

SCB SERIES PNEUMATIC ACTUATORS



CDG Actuator Manufacturer

Pneumatic Actuator

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SCB



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COMPANY HISTORY

- 1963 : Founded CDG.
- 1985 : CDG brand creation.
- 1989 : Production of pneumatic actuators, and Italy FABIA to establish acooperation.
- 1992 : With the United States FAIRCHILD cooperation, Production of electric actuators.
- 2001 : Focus on the production and assembly of CDG.
- 2005 : Production of hydraulic actuators.
- 2006 : Production of valves.
- 2011 : Oil station development and use.
- 2016 : Set up a number of representative offices in China.

ENTERPRISE PROFILE

The CDG is a famous actuator manufacturers, the company is headquartered in America's largest city, Detroit, Michigan is located in the northeastern United States, Canada, Detroit river north of Windsor an important port city. With strong industrial base and freight advantage.

CDG products have unique design, short delivery time, competitive price and excellent after-sales support. As a professional manufacturer of valves, it quickly became the industry leader.

CDG has more than 50 years experience in the valve industry. The r&d department USES these experiences to constantly design new products, improve existing products, and adapt to changing market demands and constantly improving international standards.

CDG can provide standard and non-standard solutions that can be customized according to customer needs.

CDG has created a wide range of reliable products. CDG is favored and admired by the world's leading EPC and oil and gas companies because of its high performance in extreme conditions. Its products are used in power plant, petrochemical, metallurgy, papermaking, automobile and

more Product certification based on customer requirements and government legislation is a guarantee of product quality. CDG USES advanced testing laboratories to ensure the durability of its products. Fire safety, high temperature and low temperature testing can be carried out under extreme conditions.

CDG good position, provide comprehensive after-sales support, fast, efficient, with unparalleled expertise. Our skilled engineers and technicians work 24 hours a day to respond to customer queries, solve problems, and provide reliable solutions. A comprehensive after-sales service creates a complete solution, customer support, covering all requirements.

CDG is a long-term, reliable, available and cost- effective partner for your existing and new business.

CDG brand is comprehensive, including valve and oil station, pneumatic actuator, electric actuator and hydraulic actuator and other related fields. To enable CDG to meet different needs it can be sold separately, and can be matched in a complete set, so that users can reduce their worries.

SCB series pneumatic actuators



SCB series straight-stroke pneumatic actuators are specifically designed and manufactured for the action of fluid control components such as baffles and flapper doors. The product is perfectly used in power stations, refineries (refineries), and steel mills.

The SCB series of double-acting pneumatic actuators are available in a variety of sizes with output thrusts up to 105,200N.

All CDG actuators use a permanent lubrication system (CDG patented technology) to ensure that the unit is maintenance-free and smooth.

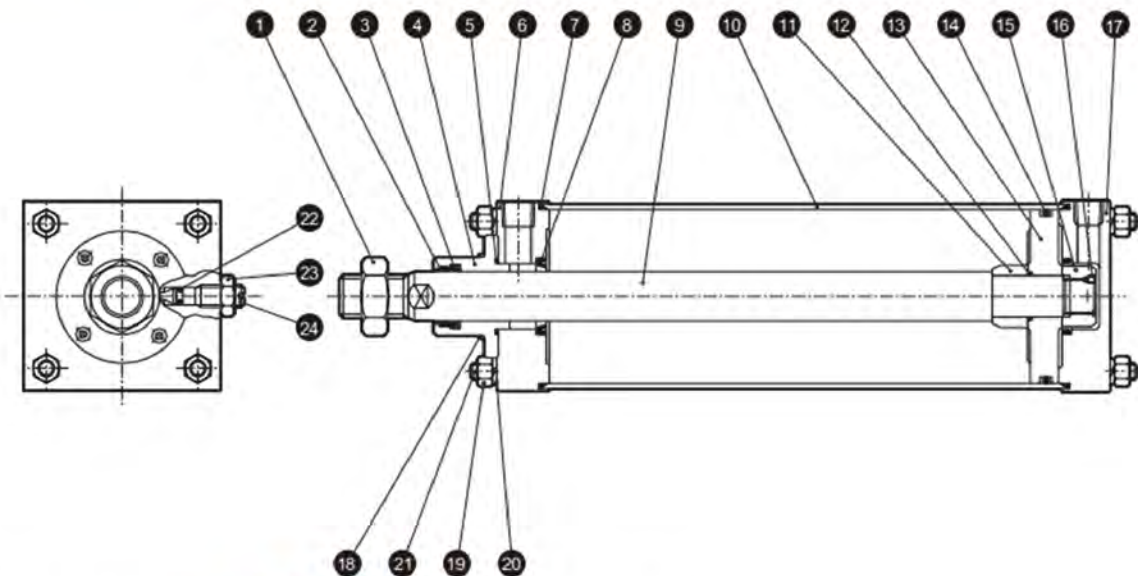
Conventional SCB series actuators can achieve faster response times without the need for an accelerator, and CDG has a special design for faster requirements.

SCB series actuators can be integrated with solenoid valves and other accessories to meet a variety of applications.

Various connection methods between the actuator and the control element can be specially designed according to the special requirements of the user.

The SCB series of actuators are available in a variety of different sizes to meet different thrust requirements.

Structure diagram



• Notes : Do not use 8 22 23 24 parts without buffering.

Numbering	Part Name	Material	Remarks	Numbering	Part Name	Material	Remarks
1	Piston rod nut	steel	Zinc chromate gloss treatment	13	piston	cast iron	Zinc phosphate treatment
2	Dust ring	fluororubber		14	Piston rod seal	fluororubber	
3	Piston rod seal	fluororubber		15	Buffer ring B	steel	Zinc chromate gloss treatment
4	Rod end bearing	cast iron	Painting	16	Hexagon socket set screw	alloy steel	Surface oxidation treatment
5	Metal sealing washer	fluororubber		17	Rear end cover	steel	Painting
6	Front end cover	steel	Painting	18	Hexagon socket head bolt	alloy steel	Surface oxidation treatment
7	Cylinder gasket	fluororubber		19	Hex nuts	steel	Painting
8	Buffer seal	fluororubber		20	Spring washer	steel	Painting
9	Piston rod	steel	Industrial chrome plating	21	Pull rod	steel	Painting
10	Cylinder	steel	Coating, industrial chrome plating	22	Needle valve gasket	fluororubber	
11	Buffer ring A	steel	Zinc chromate gloss treatmentcv	23	Needle valve nut	steel	Zinc chromate gloss treatment
12	Piston seal washer	fluororubber		24	Buffer needle valvevvv	steel	Zinc chromate gloss treatment

The theoretical output force F (N) is calculated from the following formula: thrustF1=πD²P/4
pull F2=π (D²-d²) P/4

In style D——Cylinder diameter (mm)
d——Cylinder piston rod diameter (mm)
P——Working Pressure (MPa)

The advantages of the SCB series of cylinders are lightweight, practical, easy to install, and have a lifetime-free, permanent lubrication system.
All SCB series cylinders offer both standard and non-standard special strokes. The special stroke cylinder can be formed by adding a standard stop to the standard stroke cylinder or directly according to the required stroke. The latter has no reactive volume in the fully open or fully closed position, minimizing the deviation.

Function type	Double action
Using media	Filtered compressed air
Maximum use pressure	1.0MPa
Minimum working pressure	0.05MPa
Medium temperature	-10~ +60℃
Ambient temperature	-5~ 60℃ (However, it must not be frozen)
Speed of use	20~500mm/s (Please use within the range of allowable absorption energy)
Travel error	0~250+1.0 251~1000+1.4 1001~1200+1.8(mm)

Standard travel

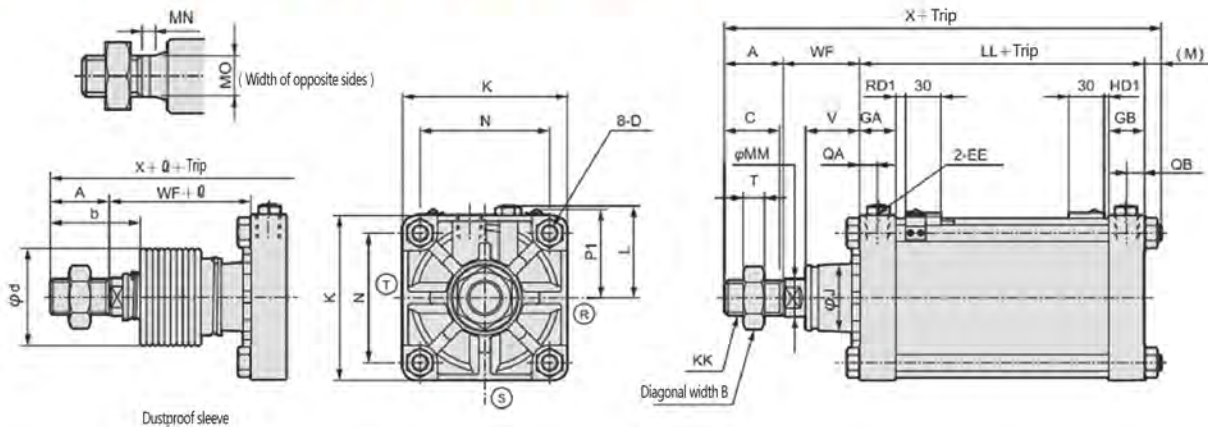
Bore diameter (mm)	Standard travel (mm)	Maximum stroke (mm)	Making a corresponding trip (mm)	Minimum stroke (mm)	Trunnion type minimum stroke (mm)
125	50,75 100,150 200,250 300	3000	2000	1	30
140					32
160					34
180					35
200					37
250					39
300					42
350					45

★ Special bore and stroke can be customized.

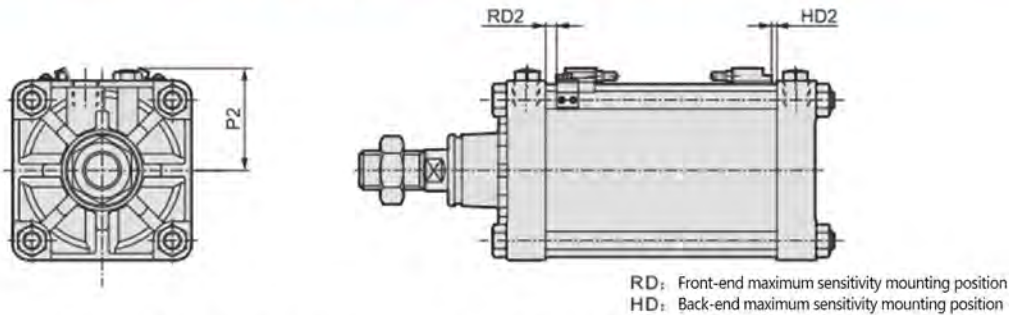
Installation type

Code	Double function	Code	Double function
00	Basic type	LB	Axial foot type
FA	Front flange type	FB	Rear flange type
TA	Front trunnion	TB	Rear trunnion
TC	Middle trunnion	CA	Single earring type
CB	Double earring type (With pin and retaining ring)		

00 Type Basic type with T-switch



With two-color display strong magnetic field switch

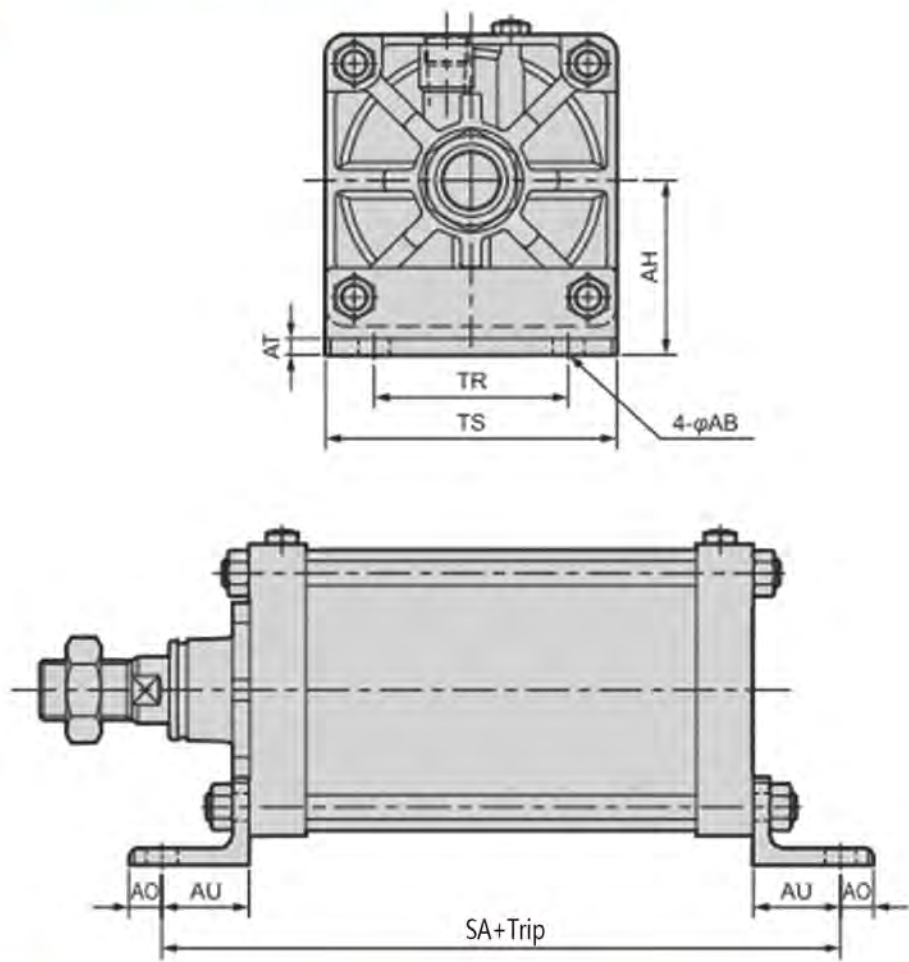


Notes1: @SⓅ Represents the position of the buffer needle valve.

Notes2: Round the decimal point below size ℓ.

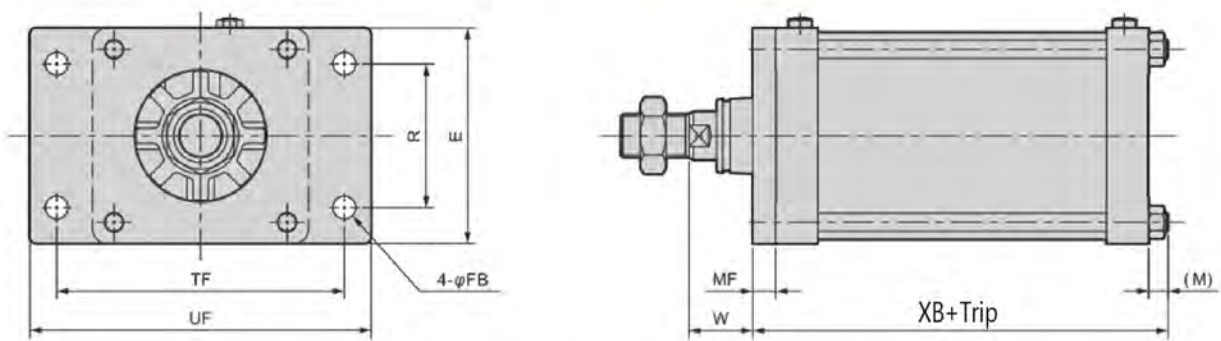
Symbol		Φ125	Φ140	Φ160	Φ180	Φ200	Φ250
Bore diameter mm							
Basic type (00) basic size	A	50	50	56	63	72	88
	B	46	46	55	60	70	85
	C	47	47	53	60	69	84
	D	M14X1.5	M14X1.5	M16X1.5	M18X1.5	M20X1.5	M24X1.5
	EE	1/4" NPT	1/4" NPT	1/4" NPT	1/4" NPT	1/2" NPT	1/2" NPT
	GA	30.5	34.5	34.5	34.5	37.5	42.5
	GB	30.5	34.5	34.5	34.5	37.5	42.5
	J	57	57	62	68	75	93
	K	140	157	177	200	220	274
	KK	M30X1.5	M30X1.5	M36X1.5	M40X1.5	M45X1.5	M56X2
	L	78—82	86.5—91	96.5—101	108—112	120.5—129	147.5—156
	LL	92	103	106	110	123	141
	M	13.5	13.5	15.5	17.5	18.5	21.5
	MM	32	32	40	45	50	60
	MN	15	15	16	18	20	22
	MO	27	27	36	41	46	55
	N	110	124	142	160	175	216
	QA	15	17	17	17	18	21
	QB	15	17	17	17	18	21
	T	18	18	21	24	27	34
	V	46	46	48.5	53.5	60.5	64.5
	WF	65	67	71	78	88	94
	X	220.5	233.5	248.5	268.5	301.5	344.5
With dust jacket	b	74	74	82	91	102	120
	d	75	75	80	90	95	120
	ζ	(stroke/4.55)+11	(stroke/4.55)+9	(stroke/5.15)+9	(stroke/5.15)+9	(stroke/5.30)+9	(stroke/6.40)+9
With switch	P1	76	82	90	98	106	126
	P2	80	86	95	103	111	130
	RD1	8.5	8.5	10.5	13	17.5	18.5
	HD1	4	7	8	9.5	13	19
	RD2	7.5	7.5	9.5	11.5	16	17.5
	HD2	2.5	5.5	7	8.5	12	17.5

LB Type Axial foot type

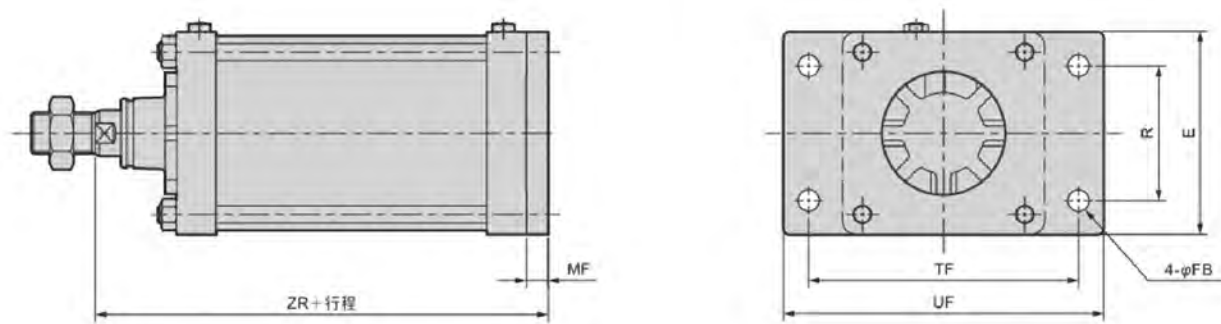


Symbol	Axial foot type (LB) basic size							
Bore diameter mm	AB	TR	TS	AH	AT	SA	AO	AU
Φ125	19	100	140	85	7	182	20	45
Φ140	19	112	157	100	8	203	20	50
Φ160	19	118	177	106	10	212	20	53
Φ180	24	132	200	125	10	230	27	60
Φ200	24	150	220	132	12	247	27	62
Φ250	29	180	274	160	12	281	29	70

FA,FB Type Front and rear flange type



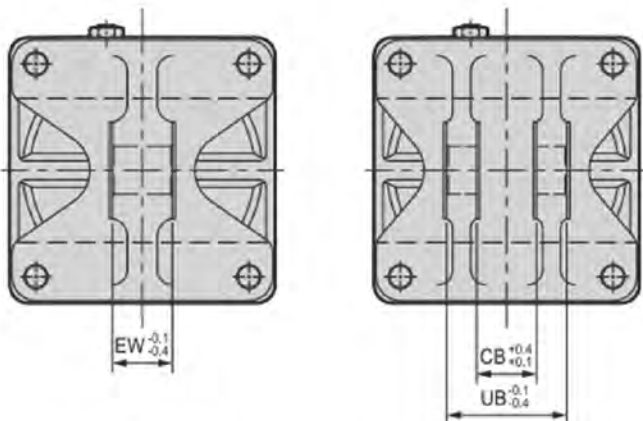
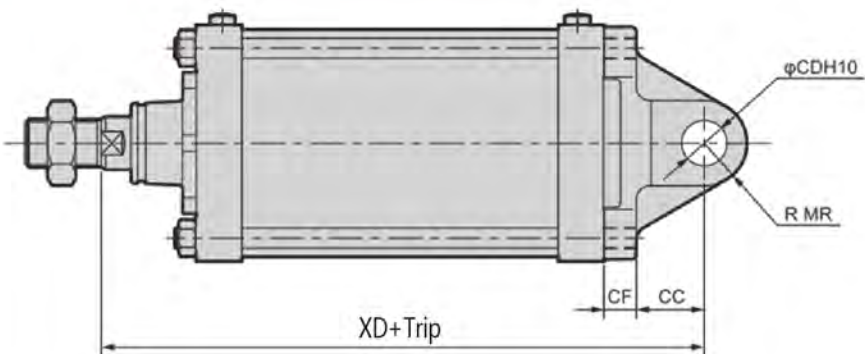
FA (Front flange type)



FB (Rear flange type)

Symbol Bore diameter mm	General purpose						FA			FB
	TF	R	FB	UF	E	MF	W	XB	M	ZR
Φ125	190	100	19	230	140	14	51	120	12.5	171
Φ140	212	112	19	250	157	19	48	136	12.5	189
Φ160	236	118	19	280	177	19	52	141	14.5	196
Φ180	265	132	24	310	200	25	53	153.4	15.5	213
Φ200	280	150	24	330	220	25	63	167	17.5	236
Φ250	355	180	29	415	274	30	64	193	21	265

CA,CB Type Single and double earrings

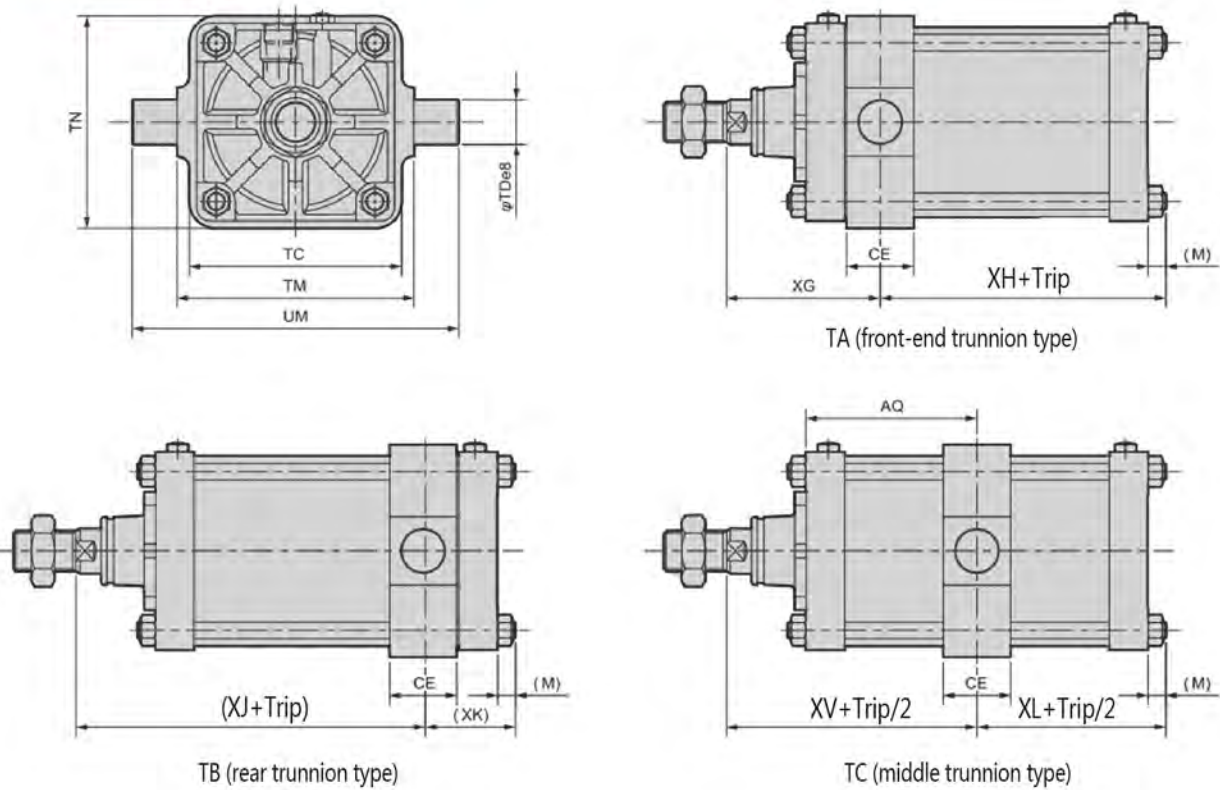


CA (single Earring type)

CB (double earrings)

Symbol Bore diameter mm	General purpose					CA	CB	
	XD	CF	CC	CD	MR	EW	CB	UB
Φ125	220	20	35	25	25	32	32	64
Φ140	245	22	40	28	28	36	36	72
Φ160	252	24	40	32	32	40	40	80
Φ180	278	25	55	40	40	50	50	100
Φ200	301	30	55	40	40	50	50	100
Φ250	345	35	65	50	50	63	63	126

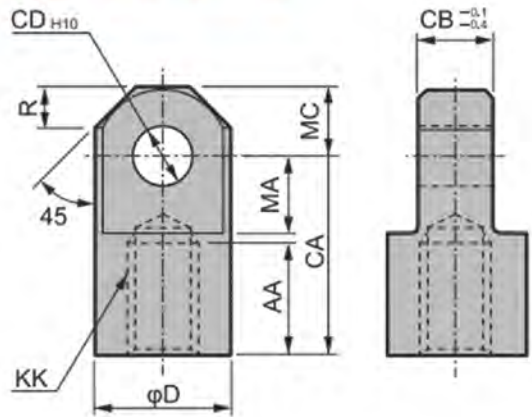
TA,TB,TC Type Front and rear middle ear type



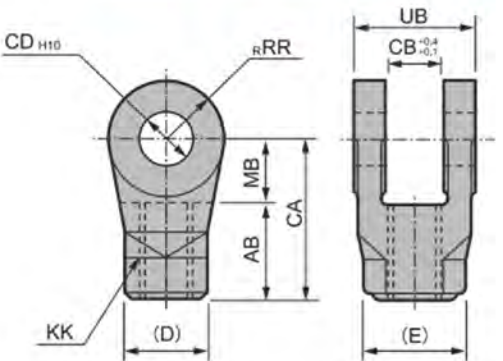
Symbol	General purpose							TA		TB		TC	
	TC	TM	UM	TN	TD	CE	M	XG	XH	XJ	XK	XV	XL
Φ125	150	170	234	150	32	50	12.5	126	43.5	96	73.5	111	58.5
Φ140	154	190	262	170	36	55	12.5	134.5	48	102.5	80	118.5	64
Φ160	190	212	292	190	40	60	14.5	141	50.5	107	84.5	124	67.5
Φ180	210	236	326	210	45	65	15.5	150.5	53	115.5	88	133	70.5
Φ200	242	265	355	242	45	70	17.5	168	60.5	131	97.5	149.5	79
Φ250	300	335	447	300	56	80	21	184	76	145	111	164.5	91.5

General accessories outline drawing

Single earring connector (I)



Double earring connector (Y)



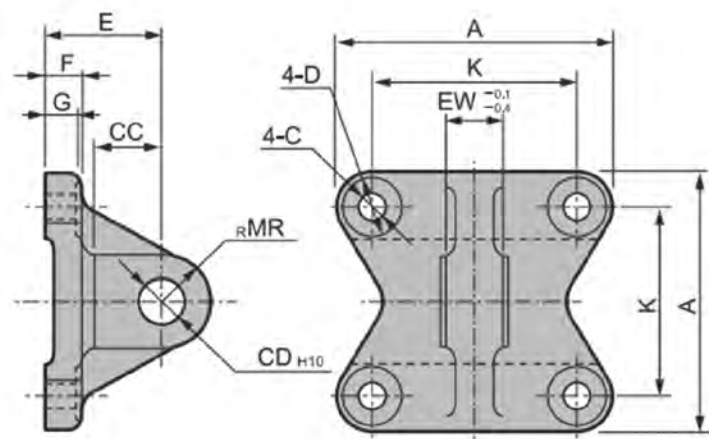
Single earring connector (I)

Applicable bore diameter(mm)	AA	CA	CB	CD	D	KK	MA	MC	R	weight (Kg)
125	50	85	32	25	55	M30X1.5	32	27.5	15.5	1.25
140	50	90	36	28	60	M30X1.5	35	30	18	1.65
160	60	105	40	32	70	M36X1.5	40	35	21	2.55
180	65	115	50	40	85	M40X1.5	47.5	42.5	29	4.20
200	75	125	50	40	85	M45X1.5	47.5	42.5	29	4.35
250	88	150	63	50	105	M56X2	57.5	52.5	36.5	8.05

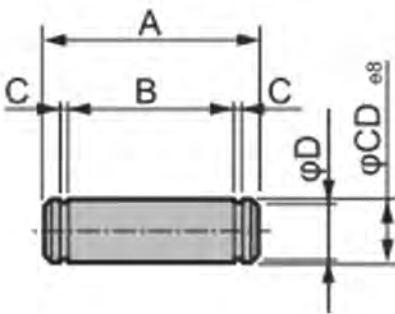
Double earring connector (Y)

Applicable bore diameter(mm)	AB	CA	CB	CD	D	E	KK	MB	RR	UB	weight (Kg)
125	50	85	32	25 ₀ ^{+0.084}	46	53.1	M30X1.5	35	27.5	64	1.30
140	50	90	36	28 ₀ ^{+0.084}	46	53.1	M30X1.5	40	30	72	1.65
160	60	105	40	32 ₀ ^{+0.100}	55	63.5	M36X1.5	45	35	80	2.55
180	65	115	50	40 ₀ ^{+0.100}	60	69.3	M40X1.5	50	42.5	100	4.40
200	75	125	50	40 ₀ ^{+0.100}	70	80.8	M45X1.5	50	42.5	100	4.85
250	88	150	63	50 ₀ ^{+0.100}	85	98.1	M56X2	62	52.5	126	7.05

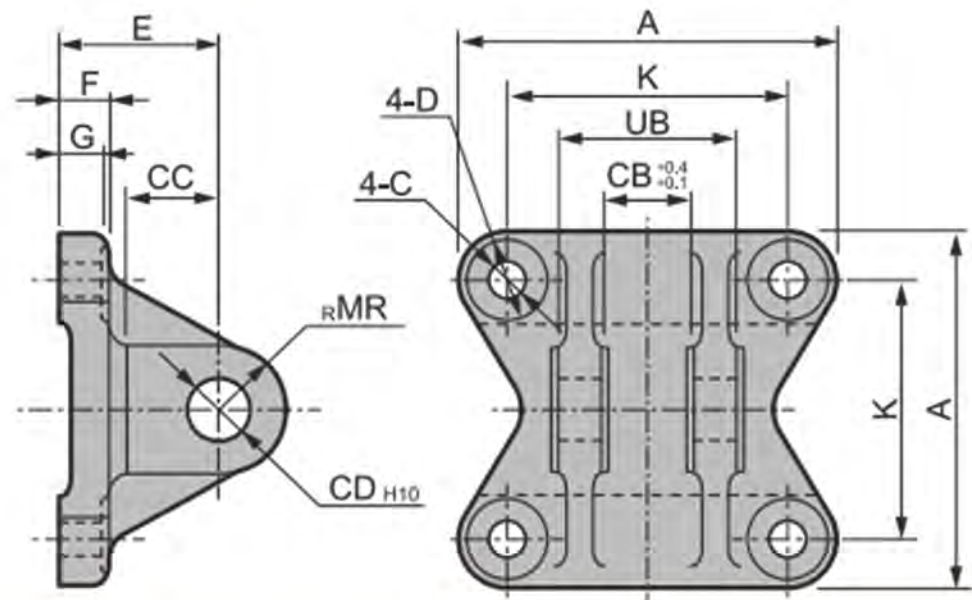
Single earring support (B1)



Pin (P)



Double earring support (B2)



Single earring support (B1)

Applicable bore diameter(mm)	A	C	CC	CD	D	E	EW	F	G	K	MR	weight (Kg)
125	140	16	35	25	23	63	32	20	18	110	25	2.35
140	154	16	40	28	23	75	36	22	20	124	28	3.30
160	174	18	40	32	26	75	40	24	22	142	32	4.65
180	196	20	55	40	29	90	50	25	23	160	40	6.75
200	220	22	55	40	32	90	50	30	28	175	40	9.40
250	274	26	65	50	39	110	63	35	33	216	50	16.85

Pin (P)

Applicable bore diameter(mm)	A	B	C	CD	D	Use retaining ring	weight (Kg)
125	75	66.3	1.3	25	23.9	Shaft C shape 25	0.25
140	84	74.7	1.65	28	26.6	Shaft C shape 28	0.40
160	92	82.7	1.65	32	30.3	Shaft C shape 32	0.50
180	115	103.2	1.9	40	38	Shaft C shape 40	1.15
200	115	103.2	1.9	40	38	Shaft C shape 40	1.15
250	144	129.6	2.2	50	47	Shaft C shape 50	2.25

Applicable bore diameter(mm)	A	C	CB	CC	CD	D	E	F	G	K	MR	UB	weight (Kg)
125	140	16	32	35	25	23	63	20	18	110	25	64	2.65
140	154	16	36	40	28	23	75	22	20	124	28	72	3.85
160	174	18	40	40	32	26	75	24	22	142	32	80	5.45
180	196	20	50	55	40	29	90	25	23	160	40	100	8.70
200	220	22	50	55	40	32	90	30	28	175	40	100	10.55
250	274	26	63	65	50	39	110	35	33	216	50	126	19.55

★ Note: With pin and retaining ring.