

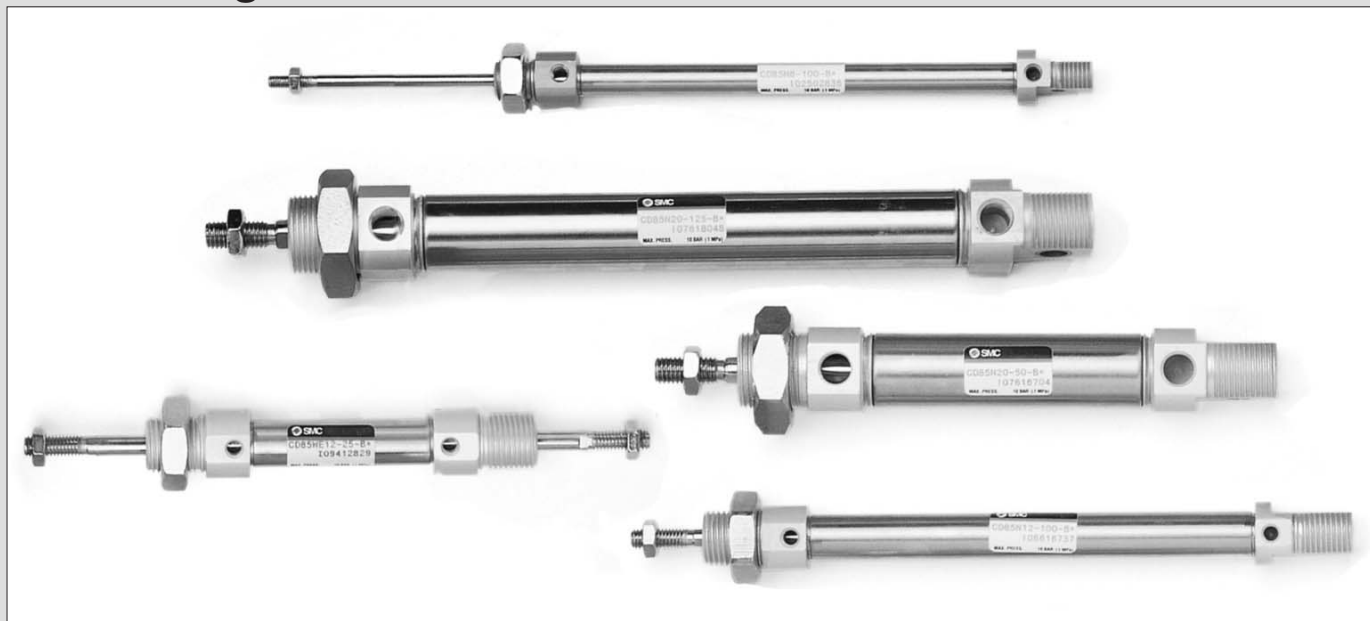


ISO Cylinder

Series C85

ø8, ø10, ø12, ø16, ø20, ø25

Conforming to ISO 6432 and CETOP RP52P.

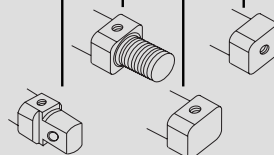


Series Variations

Series	Action	Rod	Cushion	Head cover style				Switch mount		Rod boot (ø20, 25)	Bore size (mm)	Page
				N	E	F	Y	Rail	Band			
Standard Series C85 	Double acting	Single	Rubber	●	●	●	●	●	●	●	8 to 25	6-11-6
			Air	●	●	●	●	●	●	●	10 to 25	
		Double	Rubber	●	●	●	●	●	●	●	8 to 25	
			Air	●	●	●	●	●	●	●	10 to 25	
Non-rotating rod Series C85K 	Single acting	Single (SR, SE)	Rubber	●	●	●	●	●	●	●	8 to 25	6-11-23
				(Not for SE)				●	●	●	8 to 25	
				●	●	●	●	●	●	●	8 to 25	
				(Not for SE)				●	●	●	8 to 25	
Direct mount Series C85R 	Base	Double acting	Single	Rubber	●	●	●	●	●	●	8 to 25	6-11-38
					●	●	●	●	●	●	20, 25	
	Front	Double acting	Single	Rubber	●	●	●	●	●	●	8 to 25	
					●	●	●	●	●	●	20, 25	

Mounting style

SR = Spring Return
SE = Spring Extended



CJ1

CJP

CJ2

CM2

CG1

MB

MB1

CA2

CS1

C76

C85

C95

CP95

NCM

NCA

D-

-X

20-

Data

Series C85: $\varnothing 8$, $\varnothing 10$, $\varnothing 12$,

Extended Service Life

Automated assembly guarantees 100% repeatable mounting accuracy.

With abrasion resistant seals and replaceable nose seal, C85 cylinders offer exceptional service life.

Corrosion Resistance

All parts are corrosion resistant. End covers and clevis are specially anodised while barrel is stainless steel. Piston rod is stainless steel up to $\varnothing 16$. $\varnothing 20$ to $\varnothing 40$ is C45 hard chromed.

ISO Standard 6432

is compliant with auto switch type.



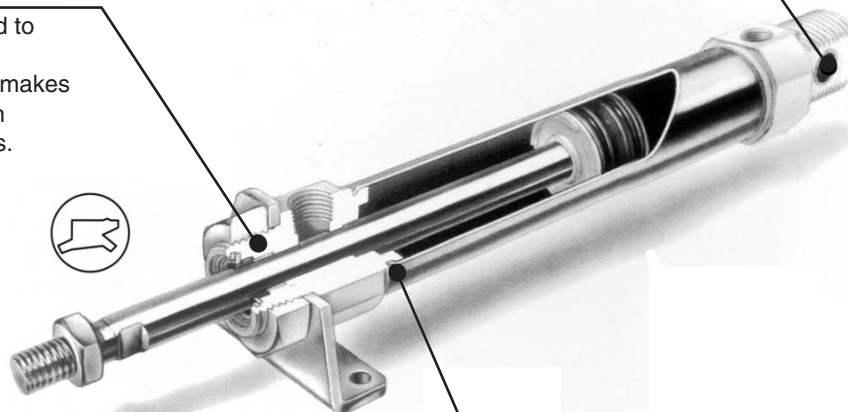
C85: $\varnothing 8$, $\varnothing 10$, $\varnothing 12$, $\varnothing 16$

Bronze Bush Bearing

High quality bronze bush in clevis bearing extends the life of cylinder.

High Dust Resistance

A unique rod seal is employed to prevent entry of dust. The effectiveness of the seal makes the cylinder suitable for use in extremely dusty environments.



C85: $\varnothing 20$, $\varnothing 25$

Leak Proof Assembly

Double swaging of the end covers of the barrel provides an absolutely air tight union.

ISO Cylinder: Standard/Non-rotating Type Single Acting, Spring Return/Extended

Series C85

ø8, ø10, ø12, ø16, ø20, ø25

How to Order

Single acting,
Spring return/
Spring extended

C D 85 K N 16 40 S B

Built-in magnet

Nil	None
D	Built-in magnet

Type

Nil	Standard
K	Non-rotating rod (Rubber cushion only)

Mounting style

Symbol	Mounting
N	Basic integrated clevis
E	Double end
F	Front nose
Y*	Front nose in line port

* Except single acting spring extended type.

Auto switch
mounting style

A	Rail mounting
B	Band mounting

Applicable auto switches and bands are shown on page 6-11-44. Please order auto switches and bands separately.

Option

R	Stainless steel piston rod, rod end nut and mounting nut
R2	Stainless steel piston rod and rod end nut

Bore size

Stroke

Bore size (mm)	Standard stroke (mm)*	Max. stroke
8*	10, 25, 40, 50	50
10		
12		
16	10, 25, 40, 50, 80, 100, 125, 150	150
20		
25		

* Other strokes available on request.

Action

S	Single acting, Spring return
T	Single acting, Spring extended

CJ1

CJP

CJ2

CM2

CG1

MB

MB1

CA2

CS1

C76

C85

C95

CP95

NCM

NCA

D-

-X

20-

Data

Mounting Bracket Part No.

Bore size (mm)		8	10	12	16	20	25
Mounting bracket	Foot (1 pc.)	C85L10A		C85L16A		C85L25A	
	Foot (2 pcs. with mounting nut 1 pc.)	C85L10B		C85L16B		C85L25B	
	Flange	C85F10		C85F16		C85F25	
	Trunnion	C85T10		C85T16		C85T25	
	Clevis	C85C10		C85C16		C85C25	
Accessory	Single knuckle joint	KJ4D		KJ6D		KJ8D	KJ10D
	Double knuckle joint	GKM4-8		GKM6-10		GKM8-16	GKM10-20
	Floating joint	JA10-4-070		JA15-6-100		JA20-8-125	JA30-10-125

Replacement Parts For Standard Cylinders

Bore size (mm)	Part no.	Note
20	C85-20PS	Every set includes: n°1 rod packing n°1 packing retaining washer n°1 retaining ring
25	C85-25PS	

For Non-rotating Cylinders ("K")

Bore size (mm)	Part no.	Note
20	C85K-20PS	Every set includes: n°1 rod packing n°1 packing retaining washer n°1 retaining ring
25	C85K-25PS	

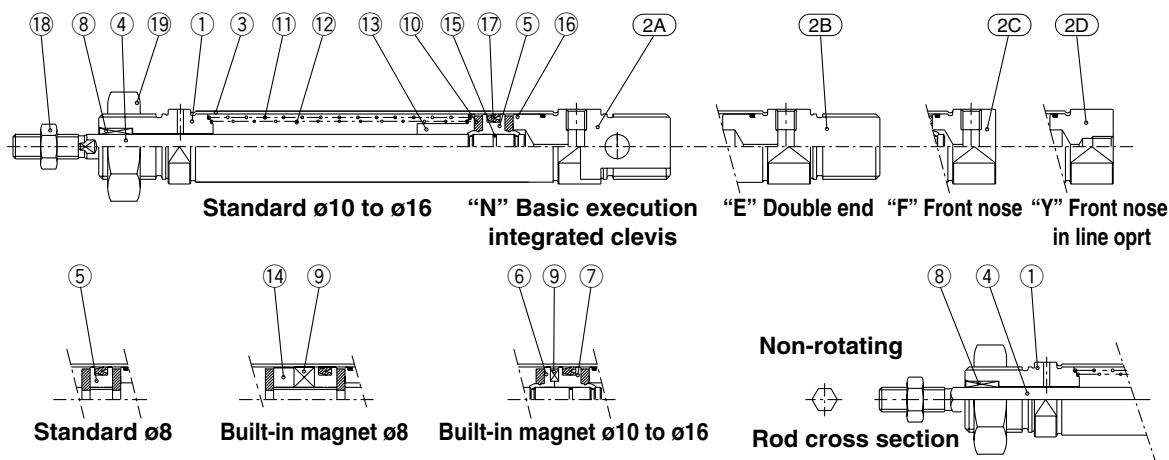
Series C85

Construction

[First angle projection]

Single acting, Single rod

Spring return: C□85□8 to 16-□S (Disassembly is not possible.)

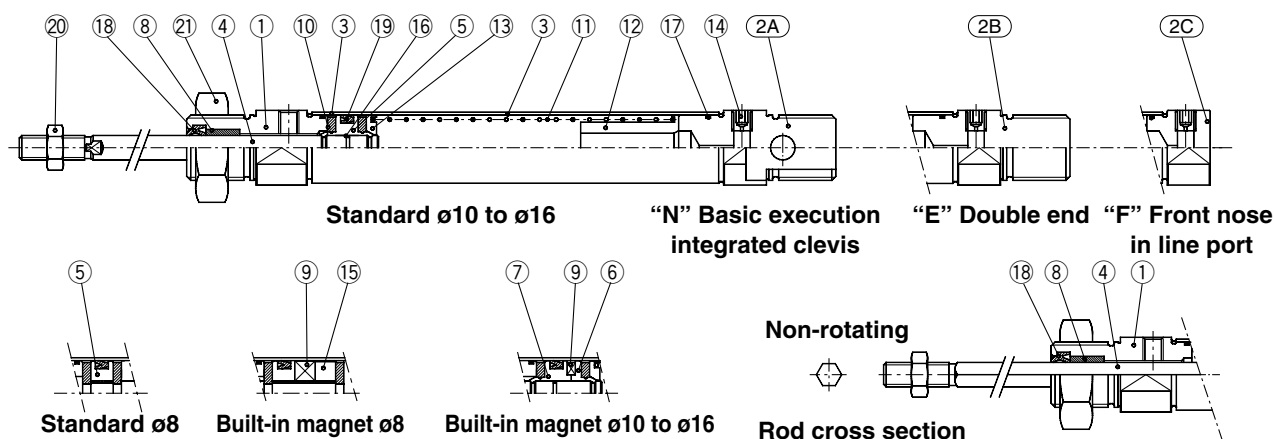


Component Parts

No.	Description	Material	Qty.	Note
①	Rod cover	Aluminum alloy	1	White anodized
②A	Head cover N	Aluminum alloy	1	White anodized
②B	Head cover E	Aluminum alloy	1	White anodized
②C	Head cover F	Aluminum alloy	1	White anodized
②D	Head cover Y	Aluminum alloy	1	White anodized
③	Cylinder tube	Stainless steel	1	
④	Piston rod	Stainless steel	1	
⑤	Piston	Brass	1	
⑥	Piston A	Brass	1	(Switch type only)
⑦	Piston B	Brass	1	(Switch type only)
⑧	Bush	Sintered bronze	1	

No.	Description	Material	Qty.	Note
⑨	Magnet	Magnet	1	(Switch type only)
⑩	Bumper	Urethane	2	
⑪	Return spring A	Piano wire	1	
⑫	Return spring B	Piano wire	1	
⑬	Spring guide	Brass	1	
⑭	Spacer	Brass	1	
⑮	Piston gasket	NBR	1	(2 for switch type)
⑯	Tube gasket	NBR	1	
⑰	Piston seal	NBR	1	
⑱	Rod end nut	Carbon steel	1	Nickel plating
⑲	Mounting nut	Carbon steel	1	Nickel plating

Spring Extended: C□85□8 to 16-□T (Disassembly is not possible.)



Component Parts

No.	Description	Material	Qty.	Note
①	Rod cover	Aluminum alloy	1	White anodized
②A	Head cover N	Aluminum alloy	1	White anodized
②B	Head cover E	Aluminum alloy	1	White anodized
②C	Head cover F	Aluminum alloy	1	White anodized
③	Cylinder tube	Stainless steel	1	
④	Piston rod	Stainless steel	1	
⑤	Piston	Brass	1	
⑥	Piston A	Brass	1	(Switch type only)
⑦	Piston B	Brass	1	(Switch type only)
⑧	Bush	Sintered bronze	1	
⑨	Magnet	Magnet	1	(Switch type only)

No.	Description	Material	Qty.	Note
⑩	Bumper	Urethane	2	
⑪	Return spring C	Piano wire	1	
⑫	Spring guide	Brass	1	
⑬	Spring seat	Brass	1	
⑭	Plug	Steel	1	
⑮	Spacer	Brass	1	
⑯	Piston gasket	NBR	1	(2 for switch type)
⑰	Tube gasket	NBR	1	
⑱	Rod seal	NBR	1	
⑲	Piston seal	NBR	1	
⑳	Rod end nut	Carbon steel	1	Nickel plating
㉑	Mounting nut	Carbon steel	1	Nickel plating

Series C85

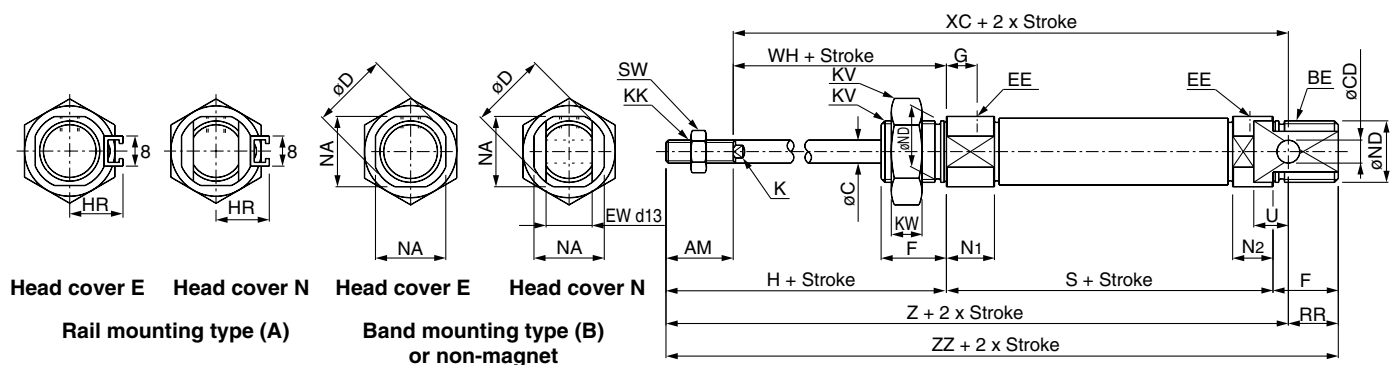
Dimensions

[First angle projection]

Single acting, Spring return

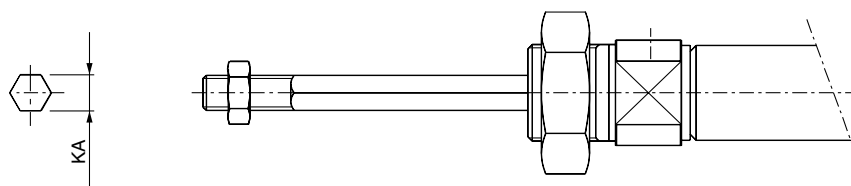
C□85^N Bore—Stroke T—□

Without magnet, Built-in magnet



C□85KN/E

Non-rotating (Piston rod)



Rod cross section

(mm)																								
Bore	AM	BE	øC	øCD H9	øD	EE	EW	F	G	H	HR	K	KA	KK	KV	KW	N1	N2	NA	øND h8	RR	SW	U	WH
8	12	M12 x 1.25	4	4	16.7	M5 x 0.8	8	12	7	28	10	—	4.2	M4 x 0.7	19	6	11.5	9.5	15	12	10	7	6	16
10	12	M12 x 1.25	4	4	16.7	M5 x 0.8	8	12	7	28	10.5	—	4.2	M4 x 0.7	19	6	11.5	9.5	15	12	10	7	6	16
12	16	M16 x 1.5	6	6	19.7	M5 x 0.8	12	17	8	38	14	5	6.2	M6 x 1	24	8	12.5	10.5	18.3	16	14	10	9	22
16	16	M16 x 1.5	6	6	19.7	M5 x 0.8	12	17	8	38	14	5	6.2	M6 x 1	24	8	12.5	10.5	18.3	16	13	10	9	22
20	20	M22 x 1.5	8	8	28	G 1/8	16	20	8	44	17	6	8.2	M8 x 1.25	32	11	15	15	24	22	11	13	12	24
25	22	M22 x 1.5	10		33.5	G 1/8	16	22	8	50	20	8	10.2	M10 x 1.25	32	11	15	15	30	22	11	17	12	28

Bore	S			Z			XC			ZZ		
	1 to 50	51 to 100	101 to 150	1 to 50	51 to 100	101 to 150	1 to 50	51 to 100	101 to 150	1 to 50	51 to 100	101 to 150
8	64.5(70.5)	—	—	94.5(100.5)	—	—	82.5(88.5)	—	—	104.5(110.5)	—	—
10	64.5(68.5)	—	—	94.5(98.5)	—	—	82.5(86.5)	—	—	104.5(108.5)	—	—
12	70(73.5)	—	—	111(114.5)	—	—	95(98.5)	—	—	125(128.5)	—	—
16	75(78.5)	101(104.5)	127(130.5)	117(120.5)	143(146.5)	169(172.5)	101(104.5)	127(130.5)	153(156.5)	130(133.5)	156(159.5)	182(185.5)
20	87	112	137	140	165	190	120	145	170	151	176	201
25	88.5	113.5	138.5	149.5	174.5	199.5	127.5	152.5	177.5	160.5	185.5	210.5

(): In the case of auto switch style.

1 High Temperature XB6

C85 Mounting Bore size – Stroke – XB6

N, E, F, Y 8, 10, 12, 16, 20, 25 mm

Standard cylinder seals are replaced with special ones and other modifications are made in order to enable the cylinder to operate at a high ambient temperature (–10 to 150°C).

Possible applications:

- Bore size 8 to 20 mm
- Rubber bumper
- Without magnets (Auto switches cannot be used at high temperature.)
- Single rod — Double acting
- Double rod — Double acting (W)

Dimensions unchanged

Specifications

Type	Air cylinder
Applicable size	ø8, ø10, ø16, ø20, ø25 mm
Action	Double acting
Ambient temperature range	–10 to 150°C
Piston speed	50 to 500 mm/s
Cushion	Rubber bumper
Material	Seal: Fluorocarbon rubber Wear ring: Fluorocarbon resin
Grease	Fluorinated grease

Note) Contact SMC for non-rotating type.

3 Low Speed XB9

C85 Mounting Bore size – Stroke – XB9

N, E, F, Y 20, 25 mm

The cylinder does not generate any stick-slip phenomenon even at the rated low speed of 10 to 50 mm/s.

All strokes drive at a constant speed smoothly.

Possible applications:

- Bore size 20 and 25 mm
- Rubber bumper type only
- With or without magnets
- Single rod — Double acting

Dimensions unchanged

Specifications

Type	Air cylinder
Applicable size	ø20, ø25 mm
Action	Double acting
Piston speed	10 to 50 mm/s
Cushion	Rubber bumper

Note) Contact SMC for non-rotating type.

2 Low Temperature XB7

C85 Mounting Bore size – Stroke – XB7

N, E, F, Y 20, 25 mm

Standard cylinder packing are replaced with special ones and other modifications are made in order to enable the cylinder to operate at a low ambient temperature (–55 to 70°C).

Possible applications:

- Bore size 20 and 25 mm
- Rubber bumper
- Without magnets (Auto switches cannot be used at low temperature.)
- Single rod — Double acting
- Double rod — Double acting (W)

Dimensions unchanged

Specifications

Type	Air cylinder
Applicable size	ø20, ø25 mm
Action	Double acting
Ambient temperature range	–55 to 70°C
Cushion	Rubber bumper
Material	Seal: Low nitrile rubber Wear ring: Fluorocarbon resin
Grease	Fluorinated grease

Note) Contact SMC for non-rotating type.

4 Heavy-duty Scraper XC4

C85 Mounting Bore size – Stroke – XC4

N, E, F, Y 20, 25 mm

A heavy-duty scraper is used as wiper ring. Ideal for severe applications where the cylinder is exposed to dust, earth and sand. Applicable to casting machines, construction machines, industrial vehicles, etc.

Possible applications:

- Bore size 20 and 25 mm
- Rubber bumper type only
- With or without magnets
- Single rod — Double acting
- Double rod — Double acting (W)

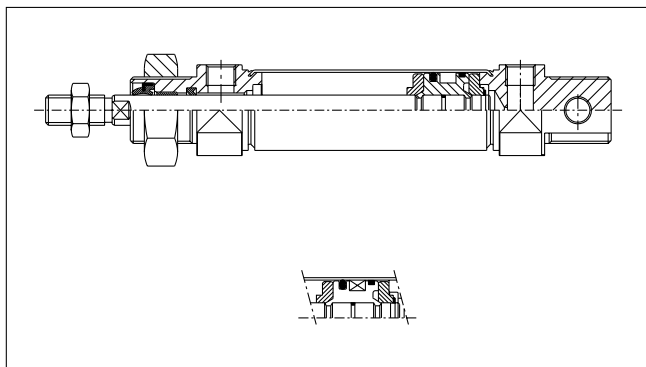
Dimensions unchanged

Specifications

Type	Air cylinder
Applicable size	ø20, ø25 mm
Max. operating pressure	1 MPa (10 bar)
Min. operating pressure	0.08 MPa (0.8 bar)
Cushion	Rubber bumper
Wiper ring	NBR (SCB)

Note) Not applicable for non-rotating type.

Construction



CJ1

CJP

CJ2

CM2

CG1

MB

MB1

CA2

CS1

C76

C85

C95

CP95

NCM

NCA

D-

-X

20-

Data