

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

Double acting Double rod C D 85 W

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.

Stroke

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			200	200
12	10, 25, 40, 50, 80, 100, 125, 160, 200	1000	1000	500
16				
20	10, 25, 40, 50, 80, 100, 125, 160, 200, 250, 300	1000	1000	500
25				

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

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.

Mounting Bracket Part No.

Bore size (mm)		8	10	12	16	20	25
		Mounting bracket					
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		

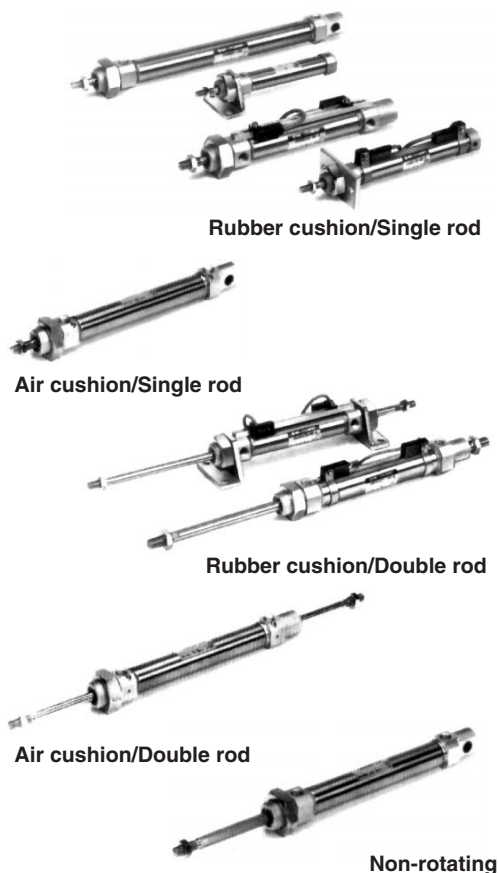
Replacement Parts For Standard Cylinders

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/Double Rod **Series C85**



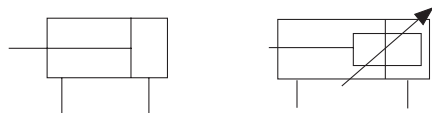
Specifications

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	0.27 J	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

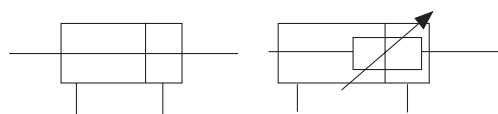
Double acting, Single rod



Rubber cushion

Air cushion

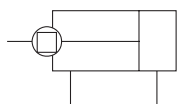
Double acting, Double rod



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	
	Double knuckle joint	GKM□-□		10		20	
	Floating joint	JA□-□-□		10		20	

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
 $49 + 3.2 \times 50/10 = 65g$ $65 + 12 = 77g$

() : In the case of air cushion

CJ1

CJP

CJ2

CM2

CG1

MB

MB1

CA2

CS1

C76

C85

C95

CP95

NCM

NCA

D-

-X

20-

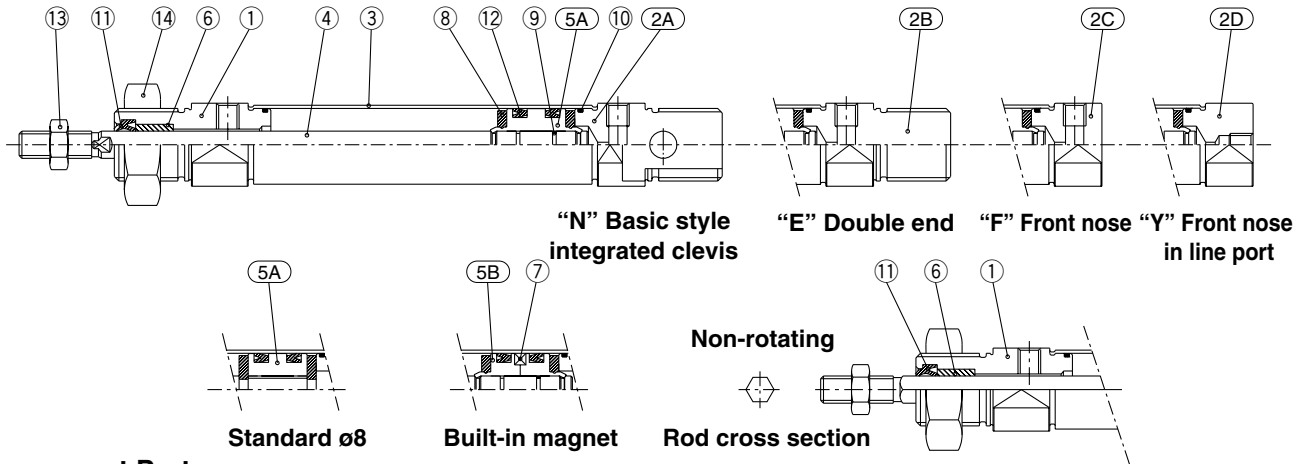
Data

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

Construction

[First angle projection]

Double acting, Single rod
C□85□8 to 16 Rubber cushion (Disassembly is not possible.)

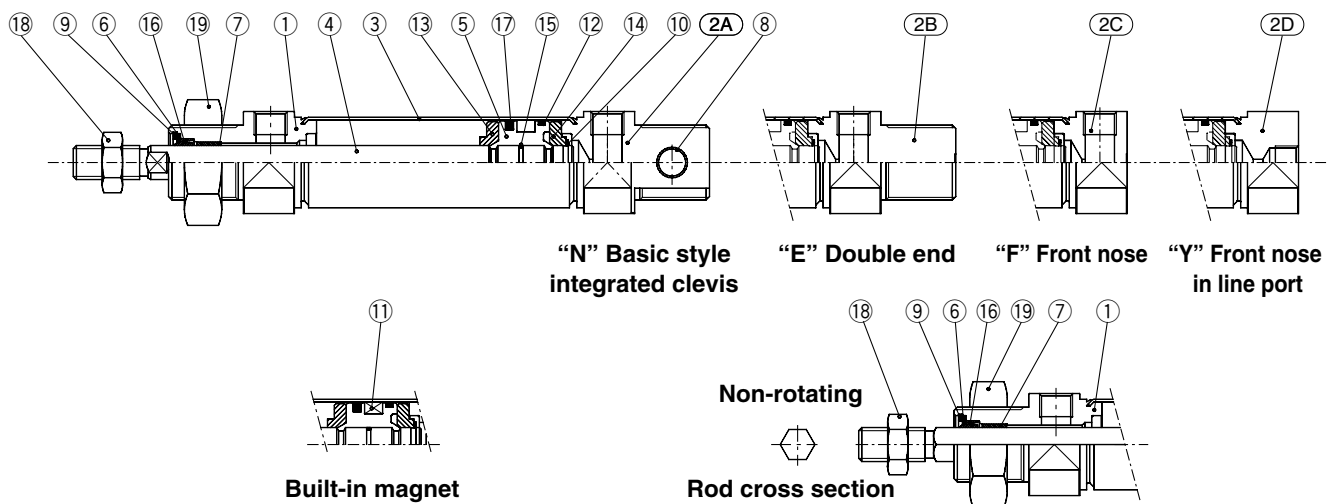


Component Parts

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-

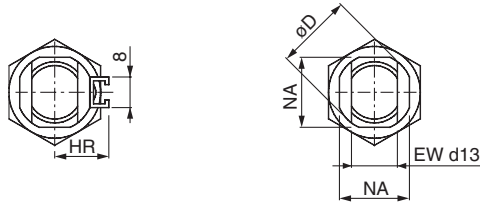
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ISO Cylinder: Standard/Non-rotating Type Double Acting, Single/Double Rod **Series C85**

Dimensions

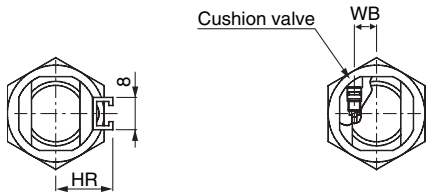
[First angle projection]

Double acting, Single rod
Rubber cushion: C□85N Bore—Stroke—□
Without magnet, Built-in magnet

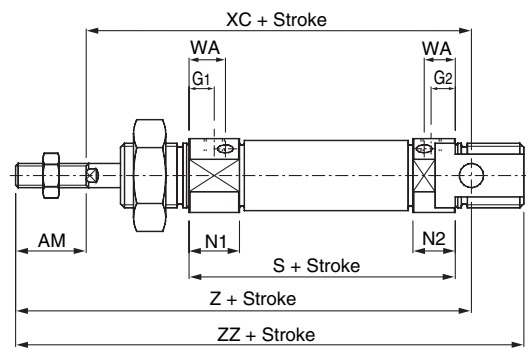
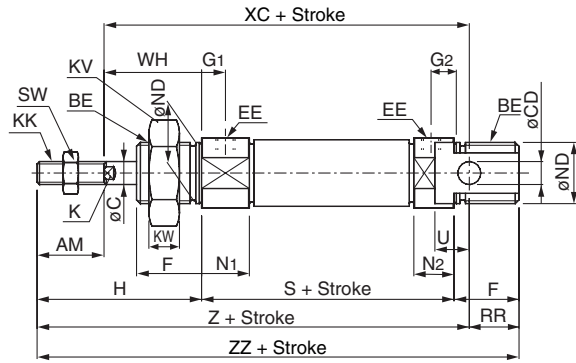


Rail mounting type (A) Band mounting type (B) or non-magnet

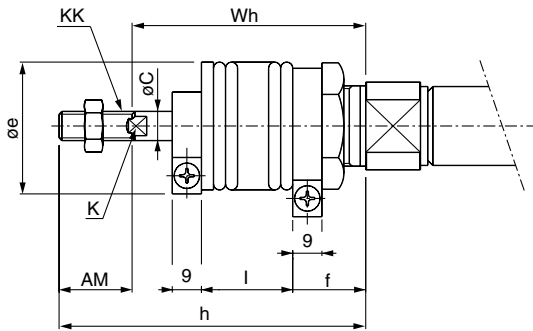
Air cushion: C□85N Bore—Stroke C—□
Without magnet, Built-in magnet



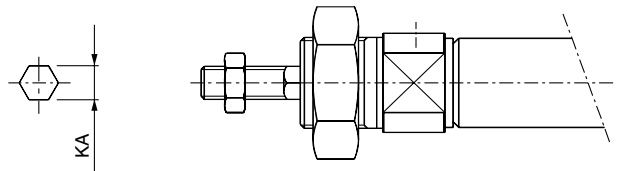
Rail mounting type (A) Band mounting type (B) or non-magnet



With rod boot



C□85KN
Non-rotating, Piston rod (Rubber cushion only)



Rod cross section

Bore	AM	BE	oC	oCD H9	oD	EE	EW	F	G1	G2	WA	WB	H	HR	K	KA	KK	KV	KW	N1	N2	oND h8	RR	S	SW	U	WH	XC	Z	ZZ	
8	12	M12 x 1.25	4	4H9	16.7	M5 x 0.8	8	12	7	5	—	—	28	10	—	4.2	M4 x 0.7	19	6	11.5	9.5	15	12	10	46	7	6	16	64	76	86
10	12	M12 x 1.25	4	4H9	16.7	M5 x 0.8	8	12	7 (5.5)	5 (5.5)	10.5	4.5	28	10.5	—	4.2	M4 x 0.7	19	6	11.5 (13.5)	9.5 (13.5)	15	12	10	46 (53)	7	6	16	64 (71)	76 (83)	86 (93)
12	16	M16 x 1.5	6	6H9	19.7	M5 x 0.8	12	17	8 (5.5)	6 (5.5)	9.5	5.5	38	14	5	6.2	M6 x 1	24	8	12.5 (12.5)	10.5 (12.5)	18.3	16	14	50 (54)	10	9	22	75 (79)	91 (95)	105 (109)
16	16	M16 x 1.5	6	6H9	19.7	M5 x 0.8	12	17	8 (5.5)	6 (5.5)	9.5	5.5	38	14	5	6.2	M6 x 1	24	8	12.5 (12.5)	10.5 (12.5)	18.3	16	13	56 (56)	10	9	22	82 (82)	98 (98)	111 (111)
20	20	M22 x 1.5	8	8	28	G 1/8	16	20	8	8	11.5 (13)	8.5	44	17	6	8.2	M8 x 1.25	32	11	15 (17)	15 (17)	24	22	11	62	13	12	24	95	115	126
25	22	M22 x 1.5	10	8	33.5	G 1/8	16	22	8	8	11.5 (13)	10.5	50	20	8	10.2	M10 x 1.25	32	11	15 (17)	15 (17)	30	22	11	65	17	12	28	104	126	137

(): In the case of air cushion.

With Rod Boot

Bore	Stroke	AM	oC	oe	f	K	KK	h						
								1 to 50	51 to 100	101 to 150	151 to 200	201 to 300	301 to 400	401 to 500
20	20	20	8	36	20	6	M8 x 1.25	71	84	96	109	134	159	—
25	22	22	10	36	20	8	M10 x 1.25	74	87	99	112	137	162	187

Bore	Stroke	Item	l						Wh						
			1 to 50	51 to 100	101 to 150	151 to 200	201 to 300	301 to 400	401 to 500	1 to 50	51 to 100	101 to 150	151 to 200	201 to 300	301 to 400
20	20	12.5	25	37.5	50	75	100	—	51	64	76	89	114	139	—
25	22	12.5	25	37.5	50	75	100	125	52	65	77	90	115	140	165

CJ1

CJP

CJ2

CM2

CG1

MB

MB1

CA2

CS1

C76

C85

C95

CP95

NCM

NCA

D-

-X

20-

Data