



# ISO Cylinder

## Series C85

ø8, ø10, ø12, ø16, ø20, ø25

Conforming to ISO 6432 and CETOP RP52P.

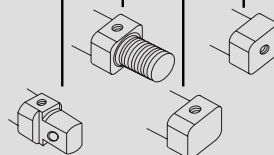


### Series Variations

Series	Action	Rod	Cushion	Head cover style				Switch mount		Rod boot (ø20, 25)	Bore size (mm)	Page
				N	E	F	Y	Rail	Band			
<b>Standard Series C85</b> 	Double acting	Single	Rubber	●	●	●	●	●	●	●	8 to 25	6-11-6
			Air	●	●	●	●	●	●	●	10 to 25	
		Double	Rubber	●	●	●	●	●	●	●	8 to 25	
			Air	●	●	●	●	●	●	●	10 to 25	
<b>Non-rotating rod Series C85K</b> 	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	
<b>Direct mount Series C85R</b> 	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.

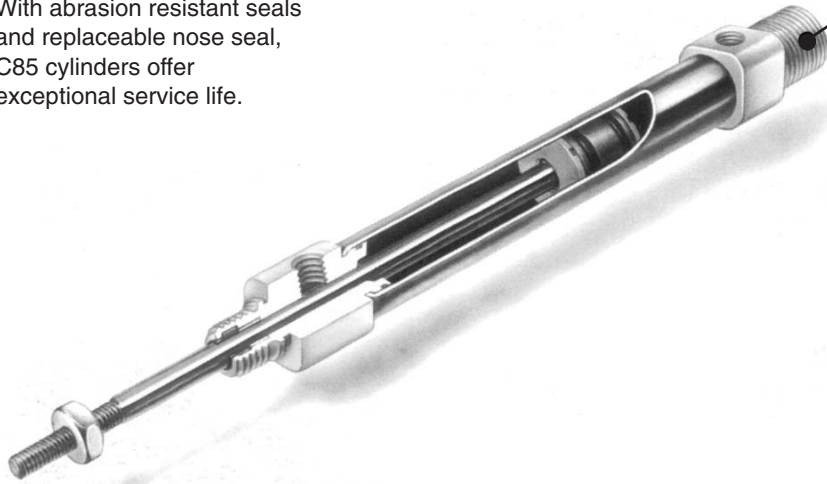
With abrasion resistant seals and replaceable nose seal, C85 cylinders offer exceptional service life.

## 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.



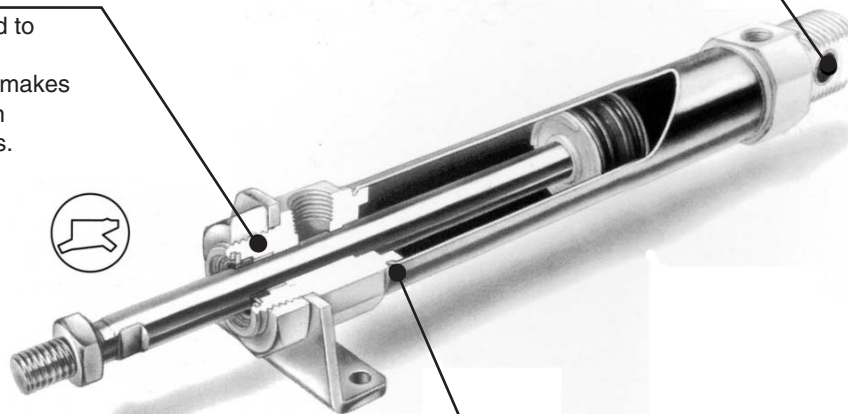
**C85:  $\varnothing 8$ ,  $\varnothing 10$ ,  $\varnothing 12$ ,  $\varnothing 16$**

## 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 Double Acting, Single/Double Rod

## Series C85

ø8, ø10, ø12, ø16, ø20, ø25

### How to Order

<b>Double acting Single rod</b>	<b>C D 85</b>	<b>K N 16 40 C J A R2</b>
<b>Double acting Double rod</b>	<b>C D 85 W</b>	<b>E 16 40 C JJ B</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

\* Double acting, Double rod:  
Only double end style (E).  
\*\* Except air cushion type.

**Bore size**

Bore size (mm)	Standard stroke (mm)**	Max. stroke (mm)		
		Standard	Non-rotating	Double rod
8*	10, 25, 40, 50, 80, 100	400	100	100
10				
12				
16	10, 25, 40, 50, 80, 100, 125, 160, 200	1000	1000	500
20				
25				

\* Not available with air cushion.  
\*\* Other strokes available on request.

**Stroke**

**Cushion**

Nil	Rubber cushion (Standard)
C	Air cushion (Only "N" execution, bores 10 to 25 mm)

**Auto switch mounting type**

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

Note) Please refer to page 6-11-47 for additional options. Only one option can be selected.

**Rod boot (Only ø20, ø25)**

Nil	Without rod boot
J	Nylon tarpaulin one side
K	Heat resistant tarpaulin one side
JJ*	Nylon tarpaulin both sides
KK*	Heat resistant tarpaulin both sides

\* In the case of double acting/double rod.

### 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 seal
25	C85-25PS	n°1 seal retaining washer n°1 retaining ring

### For Non-rotating Cylinders ("K")

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

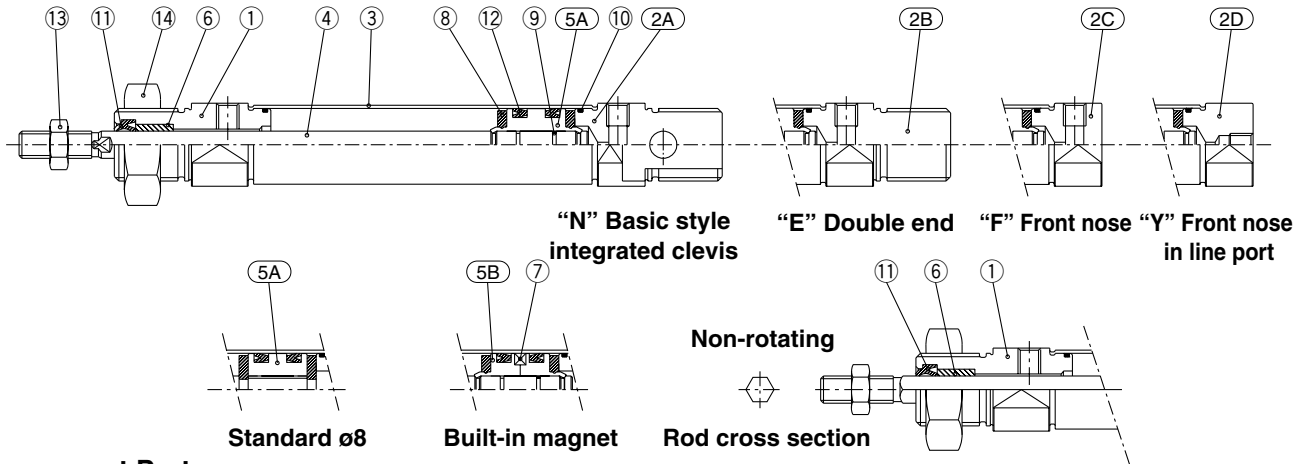
# ISO Cylinder: Standard/Non-rotating Type Double Acting, Single/Rod Series C85

## Construction

[First angle projection]

### Double acting, Single rod

C□85□8 to 16 Rubber cushion (Disassembly is not possible.)

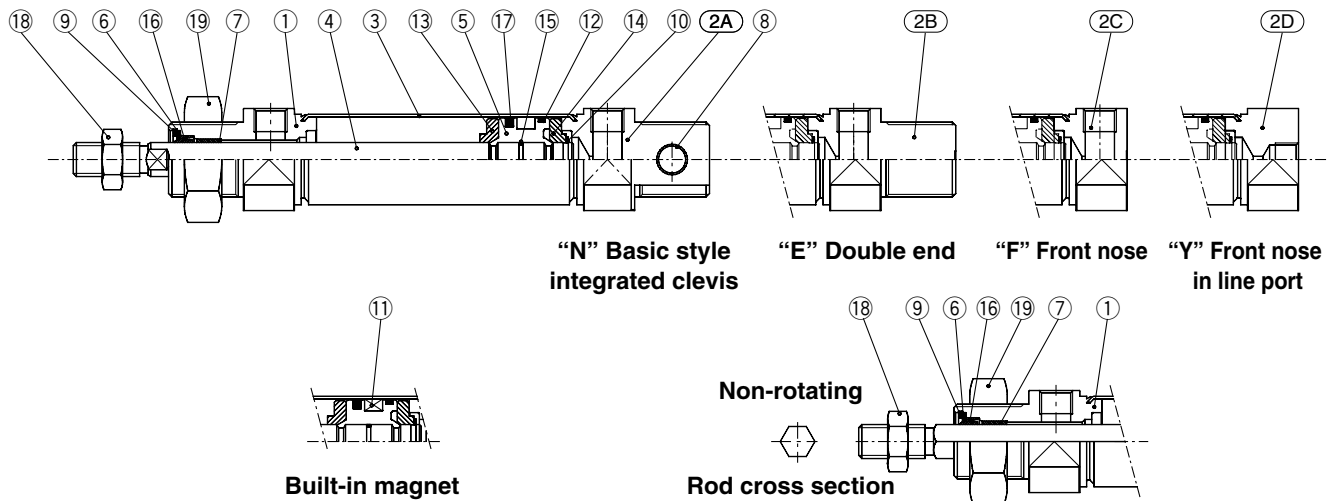


### Component Parts

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	
⑤A	Piston A	Brass	1	
⑤B	Piston B	Brass	2	(Switch type piston)

No.	Description	Material	Qty.	Note
⑥	Bush	Sintered bronze	1	
⑦	Magnet	Magnet	1	(Switch type only)
⑧	Bumper	Urethane	2	
⑨	Piston gasket	NBR	1	(2 for switch type)
⑩	Tube gasket	NBR	2	
⑪	Rod seal	NBR	1	
⑫	Piston seal	NBR	2	
⑬	Rod end nut	Carbon steel	1	Nickel plating
⑭	Mounting nut	Carbon steel	1	Nickel plating

### C□85□20/25 Rubber cushion



### 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	Carbon steel	1	Hard chrome plated
⑤	Piston	Aluminum alloy	1	Chromate
⑥	Plain washer	Stainless steel	1	
⑦	Bush	Sintered bronze	1	
⑧	Bush	Sintered bronze	2	

No.	Description	Material	Qty.	Note
⑨	Retaining ring	Carbon steel	1	Nickel plating
⑩	Retaining ring	Stainless steel	1	
⑪	Magnet	Magnet	1	(Switch type only)
⑫	Wear ring	Resin	1	
⑬	Bumper A	Urethane	1	
⑭	Bumper B	Urethane	1	
⑮	Piston gasket	NBR	1	
⑯	Rod seal	NBR	1	
⑰	Piston seal	NBR	1	
⑱	Rod end nut	Carbon steel	1	Nickel plating
⑲	Mounting nut	Carbon steel	1	Nickel plating

CJ1

CJP

CJ2

CM2

CG1

MB

MB1

CA2

CS1

C76

C85

C95

CP95

NCM

NCA

D-

-X

20-

Data

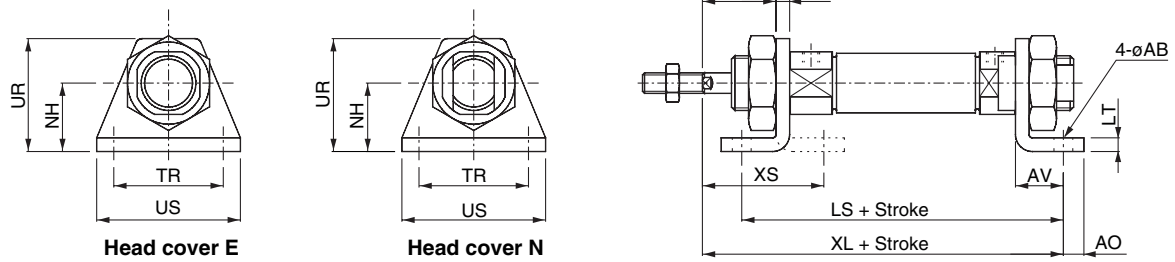
# ISO Cylinder: Standard/Non-rotating Type Double Acting, Single/Double Rod **Series C85**

## Dimensions with Mounting Bracket

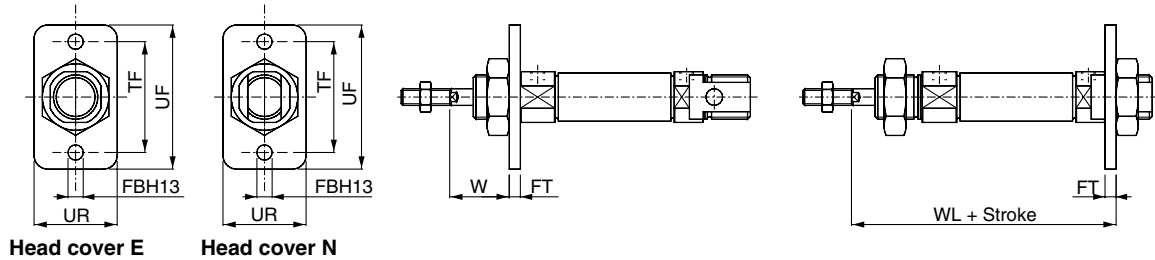
[First angle projection]

Double acting, Single rod

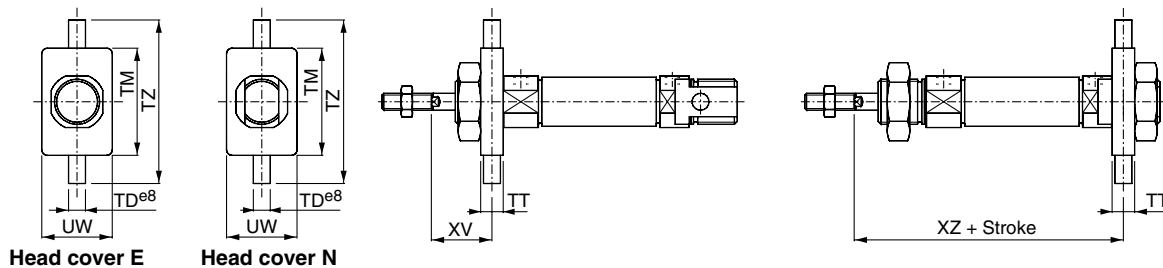
Rod foot, Rod and head foot: C85L10<sup>A</sup><sub>B</sub>, C85L16<sup>A</sup><sub>B</sub>, C85L25<sup>A</sup><sub>B</sub>



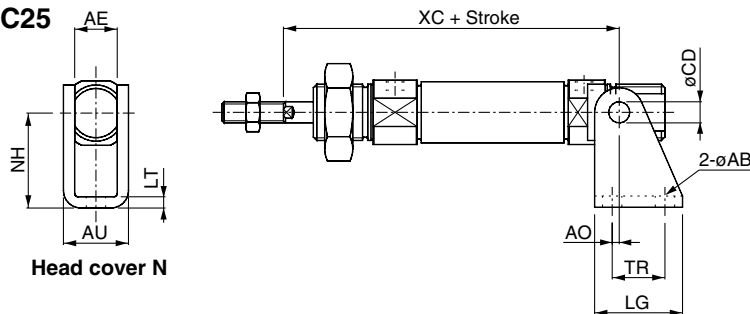
Rod flange, Head flange: C85F10, C85F16, C85F25



Rod trunnion, Head trunnion: C85T10, C85T16, C85T25



Clevis: C85C10, C85C16, C85C25



Bore	Rod foot, Rod and head foot												Rod flange, Head flange						
	AO	US	øAB	LT	NH	LS	XL	TR JS14	XS	AV	UR	W	UR	FBH13	FT	TF	UF	W	WL
8	5	35	4.5	3.2	16	68	73	25	23.8	11	26	12.8	22	4.5	3.2	30	40	12.8	65.2
10	5	35	4.5	3.2	16	68(75)	73(80)	25	23.8	11	26	12.8	22	4.5	3.2	30	40	12.8	65.2(72.2)
12	6	42	5.5	4	20	78(82)	86(90)	32	32	14	33	18	30	5.5	4	40	52	18	76(80)
16	6	42	5.5	4	20	84(84)	92(92)	32	32	14	33	18	30	5.5	4	40	52	18	82(82)
20	8	54	6.6	5	25	96	103	40	36	17	42	19	40	6.6	5	50	66	19	91
25	8	54	6.6	5	25	99	110	40	40	17	42	23	40	6.6	5	50	66	23	98

Bore	Rod trunnion, Head trunnion							Clevis									
	TT	UW	øTD ø8	TM	TZ	XV	XZ	øCD H9	AE	øAB	AO	AU	TR	LG	NH	LT	XC
8	6	20	4	26	38	13	65	4	8.1	4.5	1.5	13.1	12.5	20	24	2.5	64
10	6	20	4	26	38	13	65(72)	4	8.1	4.5	1.5	13.1	12.5	20	24	2.5	64(71)
12	8	25	6	38	58	18	76(80)	6	12.1	5.5	2	18.5	15	25	27	3.2	75(79)
16	8	25	6	38	58	18	82(82)	6	12.1	5.5	2	18.5	15	25	27	3.2	82(82)
20	8	32	6	46	66	20	90	8	16.1	6.6	4	24.1	20	32	30	4	95
25	8	32	6	46	66	24	97		16.1	6.6	4	24.1	20	32	30	4	104

( ) : In the case of air cushion.

## 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)

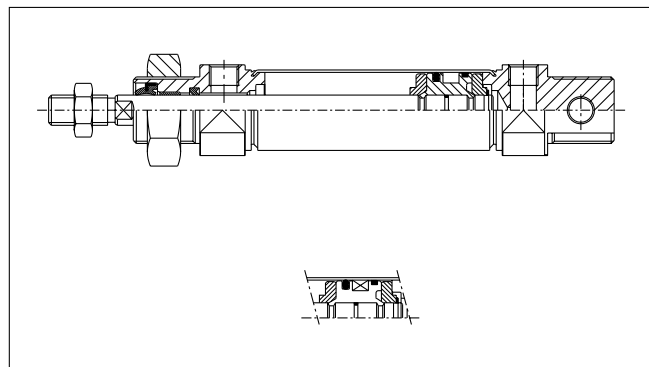
#### Dimensions unchanged

#### 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