

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

Series C85

ø8, ø10, ø12, ø16, ø20, ø25

How to Order

Double acting Single rod	C	D	85	K	N	16	40	C	J	A	R2
Double acting Double rod	C	D	85 W	E	16	40	C	JJ	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.

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.

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

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	10, 25, 40, 50, 80, 100, 125, 160, 200, 250, 300			
25				

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

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		

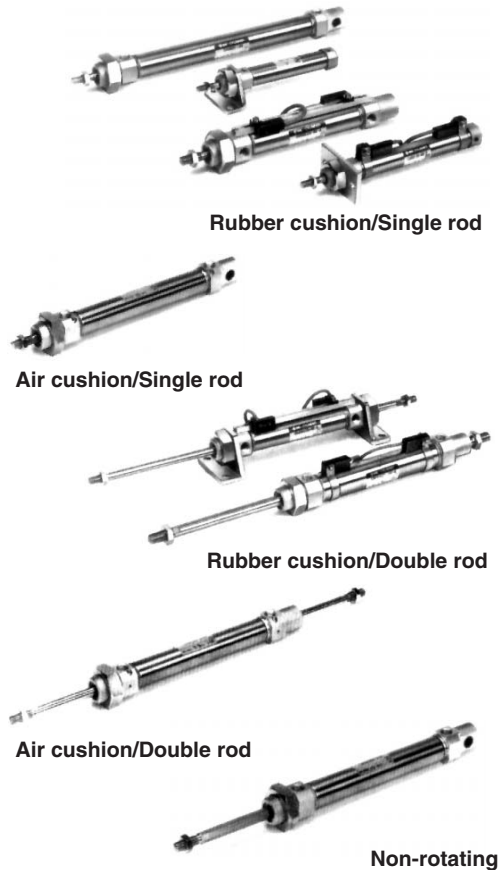
Replacement Parts For Standard Cylinders

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

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Specifications

Bore size (mm)		8	10	12	16	20	25
Piston rod dia. (mm)		4	4	6	6	8	10
Piston rod thread		M4 x 0.7	M4 x 0.7	M6 x 1	M6 x 1	M8 x 1.25	M10 x 1.25
Port size		M5 x 0.8	M5 x 0.8	M5 x 0.8	M5 x 0.8	G 1/8	G 1/8
Action		Double acting, Single/Double rod					
Fluid		Air					
Proof pressure		1.5 MPa					
Max. operating pressure		1.0 MPa					
Min. operating pressure	Spring return	0.1 MPa	0.08 MPa	0.05 MPa	0.05 MPa		
	Spring extended				0.08 MPa		
Ambient and fluid temperature		−20 to 80°C (Built-in magnet: −10 to 60°C)					
Cushion		Rubber cushion, Air cushion (Except ø8) (Non-rotating: Rubber bumper only)					
Lubrication		Not required. Use turbine oil Class 1 ISO VG32, if lubricated.					
Rod boot	Nylon tarpaulin	—				Max. ambient temperature 60°C	
	Heat resistant tarpaulin	—				Max. ambient temperature 110°C*	
Piston speed		50 to 1500 mm/s					
Allowable kinetic energy	Rubber cushion	0.02 J	0.03 J	0.04 J	0.09 J	0.27J	0.4 J
	Air cushion	—	0.17 J	0.19 J	0.4 J	0.66 J	0.97 J
Non-rotating accuracy		±1° 30'	±1° 30'	± 1°	±1°	±0° 42'	±0° 42'
Stroke tolerance (mm)		0/+1				0/+1.4	

* Maximum ambient temperature of rod boots only.

JIS Symbol

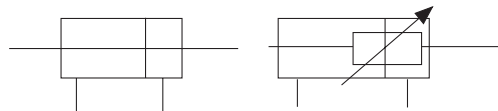
Double acting, Single rod



Rubber cushion

Air cushion

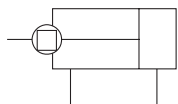
Double acting, Double rod



Rubber cushion

Air cushion

Non-rotating rod: Double acting, Single rod



Weight (Standard, Non-rotating rod)

(g)

Bore size (mm)		8	10	12	16	20	25
Double action	Basic weight	45	49	96	109	183(203)	258(286)
	Add'l weight for each 10 mm of stroke	3	3.2	6.2	7.2	11.8	18.4
Mounting bracket		C85L□A	20	40	95		
		C85L□B	55	105	210		
		C85F□	12	25	90		
		C85T□	20	50	75		
		C85C□	20	40	85		
Accessory	Single knuckle joint	KJID	17	25	45	70	
	Double knuckle joint	GKM□-□	10	20	50	100	
	Floating joint	JA□-□-□	10	20	50	70	

Calculation: (Example) C85N10-50, C85F10

Basic weight ——— 49 (ø10)g

Additional weight ——— 3.2/10 mm of stroke

Cylinder stroke ——— 50 mm

Mounting bracket ——— 12g

49 + 3.2 x 50/10 = 65g 65 + 12 = 77g

() : In the case of air cushion

Series C85

Auto Switch Mounting, Minimum Possible Cylinder Stroke

Band Mounting Style

Bore size: ø8, ø10, ø12, ø16

(mm)

Auto switch model	No. of auto switches				1 pc.
	3 pcs.		2 pcs.		
	Different sides	Same side	Different sides	Same side	
D-C7□ D-C80	55	90	15	50	10
D-C73C D-C80C D-H7C	65	105	15	65	10
D-H7□ D-H7□W D-H7BAL D-H7NF	60	105	15	60	10

Rail Mounting Style

Bore size: ø8, ø10, ø12, ø16

(mm)

Auto switch model	No. of auto switches		1 pc.
	3 pcs.	2 pcs.	
D-A7□/A80 D-A73C/A80C	35	10	5
D-A7□H D-A80H	45	10	5
D-A79W *	40	15	10
D-F7□ D-J79	45	5	5
D-F7□V D-J79C	30	5	5
D-F7□W D-J79W D-F7BAL D-F79F	55	15	10
D-F7□WV D-F7BAVL	40	15	10

* "D-A79W" can not be mounted on bore size ø8, ø10, ø12 cylinder.

Band Mounting Style

Bore size: ø20, ø25

(mm)

Auto switch model	No. of auto switches				1 pc.
	2 pcs.		n pcs.		
	Different sides	Same side	Different sides	Same side	
D-C7□ D-C80	15	50	$15 + 45(\frac{n-2}{2})$ (n = 2, 4...)	$50 + 45(n - 2)$	10
D-C73C D-C80C D-H7C	15	65	$15 + 45(\frac{n-2}{2})$ (n = 2, 4...)	$65 + 50(n - 2)$	10
D-H7□ D-H7□W D-H7BAL D-H7NF	15	60	$15 + 45(\frac{n-2}{2})$ (n = 2, 4...)	$60 + 55(n - 2)$	10

Rail Mounting Style

Bore size: ø20, ø25

(mm)

Auto switch model	No. of auto switches		1 pc.
	2 pcs.	n pcs.	
D-A7□/A80 D-A7□H/A80H D-A73C/A80C D-F7□ D-F7□V D-J79 D-J79C	10	$10 + 35\left(\frac{n-2}{2}\right)$ (n = 2, 4...)	5
D-A79W D-F7□W D-J79W D-F7BAL D-F79F D-F7□WV D-F7BAVL	15	$15 + 35\left(\frac{n-2}{2}\right)$ (n = 2, 4...)	10

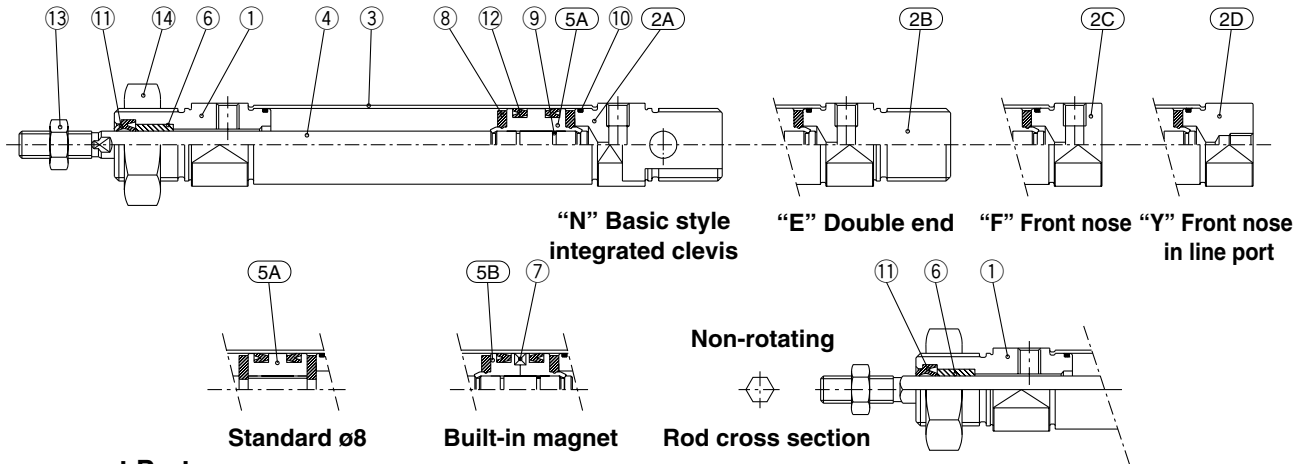
ISO Cylinder: Standard/Non-rotating Type Double Acting, Single/Rod Series C85

Construction

[First angle projection]

Double acting, Single rod

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

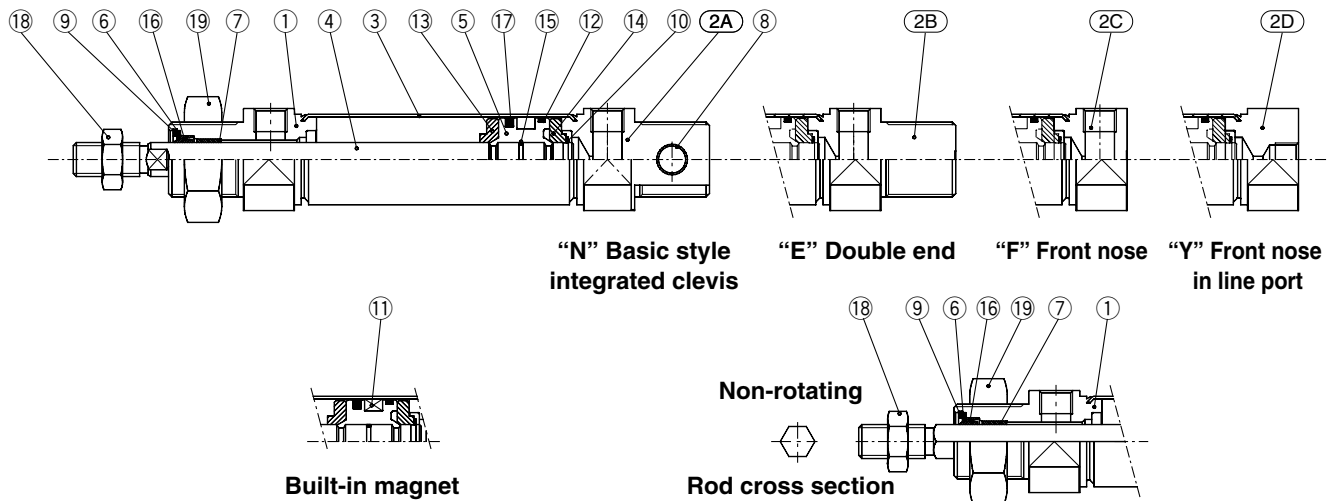


Component Parts

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