

AIR CYLINDER SERIES C85

BORE SIZES:

Ø8, 10, 12, 16, 20, 25

- ✓ Conforms to CETOP RP52P and ISO 6432 standards
- ✓ Double or single acting models
- ✓ High speed actuation
- ✓ Auto switch sensing optional
- ✓ Special shaped rod seal gives high resistance to dust ingress
- ✓ Easy and accurate mounting
- ✓ Exceptional service life
- ✓ Non-rotate and double rod options are available
- ✓ Air Cushioning available



TECHNICAL SPECIFICATIONS

Bore size (mm)	8	10	12	16	20	25
Piston rod dia. (mm)	4	4	6	6	8	10
Piston rod thread	M4X0.7	M4X0.7	M6X1	M6X1	M8X1.25	M10X1.25
Ports	M5	M5	M5	M5	G½	G½
Action	Double acting: single + double rod, non rotating Single acting: spring return + extend, non-rotating					
Fluid	Air					
Proof pressure	15 Bar					
Max. operating pressure	10 Bar					
Min. operating pressure Double acting	1 Bar	0.8 Bar		0.5 Bar		
Min. operating pressure Single acting	2.2 Bar	1.8 Bar		1.3 Bar	2.3 Bar	
Ambient and fluid temperature	-20°~+80°C (Built-in magnet type: Max. 60°C)					
Cushion	Rubber cushion (standard)/Air cushion					
Lube	None (Non-lubricated)					
Piston speed	50 - 1500mm/s					
Allowable kinetic energy (J) (Rubber cushion)	0.02	0.03	0.04	0.09	0.27	0.40
Allowable kinetic energy (J) (Air cushion)	-	0.17	0.19	0.4	0.66	0.97
Stroke tolerance (mm)	0 / +1				0 / +1.4	
Non-rotating model accuracy	±1° 30'		±1°		±0° 42'	
Construction	Rod cover	Alluminium alloy (White alumite)				
	Cylinder tube	Stainless steel				
	Piston rod	Stainless steel			Carbon steel Hard chrome finish Ø20, Ø25 bores only	

INTERNATIONAL STANDARDS



CETOP

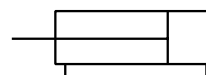
ISO 6432 CETOP RP 52P

- See also SMC products: C65, C75, C92 and C95

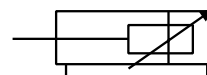
SYMBOLS

DOUBLE ACTING

Double Acting / Single Rod

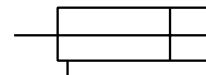


Rubber Cushion

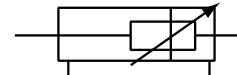


Air Cushion

Double Acting / Double Rod

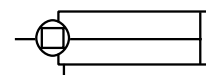


Rubber Cushion



Air Cushion

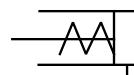
Non-Rotation: Double Acting / Single Rod



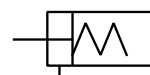
SYMBOLS

SINGLE ACTING

Standard

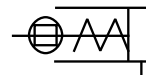


Spring return

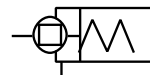


Spring extended

Non-rotating



Spring return



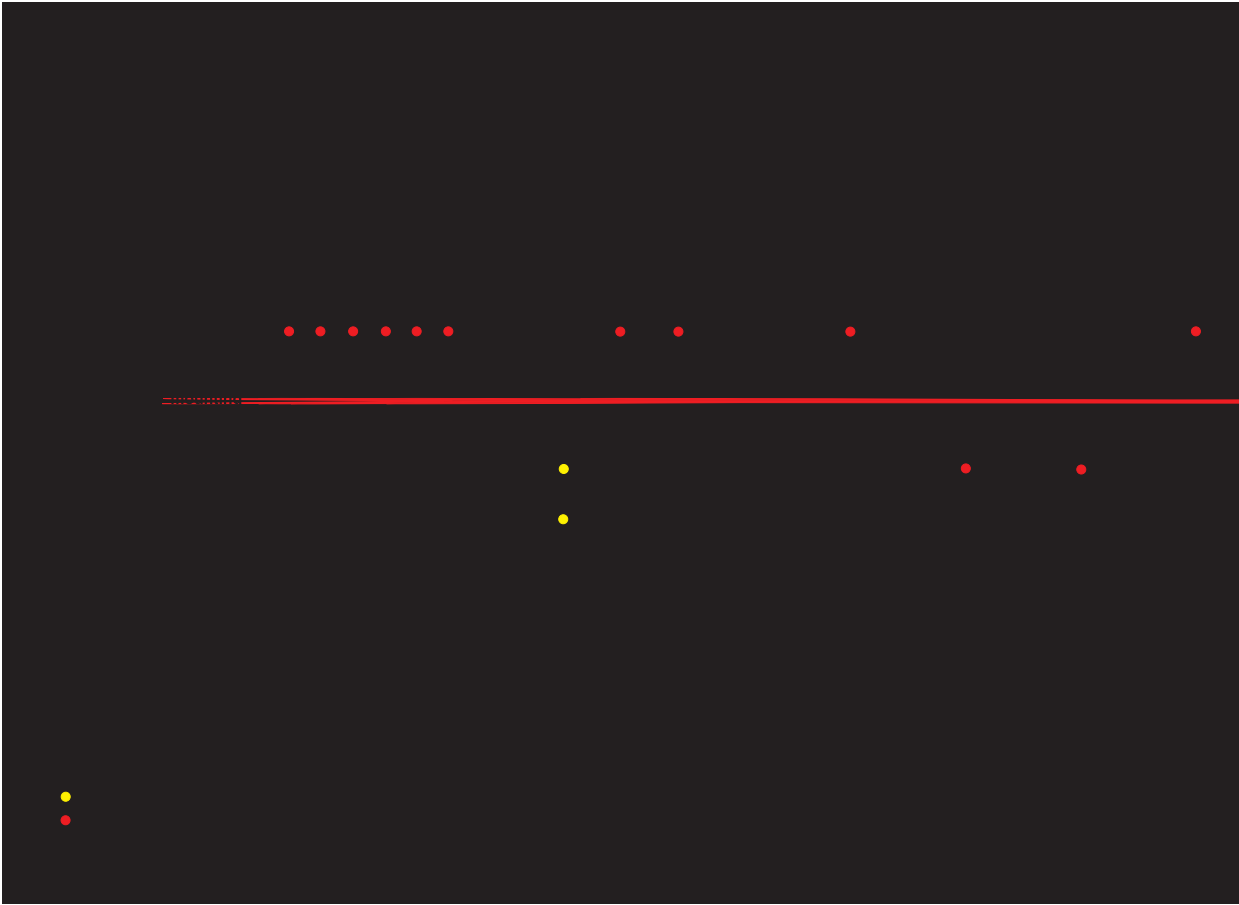
Spring extended



SEE INSIDE FRONT COVER FOR DETAILS OF YOUR LOCAL SALES OFFICE



FOR FURTHER TECHNICAL DETAILS ON THIS PRODUCT CONTACT YOUR LOCAL REGIONAL CENTRE



ACCESSORIES

MOUNTING BRACKETS

Bore size (mm)	8	10	12	16	20	25
Mounting accessory						
Foot (1pc.)	C85L10A	C85L16A	C85L25A			
Foot (2pcs. with Mounting nut 1pc.)	C85L10B	C85L16B	C85L25B			
Piston Rod nut	M4X0.7 (C85)	M6X1 (C85)	M8X1.25 (C85)	M10X1.25 (C85)		
Flange	C85F10	C85F16	C85F25			
Trunnion	C85T10	C85T16	C85T25			
Clevis	C85C10	C85C16	C85C25			
Piston rod ball joint	KJ4D	KJ6D	KJ8D	KJ10D		
Piston rod clevis	GKM4-8	GKM6-12	GKM8-16	GKM10-20		
Floating joint	JA10-04-070	JA15-6-100	JA20-8-125	JA30-10-125		
Repair kit	—	—	PDU-8Z	PDU-10Z		

ACCESSORIES

AUTO SWITCHES - BAND MOUNTING TYPE

Part No. Grommet Type	Part No. Connector Type	TYPE	LOAD VOLTAGE	LOAD CURRENT	POWER SOURCE	INTERNAL VOLTAGE DROP	INDICATOR LAMP
D-C73L	D-C73CL	REED	24VDC 100VAC	5~40mA 5~20mA		MAX 2.4V	ON:RED L.E.D
D-C80L	D-C80CL	REED	24VDC/AC OR LESS 100VDC/AC	MAX 50mA MAX 20mA		0	NONE
D-H7A1L-Q	~	3 WIRE SOLID STATE NPN	28VDC OR LESS	MAX 150mA	5~28VDC	0.8V MAX	ON:RED L.E.D
D-H7A2L-Q	~	3 WIRE SOLID STATE PNP	28VDC OR LESS	MAX 100mA	5~28VDC	0.8V MAX	ON:RED L.E.D
D-H7BL-Q	D-K79CL-Q	2 WIRE SOLID STATE	10~28VDC	5~ 150mA	~	3V MAX	ON:RED

ACCESSORIES

SWITCH BANDS

Bore size	Ø8	Ø10	Ø12	Ø16	Ø20	Ø25
Auto switch model						
D-C7, D-C8, D-H7 type	BJ2-008	BJ2-010	BJ2-012	BJ2-016	BM2-020	BM2-025



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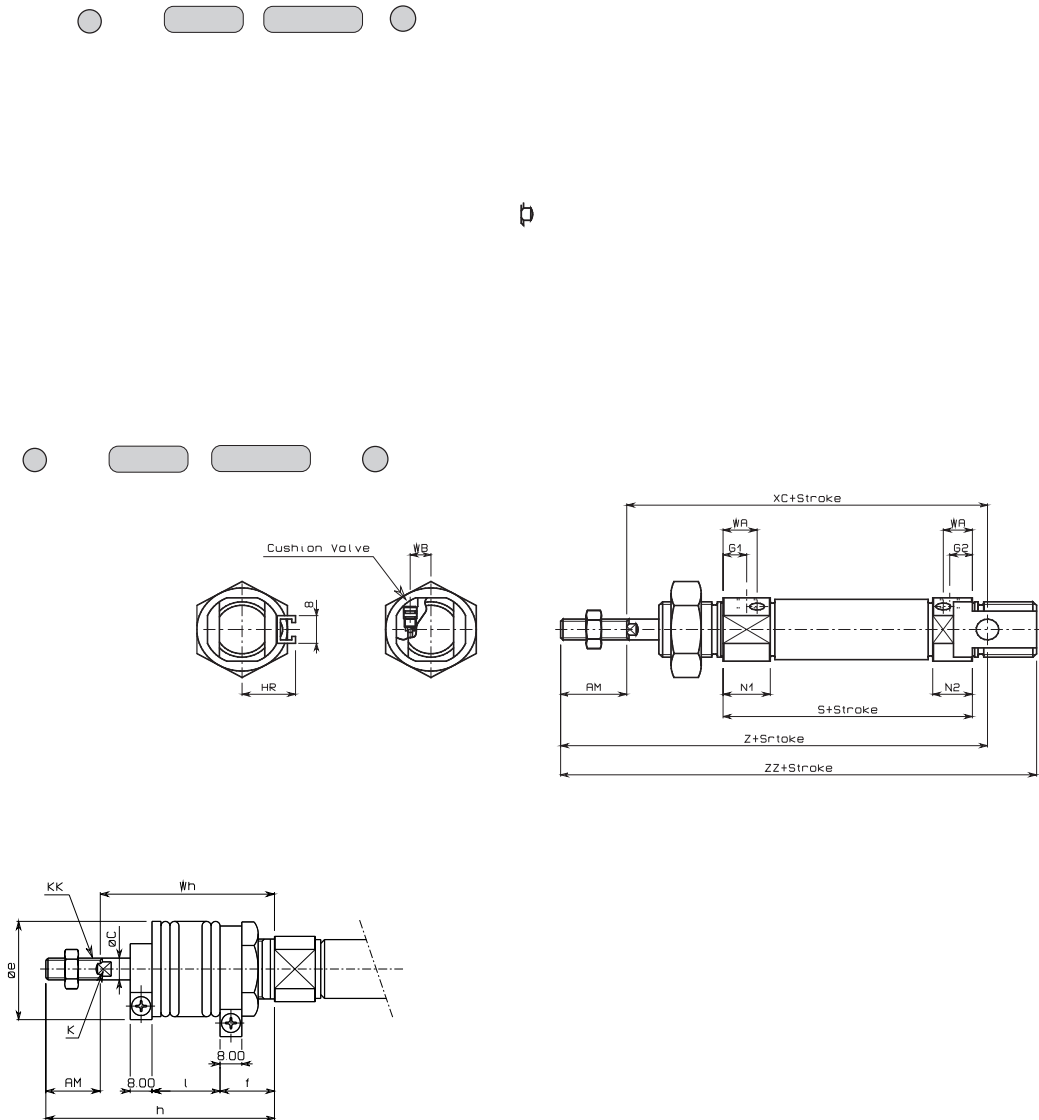
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Actuators

DIMENSIONS

DOUBLE ACTING: SINGLE ROD

C 85N/RUBBER CUSHION, AIR CUSHION, NON-ROTATING

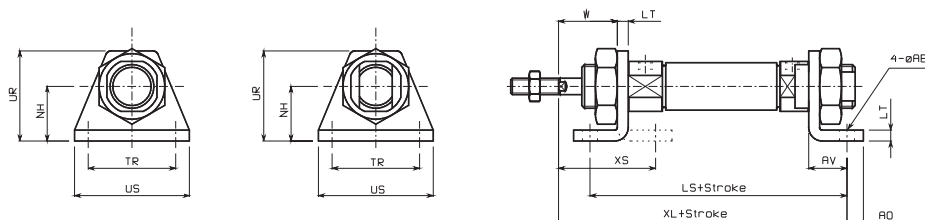


Bore	AM	BE	ØC	ØCD	ØD	EE	EW	F	G1	G2	WA	WB	H	HR	K	KA	KK	KV	KW	N1	N2	NA	ØND(h8)	RR	S	SW	U	WH	XC	Z	ZZ
Ø8	12	M12x1.25	4	4H9	16.7	M5 x 0.8	8	12	7	5	—	—	28	10	—	4.2	M4 x 0.7	19	7	11.5	9.5	15	12	10	46	7	6	16	64	76	86
Ø10	12	M12x1.25	4	4H9	16.7	M5 x 0.8	8	12			10.5	4.5	28	10.5	—	4.2	M4 x 0.7	19	7			15	12	10		7	6	16			
Ø12	16	M16x1.5	6	6H9	19.7	M5 x 0.8	12	17			9.5	5.5	38	14	5	6.2	M6 x 1	24	8			18	16	14		10	9	22			
Ø16	16	M16x1.5	6	6H9	19.7	M5 x 0.8	12	17			9.5	5.5	38	14	5	6.2	M6 x 1	24	8			18	16	13		10	9	22			
Ø20	20	M22x1.5	8		28	G1/8	16	20	8	8	11.5(13)	8.5	44	17	6	8.2	M8 x 1.25	32	10	15(17)	15(17)	24	22	11	62	13	12	24	95	115	126
Ø25	22	M22x1.5	10		33.5	G1/8	16	22	8	8	11.5(13)	10.5	50	20	8	10.2	M10 x 1.25	32	10	15(17)	15(17)	30	22	11	65	17	12	28	104	126	137

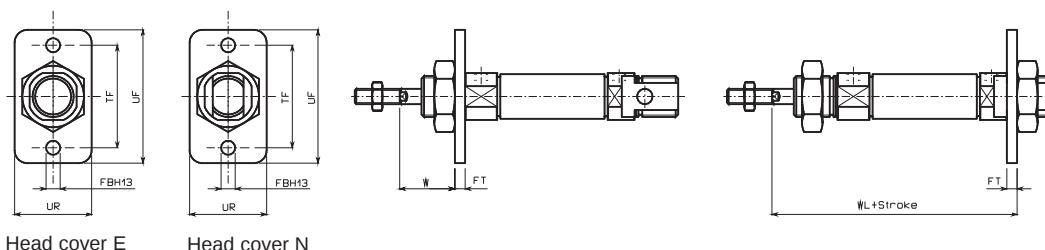
DIMENSIONS

DOUBLE ACTING: SINGLE ROD
C85N/C85E
WITH MOUNTING BRACKETS

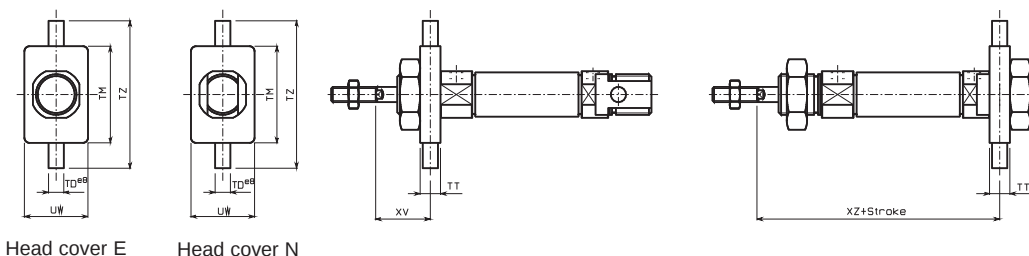
Rod Foot, Rod And Head Foot: C85L10^A_B, C85L16^A_B, C85L25^A_B



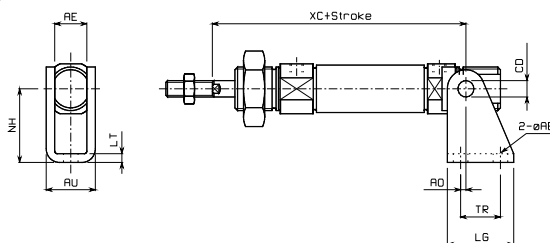
Rod Flange, Head Flange: C85F10, C85F16, C85F25



Rod Trunnion, Head Trunnion: C85T10, C85T16, C85T25



Clevis: C85C10, C85C16, C85C25



Unit: mm

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
Ø8	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
Ø10	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)
Ø12	6	42	5.5	4	20	78(82)	86(90)	32	32	14	33	18	30	5.5	4	40	52	18	76(80)
Ø16	6	42	5.5	4	20	84(84)	92(92)	32	32	14	33	18	30	5.5	4	40	52	18	82(82)
Ø20	8	54	6.6	5	25	96	103	40	36	17	42	19	40	6.6	5	50	66	19	91
Ø25	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	TD e8	TM	TZ	XV	XZ	ØCD	AE	ØAB	AO	AU	TR	LG	NH	LT	XC
Ø8	6	20	4	26	38	13	65	4H9	8.1	4.5	1.5	13.1	12.5	20	24	2.5	64
Ø10	6	20	4	26	38	13	65(72)	4H9	8.1	4.5	1.5	13.1	12.5	20	24	2.5	64(71)
Ø12	8	25	6	38	58	18	76(80)	6H9	12.1	5.5	2	18.5	15	25	27	3.2	75(79)
Ø16	8	25	6	38	58	18	82(82)	6H9	12.1	5.5	2	18.5	15	25	27	3.2	82(82)
Ø20	8	32	6	46	66	20	90	8 ^{+0.036} _{-0.006}	16.1	6.6	4	24.1	20	32	30	4	95
Ø25	8	32	6	46	66	24	97		16.1	6.6	4	24.1	20	32	30	4	104

(): In case of air cushion.



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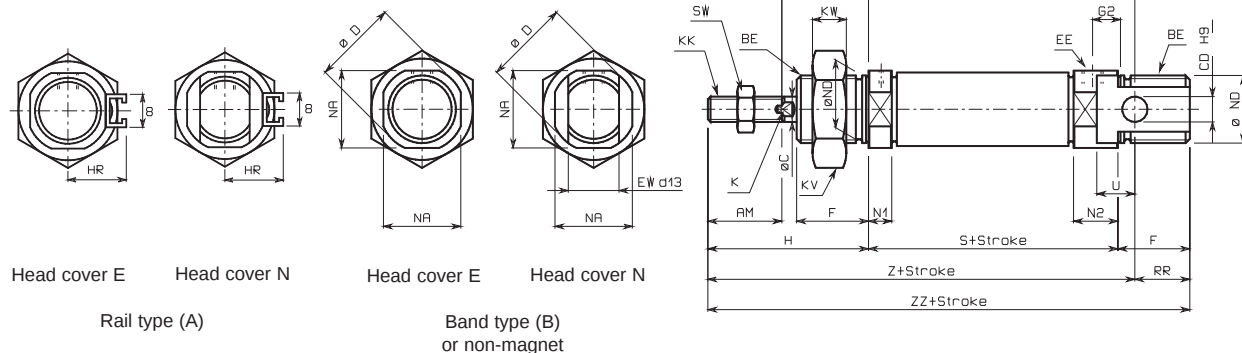
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DIMENSIONS

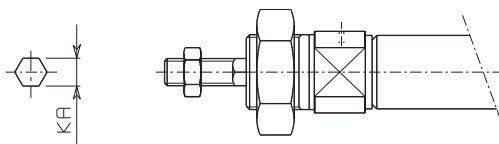
SINGLE ACTING

C085N, C085E/SPRING RETURN, NON-ROTATING

C 85^N_E Bore – Stroke S –
Without Magnet, Built-in Magnet



C 85KN, C 85KE
Non-rotating (piston rod)



Rod cross section

Unit: mm

Bore	AM	BE	ØC	ØCD	ØD	EE	EW	F	G2	H	HR	K	KA	KK	KV	KW	N1	N2	NA	ØND(h8)	RR	SW	U	WH
Ø8	12	M12x1.25	4	4H9	16.7	M5 x 0.8	8	12	5	28	10	—	4.2	M4 x 0.7	19	7	5.5	9.5	15	12	10	7	6	16
Ø10	12	M12x1.25	4	4H9	16.7	M5 x 0.8	8	12	5	28	10.5	—	4.2	M4 x 0.7	19	7	5.5	9.5	15	12	10	7	6	16
Ø12	16	M16x1.5	6	6H9	19.7	M5 x 0.8	12	17	6	38	14	5	6.2	M6 x 1	24	8	5.5	10.5	18	16	14	10	9	22
Ø16	16	M16x1.5	6	6H9	19.7	M5 x 0.8	12	17	6	38	14	5	6.2	M6 x 1	24	8	5.5	10.5	18	16	13	10	9	22
Ø20	20	M22x1.5	8	8 ^{+0.036} _{-0.006}	27.9	G1/8	16	20	8	44	17	6	8.2	M8 x 1.25	32	10	15	15	24	22	11	13	12	24
Ø25	22	M22x1.5	10	—	33.4	G1/8	16	22	8	50	20	8	10.2	M10 x 1.25	32	10	15	15	30	22	11	17	12	28

Bore	S			XC			Z			ZZ		
	1-50	51-100	101-150	1-50	51-100	101-150	1-50	51-100	101-150	1-50	51-100	101-150
Ø8	46{52}{56{62}}	—	—	64{70}{74{80}}	—	—	76{82}{86{92}}	—	—	86{92}{96{102}}	—	—
Ø10	46{50}{56{60}}	—	—	64{68}{74{78}}	—	—	76{80}{86{90}}	—	—	86{90}{96{100}}	—	—
Ø12	50{53.5}{60{63.5}}	—	—	75{78.5}{85{88.5}}	—	—	91{94.5}{101{104.5}}	—	—	106{108.5}{115{118.5}}	—	—
Ø16	56{59.5}{66{69.5}}	71.5{75}{92{95.5}}	87{90.5}{118{121.5}}	82{85.5}{92{95.5}}	97.5{101}{118{121.5}}	113{116.5}{144{147.5}}	98{101.5}{108{111.5}}	113.5{117}{134{137.5}}	129{132.5}{160{163.5}}	111{114.5}{121{124.5}}	126.5{130}{147{150.5}}	142{145.5}{173{176.5}}
Ø20	62{87}	112	137	95{120}	145	170	115{140}	165	190	126{151}	176	201
Ø25	65{88.5}	113.5	138.5	104{127.5}	152.5	177.5	126{149.5}	174.5	199.5	137{160.5}	185.5	210.5

() : In case of autoswitch type. { } : In case of non-rotating.



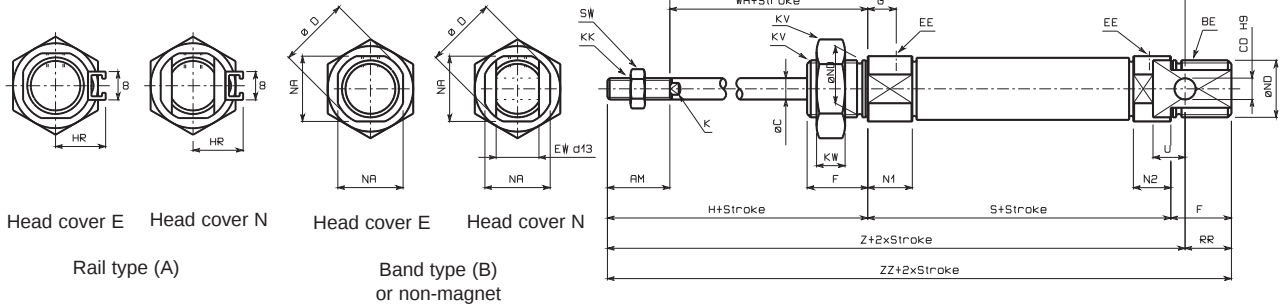
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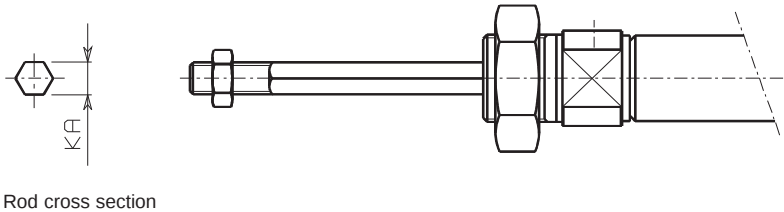
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DIMENSIONS
SINGLE ACTING
CØ85N, CØ85E/SRING EXTENDED, NON-ROTATING

C Ø 85^N **Bore** – **Stroke** T – ●
Without magnet, built-in magnet



C Ø 85KN,E
Non-Rotating (piston rod)



Unit: mm

Bore	AM	BE	ØC	ØCD	ØD	EE	EW	F	G	H	HR	K	KA	KK	KV	KW	N1	N2	NA	ØND(h8)	RR	SW	U	WH
Ø8	12	M12x1.25	4	4H9	16.7	M5 x 0.8	8	12	7	28	10	—	4.2	M4 x 0.7	19	7	11.5	9.5	15	12	10	7	6	16
Ø10	12	M12x1.25	4	4H9	16.7	M5 x 0.8	8	12	7	28	10.5	—	4.2	M4 x 0.7	19	7	11.5	9.5	15	12	10	7	6	16
Ø12	16	M16x1.5	6	6H9	19.7	M5 x 0.8	12	17	8	38	14	5	6.2	M6 x 1	24	8	12.5	10.5	18	16	14	10	9	22
Ø16	16	M16x1.5	6	6H9	19.7	M5 x 0.8	12	17	8	38	14	5	6.2	M6 x 1	24	8	12.5	10.5	18	16	13	10	9	22
Ø20	20	M22x1.5	8	8 ^{+0.036 -0.006}	27.9	G1/8	16	20	8	44	17	6	8.2	M8 x 1.25	32	10	15	15	24	22	11	13	12	24
Ø25	22	M22x1.5	10		33.4	G1/8	16	22	8	50	20	8	10.2	M10 x 1.25	32	10	15	15	30	22	11	17	12	28

Bore	S			Z			XC			ZZ		
	1~50	51~100	101~150	1~50	51~100	101~150	1~50	51~100	101~150	1~50	51~100	101~150
Ø8	64.5(70.5)	—	—	94.5(100.5)	—	—	82.5(88.5)	—	—	104.5(110.5)	—	—
Ø10	64.5(68.5)	—	—	94.5(98.5)	—	—	82.5(86.5)	—	—	104.5(108.5)	—	—
Ø12	70(73.5)	—	—	111(114.5)	—	—	95(98.5)	—	—	125(128.5)	—	—
Ø16	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)
Ø20	87	112	137	140	165	190	120	145	170	151	176	201
Ø25	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 case of autoswitch type.

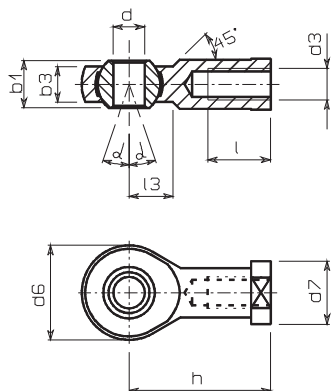


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DIMENSIONS
SINGLE ACTING
ROD ACCESSORIES

Actuators

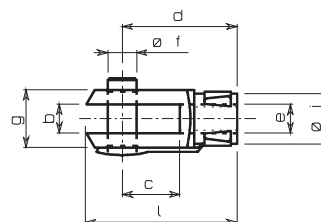
Single Knuckle Joint/DIN648 - DIN24335



Unit: mm

Bore Size	Model	Thread d3	dH7	h	d6	b3	b1	l	d7	α^0	l3
Ø8	KJ4D	M4	5	27	18	6.0	8	10	11	7.5	10
Ø10	KJ4D	M4	5	27	18	6.0	8	10	11	7.5	10
Ø12	KJ6D	M6	6	30	20	6.75	9	12	13	6.5	10
Ø16	KJ6D	M6	6	30	20	6.75	9	12	13	6.5	10
Ø20	KJ8D	M8	8	36	24	9	12	16	16	13	12
Ø25	KJ10D	M10x1.25	10	43	28	10.5	14	20	19	13	14

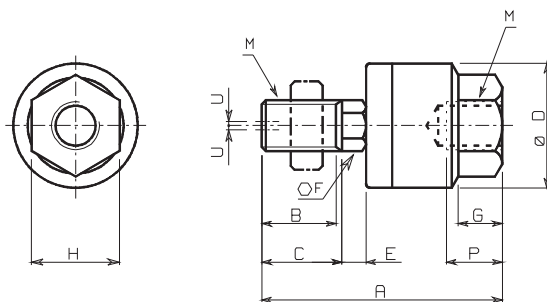
Double Knuckle Joint/ISO8140 - DIN71752



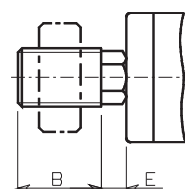
Unit: mm

Bore Size	Model	Thread e	b	d	f	g	c	j	a
Ø8	GKM4-8	M4	4	16	4	8	8	6	8
Ø10	GKM4-8	M4	4	16	4	8	8	6	8
Ø12	GKM6-12	M6	6	24	6	10	12	8	12
Ø16	GKM6-12	M6	6	24	6	10	12	8	12
Ø20	GKM8-16	M8	8	32	8	12	16	10	16
Ø25	GKM10-20	M10x1.25	10	40	10	18	20	12	20

Floating-Joint/Series JA



In case of dimension without C



Unit: mm

Bore Size	Model	M		A	B	C	D	E	F	G	H	Maximum screwed depth P	Allowable eccentricity U	Max. operating tension and compression power kgf (KN)
		Nominal thread dia.	Pitch											
Ø8, Ø10	JA10-4-070	4	0.7	26	9	10	12	1.5	4	4	7	5.5	0.5	5.4(0.054)
Ø12, Ø16	JA15-6-100	6	1	34.5	12.5	14	16	2	6	5	10	7	0.5	12.3(0.123)
Ø20	JA20-8-125	8	1.25	44	17.5	—	21	4.5	7	7	13	8	0.5	110(1.1)
Ø25	JA30-10-125	10	1.25	49.5	19.5	—	24	5	8	8	17	9	0.5	250(2.5)



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