Pin Cylinder, Single Acting, Spring Return
Series CJP
ø4, ø6, ø10, ø15

Features

- Bore sizes 4, 6, 10, 15mm.
- Panel mount or plug mount design.
- With or without piston rod thread.
- Ultra compact design.

How to Order

CJP [B] [10] – [15] [H4] – [ ]

Pin cylinder

Mounting

B	Panel mount type
S	Plug mounting type

Bore size

4	4 mm
6	6 mm
10	10 mm
15	15 mm

Cylinder standard stroke [mm]

5	ø4, ø6, ø10, ø15
10	
15	

Hose nipple
(Applicable to the mounting type B panel mount type (ø6 to ø15) only.)
(Hose nipple is not attached to plug mounting type)

–	Without hose nipple
H4	For ø4/ø2.5 tubing
H6	For ø6/ø4 tubing

Rod end thread

–	With thread
B	Without thread

Symbol

Spring return

Product Recommendation

Stocked items for fast delivery

CJPB4-5	CJPB6-10-B	CJPB10-5	CJPB15-5H6-B	CJPS6-5	CJPB10-10-H6
CJPB4-10	CJPB6-10H4	CJPB10-5-H4	CJPB15-10H4	CJPS6-10	CJPB10-10-H6-B
CJPB4-15	CJPB6-10H4-B	CJPB10-15	CJPB15-10H4-B	CJPS6-10-B	CJPS10-5
CJPB6-5	CJPB6-10H6	CJPB10-15-H4	CJPB15-10H6	CJPS6-15	CJPS10-10
CJPB6-5-B	CJPB6-10H6-B	CJPB10-15-H4-B	CJPB15-10H6-B	CJPB10-5H4-B	CJPS10-10-B
CJPB6-5H4	CJPB6-15	CJPB10-15-H6	CJPB15-15H4	CJPB10-5H6	CJPS10-15
CJPB6-5H4-B	CJPB6-15-H4	CJPB10-15-H6-B	CJPB15-15H6	CJPB10-5H6-B	CJPS15-5
CJPB6-5H6	CJPB6-15-H4-B	CJPB15-5	CJPS4-5	CJPB10-10-B	CJPS15-10
CJPB6-5H6-B	CJPB6-15-H6	CJPB15-5H4	CJPS4-10	CJPB10-10-H4	CJPS15-15
CJPB6-10	CJPB6-15-H6-B	CJPB15-5H6	CJPS4-15	CJPB10-10-H4-B	

Related Products

Series AS - Speed Controllers - page 1238
Series SY - Valves - page 65, 101, 417
Series VQC - Valves - page 193, 211
Series S0700 - Valves - page 358
Series AC - Air Preparation - page 1076
Series IDK - Moisture Control Tube - page 1149
Series TU - Tubing - page 1223

Technical Specifications

Action		Single acting, Spring return
Maximum operating pressure		0.7 MPa
Minimum operating pressure	ø4	0.3 MPa
	ø6	0.2 MPa
	ø10, ø15	0.15 MPa
Proof pressure		1.05 MPa
Ambient and fluid temperature		–10 to 70°C (No freezing)
Lubrication		Not required (Non-lube)
Piston speed		50 to 500 mm/s
Cushion		None
Stroke length tolerance		$^{+1.0}_{+0}$
Thread tolerance		JIS Class 2
Rod end style		With thread/Without thread
Mounting	Panel mount type	Plug mounting type

Spring Reaction Force

[N]

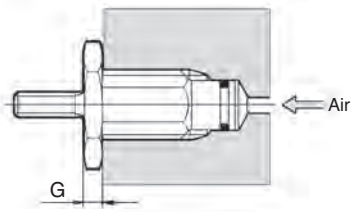
Bore size [mm]	Stroke [mm]	Retracted side	Extended side
4	5, 10, 15	2.80	1.00
6	5, 10, 15	3.92	1.42
10	5, 10, 15	5.98	2.45
15	5, 10, 15	10.80	4.41

* Same spring force for each stroke.

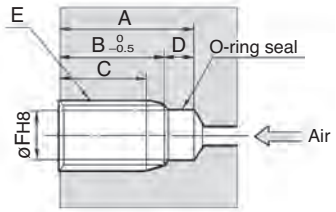
For more product options and details see our specific catalogues or on-line information.

Recommended Mounting Hole Dimensions for Plug Mounting Type

When embedded



Machining dimensions for mounting



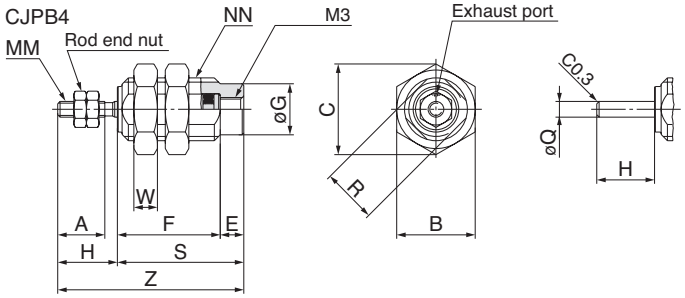
[mm]

Bore size [mm]	Stroke	A	B	C	D	E	F	G
4	5	12	8.5	6	3.5	M8 x 1.0	6.5	3
	10	20	16.5	14				
	15	28	24.5	22				
6	5	16	12.5	10	3.5	M10 x 1.0	8.5	3
	10	23	19.5	17				
	15	30	26.5	24				
10	5	17	13.5	10.5	3.5	M15 x 1.5	12	4
	10	23.5	20	17				
	15	30.5	27	24				
15	5	19	14.5	11.5	4.5	M22 x 1.5	19	5
	10	25	20.5	17.5				
	15	31.5	27	24				

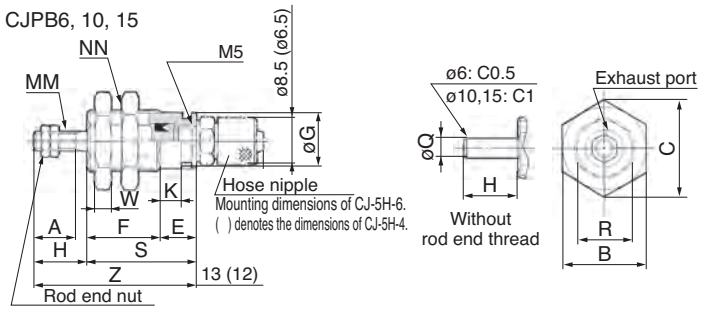
Note) E and øF should be machined in a concentric manner.

Dimensions: Panel Mount Type

CJPB4



CJPB6, 10, 15



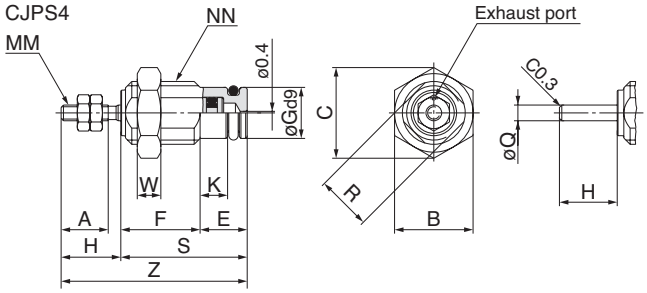
[mm]

Bore size [mm]	A	B	C	E	F			G	H	K	MM
					5st	10st	15st				
4	6	10	11.5	3	13	21	29	6.5	7.5	—	M2
6	7	12	13.9	6	12.5	19.5	26.5	8.5	9	3.5	M3
10	10	19	22	6	14.5	21	28	12	12	3.5	M4
15	12	27	31	7	16.5	22.5	29	19	14	4.2	M5

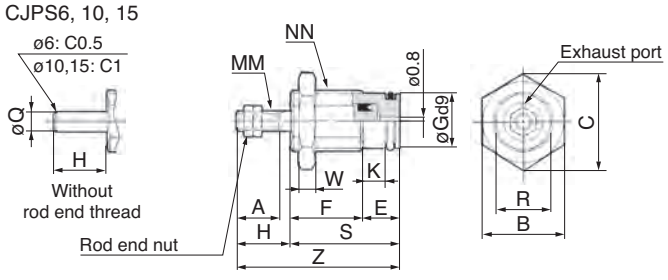
Bore size [mm]	NN	R	S			W	Z			Q
			5st	10st	15st		5st	10st	15st	
4	M8 x 1.0	7	16	24	32	3	23.5	31.5	39.5	2
6	M10 x 1.0	9	18.5	25.5	32.5	3	27.5	34.5	41.5	3
10	M15 x 1.5	13	20.5	27	34	4	32.5	39	46	5
15	M22 x 1.5	20	23.5	29.5	36	5	37.5	43.5	50	6

Dimensions: Plug Mounting Type

CJPS4



CJPS6, 10, 15



[mm]

Bore size [mm]	A	B	C	E	F			G	H	K	MM
					5st	10st	15st				
4	6	10	11.5	6	10	18	26	6.5	7.5	3.5	M2
6	7	12	13.9	6	12.5	19.5	26.5	8.5	9	3.5	M3
10	10	19	22	6	14.5	21	28	12	12	3.5	M4
15	12	27	31	7	16.5	22.5	29	19	14	4.2	M5

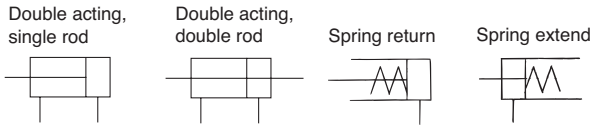
Bore size [mm]	NN	R	S			W	Z			Q
			5st	10st	15st		5st	10st	15st	
4	M8 x 1.0	7	16	24	32	3	23.5	31.5	39.5	2
6	M10 x 1.0	9	18.5	25.5	32.5	3	27.5	34.5	41.5	3
10	M15 x 1.5	13	20.5	27	34	4	32.5	39	46	5
15	M22 x 1.5	20	23.5	29.5	36	5	37.5	43.5	50	6

Air Cylinder:
Standard Type Double Acting, Single Rod
Series CG1
ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100

Features

- Double acting.
- Clean line.
- Considerably shorter than equivalent tie-rod cylinder.
- High velocity.
- Optional magnet for autoswitches.
- Non-rotating option.

Symbol



How to Order

Without magnet: CG1 □ B N 25 □ 100 S
With magnet: CDG1 □ B N 25 □ 100 S

Built-in magnet

Options

—	Standard, single rod
W	With double rod
K	Non-rotating rod type *

* ø20,to ø63 only Non-rotating
• KW possible only with rubber bumper

Standard
(Order the mounting accessories separately)

Type

N	Non-lube/Rubber bumper
A	Non-lube/Air cushion

• Air cushion in non-rotating type only possible for ø40 to ø63

Bore size

20	20 mm	50	50 mm
25	25 mm	63	63 mm
32	32 mm	80	80 mm
40	40 mm	100	100 mm

Cylinder stroke [mm]
Refer to "Standard Stroke" on the next page

Action

—	Double Acting
S	Single Acting, spring return *
T	Single acting, srping extend *

* ø20 to ø40 and standard single rod option only

Port thread type

Rubber bumper

—	Rc	ø20 to ø100
TF	G	ø32 to ø100

Air cushion

—	M5 x 0.8	ø20, ø25
	Rc	ø32 to ø100
TF	M5 x 0.8	ø20, ø25
	G	ø32 to ø100

Product Recommendation

Stocked items for fast delivery

Part Number	Stroke (□)	Part Number	Stroke (□)
C*G1BA20-□	25, 50, 75, 100, 125, 150, 200	C*G1BN32-□	25, 50, 75, 100, 125, 150, 200, 250, 300
C*G1BA25-□	25, 50, 75, 100, 125, 150, 200, 250, 300	C*G1BN40-□	25, 50, 75, 100, 125, 150, 200, 250, 300
C*G1BA32-□	25, 50, 75, 100, 125, 150, 200, 250, 300	C*G1BN50-□	25, 50, 75, 100, 125, 150, 200, 250, 300
C*G1BA40-□	25, 50, 75, 100, 125, 150, 200, 250, 300	C*G1BN63-□	25, 50, 75, 100, 125, 150, 200, 250, 300
C*G1BA50-□	25, 50, 75, 100, 125, 150, 200, 250, 300	CDG1BN80-□	75, 100, 150, 200
C*G1BA63-□	25, 50, 75, 100, 125, 150, 200, 250, 300	CDG1KBN20-□	25, 50, 75, 100, 125, 150, 200
CDG1BA80-□	100, 125, 150, 200, 250	CDG1KBN25-□	50, 75, 100, 125, 150, 200, 250, 300
CDG1BA100-□	100, 125, 150, 200	CDG1KBN32-□	25, 50, 75, 100, 125, 150, 200, 250, 300
C*G1BN20-□	25, 50, 75, 100, 125, 150, 200	CDG1KBN40-□	50, 125, 150, 200
C*G1BN25-□	25, 50, 75, 100, 125, 150, 200, 250, 300	CDG1KBN50-□	100, 200

* : Autoswitch – : Without D : With

Auto Switches

- D-M9PWL (PNP 2-colour indication)
- D-M9NWL (NPN 2-colour indication)
- D-G5PWL (PNP 2-colour indication)
- D-G59WL (NPN 2-colour indication)

Note) For more options see the Auto Switch section, page XXX

Related Products

Series ASR/ASQ - Air saving valves - www.smc.eu
Series AS - Speed Controllers - page 1238
Series RB - Shock Absorber - page 809
Series SY - Valves - page 65, 101, 417
Series SV - Valves - page 20
Series VQC - Valves - page 193, 211
Series AC - Air Preparation - page 1076
Series TU - Tubing - page 1223
Series KQ2 - Fittings - page 1184

For more product options and details see our specific catalogues or on-line information.

Technical Specifications

Bore size [mm]	20	25	32	40	50	63	80	100
Action	Double acting, Single rod							
Fluid	Air							
Proof pressure	1.5 MPa							
Maximum operating pressure	1.0 MPa							
Minimum operating pressure	0.05 MPa							
Ambient and fluid temperature	Without auto switch: –10 to 70°C (No freezing) With auto switch: –10 to 60°C (No freezing)							
Piston speed	50 to 1000 mm/s						50 to 700 mm/s	
Stroke length tolerance	Up to 1000 $^{st\ +1.4}_{0}$ mm, Up to 1200 $^{st\ +1.8}_{0}$ mm						Up to 1000 $^{st\ +1.4}_{0}$ mm Up to 1500 $^{st\ +1.8}_{0}$ mm	
Cushion	Rubber bumper, Air cushion							
Mounting *	Basic style, Axial foot style, Rod side flange style, Head side flange style, Rod side trunnion style, Head side trunnion style, Clevis style (Used for changing the port location by 90°.)							

Rod/Head side trunnion styles are not available for bore sizes ø80 and ø100.

Standard Strokes

Double Acting

Bore size [mm]	Standard stroke Note) [mm]	Long stroke [mm]	Maximum manufacturable stroke [mm]
20	25, 50, 75, 100, 125, 150, 200	201 to 350	1500
25	25, 50, 75, 100, 125, 150, 200, 250, 300	301 to 400	
32		301 to 450	
40		301 to 800	
50, 63		301 to 1200	
80		301 to 1400	
100		301 to 1500	

Note) Non-rotating type ø20 to ø63 only
Long stroke from 40 to 63 only

Single Acting

Bore size [mm]	Standard stroke [mm] Note)
20	25, 50, 75, 100, 125
25, 32, 40	25, 50, 75, 100, 125, 150, 200

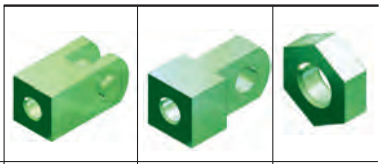
Note) Intermediate strokes other than the above are produced upon receipt of order. Spacers are not used for intermediate strokes.

Cylinder Mounting Accessories

Bore size [mm]	Front/ Rear Flange	Single Clevis	Pivot Bracket	Foot	** Trunnion Pin
20	CG-F020	CG-D020	CG-020-24A	CG-L020	CG-T020
25	CG-F025	CG-D025	CG-025-24A	CG-L025	CG-T025
32	CG-F032	CG-D032	CG-032-24A	CG-L032	CG-T032
40	CG-F040	CG-D040	CG-040-24A	CG-L040	CG-T040
50	CG-F050	CG-D050	CG-050-24A	CG-L050	CG-T050
63	CG-F063	CG-D063	CG-063-24A	CG-L063	CG-T063
80	CG-F080	CG-D080	CG-080-24A	CG-L080	-
100	CG-F100	CG-D100	CG-100-24A	CG-L100	-

** Not available for ø80, ø100

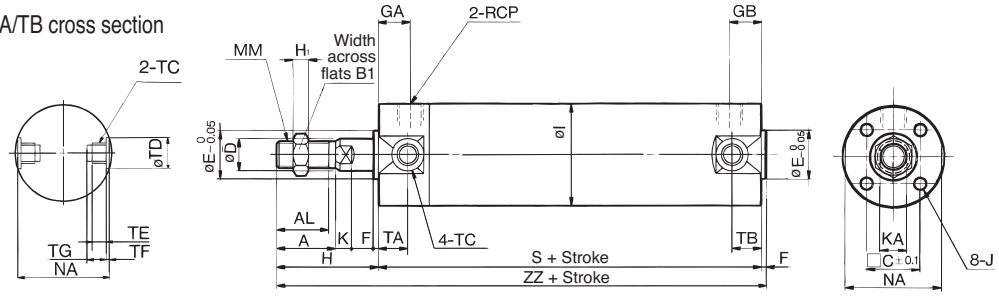
Rod Accessories



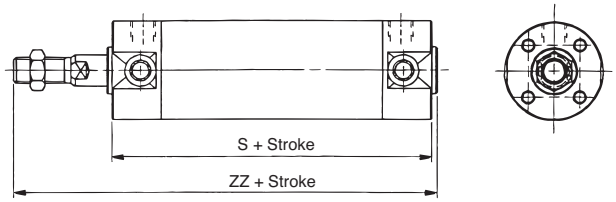
Bore size [mm]	Double Knuckle Joint	Single Knuckle Joint	Rod End Nut
20	Y-G02	I-G02	NT-02
25	Y-G03	I-G03	NT-03
32	Y-G03	I-G03	NT-03
40	Y-G04	I-G04	NT-G04
50	Y-G05	I-G05	NT-05
63	Y-G05	I-G05	NT-05
80	Y-G08	I-G08	NT-08
100	Y-G10	I-G10	NT-10

Basic with Rubber Bumper: CG1BN

TA/TB cross section



Air-hydro



Other dimensions are the same as the long stroke standard.

Bore size [mm]	Standard stroke range [mm]	Long stroke range [mm]	A	AL	B_1	C	D	E	F	GA	GB	H	H_1	I	J	K	KA	MM	NA	P	S	TA	TB	ZZ
20	Up to 200	201 to 350	18	15.5	13	14	8	12	2	12	10(12)	35	5	26	M4 depth 7	5	6	M8 x 1.25	24	1/8	69(77)	11	11	106(114)
25	Up to 300	301 to 400	22	19.5	17	16.5	10	14	2	12	10(12)	40	6	31	M5 depth 7.5	5.5	8	M10 x 1.25	29	1/8	69(77)	11	11	111(119)
32	Up to 300	301 to 450	22	19.5	17	20	12	18	2	12	10(12)	40	6	38	M5 depth 8	5.5	10	M10 x 1.25	35.5	1/8	71(79)	11	10(11)	113(121)
40	Up to 300	301 to 800	30	27	19	26	16	25	2	13	10(13)	50	8	47	M6 depth 12	6	14	M14 x 1.5	44	1/8	78(87)	12	10(12)	130(139)
50	Up to 300	301 to 1200	35	32	27	32	20	30	2	14	12(14)	58	11	58	M8 depth 16	7	18	M18 x 1.5	55	1/4	90(102)	13	12(13)	150(162)
63	Up to 300	301 to 1200	35	32	27	38	20	32	2	14	12(14)	58	11	72	M10 depth 16	7	18	M18 x 1.5	69	1/4	90(102)	13	12(13)	150(162)
80	Up to 300	301 to 1400	40	37	32	50	25	40	3	20	16(20)	71	13	89	M10 depth 22	10	22	M22 x 1.5	80	3/8	108(122)	—	—	182(196)
100	Up to 300	301 to 1500	40	37	41	60	30	50	3	20	16(20)	71	16	110	M12 depth 22	10	26	M26 x 1.5	100	1/2	108(122)	—	—	182(196)

Note) ( ): Denotes the dimensions for long stroke. ∗ Trunnion mounting taps with width across flats NA are not attached for bore size ø80 and ø100.

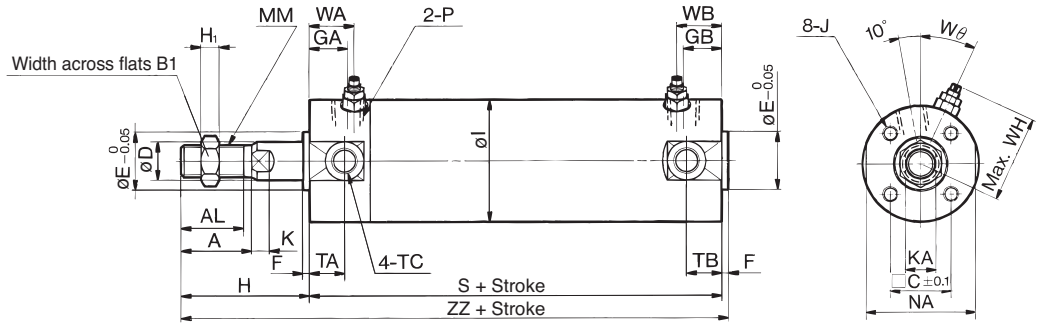
TA/TB Sectional View

Bore size [mm]	TC∗	TD_{H9}	TE	TF	TG
20	M5	$8^{+0.08}_{0}$	4	0.5	5.5
25	M6 x 0.75	$10^{+0.08}_{0}$	5	1	6.5
32	M8 x 1.0	$12^{+0.08}_{0}$	5.5	1	7.5
40	M10 x 1.25	$14^{+0.08}_{0}$	6	1.25	8.5
50	M12 x 1.25	$16^{+0.08}_{0}$	7.5	2	10
63	M14 x 1.5	$18^{+0.08}_{0}$	11.5	3	14.5
80	—	—	—	—	—
100	—	—	—	—	—

Air-hydro

Bore size [mm]	S	ZZ
20	77	114
25	77	119
32	79	121
40	87	139
50	102	162
63	102	162

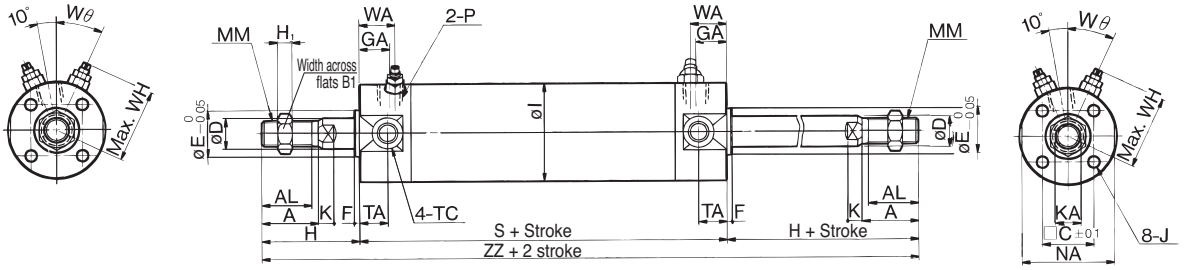
Basic Style with Air Cushion: CG1BA



Bore size [mm]	Standard stroke range [mm]	Long stroke range [mm]	A	AL	B1	C	D	E	F	GA	GB	H	H1	I	J	K	KA	MM	NA	P	S	TA	TB	TC*	ZZ	WA	WB	WH	Wθ
20	Up to 200	201 to 350	18	15.5	13	14	8	12	2	12	10(12)	35	5	26	M4 depth 7	5	6	M8	24	M5	69(77)	11	11	M5	106(114)	16	15(16)	23	30
25	Up to 300	301 to 400	22	19.5	17	16.5	10	14	2	12	10(12)	40	6	31	M5 depth 7.5	5.5	8	M10 x 1.25	29	M5	69(77)	11	11	M6 x 0.75	111(119)	16	15(16)	25	30
32	Up to 300	301 to 450	22	19.5	17	20	12	18	2	12	10(12)	40	6	38	M5 depth 8	5.5	10	M10 x 1.25	35.5	1/8	71(79)	11	10(11)	M8 x 1.0	113(121)	16	15(16)	28.5	25
40	Up to 300	301 to 800	30	27	19	26	16	25	2	13	10(13)	50	8	47	M6 depth 12	6	14	M14 x 1.5	44	1/8	78(87)	12	10(12)	M10 x 1.25	130(139)	16	15(16)	33	20
50	Up to 300	301 to 1200	35	32	27	32	20	30	2	14	12(14)	58	11	58	M8 depth 16	7	18	M18 x 1.5	55	1/4	90(102)	13	12(13)	M12 x 1.25	150(162)	18	17(18)	40.5	20
63	Up to 300	301 to 1200	35	32	27	38	20	32	2	14	12(14)	58	11	72	M10 x 1.5 depth 16	7	18	M18 x 1.5	69	1/4	90(102)	13	12(13)	M14 x 1.5	150(162)	18	17(18)	47.5	20
80	Up to 300	301 to 1400	40	37	32	50	25	40	3	20	16(20)	71	13	89	M10 x 1.5 depth 22	10	22	M22 x 1.5	80	3/8	108(122)	—	—	—	182(196)	22	22	60.5	20
100	Up to 300	301 to 1500	40	37	41	60	30	50	3	20	16(20)	71	16	110	M12 x 1.75 depth 22	10	26	M26 x 1.5	100	1/2	108(122)	—	—	—	182(196)	22	22	71	20

Note) ( ): Denotes the dimensions for long stroke.
* Trunnion mounting taps with width across flats NA are not attached for bore size ø80 and ø100.

Double Rod Style with Air Cushion: CG1WBA

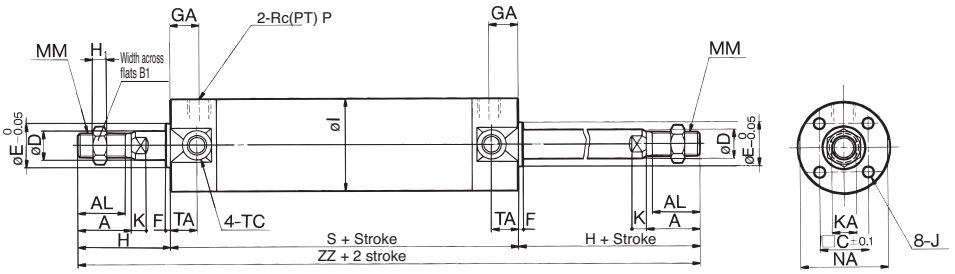


Bore size [mm]	Standard stroke range [mm]	Long stroke range [mm]	A	AL	B1	C	D	E	F	GA	H	H1	I	J	K	KA
20	Up to 200	201 to 350	18	15.5	13	14	8	12	2	12	35	5	26	M4 depth 7	5	6
25	Up to 300	301 to 400	22	19.5	17	16.5	10	14	2	12	40	6	31	M5 depth 7.5	5.5	8
32	Up to 300	301 to 450	22	19.5	17	20	12	18	2	12	40	6	38	M5 depth 8	5.5	10
40	Up to 300	301 to 800	30	27	19	26	16	25	2	13	50	8	47	M6 depth 12	6	14
50	Up to 300	301 to 1200	35	32	27	32	20	30	2	14	58	11	58	M8 depth 16	7	18
63	Up to 300	301 to 1200	35	32	27	38	20	32	2	14	58	11	72	M10 depth 16	7	18
80	Up to 300	301 to 1400	40	37	32	50	25	40	3	20	71	13	89	M10 depth 22	10	22
100	Up to 300	301 to 1500	40	37	41	60	30	50	3	20	71	16	110	M12 depth 22	10	26

Bore size [mm]	MM	NA	P	S	TA	TC **	ZZ	WA	WH	Wθ
20	M8	24	M5	77	11	M5	147	16	23	30°
25	M10 x 1.25	29	M5	77	11	M6 x 0.75	157	16	25	30°
32	M10 x 1.25	35.5	1/8	79	11	M8 x 1.0	159	16	28.5	25°
40	M14 x 1.5	44	1/8	87	12	M10 x 1.25	187	16	33	20°
50	M18 x 1.5	55	1/4	102	13	M12 x 1.25	218	18	40.5	20°
63	M18 x 1.5	69	1/4	102	13	M14 x 1.5	218	18	47.5	20°
80	M22 x 1.5	80	3/8	122	—	—	264	22	60.5	20°
100	M26 x 1.5	100	1/2	122	—	—	264	22	71	20°

** Trunnion mounting taps with width across flats NA are not attached for bore sizes ø80 and ø100.

Double Rod Style with Rubber Bumper: CG1WBN



Bore size [mm]	Stroke range [mm]	A	AL	B1	C	D	E	F	GA	H	H1	I	J	K	KA	MM	NA	P	S
20	Up to 350	18	15.5	13	14	8	12	2	12	35	5	26	M4 depth 7	5	6	M8	24	1/8	77
25	Up to 400	22	19.5	17	16.5	10	14	2	12	40	6	31	M5 depth 7.5	5.5	8	M10 x 1.25	29	1/8	77
32	Up to 450	22	19.5	17	20	12	18	2	12	40	6	38	M5 depth 8	5.5	10	M10 x 1.25	35.5	1/8	79
40	Up to 800	30	27	19	26	16	25	2	13	50	8	47	M6 depth 12	6	14	M14 x 1.5	44	1/8	87
50	Up to 1200	35	32	27	32	20	30	2	14	58	11	58	M8 depth 16	7	18	M18 x 1.5	55	1/4	102
63	Up to 1200	35	32	27	38	20	32	2	14	58	11	72	M10 depth 16	7	18	M18 x 1.5	69	1/4	102
80	Up to 1400	40	37	32	50	25	40	3	20	71	13	89	M10 depth 22	10	22	M22 x 1.5	80	3/8	122
100	Up to 1500	40	37	41	60	30	50	3	20	71	16	110	M12 depth 22	10	26	M26 x 1.5	100	1/2	122

Bore size [mm]	TA	TC**	ZZ
20	11	M5	147
25	11	M6 x 0.75	157
32	11	M8 x 1.0	159
40	12	M10 x 1.25	187
50	13	M12 x 1.25	218
63	13	M14 x 1.5	218
80	—	—	264
100	—	—	264

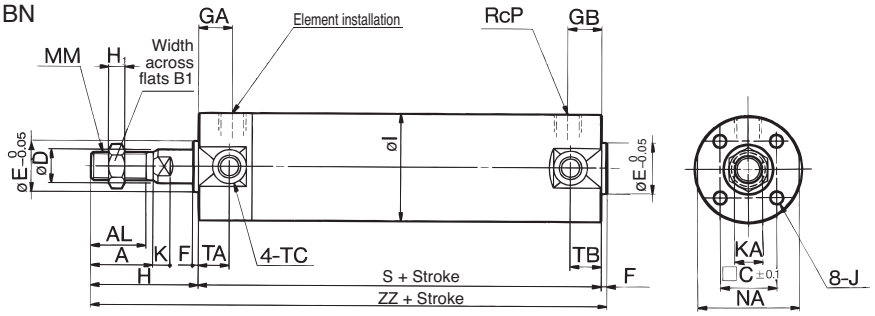
Air-hydro

Bore size [mm]	S	ZZ
20	77	147
25	77	157
32	79	159
40	87	187
50	102	218
63	102	218

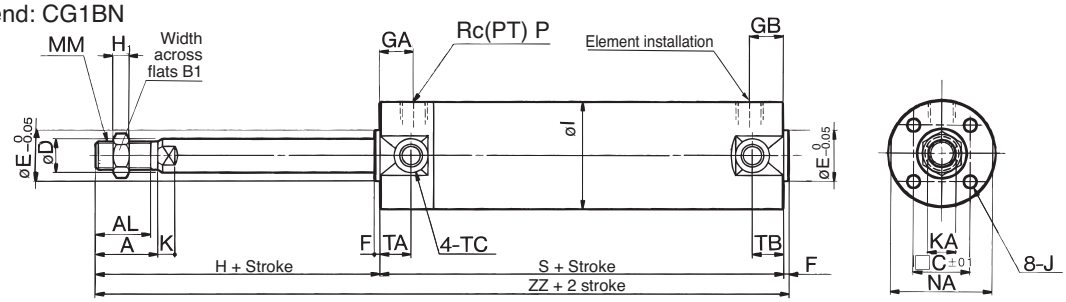
∗ The minimum stroke with rod boot is 20 mm.
∗∗ Trunnion mounting taps with width across flats NA are not attached for bore sizes ø80 and ø100.

Single Acting

Spring return: CG1BN



Spring extend: CG1BN



Bore size [mm]	Stroke range [mm]	A	AL	B1	C	D	E	F	GA	GB	H	H1	I	J	K	KA	MM	NA	P
20	Up to 125	18	15.5	13	14	8	12	2	12	10	35	5	26	M4 depth 7	5	6	M8	24	1/8
25	Up to 200	22	19.5	17	16.5	10	14	2	12	10	40	6	31	M5 depth 7.5	5.5	8	M10 x 1.25	29	1/8
32	Up to 200	22	19.5	17	20	12	18	2	12	10	40	6	38	M5 depth 8	5.5	10	M10 x 1.25	35.5	1/8
40	Up to 200	30	27	19	26	16	25	2	13	10	50	8	47	M6 depth 12	6	14	M14 x 1.5	44	1/8

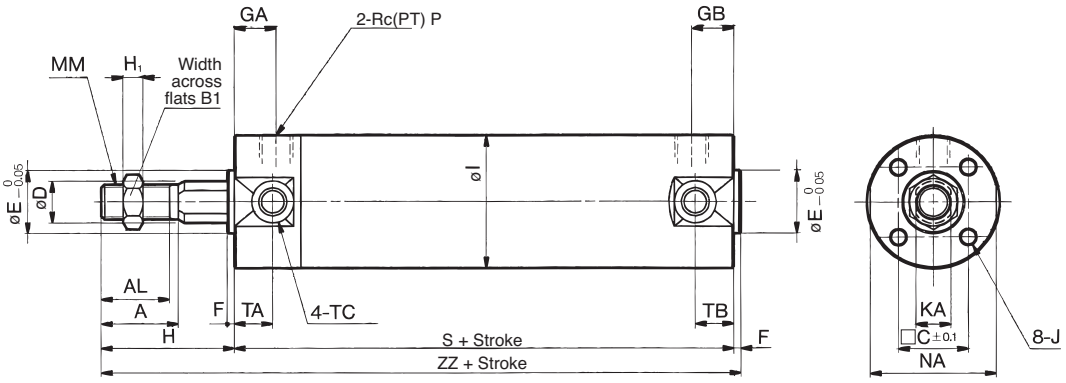
Bore size [mm]	TA	TB	TC	1 to 50 st		51 to 100 st		101 to 125 st		126 to 200 st	
				S	ZZ	S	ZZ	S	ZZ	S	ZZ
20	11	11	M5	94	131	119	156	144	181	—	—
25	11	11	M6 x 0.75	94	136	119	161	144	186	169	211
32	11	10	M8 x 1.0	96	138	121	163	146	188	171	213
40	12	10	M10 x 1.25	103	155	128	180	153	205	178	230

For more product options and details see our specific catalogues or on-line information.

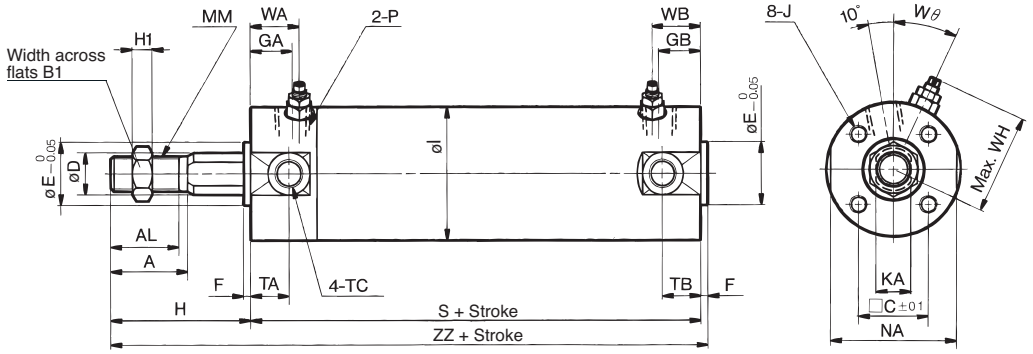
Actuators

Non-Rotating

With rubber bumper: CG1KBN
ø20 to ø63



With air cushion: CG1KBA
ø40 to ø63



Bore size [mm]	Stroke range [mm]	A	AL	B1	C	D	E	F	GA	GB	H	H1	I	J	KA	MM	NA	P	S	TA	TB	TC	ZZ
20	Up to 200	18	15.5	13	14	9.2	12	2	12	10	35	5	26	M4 depth 7	8	M8	24	1/8	69	11	11	M5	106
25	Up to 300	22	19.5	17	16.5	11	14	2	12	10	40	6	31	M5 depth 7.5	10	M10 x 1.25	29	1/8	69	11	11	M6 x 0.75	111
32	Up to 300	22	19.5	17	20	12	18	2	12	10	40	6	38	M5 depth 8	10	M10 x 1.25	35.5	1/8	71	11	10	M8 x 1.0	113
40	Up to 300(500)	30	27	19	26	16	25	2	13	10(13)	50	8	47	M6 depth 12	14	M14 x 1.5	44	1/8	78(87)	12	10(12)	M10 x 1.25	130(139)
50	Up to 300(600)	35	32	27	32	20	30	2	14	12(14)	58	11	58	M8 depth 16	18	M18 x 1.5	55	1/4	90(102)	13	12(13)	M12 x 1.25	150(162)
63	Up to 300(600)	35	32	27	38	20	32	2	14	12(14)	58	11	72	M10 depth 16	18	M18 x 1.5	69	1/4	90(102)	13	12(13)	M14 x 1.5	150(162)

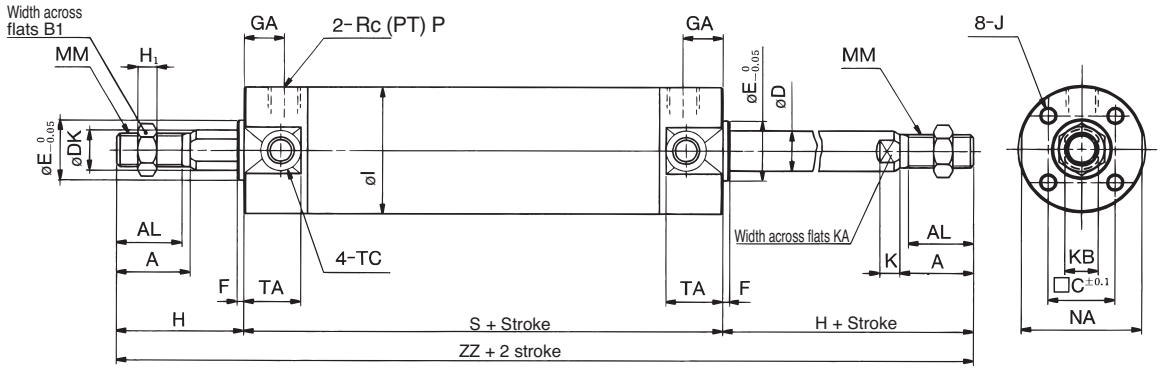
Note 1) Dimensions for each mounting bracket are the same as those for CG1 standard or long stroke model.Also, as for the one with auto switch, it is the same as standard products of Series CDG1.
Note 2) ( ): Long stroke

With Air Cushion

Bore size [mm]	P	WA	WB	WH	Wθ
40	1/8	16	15(16)	33	20°
50	1/4	18	17(18)	40.5	20°
63	1/4	18	17(18)	47.5	20°

Note) ( ): Denotes the dimensions for long stroke.

Non-Rotating Through Rod Style with Rubber Bumper: CG1KWBN

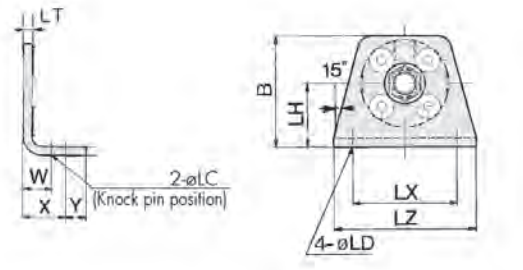


Bore size [mm]	Stroke range [mm]	A	AL	B1	C	D	DK	E	F	GA	H1	I	J	K	KA	KB	MM	NA	P	S
20	Up to 200	18	15.5	13	14	8	9.2	12	2	12	5	26	M4 depth 7	5	6	8	M8	24	1/8	77
25	Up to 300	22	19.5	17	16.5	10	11	14	2	12	6	31	M5 depth 7.5	5.5	8	10	M10 x 1.25	29	1/8	77
32	Up to 300	22	19.5	17	20	12	12	18	2	12	6	38	M5 depth 8	5.5	10	10	M10 x 1.25	35.5	1/8	79
40	Up to 500	30	27	19	26	16	16	25	2	13	8	47	M6 depth 12	6	14	14	M14 x 1.5	44	1/8	87
50	Up to 600	35	32	27	32	20	20	30	2	14	11	58	M8 depth 16	7	18	18	M18 x 1.5	55	1/4	102
63	Up to 600	35	32	27	38	20	20	32	2	14	11	72	M10 depth 16	7	18	18	M18 x 1.5	69	1/4	102

Bore size [mm]	TA	TC	H	ZZ
20	11	M5	35	147
25	11	M6 x 0.75	40	157
32	11	M8 x 1.0	40	159
40	12	M10 x 1.25	50	187
50	13	M12 x 1.25	58	218
63	13	M14 x 1.5	58	218

Note) Dimensions are the same as CG1W standard type.

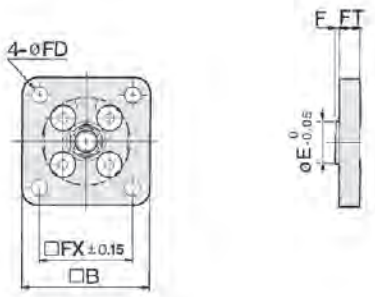
Axial Foot



Bore size [mm]	B	LC	LD	LH	LT	LX	LZ	W	X	Y
20	34	4	6	20	3	32	44	10	15	7
25	38.5	4	6	22	3	36	49	10	15	7
32	45	4	7	25	3	44	58	10	16	8
40	54.5	4	7	30	3	54	71	10	16.5	8.5
50	70.5	5	10	40	4.5	66	86	17.5	22	11
63	82.5	5	12	45	4.5	82	106	17.5	22	13
80	101	6	11	55	4.5	100	125	20	28.5	14
100	121	6	14	65	6	120	150	20	30	16

Flange

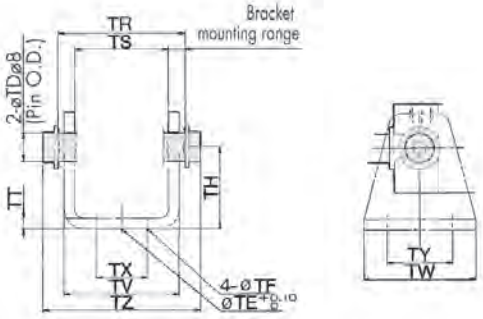
Head side & Rod side flange



Bore size [mm]	B	E	F	FX	FD	FT
20	40	12	2	28	5.5	6
25	44	14	2	32	5.5	7
32	53	18	2	38	6.6	7
40	61	25	2	46	6.6	8
50	76	30	2	58	9	9
63	92	32	2	70	11	9
80	104	40	3	82	11	11
100	128	50	3	100	14	14

Trunnion

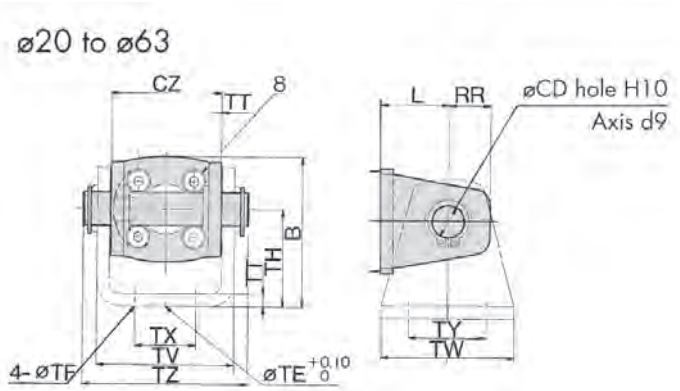
Head side & Rod side trunnion



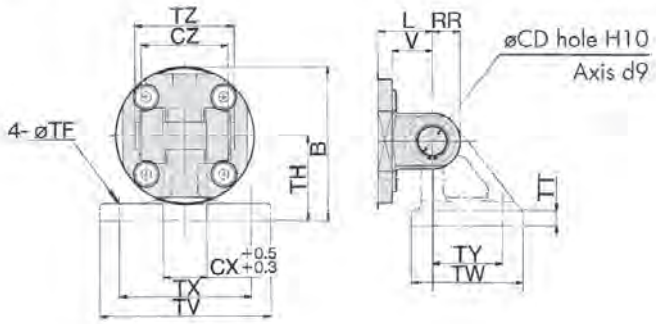
Bore size [mm]	TDe8	TE	TF	TH	TR	TS	TT	TV	TW	TX	TY	TZ
20	8 $^{-0.025}_{-0.047}$	10	5.5	25	39	28	3.2	(35.8)	42	16	28	47.6
25	10 $^{-0.025}_{-0.047}$	10	5.5	30	43	33	3.2	(39.8)	42	20	28	53
32	12 $^{-0.032}_{-0.059}$	10	6.6	35	54.5	40	4.5	(49.4)	48	22	28	67.7
40	14 $^{-0.032}_{-0.059}$	10	6.6	40	65.5	49	4.5	(58.4)	56	30	30	78.7
50	16 $^{-0.032}_{-0.059}$	20	9	50	80	60	6	(72.4)	64	36	36	98.6
63	18 $^{-0.032}_{-0.059}$	20	11	60	98	74	8	(90.4)	74	46	46	119.2

Clevis CG1DN

ø20 to ø63



ø80, ø100



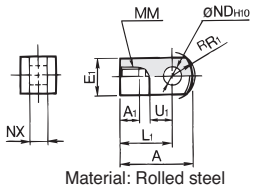
∗ Clevis pin and circlip are attached for the clevis.

Bore size [mm]	B	CD	CX	CZ	L	RR	V	TE	TF	TH	TT	TV	TW	TX	TY	TZ	Applicable pin part no.
20	38	8	—	29	14	11	—	10	5.5	25	3.2	35.8	42	16	28	43.4	CD-G02
25	45.5	10	—	33	16	13	—	10	5.5	30	3.2	39.8	42	20	28	48	CD-G25
32	54	12	—	40	20	15	—	10	6.6	35	4.5	49.4	48	22	28	59.4	CD-G03
40	63.5	14	—	49	22	18	—	10	6.6	40	4.5	58.4	56	30	30	71.4	CD-G04
50	79	16	—	60	25	20	—	20	9	50	6	72.4	64	36	36	86	CD-G05
63	96	18	—	74	30	22	—	20	11	60	8	90.4	74	46	46	105.4	CD-G06
80	99.5	18	28	56	35	18	26	—	11	55	11	110	72	85	45	64	IY-G08
100	120	22	32	64	43	22	32	—	13.5	65	12	130	93	100	60	72	IY-G10

Accessory Bracket Dimensions

Single Knuckle Joint

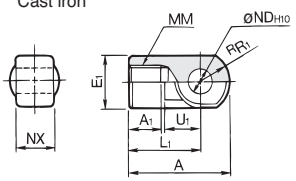
I-G02/G03



Material: Rolled steel

Material: Cast iron

I-G04/G05/G08/G10

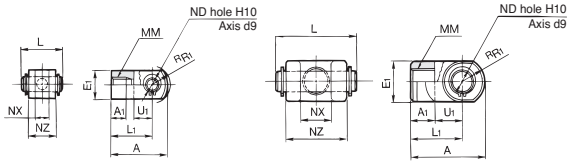


Part no.	Applicable bore [mm]	A	A_1	E_1	L_1	MM	R_1	U_1	ND_{H10}	NX
I-G02	20	34	8.5	□16	25	M8	10.3	11.5	$8^{+0.058}_{0}$	$8^{-0.2}_{-0.4}$
I-G03	25, 32	41	10.5	□20	30	M10 x 1.25	12.8	14	$10^{+0.058}_{0}$	$10^{-0.2}_{-0.4}$
I-G04	40	42	14	ø22	30	M14 x 1.5	12	14	$10^{+0.058}_{0}$	$18^{-0.3}_{-0.5}$
I-G05	50, 63	56	18	ø28	40	M18 x 1.5	16	20	$14^{+0.070}_{0}$	$22^{-0.3}_{-0.5}$
I-G08	80	71	21	ø38	50	M22 x 1.5	21	27	$18^{+0.070}_{0}$	$28^{-0.3}_{-0.5}$
I-G10	100	79	21	ø44	55	M26 x 1.5	24	31	$22^{+0.084}_{0}$	$32^{-0.3}_{-0.5}$

Double Knuckle Joint

Y-G02/G03
Material: Rolled steel

Y-G04/G05/G08/G10
Material: Cast iron

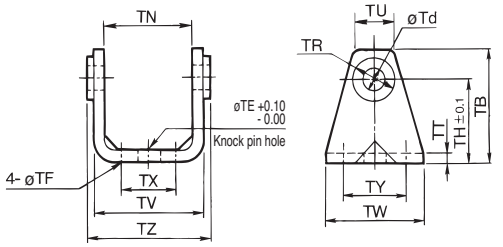


Part no.	Applicable bore [mm]	A	A_1	E_1	L_1	MM	R_1	U_1	ND	NX	NZ	L	Applicable pin part no.
Y-G02	20	34	8.5	□16	25	M8	10.3	11.5	8	$8^{+0.4}_{+0.2}$	16	21	IY-G02
Y-G03	25, 32	41	10.5	□20	30	M10 x 1.25	12.8	14	10	$10^{+0.4}_{+0.2}$	20	25.6	IY-G03
Y-G04	40	42	16	ø22	30	M14 x 1.5	12	14	10	$18^{+0.5}_{+0.3}$	36	41.6	IY-G04
Y-G05	50, 63	56	20	ø28	40	M18 x 1.5	16	20	14	$22^{+0.5}_{+0.3}$	44	50.6	IY-G05
Y-G08	80	71	23	ø38	50	M22 x 1.5	21	27	18	$28^{+0.5}_{+0.3}$	56	64	IY-G08
Y-G10	100	79	24	ø44	55	M26 x 1.5	24	31	22	$32^{+0.5}_{+0.3}$	64	72	IY-G10

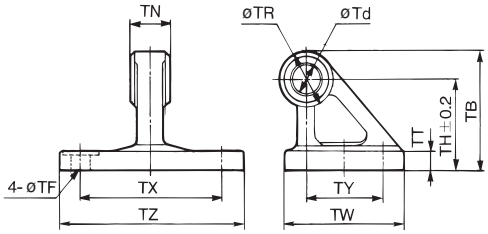
∗ Knuckle pin and set ring are shipped together.

Pivot Bracket (Order seperately)

ø20 to ø63
Material: Rolled steel



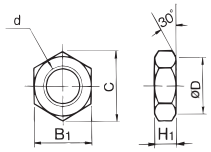
ø80, ø100
Material: Cast iron



Part no.	Applicable bore [mm]	TB	Td	TE	TF	TH	TN	TR	TT
CG-020-24A	20	36	8	10	5.5	25	(29.3)	13	3.2
CG-025-24A	25	43	10	10	5.5	30	(33.1)	15	3.2
CG-032-24A	32	50	12	10	6.6	35	(40.4)	17	4.5
CG-040-24A	40	58	14	10	6.6	40	(49.2)	21	4.5
CG-050-24A	50	70	16	20	9	50	(60.4)	24	6
CG-063-24A	63	82	18	20	11	60	(74.6)	26	8
CG-080-24A	80	73	18	—	11	55	28^{-01}_{-03}	36	11
CG-100-24A	100	90	22	—	13.5	65	32^{-01}_{-03}	50	12

Part no.	Applicable bore [mm]	TU	TV	TW	TX	TY	TZ	Applicable pin O.D.
CG-020-24A	20	(18.1)	(35.8)	42	16	28	38.3	$8d_9$ $^{-0.040}_{-0.076}$
CG-025-24A	25	(20.7)	(39.8)	42	20	28	42.1	$10d_9$ $^{-0.040}_{-0.076}$
CG-032-24A	32	(23.6)	(49.4)	48	22	28	53.8	$12d_9$ $^{-0.050}_{-0.093}$
CG-040-24A	40	(27.3)	(58.4)	56	30	30	64.6	$14d_9$ $^{-0.050}_{-0.093}$
CG-050-24A	50	(29.7)	(72.4)	64	36	36	79.2	$16d_9$ $^{-0.050}_{-0.093}$
CG-063-24A	63	(34.3)	(90.4)	74	46	46	97.2	$18d_9$ $^{-0.050}_{-0.093}$
CG-080-24A	80	—	—	72	85	45	110	$18d_9$ $^{-0.050}_{-0.093}$
CG-100-24A	100	—	—	93	100	60	130	$22d_9$ $^{-0.065}_{-0.117}$

Rod end Nut



Material: Rolled steel

Part no.	Applicable bore [mm]	d	H_1	B_1	C	D
NT-02	20	M8	5	13	(15.0)	12.5
NT-03	25, 32	M10 x 1.25	6	17	(19.6)	16.5
NT-G04	40	M14 x 1.5	8	19	(21.9)	18
NT-05	50, 63	M18 x 1.5	11	27	(31.2)	26
NT-08	80	M22 x 1.5	13	32	(37.0)	31
NT-10	100	M26 x 1.5	16	41	(47.3)	39

Actuators

Air Cylinder Short Type
Double Acting, Single Rod
Series CG3

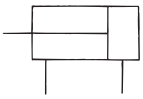
ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100

Features

- Space saving.
- Light weight, similar operating performance than the CG1.
- Female rod end available as standard.

Symbol

Double acting, single rod



How to Order

Without auto switch	CG3	B	N	25	–	100		
With auto switch	CDG3	B	N	25	–	100		

With auto switch
(Built-in magnet)

Mounting

B	Basic

Order mounting accessories separately.

Cushion

N	Rubber bumper

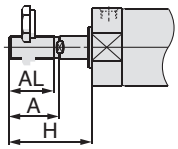
Bore size

20	20 mm	50	50 mm
25	25 mm	63	63 mm
32	32 mm	80	80 mm
40	40 mm	100	100 mm

Rod end thread

–	Male thread
F	Female thread
G	Long male rod end*

* G: Same rod end dimensions (A, AL, H) as CG1 series.



Cylinder stroke [mm]

Bore size [mm]	Standard stroke [mm] Note)
20	25, 50, 75, 100, 125, 150, 200
25, 32, 40, 50, 63, 80, 100	25, 50, 75, 100, 125, 150, 200, 250, 300

Note) Manufacture of intermediate strokes in 1 mm intervals is possible. (Spacers are not used.)

Product Recommendation

Stocked items for fast delivery

CDG3BN20-25	CDG3BN25-25	CDG3BN32-25	CDG3BN40-25	CDG3BN50-25
CDG3BN20-50	CDG3BN25-50	CDG3BN32-50	CDG3BN40-50	CDG3BN50-50
CDG3BN20-75	CDG3BN25-75	CDG3BN32-75	CDG3BN40-75	CDG3BN50-75
CDG3BN20-100	CDG3BN25-100	CDG3BN32-100	CDG3BN40-100	CDG3BN50-100
CDG3BN20-125	CDG3BN25-125	CDG3BN32-125	CDG3BN40-125	CDG3BN50-125
CDG3BN20-150	CDG3BN25-150	CDG3BN32-150	CDG3BN40-150	CDG3BN50-150

Auto Switches

- D-M9PWL (PNP 2-colour indication)
- D-M9NWL (NPN 2-colour indication)
- D-G5PWL (PNP 2-colour indication)
- D-G59WL (NPN 2-colour indication)

Note) For more options see the Auto Switch section, page XXX

Related Products

Series ASR/ASQ - Air Saving Valves - www.smc.eu
Series AS - Speed Controllers - page 1238
Series RB - Shock Absorber - page 809
Series SY - Valves - page 65, 101, 417
Series SV - Valves - page 20
Series VQC - Valves - page 193, 211
Series AC - Air Preparation - page 1076
Series TU - Tubing - page 1223
Series KQ2 - Fittings - page 1184

Specifications

Bore size [mm]		20	25	32	40	50	63	80	100
Action		Double acting, Single rod							
Lubrication		Not required (Non-lube)							
Fluid		Air							
Proof pressure		1.0 MPa							
Maximum operating pressure		0.7 MPa							
Minimum operating pressure		0.05 MPa							
Ambient and fluid temperature		Without auto switch: –10 to 70°C (No freezing)							
		With auto switch: –10 to 60°C (No freezing)							
Piston speed		50 to 1000 mm/s						30 to 700 mm/s	
Stroke length tolerance		20: Up to $200^{st\ +\ 1.4}_{0}$ mm 25 to 63: $300^{st\ +\ 1.4}_{0}$ mm						Up to $300^{st\ +\ 1.4}_{0}$ mm	
Cushion		Rubber bumper							
Allowable kinetic energy	Male rod end	0.2 J	0.29 J	0.46 J	0.84 J	1.4 J	2.38 J	4.13 J	6.93 J
	Female rod end	0.11 J	0.18 J	0.29 J	0.52 J	0.91 J	1.54 J	2.71 J	4.54 J
Mounting		Basic, Foot, Rod flange, Head flange, Clevis (used for charging the port location by 90°)							

* Operate the cylinder within the allowable kinetic energy.

For more product options and details see our specific catalogues or on-line information.

Mounting Brackets/Part No.

Mounting bracket	Order qty.	Bore size [mm] 20	25	32	40	50	63	80	100	Contents
Foot	2 Note)	CG-L020	CG-L025	CG-L032	CG3-L040	CG-L050	CG-L063	CG-L080	CG-L100	2 foots, 8 mounting bolts
Flange	1	CG3-F020	CG3-F025	CG-F032	CG3-F040	CG-F050	CG-F063	CG-F080	CG-F100	1 flange, 4 mounting bolts
Clevis	1	CG-D020	CG-D025	CG-D032	CG3-D040	CG-D050	CG-D063	CG-D080	CG-D100	1 clevis, 4 mounting bolts, 1 clevis pin, 2 retaining rings
Pivoting bracket	1	CG-020-24A	CG-025-24A	CG-032-24A	CG-040-24A	CG-050-24A	CG-063-24A	CG-080-24A	CG-100-24A	1 pivoting bracket

Allowable Kinetic Energy

Table (1) Max. Allowable Kinetic Energy [J]

Bore size [mm]	20	25	32	40	50	63	80	100
Male rod end	0.2	0.29	0.46	0.84	1.4	2.38	4.13	6.93
Female rod end	0.11	0.18	0.29	0.52	0.91	1.54	2.71	4.54

Kinetic energy $E\ (J) = \dfrac{(m_1 + m_2)\,V^2}{2}$

m_1: Mass of cylinder movable parts kg
m_2: Load mass kg
V : Piston speed at the end m/s

Table (2) Mass of Cylinder Movable Parts: At Each Rod End/Without Built-in Magnet/0 Stroke [g]

Bore size [mm]	20	25	32	40	50	63	80	100
Basic	30	54	74	121	254	297	603	935
Long male rod end (G)	36	64	89	146	300	343	683	1047
Female rod end (F)	23	40	62	91	184	226	462	728

∗ Mass of the rod end nut is included for the basic type and the long male rod end type (G).

Table (3) Additional Mass [g]

Bore size [mm]	20	25	32	40	50	63	80	100
Additional mass per 50 mm of stroke	20	31	44	61	99	99	148	207
Switch magnet	4	4	9	13	14	22	24	35

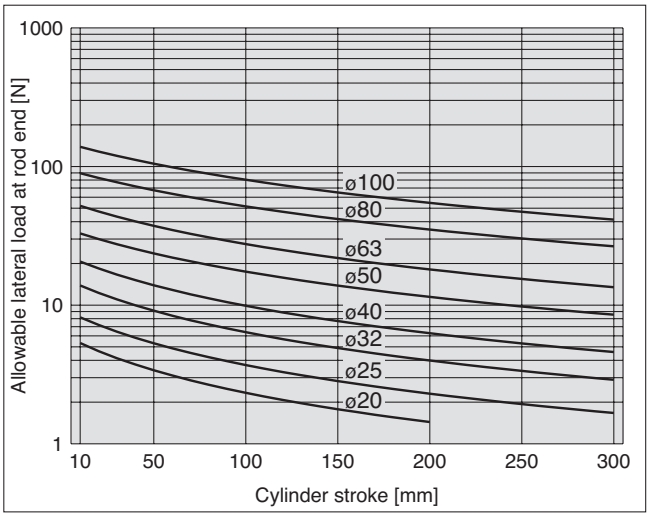
∗ Do not apply a lateral load over the allowable range to the rod end when it is mounted horizontally.

Calculation: (Example) CDG3BN40-150

- Standard mass of movable parts: Table (2) Rod end [Basic], Bore size [40]····121 g
- Additional mass: Additional mass of stroke 61 x 150/50 = 183 g ····· 183 g
  Switch magnet ····· 13 g

Total 317 g

Allowable Lateral Load at Rod End



Replacement Parts/Seal Kit

Bore size [mm]	Kit no.
20	CG3N20-PS
25	CG3N25-PS
32	CG3N32-PS
40	CG3N40-PS

Note) Refer to the following for disassembly/replacement. Order with a part number for each type and bore size.

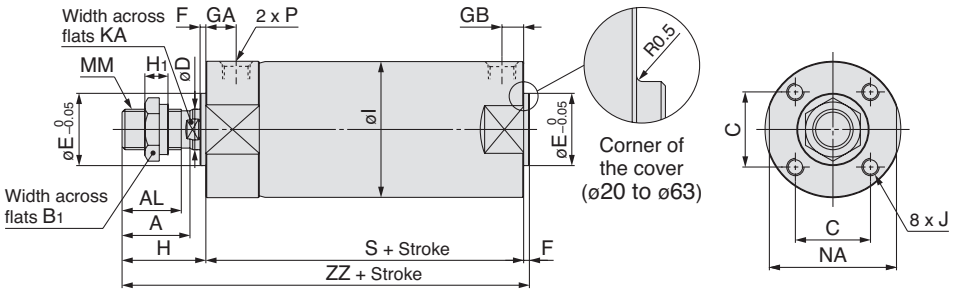
∗ The seal kit includes a grease pack (10 g). Order with the following part number when only the grease pack is needed.
Grease pack part no.: GR-S-010 (10 g)

Actuators

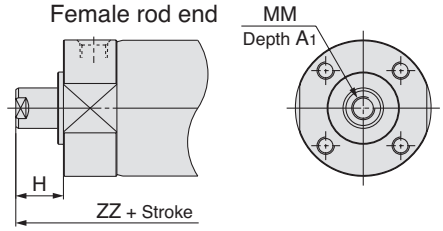
Dimensions

Basic: CG3BN Bore size – Stroke

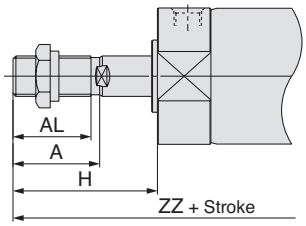
With rubber bumper



Female rod end



Long male rod end



Female Rod End [mm]

Bore size [mm]	Standard stroke	A1	H	MM	ZZ
20	Up to 200	8	13	M4	72
25	Up to 300	8	14	M5	76
32	Up to 300	12	14	M6	78
40	Up to 300	13	15	M8	79
50	Up to 300	18	16	M10	102
63	Up to 300	18	16	M10	102
80	Up to 300	21	19	M14	126
100	Up to 300	25	22	M16	130

Long Male Rod End *2 [mm]

Bore size [mm]	Standard stroke	A	AL	H	ZZ
20	Up to 200	18	15.5	35	94
25	Up to 300	22	19.5	40	102
32	Up to 300	22	19.5	40	104
40	Up to 300	30	27	50	114
50	Up to 300	35	32	58	144
63	Up to 300	35	32	58	144
80	Up to 300	40	37	71	178
100	Up to 300	40	37	71	179

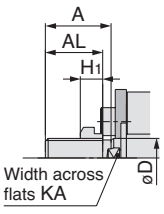
Basic [mm]

Bore size [mm]	Standard stroke	A	AL	B1	C	D	E	F	GA	GB	H	H1	I	J	KA	MM	NA	P	S	ZZ
20	Up to 200	14.5	12	13	14	8	12	2	12	6	20	5	26	M4 depth 7	Width across flats 6 length 3.5	M8	24	M5	57	79
25	Up to 300	17.5	15	17	16.5	10	14	2	12.5	7	23	6	31	M5 depth 7.5	Width across flats 8 length 3.5	M10 x 1.25	29	M5	60	85
32	Up to 300	17.5	15	17	20	12	18	2	11	7.5	23	6	38	M5 depth 8	Width across flats 10 length 3.5	M10 x 1.25	35.5	Rc1/8	62	87
40	Up to 300	23.5	20.5	19	26	14	25	2	10.5	7.5	29	8	47	M6 depth 10	Width across flats 12 length 3.5	M14 x 1.5	44	Rc1/8	62	93
50	Up to 300	29	26	27	32	18	30	2	15	12	35	11	58	M8 depth 16	Width across flats 16 length 4.5	M18 x 1.5	55	Rc1/4	84	121
63	Up to 300	29	26	27	38	18	32	2	15	12	35	11	72	M10 depth 16	Width across flats 16 length 4.5	M18 x 1.5	69	Rc1/4	84	121
80	Up to 300	35.5	32.5	32	50	22	40	3	17	16	44	13	89	M10 depth 22	Width across flats 19 length 4.5	M22 x 1.5	80	Rc1/4	104	151
100	Up to 300	35.5	32.5	41	60	26	50	3	20	16	44	16	110	M12 depth 22	Width across flats 22 length 4.5	M26 x 1.5	100	Rc3/8	105	152

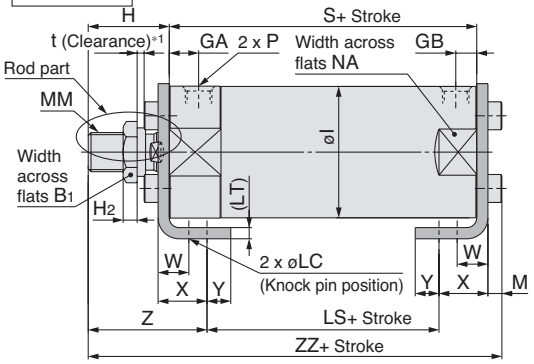
*1 Use a thin wrench when tightening the piston rod.
*2 Long male rod end type (G) is the same rod end dimensions (A, AL, H) as the CG1 series.
*3 When female thread is used, use a washer, etc. to prevent the contact part at the rod end from being deformed depending on the material of the work piece.

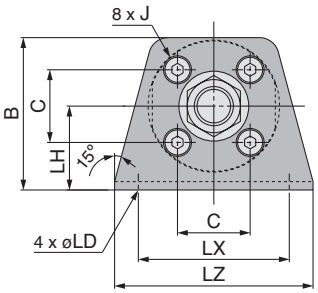
Foot: CG3LN Bore size – Stroke

With rubber bumper



Sectional view of the rod part





*1 The rod end nut should be mounted in the position t (clearance) so that it will have a clearance of 1 mm or more in order to prevent interference of the nut with the bolt for mounting bracket when the rod is retracted.

Foot [mm]

Symbol / Bore size [mm]	A	AL	B	B1	C	D	GA	GB	H	H1	H2	I	J	KA	LC	LD	LH	LS	LT	LX	LZ	M	MM	NA	P	S	W	X	Y	Z	ZZ
20	14.5	12	34	13	14	8	12	6	20	5	4	26	M4	Width across flats 6 length 3.5	4	6	20	33	(3)	32	44	3	M8	24	M5	57	10	15	7	32	83
25	17.5	15	38.5	17	16.5	10	12.5	7	23	6	4	31	M5	Width across flats 8 length 3.5	4	6	22	36	(3)	36	49	3.5	M10 x 1.25	29	M5	60	10	15	7	35	89.5
32	17.5	15	45	17	20	12	11	7.5	23	6	4	38	M5	Width across flats 10 length 3.5	4	7	25	36	(3)	44	58	3.5	M10 x 1.25	35.5	Rc1/8	62	10	16	8	36	91.5
40	23.5	20.5	54.5	19	26	14	10.5	7.5	29	8	5.5	47	M6	Width across flats 12 length 3.5	4	7	30	35	(3)	54	71	4	M14 x 1.5	44	Rc1/8	62	10	16.5	8.5	42.5	98
50	29	26	70.5	27	32	18	15	12	35	11	8	58	M8	Width across flats 16 length 4.5	5	10	40	49	(4.5)	66	86	5	M18 x 1.5	55	Rc1/4	84	17.5	22	11	52.5	128.5
63	29	26	82.5	27	38	18	15	12	35	11	8	72	M10	Width across flats 16 length 4.5	5	12	45	49	(4.5)	82	106	5	M18 x 1.5	69	Rc1/4	84	17.5	22	13	52.5	128.5
80	35.5	32.5	101	32	50	22	17	16	44	13	9.5	89	M10	Width across flats 19 length 4.5	6	11	55	56	(4.5)	100	125	5	M22 x 1.5	80	Rc1/4	104	20	28.5	14	68	157.5
100	35.5	32.5	121	41	60	26	20	16	44	16	9.5	110	M12	Width across flats 22 length 4.5	6	14	65	57	(6)	120	150	7	M26 x 1.5	100	Rc3/8	105	20	30	16	68	162

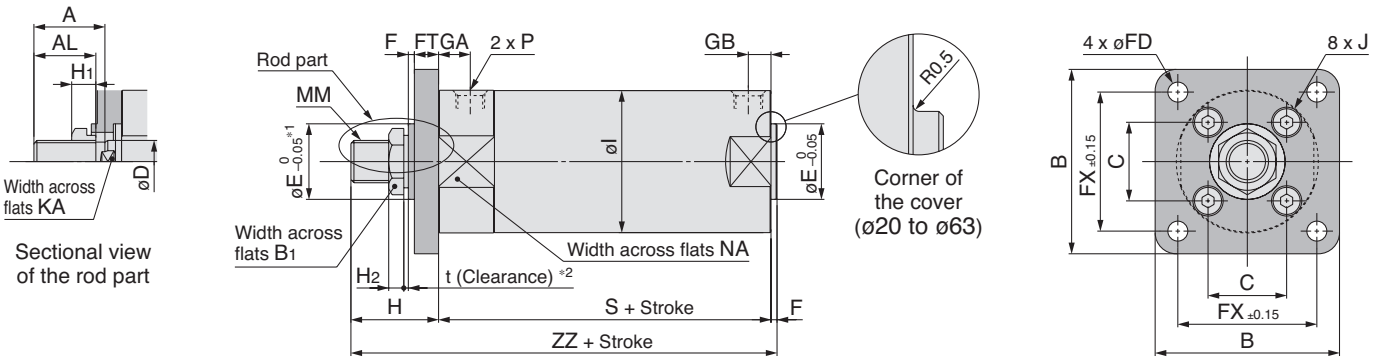
* Use a thin wrench when tightening the piston rod.
* Refer to the dimensions of the basic type for the female rod end type and the long male rod end type.

For more product options and details see our specific catalogues or on-line information.

Dimensions

Rod Flange: CG3FN Bore size – Stroke

With rubber bumper



∗1 End boss is machined on the flange for øE.
∗2 The rod end nut should be mounted in the position t (clearance) so that it will have a clearance of 1 mm or more in order to prevent interference of the nut with the bolt for mounting bracket when the rod is retracted.

Rod Flange

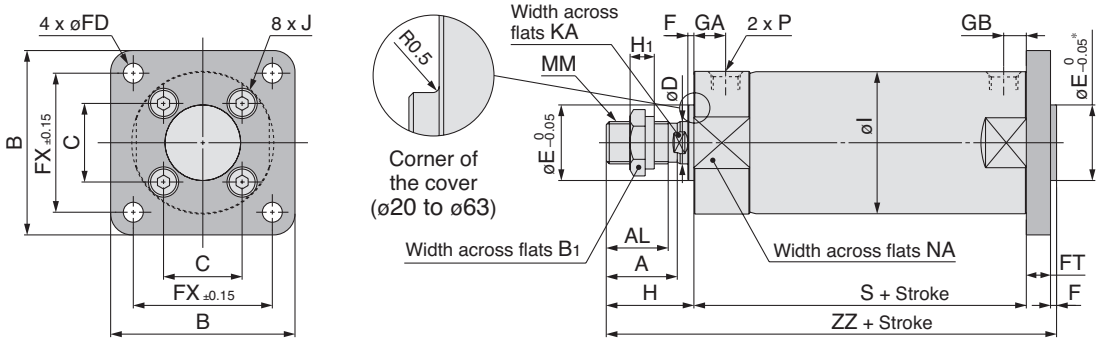
[mm]

Bore size [mm] \ Symbol	A	AL	B	B1	C	D	E	F	FX	FD	FT	GA	GB	H	H1	H2	I	J	KA	MM	NA	P	S	ZZ
20	14.5	12	40	13	14	8	12	2	28	5.5	6	12	6	20	5	4	26	M4	Width across flats 6 length 3.5	M8	24	M5	57	79
25	17.5	15	44	17	16.5	10	14	2	32	5.5	7	12.5	7	23	6	4	31	M5	Width across flats 8 length 3.5	M10 x 1.25	29	M5	60	85
32	17.5	15	53	17	20	12	18	2	38	6.6	7	11	7.5	23	6	4	38	M5	Width across flats 10 length 3.5	M10 x 1.25	35.5	Rc1/8	62	87
40	23.5	20.5	61	19	26	14	25	2	46	6.6	8	10.5	7.5	29	8	5.5	47	M6	Width across flats 12 length 3.5	M14 x 1.5	44	Rc1/8	62	93
50	29	26	76	27	32	18	30	2	58	9	9	15	12	35	11	8	58	M8	Width across flats 16 length 4.5	M18 x 1.5	55	Rc1/4	84	121
63	29	26	92	27	38	18	32	2	70	11	9	15	12	35	11	8	72	M10	Width across flats 16 length 4.5	M18 x 1.5	69	Rc1/4	84	121
80	35.5	32.5	104	32	50	22	40	3	82	11	11	17	16	44	13	9.5	89	M10	Width across flats 19 length 4.5	M22 x 1.5	80	Rc1/4	104	151
100	35.5	32.5	128	41	60	26	50	3	100	14	14	20	16	44	16	9.5	110	M12	Width across flats 22 length 4.5	M26 x 1.5	100	Rc3/8	105	152

∗ Use a thin wrench when tightening the piston rod.
∗ Refer to the dimensions of the basic type for the female rod end type and the long male rod end type.

Head Flange: CG3GN Bore size – Stroke

With rubber bumper



∗ End boss is machined on the flange for øE.

Head Flange

[mm]

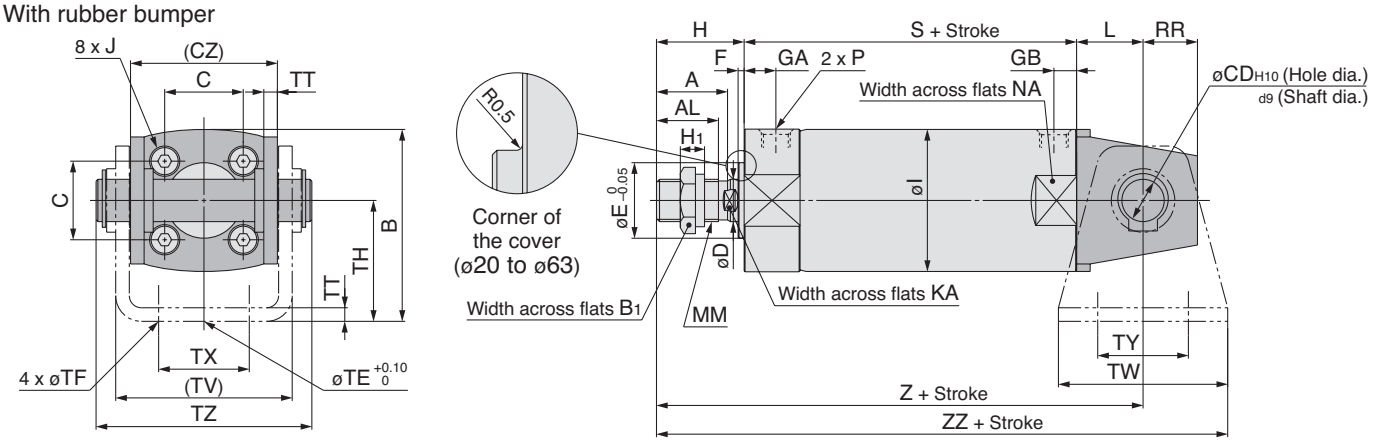
Bore size [mm]	Standard stroke	A	AL	B	B1	C	D	E	F	FX	FD	FT	GA	GB	H	H1	I	J	KA	MM	NA	P	S	ZZ
20	Up to 200	14.5	12	40	13	14	8	12	2	28	5.5	6	12	6	20	5	26	M4	Width across flats 6 length 3.5	M8	24	M5	57	85
25	Up to 300	17.5	15	44	17	16.5	10	14	2	32	5.5	7	12.5	7	23	6	31	M5	Width across flats 8 length 3.5	M10 x 1.25	29	M5	60	92
32	Up to 300	17.5	15	53	17	20	12	18	2	38	6.6	7	11	7.5	23	6	38	M5	Width across flats 10 length 3.5	M10 x 1.25	35.5	Rc1/8	62	94
40	Up to 300	23.5	20.5	61	19	26	14	25	2	46	6.6	8	10.5	7.5	29	8	47	M6	Width across flats 12 length 3.5	M14 x 1.5	44	Rc1/8	62	101
50	Up to 300	29	26	76	27	32	18	30	2	58	9	9	15	12	35	11	58	M8	Width across flats 16 length 4.5	M18 x 1.5	55	Rc1/4	84	130
63	Up to 300	29	26	92	27	38	18	32	2	70	11	9	15	12	35	11	72	M10	Width across flats 16 length 4.5	M18 x 1.5	69	Rc1/4	84	130
80	Up to 300	35.5	32.5	104	32	50	22	40	3	82	11	11	17	16	44	13	89	M10	Width across flats 19 length 4.5	M22 x 1.5	80	Rc1/4	104	162
100	Up to 300	35.5	32.5	128	41	60	26	50	3	100	14	14	20	16	44	16	110	M12	Width across flats 22 length 4.5	M26 x 1.5	100	Rc3/8	105	166

∗ Use a thin wrench when tightening the piston rod.
∗ Refer to the dimensions of the basic type for the female rod end type and the long male rod end type.

Dimensions

Clevis: CG3DN Bore size – Stroke (ø20 to ø63)

With rubber bumper



Clevis (ø20 to ø63)

[mm]

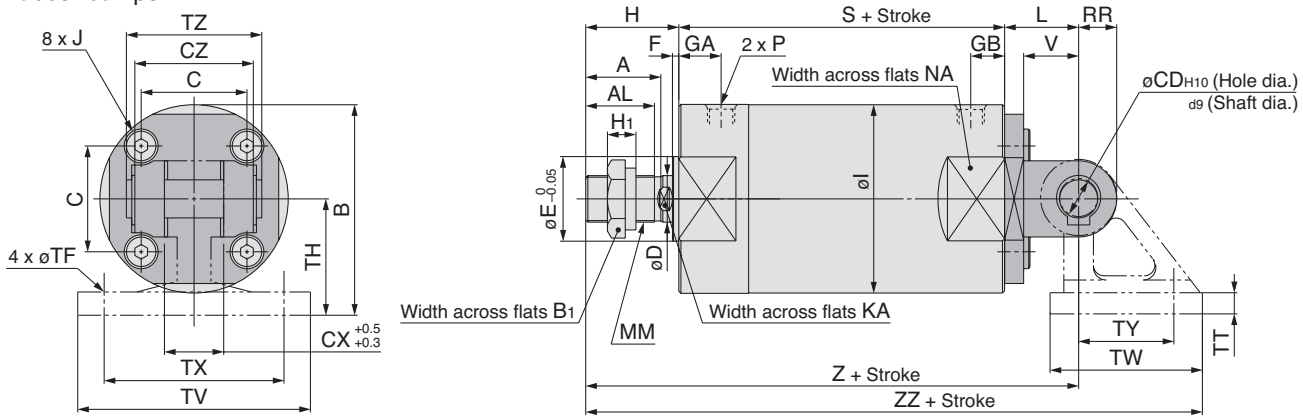
Bore size [mm]	Standard stroke	A	AL	B	B1	C	CD	CZ	D	E	F	GA	GB	H	H1	I	J	KA	L	MM
20	Up to 200	14.5	12	38	13	14	8	(29)	8	12	2	12	6	20	5	26	M4	Width across flats 6 length 3.5	14	M8
25	Up to 300	17.5	15	45.5	17	16.5	10	(33)	10	14	2	12.5	7	23	6	31	M5	Width across flats 8 length 3.5	16	M10 x 1.25
32	Up to 300	17.5	15	54	17	20	12	(40)	12	18	2	11	7.5	23	6	38	M5	Width across flats 10 length 3.5	20	M10 x 1.25
40	Up to 300	23.5	20.5	63.5	19	26	14	(49)	14	25	2	10.5	7.5	29	8	47	M6	Width across flats 12 length 3.5	22	M14 x 1.5
50	Up to 300	29	26	79	27	32	16	(60)	18	30	2	15	12	35	11	58	M8	Width across flats 16 length 4.5	25	M18 x 1.5
63	Up to 300	29	26	96	27	38	18	(74)	18	32	2	15	12	35	11	72	M10	Width across flats 16 length 4.5	30	M18 x 1.5

Bore size [mm]	Standard stroke	NA	P	RR	S	TE	TF	TH	TT	TV	TW	TX	TY	TZ	Z	ZZ	Applicable pin part no.
20	Up to 200	24	M5	11	57	10	5.5	25	3.2	(35.8)	42	16	28	43.4	91	112	CD-G02
25	Up to 300	29	M5	13	60	10	5.5	30	3.2	(39.8)	42	20	28	48	99	120	CD-G25
32	Up to 300	35.5	Rc1/8	15	62	10	6.6	35	4.5	(49.4)	48	22	28	59.4	105	129	CD-G03
40	Up to 300	44	Rc1/8	18	62	10	6.6	40	4.5	(58.4)	56	30	30	71.4	113	141	CD-G04
50	Up to 300	55	Rc1/4	20	84	20	9	50	6	(72.4)	64	36	36	86	144	176	CD-G05
63	Up to 300	69	Rc1/4	22	84	20	11	60	8	(90.4)	74	46	46	105.4	149	186	CD-G06

∗ Use a thin wrench when tightening the piston rod. ∗ Refer to the dimensions of the basic type for the female rod end type and the long male rod end type.

Clevis: CG3DN Bore size – Stroke (ø80, ø100)

With rubber bumper



Clevis (ø80, ø100)

[mm]

Bore size [mm]	Standard stroke	A	AL	B	B1	C	CD	CX	CZ	D	E	F	GA	GB	H	H1	I	J	KA	L
80	Up to 300	35.5	32.5	99.5	32	50	18	28	56	22	40	3	17	16	44	13	89	M10	Width across flats 19 length 4.5	35
100	Up to 300	35.5	32.5	120	41	60	22	32	64	26	50	3	20	16	44	16	110	M12	Width across flats 22 length 4.5	43

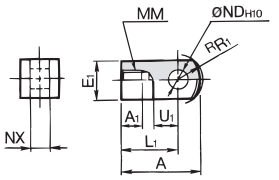
Bore size [mm]	Standard stroke	MM	NA	P	RR	S	TF	TH	TT	TV	TW	TX	TY	TZ	V	Z	ZZ	Applicable pin part no.
80	Up to 300	M22 x 1.5	80	Rc1/4	18	104	11	55	11	110	72	85	45	64	26	183	241.5	IY-G08
100	Up to 300	M26 x 1.5	100	Rc3/8	22	105	13.5	65	12	130	93	100	60	72	32	192	268.5	IY-G10

∗ Use a thin wrench when tightening the piston rod. ∗ Refer to the dimensions of the basic type for the female rod end type and the long male rod end type.

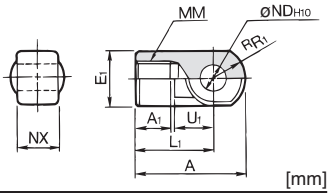
Dimensions of Accessories

Single Knuckle Joint

I-G02, I-G03
Material: Iron



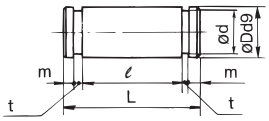
I-G04, I-G05, I-G08, I-G10
Material: Cast iron



[mm]

Part no.	Applicable bore size [mm]	A	A1	E1	L1	MM	R1	U1	NDH10	NX
I-G02	20	34	8.5	□16	25	M8	10.3	11.5	$8^{+0.058}_{0}$	$8^{-0.2}_{-0.4}$
I-G03	25, 32	41	10.5	□20	30	M10	12.8	14	$10^{+0.058}_{0}$	$10^{-0.2}_{-0.4}$
I-G04	40	42	14	ø22	30	M14 x 1.5	12	14	$10^{+0.058}_{0}$	$18^{-0.3}_{-0.5}$
I-G05	50, 63	56	18	ø28	40	M18 x 1.5	16	20	$14^{+0.070}_{0}$	$22^{-0.3}_{-0.5}$
I-G08	80	71	21	ø38	50	M22 x 1.5	21	27	$18^{+0.070}_{0}$	$28^{-0.3}_{-0.5}$
I-G10	100	79	21	ø44	55	M26 x 1.5	24	31	$22^{+0.084}_{0}$	$32^{-0.3}_{-0.5}$

Knuckle Pin

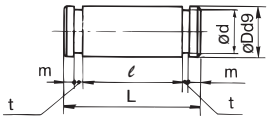


Material: Iron [mm]

Part no.	Applicable bore size [mm]	Dd9	L	d	ℓ	m	t	Included retaining ring
IY-G02	20	$8^{-0.040}_{-0.076}$	21	7.6	16.2	1.5	0.9	Type C8 for axis
IY-G03	25, 32	$10^{-0.040}_{-0.076}$	25.6	9.6	20.2	1.55	1.15	Type C10 for axis
IY-G04	40	$10^{-0.040}_{-0.076}$	41.6	9.6	36.2	1.55	1.15	Type C10 for axis
IY-G05	50, 63	$14^{-0.050}_{-0.093}$	50.6	13.4	44.2	2.05	1.15	Type C14 for axis
IY-G08	80	$18^{-0.050}_{-0.093}$	64	17	56.2	2.55	1.35	Type C18 for axis
IY-G10	100	$22^{-0.065}_{-0.117}$	72	21	64.2	2.55	1.35	Type C22 for axis

∗ Retaining rings are included.

Clevis Pin

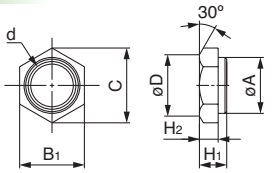


Material: Iron [mm]

Part no.	Applicable bore size [mm]	Dd9	L	d	ℓ	m	t	Included retaining ring
CD-G02	20	$8^{-0.040}_{-0.076}$	43.4	7.6	38.6	1.5	0.9	Type C8 for axis
CD-G25	25	$10^{-0.040}_{-0.076}$	48	9.6	42.6	1.55	1.15	Type C10 for axis
CD-G03	32	$12^{-0.050}_{-0.093}$	59.4	11.5	54	1.55	1.15	Type C12 for axis
CD-G04	40	$14^{-0.050}_{-0.093}$	71.4	13.4	65	2.05	1.15	Type C14 for axis
CD-G05	50	$16^{-0.050}_{-0.093}$	86	15.2	79.6	2.05	1.15	Type C16 for axis
CD-G06	63	$18^{-0.050}_{-0.093}$	105.4	17	97.8	2.45	1.35	Type C18 for axis

∗ Retaining rings are included.
∗ A clevis pin and a knuckle pin are common for the bore size ø80 and ø100.

Rod End Nut (For Male Thread)

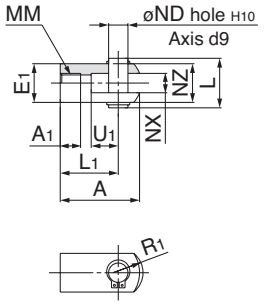


Material: Iron [mm]

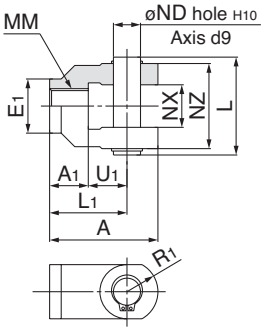
Part no.	Applicable bore size [mm]	d	H1	H2	B1	C	øD	øA
NT-02G3	20	M8	5	4	13	(15)	12.5	10
NT-03G3	25, 32	M10 x 1.25	6	4	17	(19.6)	16.5	12
NT-04G3	40	M14 x 1.5	8	5.5	19	(21.9)	18	16.4
NT-05G3	50, 63	M18 x 1.5	11	8	27	(31.2)	26	20.4
NT-08G3	80	M22 x 1.5	13	9.5	32	(37)	31	28
NT-10G3	100	M26 x 1.5	16	9.5	41	(47.3)	39	33

Double Knuckle Joint

Y-G02, Y-G03
Material: Iron



Y-G04, Y-G05, Y-G08, Y-G10
Material: Cast iron



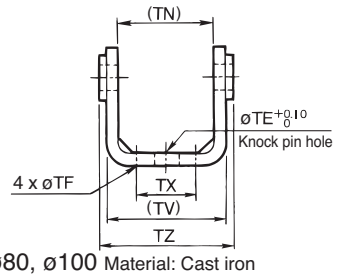
[mm]

Part no.	Applicable bore size [mm]	A	A1	E1	L1	MM	R1	U1	ND	NX	NZ	L	Included pin part no.
Y-G02	20	34	8.5	□16	25	M8	10.3	11.5	8	$8^{+0.4}_{+0.2}$	16	21	IY-G02
Y-G03	25, 32	41	10.5	□20	30	M10 x 1.25	12.8	14	10	$10^{+0.4}_{+0.2}$	20	25.6	IY-G03
Y-G04	40	42	16	ø22	30	M14 x 1.5	12	14	10	$18^{+0.5}_{+0.3}$	36	41.6	IY-G04
Y-G05	50, 63	56	20	ø28	40	M18 x 1.5	16	20	14	$22^{+0.5}_{+0.3}$	44	50.6	IY-G05
Y-G08	80	71	23	ø38	50	M22 x 1.5	21	27	18	$28^{+0.5}_{+0.3}$	56	64	IY-G08
Y-G10	100	79	24	ø44	55	M26 x 1.5	24	31	22	$32^{+0.5}_{+0.3}$	64	72	IY-G10

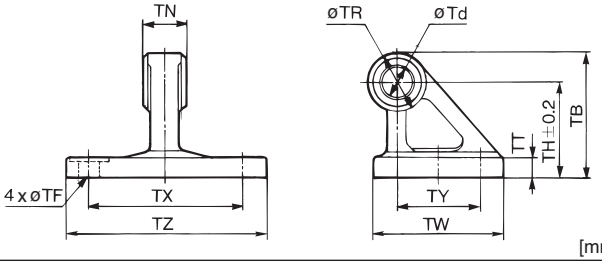
∗ A knuckle pin and retaining rings are included.

Pivoting Bracket (Order separately)

ø20 to ø63 Material: Iron



ø80, ø100 Material: Cast iron



[mm]

Part no.	Applicable bore size [mm]	TB	Td	TE	TF	TH	TN	TR	TT
CG-020-24A	20	36	8	10	5.5	25	(29.3)	13	3.2
CG-025-24A	25	43	10	10	5.5	30	(33.1)	15	3.2
CG-032-24A	32	50	12	10	6.6	35	(40.4)	17	4.5
CG-040-24A	40	58	14	10	6.6	40	(49.2)	21	4.5
CG-050-24A	50	70	16	20	9	50	(60.4)	24	6
CG-063-24A	63	82	18	20	11	60	(74.6)	26	8
CG-080-24A	80	73	18	—	11	55	$28^{-0.1}_{-0.3}$	36	11
CG-100-24A	100	90	22	—	13.5	65	$32^{-0.1}_{-0.3}$	50	12

Part no.	Applicable bore size [mm]	TU	TV	TW	TX	TY	TZ	Applicable pin O.D
CG-020-24A	20	(18.1)	(35.8)	42	16	28	38.3	$8d9^{-0.040}_{-0.076}$
CG-025-24A	25	(20.7)	(39.8)	42	20	28	42.1	$10d9^{-0.040}_{-0.076}$
CG-032-24A	32	(23.6)	(49.4)	48	22	28	53.8	$12d9^{-0.050}_{-0.093}$
CG-040-24A	40	(27.3)	(58.4)	56	30	30	64.6	$14d9^{-0.050}_{-0.093}$
CG-050-24A	50	(29.7)	(72.4)	64	36	36	79.2	$16d9^{-0.050}_{-0.093}$
CG-063-24A	63	(34.3)	(90.4)	74	46	46	97.2	$18d9^{-0.050}_{-0.093}$
CG-080-24A	80	—	—	72	85	45	110	$18d9^{-0.050}_{-0.093}$
CG-100-24A	100	—	—	93	100	60	130	$22d9^{-0.065}_{-0.117}$

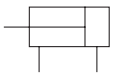
Air Cylinder:
Double Acting, Single Rod/Double Rod
Series CS1
ø125, ø140, ø160, ø180, ø200, ø250, ø300

Features

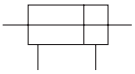
- Through Rod Type available.
- Air cushioning standard.
- Auto Switch capable 125 mm dia - 200 mm dia.
- Low Friction type available ø125mm - ø160mm dia.
- Air-hydro version available ø125mm - ø160mm dia.

Symbol

Double acting, Single rod



Double acting, Through rod



How to Order Air Cylinder

C D S1 ☐ B 160 TF — 300

Built-in magnet

—	Non magnetic
D	Magnetic for auroswitches *

* "D" option for bore sizes 125 to 200 only.

Option

—	Standard, single rod
W	With double rod

Mounting style

T	Centre-Trunnion style
B	Basic style

(Order mounting brackets separately)

G Thread

Bore size

Lube	
125	125 mm
140	140 mm
160	160 mm
180	180 mm
200	200 mm
250	250 mm
300	300 mm

Cylinder stroke
(Refer to "Maximum Stroke" on next page.)

Note: A rod end nut is not included with this cylinder, order as a loose part if needed.

Additional Options Upon Request

Low Friction
Series CS1☐Q

Air-hydro version
Series CS1☐H

Technical Specifications

Type	Lube		
Fluid	Air		
Magnet	Built in magnet		Without magnet
Bore size [mm]	125, 140, 160	180, 200	125, 140, 160,180, 200, 250, 300
Proof pressure	1.57 MPa	1.2 MPa	1.57 MPa
Maximum operating pressure	0.97 MPa	0.7 MPa	0.97 MPa
Minimum operating pressure	0.05 MPa		
Piston speed	50 to 500 mm/s		
Cushion	With cushion		
Ambient and fluid temperature	0 to 60°C (No freezing)		0 to 70°C (No freezing)
Thread tolerance	250 or less st: $^{+1.0}_{0}$, 251 to 1,000 st: $^{+1.4}_{0}$, 1,001 to 1,500 st: $^{+1.8}_{0}$		
Mounting	Basic style, Foot style, Rod side flange style, Head side flange style, Single clevis style, Double clevis style, Centre trunnion style		

Product Recommendation

Auto Switches

- D-M9PWL (PNP 2-colour indication)
- D-M9NWL (NPN 2-colour indication)

Note) For more options see the Auto Switch section, page XXX

Related Products

Series ASR/ASQ - Air Saving Valves - www.smc.eu
Series AS - Speed Controllers - page 1238
Series RB - Shock Absorber - page 809
Series VQ - Valves - page 241
Series AC - Air Preparation - page 1076
Series TU - Tubing - page 1223
Series KQ2 - Fittings - page 1184

Actuators

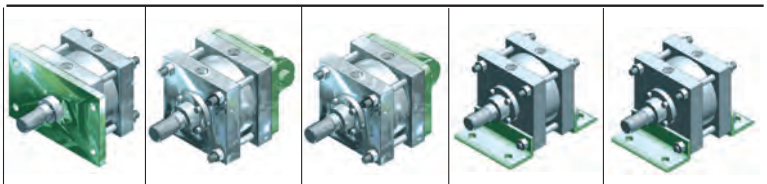
Maximum Stroke

Bore size [mm]	Maximum stroke	
	Basic style, Head side flange style, Single clevis style, Double clevis style, Centre trunnion style	Foot style, Rod side flange style
125, 140	1000 or less	1400 or less
160	1200 or less	1600 or less
180	1200 or less	1500 or less
200	1200 or less	998 or less
250, 300	1200 or less	2400 or less
Note	ø200: Cylinders of the stroke range of 998 to 1200 are special products.	ø200: Cylinders of the stroke range of 998 to 1500 are special products.

Note

When magnetic type is specified.
ø180: 1200 stroke or less.
ø200: 998 stroke or less.

Mounting Bracket Part No.



Bore size [mm]	Front/ Rear Flange	Double Clevis	Single Clevis	Foot (single rod)	Foot (Double rod)
125	CS1-F12	CS1-D12	CS1-C12	CS1-L12	CS1W-L12
140	CS1-F14	CS1-D14	CS1-C14	CS1-L14	CS1W-L14
160	CS1-F16	CS1-D16	CS1-C16	CS1-L16	CS1W-L16
180	CS1-F18	CS1-D18	CS1-C18	CS1-L18	CS1W-L18
200	CS1-F20	CS1-D20	CS1-C20	CS1-L20	CS1W-L20
250	CS1-F25	CS1-D25	CS1-C25	CS1-L25	CS1W-L25
300	CS1-F30	CS1-D30	CS1-C30	CS1-L30	CS1W-L30

∗ These part numbers are for spares information only. The cylinder MUST be ordered with mounts attached.

Rod Accessories

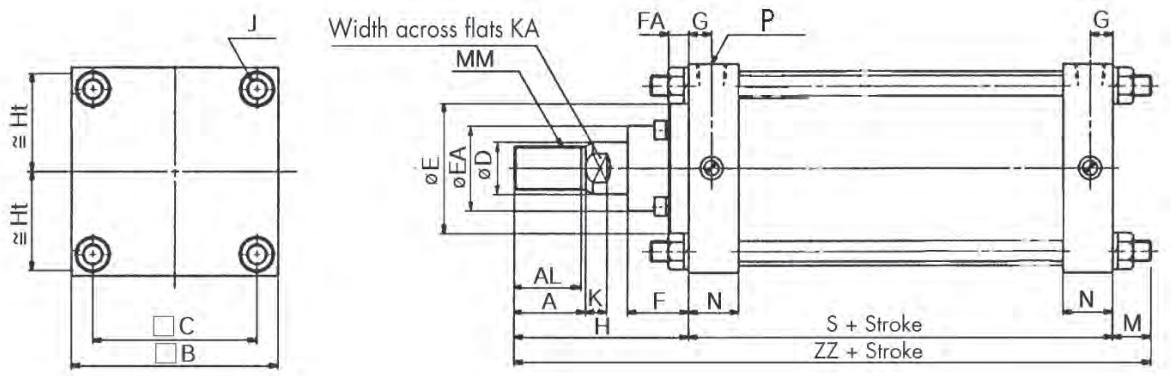
Bore size [mm]	Double* Knuckle Joint	Single Knuckle Joint	Rod End Nut
125	Y-12	I-12	NT-12
140	Y-14	I-14	NT-12
160	Y-16	I-16	NT-16
180	Y-18	I-18	NT-18
200	Y-20	I-20	NT-20
250	Y-25	I-25	NY-25
300	Y-30	I-30	NT-30

∗ Supplied with clevis pin and split pins.

Standard style (Lube)

Bore [mm]	Kit No.
125	CS1-125A-PS
140	CS1-140A-PS
160	CS1-160A-PS
180	CS1-180A-PS
200	CS1-200A-PS
250	CS1-250A-PS
300	CS1-300A-PS

Basic Style CS1B/CDS1B



Bore size [mm]	Stroke range [mm]	A	AL	□B	□C	D	E	EA	F	FA	G	J	K	KA	M	MM	N	P	S
125	Up to 1000	50	47	145	115	36	90	59	43	14	16	M14 x 1.5	15	31	27	M30 x 1.5	35	1/2	98
140	Up to 1000	50	47	161	128	36	90	59	43	14	16	M14 x 1.5	15	31	27	M30 x 1.5	35	1/2	98
160	Up to 1200	56	53	182	144	40	90	59	43	14	18.5	M16 x 1.5	17	36	30.5	M36 x 1.5	39	3/4	106
180	Up to 1200	63	60	204	162	45	115	70	48	17	18.5	M18 x 1.5	20	41	35	M40 x 1.5	39	3/4	111
200	Up to 1200	63	60	226	182	50	115	74	48	17	18.5	M20 x 1.5	20	46	35	M45 x 1.5	39	3/4	111
250	Up to 1200	71	67	277	225	60	140	86	60	20	23	M24 x 1.5	25	56	41.5	M56 x 2	49	1	141
300	Up to 1200	80	76	330	270	70	140	96	60	20	23	M30 x 1.5	30	65	51.5	M64 x 2	49	1	146

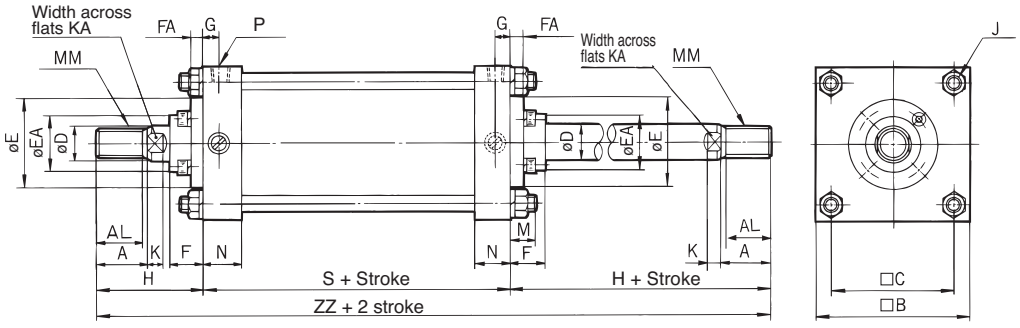
Bore size [mm]	H	ZZ
125	110	235
140	110	235
160	120	256.5
180	135	281
200	135	281
250	160	342.5
300	175	372.5

With Auto Switch: ø125 to ø200 Only

Bore size [mm]	Stroke range [mm]	S	ZZ
125	Up to 1000	98	235
140	Up to 1000	98	235
160	Up to 1200	106	256.5
180	Up to 1200	115	285
200	Up to 998	120	290

∗ Dimensions except mentioned above are the same as standard type.

Basic Style Double Rod CS1WBN/CDS1WBN



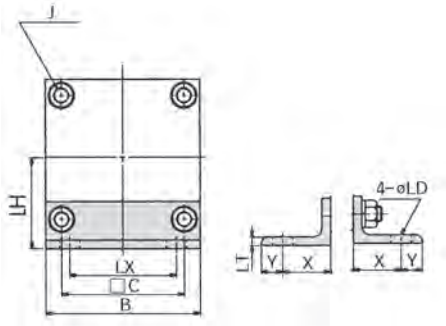
Bore size [mm]	Stroke range [mm]	A	AL	B	C	D	E	EA	F	FA	G	J	K	KA	M	MM	N	P	S
125	Up to 1000	50	47	145	115	36	90	59	43	14	16	M14 x 1.5	15	31	27	M30 x 1.5	35	1/2	98
140	Up to 1000	50	47	161	128	36	90	59	43	14	16	M14 x 1.5	15	31	27	M30 x 1.5	35	1/2	98
160	Up to 1200	56	53	182	144	40	90	59	43	14	18.5	M16 x 1.5	17	36	30.5	M36 x 1.5	39	3/4	106
180	Up to 1200	63	60	204	162	45	115	70	48	17	18.5	M18 x 1.5	20	41	35	M40 x 1.5	39	3/4	111
200	Up to 1200	63	60	226	182	50	115	74	48	17	18.5	M20 x 1.5	20	46	35	M45 x 1.5	39	3/4	111
250	Up to 1200	71	67	277	225	60	140	86	60	20	23	M24 x 1.5	25	56	41.5	M56 x 2	49	1	141
300	Up to 1200	80	76	330	270	70	140	96	60	20	23	M30 x 1.5	30	65	51.5	M64 x 2	49	1	146

Bore size [mm]	Without rod boot	
	H	ZZ
125	110	318
140	110	318
160	120	346
180	135	381
200	135	381
250	160	461
300	175	496

With Auto Switch: ø125 to ø200 Only

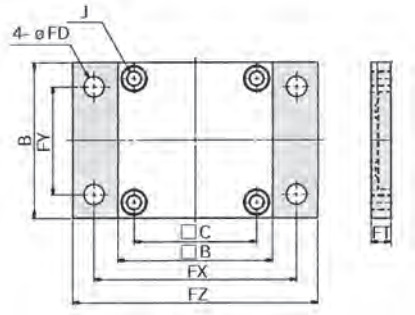
Bore size [mm]	Stroke range [mm]	S	ZZ
125	Up to 1000	98	318
140	Up to 1000	98	318
160	Up to 1200	106	346
180	Up to 1200	115	385
200	Up to 998	120	390

Foot Style



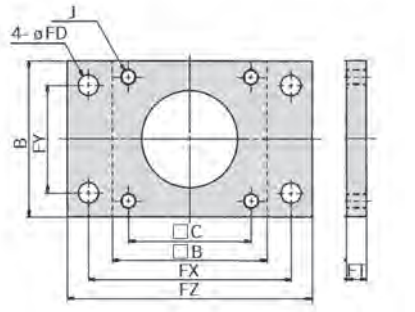
Bore size [mm]	B	□C	J	LD	LH	LT	LX	X	Y
125	145	115	M14 x 1. 5	19	85	8	100	45	20
140	161	128	M14 x 1. 5	19	100	9	112	45	30
160	182	144	M16 x 1. 5	19	106	9	118	50	25
180	204	162	M18 x 1. 5	24	125	10	132	60	30
200	226	182	M20 x 1.5	24	132	10	150	60	30
250	277	225	M24 x 1.5	29	160	12	180	80	40
300	330	270	M30 x 1.5	33	200	15	212	90	40

Rod Side Flange Style



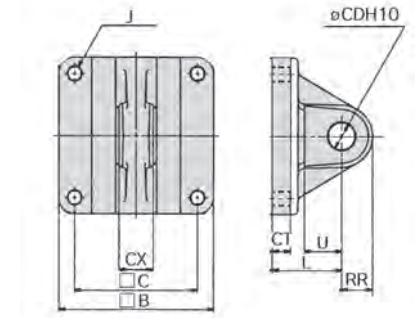
Bore size [mm]	B	□B	□C	FD	FT	FX	FY	FZ	J
125	145	145	115	19	14	190	100	230	M14 x 1. 5
140	160	161	128	19	20	212	112	255	M14 x 1. 5
160	180	182	144	19	20	236	118	275	M16 x 1. 5
180	200	204	162	24	25	265	132	320	M18 x 1. 5
200	225	226	18	24	25	280	150	335	M20 x 1.5
250	275	277	225	29	30	355	180	420	M24 x 1.5
300	330	330	270	33	30	400	212	475	M30 x 1.5

Head Side Flange Style



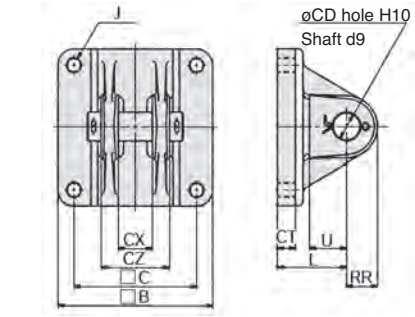
Bore size [mm]	B	□B	□C	FD	FT	FX	FY	FZ	J
125	145	145	115	19	14	190	100	230	M14 x 1.5
140	160	161	128	19	20	212	112	255	M14 x 1.5
160	180	182	144	19	20	236	118	275	M16 x 1.5
180	200	204	162	24	25	265	132	320	M18 x 1.5
200	225	226	182	24	25	280	150	335	M20 x 1.5
250	275	277	225	29	30	355	180	420	M24 x 1.5
300	330	330	270	33	30	400	212	475	M30 x 1.5

Single Clevis Style



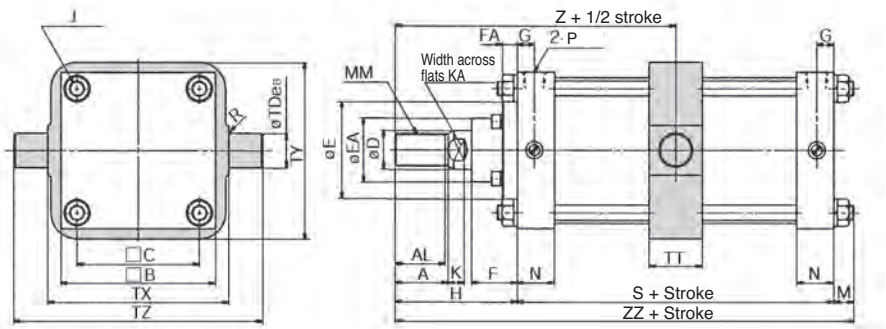
Bore size [mm]	□B	□C	CD_{H10}	CT	CX	J	L	RR	U
125	145	115	$25^{+0.084}_{0}$	17	$32^{-0.1}_{-0.3}$	M14 x 1. 5	65	29	35
140	161	128	$28^{+0.084}_{0}$	17	$36^{-0.1}_{-0.3}$	M14 x 1. 5	75	32	40
160	182	144	$32^{+0.100}_{0}$	20	$40^{-0.1}_{-0.3}$	M16 x 1. 5	80	36	45
180	204	162	$40^{+0.100}_{0}$	23	$50^{-0.1}_{-0.3}$	M18 x 1. 5	90	44	50
200	226	182	$40^{+0.100}_{0}$	25	$50^{-0.1}_{-0.3}$	M20 x 1.5	90	44	50
250	277	225	$50^{+0.100}_{0}$	30	$63^{-0.1}_{-0.3}$	M24 x 1.5	110	55	65
300	330	270	$63^{+0.120}_{0}$	37	$80^{-0.1}_{-0.3}$	M30 x 1.5	130	68	80

Double Clevis Style



□B	□C	CD_{H10}	CT	CX	CZ	J	RR	U
145	115	$25^{+0.084}_{0}$	17	$32^{+0.3}_{+0.1}$	$64^{0}_{-0.2}$	M14 x 1.5	29	35
161	128	$28^{+0.084}_{0}$	17	$36^{+0.3}_{+0.1}$	$72^{0}_{-0.2}$	M14 x 1.5	32	40
182	144	$32^{+0.100}_{0}$	20	$40^{+0.3}_{+0.1}$	$80^{0}_{-0.2}$	M16 x 1.5	36	45
204	162	$40^{+0.100}_{0}$	23	$50^{+0.3}_{+0.1}$	$100^{-0.1}_{-0.3}$	M18 x 1.5	44	50
226	182	$40^{+0.100}_{0}$	25	$50^{+0.3}_{+0.1}$	$100^{-0.1}_{-0.3}$	M20 x 1.5	44	50
277	225	$50^{+0.100}_{0}$	30	$63^{+0.3}_{+0.1}$	$126^{-0.1}_{-0.3}$	M24 x 1.5	55	65
330	270	$63^{+0.120}_{0}$	37	$80^{+0.3}_{+0.1}$	$160^{-0.1}_{-0.3}$	M30 x 1.5	68	80

Centre Trunnion Style



Bore size [mm]	Stroke range [mm]	A	AL	□B	□C	D	E	EA	F	FA	G	J	K	KA	M	MM	N	P	R	S	TDe8	TT	TX
125	25 to 1000	50	47	145	115	36	90	59	43	14	16	M14 x 1.5	15	31	19	M30 x 1.5	35	1/2	1	98	32 $^{-0.050}_{-0.089}$	50	170
140	30 to 1000	50	47	161	128	36	90	59	43	14	16	M14 x 1.5	15	31	19	M30 x 1.5	35	1/2	1.5	98	36 $^{-0.050}_{-0.089}$	55	190
160	35 to 1200	56	53	182	144	40	90	59	43	14	18.5	M16 x 1.5	17	36	22	M36 x 1.5	39	3/4	1.5	106	40 $^{-0.050}_{-0.089}$	60	212
180	30 to 1200	63	60	204	162	45	115	70	48	17	18.5	M18 x 1.5	20	41	26	M40 x 1.5	39	3/4	2	111	45 $^{-0.050}_{-0.089}$	59	236
200	30 to 1200	63	60	226	182	50	115	74	48	17	18.5	M20 x 1.5	20	46	26	M45 x 1.5	39	3/4	2	111	45 $^{-0.050}_{-0.089}$	59	265
250	30 to 1200	71	67	277	225	60	140	86	60	20	23	M24 x 1.5	25	56	30	M56 x 2	49	1	3	141	56 $^{-0.060}_{-0.106}$	69	335
300	35 to 1200	80	76	330	270	70	140	96	60	20	23	M30 x 1.5	30	65	36	M64 x 2	49	1	4	146	67 $^{-0.060}_{-0.106}$	79	400

Bore size [mm]	TY	TZ	H	Z	ZZ
125	164	234	110	159	227
140	184	262	110	159	227
160	204	292	120	173	248
180	228	326	135	190.5	272
200	257	355	135	190.5	272
250	325	447	160	230.5	331
300	390	534	175	248	357

With Auto Switch: ø125 to ø200 Only

Bore size [mm]	Stroke range [mm]	S	Z	ZZ
125	Up to 1000	98	159	227
140	Up to 1000	98	159	227
160	Up to 1200	106	173	248
180	Up to 1200	115	192.5	276
200	Up to 998	120	195	281

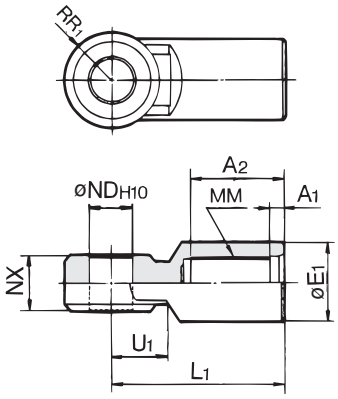
* Dimensions except mentioned above are the same as standard type.

Accessory Bracket Dimensions

I Type Single Knuckle Joint*

Material: Cast iron

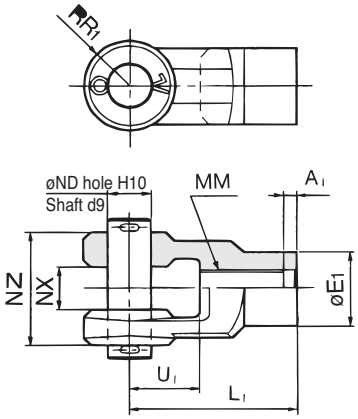
Part no.	Applicable bore size [mm]	A_1	A_2	E_1	L_1	MM	ND_{H10}	NX	RR_1	U_1
I-12	125	8	54	46	100	M30 x 1.5	$25^{+0.084}_{0}$	$32^{-0.1}_{-0.3}$	27	33
I-14	140	8	54	48	105	M30 x 1.5	$28^{+0.084}_{0}$	$36^{-0.1}_{-0.3}$	30	39
I-16	160	8	60	55	110	M36 x 1.5	$32^{+0.1}_{0}$	$40^{-0.1}_{-0.3}$	34	39
I-18	180	8	67	70	125	M40 x 1.5	$40^{+0.1}_{0}$	$50^{-0.1}_{-0.3}$	42.5	44
I-20	200	8	67	70	125	M45 x 1.5	$40^{+0.1}_{0}$	$50^{-0.1}_{-0.3}$	42.5	44
I-25	250	9	75.5	86	160	M56 x 2	$50^{+0.1}_{0}$	$63^{-0.1}_{-0.3}$	53	66
I-30	300	9	84.5	105	175	M64 x 2	$63^{+0.12}_{0}$	$80^{-0.1}_{-0.3}$	66	71



Y Type Double Knuckle Joint*

Material: Cast iron

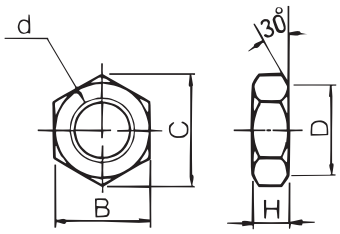
Part no.	Applicable bore size [mm]	A_1	E_1	L_1	MM	ND_{H10}	NX	NZ	RR1	U_1
Y-12	125	8	46	100	M30 x 1.5	$25^{+0.084}_{0}$	$32^{+0.3}_{+0.1}$	$64^{-0.1}_{-0.3}$	27	42
Y-14	140	8	48	105	M30 x 1.5	$28^{+0.084}_{0}$	$36^{+0.3}_{+0.1}$	$72^{-0.1}_{-0.3}$	30	47
Y-16	160	8	55	110	M36 x 1.5	$32^{+0.1}_{0}$	$40^{+0.3}_{+0.1}$	$80^{-0.1}_{-0.3}$	34	46
Y-18	180	8	70	125	M40 x 1.5	$40^{+0.1}_{0}$	$50^{+0.3}_{+0.1}$	$100^{-0.1}_{-0.3}$	42.5	54
Y-20	200	8	70	125	M45 x 1.5	$40^{+0.1}_{0}$	$50^{+0.3}_{+0.1}$	$100^{-0.1}_{-0.3}$	42.5	54
Y-25	250	9	86	160	M56 x 2	$50^{+0.1}_{0}$	$63^{+0.3}_{+0.1}$	$126^{-0.1}_{-0.3}$	53	81
Y-30	300	9	105	175	M64 x 2	$63^{+0.12}_{0}$	$80^{+0.3}_{+0.1}$	$160^{-0.1}_{-0.3}$	66	87



Rod End Nut

Material: Rolled steel

Part no.	Applicable bore size [mm]	d	H	B	C	D
NT-12	125, 140	M30 x 1.5	18	46	53.1	44
NT-16	160	M36 x 1.5	21	55	63.5	53
NT-18	180	M40 x 1.5	23	60	69.3	57
NT-20	200	M45 x 1.5	27	70	80.8	67
NT-25	250	M56 x 2	34	85	98.1	82
NT-30	300	M64 x 2	38	95	110.0	92



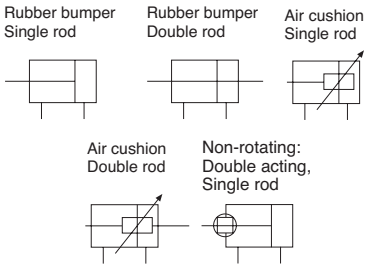
* Use a single knuckle joint or a double knuckle joint individually. (Screw it entirely over the rod end threads and tighten it.)
* Extend the dimensions of A, H. when using a single/double knuckle joint together with a rod end nut.
* Pin and cotter pin are attached for double knuckle joint.

Cylinder: Standard/Non-rotating Type
Double Acting, Single/Double Rod
Series C76
ø32, ø40

Features

- Easy-accurate mounting.
- High Speed Actuation.
- Replaceable Rod Seal.
- Strong, Corrosion-proof Barrel.

Symbol



How to Order

Double acting Single rod	C	D	76	K	E	32	100	C	B
Double acting Double rod	C	D	76	W	E	32	100	C	B

Built-in magnet

—	None
D	Built-in magnet

Type

—	Standard
K	Non-rotating rod (Rubber cushion only)

Mounting style

Symbol	Mounting
E*	Double end
F	Front nose

* Double acting, Double rod type: Only double end type. (E)

Bore size / Stroke

Bore size [mm]	Standard stroke [mm]	Max. stroke [mm]
32	10, 25, 40, 50, 80, 100, 125, 160, 200, 250, 300	1000: Single rod 500: Double rod
40		

Cushion

—	Rubber cushion (Standard)
C	Air cushion (Only "E" execution)

Auto Switch Mounting Type

—	Without auto switch
B	Band mounted

Technical Specifications

Bore size [mm]		32	40
Piston rod dia. [mm]		12	14
Piston rod thread		M10	M12
Port size		G 1/8	G 1/4
Action		Double acting, Single/Double rod	
Fluid		Air	
Proof pressure		1.5 MPa	
Max. operating pressure		1.0 MPa	
Min. operating pressure		0.05 MPa	
Ambient and fluid temperature		–20 to 80°C (Built-in magnet type: –10 to 60°C) (No freezing)	
Cushion		Rubber cushion, Air cushion	
Lubrication		Not required. Use turbine oil Class 1 ISO VG32, if lubricated.	
Piston speed		50 to 1500 mm/s	
Allowable kinetic energy	Rubber cushion	0.65J	1.2J
	Air cushion	1.7J	3.4J
Non-rotating accuracy		±0.5	±0.5
Stroke tolerance [mm]		0/+1.4	

Product Recommendation

Auto Switches

- D-M9PWL (PNP 2-colour indication)
- D-M9NWL (NPN 2-colour indication)

Note) For more options see the Auto Switch section, page XXX

Related Products

Series AS - Speed Controllers - page 1238
Series RB - Shock Absorber - page 809
Series SY - Valves - page 65, 101, 417
Series SV - Valves - page 20
Series VQ - Valves - page 241
Series AC - Air Preparation - page 1076
Series TU - Tubing - page 1223
Series KQ2 - Fittings - page 1184

Actuators

Replacement Parts

Bore size [mm]	Part no.		Note
	Standard	Non-rotating	
32	C76-32PS	C76K-32PS	Every set includes: 1 rod seal 1 seal retaining washer 1 retaining ring
40	C76-40PS	C76K-40PS	

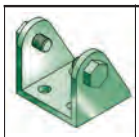
Suitable also C76 series

Rod Accessories



Bore size [mm]	Double Knuckle Joint	Single Knuckle Joint	Flotating Joint
32	GKM10-20A	KJ10DA	JA25-10-150
40	GKM12-24A	KJ12DA	JA40-12-175

Cylinder Mounting Accessories

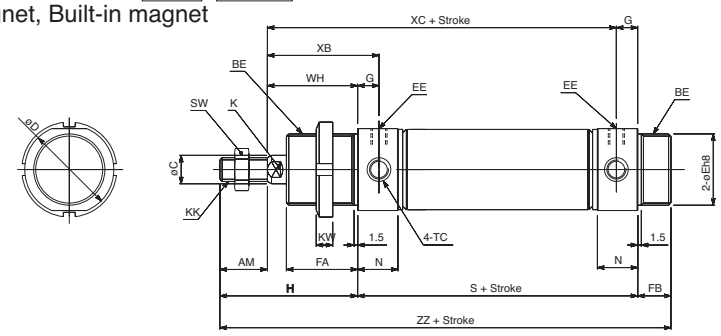


Bore size [mm]	Clevis	Foot (1 pc)	Foot (2 pcs *)	Trunnion
32	C76C32	C76F32A	C76F32B	C76T32
40	C76C40	C76F40A	C76F40B	C76T40

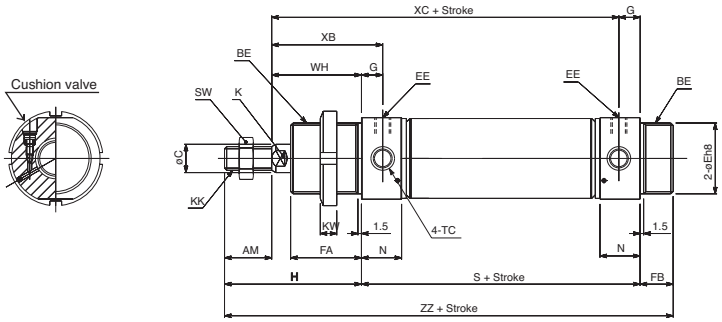
*2 pcs with mounting nut 1 pc

Dimensions

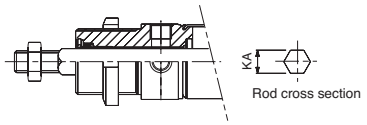
Double acting, Single rod
Rubber cushion: C□76E Bore–Stroke–□
Without magnet, Built-in magnet



Air cushion: C□76E Bore–Stroke C–□
Without magnet, Built-in magnet



C□76KE Bore–Stroke C–□
Non-rotating, Piston rod (Rubber cushion only)



[mm]

Bore	AM	BE	C	D	Eh8	EE	FA	FB	G	H	HR	K	KA	KK	KV	KW	N	NB	S	SW	TC	TDH9	TW	WH	XB	XC	ZZ
32	20	M30 x 1.5	12	37.5	$30^{0}_{-0.033}$	G 1/8	30	14	9	58	23.8	10	12.2	M10	38	7	17(19)	34.5	68	17	M8 x 1	$10^{+0.036}_{0}$	34.5	38	47	97	140
40	24	M38 x 1.5	14	46.5	$38^{0}_{-0.039}$	G 1/4	35	16	12	69	28.3	12	14.2	M12	50	8	22(25)	42.5	89	19	M10 x 1	$12^{+0.043}_{0}$	42.5	45	57	122	174

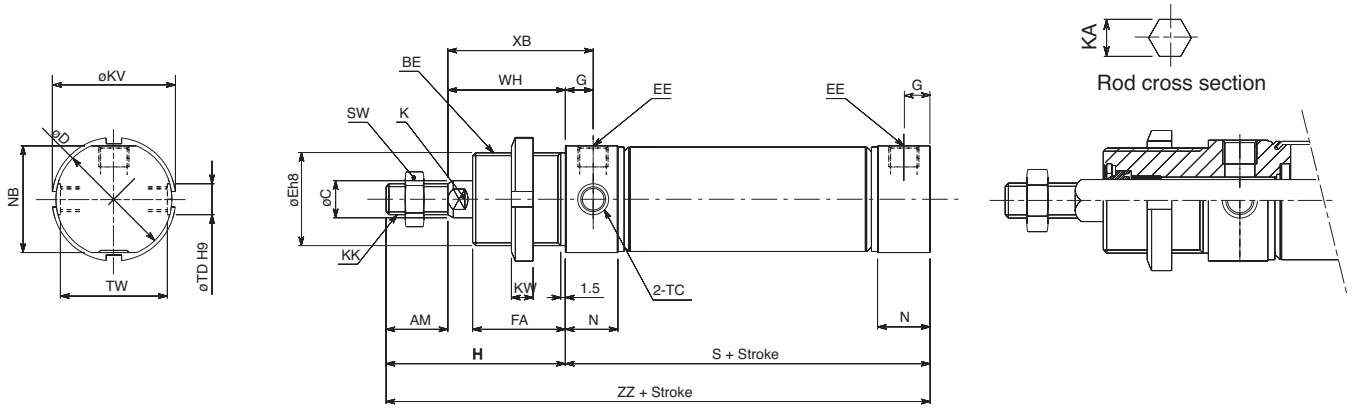
( ): In the case of air cushion

Actuators

Dimensions

Double acting, Single rod
Rubber cushion: C□76F Bore — Stroke —□
Without magnet, Built-in magnet

C□76KF
Non-rotating, Piston rod
(Rubber cushion only)

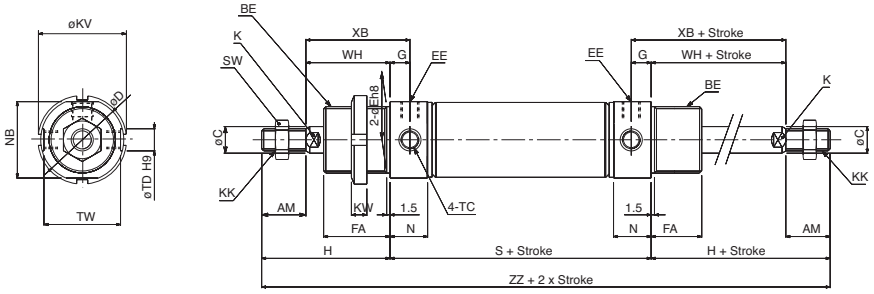


[mm]

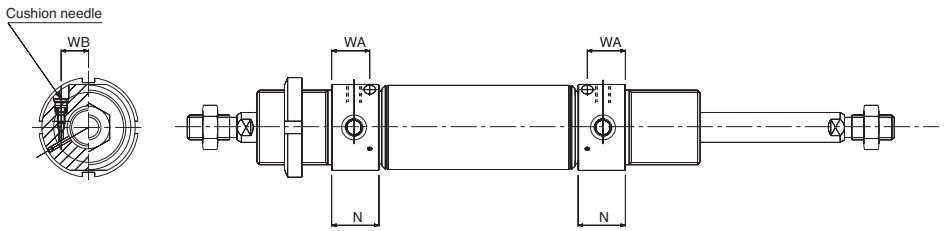
Bore	AM	BE	C	D	Eh8	EE	FA	G	H	K	KA	KK	KV	KW	N	NB	S	SW	TC	TDH9	TW	WH	XB	ZZ
32	20	M30 x 1.5	12	37.5	$30^{0}_{-0.033}$	G 1/8	30	9	58	10	12.2	M10	38	7	17	34.5	68	17	M8 x 1	$10^{+0.036}_{0}$	34.5	38	47	126
40	24	M38 x 1.5	14	46.5	$38^{0}_{-0.039}$	G 1/4	35	12	69	12	14.2	M12	50	8	22	42.5	89	19	M10 x 1	$12^{+0.043}_{0}$	42.5	45	57	158

Dimensions

Double acting, Double rod
Rubber cushion: C□76WE Bore — Stroke —□
Without magnet, Built-in magnet



Air cushion: C□76WE Bore — Stroke C —□
Built-in magnet



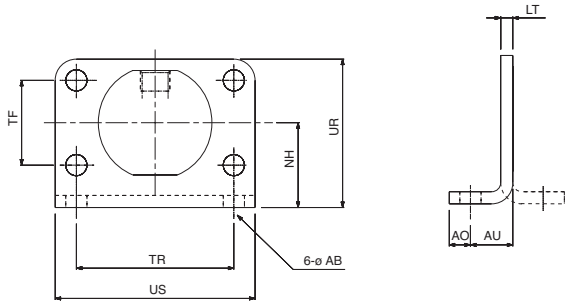
[mm]

Bore	AM	BE	C	D	Eh8	EE	FA	G	H	K	KK	øKV	WB	KW	N	NB	S	SW	TC	TDH9	TW	WH	XB	ZZ	WA
32	20	M30 x 1.5	12	37.5	$30^{0}_{-0.033}$	G 1/8	30	9	58	10	M10	38	11	7	17(19)	34.5	68	17	M8 x 1	$10^{+0.036}_{0}$	34.5	38	47	184	15.3
40	24	M38 x 1.5	14	46.5	$38^{0}_{-0.039}$	G 1/4	35	12	69	12	M12	50	13	8	22(25)	42.5	89	19	M10 x 1	$12^{+0.043}_{0}$	42.5	45	57	227	20

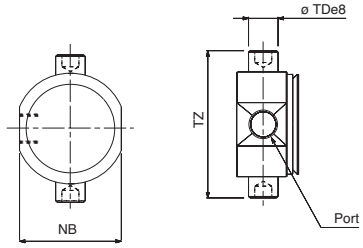
( ) : In the case of air cushion

Dimensions with Mounting Bracket

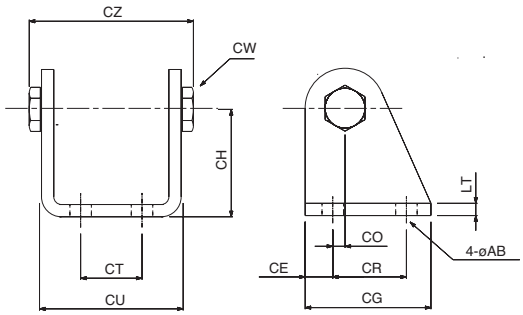
Double acting, Single rod
Rod foot (Flange): C76F32A, C76F40A



Trunnion: C76T32, C76T40



Trunnion bracket: C76C32, C76C40

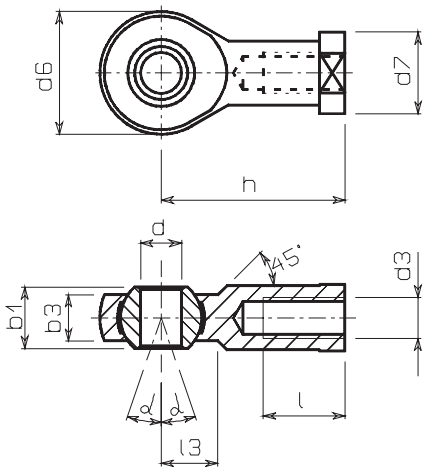


[mm]

Bore	Rod foot (Flange)									Rod trunnion			Rod clevis									
	øAB	AO	AU	LT	NH	TF	TR	UR	US	NB	øTDe8	TZ	øAB	CE	CG	CH	CO	CR	CT	CU	CW	CZ	LT
32	7	7	14	4	28	28	52	49	66	34.5	$10^{-0.025}_{-0.047}$	47.9	7	9	41	35	4	24	20	46.8	13	57.9	4
40	9	10	20	5	33	30	60	58	80	42.5	$12^{-0.032}_{-0.059}$	59.3	9	12	52	40	3	30	28	58.2	17	72.3	5

Accessory Dimensions

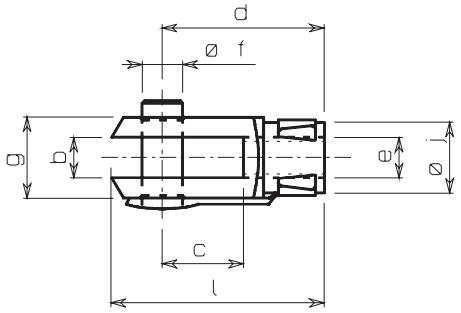
Piston Rod Ball Joint/DIN648



[mm]

Bore	Model	Thread d3	dH71	h	d6	b3	b1	l	d7	α^0	l3
32	KJ10DA	M10	10	43	20	10.5	14	20	19	13	14
40	KJ12DA	M12	12	50	30	12	16	22	22	13	16

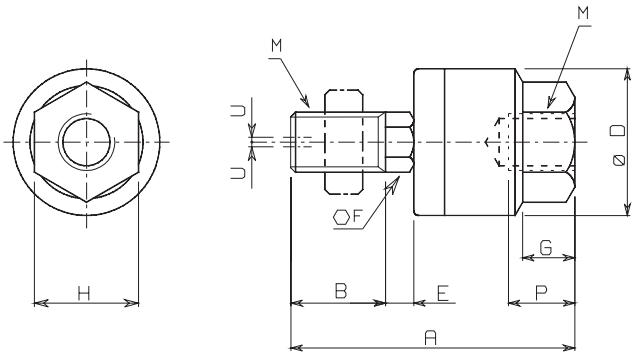
Double Knuckle Joint/DIN71751



[mm]

Bore	Model	Thread e	b	d	f	g	c	j	a
32	GKM10-20A	M10	10	40	10	18	20	12	20
40	GKM12-24A	M12	12	48	12	23	24	15	24

Floating joint/Series JA
JA25/40



[mm]

Bore	Model	M		A	B	D	E	F	G	H	Maximum screwed depth P	Allowable eccentricity U	Max. operating tension and compression power (kN)
		Nominal thread dia.	Pitch										
32	JA25-10-150	10	1.5	49.5	19.5	24	5	8	8	17	9	0.5	2.5
40	JA40-12-175	12	1.75	60	20	31	6	11	11	22	13	0.75	4.4

Actuators

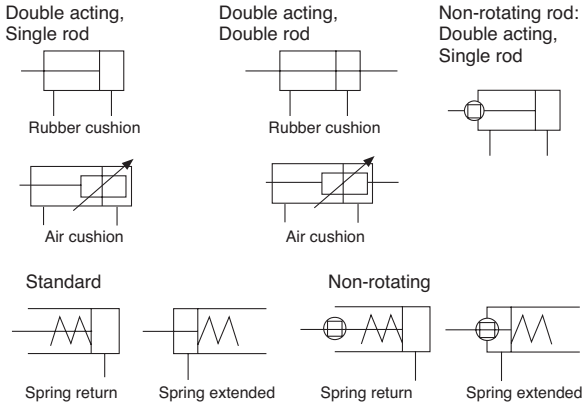
ISO Cylinder: Standard/Non-rotating Type
Double Acting/Single Acting, Single/Double Rod
Series C85

ø8, ø10, ø12, ø16, ø20, ø25

Features

- Conforms to CETOP RP52P and ISO 6432 standards.
- High speed actuation.
- Auto switch sensing option.
- Special rod seal gives high resistance to dust ingress.
- Easy & accurate mounting.
- Exceptional service life.
- Air cushioning option.

Symbol



How to Order ISO Cylinder

Single acting	C	D	85	K	N	16	40	S	B
Double acting Single rod	C	D	85	K	N	16	40	C	B
Double acting Double rod	C	D	85 W		E	16	40	C	B

Bult-in magnet

—	None
D	Built-in magnet

Type

—	Standard
K	Non-rotating rod (Rubber cushion only)

Mounting style

Symbol	Mounting
N	Basic integrated clevis
E*	Double end

* Double acting, Double rod: Only double end style (E).
* Other strokes available on request.

Action

S	Single acting, Spring return
T	Single acting, Spring extended

Auto Switch Mounting Type

—	Without auto switch
B	Band mounted

Cushion

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

Bore size • Stroke • Stroke

Bore size [mm]	Double acting				Single acting (S, T)	
	Standard stroke [mm]**	Max. stroke [mm]			Standard stroke [mm]**	Max. stroke [mm]
		Standard	Non-rotating	Double rod		
8*	10, 25, 40, 50, 80, 100	400	100	100	10, 25, 40, 50	50
10						
12	10, 25, 40, 50, 80, 100, 125, 160, 200		200	200		
16						
20	10, 25, 40, 50, 80, 100, 125, 160, 200, 250, 300	1000	1000	500	10, 25, 40, 50, 80, 100, 125, 150	150
25						

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

Product Recommendation

Auto Switches

- D-M9PL (PNP)
- D-M9NL (NPN)

Note) For more options see the Auto Switch section, page XXX

Related Products

Series AS - Speed Controllers - page 1238
Series RB - Shock Absorber - page 809
Series SY - Valves - page 65, 101
Series VQC - Valves - page 193, 211
Series AC - Air Preparation - page 1076
Series IDK - Moisture Control Tube - page 1149
Series TU - Tubing - page 1223
Series KQ2 - Fittings - page 1184

Product Recommendation

Stocked items for fast delivery

Part Number (Without auto switch)	Part Number (With auto switch)	Stroke (□)
C85N8-□	CD85N8-□-B	10, 25, 40, 50, 80, 100
C85N8-□*	CD85N8-□*-B	10, 25, 50
C85N10-□	CD85N10-□-B	10, 25, 40, 50, 80, 100
C85N10-□C	CD85N10-□C-B	10, 25, 40, 50, 80
C85N10-□*	CD85N10-□*-B	10, 25, 50
C85N12-□	CD85N12-□-B	10, 25, 40, 50, 80, 100, 125, 160, 200
C85N12-□C	CD85N12-□C-B	10, 25, 40, 50, 80, 100, 125, 160, 200
C85N12-□*	CD85N12-□*-B	10, 25, 50
C85N16-□	CD85N16-□-B	10, 25, 40, 50, 80, 100, 125, 160, 200
C85N16-□C	CD85N16-□C-B	10, 25, 40, 50, 80, 100, 125, 160, 200
C85N16-□*	CD85N16-□*-B	10, 25, 50
C85N20-□	CD85N20-□-B	10, 25, 40, 50, 80, 100, 125, 160, 200, 250, 300
C85N20-□C	CD85N20-□C-B	10, 25, 40, 50, 80, 100, 125, 160, 200, 250, 300
C85N20-□*	CD85N20-□*-B	10, 25, 50, 100
C85N25-□	CD85N25-□-B	10, 25, 40, 50, 80, 100, 125, 160, 200, 250, 300
C85N25-□C	CD85N25-□C-B	10, 25, 40, 50, 80, 100, 125, 160, 200, 250, 300
C85N25-□*	CD85N25-□*-B	10, 25, 50
	CD85WE16-□-B	10, 25, 40, 50, 80, 100, 125, 160, 200
	CD85WE20-□-B	10, 25, 40, 50, 80, 100, 125, 160, 200, 250, 300
	CD85WE25-□-B	10, 25, 40, 50, 80, 100, 125, 160, 200, 250, 300

∗ : Action S : Single action, spring return
T : Single action, spring extend

Technical Specifications

Bore size [mm]		8	10	12	16	20	25
Piston rod dia. [mm]		4	4	6	6	8	10
Piston rod thread		M4	M4	M6	M6	M8	M10 x 1.25
Port size		M5	M5	M5	M5	G 1/8	G 1/8
Action		Single Acting/Double Acting, Single/Double Rod					
Fluid		Air					
Proof pressure		1.5 MPa					
Max. operating pressure		1.0 MPa					
Double Acting Min. operating pressure	Spring return	0.1 MPa	0.08 MPa		0.05 MPa	0.05 MPa	
	Spring extended					0.08 MPa	
Single Acting 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: –10 to 60°C) No freezing					
Cushion		Rubber cushion, Air cushion (Only “N” execution, bores 10 to 25mm), (Non-rotating and Single Acting: Rubber cushion only)					
Lubrication		Not required. Use turbine oil Class 1 ISO VG32, if lubricated.					
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	0.64 J	0.93 J
Non-rotating accuracy		±1°30'	±1°30'	± 1°	±1°	±0°42'	±0°42'
Stroke tolerance [mm]		0/+1				0/+1.4	
Mounting		Basic style, Foot style, Rod flange, Head flange, Rod trunnion, Head trunnion, Clevis					

Actuators

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

Replacement Parts

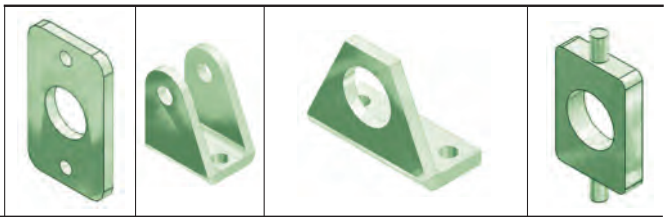
For Standard Cylinders

Bore size [mm]	Part no.	Note
20	C85-20PS	Every set includes: n˚1 rod seal n˚1 seal 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 seal n˚1 seal retaining washer n˚1 retaining ring
25	C85K-25PS	

Cylinder Mounting Accessories



Bore size [mm]	Front/ Rear Flange	Clevis	Foot (1pc)	Foot (2 pcs*)	Trunnion
8	C85F10	C85C10	C85L10A	C85L10B	C85T10
10					
12	C85F16	C85C16	C85L16A	C85L16B	C85T16
16					
20	C85F25	C85C25	C85L25A	C85L25B	C85T25
25					

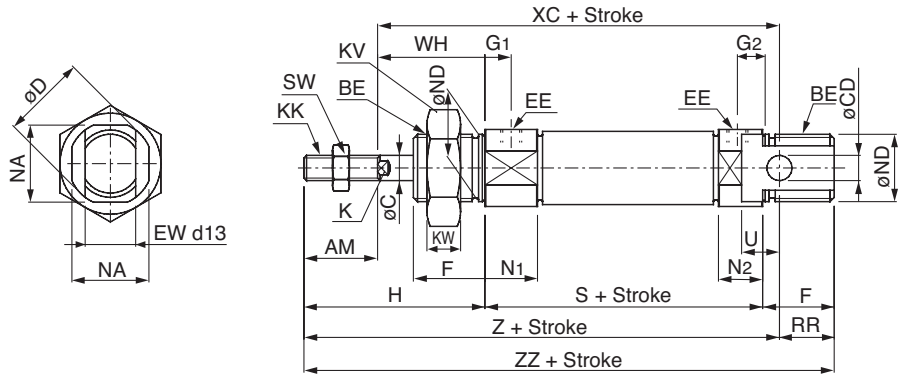
* 2 pcs with mounting nut 1 pc

Rod Accessories

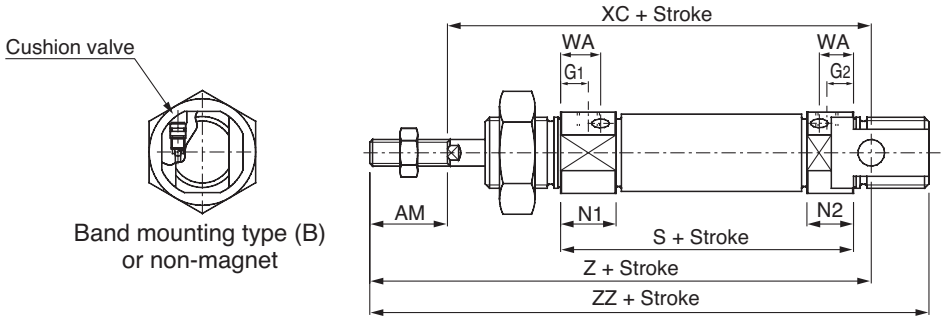
Bore size [mm]	Double Knuckle Joint	Single Knuckle Joint	Floating Joint Nut
8	GKM4-8	KJ4D	JA10-4-070
10			
12	GKM6-12	KJ6D	JA15-6-100
16			
20	GKM8-16	KJ8D	JA20-8-125
25	GKM10-20	KJ10D	JA30-10-125

Dimensions

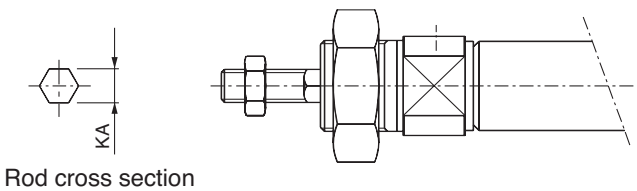
Double acting, Single rod
Rubber cushion: C□85N Bore—Stroke—□
Without magnet, Built-in magnet



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



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



Rod cross section

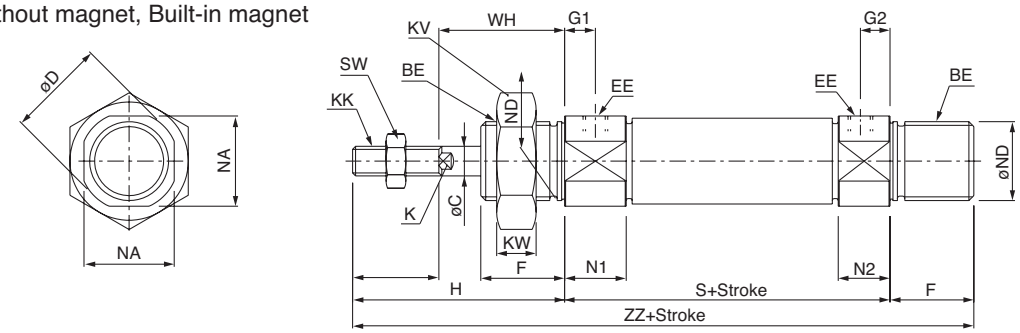
[mm]

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

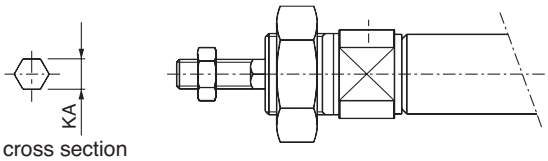
( ): In the case of air cushion.

Dimensions

Double acting: Single rod
Rubber bumper/C□85E Bore — Stroke □
Without magnet, Built-in magnet



C□85KE
Non-rotating rod (Rubber bumper only)

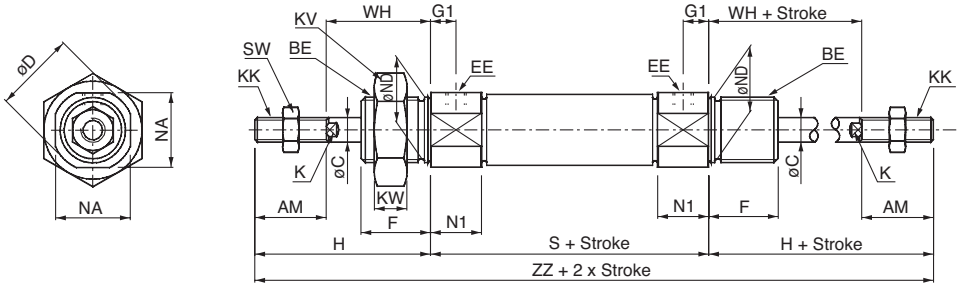


Rod cross section

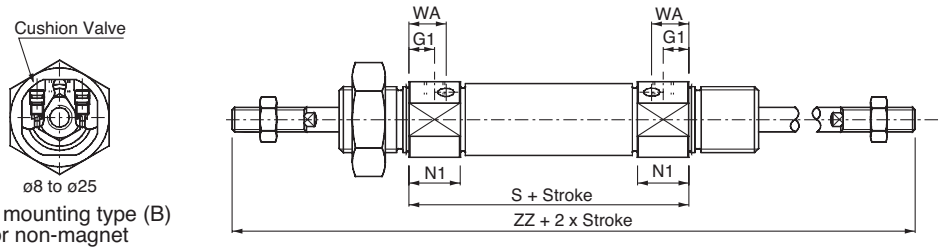
Unit: [mm]

Bore	AM	BE	C	D	EE	F	G1	G2	H	HR	K	KA	KK	KV	KW	N1	N2	NA	ND(h8)	S	SW	WH	ZZ
ø8	12	M12 X 1.25	4	16.7	M5	12	7	5	28	10	—	4.2	M4	19	6	11.5	9.5	15	12	46	7	16	86
ø10	12	M12 X 1.25	4	16.7	M5	12	7	5	28	10.5	—	4.2	M4	19	6	11.5	9.5	15	12	46	7	16	86
ø12	16	M16 X 1.5	6	19.7	M5	17	8	6	38	14	5	6.2	M6	24	8	12.5	10.5	18	16	50	10	22	105
ø16	16	M16 X 1.5	6	19.7	M5	17	8	6	38	14	5	6.2	M6	24	8	12.5	10.5	18	16	56	10	22	111
ø20	20	M22 X 1.5	8	27.9	G1/8	20	8	8	44	17	6	8.2	M8	32	10	15	15	24	22	62	13	24	126
ø25	22	M22 X 1.5	10	33.4	G1/8	22	8	8	50	20	8	10.2	M10 X 1.25	32	10	15	15	30	22	65	17	28	137

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



Air Cushion: C□85WE Bore — Stroke C — □
Without magnet, Built-in magnet



ø8 to ø25
Band mounting type (B)
or non-magnet

[mm]

Bore	AM	BE	øC	øD	EE	F	G1	H	HR	K	KK	KV	KW	N1	NA	øND h8	S	SW	WA	WH	ZZ
8	12	M12 x 1.25	4	16.7	M5	12	7	28	10	—	M4	19	6	11.5	15	12	48{54}	7	—	16	104{110}
10	12	M12 x 1.25	4	16.7	M5	12	7(5.5)	28	10.5	—	M4	19	6	11.5(13.5)	15	12	48(53)	7	10.5	16	104(109)
12	16	M16 x 1.5	6	19.7	M5	17	8(5.5)	38	14	5	M6	24	8	12.5(12.5)	18.3	16	52(54)	10	9.5	22	128(130)
16	16	M16 x 1.5	6	19.7	M5	17	8(5.5)	38	14	5	M6	24	8	12.5(12.5)	18.3	16	52(54)	10	9.5	22	128(130)
20	20	M22 x 1.5	8	28	G 1/8	20	8	44	17	6	M8	32	11	15(17)	24	22	62	13	11.5(13)	24	150
25	22	M22 x 1.5	10	33.5	G 1/8	22	8	50	20	8	M10 x 1.25	32	11	15(17)	30	22	65	17	11.5(13)	28	165

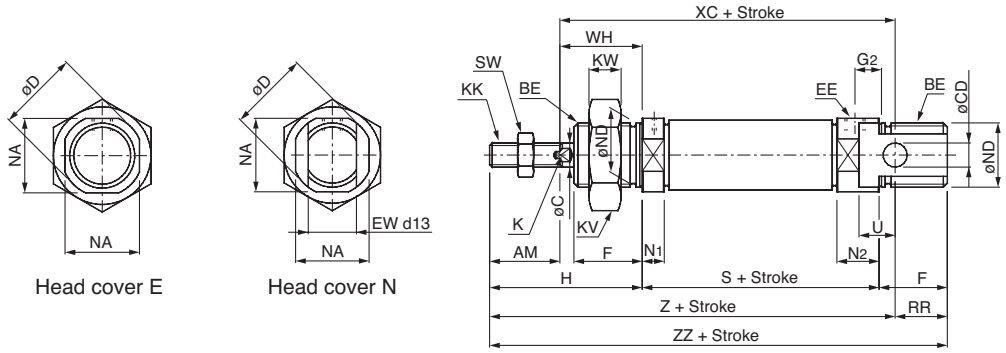
( ): In the case of air cushion. { }: In the case of built-in magnet

Dimensions

Single acting, Spring return

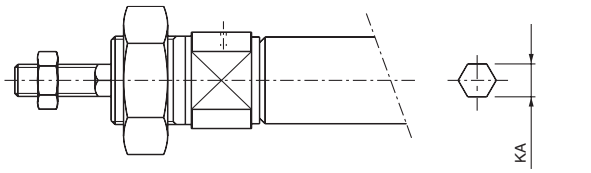
C□85$^{N}_{E}$ Bore – Stroke S –□

Without magnet, Built-in magnet



C□85KN, C□85KE

Non-rotating (Piston rod)



Rod cross section

[mm]

Bore	AM	BE	C	CD H9	D	EE	EW	F	G2	H	K	KA	KK	KV	KW	N1	N2	NA	øND h8	RR	SW	U	WH
8	12	M12 x 1.25	4	4	16.7	M5	8	12	5	28	—	4.2	M4	19	6	5.5	9.5	15	12	10	7	6	16
10	12	M12 x 1.25	4	4	16.7	M5	8	12	5	28	—	4.2	M4	19	6	5.5	9.5	15	12	10	7	6	16
12	16	M16 x 1.5	6	6	19.7	M5	12	17	6	38	5	6.2	M6	24	8	5.5	10.5	18.3	16	14	10	9	22
16	16	M16 x 1.5	6	6	19.7	M5	12	17	6	38	5	6.2	M6	24	8	5.5	10.5	18.3	16	13	10	9	22
20	20	M22 x 1.5	8	8	28	G 1/8	16	20	8	44	6	8.2	M8	32	11	15	15	24	22	11	13	12	24
25	22	M22 x 1.5	10		33.5	G 1/8	16	22	8	50	8	10.2	M10 x 1.25	32	11	15	15	30	22	11	17	12	28

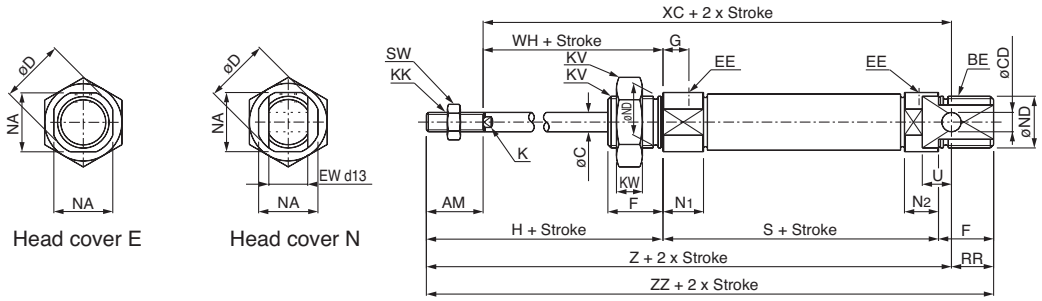
[mm]

Bore	S			XC			Z			ZZ		
	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	1 to 50	51 to 100	101 to 150
8	46(52){56(62)}	—	—	64(70){74(80)}	—	—	76(82){86(92)}	—	—	86(92){96(102)}	—	—
10	46(50){56(60)}	—	—	64(68){74(78)}	—	—	76(80){86(90)}	—	—	86(90){96(100)}	—	—
12	50(53.5){60(63.5)}	—	—	75(78.5){85(88.5)}	—	—	91(94.5) {101(104.5)}	—	—	105(108.5) {115(118.5)}	—	—
16	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)}
20	62{87}	112	137	95{120}	145	170	115{140}	165	190	126{151}	176	201
25	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

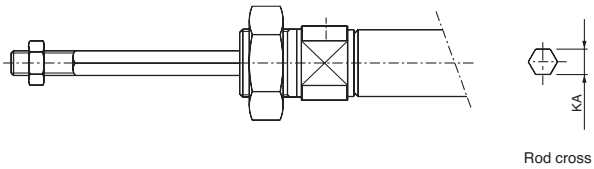
( ): In the case of auto switch style. { }: In the case of non-rotating rod.

Dimensions

Single acting, Spring extended
C□85$^{N}_{E}$ Bore – Stroke T – □
Without magnet, Built-in magnet



C□85KN, C□85KE
Non-rotating (Piston rod)



Rod cross section

[mm]

Bore	AM	BE	C	CD H9	D	EE	EW	F	G	H	K	KA	KK	KV	KW	N_1	N_2	NA	øND h8	RR	SW	U	WH
8	12	M12 x 1.25	4	4	16.7	M5	8	12	7	28	—	4.2	M4	19	6	11.5	9.5	15	12	10	7	6	16
10	12	M12 x 1.25	4	4	16.7	M5	8	12	7	28	—	4.2	M4	19	6	11.5	9.5	15	12	10	7	6	16
12	16	M16 x 1.5	6	6	19.7	M5	12	17	8	38	5	6.2	M6	24	8	12.5	10.5	18.3	16	14	10	9	22
16	16	M16 x 1.5	6	6	19.7	M5	12	17	8	38	5	6.2	M6	24	8	12.5	10.5	18.3	16	13	10	9	22
20	20	M22 x 1.5	8	8	28	G 1/8	16	20	8	44	6	8.2	M8 x 1.25	32	11	15	15	24	22	11	13	12	24
25	22	M22 x 1.5	10		33.5	G 1/8	16	22	8	50	8	10.2	M10 x 1.25	32	11	15	15	30	22	11	17	12	28

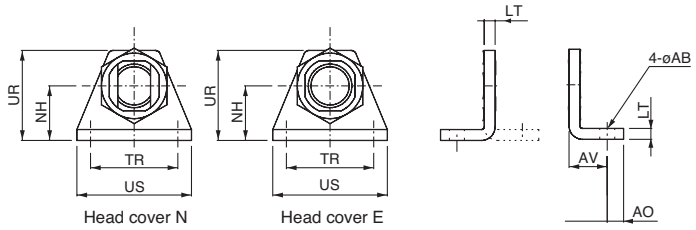
Bore	S			Z			XC			ZZ		
	1 to 50	51 to 100	101 to 150	1 to 50	51 to 100	101 to 150	1 to 50	51 to 100	101 to 150	1 to 50	51 to 100	101 to 150
8	64.5(70.5)	—	—	94.5(100.5)	—	—	82.5(88.5)	—	—	104.5(110.5)	—	—
10	64.5(68.5)	—	—	94.5(98.5)	—	—	82.5(86.5)	—	—	104.5(108.5)	—	—
12	70(73.5)	—	—	111(114.5)	—	—	95(98.5)	—	—	125(128.5)	—	—
16	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)
20	87	112	137	140	165	190	120	145	170	151	176	201
25	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 the case of auto switch style.

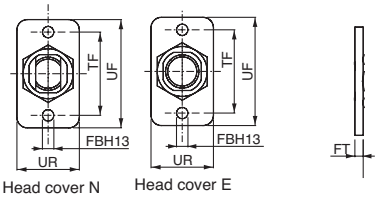
Note: Mounting brackets and dimensions are the same as for double acting.

Dimensions with Mounting Bracket

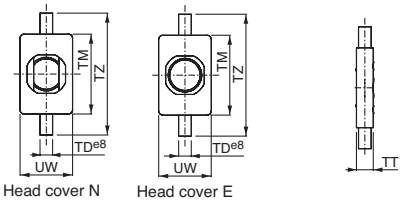
Double acting, Single rod
Rod foot, Rod and head foot: C85L10^{AB}, C85L16^{AB}, C85L25^{AB}



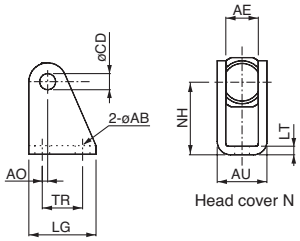
Rod flange, Head flange: C85F10, C85F16, C85F25



Rod trunnion, Head trunnion: C85T10, C85T16, C85T25



Clevis: C85C10, C85C16, C85C25



[mm]

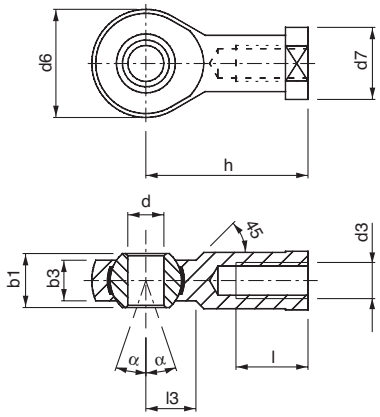
Bore	Rod foot, Rod and head foot								Rod flange, Head flange				
	AO	US	øAB	LT	NH	TR JS14	AV	UR	UR	FBH13	FT	TF	UF
8	5	35	4.5	3.2	16	25	11	26	22	4.5	3.2	30	40
10	5	35	4.5	3.2	16	25	11	26	22	4.5	3.2	30	40
12	6	42	5.5	4	20	32	14	33	30	5.5	4	40	52
16	6	42	5.5	4	20	32	14	33	30	5.5	4	40	52
20	8	54	6.6	5	25	40	17	42	40	6.6	5	50	66
25	8	54	6.6	5	25	40	17	42	40	6.6	5	50	66

Bore	Rod trunnion, Head trunnion					Clevis								
	TT	UW	øTD e8	TM	TZ	øCD H9	AE	øAB	AO	AU	TR	LG	NH	LT
8	6	20	4	26	38	4	8.1	4.5	1.5	13.1	12.5	20	24	2.5
10	6	20	4	26	38	4	8.1	4.5	1.5	13.1	12.5	20	24	2.5
12	8	25	6	38	58	6	12.1	5.5	2	18.5	15	25	27	3.2
16	8	25	6	38	58	6	12.1	5.5	2	18.5	15	25	27	3.2
20	8	32	6	46	66	8	16.1	6.6	4	24.1	20	32	30	4
25	8	32	6	46	66		16.1	6.6	4	24.1	20	32	30	4

( ): In the case of air cushion.

Accessory Dimensions

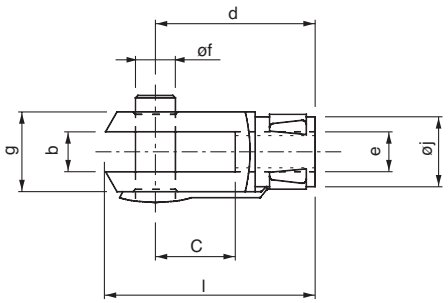
Piston Rod Ball Joint/DIN648-DIN24335



[mm]

Bore	Model	Thread d3	dh7	h	d6	b3	b1	l	d7	α°	l3
8	KJ4D	M4	5	27	18	6.0	8	10	11	7.5	10
10	KJ4D	M4	5	27	18	6.0	8	10	11	7.5	10
12	KJ6D	M6	6	30	20	6.75	9	12	13	6.5	10
16	KJ6D	M6	6	30	20	6.75	9	12	13	6.5	10
20	KJ8D	M8	8	36	24	9	12	16	16	13	12
25	KJ10D	M10 x 1.25	10	43	28	10.5	14	20	19	13	14

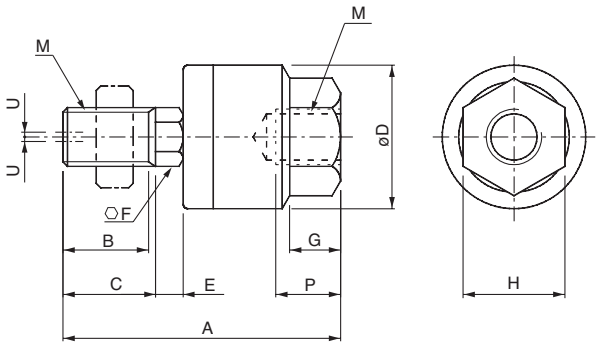
Double Knuckle Joint/ISO8140-DIN71752



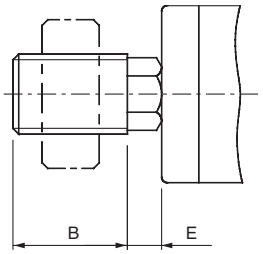
[mm]

Bore	Model	Thread e	b	d	f	g	c	j	a
8	GKM4-8	M4	4	16	4	8	8	6	8
10	GKM4-8	M4	4	16	4	8	8	6	8
12	GKM6-12	M6	6	24	6	10	12	8	12
16	GKM6-12	M6	6	24	6	10	12	8	12
20	GKM8-16	M8	8	32	8	12	16	10	16
25	GKM10-20	M10 x 1.25	10	40	10	18	20	12	20

Floating joint: Series JA



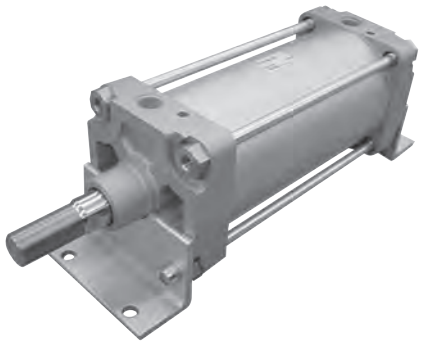
In the case of dimension without C



[mm]

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

ISO/VDMA Cylinder: Standard Type
Double Acting, Single Rod
Series C95
ø160, ø200, ø250

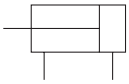


Features

- Dimensions conform to VDMA, ISO & CETOP Standards.
- Adjustable stroke end cushioning.
- High repeatability regardless of load.
- Ultra low friction & long life.
- Guide units available.

Symbol

Double acting, Single rod



How to Order

With magnet C95 S D B 200 – 160

Execution

S	Standard

Magnetics for Auto Switch

D	Built in magnet

Bore size

160	160 mm
200	200 mm
250	250 mm

Standard Stroke

Bore size [mm]	Standard stroke [mm]	Max. stroke
160	25, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500, 600, 700, 800	1600
200		2000
250		2400

Mounting style

B	Standard (Order the mounting accessories seperately)
T	Centre trunnion Style

* Order mounting accessories separately

Product Recommendation

Stocked items for fast delivery

C95SDB160-100	C95SDB160-200	C95SDB160-320	C95SDB160-500	C95SDB200-200
C95SDB160-125	C95SDB160-250	C95SDB160-400	C95SDB200-100	

Auto Switches

- D-M9PWL (PNP 2-colour indication)
- D-M9NWL (NPN 2-colour indication)
- D-F5PWL (PNP 2-colour indication)
- D-F59WL (NPN 2-colour indication)

Note) For more options see the Auto Switch section, page XXX

Related Products

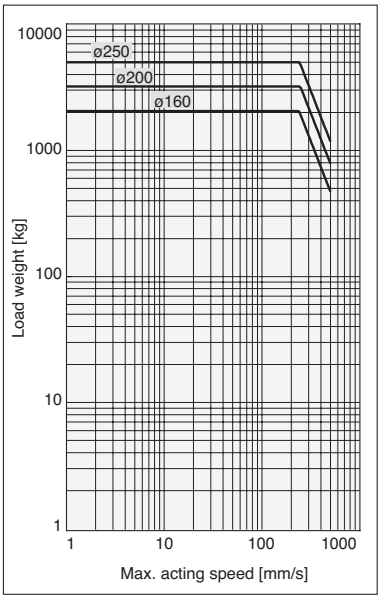
Series ASR/ASQ - Air Saving Valves - www.smc.eu
Series AS - Speed Controllers - page 1238
Series RB - Shock Absorber - page 809
Series SY - Valves - page 65, 101, 417
Series SV - Valves - page 20
Series VQ - Valves - page 241
Series AC - Air Preparation - page 1076
Series TU - Tubing - page 1223
Series KQ2 - Fittings - page 1184

Technical Specifications

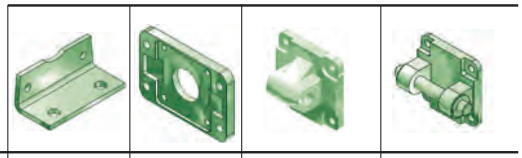
Bore size [mm]	160	200	250
Action	Double acting		
Fluid	Air		
Proof pressure	1.5 MPa		
Max. operating pressure	1.0 MPa		
Min. operating pressure	0.05 MPa		
Ambient and fluid temperature	Without auto switch: –10 to 70°C (No freezing) With auto switch: –10 to 60°C (No freezing)		
Lubrication	Not required (Non-lube)		
Operating piston speed	50 to 500 mm/s		
Allowable stroke tolerance	Up to 250: $^{+1.0}_{0}$, 251 to 1000: $^{+1.4}_{0}$, 1001 to 1500: $^{+1.8}_{0}$		
Cushion Note)	Both ends (Air cushion)		
Thread tolerance	JIS Class 2		
Port size	G 3/4		G 1
Mounting	Basic style, Axial foot style, Rod side flange style, Head side flange style, Single clevis style, Double clevis style, Centre trunnion style		

Note) Absorbable kinetic energy by cushion mechanism is identical to double acting single rod.

Allowable Kinetic Energy



Cylinder Mounting Accessories



Bore size [mm]	Foot (2 pc.)	Flange	Single rear clevis	Double rear clevis
160	L5160	F5160	C5160	D5160
200	L5200	F5200	C5200	D5200
250	L5250	F5250	C5250	D5250

Rod Accessories

Bore size [mm]	Single Knuckle Joint (ISO 8139)	Double Knuckle Joint (ISO 8140)
160	KJ36D	GKM35-54
200	KJ36D	GKM35-54
250	KJ42D	GKM40-84

Replacement Parts: Seal Kit

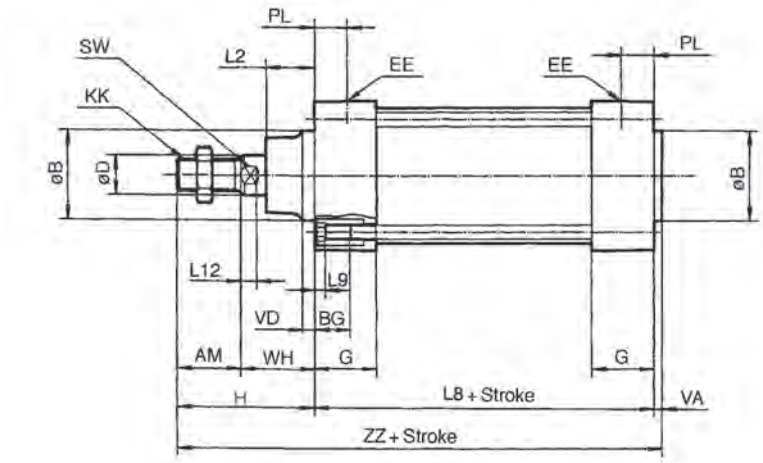
Bore size [mm]	Kit no.
160	CS95-160
200	CS95-200
250	CS95-250

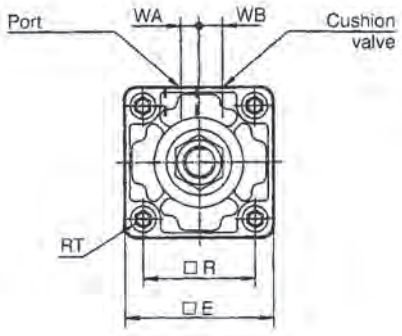
Component Parts

Description	Material
Wear ring	Resin
Cushion seal	Urethane rubber
Rod seal	NBR
Piston seal	NBR
Cylinder tube gasket	NBR

Dimensions

C95SB Bore size - Stroke



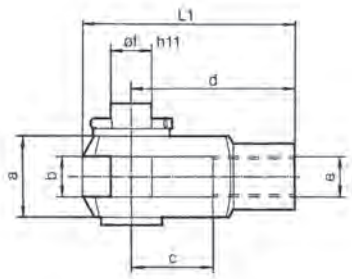


Bore size [mm]	AM	øB e11	øD	EE	PL	RT	L12	KK	SW	G	BG (Min.)	L8	VD	VA	WA	WB	WH	ZZ	□E	□R	L2	L9
160	72	65	40	G 3/4	30	M16	15	M36 x 2	36	55	27	180	8	6	15	25	80	338	180	140	50	0
200	72	75	40	G 3/4	35	M16	15	M36 x 2	36	57	27	180	15	6	18	25	95	353	220	175	55	0
250	84	90	50	G 1	31	M20	20	M42 x 2	46	59	29	200	20	10	20	28	105	399	270	220	65	0

Dimensions Piston Rod Mounting Accessory

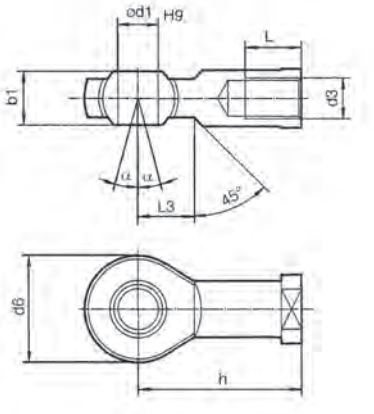
Piston Rod Clevis (ISO 8140)
Steel, Zinc Chromate Plated

Part no.	Bore size [mm]	e	b		d	øf h11	L1 max.	c min.	a max.	L min.
GKM35-54	160/200	M36 x 2	35	+0.60 +0.15	144	35	201	72	70	57
GKM40-84	250	M42 x 2	40	+0.60 +0.15	168	40	245	84	85	77



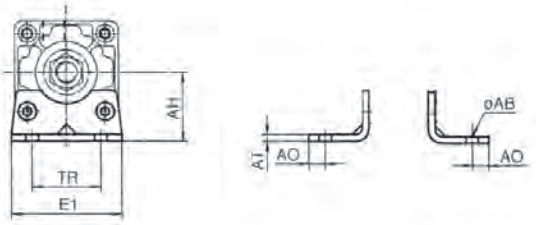
Piston Rod Ball Joint (ISO 8139)
Steel, Zinc Chromate Plated

Part no.	Bore size [mm]	d3	d1 H9	h	d6 max.	b1 h12	L min.	α	L3
KJ36D	160/200	M36 x 2	35	125	80	43	56	4°	41
KJ42D	250	M42 x 2	40	142	90	49	60	4°	46

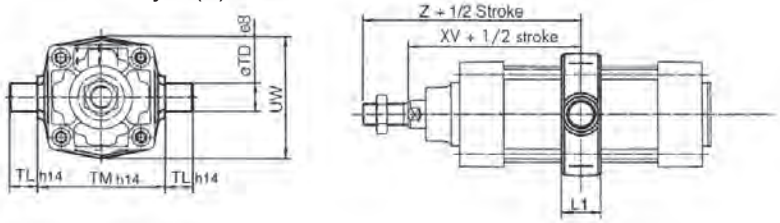


Dimensions Cylinder Mounting Accessory

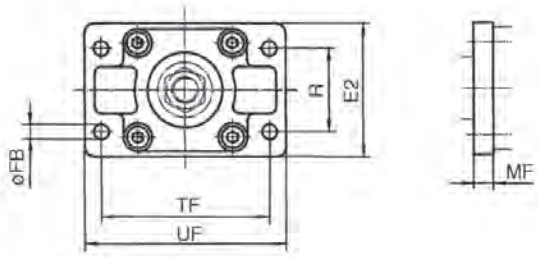
Foot style (L)



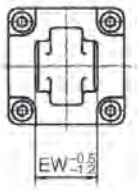
Centre trunnion style (T)



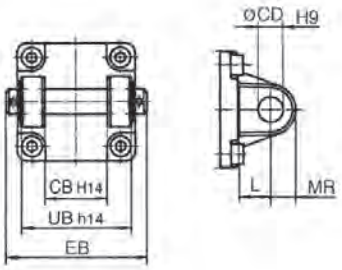
Flange style (F, G)



Head side single clevis style (C)



Head side double clevis style (D)



Bore [mm]	E1	R	MF	øFB	øCD H9	EB	L	UB h14	CB H14	EW -0.5 -1.2	MR	TR	AO	AT	AH	øAB	L1	XV	Z	TL h14	øTD e8	TM h14	UW	TF	UF	E2
160	Max. 195	115	20	18	30	Max. 209	Min. 35	170	90	90	Max. 31	115	Max. 25	9	115	18	Max. 50	170	242	32	32	200	Max. 220	230	Max. 280	Max. 195
200	Max. 238	135	25	22	30	Max. 209	Min. 35	170	90	90	Max. 31	135	Max. 35	12	135	22	Max. 50	185	257	32	32	250	Max. 260	270	Max. 320	Max. 238
250	Max. 290	165	25	26	40	Max. 249	Min. 45	200	110	110	Max. 41	165	Max. 40	14.5	165	26	Max. 60	205	289	40	40	320	Max. 320	330	Max. 395	Max. 290

ISO 15552 Cylinder: Standard Type Double Acting, Single Rod/Double Rod Series C96

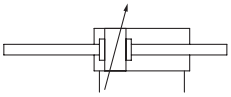
ø32, ø40, ø50, ø63, ø80, ø100, ø125

Features

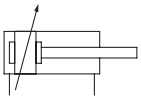
- Light weight.
- Strong, tie rod construction.
- Easy and fine adjustment of the air cushion valve.
- Minimum piston rod deflection.
- Smooth cylinder type available.

Symbol

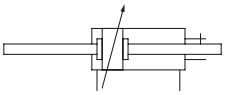
Standard Double Acting Double rod



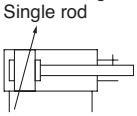
Standard Double Acting Single rod



Non-rotating Double Acting Double rod



Non-rotating Double Acting Single rod



How to Order

With auto switch C96 S D B 32 – 100 J W

Piston rod

S	Standard
K	Non-rotating

Built-in magnet

Mounting

B	Basic/Without bracket
T	Centre trunnion

∗ Order mounting accessories separately

Bore size

32	32 mm	80	80 mm
40	40 mm	100	100 mm
50	50 mm	125*	125 mm
63	63 mm		

∗ ø125 not possible in Non-rotating type

Stroke [mm]

Refer to "Standard Stroke" table on next page.

Rod

–	Single rod
W	Double rod

Rod boot

–	Without boot
J	Nylon tarpaulin (one end)
JJ	Nylon tarpaulin (both ends)
K	Heat resistant tarpaulin (one end)
KK	Heat resistant tarpaulin (both ends)

Non-rotating only possible without boot

Product Recommendation

Stocked items for fast delivery

Part Number	Stroke (□)
C96SDB32-□	25, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500
C96SDB40-□	25, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500
C96SDB50-□	25, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500, 600
C96SDB63-□	25, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500, 600
C96SDB80-□	25, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500, 600, 700
C96SDB100-□	25, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500, 600, 700

Auto Switches

- D-M9PWL (PNP 2-colour indication)
- D-M9NWL (NPN 2-colour indication)

Note) For more options see the Auto Switch section, page XXX

Related Products

Series ASR/ASQ - Air Saving Valves - www.smc.eu
Series AS - Speed Controllers - page 1238
Series RB - Shock Absorber - page 809
Series SY - Valves - page 65, 101, 417
Series SV - Valves - page 20
Series VQ - Valves - page 241
Series AC - Air Preparation - page 1076
Series TU - Tubing - page 1223
Series KQ2 - Fittings - page 1184

Specifications

Bore size [mm]	32	40	50	63	80	100	125
Action	Double acting						
Fluid	Air						
Proof pressure	1.5 MPa						
Max. operating pressure	1.0 MPa						
Min. operating pressure	0.05 MPa						
Ambient and fluid temperature	Without auto switch: –20 to 70°C∗ With auto switch: –10 to 60°C∗						
Lubrication	Not required (Non-lube)						
Operating piston speed	50 to 1000 mm/s						50 to 700 mm/s
Allowable stroke tolerance	Up to 250 st: $^{+1.0}_{0}$, 251 to 1000 st: $^{+1.4}_{0}$, 1001 to 1500 st: $^{+1.8}_{0}$, 1501 to 2000 st: $^{+2.2}_{0}$						
Cushion	Both end (Air cushion)						
Port size	G 1/8	G 1/4	G 1/4	G 3/8	G 3/8	G 1/2	G 1/2
Mounting	Basic, Axial foot, Rod end flange, Head end flange, Single clevis, Double clevis, Centre trunnion						
Non-rotating accuracy (C96K)	±0.5°		±0.5°		±0.3°		Not possible

∗ No freezing

For more product options and details see our specific catalogues or on-line information.

Actuators

Standard Stroke

Bore size [mm]	Standar type (C96S)			Non-Rotating type (C96K)
	Standard stroke [mm]	Max. stroke*		Max. stroke*
		Single rod	Double rod	
32	25, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500	1000	1000	500
40	25, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500	1900		500
50	25, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500, 600			600
63	25, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500, 600			600
80	25, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500, 600, 700, 800			800
100	25, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500, 600, 700, 800			800
125	—	2000		—

Intermediate strokes are available.
∗Please consult with SMC for longer strokes.
∗ø125 and Double rod are produced upon receipt of order.

Replacement Parts

Standard/Single rod

Bore size [mm]	Kit no.
32	CS95-32
40	CS95-40
50	CS95-50
63	CS95-63
80	CS95-80
100	CS96-100
125	CS96-125

Standard/Double rod

Bore size [mm]	Kit no.
32	CS95W-32
40	CS95W-40
50	CS95W-50
63	CS95W-63
80	CS95W-80
100	CS96W-100
125	CS96W-125

Non-Rotating/Single rod

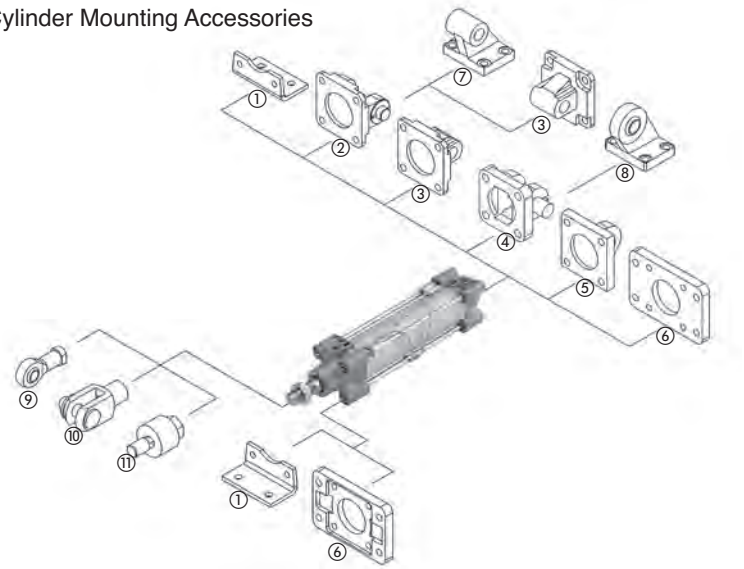
Bore size [mm]	Kit no.
32	CK95-32
40	CK95-40
50	CK95-50
63	CK95-63
80	CK95-80
100	CK96-100

Non-Rotating/Double rod

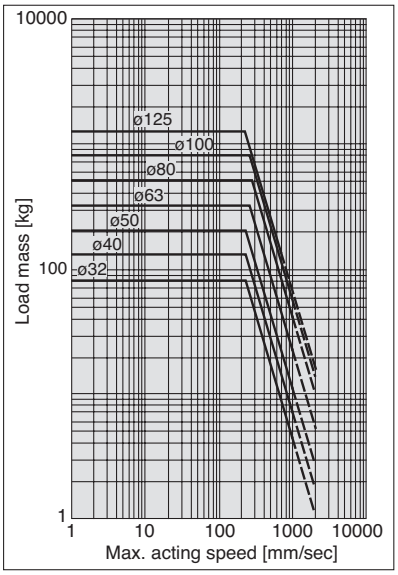
Bore size [mm]	Kit no.
32	CK95W-32
40	CK95W-40
50	CK95W-50
63	CK95W-63
80	CK95W-80
100	CK96W-100

Accessories

Cylinder Mounting Accessories



Allowable Kinetic Energy

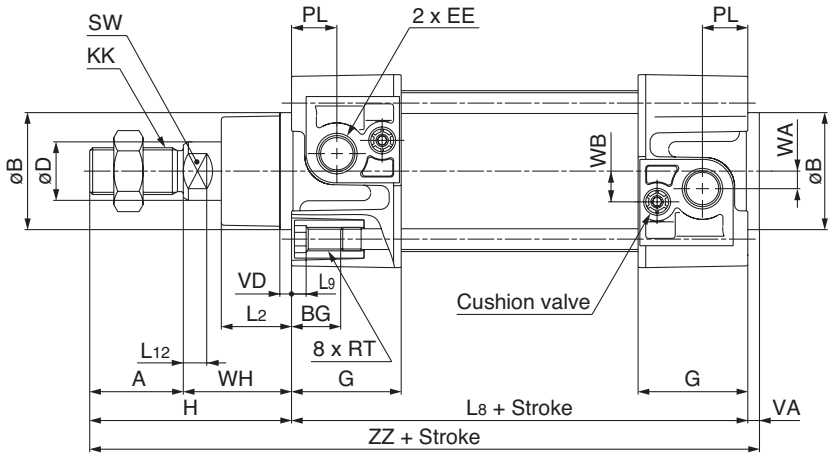


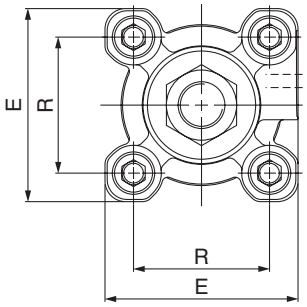
Bore size [mm]	① Foot (Supplied with two pieces and 4 screws)	② Female head end clevis (Corresponds to E accessory) (Supplied with bolt, safety device and 4 screws)	③ Male head end clevis (Supplied with 4 screws)	④ Female head end clevis (for ES accessory) (Supplied with bolt, safety device and 4 screws)	⑤ Male head end clevis with ball joint (Supplied with 4 screws)	⑥ Rod/Head end flange (Supplied with 4 screws)	⑦ Angled head end clevis	⑧ Angled head end clevis with ball joint	⑨ Piston rod ball joint (ISO 8139)	⑩ Rod clevis (ISO 8140) (Supplied with bolt and safety device)	⑪ Floating joint
32	L5032	D5032	C5032	DS5032	CS5032	F5032	E5032	ES5032	KJ10D	GKM10-20	JA30-10-125
40	L5040	D5040	C5040	DS5040	CS5040	F5040	E5040	ES5040	KJ12D	GKM12-24	JA40-12-125
50	L5050	D5050	C5050	DS5050	CS5050	F5050	E5050	ES5050	KJ16D	GKM16-32	JA50-16-150
63	L5063	D5063	C5063	DS5063	CS5063	F5063	E5063	ES5063	KJ16D	GKM16-32	JA50-16-150
80	L5080	D5080	C5080	DS5080	CS5080	F5080	E5080	ES5080	KJ20D	GKM20-40	JAH50-20-150
100	L5100	D5100	C5100	DS5100	CS5100	F5100	E5100	ES5100	KJ20D	GKM20-40	JAH50-20-150
125	L5125	D5125	C5125	DS5125	CS5125	F5125	E5125	ES5125	KJ27D	GKM30-54	JA125-27-200

Note) As CP96 series and C96 series use the same cylinder mounting accesories, please see dimensions on page xxx.

Dimensions: Without Mounting Bracket

C96S(D)B / C96K(D)B [Bore size] – [Stroke]





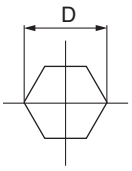
Bore size [mm]	Stroke Range [mm]		A	øB d11	øD	EE	PL	RT	L_{12}	KK	SW	G	BG	L_8	VD	VA	WA	WB	WH	ZZ	E	R
	Without rod boot	With rod boot																				
32	to 1000	to 1000	22	30	12	G 1/8	13	M6 x 1	6	M10 x 1.25	10	32	16	94	4	4	4	7	26	146	47	32.5
40	to 1900	to 1000	24	35	16	G 1/4	14	M6 x 1	6.5	M12 x 1.25	13	37.5	16	105	4	4	5	9	30	163	54	38
50	to 1900	to 1000	32	40	20	G 1/4	15.5	M8 x 1.25	8	M16 x 1.5	17	37.5	16	106	4	4	6	10.5	37	179	66	46.5
63	to 1900	to 1000	32	45	20	G 3/8	16.5	M8 x 1.25	8	M16 x 1.5	17	45	16	121	4	4	9	12	37	194	77	56.5
80	to 1900	to 1000	40	45	25	G 3/8	19	M10 x 1.5	10	M20 x 1.5	22	45	17	128	4	4	11.5	14	46	218	99	72
100	to 1900*	to 1000*	40	55	25	G 1/2	19	M10 x 1.5	10	M20 x 1.5	22	50	17	138	4	4	17	15	51	233	118	89
125	to 2000*	to 1000*	54	60	32	G 1/2	19	M12 x 1.75	13	M27 x 2	27	58	20	160	6	6	17	15	65	285	144	110

* Minimum stroke for trunnion mounting are below. Tube I.D. 32 to 80: 0mm, Tube I.D. 100: 5 mm, Tube I.D. 125: 10 mm

Bore size [mm]	L_2	L_9	H
32	15	4	48
40	17	4	54
50	24	5	69
63	24	5	69
80	30	—	86
100	32	—	91
125	40	—	119

(C96K)

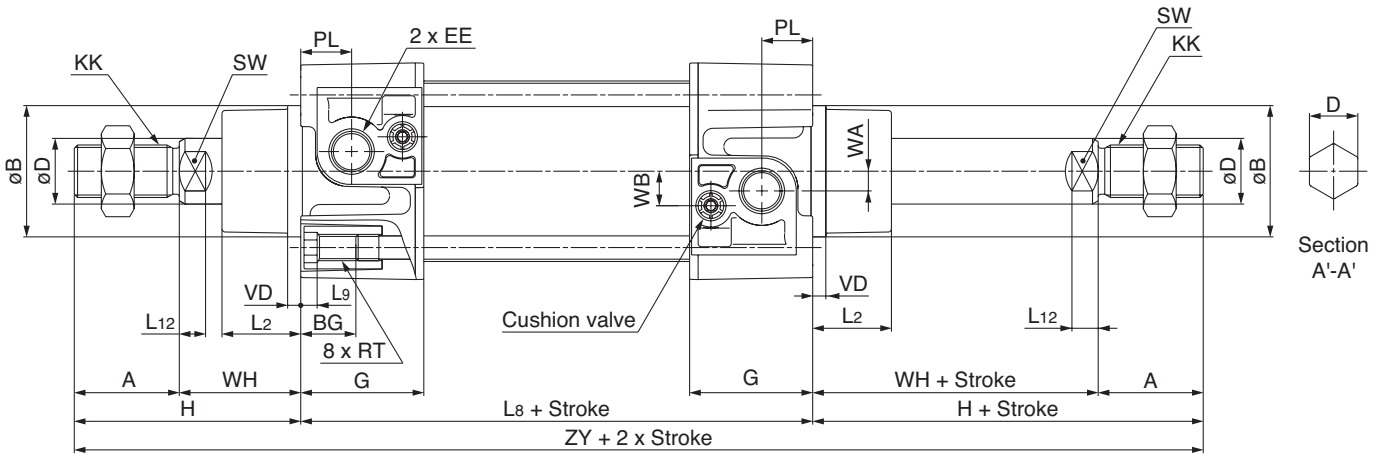
Bore size [mm]	D
32	12.2
40	14.2
50	19
63	19
80	23
100	23



Rod Section
Non-Rotating

Dimensions: Without Mounting Bracket

C96S(D)B / C96K(D)B [Bore size] – [Stroke] W

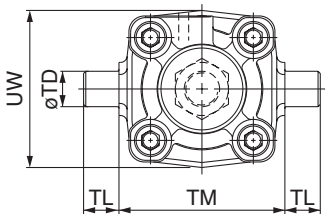


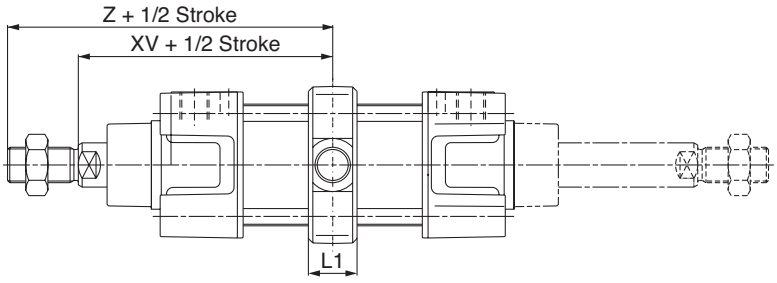
Bore size [mm]	Stroke Range [mm]	A	øB d11	D C96K	øD	EE	PL	RT	L12	KK	SW	G	BG	L8	VD	WA	WB	WH	ZY	L2	L9	H
32	to 1000	22	30	12.2	12	G 1/8	13	M6 x 1	6	M10 x 1.25	10	32	16	94	4	4	7	26	190	15	4	48
40	to 1000	24	35	14.2	16	G 1/4	14	M6 x 1	6.5	M12 x 1.25	13	37.5	16	105	4	5	9	30	213	17	4	54
50	to 1000	32	40	19	20	G 1/4	15.5	M8 x 1.25	8	M16 x 1.5	17	37.5	16	106	4	6	10.5	37	244	24	5	69
63	to 1000	32	45	19	20	G 3/8	16.5	M8 x 1.25	8	M16 x 1.5	17	45	16	121	4	9	12	37	259	24	5	69
80	to 1000	40	45	23	25	G 3/8	19	M10 x 1.5	10	M20 x 1.5	22	45	17	128	4	11.5	14	46	300	30	—	86
100	to 1000*	40	55	23	25	G 1/2	19	M10 x 1.5	10	M20 x 1.5	22	50	17	138	4	17	15	51	320	32	—	91
125	to 1000*	54	60	–	32	G 1/2	19	M12 x 1.75	13	M27 x 2	27	58	20	160	6	17	15	65	398	40	—	119

* Minimum stroke for trunnion mounting are below. Tube I.D. 32 to 80:0 mm, Tube I.D. 100:5 mm, Tube I.D. 125:10 mm

Dimensions: Cylinder Mounting Accessories

Centre trunnion (T)





Bore size [mm]	TM	TL	øTD e8	UW	L1	XV	Z
32	50	12	12	49	17	73	95
40	63	16	16	58	22	82.5	106.5
50	75	16	16	71	22	90	122
63	90	20	20	87	28	97.5	129.5
80	110	20	20	110	34	110	150
100	132	25	25	136	40	120	160
125	160	25	25	Max. 160	50	145	199

ISO 15552 Cylinder
Profile Design ISO 15552 Cylinder: Standard/Non rotating type, Double Acting, Single Rod/Double Rod
Series CP96

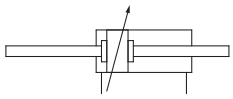
ø32, ø40, ø50, ø63, ø80, ø100, ø125

Features

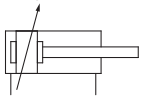
- Light weight.
- No need to use auto switch brackets.
- No protusion of auto switch.
- Strong tie rod construction.
- Easy and fine adjustment of the air cushion valve.
- Minimum piston rod deflection.

Symbol

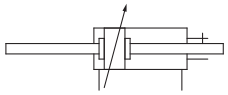
Standard Double Acting Double rod



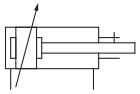
Standard Double Acting Single rod



Non-rotating Double Acting Double rod



Non-rotating Double Acting Single rod



How to Order

With auto switch CP96 S D B 32 – 100 J W

Piston rod

S	Standard
K	Non-rotating

Built-in magnet

Mounting

B	Basic/Without bracket

∗ Order mounting accessories separately.

Bore size

32	32 mm	80	80 mm
40	40 mm	100	100 mm
50	50 mm	125∗	125 mm
63	63 mm		

∗ ø125 not possible in Non-rotating type.

Stroke [mm]
Refer to "Standard Stroke" table on next page.

Rod

–	Single rod
W	Double rod

Rod boot

–	Without boot
J	Nylon tarpaulin (one end)
JJ	Nylon tarpaulin (both ends)
K	Heat resistant tarpaulin (one end)
KK	Heat resistant tarpaulin (both ends)

Non-rotating only possible without boot.

Product Recommendation

Stocked items for fast delivery

Part Number	Stroke (☐)
CP96SDB32-☐	25, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500
CP96SDB40-☐	25, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500
CP96SDB50-☐	25, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500
CP96SDB63-☐	25, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500, 600
CP96SDB80-☐	25, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500, 600, 700, 800
CP96SDB100-☐	25, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500, 600, 700, 800

Auto Switches

- D-M9PWL (PNP 2-colour indication)
- D-M9NWL (NPN 2-colour indication)

Note) For more options see the Auto Switch section, page XXX

Related Products

Series ASR/ASQ - Air Saving Valves - www.smc.eu
Series AS - Speed Controllers - page 1238
Series RB - Shock Absorber - page 809
Series SY - Valves - page 65, 101, 417
Series SV - Valves - page 20
Series VQ - Valves - page 241
Series AC - Air Preparation - page 1076
Series TU - Tubing - page 1223
Series KQ2 - Fittings - page 1184

Specifications

Bore size [mm]	32	40	50	63	80	100	125
Action	Double acting						
Fluid	Air						
Proof pressure	1.5 MPa						
Max. operating pressure	1.0 MPa						
Min. operating pressure	0.05 MPa						
Ambient and fluid temperature	Without auto switch: –20 to 70°C∗ With auto switch: –10 to 60°C∗						
Lubrication	Not required (Non-lube)						
Operating piston speed	50 to 1000 mm/s						50 to 700 mm/s
Allowable stroke tolerance	Up to 250 st: $^{+1.0}_{0}$, 251 to 1000 st: $^{+1.4}_{0}$, 1001 to 1500 st: $^{+1.8}_{0}$, 1501 to 2000 st: $^{+2.2}_{0}$						
Cushion	Both ends (Air cushion)						
Port size	G 1/8	G 1/4	G 1/4	G 3/8	G 3/8	G 1/2	G 1/2
Mounting	Basic, Axial foot, Rod end flange, Head end flange, Single clevis, Double clevis.						
Non-Rotating accuracy (CP96K)	±0.5°		±0.5°		±0.3°		Not possible

∗ No freezing

For more product options and details see our specific catalogues or on-line information.

Standard Stroke

Bore size [mm]	Standar type (CP96S)			Non-Rotating type (CP96K)
	Standard stroke [mm]	Max. stroke*		Max. stroke*
		Single rod	Double rod	
32	25, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500	2000	1000	500
40	25, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500			500
50	25, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500, 600			600
63	25, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500, 600			600
80	25, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500, 600, 700, 800			800
100	25, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500, 600, 700, 800			800
125	—			—

Intermediate strokes are available.
* Please consult with SMC for longer strokes.
* ø125 and Double rod are produced upon receipt of order.

Replacement Parts

Standard/Single rod

Bore size [mm]	Kit no.
32	CS95-32
40	CS95-40
50	CS95-50
63	CS95-63
80	CS95-80
100	CS96-100
125	CS96-125

Standard/Double rod

Bore size [mm]	Kit no.
32	CS95W-32
40	CS95W-40
50	CS95W-50
63	CS95W-63
80	CS95W-80
100	CS96W-100
125	CS96W-125

Non-Rotating/Single rod

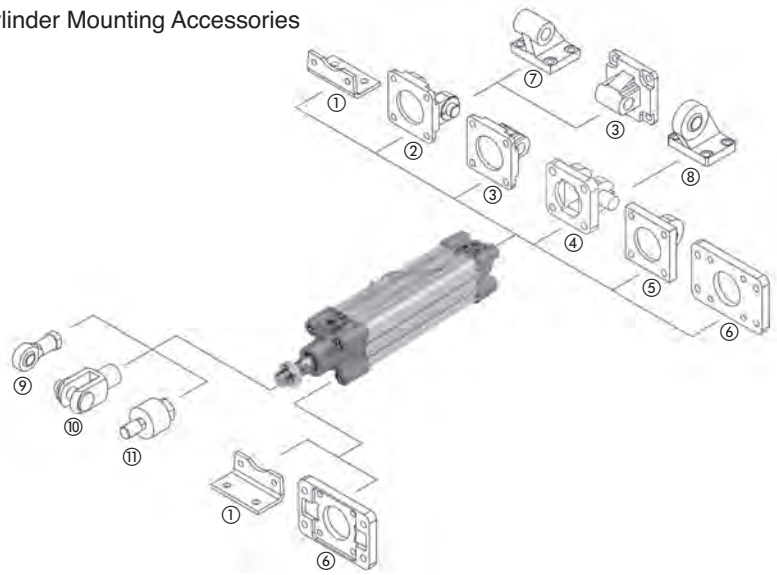
Bore size [mm]	Kit no.
32	CK95-32
40	CK95-40
50	CK95-50
63	CK95-63
80	CK95-80
100	CK96-100

Non-Rotating/Double rod

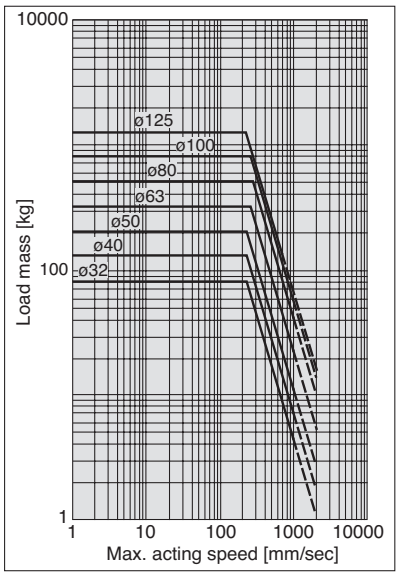
Bore size [mm]	Kit no.
32	CK95W-32
40	CK95W-40
50	CK95W-50
63	CK95W-63
80	CK95W-80
100	CK96W-100

Accessories

Cylinder Mounting Accessories



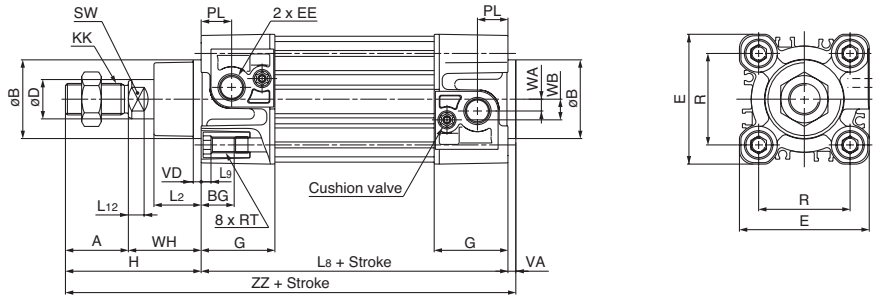
Allowable Kinetic Energy



Bore size [mm]	① Foot (Supplied with two pieces and 4 screws)	② Female head end clevis (Corresponds to E accessory) (Supplied with bolt, safety device and 4 screws)	③ Male head end clevis (Supplied with 4 screws)	④ Female head end clevis (for ES accessory) (Supplied with bolt, safety device and 4 screws)	⑤ Male head end clevis with ball joint (Supplied with 4 screws)	⑥ Rod/Head end flange (Supplied with 4 screws)	⑦ Angled head end clevis	⑧ Angled head end clevis with ball joint	⑨ Piston rod ball joint (ISO 8139)	⑩ Rod clevis (ISO 8140) (Supplied with bolt and safety device)	⑪ Floating joint
32	L5032	D5032	C5032	DS5032	CS5032	F5032	E5032	ES5032	KJ10D	GKM10-20	JA30-10-125
40	L5040	D5040	C5040	DS5040	CS5040	F5040	E5040	ES5040	KJ12D	GKM12-24	JA40-12-125
50	L5050	D5050	C5050	DS5050	CS5050	F5050	E5050	ES5050	KJ16D	GKM16-32	JA50-16-150
63	L5063	D5063	C5063	DS5063	CS5063	F5063	E5063	ES5063	KJ16D	GKM16-32	JA50-16-150
80	L5080	D5080	C5080	DS5080	CS5080	F5080	E5080	ES5080	KJ20D	GKM20-40	JAH50-20-150
100	L5100	D5100	C5100	DS5100	CS5100	F5100	E5100	ES5100	KJ20D	GKM20-40	JAH50-20-150
125	L5125	D5125	C5125	DS5125	CS5125	F5125	E5125	ES5125	KJ27D	GKM30-54	JA125-27-200

Dimensions: Without Mounting Bracket

CP96S(D)B / CP96K(D)B Bore size – Stroke

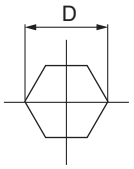


Bore size [mm]	Stroke Range [mm]		A	øB d11	øD	EE	PL	RT	L12	KK	SW	G	BG	L8	VD	VA	WA	WB	WH	ZZ	E	R
	Without rod boot	With rod boot																				
32	to 2000	to 1000	22	30	12	G 1/8	13	M6 x 1	6	M10 x 1.25	10	32	16	94	4	4	4	7	26	146	47	32.5
40	to 2000	to 1000	24	35	16	G 1/4	14	M6 x 1	6.5	M12 x 1.25	13	37.5	16	105	4	4	5	9	30	163	54	38
50	to 2000	to 1000	32	40	20	G 1/4	15.5	M8 x 1.25	8	M16 x 1.5	17	37.5	16	106	4	4	6	10.5	37	179	66	46.5
63	to 2000	to 1000	32	45	20	G 3/8	16.5	M8 x 1.25	8	M16 x 1.5	17	45	16	121	4	4	9	12	37	194	77	56.5
80	to 2000	to 1000	40	45	25	G 3/8	19	M10 x 1.5	10	M20 x 1.5	22	45	17	128	4	4	11.5	14	46	218	99	72
100	to 2000	to 1000	40	55	25	G 1/2	19	M10 x 1.5	10	M20 x 1.5	22	50	17	138	4	4	17	15	51	233	118	89
125	to 2000	to 1000	54	60	32	G 1/2	19	M12 x 1.75	13	M27 x 2	27	58	20	160	6	6	17	15	65	285	144	110

Bore size [mm]	L2	L9	H
32	15	4	48
40	17	4	54
50	24	5	69
63	24	5	69
80	30	—	86
100	32	—	91
125	40	—	119

(CP96K)

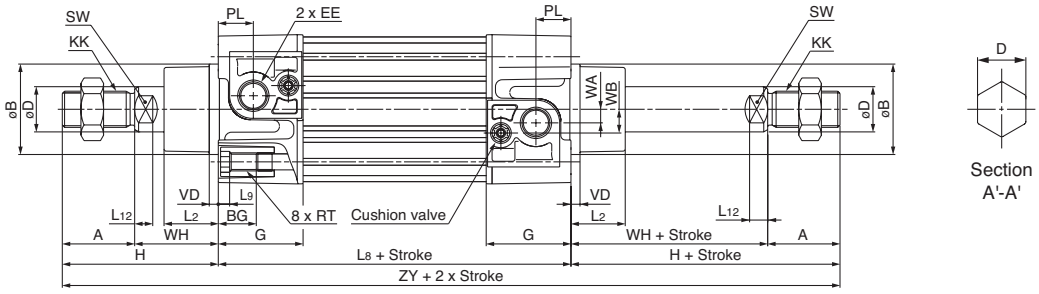
Bore size [mm]	D
32	12.2
40	14.2
50	19
63	19
80	23
100	23



Rod section non rotating

Dimensions: Without Mounting Bracket

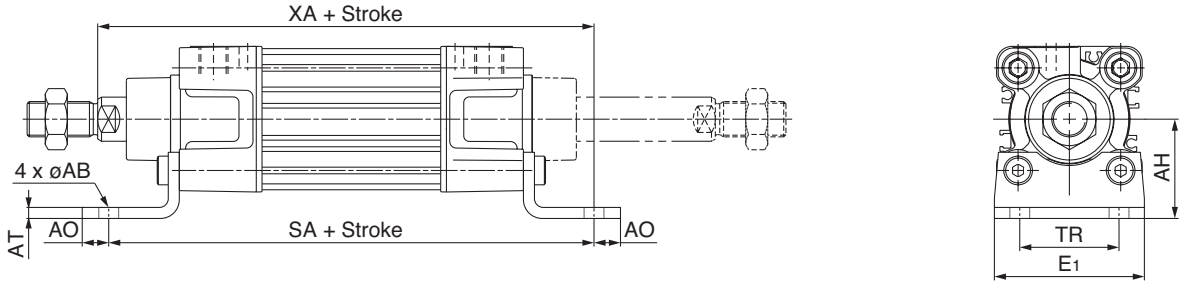
CP96S(D)B / CP96K(D)B Bore size – Stroke W



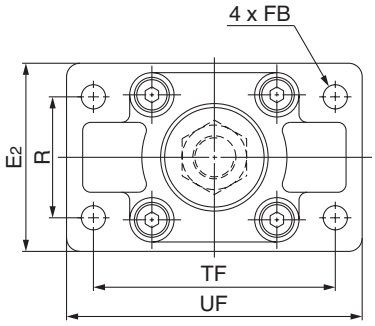
Bore size [mm]	Stroke Range [mm]	A	øB d11	D CP96K	øD	EE	PL	RT	L12	KK	SW	G	BG	L8	VD	WA	WB	WH	ZY	L2	L9	H
32	to 1000	22	30	12.2	12	G 1/8	13	M6 x 1	6	M10 x 1.25	10	32	16	94	4	4	7	26	190	15	4	48
40	to 1000	24	35	14.2	16	G 1/4	14	M6 x 1	6.5	M12 x 1.25	13	37.5	16	105	4	5	9	30	213	17	4	54
50	to 1000	32	40	19	20	G 1/4	15.5	M8 x 1.25	8	M16 x 1.5	17	37.5	16	106	4	6	10.5	37	244	24	5	69
63	to 1000	32	45	19	20	G 3/8	16.5	M8 x 1.25	8	M16 x 1.5	17	45	16	121	4	9	12	37	259	24	5	69
80	to 1000	40	45	23	25	G 3/8	19	M10 x 1.5	10	M20 x 1.5	22	45	17	128	4	11.5	14	46	300	30	—	86
100	to 1000	40	55	23	25	G 1/2	19	M10 x 1.5	10	M20 x 1.5	22	50	17	138	4	17	15	51	320	32	—	91
125	to 1000	54	60	–	32	G 1/2	19	M12 x 1.75	13	M27 x 2	27	58	20	160	6	17	15	65	398	40	—	119

Dimensions: Cylinder Mounting Accessories (L/F/G/C/D)

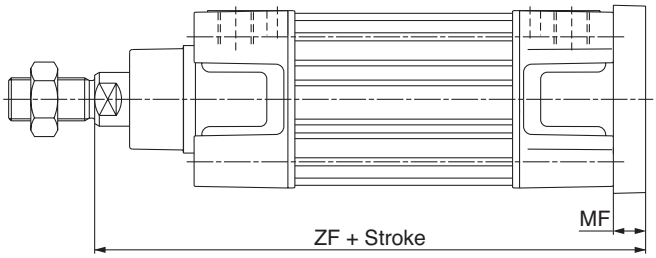
Mounting (L)



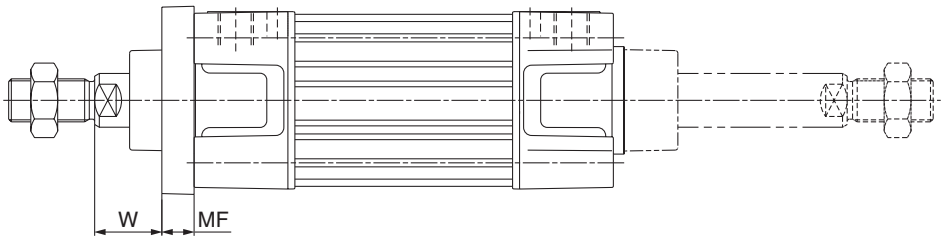
Mounting (F/G)



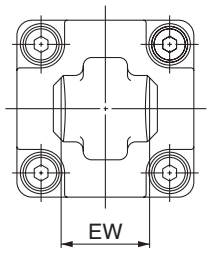
Head end mounting (G)



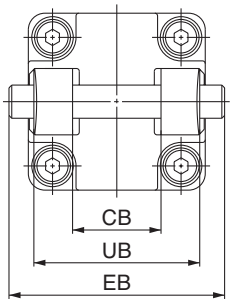
Rod end mounting (F)

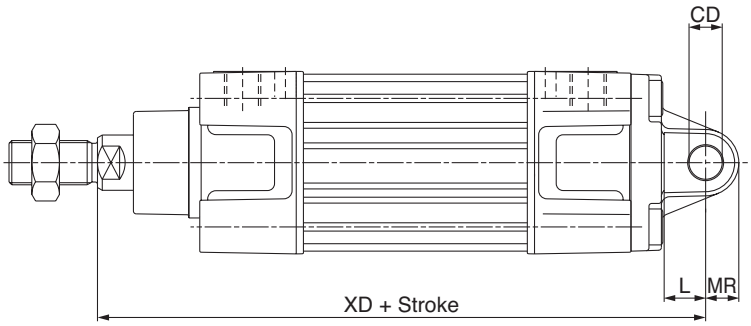


Mounting (C)



Mounting (D)

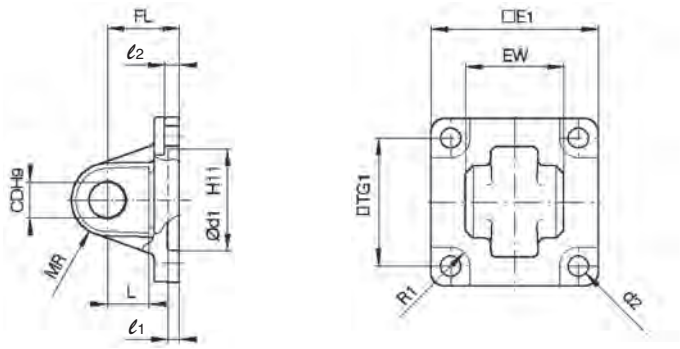




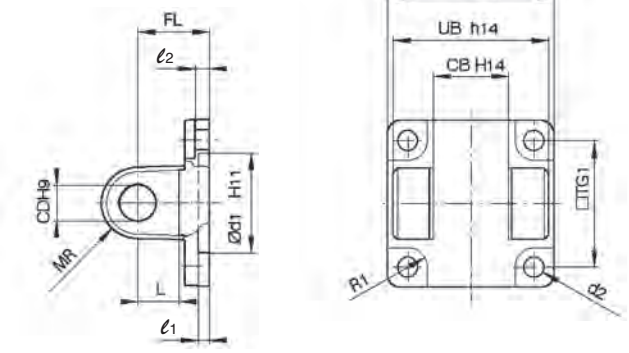
Bore size [mm]	E1	TR	AH	AO	AT	øAB	SA	XA	R	TF	øFB	E2	UF	W	MF	ZF	UB h14	CB H14	EW	øCD H9	L	MR	XD	EB
32	48	32	32	10	4.5	7	142	144	32	64	7	50	79	16	10	130	45	26	26-0.2/-0.6	10	12	9.5	142	65
40	55	36	36	11	4.5	10	161	163	36	72	9	55	90	20	10	145	52	28	28-0.2/-0.6	12	15	12	160	75
50	68	45	45	12	5.5	10	170	175	45	90	9	70	110	25	12	155	60	32	32-0.2/-0.6	12	15	12	170	80
63	80	50	50	12	5.5	10	185	190	50	100	9	80	120	25	12	170	70	40	40-0.2/-0.6	16	20	16	190	90
80	100	63	63	14	6.5	12	210	215	63	126	12	100	153	30	16	190	90	50	50-0.2/-0.6	16	20	16	210	110
100	120	75	71	16	6.5	14.5	220	230	75	150	14	120	178	35	16	205	110	60	60-0.2/-0.6	20	25	20	230	140
125	Max. 157	90	90	Max. 25	8	16	250	270	90	180	16	Max. 157	Max. 224	45	20	245	130	70	70-0.5/-1.2	25	Min. 30	Max. 26	275	Max. 157

Dimensions: Cylinder Mounting Accessories (C/D/E/CS)

Mounting (C)

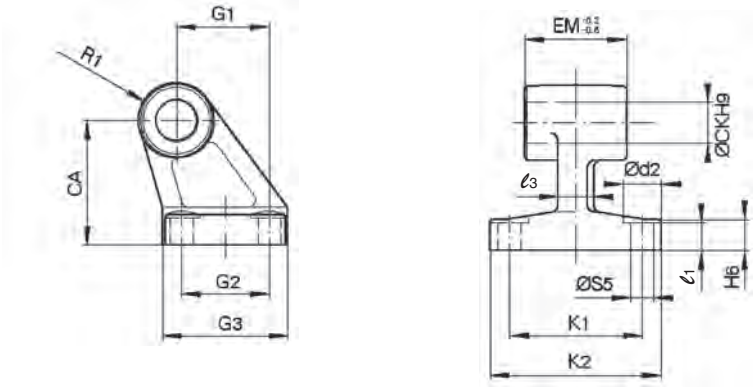


Mounting (D)



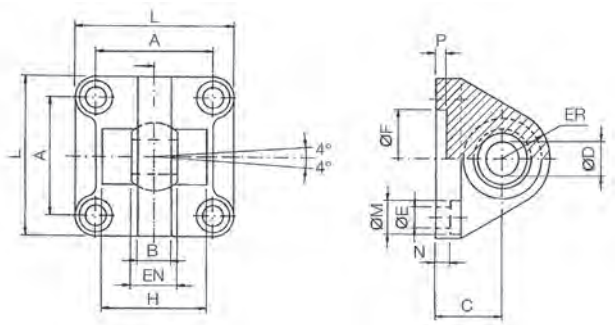
Bore size [mm]	E1	EW	TG1	FL	ℓ1	L	ℓ2	ød1	øCD	MR	ød2	R1	E2	UB	CB
32	45	$26^{-0.2}_{-0.6}$	32.5	22	5	12	5.5	30	10	9.5	6.6	6.5	48	45	26
40	51	$28^{-0.2}_{-0.6}$	38	25	5	15	5.5	35	12	12	6.6	6.5	56	52	28
50	64	$32^{-0.2}_{-0.6}$	46.5	27	5	15	6.5	40	12	12	9	8.5	64	60	32
63	74	$40^{-0.2}_{-0.6}$	56.5	32	5	20	6.5	45	16	16	9	8.5	75	70	40
80	94	$50^{-0.2}_{-0.6}$	72	36	5	20	10	45	16	16	11	11	95	90	50
100	113	$60^{-0.2}_{-0.6}$	89	41	5	25	10	55	20	20	11	12	115	110	60
125	Max. 157	$70^{-0.5}_{-1.2}$	110	50	7	30	10	60	25	26	13.5	10	Max. 157	130	70

Mounting (E)



Bore size [mm]	ød2	øCK	øS5	K1	K2 max.	ℓ3 max.	G1	ℓ1	G2	EM	G3 max.	CA	H6	R1
32	11	10	6.6	38	51	10	21	7	18	$26^{-0.2}_{-0.6}$	31	32	8	10
40	11	12	6.6	41	54	10	24	9	22	$28^{-0.2}_{-0.6}$	35	36	10	11
50	15	12	9	50	65	12	33	11	30	$32^{-0.2}_{-0.6}$	45	45	12	12
63	15	16	9	52	67	14	37	11	35	$40^{-0.2}_{-0.6}$	50	50	12	15
80	18	16	11	66	86	18	47	12.5	40	$50^{-0.2}_{-0.6}$	60	63	14	15
100	18	20	11	76	96	20	55	13.5	50	$60^{-0.2}_{-0.6}$	70	71	15	19
125	20	25	14	94	124	30	70	17	60	$70^{-0.5}_{-1.5}$	90	90	20	22.5

Mounting (CS): Head end clevis with ball joint



Bore size [mm]	A	B max.	C	øD H7	EN 0 −0.1	ER max.	øF H11	øE	L	øM	N	P	H ±0.5
32	32.5	10.5	22	10	14	15	30	6.6	45	10.5	5.5	5	—
40	38	12	25	12	16	18	35	6.6	55	11	5.5	5	—
50	46.5	15	27	16	21	20	40	9	65	15	6.5	5	51
63	56.5	15	32	16	21	23	45	9	75	15	6.5	5	—
80	72	18	36	20	25	27	45	11	95	18	10	5	70
100	89	18	41	20	25	30	55	11	115	18	10	5	—
125	110	25	50	30	37	40	60	13.5	140	20	10	7	100

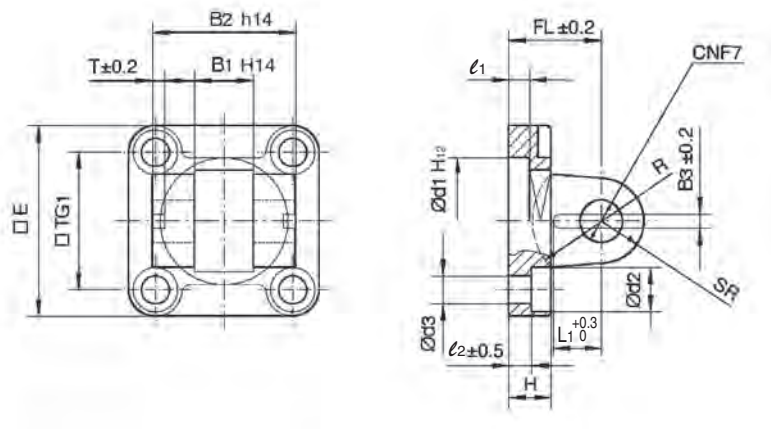
* Black colour

For more product options and details see our specific catalogues or on-line information.

Actuators

Dimensions: Cylinder Mounting Accessories (DS/ES)

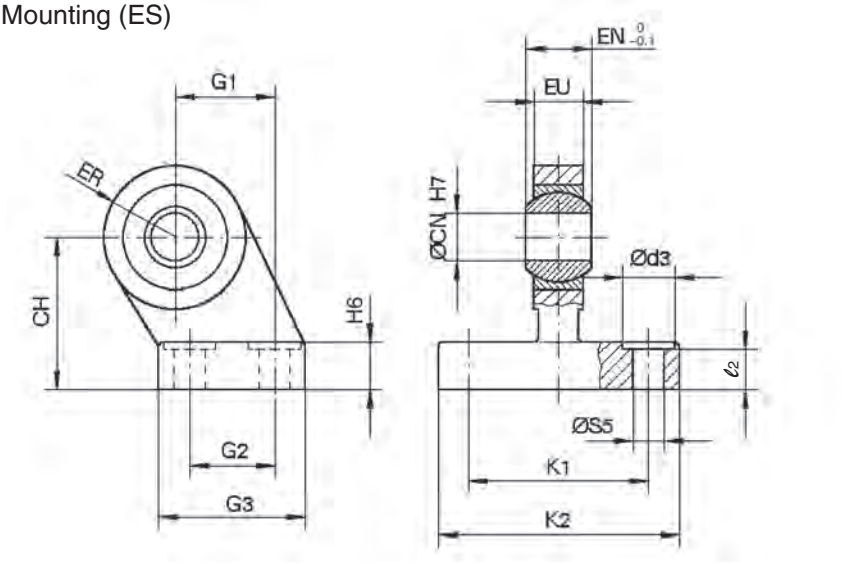
Mounting (DS)



Bore size [mm]	E	B1	B2	B3	L1	TG1	T	ℓ1 min.	ℓ2	FL	H max.	ød1	ød2	ød3	øCN	SR max.	R
32	45	14	34	3.3	11.5	32.5	3	5	5.5	22	10	30	10.5	6.6	10	11	17
40	55	16	40	4.3	12	38	4	5	5.5	25	10	35	11	6.6	12	13	20
50	65	21	45	4.3	14	46.5	4	5	6.5	27	12	40	15	9	16	18	22
63	75	21	51	4.3	14	56.5	4	5	6.5	32	12	45	15	9	16	18	25
80	95	25	65	4.3	16	72	4	5	10	36	16	45	18	11	20	22	30
100	115	25	75	6.3	16	89	4	5	10	41	16	55	18	11	20	22	32
125	140	37	97	6.3	24	110	6	7	10	50	20	60	20	13.5	30	30	42

∗ Black colour

Mounting (ES)

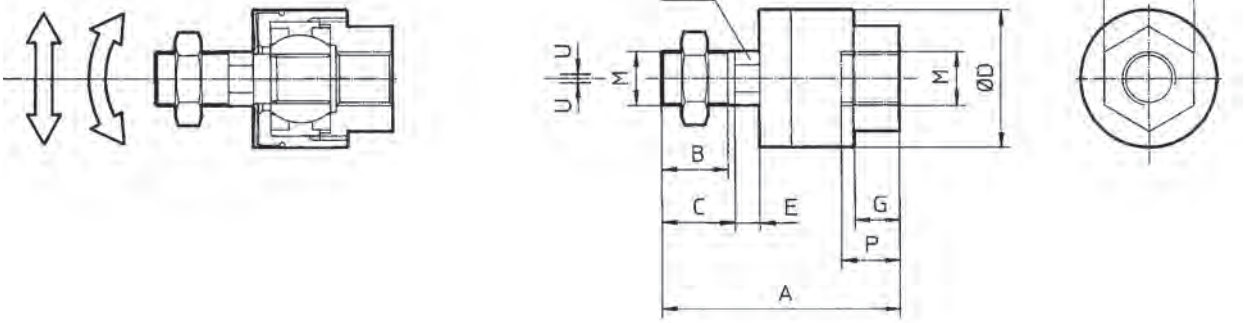


Bore size [mm]	ød3	øCN	øS5	K1	K2 max.	ℓ2	G1	G2	G3 max.	EN	EU	CH	H6	ER max.
32	11	10	6.6	38	51	8.5	21	18	31	14	10.5	32	10	15
40	11	12	6.6	41	54	8.5	24	22	35	16	12	36	10	18
50	15	16	9	50	65	10.5	33	30	45	21	15	45	12	20
63	15	16	9	52	67	10.5	37	35	50	21	15	50	12	23
80	18	20	11	66	86	11.5	47	40	60	25	18	63	14	27
100	18	20	11	76	96	12.5	55	50	70	25	18	71	15	30
125	20	30	13.5	94	124	17	70	60	90	37	25	90	20	40

∗ Black colour

Dimensions: Piston Rod Mounting Accessories

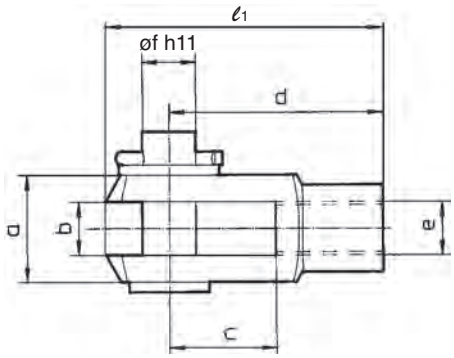
Floating Joint JA



Bore size [mm]	M	Part no.	A	B	C	øD	E	F	G	H	P	U	Load [kN]	Weight [g]	Angle
32	M10 x 1.25	JA30-10-125	49.5	19.5	—	24	5	8	8	17	9	0.5	2.5	70	
40	M12 x 1.25	JA40-12-125	60	20	—	31	6	11	11	22	13	0.75	4.4	160	
50, 63	M16 x 1.5	JA50-16-150	71.5	22	—	41	7.5	14	13.5	27	15	1	11	300	±5°
80, 100	M20 x 1.5	JAH50-20-150	101	28	31	59.5	11.5	24	16	32	18	2	18	1080	
125	M27 x 2	JA125-27-200	123	34	38	66	13	24	20	41	24	2	28	1500	

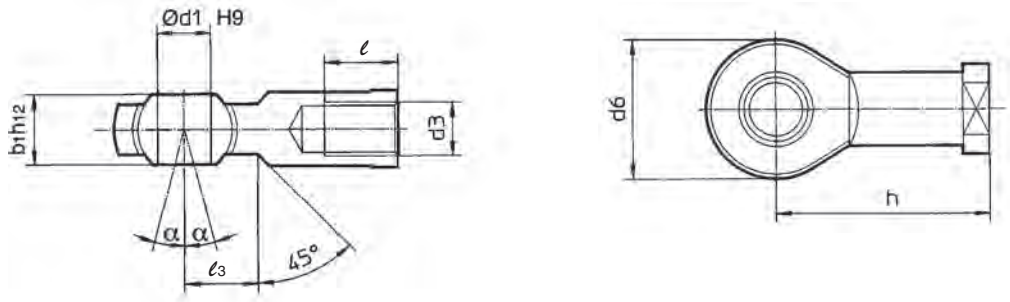
∗ Black colour

Rod Clevis GKM (ISO 8140), Supplied with Bolt and Safety Device



Bore size [mm]	e	Part no.	b	d	øf h11 (Shaft)	øf H9 (Hole)	ℓ1	c min.	a max.
32	M10 x 1.25	GKM10-20	$10^{+0.5}_{+0.15}$	40	10	10	52	20	20
40	M12 x 1.25	GKM12-24	$12^{+0.5}_{+0.15}$	48	12	12	62	24	24
50, 63	M16 x 1.5	GKM16-32	$16^{+0.5}_{+0.15}$	64	16	16	83	32	32
80, 100	M20 x 1.5	GKM20-40	$20^{+0.5}_{+0.15}$	80	20	20	105	40	40
125	M27 x 2	GKM30-54	$30^{+0.5}_{+0.15}$	110	30	30	148	54	55

Piston Rod Ball Joint KJ (ISO 8139)



Bore size [mm]	d3	Part no.	ød1 H9	h	d6 max.	b1 h12	ℓ min.	α	ℓ3
32	M10 x 1.25	KJ10D	10	43	28	14	20	4°	15
40	M12 x 1.25	KJ12D	12	50	32	16	22	4°	17
50, 63	M16 x 1.5	KJ16D	16	64	42	21	28	4°	23
80, 100	M20 x 1.5	KJ20D	20	77	50	25	33	4°	27
125	M27 x 2	KJ27D	30	110	70	37	51	4°	36

For more product options and details see our specific catalogues or on-line information.