

Made to Order Common Specifications



Made to Order Common Specifications.....P.5.4-1

	Page
①- XA0 to A30 Change of rod end shape	5.4- 8
②- XB5 Oversized rod cylinder	5.4-11
③- XB6 Heat resistant cylinder (150°C)	5.4-12
④- XB7 Cold resistant cylinder	5.4-13
⑤- XB9 Low speed cylinder	5.4-14
⑥- XB10 Intermediate stroke (Exclusive body use)	5.4-15
⑦- XB11 Long stroke	5.4-18
⑧- XB12 External stainless steel cylinder	5.4-21
⑨- XB13 Low speed cylinder (5 to 50mm/s)	5.4-22
⑩- XC3 Special port position	5.4-23
⑪- XC4 With heavy duty scraper	5.4-25
⑫- XC5 Heat resistant cylinder (110°C)	5.4-28
⑬- XC6 Piston rod and rod end nut made of stainless steel	5.4-28
⑭- XC7 Tie rod, cushion valve, tie rod nut, etc. made of stainless steel	5.4-29
⑮- XC8 Adjustable stroke cylinder/Adjustable extend stroke	5.4-30
⑯- XC9 Adjustable stroke cylinder/Adjustable retract stroke	5.4-36
⑰- XC10 Dual stroke cylinder/Double rod	5.4-41
⑱- XC11 Dual stroke cylinder/Single rod	5.4-46
⑲- XC12 Tandem cylinder	5.4-52
⑳- XC13 Auto switch rail mounting	5.4-54
㉑- XC14 Change of trunnion bracket mounting position	5.4-55
㉒- XC15 Change of tie rod length	5.4-57
㉓- XC17 Pin cylinder with rod quenched	5.4-57
㉔- XC18 NPT port	5.4-58
㉕- XC20 Head cover axial port	5.4-61
㉖- XC22 Fluorine rubber seals	5.4-62
㉗- XC24 With magnet shielding plate	5.4-63
㉘- XC25 No fixed throttle of connecting port	5.4-64
㉙- XC27 Double clevis pin made of stainless steel (SUS304)	5.4-64
㉚- XC28 Compact flange made of SS400	5.4-65
㉛- XC29 Double knuckle joint with spring pin	5.4-66
㉜- XC30 Front trunnion	5.4-67
㉝- XC34 Rod does not extend beyond non-rotating plate	5.4-69
㉞- XC35 With coil scraper	5.4-70
㉟- XC36 With front guide boss	5.4-72
㊱- XC37 Larger throttle diameter of connecting port	5.4-72
㊲- XC38 Vacuum (Rod through hole)	5.7-74
㊳- XC42 Built-in rear shock absorber	5.4-74
㊴- XC51 With hose nipple	5.4-75
㊵- XC52 Mounting nut with set screw	5.4-75
㊶- XC56 With knock pin hole	5.4-76
㊷- XC57 Rodless cylinder with floating joint	5.4-77

Made to Order Individual Specifications.....P.5.4-79

Refer to p.5.4-79 to 5.4-108 for made to order individual specifications except the above.

Precautions

Be sure to read before handling.
Refer to p.0-39 to 0-46 for Safety Instructions and common precautions.

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Technical
Data

Made to Order Common Specifications Standard Air Cylinder



Contact SMC for the detailed specifications, delivery and prices.

Standard Air Cylinder/Made to Order Common Specifications

Spec.	No.	Symbol	Specifications/Descriptions	Standard air cylinder							Page
				CJP	CJ2	CM2	CG1	MB	CA1	CS1	
Made to order common specifications	①	-XA0 to A30	Change of rod end shape								5.4- 8
	②	-XB5	Oversized rod cylinder								5.4-11
	③	-XB6	Heat resistant cylinder (150°C)	(1)	(2)						5.4-12
	④	-XB7	Cold resistant cylinder	(3)	(2)						5.4-13
	⑤	-XB9	Low speed cylinder (10 to 50 mm/s)	(1)	(1)						5.4-14
	⑥	-XB10	Intermediate stroke (Exclusive body use)								5.4-15
	⑦	-XB11	Long stroke								5.4-18
	⑧	-XB12	External stainless steel								5.4-21
	⑨	-XB13	Low speed cylinder (5 to 50 mm/s)		(1)						5.4-22
	⑩	-XC3	Special port position		(1)						5.4-23
	⑪	-XC4	With heavy duty scraper								5.4-25
	⑫	-XC5	Heat resistant cylinder (110°C)								5.4-28
	⑬	-XC6	Piston rod and rod end nut made of stainless steel								5.4-28
	⑭	-XC7	Tie rod, cushion valve, tie rod nut, etc. made of stainless steel								5.4-29
	⑮	-XC8	Adjustable stroke cylinder/Adjustable extend stroke								5.4-30
	⑯	-XC9	Adjustable stroke cylinder/Adjustable retract stroke								5.4-36
	⑰	-XC10	Dual stroke cylinder/Double rod								5.4-41
	⑱	-XC11	Dual stroke cylinder/Single rod								5.4-46
	⑲	-XC12	Tandem cylinder								5.4-52
	⑳	-XC13	Auto switch rail mounting								5.4-54
	㉑	-XC14	Change of trunnion bracket mounting position								5.4-55
	㉒	-XC15	Change of tie rod length								5.4-57
	㉓	-XC17	Pin cylinder with rod quenched	(3)							5.4-57
	㉔	-XC18	NPT port								5.4-58
	㉕	-XC20	Head cover axial port								5.4-61
	㉖	-XC22	Fluorine rubber seals								5.4-62
	㉗	-XC24	With magnet shielding plate								5.4-63
	㉘	-XC25	No fixed throttle of connecting port								5.4-64
	㉙	-XC27	Double clevis pin and double knuckle pin made of stainless steel								5.4-64
	㉚	-XC28	Compact flange made of SS400								5.4-65
	㉛	-XC29	Double knuckle joint with spring pin								5.4-66
	㉜	-XC30	Front trunnion								5.4-67
	㉝	-XC34	Rod does not extend beyond non-rotating plate								5.4-69
	㉞	-XC35	With coil scraper								5.4-70
	㉟	-XC36	With front guide boss								5.4-72
	㊱	-XC37	Larger throttle diameter of connecting port								5.4-72
	㊲	-XC38	Vacuum (Rod through hole)								5.4-74
	㊳	-XC42	Built-in rear shock absorber								5.4-74
	㊴	-XC51	With hose nipple								5.4-75
	㊵	-XC52	Mounting nut with set screw								5.4-75
	㊶	-XC56	With knock pin hole								5.4-76
	㊷	-XC57	Rodless cylinder with floating joint								5.4-77

* Except air-hydro style for each cylinder

Note 1) Only double acting

Note 2) Only double acting (without switch)

Note 3) Only single acting

Made to Order Individual Specifications

Refer to p.5.4-79 to 5.4-108 for made to order individual specifications.

Made to Order Common Specifications

-XB6: Heat Resistant Cylinder (150°C)



3 Heat Resistant Cylinder (150°C)			Symbol				
			-XB6				
CJ2	Standard model no.→Details on p.1.3-2	—XB6	CQ2	Standard model no.→Details on p.2.3-2	—XB6		
CJP	Standard model no.→Details on p.1.2-2	—XB6	CQS	Standard model no.→Details on p.2.2-2	—XB6		
CM2	Mounting	Bore size	Stroke	—XB6	CU	Standard model no.→Details on p.2.1-4 and 2.1-24	—XB6
CG1	Standard model no.→Details on p.1.6-2, 1.6-14 and 1.6-35	—XB6	MGQ	Standard model no.→Details on p.3.18-2	—XB6		
MB	Standard model no.→Details on p.1.7-6	—XB6	MGG	Standard model no.→Details on p.3.19-6	—XB6		
CA1	Standard model no.→Details on p.1.9-2	—XB6	MGC	Standard model no.→Details on p.3.20-2	—XB6		
CS1	Standard model no.→Details on p.1.10-2	—XB6	MGP	Standard model no.→Details on p.3.17-4	—XB6		
CBM2	Standard model no.→Details on p.3.4-4	—XB6	CY1B	Standard model no.→Details on p.3.22-4	—XB6		
CBA1	Standard model no.→Details on p.3.4-12	—XB6	MK	Standard model no.→Details on p.4.1-4	—XB6		
Heat resistant cylinder ●			Heat resistant cylinder ●				

An air cylinder in which the materials of the seals and the grease have been changed so that the cylinder can be operated at high ambient temperatures of up to 150°C.

Note 1) Make sure to use without lubrication.

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

Note 3) It is not possible to manufacture this cylinder with an auto switch.

Warning Precaution

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.

Specifications

Applicable cylinder	Air cylinder/Standard							Compact cylinder	
	CJ2	CJP	CM2	CG1	MB	CA1□N	CS1□N	CQS	CQ2
Series	CJ2, CJ2W	CJP	CM2, CM2W CM2R, CM2K, CM2RK	CG1, CG1R CG1W ⁽³⁾	MB, MBW	CA1, CA1W	CS1, CS1W	CQS, CQSW	CQ2, CQ2W
Action	Double acting single rod/double rod								
Bore size (mm)	6, 10, 16	6, 10, 15	20, 25, 32, 40	20, 25, 32, 40, 50, 63	32, 40, 50, 63, 80, 100	40, 50, 63, 80, 100	125, 140, 160, 180, 200	12, 16, 20, 25	12, 16, 20, 25, 32, 40, 50, 63, 80, 100
Range of ambient temp.	-10°C to +150°C (CS1: 0°C to +150°C)								
Packing material	Fluorine rubber								
Grease	Heat resistant grease								
Additional specifications and dimensions, refer to	p.1.3-3 to -19	p.1.2-2 to -7	p.1.4-4 to -31, 1.4-51 to -77	p.1.6-3 to -19, 1.6-36 to -38	p.1.7-7 to -13, 1.7-17 to -19	p.1.9-3 to -13, 1.9-17 to -21	p.1.10-3 to -6, 1.10-22 to -29	p.2.2-3 to -15	p.2.3-3 to -11, 2.3-23 to -25

Specifications

Applicable cylinder	End lock cylinder		Free mount cylinder	Guide cylinder					Rotary clamp cylinder	Rodless cylinder
	CBM2	CBA1	CU	MGQ	MGG	MGC	MGP	MK	CY1	
Series	CBM2	CBA1□N	CU, CUK	MGQM	MGQL	MGG	MGC	MGPM	MK	CY1B (4)
Action	Double acting		Double acting single rod	Double acting						
Bore size (mm)	20, 25, 32, 40	40, 50, 63, 80, 100	6, 10, 16, 20, 25, 32	12, 16, 20, 25, 32, 40, 50, 63, 80, 100	32, 40, 50, 63, 80, 100	20, 25, 32, 40, 50		12, 16, 20, 25, 32, 40, 50, 63, 80, 100	12, 16, 20, 25, 32, 40, 50, 63	6, 10, 15, 20, 25, 32, 40, 50, 63
Range of ambient temp.	-10°C to +150°C									
Packing material	Fluorine rubber									
Grease	Heat resistant grease									
Additional specifications and dimensions, refer to	p.3.4-5 to -10	p.3.4-13 to -19	p.2.1-5 to -7, 2.1-25 to -27	p.3.18-3 to -10		p.3.19-7 to -25	p.3.20-3 to -12	p.3.17-5 to -27	p.4.1-5 to -11	p.3.22-5 to -11



Note 1) Speed 50 to 500mm/s N: No cushion (Series CG1) Contact SMC for series CQ2/MGQ with rubber cushion.

Note 2) Shock absorber and rubber cushion of series MGG are not available.

Note 3) Series CG1: In case of speed 50 to 500mm/s and no cushion.

Note 4) Contact SMC for ambient temperature of series CY1B since magnetic holding force changes under operating conditions.

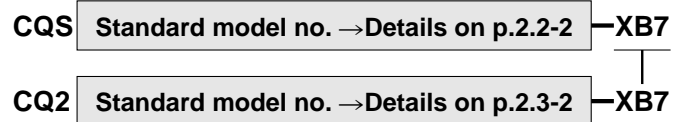
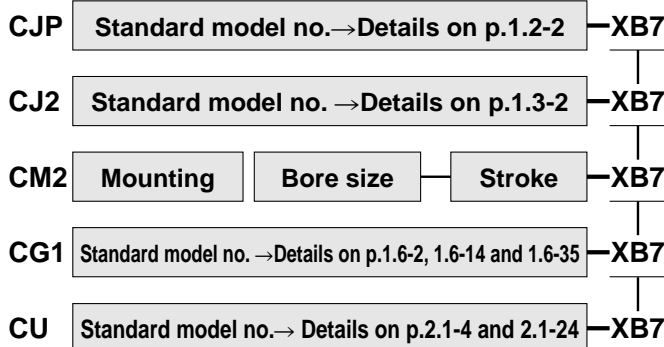
Made to Order Common Specifications -XB7: Cold Resistant Cylinder



4 Cold Resistant Cylinder

Symbol

-XB7



Cold resistant cylinder ●



An air cylinder in which the materials of the seals and the grease have been changed so that the cylinder can be operated at ambient temperatures as low as -40°C.

Note 1) Make sure to use without lubrication.

Note 2) To prevent the moisture from freezing, use dry air such as by using a heatless air dryer.

Note 3) Contact SMC for details on the maintenance intervals for this cylinder, which differ from those of the standard cylinder.

Note 4) It is not possible to manufacture this cylinder with an auto switch.

Specifications

Cold resistant cylinder ●

Applicable cylinder	Air cylinder/Standard						Direct mount	Air cylinder/Standard		Direct mount
Series	CJP	CJ2	CJ2W	CM2	CM2W	CM2R	CG1	CG1W	CG1R	
Action	Double acting single rod	Double acting single rod	Double acting double rod	Double acting single rod	Double acting double rod	Double acting single rod	Double acting single rod	Double acting double rod	Double acting single rod	
Bore size (mm)	6, 10, 15	6, 10, 16		20, 25, 32, 40			20, 25, 32, 40, 50, 63			
Ambient temp.	-40°C to +70°C									
Material	Packing, Bumper - Low nitrile rubber	Packing, Bumper - Low nitrile rubber		Packing, Bumper - Low nitrile rubber Wearing-Resin			Packing - Low nitrile rubber Wearing-Resin			
Grease	Fluorine resin grease									
Auto switch	Unavailable for mounting									
Mounting	Basic Foot Flange	Basic Foot Flange Double clevis	Basic Foot Flange	Basic Foot Flange Trunnion Clevis	Basic Foot Flange Trunnion	Bottom mount Front mount	Basic Foot Flange Trunnion Clevis	Basic Foot Flange Trunnion	Bottom mount	
Dimensions, refer to	p.1.2-5 to -7	p.1.3-7 to -10	p.1.3-17 to -19	p.1.4-10 to -18	p.1.4-28 to -31	p.1.4-71 and -72	p.1.6-8, -9, -17 to -19 and -38			
Additional specifications, refer to	p.1.2-2	p.1.3-3 to -5	p.1.3-14 to -16	p.1.4-4 to -8	p.1.4-23 to -26	p.1.4-67 to -69	p.1.6-3 to -6, -15 to -17 and -36 to -37. Note) Speed 50 to 500mm/sec. N: No cushion (There is no cylinder with air cushion.)			

Applicable cylinder	Free mount cylinder		Compact cylinder			
Series	CU	CUK	CQ2	CQ2W	CQS	CQSW
Action	Double acting single rod	Double acting single rod	Double acting single rod	Double acting double rod	Double acting single rod	Double acting double rod
Bore size (mm)	6, 10, 16, 20, 25, 32		12, 16, 20, 25, 32, 40		12, 16, 20, 25	
Ambient temp.	-40°C to + 70°C					
Material	Packing, Bumper - Low nitrile rubber		Packing - Low nitrile rubber			
Grease	Fluorine resin grease					
Auto switch mounting	Unavailable for mounting Basic style					
Dimensions, refer to	p.2.1-7	p.2.1-27	p.2.3-10 to -11	p.2.3-30, -31	p.2.2-8, -9	p.2.2-14, -15
Additional specifications, refer to	p.2.1-5, -6	p.2.1-25, -26	p.2.3-3	p.2.3-23	p.2.2-3	p.2.2-11

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Technical Data

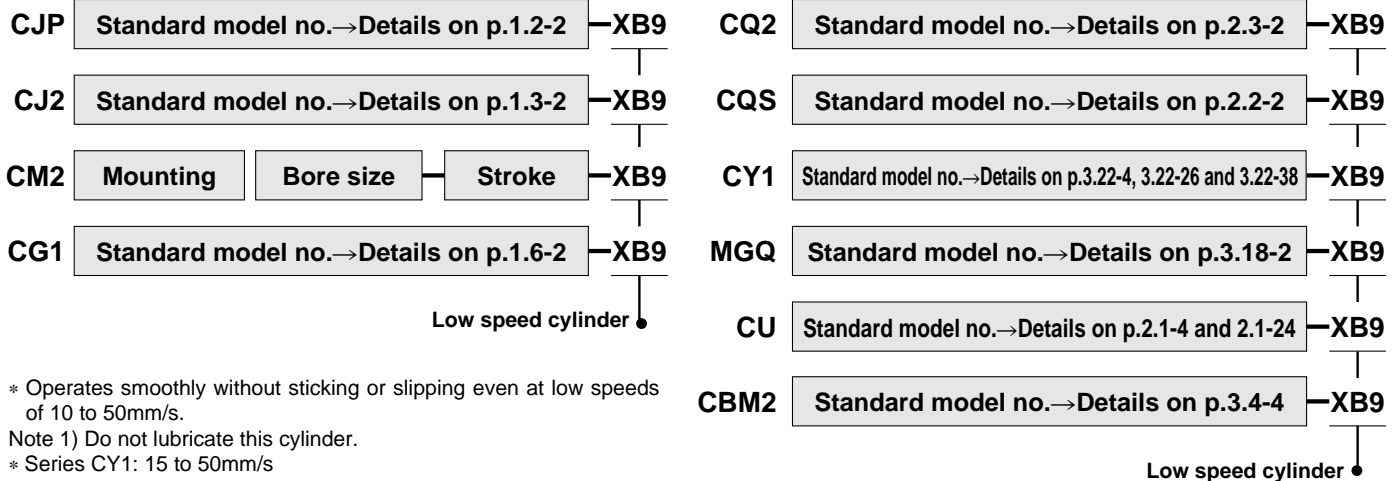
Made to Order Common Specifications -XB9: Low Speed Cylinder



5 Low Speed Cylinder

Symbol

-XB9



* Operates smoothly without sticking or slipping even at low speeds of 10 to 50mm/s.

Note 1) Do not lubricate this cylinder.

* Series CY1: 15 to 50mm/s

Specifications

Applicable cylinder	Air cylinder/Standard				Direct mount	Compact cylinder		End lock cylinder	Magnetically coupled rodless cylinder	Compact guide cylinder	Free mount cylinder	
Series	CJ2	CJP	CM2	CG1	CG1R	CQ2	CQS	CBM2	CY1	MGQ^M	CU	CUK
Action	Double acting single rod								Double acting		Double acting single rod	
Bore size	6, 10, 16	6, 10, 15	20, 25, 32, 40	20, 25, 32, 40, 50, 63		12, 16, 20, 25, 32, 40, 50, 63, 80, 100	12, 16, 20, 40	20, 25, 32, 40	CY1B: 6, 10, 15, 20, 25, 32, 40, 50, 63, 100 CY1S: 6 to 40	12, 16, 20, 25, 32, 40, 50, 63, 80, 100	6, 10, 16, 20, 25, 32	
Piston speed	10 to 50mm/s								15 to 50mm/s	10 to 50mm/s		
Cushion	Rubber bumper					Without rubber bumper		Rubber bumper	Both side, rubber bumper			
Auto switch	Available for mounting											
Mounting	Basic Foot Flange Double clevis	Basic Foot Flange Clevis Trunnion	Basic, Foot Flange Trunnion Clevis		Bottom mount	Basic Foot Flange Double clevis		Basic Foot Flange Trunnion Clevis	Basic Slider	Basic	Basic	
Dimensions, refer to	p.1.3-7 to -10	p.1.2-5 to -7	p.1.4-10 to -20	p.1.6-8, -9	p.1.6-38	p.2.3-10, -11	p.2.2-8, -14	p.3.4-8, -9	p.3.22-11, -34	p.3.18-9, -10	p.2.1-7, -27	
Additional specifications, refer to	p.1.3-3	p.1.2-2	p.1.4-4	p.1.6-3	p.1.6-36	p.2.3-3	p.2.2-3	p.3.4-5	p.3.22-5, -27	p.3.18-3	p.2.1-5, -25	

⚠ Warning Precaution

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.

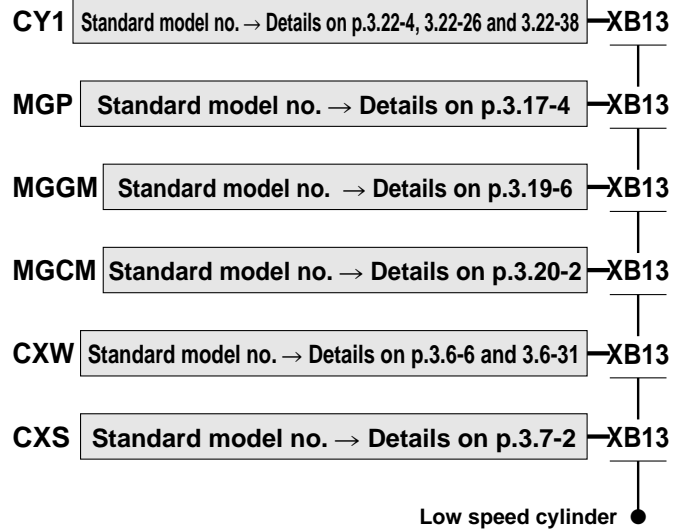
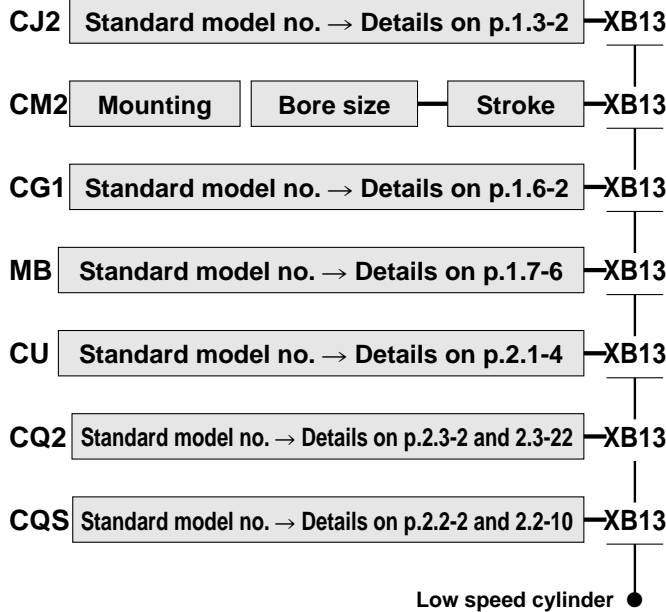
Made to Order Common Specifications -XB13: Low Speed Cylinder



9 Low Speed Cylinder

Symbol

-XB13



Operates smoothly without sticking or slipping even at low speeds of **5 to 50mm/s** (CY1: 7 to 50mm/s).
Note 1) Do not lubricate this cylinder.

Note 2) Use the speed controller for low speed regulation (Series AS-FM, AS-M).

Specifications

Applicable cylinder	Air cylinder/Standard				Free mount cylinder	Compact cylinder		Magnetically coupled rodless cylinder	Compact guide cylinder	Guide cylinder		Slide unit	Dual rod cylinder
	<Slide bearing>												
Series	CJ2	CM2	CG1	MB	CU	CQ2	CQS	CY1	MGP^M_L	MGGM	MGCM	CXW^M_L	CXS^M_L
Action	Double acting/single rod					Double acting							
Bore size (mm)	6, 10 16	20, 25 32, 40	20, 25 32, 40 50, 63	32, 40 50, 63 80, 100	6, 10, 16 20, 25 32	12, 16, 20 25, 32, 40 50, 63, 80 100	12, 16 20, 25	CY1B:6 10, 15, 20 25, 32 40, 50, 63 CY1S, CY1L:6 to 40	12, 16, 20 25, 32, 40 50, 63, 80 100	20, 25, 32 40, 50		10, 16, 20 25, 32	6, 10 15, 20 25, 32
Piston speed	5 to 50mm/s							7 to 50 mm/s	5 to 50 mm/s	5 to 50mm/s			
Cushion	Rubber bumper		With both-side air cushion	With both-side rubber bumper	None Rubber bumper	None Rubber bumper	With both-side rubber bumper		Rubber bumper (Basic cylinder)		Shock absorber (CX2: Option)	Rubber bumper	
Auto switch	Available for mounting												
Mounting	Basic Foot Flange Double clevis	Basic Foot Flange Trunnion Clevis	Basic Foot Flange Clevis Trunnion	Basic	Basic Foot Flange Clevis	Basic Foot Flange Clevis	Basic Slider	Basic	Basic Front face mounting Flange		Basic		
Dimensions, refer to	p.1.3-7 to -10	p.1.4-10 to -17	p.1.6-8 to -10	p.1.7-10 to -12	p.2.1-7	p.2.3-10	p.2.2-8, -9	p.3.22-11, -34	p.3.17-13 to -15	p.3.19-22	p.3.20-10, -11	p.3.6-11, -36	p.3.7-7 to -9
Additional specifications, refer to	p.1.3-3, -4	p.1.4-4	p.1.6-3	p.1.7-7	p.2.1-5	p.2.3-3	p.2.2-3	p.3.22-5, -27	p.3.17-5	p.3.19-7	p.3.20-3	p.3.6-7, -32	p.3.7-3

* Series MGGM has no shock absorber.

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



11 With Heavy Duty Scraper

Symbol

-XC4

CM2 Mounting Bore size Stroke Cushion — XC4

CG1 Standard model no. → Details on p.1.6-2 — XC4

CA1 Standard model no. → Details on p.1.9-2 — XC4

CS1 Standard model no. → Details on p.1.10-2 — XC4

MB Standard model no. → Details on p.1.7-6 — XC4

With heavy duty scraper

CB Standard model no. → Details on p.3.4-4 and 3.4-12 — XC4
(Only with rear lock)

CQ2 Standard model no. → Details on p.2.3-2 — XC4

CV Standard model no. → Details on p.3.5-18, 3.5-52 and 3.5-67 — XC4

MGG Standard model no. → Details on p.3.19-6 — XC4

MGC Standard model no. → Details on p.3.20-2 — XC4

With heavy duty scraper

As it uses a powerful scraper for the wiper ring, this cylinder is suitable for use in an area that is dusty, or in an environment in which mud splashes on the cylinder, such as when operating casting equipment, construction equipment, or an industrial vehicle.



Series CM2



Series CA1



Series CS1

Specifications

Applicable cylinder	Air cylinder/Standard					End lock cylinder (Only with rear lock)	Valve mounted cylinder	Compact cylinder	Guide cylinder		
	CM2	CG1	MB	CA1	CS1	CB	CV	CQ2	MGG	MGC	
Series	CM2, CM2W	CG1	MB, MBW	CA1, CA1W	CS1, CS1W	CBM2, CBA1	CV3, CVM5, CVS1	CQ2	MGG	MGC	
Action	Double acting single rod/double rod (CG1 is not available.)					Double acting single rod			Double acting		
Bore size (mm)	20, 25, 32, 40	32, 40, 50, 63	32, 40, 50, 63, 80, 100	40, 50, 63, 80, 100	125, 140, 160, 180, 200, 250, 300	20, 25, 32, 40, 50, 63, 80, 100	20, 25, 32, 40, 50, 63, 80, 100	20, 25, 32, 40, 50, 63, 80, 100	32, 40, 50		
Wiper ring	SCB scraper										
Cushion	Rubber bumper Air cushion	Rubber bumper Air cushion	Air cushion			CBM2: Rubber bumper CBA1: Air cushion	CVM5: Rubber bumper CV3: CVS1: Air cushion	None Rubber bumper	Rubber bumper (Basic cylinder part)	Air cushion (Basic cylinder part)	
Auto switch	Available for mounting (Bore size 200mm or less)										
Additional specifications, refer to	p.1.4-4, -23	p.1.6-3	p.1.7-7, -17	p.1.9-3, -17	p.1.10-3 to -28 But K-dimensions are changed.	p.3.4-5 to -17	p.3.5-53 to -74	p.2.3-3 to -17	p.3.19-7, -22	p.3.20-3, -10	

⚠ Cautions

Heavy duty scraper should not be changed.

- Change not only the cover but also the rod cover assembly since heavy duty scraper is pressed in. (CM2 can not be changed.)
(In case of Series CS1, holding plate assembly is changed.)

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Technical Data

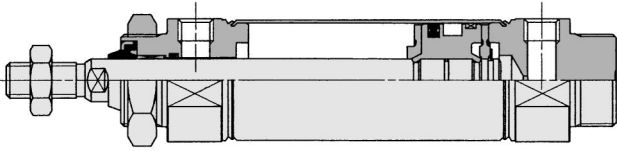
Made to Order Common Specifications -XC4: With Heavy Duty Scraper



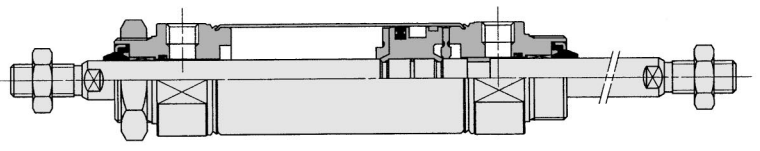
11 With Heavy Duty Scraper

Construction

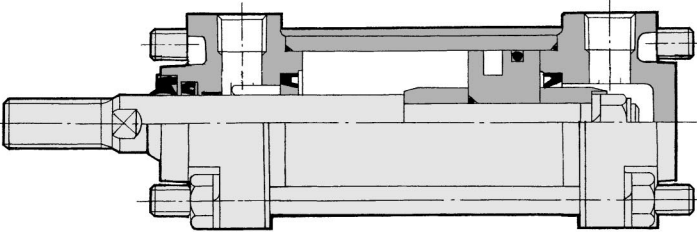
Series CM2



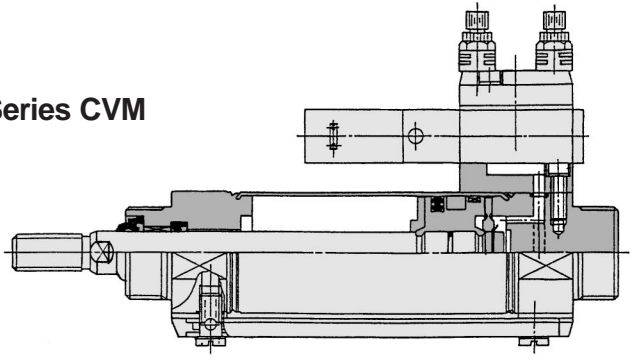
Series CM2W



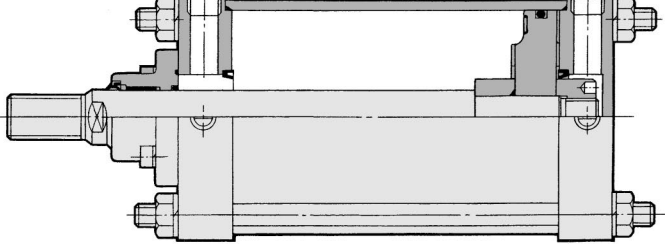
Series CA1



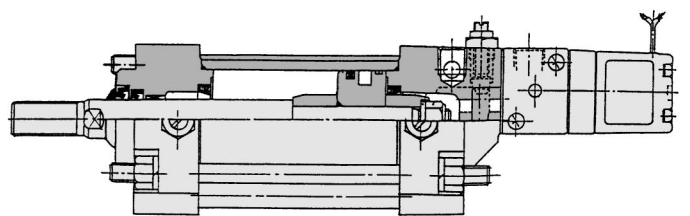
Series CVM



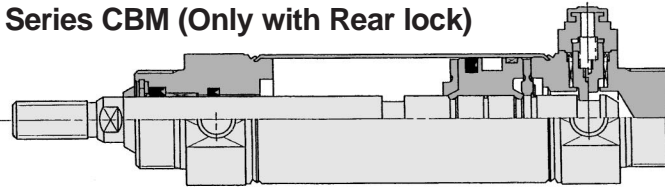
Series CS1



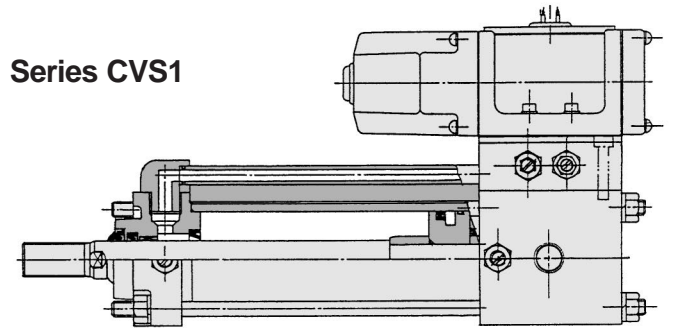
Series CV3



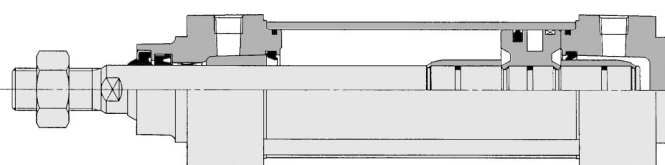
Series CBM (Only with Rear lock)



Series CVS1

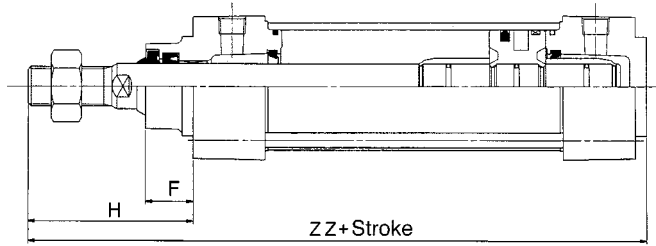


Series MB



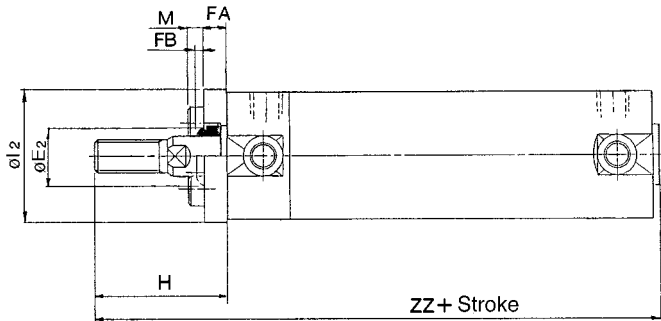
Dimensions

Series MB



(mm)			
Bore size	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

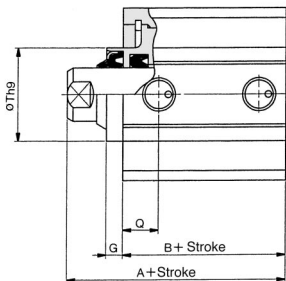
Series CG1



(mm)								(mm)	
Bore size	E ₂	FA	FB	M	l ₂	H	ZZ	In case of long stroke	ZZ
32	17	8	3	5	38	48	121		
40	21	8	3	6	48	58	138		147
50	26	9	3	8	59	66	158		170
63	26	9	3	10	72	66	158		170

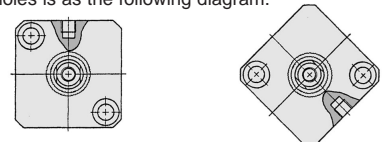
*Other dimensions are the same as for double acting single rod standard style. (Refer to p.1.6-8 to -10)
 *On the axial foot style and the front flange style, the installation bracket is wedged and bolted between the cylinder and the scraper hardware at the time of shipment. On other styles, it is placed in the same package (without assembling).

Series CQ2



Bore size (mm)	A		B		Th9	G	Q
	50 stroke or less	51 to 100 stroke	50 stroke or less	51 to 100 stroke			
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)	33 (43)	43 (43)	—	—	20.5 (20.5)
40	46.5 (56.5)	56.5 (56.5)	29.5 (39.5)	39.5 (39.5)	28 ⁰ _{-0.052}	5	11 (11)
50	48.5 (58.5)	58.5 (58.5)	30.5 (40.5)	40.5 (40.5)	35 ⁰ _{-0.062}	5	10.5 (10.5)
63	54 (64)	64 (64)	36 (46)	46 (46)	35 ⁰ _{-0.062}	5	15 (15)
80	63.5 (73.5)	73.5 (73.5)	43.5 (53.5)	53.5 (53.5)	43 ⁰ _{-0.062}	5	16 (16)
100	75 (85)	85 (85)	53 (63)	63 (63)	59 ⁰ _{-0.074}	5	23 (23)

- () shows dimensions with auto switch.
- Other dimensions are the same as for CQ2/standard style on p.2.3-10 to -17
- 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.



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

RB
J
D
-X
20-

Technical Data

Made to Order Common Specifications

-XC5: Heat Resistant Cylinder (110°C)

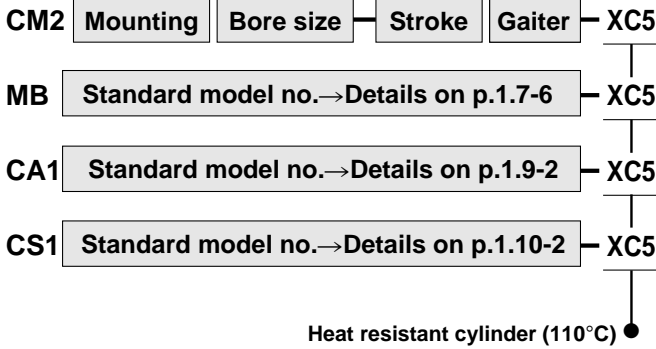


-XC6: Piston Rod and Rod End Nut Made of Stainless Steel

12 Heat Resistant Cylinder (110°C)

Symbol

-XC5



A cylinder in which the material of the seals has been changed to a heat resistant style (for up to 110°C) so that it can be operated under extreme ambient temperatures that exceed the standard specifications of between -10°C and +70°C (or between 0°C and +70°C in the case of the Series CS1).

Specifications

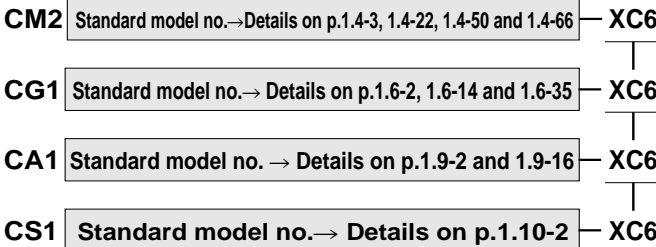
Cylinder	Air cylinder/Standard			
	CM2	MB	CA1	CS1
Series	CM2, CM2W, CM2R	MB, MBW	CA1, CA1W	CS1, CS1W
Action	Double acting single rod/double rod			
Bore (mm)	20, 25, 32, 40	32, 40, 50, 63, 80, 100	40, 50, 63, 80, 100	Non-lube 125, 140, 160, 180, 200 Lube 125, 140, 160, 180, 200, 250, 300
Ambient temp.	-10 to + 110°C (Cylinder of CS1: 0 to + 110°C)			
Packing material	Fluorine rubber			
Auto switch	Unavailable for mounting			
Add'l specifications, refer to	p.1.4-4 to -31, -67 to -72	p.1.7-7 to -11	p.1.9-3 to -21	p.1.10-3 to 18, -22 to -28

Note) Material of gaiter is heat resistant tarpaulin.

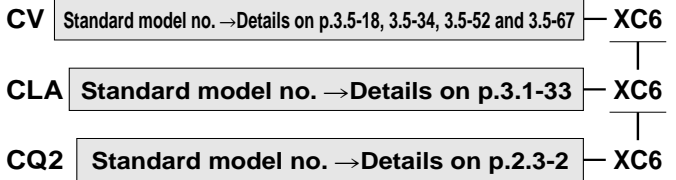
13 Piston Rod and Rod End Nut Made of Stainless Steel

Symbol

-XC6



It is used in case there is the risk of rust or corrosion, such as when the end of the piston rod becomes immersed in water as it moves forward.



Piston rod and rod end nut made of stainless steel

● Piston rod and rod end nut made of stainless steel

Note) In case of cylinder of CS1, only material of piston rod is stainless steel and rod end nut is not attached.

Note) In case of cylinder of CQ, material of snap ring and piston rod is stainless steel. In case of rod end thread style, material of rod end nut is also stainless steel.

Specifications

Applicable cylinder	Air cylinder/Standard					Valve mounted cylinder	Fine lock cylinder	Compact cylinder	
	CM2	CG1	MB	CA1	CS1	CV	CL	CQ2	
Applicable series	CM2, CM2W, CM2K, CM2R	CG1, CG1W, CG1R	MB, MBW	CA1, CA1W	CS1, CS1W	CVM3, CVM5, CV3, CVS1	CLA	CQ2, CQ2W	
Action	Double/Single acting		Double acting			Double/Single acting	Double acting	Double/Single acting	
Bore size (mm)	20, 25, 32, 40	20, 25, 32, 40, 50, 63	32, 40, 50, 63, 80, 100	40, 50, 63, 80, 100	125, 140, 160, 180, 200, 250, 300	20, 25, 32, 40, 50, 63, 80, 100	40, 50, 63, 80, 100	12, 16, 20, 25, 32, 40, 50, 63, 80, 100	
Cushion	Rubber bumper	Rubber bumper Air cushion	Air cushion			Rubber bumper Air cushion	Air cushion	None Rubber bumper	
Auto switch	Available for mounting (Bore size 200mm or less)								
Mounting	Basic, Axial foot, Front flange, Rear flange, Single clevis, Double clevis, Rear trunnion, Front trunnion, Integral clevis, Boss-cut *Series CM2R is front face/bottom mounting	Basic, Axial foot, Front flange, Rear flange, Front trunnion, Rear trunnion, Clevis (Use for change by 90°C of port position)	Basic, Axial foot, Front flange, Rear flange, Single clevis, Double clevis, Center trunnion					Basic, Both ends tapped, Foot, Flange, Double clevis	
Add'l specifications, refer to (Common for each series)	p.1.4-4 to -72	p.1.6-3 to -38	p.1.7-7 to -19	p.1.9-3 to -21	p.1.10-3 to -28	p.3.5-35 to -75	p.3.1-34 to 41	p.2.3-3 to -37	

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



20 Auto Switch Rail Mounting

Symbol
-XC13

CDM2 Auto switch model no. → Details on p.1.4-3 and 1.4-22 — **XC13A**

CDG1 Auto switch model no. → Details on p.1.6-2 — **XC13A**

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



Rail mounting direction

XC13A	Mounted on the right side when viewed from the front with the ports facing upwards.
XC13B	Mounted on the left side when viewed from the front.
XC13C*	Mounted on the underside when viewed from the front.

* Not available for CDG1.

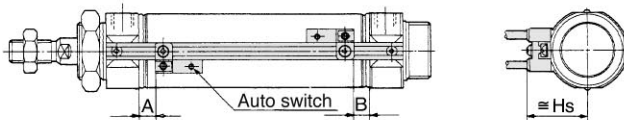
Specifications

Applicable cylinder	Air cylinder/Standard			Direct mount	Non-rotating piston rod
Series	CDM2/CDM2K	CDM2W	CDG1	CDG1RN	CDG1K
Action	Double acting single rod/Non-rotating rod	Double acting double rod	Double acting single rod	Double acting single rod	Double acting single rod
Bore size (mm)	20, 25, 32, 40			20, 25, 32, 40, 50, 63	
Ambient and fluid temperature	-10°C to +60°C (Non-freezing)				
Applicable auto switch	Reed switch	D-A7/A8, D-A7H/A80H, D-A73C/A80C, D-A79W			
	Solid state switch	D-F7□, D-F7□V, D-F7BA, D-F7□F, D-F79W, D-F7□WV, D-J79, D-J79C, D-J79W			
Add'l specifications, refer to	p.1.4-4, -51	p.1.4-23	p.1.6-3	p.1.6-36	p.1.6-27
Specifications for auto switches	Refer to p.5.3-2 for the detailed specifications for auto switches.				

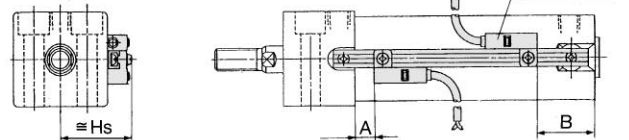
* Mounting bracket of series CDG1 trunnion style is not available for mounting.

Dimensions

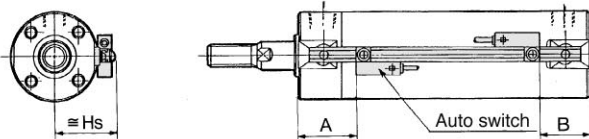
Series CDM2



Series CDG1RN



Series CDG1



*Refer to pages mentioned on the above table for dimensions except locating and mounting height of auto switch.

Auto Switch Mounting Position

(mm) Auto Switch Mounting Height (mm)

Cylinder series	Bore size (mm)	D-A7/A8/A7□H/A80H D-A73C/A80C/F7□ D-J79/F7□V D-J79C		D-A79W		D-F7BA D-F7PW D-F7□F D-J79W		D-F79W D-F7□WV		D-A7/A8	D-A7□H D-J79W D-A80H D-F7BA D-F7□ D-F7□F D-J79 D-F7NT D-F7□W	D-A73C D-A80C D-F7□WV	D-F7V	D-J79C	D-A79W
		A	B	A	B	A	B	A	B						
CDM2	20	8	7	5	4	12	11	8.5	7.5	22.5	23.5	29.5	26	29	25
	25	8	7	5	4	12	11	8.5	7.5	25.5	26.5	32.5	29	32	28
	32	9	8	6	5	13	12	9.5	8.5	29	30	36	32.5	35.5	31.5
	40	14	13	11	10	18	17	14.5	13.5	33	34	40	36.5	39.5	35.5
CDG1 CDG1R	20	30.5 (9.5)	21 (9.5)	28 (7)	18.5 (7)	35 (14)	25.5 (14)	31.5 (10.5)	22 (10.5)	25.5	26.5	32.5	29	32	28
	25	30.5 (9.5)	21 (9.5)	28 (7)	18.5 (7)	35 (14)	25.5 (14)	31.5 (10.5)	22 (10.5)	28	29	35	31.5	34.5	30.5
	32	31.5 (10.5)	22 (10.5)	29 (8)	19.5 (8)	36 (15)	26.5 (15)	32.5 (11.5)	23 (11.5)	31.5	32.5	38.5	35	38	34
	40	36 (15)	24.5 (15)	33.5 (12.5)	22 (12.5)	40.5 (19.5)	29 (19.5)	37 (16)	25.5 (16)	35.5	36.5	42.5	39	42	38
	50	43.5 (17.5)	29 (17.5)	41 (15)	26.5 (15)	48 (22)	33.5 (22)	44.5 (18.5)	30 (18.5)	41	42	48	44.5	47.5	43.5
63	43.5 (17.5)	29 (17.5)	41 (15)	26.5 (15)	48 (22)	33.5 (22)	44.5 (18.5)	30 (18.5)	48	49	55	51.5	54.5	50.5	

() shows locations for CDG1R.

Made to Order Common Specifications -XC18: NPT Port



24 NPT Port

CM2	Standard model no. →Details on p.1.4-3	XC18
CG1	Standard model no. →Details on p.1.6-2	XC18
MB	Standard model no. →Details on p.1.7-6	XC18
CA1	Standard model no. →Details on p.1.9-4	XC18
CS1	Standard model no. →Details on p.1.10-2	XC18

CY1	Standard model no. →Details on p.3.22-4 and 3.22-26	XC18
CXW□	Standard model no. →Details on p.3.6-6 and 3.6-31	XC18
MGG	Standard model no. →Details on p.3.19-6	XC18
MGC	Standard model no. →Details on p.3.20-2	XC18
CE2	Standard model no. →Details on p.4.5-6	XC18
CQ2	Standard model no. →Details on p.2.3-2	XC18

Port RC(PT) of air cylinder is changed to NPT.

NPT port

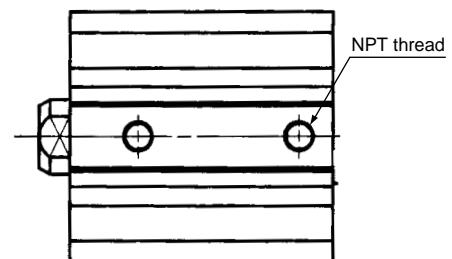
NPT port

Specifications

Cylinder	Air cylinder/Standard						Rodless cylinder	
	CM2	CG1	MB	CA1	CS1	CQ2	CY1B	CY1S
Action	Double acting single rod							
Bore size (mm)	20, 25, 32, 40	20, 25, 32, 40, 50, 63, 80, 100	32, 40, 50, 63, 80, 100	40, 50, 63, 80, 100	125, 140, 160, 180, 200, 250, 300	32, 40, 50, 63, 80, 100	20, 25, 32, 40, 50, 63	20, 25, 32, 40
Cushion	Rubber bumper	Rubber bumper Air cushion	Air cushion			Rubber bumper	Both-side rubber bumper	
Auto switch	Available for mounting				Available for mounting (Bore size 200mm or less)	Available for mounting		
Mounting	Basic, Axial foot, Front flange, Rear flange, Single clevis, Double clevis, Front trunnion, Rear trunnion, Integral clevis, Boss-cut	Basic, Axial foot, Front flange, Rear flange, Front trunnion, Rear trunnion, Clevis (Use for change by 90° of port position)	Basic, Foot, Front flange, Rear flange, Single clevis, Double clevis, Center trunnion			Basic, Both sides Tapped, Foot, Flange, Double clevis	Basic	
Additional specifications, refer to	p.1.4-4	p.1.6-3 Port size MS X 0.8 of bore size ø20 and 25 for air cushion style is interchangeable with No. 10-32UNF.	p.1.7-7	p.1.9-3	p.1.10-3	p.2.3-3	p.3.22-5	p.3.22-27

Cylinder	Slide unit	Guide cylinder		Stroke reading cylinder with brake
	CXW ^M _L	MGG	MGC	CE2
Action	Double acting single rod			
Bore size (mm)	25, 32	20, 25, 32, 40, 50	32, 40, 50	40, 50, 63, 80, 100
Cushion	With shock absorber	Rubber bumper (Basic cylinder)	Air cushion (Basic cylinder)	Air cushion
Auto switch	Available for mounting			
Mounting	Basic	Basic, Front flange mounting		Basic, Foot, Flange, Clevis
Additional specifications, refer to	p.3.6-7, -32	p.3.19-7	p.3.20-3	p.4.5-7

Dimensions



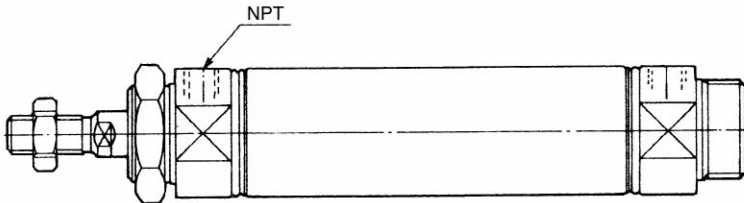
Bore size (mm)	Port size
32, 40	NPT 1/8
50, 63	NPT 1/4
80, 100	NPT 3/8

Note 1) In case of no entry, dimensions are the same as standard on p.2.3-14 to 2.3-17.

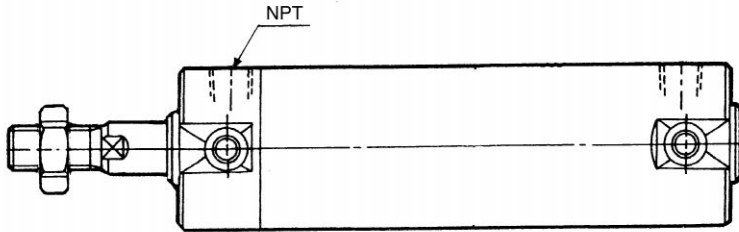
Note 2) 5 stroke style is the same as 10 stroke style in dimensions.

Dimensions

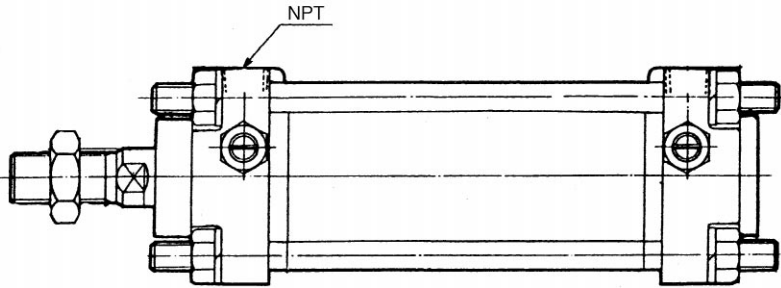
Series CM2



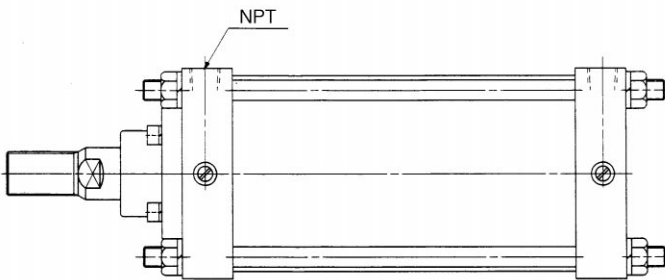
Series CG1



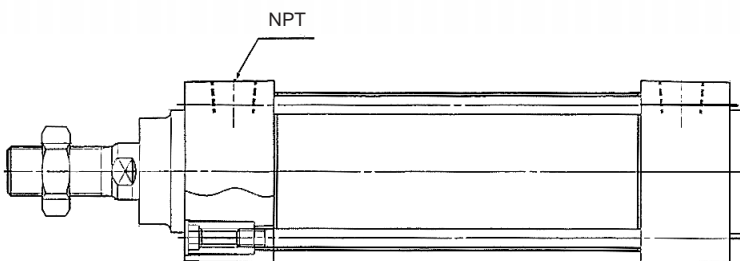
Series CA1



Series CS1



Series MB



Series CM2/CG1

Bore size (mm)	Series CM2	Series CG1	
		Rubber bumper	Air cushion
20	NPT 1/8	NPT 1/8	No10-32 UNF
25			
32			NPT 1/8
40	NPT 1/4		NPT 1/8
50	—	NPT 1/4	NPT 1/4
63		NPT 3/8	NPT 3/8
80		NPT 1/2	NPT 1/2
100			
Dimensions	In case of no entry, dimensions are the same as standard on p.1.4-10		In case of no entry, dimensions are the same as standard on p.1.6-8

Series CA1

Bore size (mm)	Port size
40	NPT 1/4
50	NPT 3/8
63	
80	NPT 1/2
100	

In case of no entry, dimensions are the same as standard on p.1.9-8

Series CS1

Bore size (mm)	Port size
125	NPT 1/2
140	
160	NPT 3/4
180	
200	
250	NPT 1
300	

In case of no entry, dimensions are the same as standard on p.1.10-12

Series MB

Bore size (mm)	Port size
32	NPT 1/2
40/50	NPT 3/4
63/80	NPT 3/8
100	NPT 1/2

In case of no entry, dimensions are the same as standard on p.1.7-10

RB

J

D

-X

20-

Technical Data

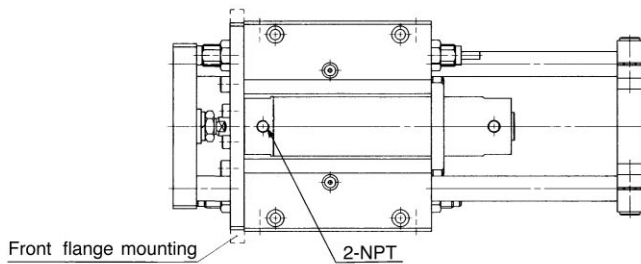
Made to Order Common Specifications

-XC18: NPT Port

24 NPT Port

Dimensions

Series MGG

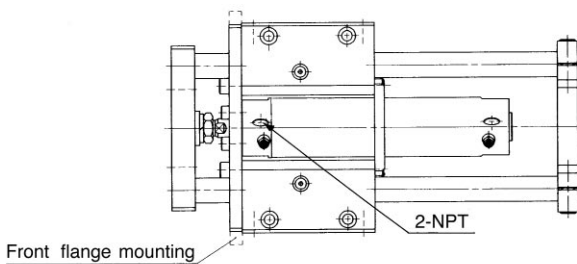


Series MGG

Bore size (mm)	Port size
20	NPT 1/8
25	
32	
40	NPT 1/4
50	

In case of no entry, dimensions are the same as standard on p.3.19-22

Series MGC

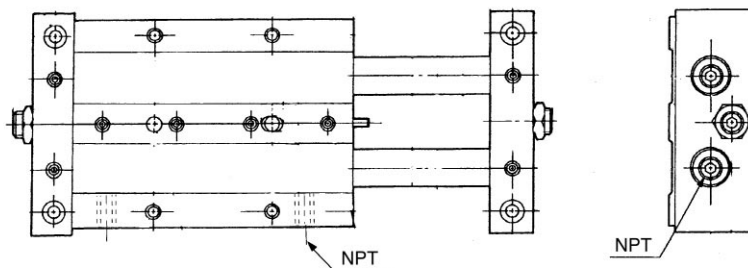


Series MGC

Bore size (mm)	Port size
32	NPT 1/8
40	
50	NPT 1/4

In case of no entry, dimensions are the same as standard on p.3.20-10

Series CXW

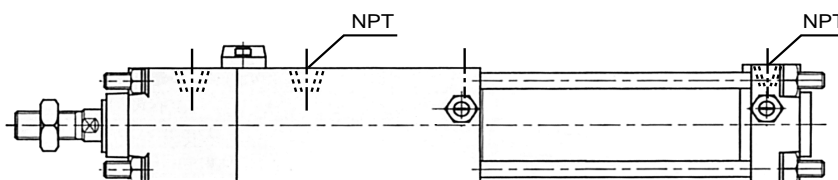


Series CXW

Bore size (mm)	Port size
25	NPT 1/8
32	

In case of no entry, dimensions are the same as standard on p.3.6-23 to -30

Series CE2



Series CE2

Bore size (mm)	Port size
40	NPT 1/4
50	NPT 3/8
63	
80	NPT 1/2
100	

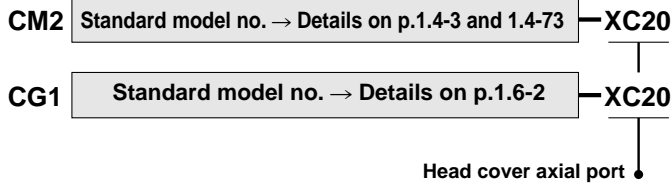
In case of no entry, dimensions are the same as standard (basic) on p.4.5-8

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

Symbol

25 Head Cover Axial Port

-XC20



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

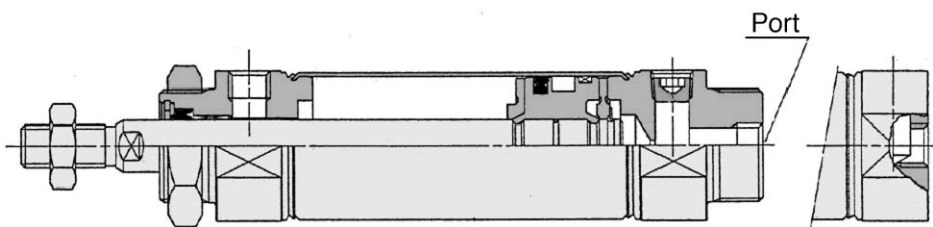
Specifications

Applicable cylinder	Standard	Non-rotating piston rod	Direct mount	Standard
Series	CM2	CM2K	CM2R	CG1
Action	Double acting single rod style			
Bore size (mm)	20, 25, 32, 40			20, 25, 32, 40, 50, 63
Cushion	Rubber bumper			
Auto switch	Available for mounting			
Mounting	Basic, Axial foot, Front flange, Rear flange, Front trunnion, Rear trunnion, Boss-cut		Bottom mounting, Front face mounting	Basic, Axial foot, Front flange, Rear flange, Front trunnion, Rear trunnion
Additional specifications, refer to	p.1.4-4	p.1.4-51	p.1.4-67	p.1.6-3

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

Construction

Series CM2



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

* Dimensions: Series CM2 standard style → p.1.4-10 to 1.4-18
 Series CM2K → p.1.4-55
 Series CM2R → p.1.4-71 and 1.4-72
 Series CG1 → p.1.6-8 to 1.6-10

RB

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Technical Data

Made to Order Common Specifications

-XC22: Fluorine Rubber Seals

26 Fluorine Rubber Seals

Symbol

-XC22

CJ2	Standard model no. → Details on p.1.3-2	XC22	CV⁽²⁾₃	Standard model no. → Details on p.3.5-52 and 3.5-67	XC22
CJP	Standard model no. → Details on p.1.2-2	XC22	CU	Standard model no. → Details on p.2.1-4 and 2.1-24	XC22
CM2	Standard model no. → Details on p.1.4-3	XC22	CBM2	Standard model no. → Details on p.3.4-4	XC22
CG1	Standard model no. → Details on p.1.6-2	XC22	MGQM	Standard model no. → Details on p.3.18-2	XC22
MB	Standard model no. → Details on p.1.7-6	XC22	MGG	Standard model no. → Details on p.3.19-6	XC22
CA1	Standard model no. → Details on p.1.9-2	XC22	MGG	Standard model no. → Details on p.3.20-2	XC22
			MGPM	Standard model no. → Details on p.3.17-4	XC22

Fluorine rubber seals

Fluorine rubber seals

Material for seals is changed to fluorine rubber excellent in chemical resistance.

Note 1) It might not be possible to use this material depending on the chemicals or operating temperatures to which it will be exposed. Therefore, contact SMC before use.

Note 2) Although we can manufacture cylinders with auto switches, the parts that are related to the auto switches (the auto switches themselves, mounting brackets, and built-in magnets) are identical to the standard products. Therefore, before using them, contact SMC regarding their compatibility with the operating environment.

Note 3) Series CV3 and CVS1 are applicable only to the cylinder body.

Specifications

Applicable series	Air cylinder/Standard					
	Series CJ2	Series CJP	Series CM2	Series CG1	Series MB	Series CA1
Series variation	CJ2 (Standard) CJ2W (Double rod)	CJP (Standard)	CM2 (Standard) CM2R (Direct mount)	CG1 (Standard) CG1R (Direct mount)	MB (Standard) MBW (Double rod)	CA1 (Standard) CA1W (Double rod)
Bore size (mm)	6, 10, 16	6, 10, 15	20, 25, 32, 40	20, 25, 32, 40, 50, 63	32, 40, 50, 63, 80, 100	40, 50, 63, 80, 100
Action	Double acting single/double rod Single acting spring return/spring extend	Double acting single rod Single acting spring return	Double acting			
Ambient temperature	(1) Without auto switch: -10°C to +70°C (No condensation) With auto switch : -10°C to +60°C					
Cushion	Rubber bumper (Standard equipment)	Double acting rubber bumper (Standard equipment) No cushion for single acting	Rubber bumper (Standard equipment)	None Air cushion	Air cushion	
Auto switch	Available for mounting					
Mounting	Basic, Axial foot, Front flange, Double clevis (Except ø6)	Basic, Foot, Flange, Clevis, Trunnion, Single acting: Panel mounted Embedded	Basic, Axial foot, Front flange, Rear flange, Single clevis, Double clevis, Front trunnion, Rear trunnion, Integral clevis, Boss-cut, CM2R: Front face/Bottom mounting	Basic, Axial foot, Front flange, Rear flange, Front trunnion, Rear trunnion, Clevis	Basic, Foot, Front flange, Rear flange, Single clevis, Double clevis, Center trunnion	
Additional specifications, refer to	p.1.3-3 and -14 for double acting style and p.1.3-21 for single acting style.	p.1.2-2 for double acting style and p.1.2-8 for single acting style.	p.1.4-4 and -10 for CM2 and p.1.4-67, -71 and -72 for CM2R.	p.1.6-3, -8 to -10 for CG1 and p.1.6-36 and -38 for CG1R. Speed 50 to 500mm/s	p.1.7-7 for MB and p.1.7-17 for MBW.	p.1.9-3, -8 for CA1 and p.1.9-17, -20 and -21 for CA1W.

Made to Order Common Specifications

-XC22: Fluorine Rubber Seals

-XC24: With Magnet Shielding Plate

26 Fluorine Rubber Seals

Symbol

-XC22

Specifications

Applicable Series	Valve mounted cylinder Series CV	Free mount cylinder Series CU	End lock cylinder Series CBM2	Compact guide cylinder Series MGQM	Guide cylinder		Guide cylinder
					Series MGG	Series MGC	
Series variation	CV3 CVS1	CU (Standard style) CUK (Non-rotating)	CBM2	MGQM	MGG	MGC	MGPM
Bore size (mm)	40, 50, 63, 80, 100	6, 10, 16, 20, 25, 32	20, 25, 32, 40,	12, 16, 20, 25, 32, 40, 50, 63, 80, 100	20, 25, 32, 40, 50		12, 16, 20, 25, 32, 40, 50, 63, 80, 100
Action	Double acting	Double acting single rod	Double acting single rod		Double acting		Double acting single rod
Ambient temp.	Without auto switch: -10°C to 70°C With auto switch: -10°C to 60°C (No condensation)						
Cushion	Air cushion	Rubber bumper (Both sides)	Rubber bumper (Standard equipment)	None	None (Basic cylinder)	Air cushion (Basic cylinder)	None
Auto switch	Available for mounting						
Mounting	Basic, Foot, Front flange, Rear flange, Single clevis, Double clevis, Center trunnion	Basic	Basic, Axial foot, Front flange, Rear flange, Single clevis, Double clevis, Front trunnion, Rear trunnion	Basic	Basic, Front flange mounting		Basic
Add'l specifications, refer to	p.3.5-53, -58 to -60 for CV3 and p.3.5-68, -72 to -75 for CVS.	p.2.1-5, -7 for CU and p.2.1-25, -27 for CUK.	p.3.4-5	p.3.18-3, -9, -10	p.3.19-7, -22 to -25	p.3.20-3, -10, -11	p.3.17-5, -13 to -15

* Shock absorber RBL type is used for series MGG.

27 Magnet Shielding Plate

Symbol

-XC24

Magnetically coupled rodless cylinder

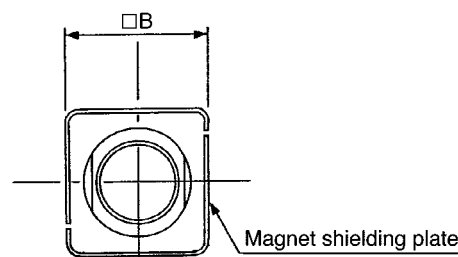
CY1B Standard model no. → Details on p.3.22-4 — **-XC24**
Magnet shielding plate ↓

Magnetic leakage of external migrating particle is shielded.

Specifications

Applicable series	Magnetically coupled rodless cylinder Series CY1B
Mounting	Basic style
Bore size (mm)	6, 10, 15, 20, 25, 32, 40, 50, 63
Operating pressure	0.18 to 0.7MPa
Add'l specifications, refer to	p.3.22-5

Dimensions



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

* Other dimensions are the same as the basic style on p.3.22-11

RB

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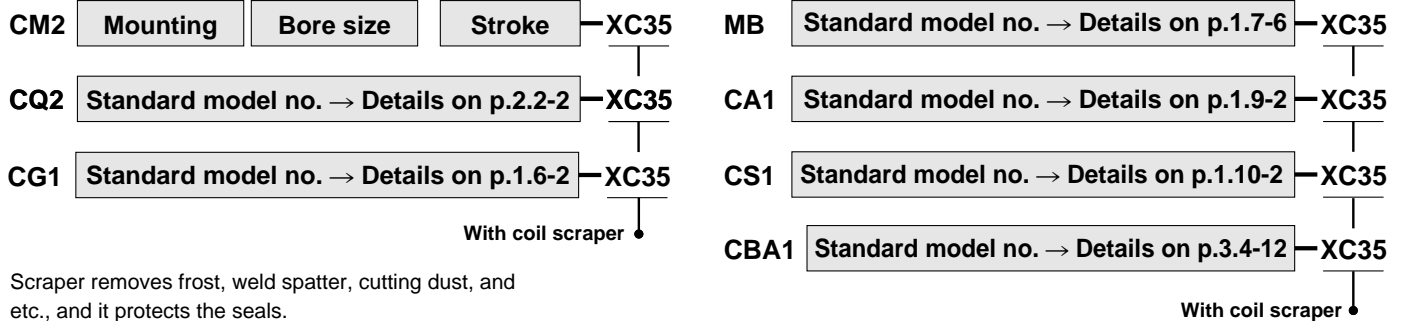
20-

Technical Data

Made to Order Common Specifications -XC35: With Coil Scraper



34 With Coil Scraper



Scraper removes frost, weld spatter, cutting dust, and etc., and it protects the seals.

Specifications

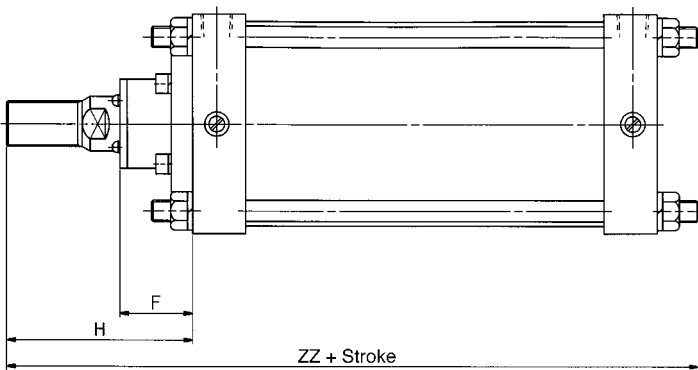
Applicable series	Air cylinder/Series CM2	Air cylinder/Series CG1	Compact air cylinder/Series CQ2	Air cylinder/Series CA1
Action	Double acting single rod	Double acting single rod	Double acting single rod	Double acting single rod/double rod
Bore size (mm)	20, 25, 32, 40	20, 25, 32, 40, 50, 63	32, 40, 50, 63, 80, 100	40, 50, 63, 80, 100
Max. operating pressure	1.0MPa	1.0MPa	1.0MPa	1.0MPa
Min. operating pressure	0.05MPa	0.05MPa	0.05MPa	Single rod: 0.05MPa, Double rod: 0.08MPa
Cushion	Rubber bumper	Rubber bumper, Air cushion	None, Rubber bumper	Air cushion
Scraper	Coil scraper (Metal)			
Auto switch	Available for mounting			
Mounting	Basic, Axial foot, Front flange, Rear flange, Single clevis, Double clevis, Front trunnion, Rear trunnion, Integral clevis style, Boss-cut style	Basic, Axial foot, Front flange, Rear flange, Front trunnion, Rear trunnion, Clevis (Use for change by 90° of port position)	Through hole, Boss ends tapped	Basic, Foot, Front flange, Rear flange, Single clevis, Double clevis, Center trunnion
Add'l specifications, refer to	p.1.4-4	p.1.6-3	p.2.3-3	p.1.9-3, -17

Specifications

Applicable series	Air cylinder/Series MB	Air cylinder/Series CS1	End lock cylinder/Series CBA1
Action	Double acting single rod	Double acting single/double rod	Double acting single rod
Bore size (mm)	32, 40, 50, 63, 80, 100	125, 140, 160, 180, 200, 250, 300	40, 50, 63, 80, 100
Max. operating pressure	1.0MPa	0.97MPa	1.0MPa
Min. operating pressure	0.05MPa	0.05MPa	0.15MPa
Cushion	Air cushion, Rubber bumper	Air cushion	Air cushion
Scraper	Coil scraper (Metal)		
Auto switch	Available for mounting (Bore size 200mm or less)		
Mounting	Basic, Foot, Front flange, Rear flange, Single clevis, Double clevis, Soft trunnion	Basic, Foot, Front flange, Rear flange, Single clevis, Double clevis, Center trunnion (In case of double rod, only basic, foot, front flange and center trunnion are available.)	Basic, Foot, Front flange, Single clevis, Double clevis, Center trunnion
Add'l specifications, refer to	p.1.7-7	p.1.10-3, -22	p.3.4-13

Dimensions

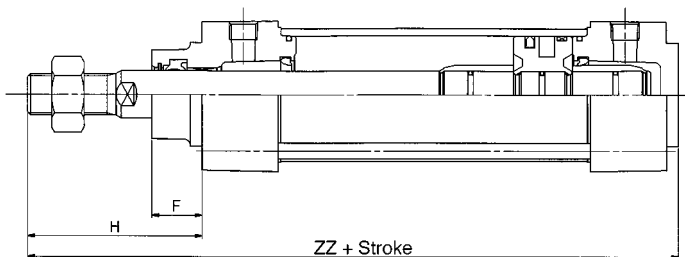
Series CS1



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	—	—	—

* Other dimensions are the same as series CS1. Refer to p.1.10-12

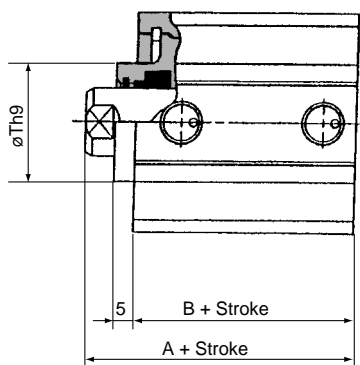
Series MB



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

* Other dimensions are the same as series MB. Refer to p.1.7-10

Series CQ2

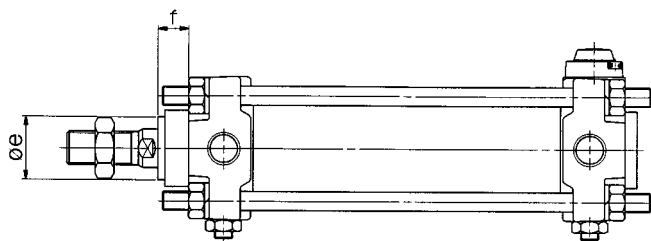


Bore size (mm)	A				B		Th9
	≤ 50 stroke		51 to 100 stroke		≤ 50 stroke	51 to 100 stroke	
	mm	(in)	mm	(in)	mm	(in)	
32	35	(1.38)	45	(1.77)	23	(0.91)	23 ⁰ _{-0.052}
40	41.5	(1.63)	51.5	(2.03)	29.5	(1.16)	28 ⁰ _{-0.052}
50	43.5	(1.71)	53.5	(2.11)	30.5	(1.20)	35 ⁰ _{-0.062}
63	49	(1.93)	59	(2.32)	36	(1.42)	35 ⁰ _{-0.062}
80	58.5	(2.30)	68.5	(2.70)	43.5	(1.71)	43 ⁰ _{-0.062}
100	70	(2.76)	80	(3.15)	53	(2.09)	59 ⁰ _{-0.074}

* Other dimensions are the same as series CQ2. Refer to p.2.3-14.

** () : With auto switch

Series CBA1



Bore size (mm)	øe	f	
		(mm)	
		With front lock	With front lock, With both-side lock
40	28	13.5	14.5
50	32	13.5	16.5
63	32	13.5	14.5
80	37	15	16.5
100	44	16.5	17.5

* Other dimensions are the same as series CBA1. Refer to p.3.4-16

The above diagram shows rear lock style and manual releasing non-lock style.

Dimensions of manual releasing lock style is the same as those mentioned above.

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Technical Data

Made to Order Common Specifications

-XC36: With Front Guide Boss

-XC37: Larger Throttle Diameter of Connecting Port



35 With Front Guide Boss

Symbol

-XC36

CQ2 Double acting single rod → Details on p.2.3-2
Single acting → Details on p.2.3-38 —XC36

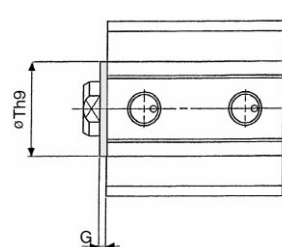
CQS Standard model no. → Details on p.2.2-2 —XC36

With front guide boss

Specifications

Applicable series	Series CQ2	Series CQS
Style	Non-lube	
Bore size (mm)	12, 16, 20, 25, 32, 40, 50, 63, 80, 100	12, 16, 20, 25
Action	Double acting single rod	
Mounting	Through hole, Both ends tapped style	
Auto switch	Available for mounting	
Additional specifications, refer to	p.2.3-3	p.2.2-3

Dimensions



(mm)

Series	CQ2		CQS	
	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	—	—

* Other dimensions are the same as standard. Refer to p.2.3-10 to 2.3-17

36 Larger Throttle Diameter of Connecting Port

Symbol

-XC37

CG1 Standard model no. → Details on p.1.6-2 —XC37

MGG Standard model no. → Details on p.3.19-6 —XC37

MGC Standard model no. → Details on p.3.20-2 —XC37

Larger throttle diameter of connecting port

Cylinder has larger throttle diameter of standard connecting port

Specifications

Applicable cylinder	Air cylinder	Guide cylinder	
Series	CG1	MGG	MGC
Bore size (mm)	20, 25, 32, 40, 50, 63	20, 25, 32, 40, 50	
Action	Double acting style		
Fluid	Air		
Max. operating pressure	1.0MPa		
Min. operating pressure	0.05MPa	0.15MPa	
Cushion	N type With rubber bumper	Rubber bumper (Basic cylinder)	Air cushion (Basic cylinder)
	A type With air cushion		
Auto switch	Available for mounting		
Mounting	Basic, Axial foot, Front flange, Rear flange, Front trunnion, Rear trunnion, Clevis (Use for change by 90° of port position)	Basic, Front flange mounting	
Additional specifications, refer to	p.1.6-3	p.3.19-7	p.3.20-3

Made to Order Common Specifications

-XC37: Larger Throttle Diameter of Connecting Port

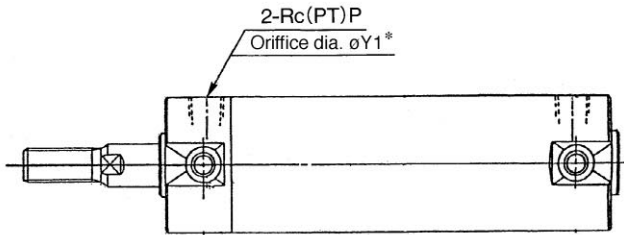


36 Larger Throttle Diameter of Connecting Port

Symbol
-XC37

Dimensions

Series CG1



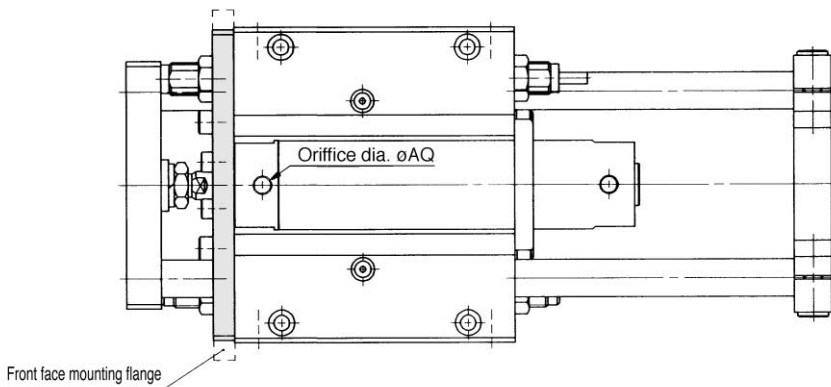
Throttle diameter of port ($\phi Y1$ -dimension) (mm)

Bore size (mm)	With rubber bumper	With air cushion	Standard
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 the cylinder cover directly if exceeding the range of kinetic energy absorption.

Series MGG

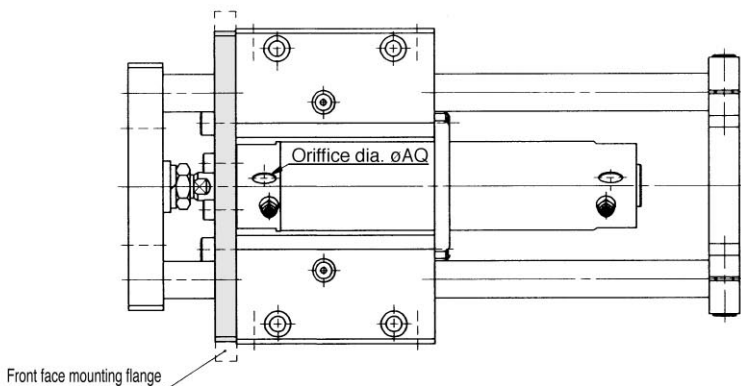


(mm)

Bore size (mm)	ϕAQ
20	5
25	5
32	6
40	7
50	9

* Other dimensions are the same as those on p.3.19-22

Series MGC



(mm)

Bore size (mm)	ϕAQ
20	3
25	3.5
32	6
40	7
50	9

* Other dimensions are the same as those on p.3.20-10

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Technical Data

Made to Order Common Specifications

-XC38: Vacuum (Rod Through Hole)

-XC42: Built-in Rear Shock Absorber



37 Vacuum (Rod through hole) -XC38

Symbol

CM2W Double rod style model no. → Details on p.1.4-22 -XC38

Vacuum

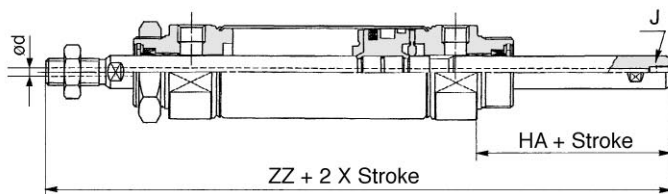
Through hole of hollow rod can be used as the passage of vacuum air.



Specifications

Model	Air pressure style
Bore size (mm)	ø20, ø25, ø32, ø40
Action	Double acting, Double rod
Max. operating pressure	1.0MPa
Min. operating pressure	0.08MPa
Cushion	Rubber bumper (Standard equipment)
Mounting	Basic, Axial foot, Flange, Trunnion
Auto switch	Available for mounting
Add'l specifications, refer to	Series CM2W on p.1.4-23

Dimensions



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	Rc(PT)1/8	36	174

⚠ Caution

- ① Flush the through hole which is a passage for air pressure and vacuum to prevent dust.

38 Built-in Rear Shock Absorber -XC42

Symbol

CG1 Standard model no. → Details on p.1.6-2 -XC42

Built-in rear shock absorber

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.

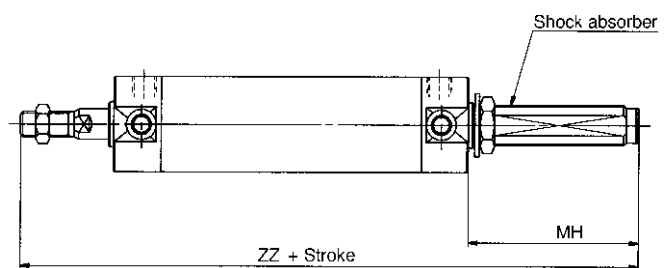


Specifications

Fluid	Air	
Action	Double acting	
Bore size (mm)	ø20, ø25, ø32, ø40, ø50, ø63	
Max. operating pressure	1.0MPa	
Min. operating pressure	0.05MPa	
Piston speed	Extend:50 to 1000mm/sec, Return:50 to 2000mm/sec	
Cushion	Extending side	Type: N.....With rubber bumper
		Type: A...With air cushion
Mounting *	Basic, Axial foot, Front flange, Rear flange, Front trunnion	
Add'l specifications, refer to	Series CG1 standard style on p.1.6-3	

* In case of axial foot style and rear flange style, the cylinder mounted shock absorber is shipped. Shock absorber for other types is attached.

Dimensions



Bore size (mm)	Stroke range	Shock absorber	(mm)	
			MH	ZZ
20	10 to 350	RBAC0806	23.5	135.5
25	10 to 400	RBAC1007	31	148
32	15 to 450	RBAC1412	55	174
40	15 to 800	RBAC2015	62.5	199.5
50	15 to 1200	RBAC2015	55.5	215.5
63	25 to 1200	RBAC2725	87	247