

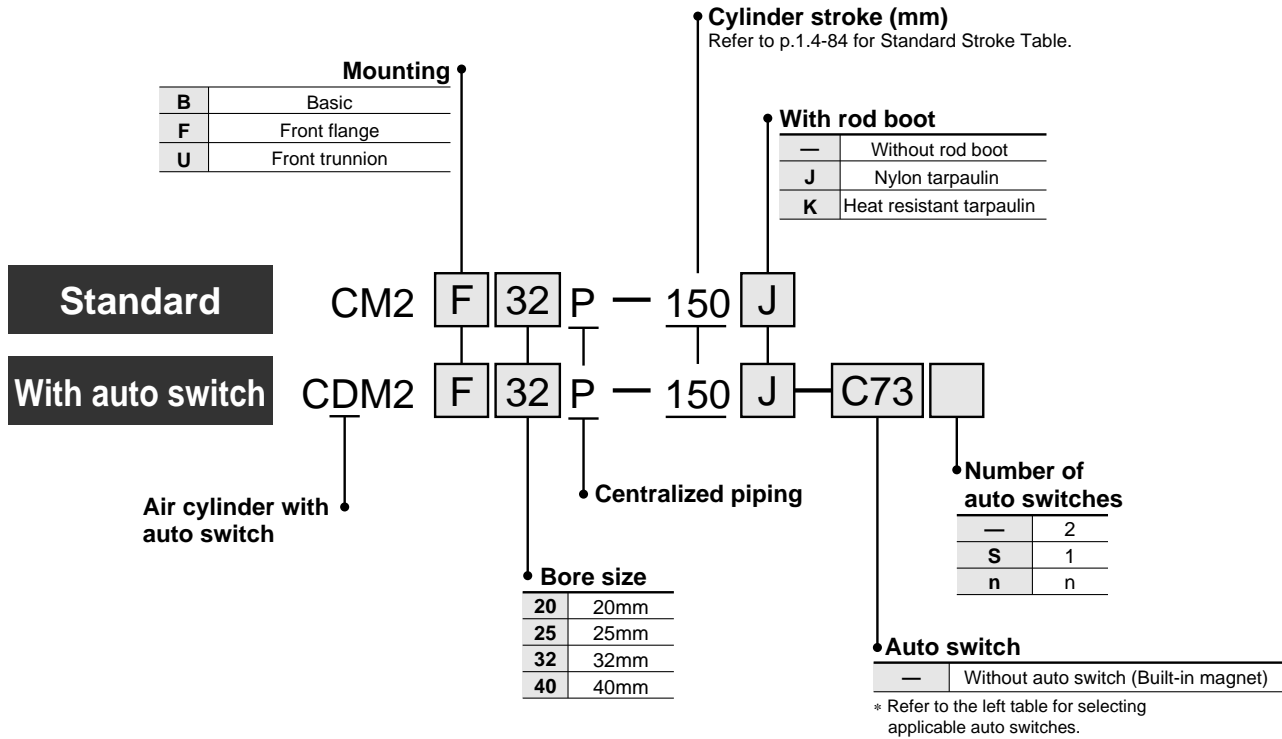
Centralized Piping: Double Acting Single Rod

Series CM2□P



ø20, ø25, ø32, ø40

How to Order



Applicable Auto Switches/Refer to p.5.3-2 for further information on auto switches.

Style	Special function	Electrical entry	Indicator	Wiring (Output)	Load voltage		Auto switch model	Lead wire* (m)				Applicable load																	
					DC	AC		0.5 (-)	3 (L)	5 (Z)	None (N)																		
Reed switch	—	Grommet	Yes	3 wire (NPN)	—	5V	—	C76	●	●	—	—	IC																
									24V	12V	100V	C73	●	●	—	—	Relay PLC												
													5V, 12V	100V or less	C80	●	●	—	—	IC									
																12V	—	B53	●	●	●	—	PLC						
																			12V	100V, 200V	B54	●	●	●	—	Relay PLC			
																						12V	200V or less	B64	●		●	—	—
																									12V		—	C73C	●
5V, 12V	24V or less	C80C	●	●	●	●	IC																						
			—	—	B59W	●	●	—	—	Relay PLC																			
						5V, 12V	—	H7A1	●	●	○	—	Relay PLC																
									12V	—	H7A2	●		●	○	—													
												12V		—	H7B	●	●	○	—										
																5V, 12V	—	H7C	●	●	●	●	Relay PLC						
																			24V	12V	H7NW	●		●	○	—			
5V, 12V	—	H7PW																				●		●	○	—	IC		
			12V	—	H7BW																	●		●	○	—	Relay PLC		
						5V, 12V	—	H7BA					—									●		○	—				
									24V	12V	G5NT		—									●		○	—	Relay PLC			
												5V, 12V	—	H7NF	●							●		○	—			IC	
															5V, 12V	—	H7LF	●				●	○	—	Relay PLC				



* Lead wire length

0.5m : —
 3m : L
 5m : Z
 None: N
 e.g.) C80CZ, C80CN

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

Centralized Piping: Double Acting Single Rod *Series CM2□P*

A cylinder in which two piping ports are provided in the head cover, enabling pipes to be connected only in the axial direction.



Specifications

Bore size (mm)	20	25	32	40
Action	Double acting/Single rod			
Fluid	Air			
Proof pressure	1.5MPa			
Max. operating pressure	1.0MPa			
Min. operating pressure	0.05MPa			
Ambient and fluid temperature	Without auto switch: -10 to +70°C (No freezing) With auto switch: -10 to +60°C (No freezing)			
Lubrication	Non-lube			
Thread tolerance	JIS class 2			
Stroke tolerance	+1.4 0			
Piston speed	Rubber bumper			
Cushion	50 to 700 mm/s	50 to 650 mm/s	50 to 590 mm/s	50 to 240 mm/s
Allowable kinetic energy	0.27J	0.4J	0.65J	1.2J

CJ1

CJP

CJ2

CM2

C85

CG1

MB

C95

CA1

CS1

Standard Stroke

Bore size (mm)	Standard stroke (mm) ⁽¹⁾	Long stroke ⁽²⁾ (mm)
20	25, 50, 75, 100, 125, 150	400
25		450
32		450
40	200, 250, 300	500

Note 1) Other intermediate strokes can be manufactured upon receipt of order.

Note 2) Long stroke applies to the front flange style. If other mounting brackets are used or the application exceeds the long stroke limit, the maximum stroke is determined based on the stroke selection table in technical data.

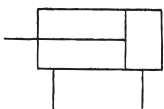
Mounting Accessories

Accessories	Standard		Option		
	Mounting nut	Rod end nut	Single knuckle joint	Double knuckle joint (with pins) *	Rod boot
Basic	● (1pc.)	●	●	●	●
Front flange	● (1pc.)	●	●	●	●
Front trunnion	● (1pc.)	●	●	●	●

* Pins and snap rings (cotter pins for ø40) are attached.

JIS symbol

Double acting/Single rod



Mounting Bracket Part No.

Bore size (mm)	20	25	32	40
Flange	CM-F020B	CM-F032B	CM-F040B	CM-F040B
Trunnion (with nuts)	CM-T020B	CM-T032B	CM-T040B	CM-T040B

Auto Switch Mounting Bracket Part No.

Auto switch model	Bore size (mm)			
	20	25	32	40
D-C7/C8 D-H7□	BM2-020	BM2-025	BM2-032	BM2-040
D-B5/B6 D-G5NTL	BA2-020	BA2-025	BA2-032	BA2-040

Note) A set of following stainless steel mounting screws is attached. (A switch mounting band is not attached. Please order the band separately.)

BBA4: D-C7/C8/H7

· "D-H7BAL" switch is set on the cylinder with the screws above when shipped.

When a switch only is shipped, "BBA4" screws are attached.



Precautions

Be sure to read before handling. Refer to p.0-39 to 0-43 for Safety Instructions and common precautions and refer to p.1.4-5 for those on CM2 series.

Series CM2□P

Rod Boot Materials

Symbol	Material	Max. ambient temperature
J	Nylon tarpaulin	70°C
K	Neoprene cloth	110°C*

* Maximum ambient temperature for the gaiter only.

Weight

		(kg)			
Bore size (mm)		20	25	32	40
Basic weight	Basic	0.14	0.21	0.27	0.58
	Front flange	0.20	0.30	0.36	0.70
	Front trunnion	0.18	0.28	0.33	0.68
Additional weight by each 50 stroke		0.05	0.08	0.10	0.17
Accessory	Single knuckle joint	0.06	0.06	0.06	0.23
	Double knuckle joint (with pins)	0.07	0.07	0.07	0.20

Calculation example: CM2F32P-100

- Basic weight : 0.36
- Additional weight: 0.10
- Cylinder stroke : 100 stroke
 $0.36 + 0.10 \times 100/50 = 0.56\text{kg}$

Copper Free

20-CM2 Mounting Bore size P Stroke

↓ Copper free

This cylinder eliminates any influences of copper ions or fluororesins on color CRTs. Copper materials have been nickel plated or replaced with non-copper materials to prevent the generation of copper ions.



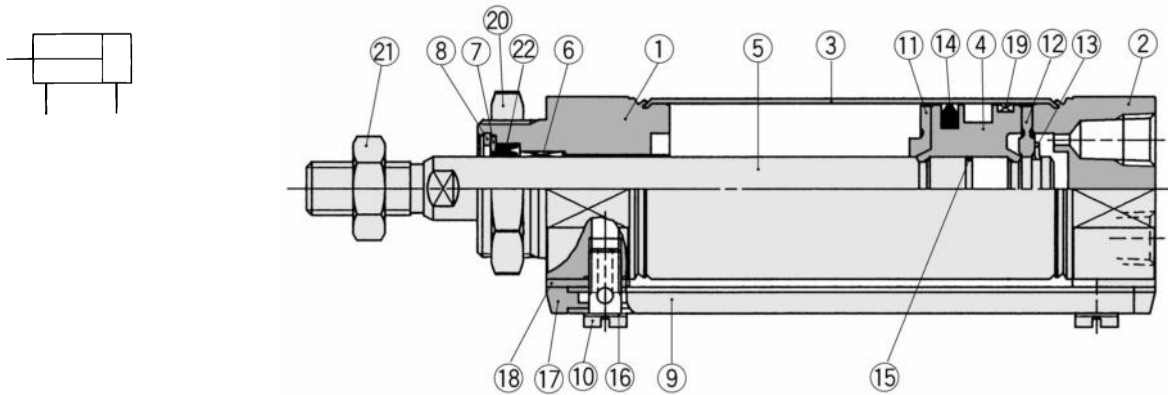
Specifications

Action	Double acting/Single rod	
Bore size	ø20, ø25, ø32, ø40	
Max. operating pressure	1.0MPa	
Min. operating pressure	0.05MPa	
Piston speed	ø20	50 to 700mm/s
	ø25	50 to 650mm/s
	ø32	50 to 590mm/s
	ø40	50 to 420mm/s
Mounting	Basic, Front flange, Front trunnion	

* Auto switches can be mounted.

Centralized Piping: Double Acting Single Rod *Series CM2□P*

Construction



Component Parts

No.	Description	Material	Note
①	Rod cover	Aluminum alloy	White anodized
②	Head cover	Aluminum alloy	White anodized
③	Cylinder tube	Stainless steel	
④	Piston	Aluminum alloy	Chromated
⑤	Piston rod	Carbon steel	Hard chrome plated
⑥	Bushing	Oil impregnated sintered alloy	
⑦	Seal retainer	Rolled steel	Nickel plated
⑧	Snap ring	Carbon steel	Nickel plated
⑨	Pipe	Aluminum alloy	White alumite
⑩	Stud	Brass	Electroless nickel plated
⑪	Bumper A	Urethane	
⑫	Bumper B	Urethane	

No.	Description	Material	Note
⑬	Snap ring	Stainless steel	
⑭	Piston seal	NBR	
⑮	Piston gasket	NBR	
⑯	Gasket	Resin	
⑰	Pipe gasket	Urethane rubber	
⑱	Spacer gasket	Resin	Except for ø25
⑲	Wearing	Resin	
⑳	Mounting nut	Carbon steel	Nickel plated
㉑	Rod end nut	Carbon steel	Nickel plated

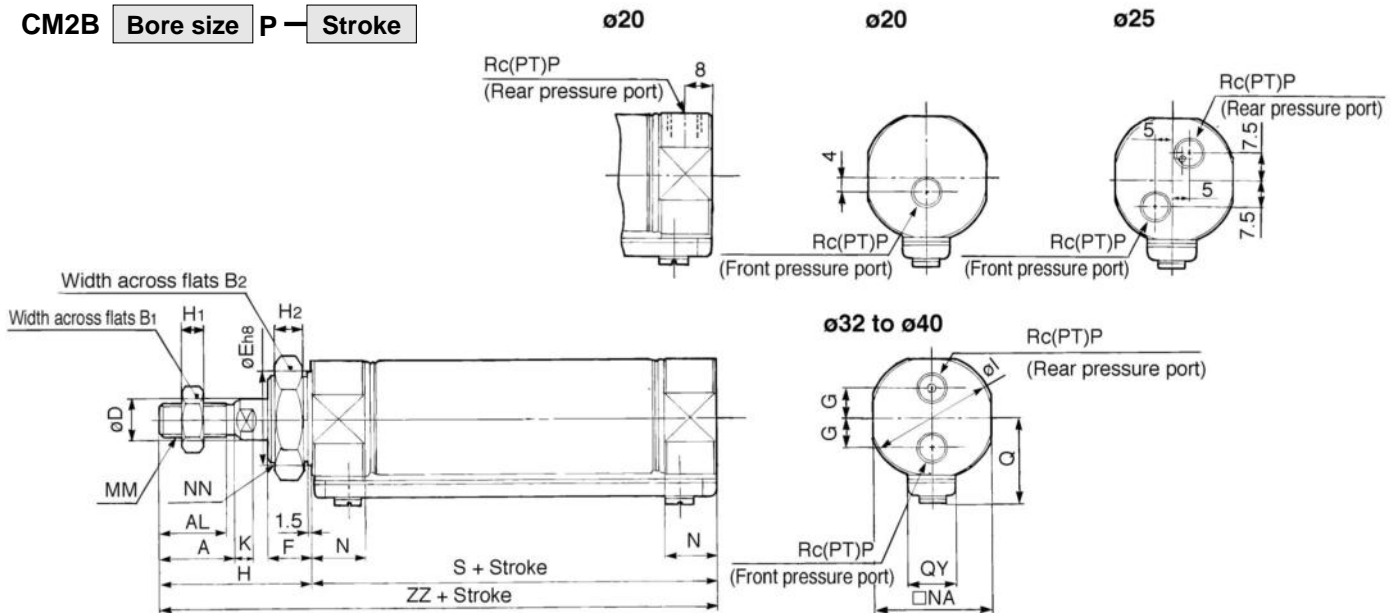
Replacement Parts

No.	Description	Material	Bore size(mm)/Part No.			
			20	25	32	40
㉒	Rod seal	NBR	PDU-8Z	PDU-10Z	PDU-12LZ	PDU-14Z

Basic (B)



CM2B Bore size P — Stroke



Bore size	A	AL	B1	B2	D	E	F	G	H	H1	H2	I	K	MM	N	NA	NN	P	Q	QY	S	ZZ
20	18	15.5	13	26	8	20 ⁰ _{-0.033}	13	—	41	5	8	28	5	M8 X 1.25	15	24	M20 X 1.5	1/8	19.8	14	62	103
25	22	19.5	17	32	10	26 ⁰ _{-0.033}	13	—	45	6	8	33.5	5.5	M10 X 1.25	15	30	M26 X 1.5	1/8	22	14	62	107
32	22	19.5	17	32	12	26 ⁰ _{-0.033}	13	9	45	6	8	37.5	5.5	M10 X 1.25	15	34.5	M26 X 1.5	1/8	25.8	16	64	109
40	24	21	22	41	14	32 ⁰ _{-0.039}	16	10.5	50	8	10	46.5	7	M14 X 1.5	21.5	42.5	M32 X 2	1/4	29.8	16	88	138

Auto Switch Position

Refer to the auto switch position (at stroke end) for standard style (double acting/single rod) on p.1.4-21.

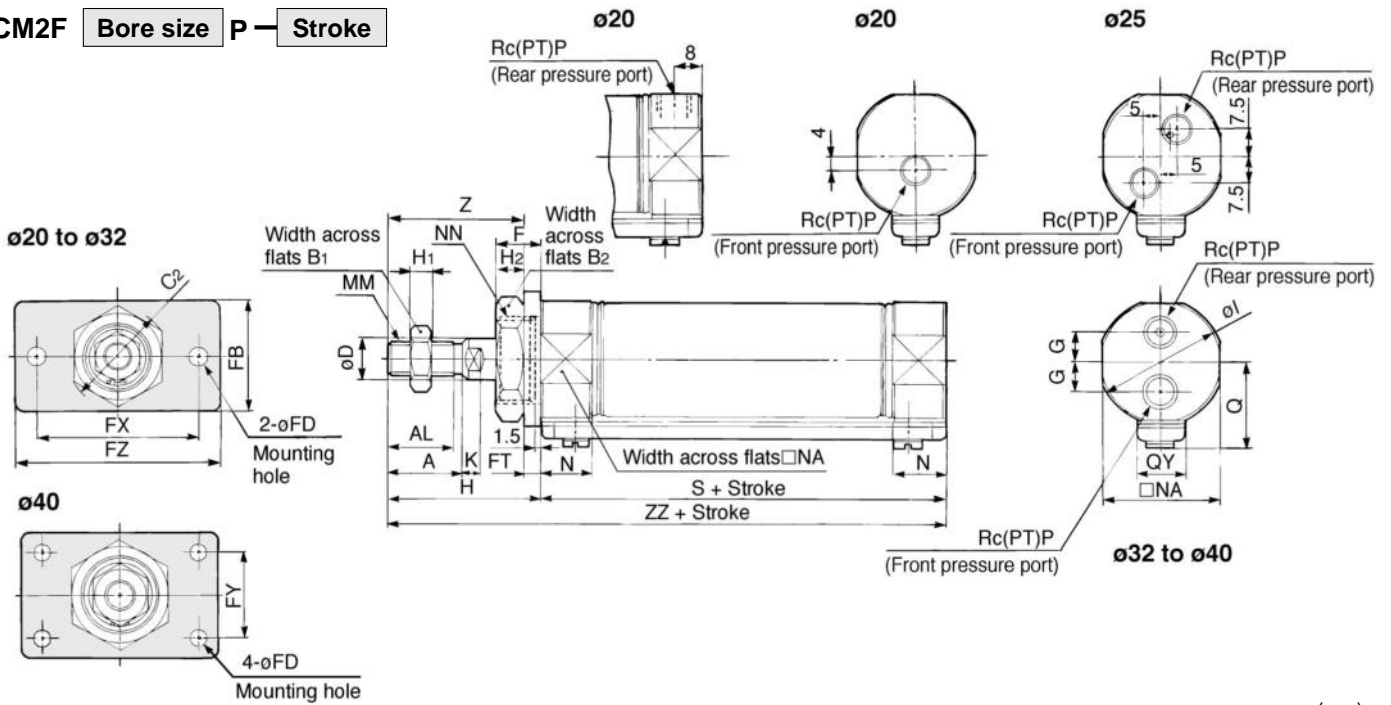


Basic
 CM2B20.....SCM220B, #16
 CM2B25.....SCM225B, #16
 CM2B32.....SCM232B, #16
 CM2B40.....SCM240B, #16

Series CM2□P

Front Flange (F)

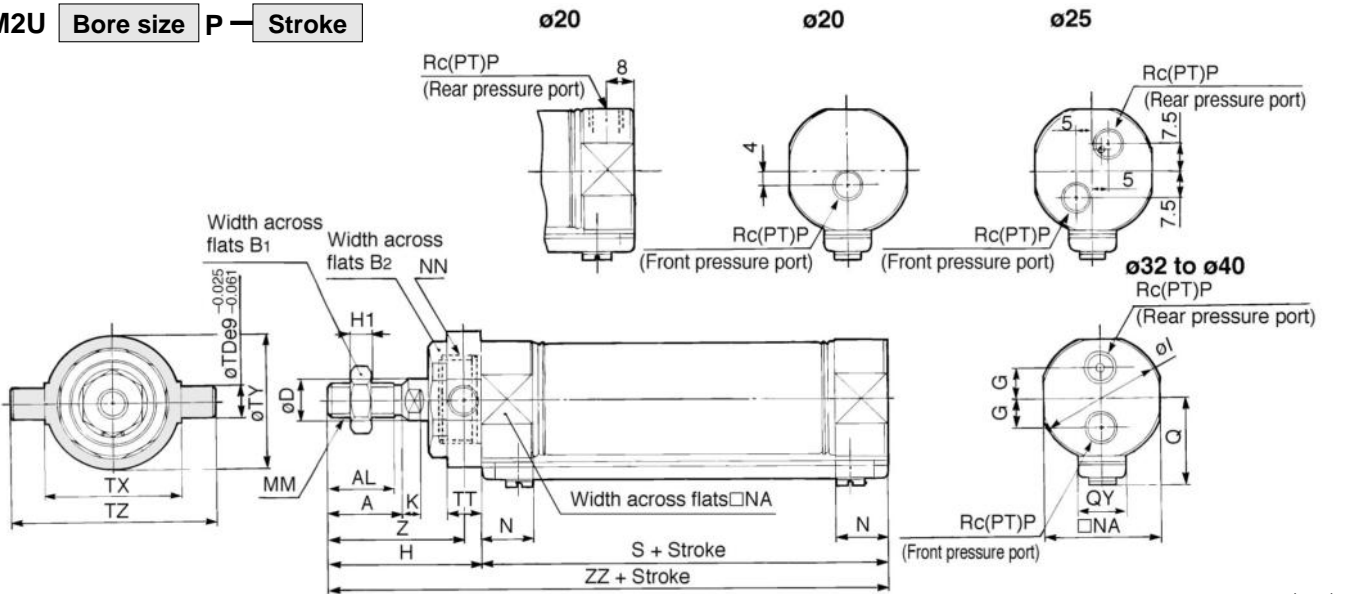
CM2F Bore size P — Stroke




Bore	A	AL	B1	B2	C2	D	F	FB	FD	FT	FX	FY	FZ	G	H	H1	H2	I	K	MM	N	NA	NN	P	Q	QY	S	Z	ZZ
20	18	15.5	13	26	30	8	13	34	7	4	60	—	75	—	41	5	8	28	5	M8 X 1.25	15	24	M20 X 1.5	1/8	19.8	14	62	37	103
25	22	19.5	17	32	37	10	13	40	7	4	60	—	75	—	45	6	8	33.5	5.5	M10 X 1.25	15	30	M26 X 1.5	1/8	22	14	62	41	107
32	22	19.5	17	32	37	12	13	40	7	4	60	—	75	9	45	6	8	37.5	5.5	M10 X 1.25	15	34.5	M26 X 1.5	1/8	25.8	16	64	41	109
40	24	21	22	41	47.3	14	16	52	7	5	66	36	82	10.5	50	8	10	46.5	7	M14 X 1.5	21.5	42.5	M32 X 2	1/4	29.8	16	88	45	138

Front Trunnion (U)

CM2U Bore size P — Stroke



Bore	A	AL	B1	B2	D	G	H	H1	I	K	MM	N	NA	NN	P	Q	QY	S	TD	TT	TX	TY	TZ	Z	ZZ
20	18	15.5	13	26	8	—	41	5	28	5	M8 X 1.25	15	24	M20 X 1.5	1/8	19.8	14	62	8	10	32	32	52	36	103
25	22	19.5	17	32	10	—	45	6	33.5	5.5	M10 X 1.25	15	30	M26 X 1.5	1/8	22	14	62	9	10	40	40	60	40	107
32	22	19.5	17	32	12	9	45	6	37.5	5.5	M10 X 1.25	15	34.5	M26 X 1.5	1/8	25.8	16	64	9	10	40	40	60	40	109
40	24	21	22	41	14	10.5	50	8	46.5	7	M14 X 1.5	21.5	42.5	M32 X 2	1/4	29.8	16	88	10	11	53	53	77	44.5	138


 Basic Front trunnion
 CM2U20.....SCM220B, #16 SCM220B, #16, #8
 CM2U25.....SCM225B, #16 SCM225B, #16, #8
 CM2U32.....SCM232B, #16 SCM232B, #16, #8
 CM2U40.....SCM240B, #16 SCM240B, #16, #8