

**Authorised Dealer;
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ECOLINE CDB-S

Centered disc butterfly valves



Design in accordance with EN 593

PN10 bar: DN50 to DN300

PN16 bar: DN50 to DN600

Applications

- General circuits: Water, Fuel, Oil and Gas.
- O.E.M
- Flow shut-off or regulation function in the sectors Including water supply, treatment, distribution, sewage and irrigation.

Working Conditions

- Temperature: from - 20 °C min up to +120 °C Max.
- Allowable pressure (PS):
 - 16 bar: DN 50 to 600 at ambient temperature - PN16 Series
 - 10 bar: DN 50 to 300 at ambient temperature - PN10 Series

Materials

- Refer Table.

Design

- Wafer type - PN10 Series - DN50 to DN 300
- Wafer type - PN16 Series - DN50 to DN 600
- Wafer type Lever operated: PN10 Series - DN50 to DN 300
- Wafer type Lever operated: PN16 Series - DN50 to DN 300
- Wafer type Gear operated: PN16 Series - DN50 to DN 600
- Mounting flange meets ISO 5211 standard for PN16
- Elastomer liner: an extra volume of rubber, located at the Shaft
- Passages areas, provides by compression between the Valve
- Body and the disc edge a perfect leak - tightness at the shaft Passages.
- Face- to- face dimensions in accordance with: ISO 5752 series 20 / EN 558- 1 series 20 / API 609 / MSS SP67 / EN 593
- Marking in accordance with EN 19.
- Anti-blow out stem retained by retainer plate.
- Self-centering disc ensures perfect upstream/zero leakage Visible to the naked eye.
- Valves perfectly tight shut- off (no visible leakage at the naked eye) in either flow direction, in accordance with the Following Standard: API598, EN 12266-1 leak level A and ISO 5208 category A.
- Design in accordance with EN 593 / MSS SP67 / API 609 / IS 13095
- Long neck execution for good insulation on PN 16 series
- Body coated with fusion bonded Epoxy for PN16 & Epoxy powder coated on PN10 series with thickness of 200 µm, Color light blue ref. RAL 5012 Confirms to water specifications.
- Discs in spheroidal graphite cast iron coated with Nylon 11 Polyimide paint of thickness 200 µm. RAL 7001 Suitable for drinking water
- No asbestos in any form in any items.

Standard Variants

- Pneumatic actuator
- Electric actuator
- Limit switches and Positioner
- Seat for Drinking Water application.
- Other disc material CF8 / Al. BZ.

Data to be supplied when ordering

- ECOLINE CDB-S series valve in accordance with type leaflet 8409.11/4-10
- Size.
 - Nature of fluid.
 - Flow.
- Connection.
- Working conditions:
 - Pressure.
 - Temperature.
- Actuation

Materials

Model	Body	Disc	Stem
PN 10 Series, Wafer	Grey Cast Iron, EN 1561-GJL-250	EN 1563-EN-GJS-400-15	BS 970-EN 8
PN 16 Series, Wafer	Grey Cast Iron, EN 1561-GJL-250	EN 1563-EN-GJS-400-15	ASTM A276 420
PN 16 Series, Wafer	Grey Cast Iron, EN 1561-GJL-250	ASTM A351 CF8M	ASTM A276 420

Seat Code and Temperature Range

Code	Material	Temp ° C	
		Minimum	Maximum
Bb	Buna-N	-20° C	+80° C
Eh	EPDM	-20° C	+120° C
Vv	Viton	-10° C	+150° C
Hh	Hypalon	-10° C	+70° C
Ss	Silicone	-20° C	+150° C
Nn	Neoprene	-10° C	+90° C

Hydraulic characteristics

DN	NPS	Flow coefficient valve in fully open position		Zeta
		Kvo	Cvo	
50	2	133	154	0,56
65	2 ½	240	280	0,49
80	3	410	475	0,39
100	4	655	760	0,37
125	5	900	1 044	0,48
150	6	1 800	2 090	0,25
200	8	3 550	4 120	0,20
250	10	7 350	8 453	0,12
300	12	9 100	10 465	0,16
350	14	11 200	12 880	0,19
400	16	14 800	17 020	0,19
450	18	19 700	22 655	0,17
500	20	25 000	28 750	0,16
550	22	31 700	36 455	0,15
600	24	36 400	41 860	0,16

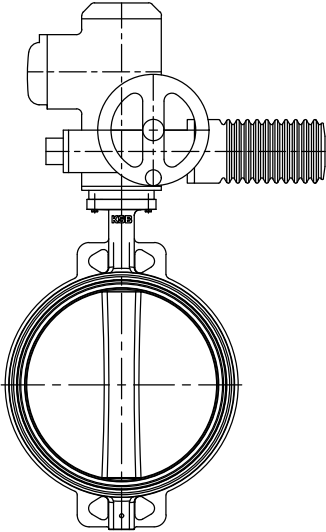
Operating Torques*

DN	NPS	10 bar (Lubricated)	10 bar (Non Lubricated)	16 bar (Lubricated)
50	2	9	13,5	11
65	2½	14	21	17
80	3	22	33	30
100	4	40	60	56
125	5	55	82.5	65
150	6	75	112	90
200	8	150	225	169
250	10	200	300	230
300	12	250	375	290
350	14	-	-	550
400	16	-	-	780
450	18	-	-	1099
500	20	-	-	1492
600	24	-	-	2576

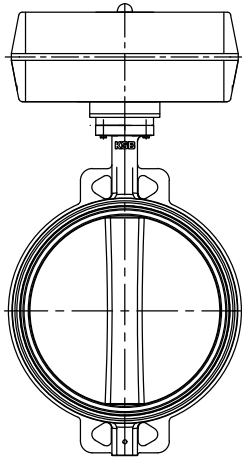
* Apply safety factor of 1.3 on tabulated torque values for sizing of actuator.

Standard Variants

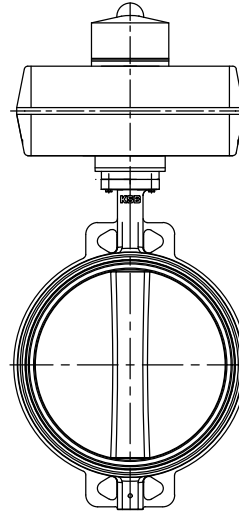
ELECTRICAL ACTUATOR



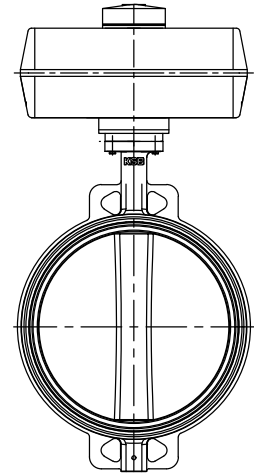
PNEUMATIC ACTUATOR



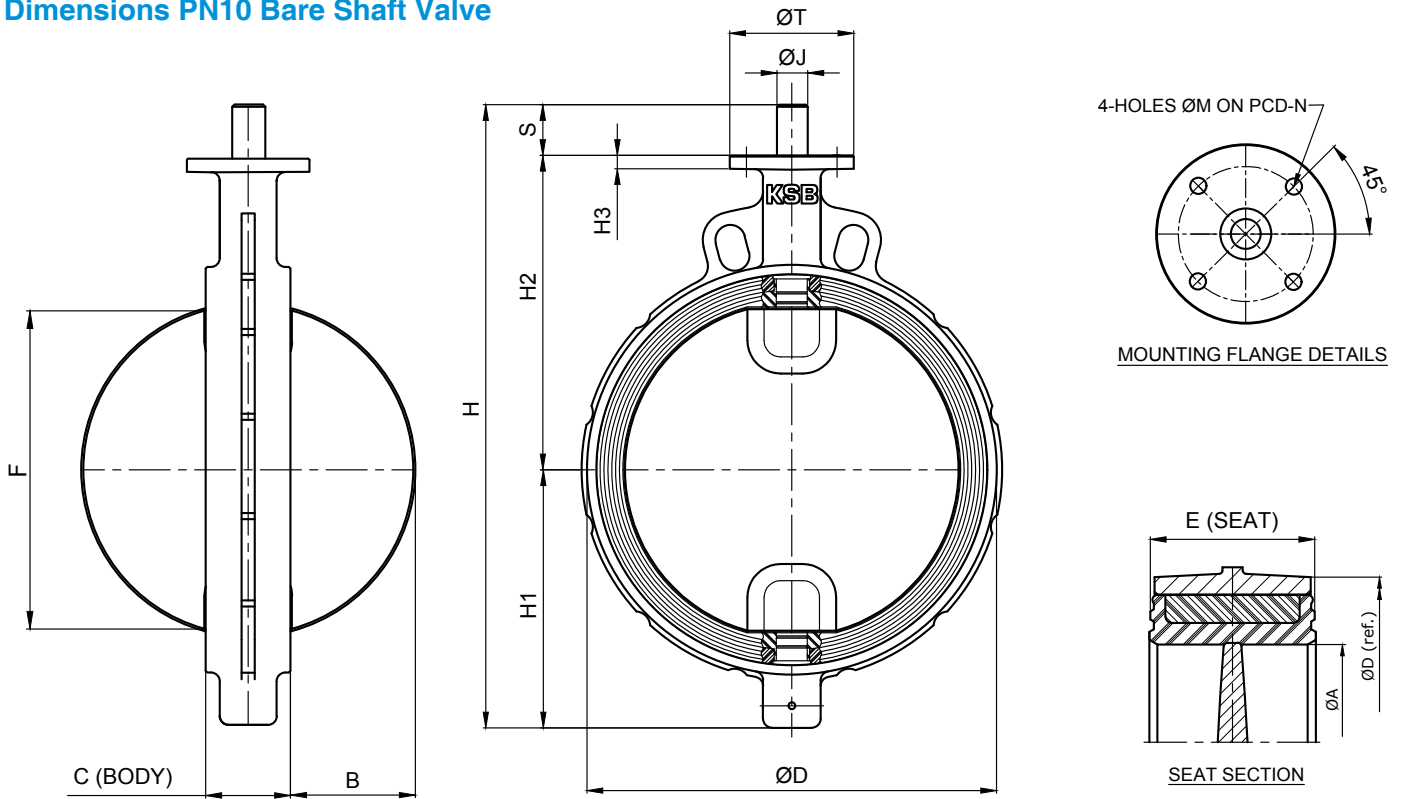
POSITIONER



LIMIT SWITCHES



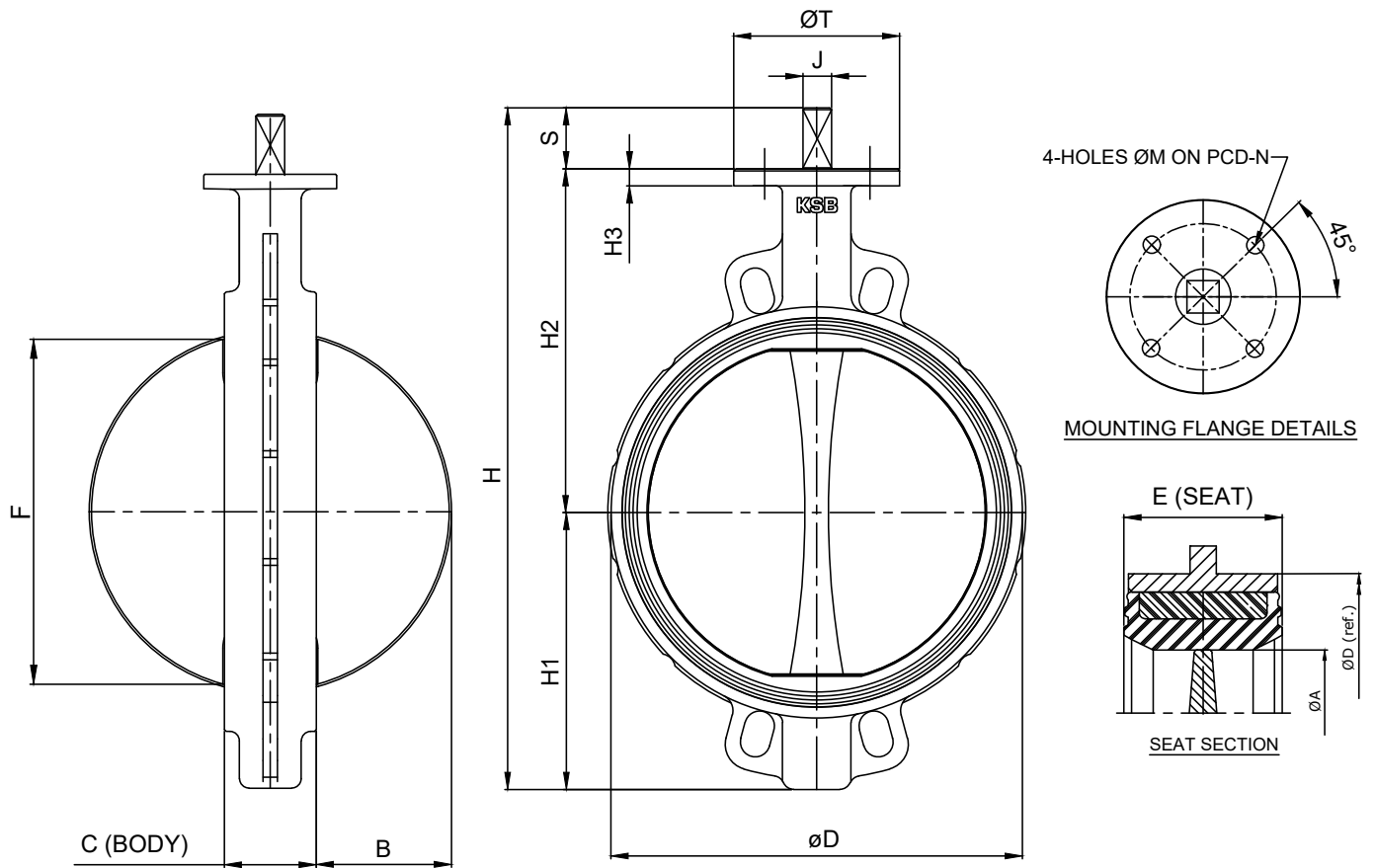
Dimensions PN10 Bare Shaft Valve



Valve size	ØD	H1	H2	H3	H	S	C±0.5	E±0.5	F± 1	B± 1	ØA	ØM	N	ØJ	ØT	Wt. Kg
DN 50	93	74	100	10	197	23	42.0	46.0	34.0	6	52.4	7	56	9.95	70	1.6
DN 65	107	80	110	10	213	23	45.0	49.0	47.0	10	63.5	7	56	9.95	70	1.9
DN 80	130	94	116	10	233	23	45.0	49.0	66.0	17	77.8	7	56	11.95	70	2.4
DN 100	153	108	134	10	265	23	51.0	55.0	92.0	27	103	7	56	13.95	70	3.3
DN 125	188	122	165	10	310	23	55.0	59.0	118.0	37	128	7	56	16.95	70	5.0
DN 150	212	135	178	10	336	23	55.0	59.0	146.0	50	154	7	56	16.95	70	5.7
DN 200	270	164	212	12	411	35	59.0	63.0	195.0	74	204.8	12	90	22.95	112	11
DN 250	321	192	259	12	486	35	67.0	71.0	245.0	95	254.8	12	90	22.95	112	18.5
DN 300	382	233	284	12	552	35	77.0	82.5	295.0	114	303.5	12	90	25.97	112	23.5

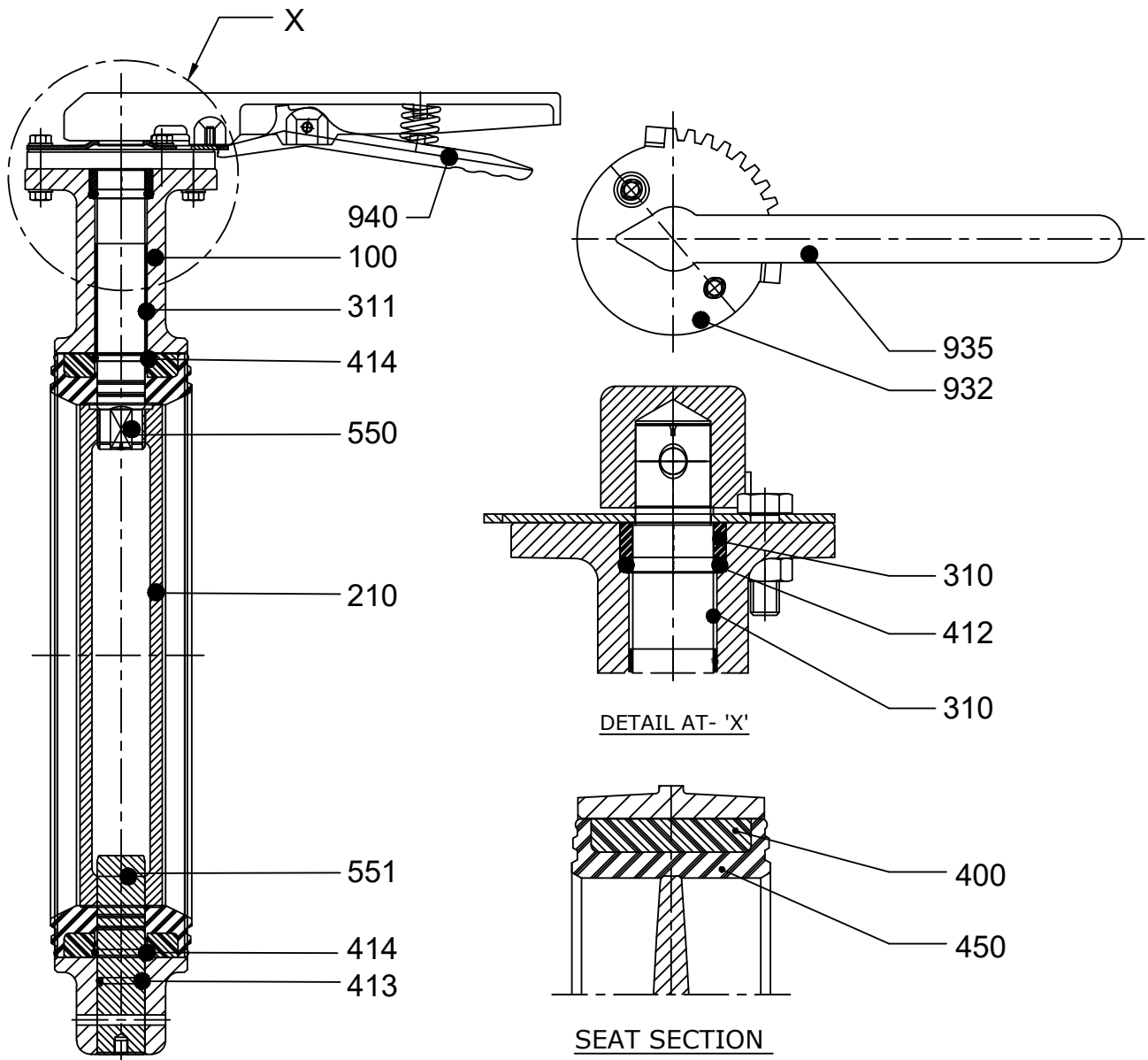
PN10 series valve shall be supplied with lever only

Dimensions PN16 Bare Shaft Valve



Valve size	øD	H1	H2	H3	H	C	E	F	B ±1	øA	øM	øN	ISO	Sq, J	øT	S	Wt. kg
DN 50	96	65	141	14.5	228	42	46	34	6	52.4	7/10	50 70	F05 F07	11	90	22	1.2
DN 65	109	71	153	14.5	246	45	49	47	10	63.5	7/10	50 70	F05 F07	11	90	22	1.7
DN 80	125	94	158	14.5	274	45	49	66	17	77.8	7/10	50 70	F05 F07	11	90	22	2.2
DN 100	151	108	176	14.5	306	51	55	92	27	103	10	70	F07	14	90	22	3.7
DN 125	181	120	191	14.5	333	55	59	118	37	128	10	70	F07	14	90	22	5.5
DN 150	206	136	203	14.5	361	55	59	146	50	154	10	70	F07	14	90	22	7.0
DN 200	261	165	244	15.5	444	59	63	195	74	204.8	12	102	F10	17	150	35	13.0
DN 250	316	202	273	15.5	510	67	71	245	95	254.8	12	102	F10	22	150	35	20.0
DN 300	372	233	311	15.5	579	77	82.5	295	114	303.5	14	125	F12	27	150	35	21.3
DN 350	436	267	368	20.0	670	77	82.5	325.2	130	332	14	125	F12	27	150	35	38.0
DN 400	488	302	405	25.0	742	102	106.5	380.8	145	389	18	140	F14	27	175	35	83.0
DN450	539	330	422	25.0	787	112	118	431.0	165	440.5	18	140	F14	27	175	35	91.5
DN500	593	367	490	25.0	903	127	132	476.4	181.4	485	18	140	F14	36	175	46	136.5
DN600	830	446	573	25.0	1074	152	160	580.0	219.3	590.5	23	165	F16	46	210	55	150.5

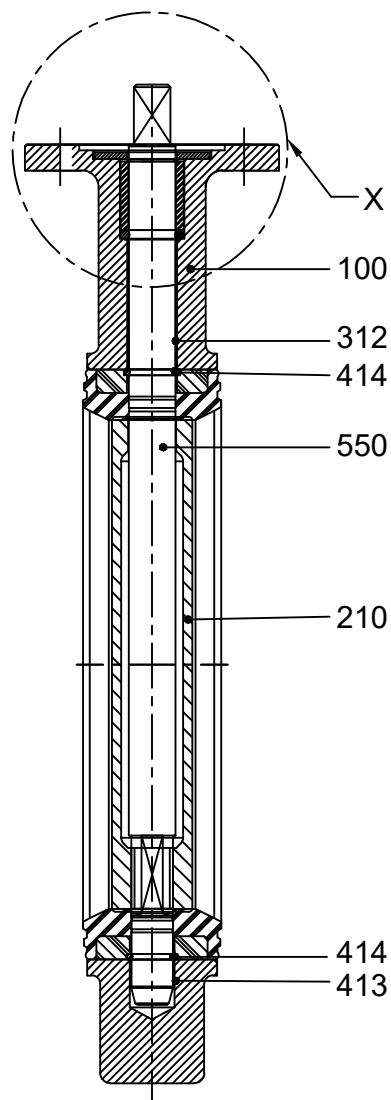
Material of Construction, PN10 series



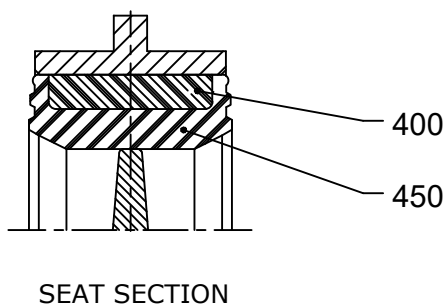
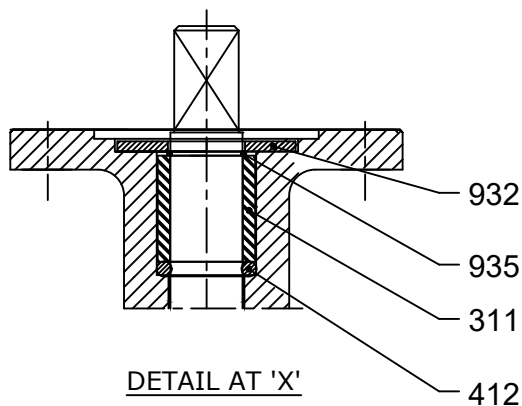
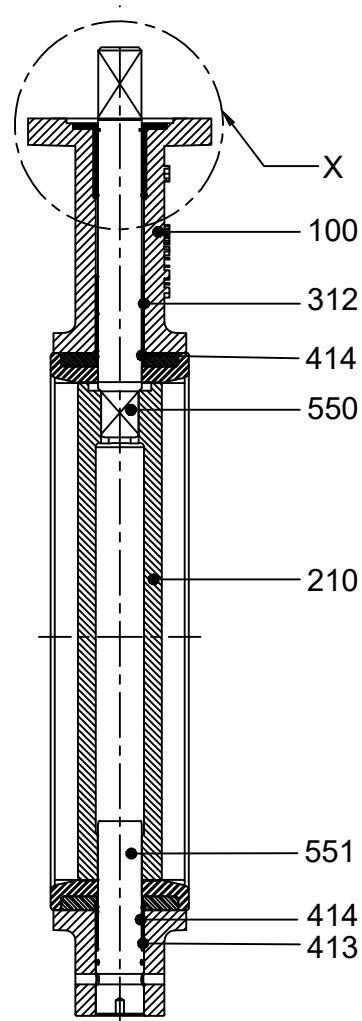
Item No	Description	Material
100	Body	Grey Cast Iron, EN 1561-GJL-250
550	Stem Top	BS 970-EN 8, Plated
551	Stem Bottom	BS 970-EN 8, Plated
310	Bearing	Nylon 6
311	Bush	Glass Fibre Filled Nylon
400*	Backup*	Bakalite/Aluminium
412	O' ring Body Top	EPDM / Buna - N
413	O' ring Body Bottom	EPDM / Buna - N
414	O' ring Seat Top & Bottom	EPDM / Buna - N
450	Seat	EPDM / Buna - N
210	Disc	EN 1563-EN-GJS-400-15 (Nylon Coated)
932	Notch Plate	Mild Steel
935	Handle	Grey Cast Iron / Mild Steel
940	Lever	Grey Cast Iron / Mild Steel

*- For DN200 - DN300 Bush Material is Aluminium

DN50 - DN300



DN350 - DN600



Item No	Description	Material
100	Body	Grey Cast Iron, EN 1561-GJL-250
550*	Stem Top *	ASTM A276 420
551*	Stem Bottom *	ASTM A276 420
311**	Bush**	Glass Fibre Filled Nylon
312	Du Bush	PTFE With Metal
400***	Backup***	Bakalite / Aluminium
412	O'ring Body Top	EPDM / Buna - N
413	O'ring Body Bottom	EPDM / Buna - N
414	O'ring Seat Top & Bottom	EPDM / Buna - N
450	Seat	EPDM / Buna - N
210	Disc	EN 1563-EN-GJS-400-15 Or ASTM A351 CF8M
932	Retainer Plate	Mild Steel
935	Circlip	Spring Steel

*- For DN32 - DN300 single stem design.

**- For DN400 – DN600 Bush Material is Brass.

***- For DN200 – DN600 Ring Material is Aluminum

Flange bolt Connections

The ECOLINE CDB-S valves can be fitted between all the connections defined hereafter (Others connections on request).

Wafer Type - PN10 SERIES

DN	NPS	Connection					
		EN 1092		ASME		BS10	
		PN 6	PN 10	B16.1 cl. 125	B 16.5 cl. 150	Table D	Table E
50	2	✓	✓	✓	✓	✓	✓
65	2 ½	✓	✓	✓	✓	✓	✓
80	3	✓	✓	✓	✓	✓	✓
100	4	✓	✓	✓	✓	✓	✓
125	5	✓	✓	✓	✓	✓	✓
150	6	✓	✓	✓	✓	✓	✓
200	8	✓	✓	✓	✓	✓	✓
250	10	✓	✓	✓	✓	✓	✓
300	12	✓	✓	✓	✓	✓	✓

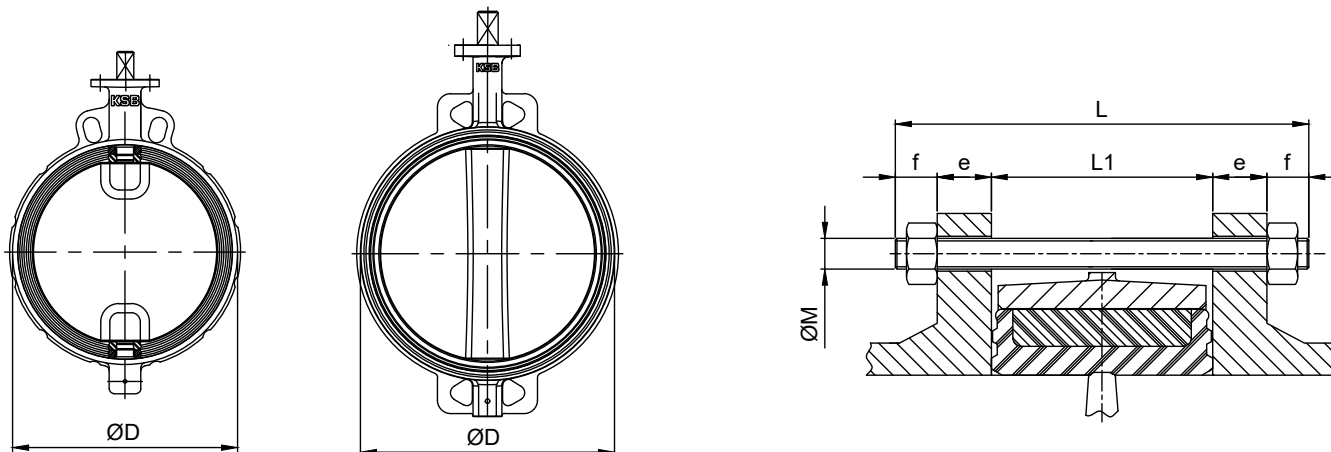
Fitting allowed

Wafer Type - PN16 SERIES

DN	NPS	Connection in accordance with standards					
		EN 1092		ASME		BS 10	
		PN 6	PN 10	B16.1 cl. 125	B 16.5 cl. 150	Table D	Table E
50	2	✓	✓	✓	✓	✓	✓
65	2 ½	✓	✓	✓	✓	✓	✓
80	3	✓	✓	✓	✓	✓	✓
100	4	✓	✓	✓	✓	✓	✓
125	5	✓	✓	✓	✓	✓	✓
150	6	✓	✓	✓	✓	✓	✓
200	8	✓	✓	✓	✓	✓	✓
250	10	✓	✓	✓	✓	✓	✓
300	12	✓	✓	✓	✓	✓	✓
350	14	✓	✓	✓	✓	✓	✓
400	16	✓	✓	✓	✓	✓	✓
450	18	✓	✓	✓	✓	X	✓
500	20	✓	✓	✓	✓	✓	✓
600	24	✓	✓	✓	✓	✓	✓

Fitting allowed

Pipe Flange Bolting for wafer type PN10 & PN16 series



$$L = L1 + 2e + 2f$$

e: Flange thickness (customer specification)

L: Mini length of tie- rods

L1: Face to face of the valve

f: Nut thickness + over length of the tie- rod

Note: We do not supply the bolting

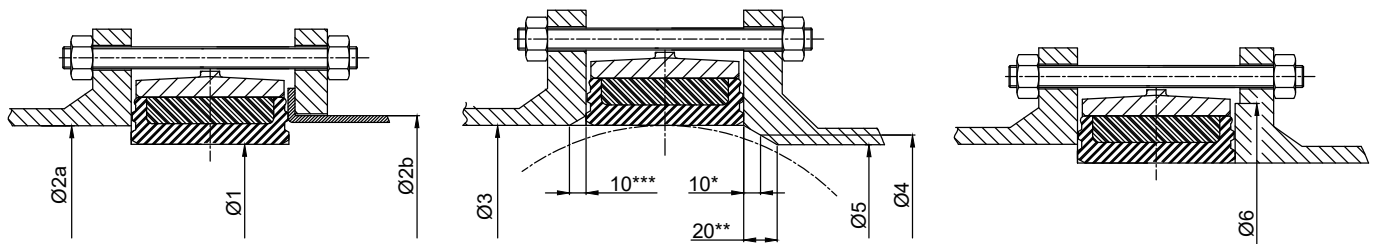
NPS	NPS	ØD	L1 Face to Face of Valve	EN 1092 PN 10			EN 1092 PN 16			ANSI B16- 1 class 125			ASME B16- 5 class 150		
				ØM	Tie- rod*		ØM	Tie- rod*		ØM	Tie- rod*		ØM	Tie- rod*	
					f	Qty		f	Qty		f	Qty		f	Qty
50	2	96	42.0	M16	20	4	M16	20	4	5/8"	20	4	5/8"	20	4
65	2 ½	109	45.0	M16	20	8	M16	20	8	5/8"	20	4	5/8"	20	4
80	3	125	45.0	M16	20	8	M16	20	8	5/8"	20	4	5/8"	20	4
100	4	151	51.0	M16	20	8	M16	20	8	5/8"	24	8	5/8"	24	8
125	5	181	55.0	M16	20	8	M16	20	8	3/4"	24	8	3/4"	24	8
150	6	206	55.0	M20	24	8	M20	24	8	3/4"	28	8	3/4"	28	8
200	8	261	59.0	M20	24	8	M20	24	8	3/4"	29	8	3/4"	24	8
250	10	316	67.0	M20	24	12	M24	29	8	7/8"	29	12	7/8"	29	12
300	12	372	77.0	M20	24	12	M24	29	12	7/8"	29	12	7/8"	29	12
350	14	436	77.0				M24	29	16				1"	32	12
400	16	488	102.0				M27	32	16				1"	32	16
450	18	539	112.0				M27	32	20				1"1/8	35	16
500	20	593	127.0				M30	35	20				1"1/8	35	20
600	24	830	152.0				M33	38	20				1"1/4	38	20

* Quantity nuts = quantity tie rods x 2

Flanging dimensions

ECOLINE CDB-S valves are designed for assembly between any type of flanges and connection standards currently used. The liner allows directly the tightness concerning the flanges. It is necessary to verify the general compatibility of the connection by checking against the dimensions shown in the table below.

The flanging dimensions mentioned in this table are the same for all types' body.



- $\varnothing 2a$ and $\varnothing 3$: diameter on the supporting area of the flange face.
- $\varnothing 2b$: external diameter of the butt-weld ends with lapped pipe end according to standards DIN 2642 and NFE 29- 251. mm

DN	NPS	Opti- mum dia.	Max. dia tolerated	Min. dia. tolerated face of flange	Min. dia. 10 mm from face of flange	Min. dia. 20 mm from face of flange	Min. dia.	tolerated of shoulder of raised face flange
		$\varnothing 1$	$\varnothing 2a$	$\varnothing 2b$	$\varnothing 3$	$\varnothing 4$		
50	2	52.4	63	61	33	-----	-----	79
65	2 ½	63.5	80	77	55	13	-----	92
80	3	77.8	93	89	71	50	-----	110
100	4	103	116	115	90	74	40	135
125	5	128	141,5	140	119	107	87	164
150	6	154	170,5	169	144	134	120	188
200	8	205	222	220	196	189	178	245
250	10	255	276,5	273	249	243	234	300
300	12	304	327,5	324	297	291	283	353
350	14	332	361	356	326	321	314	375
400	16	389	412	407	370	366	358	432
450	18	440.5	463	457	422	416	409	483
500	20	485	515	508	470	464	457	532
600	24	590.5	617	610	566	560	554	655

Note: Please check the body is well centered between the tie - rods.

* - For DN150, DN250, DN300 consider 16mm.

* - For DN400, DN450, DN500, DN600 consider 26mm.

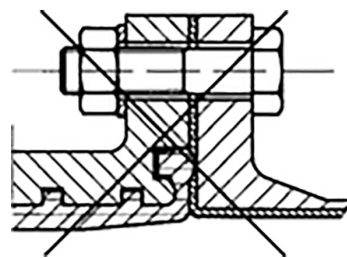
** - For DN400, DN450, DN500, DN600 consider 30mm.

***- For DN400 and above consider 10mm.

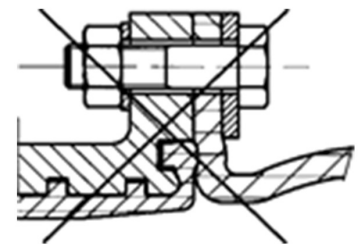
NB:

Direct fitting on rubber coated flange and with dilatation joint is not authorized.

Please, consult us.

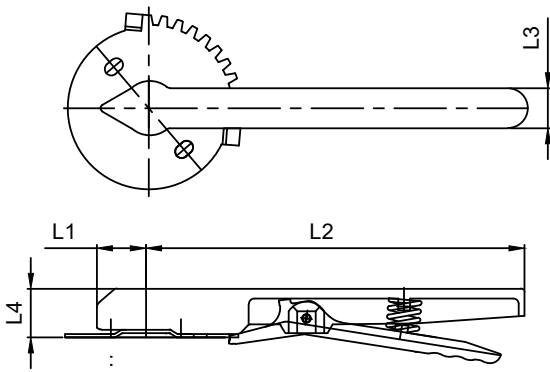


Rubber coated flange



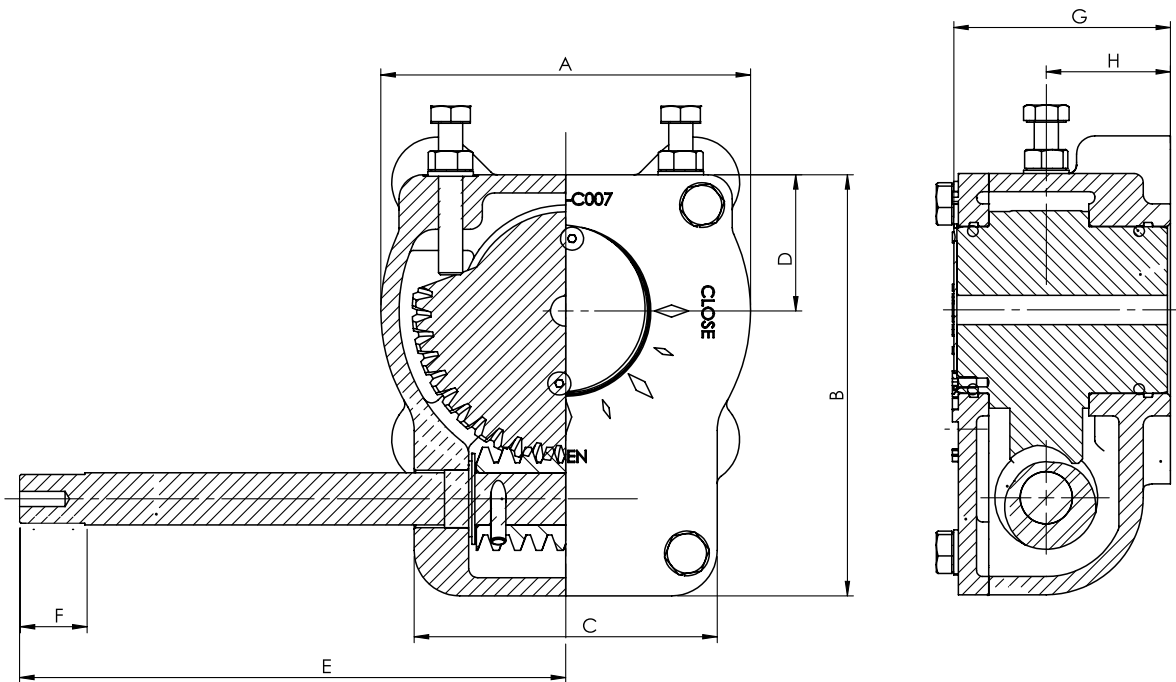
Dilatation joint

Dimensions of Lever



Valve size	L1	L2- PN10	L2- PN16	L3	L4	Wt. Kg
DN 50	26	245	260	26	32	1.3
DN 65	26	245	260	26	32	1.3
DN 80	26	245	260	26	32	1.3
DN 100	26	245	260	26	32	1.3
DN 125	26	245	260	26	32	1.3
DN 150	26	245	260	26	32	1.3
DN 200	46	351	351	37	49	2.8
DN 250	46	351	351	37	49	2.8
DN 300	46	351	351	37	49	2.8

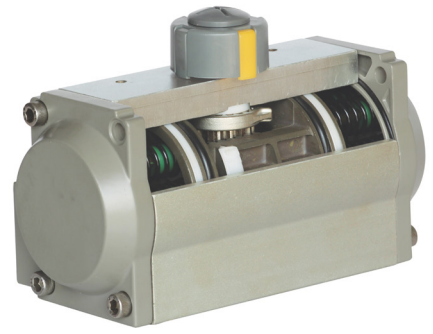
Dimensions of Gear Box



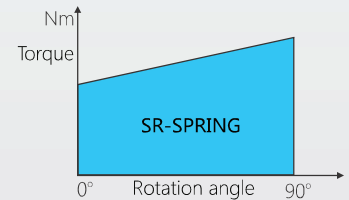
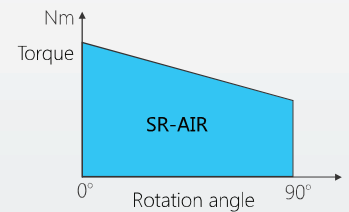
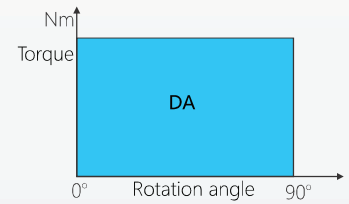
Valve Size	Gear Box Model	Rated Torque N-m	Input torque N-m	Mounting Base	Max Stem Bore (Key)	Max Stem Square	A	B	C	D	E	F	G	H	Hand Wheel	Weight without HW (Kg)
DN50-PN10/PN16	EGW-C002	250	19	F05/F07	22(6x6)	17	90	100	72	35	141	15	51	30	150	2
DN65-PN10/PN16	EGW-C002	250	19	F05/F07	22(6x6)	17	90	100	72	35	141	15	51	30	150	2
DN80-PN10/PN16	EGW-C002	250	19	F05/F07	22(6x6)	17	90	100	72	35	141	15	51	30	150	2
DN100-PN10/PN16	EGW-C002	250	19	F05/F07	22(6x6)	17	90	100	72	35	141	15	51	30	150	2
DN125-PN10/PN16	EGW-C002	250	19	F05/F07	22(6x6)	17	90	100	72	35	141	15	51	30	150	2
DN150-PN10/PN16	EGW-C002	250	19	F05/F07	22(6x6)	17	90	100	72	35	141	15	51	30	150	2
DN200-PN10/PN16	EGW-C005	500	35	F07/F10	35(10x8)	27	110	126	94	48	161	18	58	34	200	3.2
DN250-PN10/PN16	EGW-C005	500	35	F07/F10	35(10x8)	27	110	126	94	48	161	18	58	34	200	3.2
DN300-PN10/PN16	EGW-C007	750	55	F07/F10/F12	40(12x8)	32	122	139	100	45	180	22	69	38	300	5
DN350-PN16	EGW-C007	750	55	F07/F10/F12	40(12x8)	32	122	139	100	45	180	22	69	38	300	5
DN400-PN16	EGW-C010	1000	61	F10/F12/F14	44(12x8)	36	145	154	112	50	199	25	78.5	48	350	7.5
DN450-PN16	EGW-C015	1500	97	F10/F12/F14/ F16	50(14x10)	42	152	169	124	56	218	25	88	55	550	10.5
DN500-PN16	EGW-C015	1500	97	F10/F12/F14/ F16	50(14x10)	42	152	169	124	56	218	25	88	55	550	10.5
DN600-PN16	EGW-S004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

KSB Pneumatic actuator – Single and Double acting (EPS/EPD)

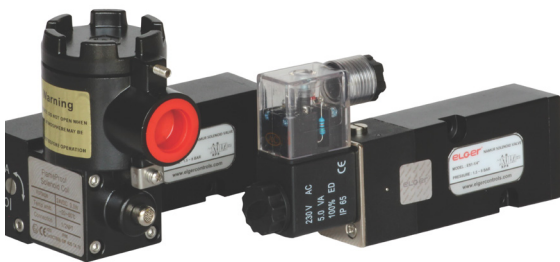
- Actuators are provided with Namur shaft for Direct engagement of accessories like Limit switch, Positioner, Transmitter etc.
- Direct mounting of solenoid with actuator eliminates tubing requirement for maintenance friendly.
- Aluminium casing with anodizing provides better anti corrosion.
- External stopper bolt arrangement is provided to adjust the full rotation of 90 deg.
- Act. Mounting base offers ISO 5211 mountings for direct interface.
- Declutchable Gear box can be attached as variant.
- Stainless steel housing available as optional.



Torque Model	Air Pressure								
	2 bar	3 bar	4 bar	4.5bar	5 bar	5.5 bar	6 bar	7 bar	8 bar
EPD040	4.0	6.0	8.0	9	10.0	11.0	12.0	14.0	16.0
EPD052	8.5	12.7	17.0	19	21.2	23.4	25.5	29.7	34.0
EPD063	15.0	22.5	30.0	33.75	37.5	41.1	44.9	52.4	59.9
EPD075	24.7	37.1	49.5	55.7	61.9	68.0	74.2	86.6	99.0
EPD083	32.5	48.7	65.0	73.1	81.2	89.3	97.4	113.7	130.0
EPD092	46.5	69.8	93.0	104.65	116.3	128.0	140.0	162.9	186.0
EPD105	69.3	104.0	138.5	155.85	173.2	190.5	207.8	242.5	277.0
EPD125	122.7	184.0	245.5	276.15	306.8	337.5	368.0	429.5	490.8
EPD140	184.7	277.0	369.5	415.65	461.8	508.0	554.0	646.5	739.0
EPD160	281.5	422	563	633	704	774	844	985	1126
EPD190	453	680	907	1020	1134	1247	1361	1587	1814
EPD210	623	935	1246	1402	1558	1714	1870	2182	2493
EPD240	977	1465	1954	2198	2443	2687	2931	3420	3908
EPD270	1374	2061	2748	3091	3435	3778	4122	4809	5496
EPD300	1696	2544	3392	3816	4241	4665	5089	5937	6785
EPD350	2539	3809	5079	5714	6349	6984	7619	8889	10159
EPD400	3619	5428	7238	8142	9047	9952	10857	12666	14476



Solenoid valves



- Provides Namur Mounting eliminates tubing's.
- 3/2 & 5/2 solenoid with single / Dual coils as Optional.
- IP65 certification is offered.
- Aluminium / SS housings are available.

Limit Switch Box

Offers Namur shaft for direct mounting.

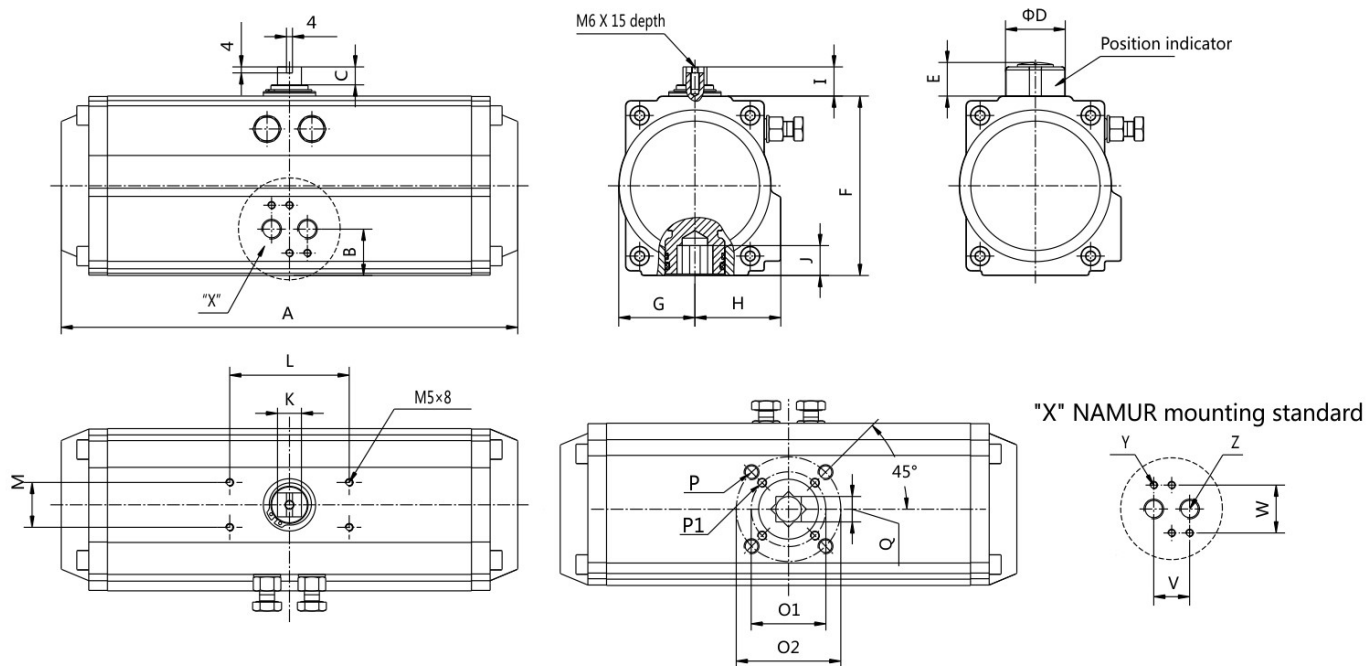
- Honeywell Micro switch as a standard and P&F switch as Optional can be offered.
- IP67 / IP68 certification can be offered
- Aluminium / SS housings are available

Other Accessories

- Air filter regulator shall be offered based on customer requirement.
- For special accessories, please contact the Factory.



Actuator Dimensions EPS / EPD in mm.



Model	EP040	EP052	EP063	EP075	EP083	EP092	EP105	EP125	EP140	EP160	EP190	EP210	EP240	EP270	EP300	EP350	EP400		
	D/S	D/S	D/S	D/S	D/S	D/S	D/S	D/S	D/S	D/S	D/S	D/S	D/S	D/S	D/S	D/S	D/S		
ISO5211	F03/F05		F05/F07				F07/F10		F10/F12		F14		F16			F16 / F25			
A	116	145	169	201	209	242	275	332	385	450	507	562	646	722	825	866	1006		
B	18.5	24	25.5	27	30.5	31	32.5	33	39.5	43.5	58.5	64	72	74	85	95	233		
C	12	12	12	12	12	12	12	12	12	12	20	20	20	20	20	35	35		
D	40	40	40	40	40	40	40	55	55	55	80	80	80	80	80	95	95		
E	22	22	22	22	22	22	22	22	22	22	33	33	33	33	33	54	54		
F	60	72	88	100	108	120	133	155	171.5	197	230	255	290	320	354	410	467		
G	24	30	36	42	46	51	58	67.5	76	86.5	103	113	129	146	162	190	260		
H	36.5	41	46	52	55	57.5	64	70	77	87.5	103	113	129	146	173	195	260		
I	20	20	20	20	20	20	20	20	20	20	30	30	30	30	30	50	50		
Jmin	11	13	16	20	20	20	25	25	30	30	40	40	50	50	50	60	60		
K	9	12	12	12	16	16	16	22	22	22	32	32	32	32	32	45	45		
L	80	80	80	80	80	80	80	80	80	80	130	130	130	130	130	130	130		
M	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30		
N	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8		
O1	42	36	50	50	50	50	70	70	102	102	/	/	/	/	/	165	165		
O2	/	50	70	70	70	70	102	102	125	125	140	140	165	165	165	254	254		
P1	4-M5		4-M6				4-M8		4-M10		/	/	/	/	/	/	4-M20		
P	/	4-M6	4-M8	4-M8	4-M8	4-M8	4-M10		4-M12		4-M16		4-M20				8-M16		
Q	9	11	14	17	17	17	22	22	27	27	36	36	46	46	46	55	55		
V	20	24	24	24	24	24	24	24	24	24	24	24	40	40	40	40	40		
W	29	32	32	32	32	32	32	32	32	32	32	32	45	45	45	45	45		
Y	M4X6	M5X8										M6X10							
Z	1/8"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	3/8"	3/8"	1/2"	1/2"	1/2"

Actuator Torque - EPS Series

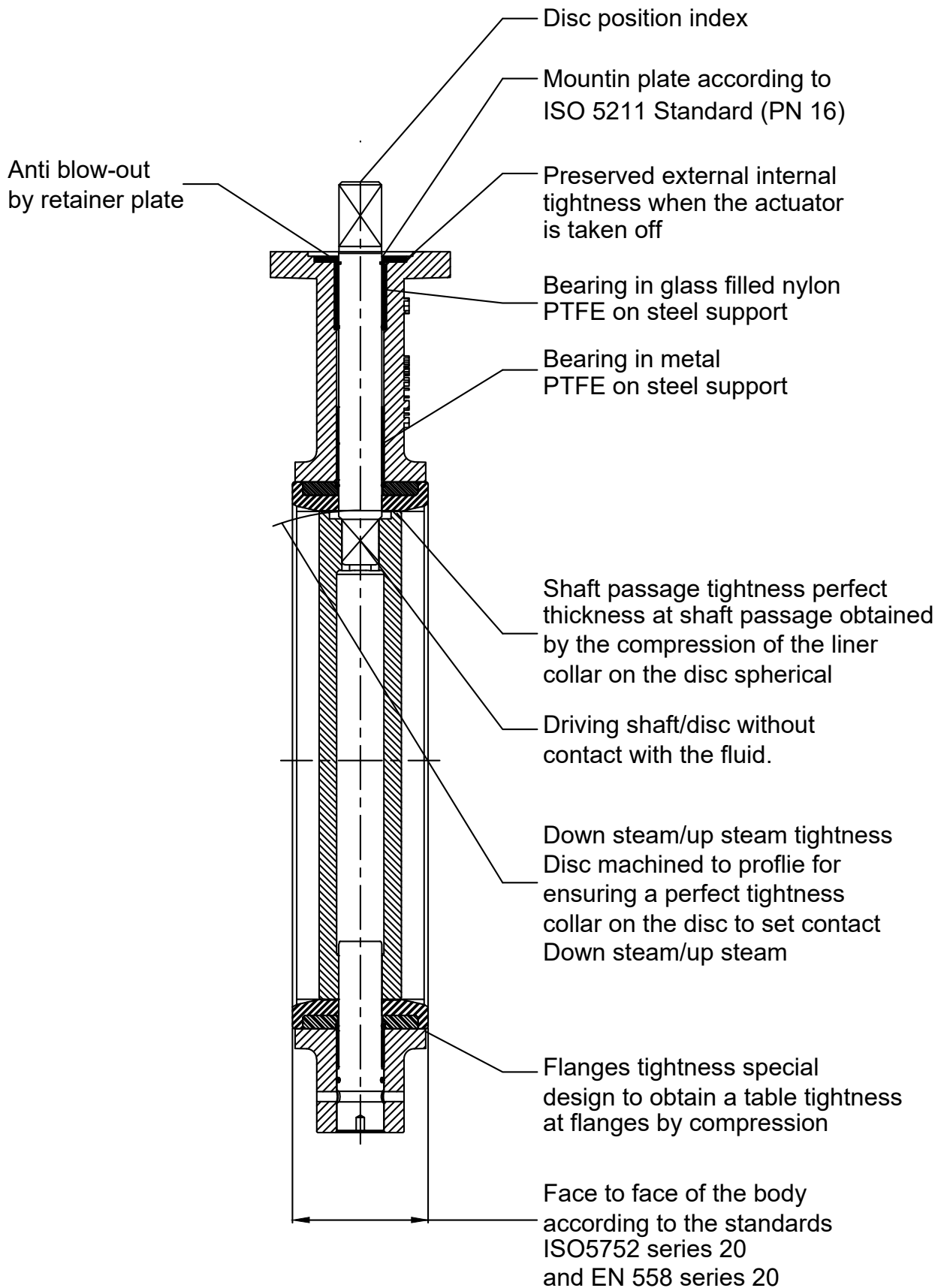
Torque List of Single Acting Pneumatic Actuator (N.m)

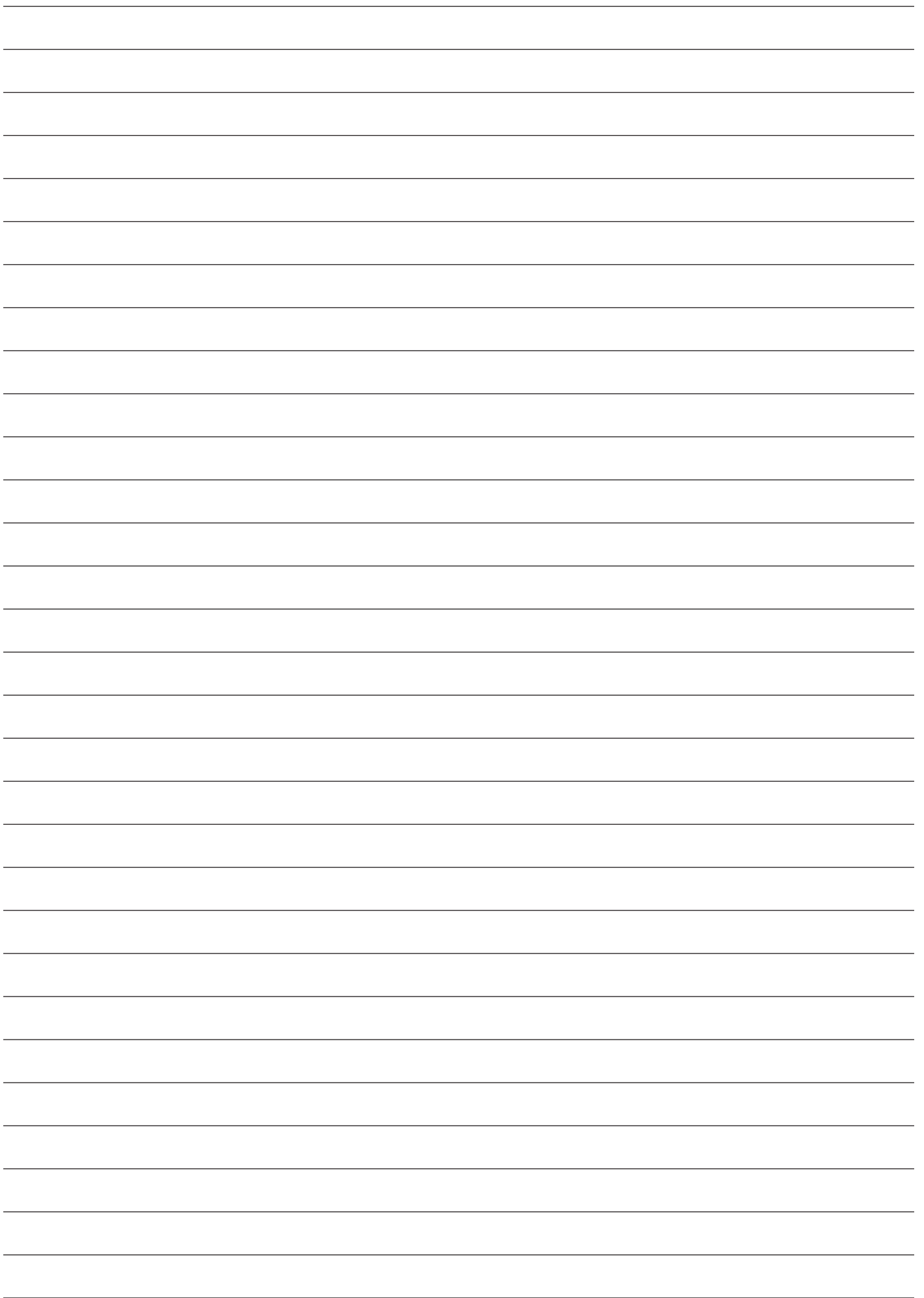
Model	Spring		Air pressure																	
	sets	Spring Torque		3.0bar		4.0bar		4.5bar		5.0bar		5.5bar		6.0bar		7.0bar		8.0bar		
		90°	0°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	
EPS040	5	3	2	4	3	6	5													
	6	3.6	2.4	3.6	2.4	5.6	4.4	6.6	5.4	7.6	6.5	8.6	7.4							
	7	4.2	2.8	3.2	1.8	5.2	3.8	6.2	4.8	7.2	5.9	8.2	6.8	9.3	7.9					
	8	4.8	3.2	2.8	1.2	4.8	3.2	5.8	4.2	6.8	5.3	7.8	6.2	8.9	7.3	10.9	9.3			
	9	5.4	3.6			4.4	2.6	5.4	3.6	6.4	4.7	7.4	5.6	8.5	6.7	10.5	8.7	12.5	10.7	
	10	6	4			4	2	5	3	6	4.1	7.0	5.0	8.1	6.1	10.1	8.1	12.1	10.1	
	11	6.6	4.4							5.6	3.5	6.6	4.4	7.7	5.5	9.7	7.5	11.7	9.5	
12	7.2	4.8							5.2	2.9	6.2	3.8	7.2	4.9	9.3	6.9	11.3	8.9		
EPS052	5	5.4	4	8.8	7.3	13	11.6													
	6	6.5	4.7	8	6.3	12.3	10.5	14.4	12.6	16.5	14.8	18.6	16.9							
	7	7.6	5.5	7.2	5.2	11.5	9.4	13.6	11.5	15.7	13.7	17.8	15.8	20	17.9					
	8	8.6	6.3	6.4	4.1	10.7	8.4	12.8	10.5	14.9	12.6	17.0	14.7	19.2	16.8	23.4	21.1			
	9	9.7	7.1			9.9	7.3	12	9.4	14.1	11.5	16.3	13.6	18.4	15.8	22.6	20	26.9	24.3	
	10	10.8	7.9			9.1	6.2	11.2	8.3	13.3	10.4	15.5	12.6	17.6	14.7	21.8	18.9	26.1	23.2	
	11	11.9	8.7							12.6	9.4	14.7	11.5	16.8	13.6	21	17.9	25.3	22.1	
12	13	9.5							11.8	8.3	13.9	10.4	16	12.5	20.3	16.8	24.5	21		
EPS063	5	9.9	6.8	15.7	12.5	23.2	20													
	6	11.9	8.1	14.3	10.5	21.8	18	25.5	21.7	29.3	25.5	33.1	29.2							
	7	13.9	9.5	13	8.5	20.4	16	24.1	19.7	27.9	23.5	31.7	27.3	35.4	31					
	8	15.9	10.9	11.6	6.5	19.1	14	22.8	17.7	26.6	21.5	30.3	25.3	34	29	41.5	36.5			
	9	17.9	12.2			17.7	12	21.4	15.7	25.2	19.5	29.0	23.3	32.7	27	40.2	34.5	47.7	42	
	10	19.9	13.6			16.4	10	20.1	13.7	23.9	17.5	27.6	21.3	31.3	25	38.8	32.5	46.3	40	
	11	21.9	14.9							22.5	15.5	26.3	19.4	30	23	37.5	30.5	44.9	38	
12	23.9	16.3							21.1	13.6	24.9	17.4	28.6	21	36.1	28.5	43.6	36		
EPS075	5	15.5	10.2	27	21.6	39.3	34													
	6	18.6	12.2	24.9	18.6	37.3	30.9	43.5	37.1	49.7	43.3	56.0	49.6							
	7	21.7	14.2	22.9	15.5	35.3	27.8	41.4	34	47.6	40.2	54.0	46.5	60	52.6					
	8	24.8	16.2	20.9	12.4	33.2	24.7	39.4	30.9	45.6	37.1	51.9	43.5	58	49.5	70.4	61.8			
	9	27.9	18.3			31.2	21.6	37.4	27.8	43.6	34	49.9	40.3	56	46.4	68.3	58.7	80.7	71.1	
	10	30.9	20.3			29.2	18.5	35.4	24.7	41.6	30.9	47.9	37.2	53.9	43.3	66.3	55.7	78.7	68	
	11	34	22.3							39.5	27.8	45.8	34.1	51.9	40.2	64.3	52.6	76.6	64.9	
12	37.1	24.4							37.5	24.7	43.8	31.0	49.9	37.1	62.2	49.5	74.6	61.8		
EPS083	5	21.5	14.9	33.9	27.2	50.1	43.4													
	6	25.8	17.8	30.9	22.9	47.1	39.1	55.2	47.2	63.3	55.3	71.6	63.6							
	7	30.1	20.8	27.9	18.6	44.1	34.8	52.2	42.9	60.4	51	68.7	59.3	76.6	67.3					
	8	34.4	23.8	24.9	14.3	41.2	30.5	49.3	38.6	57.4	46.7	65.7	55.0	73.6	63	89.9	79.2			
	9	38.8	26.7			38.2	26.2	46.3	34.3	54.4	42.4	62.7	50.7	70.7	58.7	86.9	74.9	103.1	91.1	
	10	43.1	29.7			35.2	21.9	43.3	30	51.5	38.1	59.7	46.4	67.7	54.3	83.9	70.6	100.2	86.8	
	11	47.4	32.7							48.5	33.8	56.8	42.1	64.7	50	81	66.3	97.2	82.5	
12	51.7	35.6							45.5	29.5	53.9	37.8	61.8	45.7	78	62	94.2	78.2		
EPS092	5	30.3	21.8	48	39.5	71.3	62.8													
	6	36.3	26.2	43.7	33.5	66.9	56.7	78.5	68.3	90.2	80	102.1	91.9							
	7	42.4	30.5	39.3	27.4	62.6	50.7	74.2	62.3	85.8	74	97.7	85.0	109.1	97.2					
	8	48.4	34.9	34.9	21.4	58.2	44.6	69.8	56.2	81.5	67.9	93.4	79.8	104.7	91.2	128	114.4			
	9	54.5	39.2			53.9	38.6	65.5	50.2	77.1	61.8	89.0	73.7	100.4	85.1	123.7	108.4	146.9	131.6	
	10	60.6	43.6			49.5	32.5	61.1	44.1	72.8	55.8	84.7	67.6	96	79.1	119.3	102.3	142.6	125.6	
	11	66.6	47.9							68.4	49.7	80.3	61.6	91.7	73	114.9	96.3	138.2	119.5	
12	72.7	52.3							64	43.7	76.0	55.5	87.3	66.9	110.6	90.2	133.8	113.5		
EPS105	5	46.1	39.3	64.6	57.8	99.2	92.4													
	6	55.3	47.2	56.8	48.6	91.4	83.2	108.7	100.5	126	117.9	143.8	135.6							
	7	64.5	55	48.9	39.4	83.5	74	100.8	91.3	118.2	108.6	135.9	126.4	152.8	143.3					
	8	73.8	62.9	41	30.2	75.7	64.8	93	82.1	110.3	99.4	128.1	117.1	144.9	134.1	179.6	168.7			
	9	83	70.7			67.8	55.6	85.1	72.9	102.4	90.2	120.2	108.0	137.1	124.8	171.7	159.5	206.4	194.1	
	10	92.2	78.6			59.9	46.3	77.2	63.6	94.6	81	112.3	98.7	129.2	115.6	163.9	150.3	198.5	184.9	
	11	101.4	86.5							86.7	71.8	104.5	89.6	121.4	106.4	156	141	190.6	175.7	
12	110.6	94.3							78.9	62.5	96.6	80.3	113.5	97.2	148.1	131.8	182.8	166.5		
EPS125	5	80	53	131	104	192	166													
	6	96	64	120	88	182	150	212.5	180.5	243	211	274	242							
	7	112	74	110	72	171	134	202	164.5	233	195	264	226	294	257					
	8	128	85	99	56	161	118	191.5	148.5	222	179	253	210	283	241	345	302			
	9	144	95			150	102	180.5	132.5	211	163	242	194	273	225	334	286	395	347	
	10	160	106			139	86	170	116.5	201	147	232	178	262	209	324	270	385	331	
	11	175	117							190	131	221	162	252	193	313	254	374	315	
12	191	127							180	115	211	146	241	177	302	238	364	299		
EPS140	5	139	93	184	138	277	230													
	6	167	111	166	110	258	203	304.5	249	351	295	397	342							
	7	195	130	147	82	240	175	286	221	332	267	379	314	424	360					
	8	222	148	129	55	221	147	267	193	313	239	360	286	406	332	498	424			
	9	250	167			203	119	249	165.5	295	212	342	258	387	304	480	396	572	489	
	10	278	185			184	91	230	137.5	276	184	323	231	369	276	461	368	554	461	
	11	306	204							258	156	305	203	350	248	443	341	535	433	
12	334	222							239	128	286	175	332	220	424	313	516	405		

Actuator Torque - EPS Series

Torque List of Single Acting Pneumatic Actuator (N.m)

Model	Spring sets	Air pressure																	
		Spring Torque		3.0bar		4.0bar		4.5bar		5.0bar		5.5bar		6.0bar		7.0bar		8.0bar	
		90°	0°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°
EPS160	5	211	143	279	211	420	352												
	6	253	172	251	169	391	310	461.5	380	532	450	604	522						
	7	295	200	222	127	363	268	433.5	338	504	408	575	480	644	549				
	8	338	229	193	85	334	225	404.5	295.5	475	366	547	438	616	507	756	648		
	9	380	257			306	183	376	253.5	446	324	518	396	587	465	728	605	869	746
	10	422	286			277	141	347.5	211.5	418	282	490	354	559	422	699	563	840	704
	11	464	315							389	239	461	311	530	380	671	521	811	662
12	507	343							361	197	432	269	501	338	642	479	783	619	
EPS190	5	349	232	448	332	675	559												
	6	418	278	402	262	629	489	742.5	602.5	856	716	972	832						
	7	488	325	356	192	582	419	695.5	532.5	809	646	925	762	1036	873				
	8	558	371	309	123	536	350	649.5	463	763	576	879	692	990	803	1217	1030		
	9	627	418			490	280	603.5	393.5	717	507	833	623	943	733	1170	960	1397	1187
	10	697	464			443	210	556.5	323.5	670	437	786	553	897	664	1124	891	1351	1117
	11	767	510							624	367	740	483	851	594	1077	821	1304	1048
12	837	557							577	297	693	414	804	524	1031	751	1258	978	
EPS210	5	467	297	638	468	950	780												
	6	560	356	579	375	891	687	1046.5	842.5	1202	998	1362	1158						
	7	654	416	519	282	831	593	987	749	1143	905	1302	1065	1455	1217				
	8	747	475	460	188	772	500	927.5	656	1083	812	1243	971	1395	1123	1707	1435		
	9	840	535			712	407	868	562.5	1024	718	1184	878	1336	1030	1647	1342	1959	1653
	10	934	594			653	313	809	469	965	625	1124	785	1276	937	1588	1248	1900	1560
	11	1027	653							905	532	1065	691	1217	843	1529	1155	1840	1467
12	1121	713							846	438	1006	598	1158	750	1469	1062	1781	1373	
EPS240	5	797	448	1018	668	1506	1157												
	6	957	538	928	509	1417	998	1661	1242	1905	1486	2156	1737						
	7	1116	627	839	350	1327	838	1571.5	1082.5	1816	1327	2066	1577	2304	1815				
	8	1276	717	749	190	1238	679	1482	923	1726	1167	1977	1418	2215	1656	2703	2144		
	9	1435	806			1148	519	1392.5	763.5	1637	1008	1887	1258	2125	1496	2614	1985	3102	2473
	10	1595	896			1058	360	1302.5	604	1547	848	1797	1099	2036	1337	2524	1825	3013	2314
	11	1754	985							1457	689	1708	940	1946	1177	2435	1666	2923	2155
12	1914	1075							1368	529	1618	780	1856	1018	2345	1507	2834	1995	
EPS270	5	1037	540	1522	1024	2209	1711												
	6	1245	648	1414	816	2101	1503	2444.5	1846.5	2788	2190	3140	2543						
	7	1452	756	1306	609	1993	1296	2336.5	1639.5	2680	1983	3032	2335	3367	2670				
	8	1660	864	1198	401	1885	1088	2228.5	1431.5	2572	1775	2924	2128	3259	2463	3946	3150		
	9	1867	971			1777	881	2120.5	1224.5	2464	1568	2816	1921	3151	2255	3838	2942	4525	3629
	10	2075	1079			1669	673	2012.5	1017	2356	1361	2708	1713	3043	2048	3730	2735	4417	3422
	11	2282	1187							2248	1153	2600	1506	2935	1840	3622	2527	4309	3214
12	2490	1295							2140	946	2492	1299	2827	1633	3514	2320	4201	3007	
EPS300	5	1329	821	1724	1216	2572	2064												
	6	1594	985	1560	950	2408	1798	2832	2222.5	3256	2647	3691	3082						
	7	1860	1149	1396	685	2244	1533	2668	1957	3092	2381	3527	2816	3940	3229				
	8	2126	1313	1231	419	2080	1267	2504	1691	2928	2115	3363	2551	3776	2963	4624	3812		
	9	2392	1477			1915	1001	2339.5	1425	2764	1849	3199	2285	3612	2698	4460	3546	5308	4394
	10	2657	1642			1751	736	2175.5	1160	2600	1584	3035	2019	3448	2432	4296	3280	5144	4128
	11	2923	1806							2435	1318	2871	1754	3284	2166	4132	3014	4980	3863
12	3189	1970							2271	1052	2707	1488	3119	1901	3968	2749	4816	3597	
EPS350	5	1925	1204	2606	1885	3876	3155												
	6	2310	1445	2365	1500	3635	2770	4270	3405	4905	4040	5556	4691						
	7	2695	1686	2124	1115	3394	2385	4029	3020	4664	3655	5315	4306	5934	4925				
	8	3080	1927	1883	730	3153	2000	3788	2635	4423	3270	5075	3922	5693	4540	6963	5810		
	9	3465	2168			2912	1615	3547	2250	4182	2885	4834	3537	5452	4155	6722	5425	7992	6695
	10	3850	2408			2672	1230	3307	1865	3942	2500	4593	3152	5212	3769	6482	5039	7752	6309
	11	4235	2649							3701	2114	4353	2767	4971	3384	6241	4654	7511	5924
12	4621	2890							3460	1729	4112	2383	4730	2999	6000	4269	7270	5539	
EPS400	5	2711	1828	3601	2718	5411	4527												
	6	3253	2193	3235	2176	5045	3985	5950	4890	6855	5795	7804	6724						
	7	3795	2559	2870	1634	4679	3443	5584	4348	6489	5253	7442	6182	8299	7062				
	8	4337	2924	2504	1091	4314	2901	5218.5	3806	6123	4711	7081	5640	7933	6520	9743	8330		
	9	4879	3290			3948	2359	4853	3263.5	5758	4168	6719	5098	7567	5978	9377	7787	11187	9597
	10	5422	3655			3583	1817	4487.5	2721.5	5392	3626	6357	4556	7202	5436	9011	7245	10821	9055
	11	5964	4021							5027	3084	5996	4014	6836	4894	8646	6703	10455	8513
12	6506	4387							4661	2542	5634	3473	6471	4351	8280	6161	10090	7971	





KSB Limited

Manufacturing Plants

Head Office & Pimpri :

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Pune - 411 018.
Tel.: 020-2710 1000 Fax : 020-2742 6000

Chinchwad :

Power Projects Division
D-II Block, MIDC Chinchwad,
Pune - 411 019.
Tel.: 020-2740 9100 Fax : 020-2747 0890

Khandala :

Energy Pumps Division
A1, MIDC Khandala Phase II,
Village Kesurdi, Tal. Khandala,
Satara - 412 802.
Tel. : 02169 -246800

Coimbatore :

Valves Division
151, Mettupalayam Road,
NSN Palayam Post,
Coimbatore - 641 031.
Tel.: 0422-2468222, 2468547-9
Fax : 0422-2468232

Sinnar :

Standard Pumps Division
Plot No. E-3 & E-4, MIDC Sinnar,
Nashik - 422 113.
Tel.: 02551-230252 / 53, 229700
Fax : 02551-230254

Vambori :

Foundry Division
Vambori, Ahmednagar - 413 704.
Tel.: 02426-272534, 272550, 272463
Fax : 02426-272043

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Office No. 601, Runwal R-Square,
L.B.S. Marg, Mulund (West),
Mumbai- 400 080, Tel.: 022-2168 1300

Zonal Offices :

East :

30, Circus Avenue, 2nd Floor,
Kolkata - 700 017.
Tel.: 033-2287 0473, 2290 0117
Fax : 033-2287 0588

West :

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L.B.S. Marg, Mulund (West),
Mumbai- 400 080, Tel.: 022-2168 1300

North :

KSB House, A-96, Sector IV, NOIDA, Dist.
Gautam Budh Nagar - 201 301.
Tel.: 0120-254 1091 Fax : 0120-255 0567

South :

Guindy House, II Floor, # 92 Anna Salai,
Chennai - 600 032.
Tel.: 044-2235 2571-2, 2235 5673
Fax : 044-2235 2749

Service Stations :

Chennai :

6, Self-help Industrial Estate,
Keelkattalai, Near Keelkattalai - Palla-
varam Radial Road Signal junction,
Chennai 600 117
Tel. 044-22681159

Howrah :

Sadananda Industrial Estate
Howrah Amta Road, Balitikuri, Bakultala
Howrah - 711 113, West Bengal

NOIDA :

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Dist. Gautam Budh Nagar - 201 301.
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Odhav :

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Mahamandal, Odhav,
Ahmedabad - 382 410.
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Chinchwad :

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Pune - 411 019.
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Branch Offices :

Ahmedabad :

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Mahamandal, Odhav,
Ahmedabad - 382 410.
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Aurangabad :

Plot No. P-204, Shivshankar Colony,
Near Hotel Sayli,
Aurangabad - 431 005.
Tel.: 0240-235 1440, 234 2447
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191, 1st Floor, West Of Chord Road,
II Stage, Bangalore - 560 086.
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Fax : 080-2349 6036

Baroda :

4-B, Ramkrishna Chamber,
Productivity Road, Baroda - 390 005.
Tel.: 0265-233 0532, 233 3226
Fax : 0265-235 0002

Bhubaneswar :

N5/39, 1st Floor, IRC Village, Nayapalli,
Bhubaneswar - 751 015.
Tel.: 0674-255 8497
Fax : 0674-255 8499

Chandigarh :

SCO - 189, 2nd Floor, Sector - 7C,
Chandigarh - 160 019.
Tel. / Fax : 0172-279 0072, 279 0062

Indore :

B-14, Ratlam Kothi, Kanchan Baug Road,
Indore - 452 001.
Tel.: 0731-252 9478, 252 9704
Fax : 0731-252 9704

Jaipur :

Anjali Chambers, 2nd Floor, Block C,
10, Rajbhawan Road, Civil Lines,
Jaipur - 302 001.
Tel.: 0141-222 4554, 222 4904
Fax : 0141-222 4904

Jamshedpur :

Flat No: 3/1, 3rd Floor, Plot No: 20,
Road No: 2, Sonari West Layout,
Jamshedpur - 831011.
Tel.: 0657-231 4012, 231 4011
Fax : 0657-231 7128

Lucknow :

309, Chintels House, 16, Station Road,
Lucknow - 226 001.
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Raipur, Chhattisgarh - 492009
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Secunderabad :

D. No. 12-13-197, 198,
Flat No. 103 & 104, 1st Floor,
Pavani Anusuya Towers, Tarnaka,
Secunderabad - 500 017.
Tel.: 040-2700 1724, 2700 3696
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Ernakulam :

Ground Floor, D/No 22/241 (S),
Tamrind Rajadhani, Pulinchode,
Aluva, Ernakulam - 683 101 (India)
Tel.: 62353 55500



KSB Limited
Valves Division

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Our toll free no : 1800 233 1299
(Mon - Sat. 8 am to 10 pm)

Mktg. Services /07-20/500