

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



Spring return



Spring extended

Rubber cushion

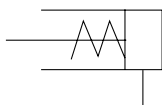


Non-rotating

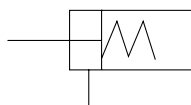
Specifications

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		Single acting, Single rod, Spring return/extend					
Fluid		Air					
Proof pressure		1.5 MPa					
Max. operating pressure		1.0 MPa					
Min. operating pressure	Spring return	0.22 MPa	0.18 MPa	0.13 MPa	0.18 MPa		
	Spring extended				0.23 MPa		
Ambient and fluid temperature		−20 to 80°C (Built-in magnet type: −10 to 60°C)					
Cushion		Rubber cushion (Standard)					
Lubrication		Not required. Use turbine oil Class 1 ISO VG32, if lubricated.					
Piston speed		50 to 1500 mm/s					
Allowable kinetic energy		0.02 J	0.03 J	0.04 J	0.09 J	0.27 J	0.4 J
Non-rotating accuracy*		±1° 30'	±1° 30'	± 1°	±1°	±0° 42'	±0° 42'
Stroke tolerance (mm)		0/+1				0/+1.4	

JIS Symbol
Standard

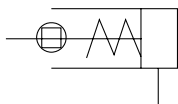


Spring return

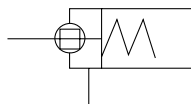


Spring extended

Non-rotating



Spring return



Spring extended

Spring Retracting Force (Standard, Non-rotating)

Spring Return

(N)

Bore size (mm)	Standard stroke (mm)	Spring force									
		10		25		50		100		150	
		Retract	Extended	Retract	Extended	Retract	Extended	Retract	Extended	Retract	Extended
8	10, 25, 50	4.41	4.02	4.41	3.43	4.41	2.45	—	—	—	—
10		6.28	5.69	6.28	4.90	6.28	3.53	—	—	—	—
12		7.16	6.57	7.16	5.79	7.16	4.41	—	—	—	—
16	10, 25, 50, 100, 150	13.2	12.1	13.2	10.3	13.2	7.45	13.2	7.45	13.2	7.45
20		21.6	18.6	21.6	16.7	21.6	11.8	39.2	9.81	39.2	9.81
25		27.5	25.3	27.5	22.1	27.5	16.7	47.1	13.7	47.1	15.7

Spring Extended

(N)

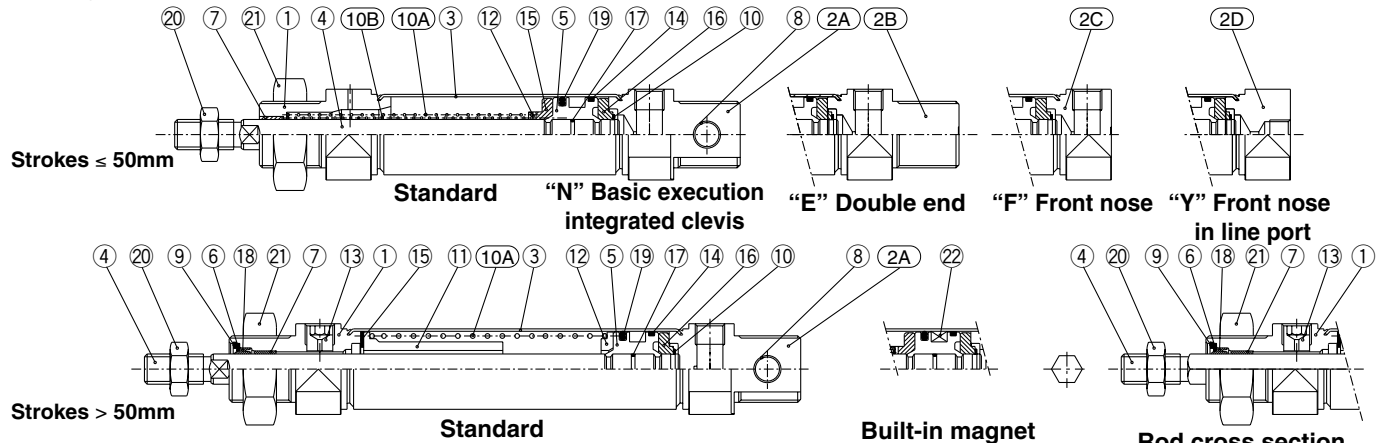
Bore size (mm)	Standard stroke (mm)	Spring force									
		10		25		50		100		150	
		Retract	Extend	Retract	Extend	Retract	Extend	Retract	Extend	Retract	Extend
8	10, 25, 50	5.30	3.92	5.30	3.14	5.30	2.65	—	—	—	—
10		5.98	4.81	5.98	4.02	5.98	3.53	—	—	—	—
12		6.57	5.59	6.57	4.90	6.57	4.51	—	—	—	—
16	10, 25, 50, 100, 150	14.7	11.3	14.7	9.22	14.7	7.85	14.7	7.85	14.7	7.85
20		39.2	33.0	39.2	23.5	39.2	9.81	39.2	9.81	39.2	9.81
25		47.1	40.4	47.1	30.4	47.1	13.7	47.1	13.7	47.1	15.7

ISO Cylinder: Standard/Non-rotating Type Single Acting, Spring Return/Extended Series C85

Construction

[First angle projection]

Single acting, Single rod
Spring return: C□85□20/25-□S

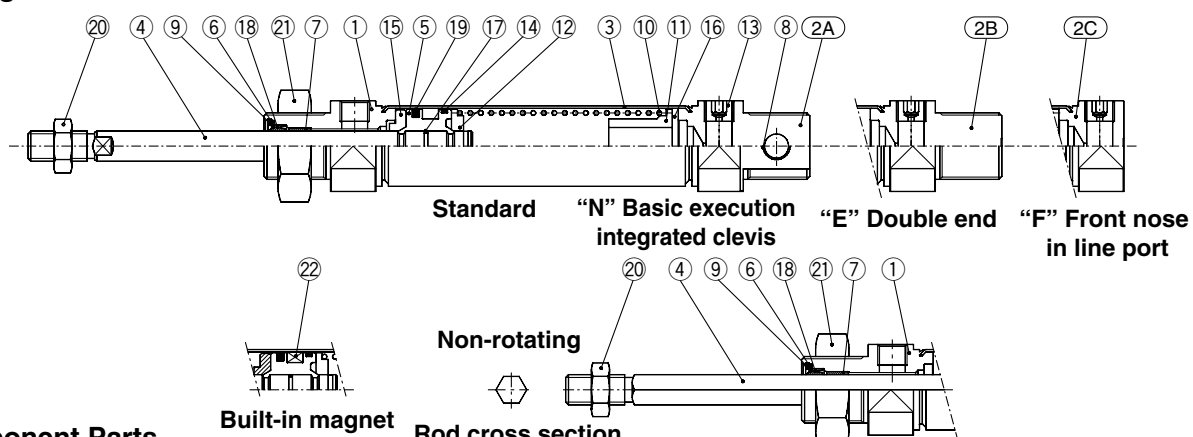


Component Parts

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 Chromate
⑤	Piston	Aluminum alloy	1	
⑥	Plain washer	Stainless steel	1	
⑦	Bush	Sintered bronze	1	
⑧	Bush	Sintered bronze	1	
⑨	Retaining ring	Stainless steel	1	Nickel plating
⑩	Retaining ring	Stainless steel	1	
(10A)	Return spring A	Piano wire	1	Zinc chromated

No.	Description	Material	Qty.	Note
(10B)	Return spring B	Piano wire	1	Zinc chromated
⑪	Spring guide	Aluminum alloy	1	
⑫	Spring holder	Aluminum alloy	1	
⑬	Set screw	Carbon steel	1	
⑭	Wear ring	Resin	1	
⑮	Bumper A	Urethane	1	
⑯	Bumper B	Urethane	1	
⑰	Piston 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
㉒	Magnet	Magnet	1	(Switch type only)

Spring extended: C□85□20/25-□T



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	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	1	
⑨	Retaining ring	Carbon steel	1	Nickel plating
⑩	Return spring	Piano wire	1	Zinc chromated

No.	Description	Material	Qty.	Note
⑪	Spring guide	Aluminum alloy	1	
⑫	Spring guide	Aluminum alloy	1	
⑬	Set screw	Carbon steel	1	
⑭	Wear ring	Resin	1	
⑮	Bumper A	Urethane	1	
⑯	Bumper B	Urethane	1	
⑰	Piston 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
㉒	Magnet	Magnet	1	(Switch type only)

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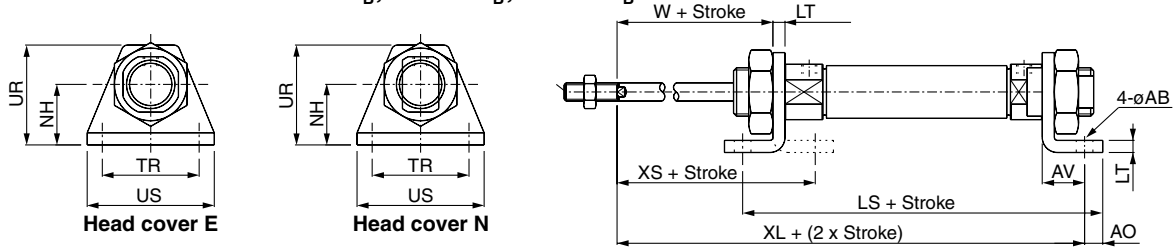
Dimensions with Mounting Bracket

[First angle projection]

Single acting, Spring extended

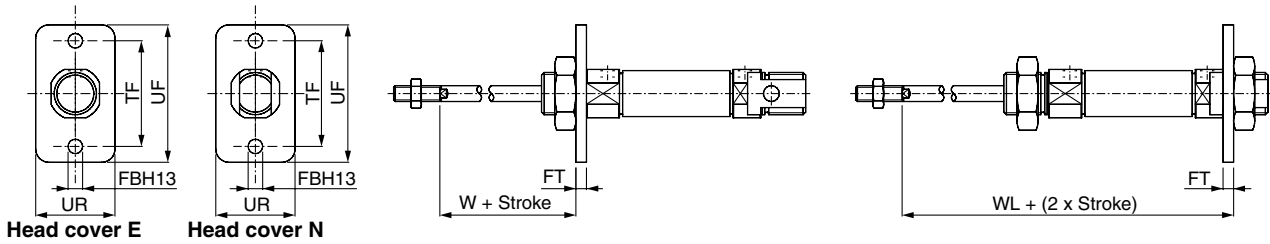
C□85N, C□85E

Rod foot, Rod and head foot: C85L10^A_B, C85L16^A_B, C85L25^A_B



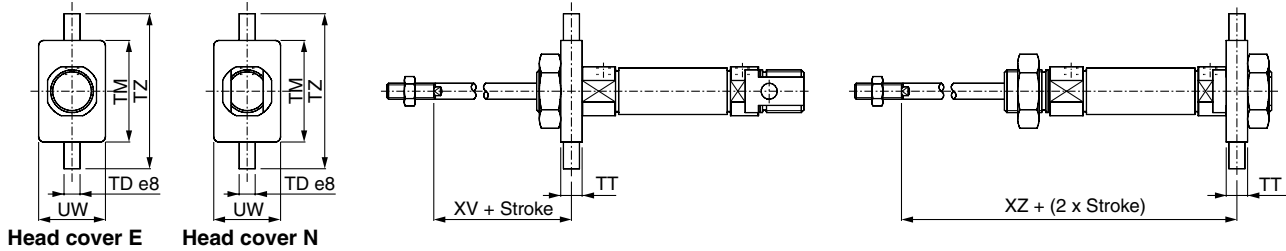
C□85N, C□85E

Rod flange, Head flange: C85F10, C85F16, C85F25



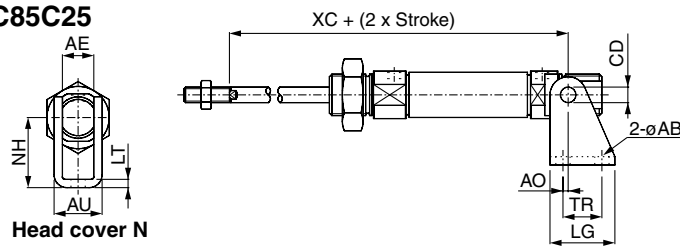
C□85N, C□85E

Rod trunnion, Head trunnion: C85T10, C85T16, C85T25



C□85N

Clevis: C85C10, C85C16, C85C25



Bore	Front 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		
						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	5	35	4.5	3.2	16	86.5(92.5)	—	—	91.5(97.5)	—	—	25	23.8	11	26	12.8	22	4.5	3.2	30	40	12.8	83.7(89.7)	—	—
10	5	35	4.5	3.2	16	86.5(90.5)	—	—	91.5(95.5)	—	—	25	23.8	11	26	12.8	22	4.5	3.2	30	40	12.8	83.7(87.7)	—	—
12	6	42	5.5	4	20	98(101.5)	—	—	106(109.5)	—	—	32	32	14	33	18	30	5.5	4	40	52	18	96(99.5)	—	—
16	6	42	5.5	4	20	103(106.5)	129(132.5)	155(158.5)	111(114.5)	137(140.5)	163(166.5)	32	32	14	33	18	30	5.5	4	40	52	18	101(104.5)	127(130.5)	153(156.5)
20	8	54	6.6	5	25	121	146	171	128	153	178	40	36	17	42	19	40	6.6	5	50	66	19	116	141	166
25	8	54	6.6	5	25	122.5	147.5	172.5	133.5	158.5	183.5	40	40	17	42	23	40	6.6	5	50	66	23	121.5	146.5	171.5

Bore	Rod trunnion, Head trunnion									Clevis											
	TT	UW	TD e8	TM	TZ	XV	XZ			øCD H9	AE	øAB	AO	AU	TR	LG	NH	LT	XC		
							1 to 50	51 to 100	101 to 150										1 to 50	51 to 100	101 to 150
8	6	20	4	26	38	13	83.5(89.5)	—	—	4	8.1	4.5	1.5	13.1	12.5	20	24	2.5	82.5(88.5)	—	—
10	6	20	4	26	38	13	83.5(87.5)	—	—	4	8.1	4.5	1.5	13.1	12.5	20	24	2.5	82.5(86.5)	—	—
12	8	25	6	38	58	18	96(99.5)	—	—	6	12.1	5.5	2	18.5	15	25	27	3.2	95(98.5)	—	—
16	8	25	6	38	58	18	101(104.5)	127(130.5)	153(156.5)	6	12.1	5.5	2	18.5	15	25	27	3.2	101(104.5)	127(130.5)	153(156.5)
20	8	32	6	46	66	20	115	140	165	8	16.1	6.6	4	24.1	20	32	30	4	120	145	170
25	8	32	6	46	66	24	120.5	145.5	170.5		16.1	6.6	4	24.1	20	32	30	4	127.5	152.5	177.5

() : In the case of auto switch style.

CJ1

CJP

CJ2

CM2

CG1

MB

MB1

CA2

CS1

C76

C85

C95

CP95

NCM

NCA

D-

-X

20-

Data