changes.
- 4. Avoid a system structure in which the mounting orientation changes.**
Operation may become unstable if the mounting orientation changes.
- 5. Avoid operation where the temperature fluctuates greatly. Also, when using at low temperatures, make sure that frost does not form inside the cylinder and on the piston rod.**
Operation may become unstable.
- 6. Do not use the product at a high frequency.**
Use it at 30 cpm or less as a guideline.
- 7. Adjust the speed in accordance with the operating environment.**
When the operating environment changes, the speed adjustment will be off unless it is reset to reflect operation in the new environment.
- 8. For cylinders with long strokes, sliding resistance will increase due to the deflection of the piston rod and other factors. Take measures such as the installation of a guide. (Only for smooth cylinders)**
- 9. Do not apply excessive lateral load to the piston rod. (Only for smooth cylinders)** ^{Note 1)}
Note 1) Easy checking method
Minimum operating pressure after the cylinder is mounted to the equipment [MPa] = Minimum operating pressure of cylinder [MPa] + {Load weight [kg] x Friction coefficient of guide/Sectional area of cylinder [mm²]}
If smooth operation is confirmed within the above value, the load on the cylinder is the resistance of the thrust only and it can be judged as having no lateral load.

Pneumatic Circuit

⚠ Caution

- 1. The piping length between the speed controller and the cylinder port must be kept as short as possible.**
If the speed controller and the cylinder port are far apart, speed adjustment may be unstable.
- 2. Use a speed controller for low speed operation to easily adjust for low speed operation or a dual speed controller (Series ASD) to prevent cylinders from popping out.**
(When the speed controller for low speed operation is used, the maximum speed may be limited.)
Refer to “Recommended Pneumatic Circuit” on page 18.

Mounting

⚠ Caution

- 1. Do not apply a lateral load to the piston rod.**
Applying a lateral load to the piston rod may cause a malfunction. (Only for low speed cylinders)
- 2. Do not apply excessive lateral load to the piston rod. (Only for smooth cylinders)** ^{Note 1)}
Note 1) Easy checking method
Minimum operating pressure after the cylinder is mounted to the equipment [MPa] = Minimum operating pressure of cylinder [MPa] + {Load weight [kg] x Friction coefficient of guide/Sectional area of cylinder [mm²]}
If smooth operation is confirmed within the above value, the load on the cylinder is the resistance of the thrust only and it can be judged as having no lateral load.

Lubrication

⚠ Caution

- 1. Operate without lubrication from a pneumatic system lubricator.**
A malfunction may occur when lubricated in this fashion.
- 2. Only use the grease recommended by SMC.**
The low speed cylinder and the low speed cylinder with clean room specifications use different types of grease. The use of grease other than the specified type can cause a malfunction and particulate generation.
 - Order using the following part numbers when only maintenance grease is needed.

Volume	Part no.
5 g	GR-L-005
10 g	GR-L-010
150 g	GR-L-150
- 3. Do not wipe out the grease in the sliding part of the air cylinder.**
Doing so may cause a malfunction.

Air Supply

⚠ Caution

- 1. Take measures to prevent pressure fluctuation.**
A malfunction may occur with the fluctuation of pressure.