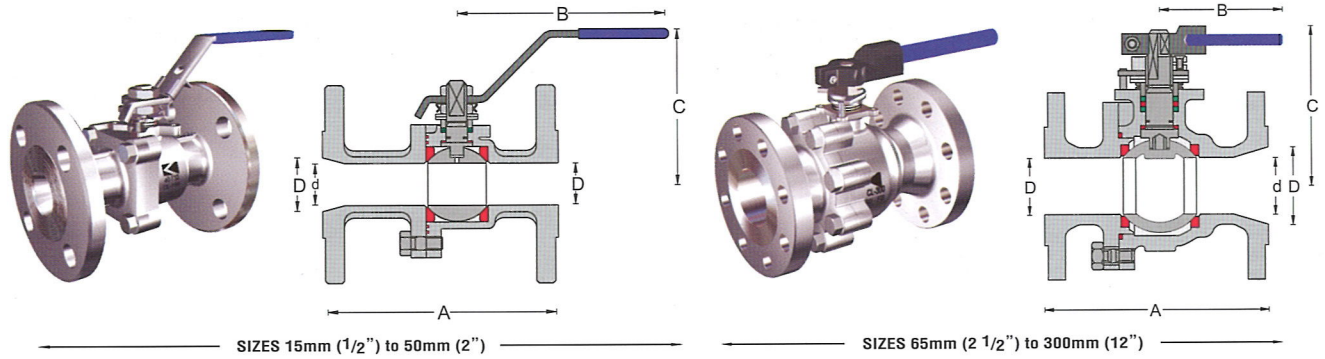


**FLOATING BALL VALVE
TWO PIECE,
REDUCED & FULL BORE**

TWO PIECE, REDUCED & FULL BORE



SIZES 15mm (1/2") to 50mm (2")

SIZES 65mm (2 1/2") to 300mm (12")

DESIGN STD : BS EN ISO 17292 (BS 5351) TESTING STD : EN 12266-1

Test Pressure in bar (psi)

Pressure rating	Class 150	Class 300	Class 600	Class 900	Class 1500
Hyd. Shell	30 (435)	76 (1102)	155 (2248)	236 (3422)	392 (5684)
Seat	REFER TECHNICAL DATA				
Air Seat	6.9 (100)				

SERIES >>>>>

'K'R2 / 'K'F2 (Class 150)
'K'R2 / 'K'F2 (Class 300)

APPLICATIONS

- > Chemical Process Plants
- > Fertilizer Plants
- > Dyes and Pigments
- > Pesticides
- > Caustic Chlorine Plants
- > Hazardous Fluids
- > Acids and Alkalies
- > GAS

RB = REDUCED BORE

FB = FULL BORE

Dimensions are in mm (inch)

SIZE mm (inch)	A				C	d	D	Wt 1)									
	Class							Class 150		Class 300		Class 600		Class 900		Class 1500	
	150	300	600	900 & 1500	RB	RB & FB	RB	FB	RB	FB	RB	FB	RB	FB	RB	FB	
15 (1/2)	108 (4.3)	140 (5.5)	165 (6.5)	216 (8.5)	80 (3.1)	-	13 (0.5)	1.2 (3.0)	1.3 (4.2)	1.9 (4.6)	2.1 (7.1)	3.2 (7.3)	3.3 (10.1)	4.6 (10.8)	4.9 (11.0)	5.0 (13.2)	6.0 (13.2)
20 (3/4)	117 (4.6)	152 (6.0)	190 (7.5)	229 (9.0)	85 (3.3)	13 (0.5)	20 (0.8)	1.6 (3.5)	2.0 (4.4)	2.9 (6.4)	3.2 (7.1)	4.8 (10.6)	5.0 (11.0)	6.5 (14.3)	7.1 (15.7)	7.5 (16.5)	9.5 (20.9)
25 (1)	127 (5.0)	165 (6.5)	216 (8.5)	254 (10.0)	90 (3.5)	20 (0.8)	25 (1.0)	2.3 (5.1)	2.7 (6.0)	3.9 (8.6)	4.3 (9.5)	6.5 (14.3)	6.7 (14.8)	8.8 (19.4)	13.0 (28.7)	10.0 (22.0)	14.0 (30.9)
32 (1 1/4)	140 (5.5)	178 (7.0)	229 (9.0)	280 (11.0)	105 (4.1)	25 (1.0)	32 (1.3)	3.4 (7.5)	3.8 (8.4)	5.2 (11.5)	5.8 (12.8)	8.4 (18.5)	9.0 (19.8)	12.5 (27.6)	21.0 (46.3)	16.0 (35.3)	23.0 (50.7)
40 (1 1/2)	165 (6.5)	190 (7.5)	241 (9.5)	305 (12.0)	110 (4.3)	32 (1.3)	38 (1.5)	4.8 (10.6)	5.0 (11.0)	7.5 (16.5)	8.1 (18.0)	13.0 (28.7)	14.0 (30.9)	20.0 (44.1)	28.0 (61.7)	23.0 (50.7)	29.0 (63.9)
50 (2)	178 (7.0)	216 (8.5)	292 (11.5)	368 (14.5)	135 (5.3)	38 (1.5)	50 (2.0)	6.8 (15.0)	8.2 (18.1)	9.3 (20.5)	10.8 (23.8)	16.0 (35.3)	21.0 (46.3)	27.0 (59.5)	31.0 (68.3)	32.0 (70.5)	-
65 (2 1/2)	190 (7.5)	241 (9.5)	330 (13.0)	419 (16.5)	155 (6.1)	50 (2.0)	64 (2.5)	10.5 (23.1)	15.5 (34.1)	13.5 (29.8)	21.5 (47.4)	25.0 (55.1)	30.0 (66.1)	40.0 (88.2)	50.0 (110.2)	-	-
80 (3)	203 (8.0)	283 (11.1)	356 (14.0)	-	170 (6.7)	58 (2.3)	76 (3.0)	16.5 (36.0)	18.5 (40.8)	24.5 (54.0)	30.0 (66.1)	33.0 (72.8)	38.0 (83.8)	-	-	-	-
100 (4)	229 (9.0)	305 (12.0)	432 (17.0)	-	205 (8.1)	76 (3.0)	98 (3.9)	24.0 (53.0)	32.0 (70.5)	40.0 (88.2)	50.0 (110.0)	65.0 (143.3)	90.0 (198.4)	-	-	-	-
125 (5)	254 (10)	381 (15)	-	-	226 (8.9)	127 (5.0)	98 (3.9)	33.0 (72.7)	50.0 (110.2)	-	98.0 (216.0)	-	-	-	-	-	-
150 (6)	267 (10.5)	403 (15.9)	559 (22.0)	-	★	98 (3.9)	152 (6.0)	40.0 (88.0)	58.0 (128.0)	68.0 (150.0)	139.0 (306.0)	85.0 (187.4)	-	-	-	-	-
200 (8)	292 (11.5)	419 (16.5)	-	-	★	144 (5.7)	203 (8.0)	73.0 (161.0)	95.0 (209.0)	152.0 (335.0)	226.0 (278.0)	-	-	-	-	-	-
250 (10)	330 (13.0)	457 (18.0)	-	-	★	187 (7.4)	250 (9.8)	122.0 (269.0)	153.0 (337.0)	194.0 (428.0)	275.0 (606.0)	-	-	-	-	-	-
300 (12)	356/610 ² (14/24 ²)	502 (19.8)	-	-	★	228 (9.0)	300 (11.8)	146.0 (322.0)	290.0 (638.0)	271.0 (597.0)	-	-	-	-	-	-	-

Materials >>>>>

Body / End piece	Carbon Steel ASTM A216 Gr. WCB / Stainless Steel ASTM A351 Gr. CF8 / CF8M / CF3 / CF3M / CN7M / Duplex
Ball / Stem	Stainless Steel ASTM A217 Gr. CA15 / ASTM A351 Gr. CF8 / CF8M / CN7M / ASTM A276 Type 410 / 304 / 316 / Duplex
Seat	PTFE / CFT / GFT / DELRIN / NYLON / PEEK / TFM / METAL
Stem Washer	GFT / Grafoil
Stem Seal / Body Seal	Grafoil
Lever	Steel
Body Studs / Nuts	ASTM A193 Gr. B7/ ASTM A194 Gr. 2H
Surface Protection for Carbon	Base Phosphating. Additional External Coating : Smoke Grey Synthetic Enamel
Steel Valves	

1) Nett in Kg. (lbs) approx. (without obligation) 2) Dimension 'A' For FB. ★ Worm Gear operated. ▶ For dimensions 'B' refer sales drgs. ▶ Valves can be supplied to suit ASME / BS / DIN Flanges. ▶ Valves can be supplied with Pad - lock, Electric, Pneumatic or Gear Actuators and accessories like Limit Switch, Solenoid Valve, Air Filter Regulator etc. ▶ Actuator Bracket Mounting as per ISO 5211. ▶ Please Specify Working Pressure, Temperature & Service conditions. ▶ Other materials not mentioned above available on request.

TECHNICAL DATA

Cv VALUE

SIZE mm (inch)	10 (3/8)	15 (1/2)	20 (3/4)	25 (1)	32 (1 1/4)	40 (1 1/2)	50 (2)	65 (2 1/2)	80 (3)	100 (4)	125 (5)	150 (6)	200 (8)	250 (10)	300 (12)
RB	8	10	15	35	58	91	115	272	303	542	780	970	2300	3375	5538
FB	8	20	42	88	142	210	396	615	1099	2171	3500	5200	9418	15170	24900

BREAK AWAY TORQUE VALUE FOR SOFT SEATED Nm (ft. lbs.)

SIZE mm (inch)	10 (3/8)	15 (1/2)	20 (3/4)	25 (1)	32 (1 1/4)	40 (1 1/2)	50 (2)	65 (2 1/2)	80 (3)	100 (4)	125 (5)	150 (6)	200 (8)	250 (10)	300 (12)	
20 (290)	RB	3.0 (2.2)	3.0 (2.2)	3.0 (2.2)	5.5 (4.0)	11.0 (8.1)	13.0 (9.6)	18.5 (13.6)	33.0 (24.4)	46.0 (33.9)	81.0 (59.8)	120.0 (88.5)	166.0 (122.5)	350.0 (258.3)	540.0 (398.5)	945.0 (697.4)
	FB	3.0 (2.2)	3.0 (2.2)	6.0 (4.4)	7.5 (5.5)	14.0 (10.3)	18.5 (13.6)	31.0 (22.8)	58.0 (42.8)	83.0 (61.3)	141.0 (104.1)	152.0 (112.0)	324.0 (239.1)	540.0 (398.5)	945.0 (697.4)	2340.0 (1727.0)
50 (725)	RB	3.5 (2.6)	3.5 (2.6)	3.5 (2.6)	7.5 (5.5)	13.0 (9.6)	14.0 (10.3)	22.0 (16.2)	59.0 (43.5)	79.0 (58.3)	107.0 (78.9)	147.0 (108.4)	166.5 (122.5)	570.0 (420.6)	980.0 (723.2)	-
	FB	3.5 (2.6)	3.5 (2.6)	7.5 (5.5)	10.5 (7.7)	19.5 (14.4)	22.0 (16.2)	46.0 (33.9)	87.0 (64.2)	109.0 (80.4)	167.0 (123.2)	440.0 (324.5)	490.0 (361.6)	970.0 (715.8)	-	-
70 (1102)	RB	6.0 (4.4)	6.0 (4.4)	6.0 (4.4)	10.0 (7.4)	-	-	-	-	-	-	-	-	-	-	-
	FB	7.0 (5.2)	7.0 (5.2)	11.0 (8.1)	-	-	-	-	-	-	-	-	-	-	-	-

■ FOR RE-INFORCED PTFE SEAT MULTIPLY ABOVE VALUES BY 1.2, FOR METAL SEAT BY 2.25 & PEEK SEAT BY 2.5

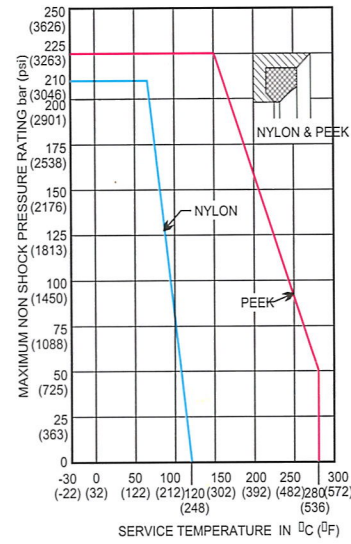
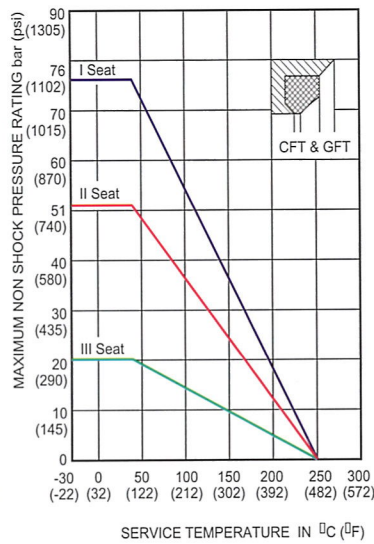
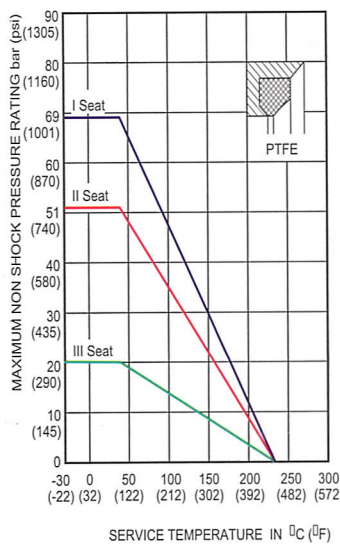
HYDRO TEST PRESSURE IN Kg/Cm² (psi) EN 12266 -1

SIZE mm (inch)	Material	I		II		III		I, II & III Class 600 & 800	
		Class 150	Class 300	Class 150	Class 300	Class 150	Class 300		
8 (1/4)	TO	50 (2)	23 (327)	59 (839)	22 (313)	57 (811)	18 (256)	48 (683)	69*/76**
65 (2 1/2)	TO	100 (4)	23 (327)	51 (725)	22 (313)	51 (725)	18 (256)	48 (683)	51 (725)
125 (6)	TO	300 (12)	20 (285)	20 (285)	20 (285)	20 (285)	18 (256)	20 (285)	20 (285)

- Materials
- I) WCB, WC6, WC9, LCC
- II) CF3, CF8, CF3M, CF8M, CF8C, LCB
- III) CN7M

■ For API 6D Valves, Testing shall be carried out at full rated pressure. ★ PTFE ★★ RPTFE

PRESSURE TEMPERATURE RATING



Seat Symbol	Nominal Valve Size
I	8 (1/4) To 50 (2)
II	65 (2 1/2) To 100 (4)
III	125 (5) To 300 (12)

- ### FEATURES
- Fire Safe :
 - API 6FA - III Edition
 - API 607 - V Edition
 - Anti Static
 - Anti Blow Out Stem
 - Fugitive Emission
 - Cavity Pressure Relief
 - Pressure Temperature Rating : ASME B16.34
 - Compliant To API 608 Also

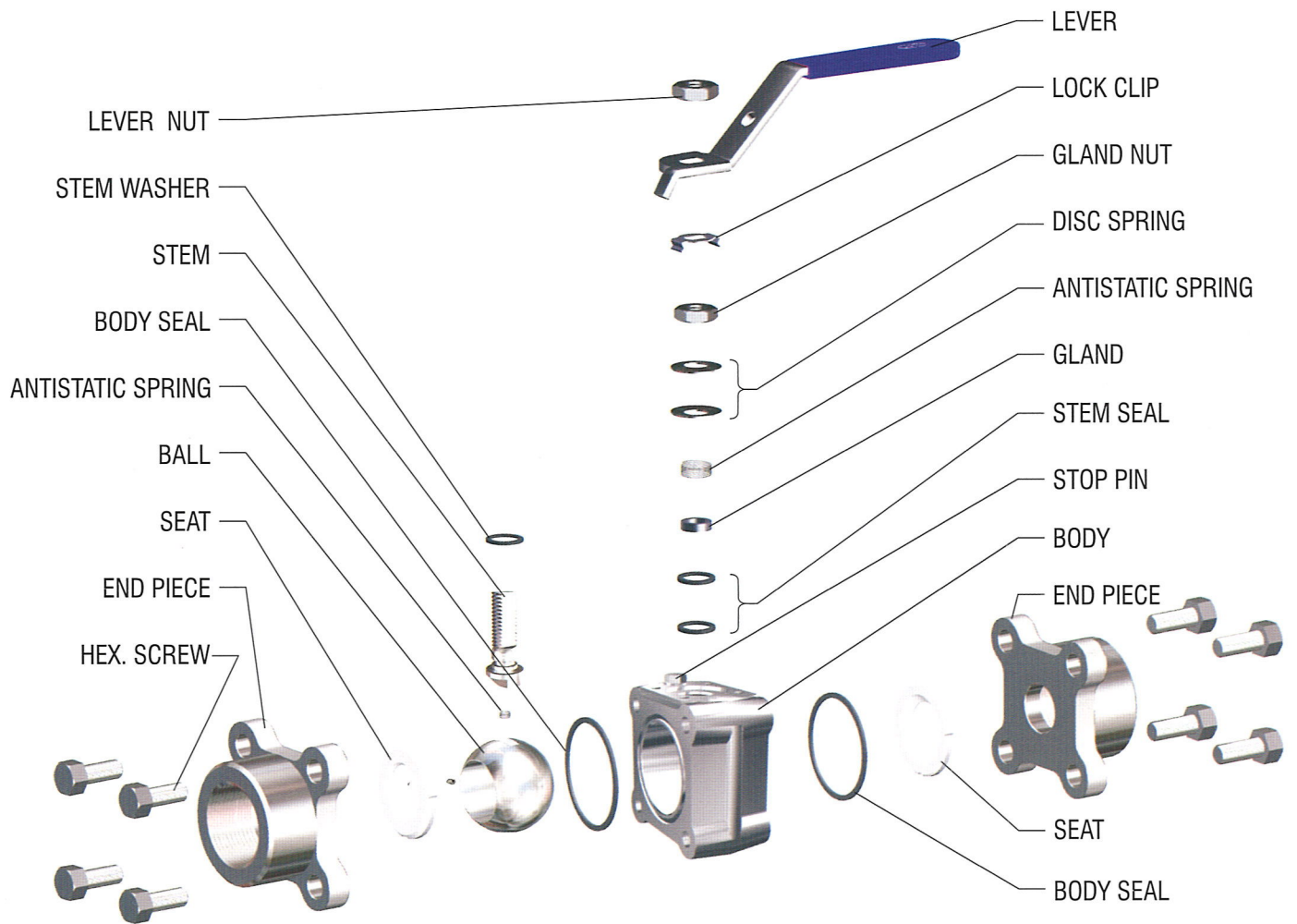


Khimji Flow Equipments Private Limited.
Block NO. 67/E 67/F, Tarihal Revadihal Road,
Revadihal Village Hubli - 580 026.
E : info@kfel.com, W : www.kfel.com

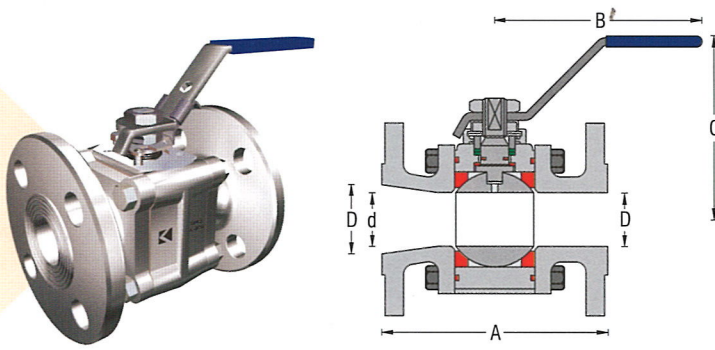


**FLOATING BALL VALVE THREE PIECE,
THREE PIECE THREE WAY & TWO PIECE
THREE WAY REDUCED & FULL BORE**

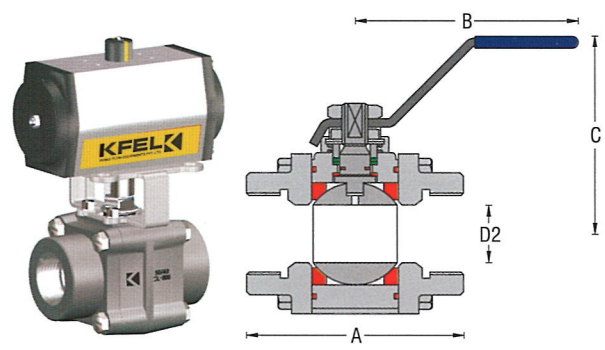
THREE PIECE



THREE PIECE, REDUCED & FULL BORE



FLANGED



SCREWED, SOCKET, BUTT WELD

DESIGN STD : BS EN ISO 17292 (BS 5351) TESTING STD : EN 12266-1

Test Pressure in bar (psi)				
Pressure rating	Class 150	Class 300	Class 600	Class 800
Hyd. Shell	30 (435)	76 (1102)	150 (2176)	207 (3002)
Seat	REFER TECHNICAL DATA			
Air Seat	6.9 (100)			

SERIES >>>>>

- K'R3/K'F3 (Class 150)
- K'R3/K'F3 (Class 300)
- K'R3/K'F3 (Class 600)
- K'R3/K'F3 (Class 800)

APPLICATIONS

- ▶ Chemical Process Plants
- ▶ Fertilizer Plants
- ▶ Dyes and Pigments
- ▶ Pesticides
- ▶ Caustic Chlorine Plants
- ▶ Hazardous Fluids
- ▶ Acids and Alkalies
- ▶ Gas

RB = REDUCED BORE

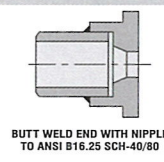
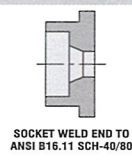
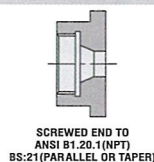
FB = FULL BORE

Dimensions are in mm (inch)

size	← A →			← B →		C	d	D	← D2 →		← Wt1 →							
	mm	Class	Class	SE,SWE,BWE	RB				FB	RB	FB	RB	FB	Class 150		Class 300		SE,SWE,BWE
(Inch)	150	300	RB	FB	RB	FB	RB	RB & FB	RB	FB	RB	FB	RB	FB	RB	FB	RB	FB
8	-	-	64	64	120	120	80	-	-	08	08	-	-	-	-	0.7	0.7	
(1/4)	-	-	(2.5)	(2.5)	(4.7)	(4.7)	(3.1)	-	-	(0.3)	(0.3)	-	-	-	-	(1.5)	(1.5)	
10	-	-	64	64	120	120	80	-	-	11	11	-	-	-	-	0.7	0.7	
(3/8)	-	-	(2.5)	(2.5)	(4.7)	(4.7)	(3.1)	-	-	(0.4)	(0.4)	-	-	-	-	(1.5)	(1.5)	
15	108	140	64	64	120	120	80	11	13	11	13	1.5	1.7	2.4	2.7	0.7	0.8	
(1/2)	(4.3)	(5.5)	(2.5)	(2.5)	(4.7)	(4.7)	(3.1)	(0.4)	(0.5)	(0.4)	(0.5)	(3.3)	(3.7)	(5.3)	(5.3)	(1.5)	(1.5)	
20	117	152	70	75	120	145	85	13	20	13	20	1.7	2.5	3.3	3.8	0.9	1.5	
(3/4)	(4.6)	(6.0)	(2.8)	(3.0)	(4.7)	(5.7)	(3.3)	(0.5)	(0.8)	(0.5)	(0.8)	(3.7)	(5.5)	(7.3)	(8.4)	(2.0)	(3.3)	
25	127	165	88	88	145	145	90	20	25	20	25	2.6	2.9	4.3	4.9	1.6	2.0	
(1)	(5.0)	(6.5)	(3.5)	(3.5)	(5.7)	(5.7)	(3.5)	(0.8)	(1.0)	(0.8)	(1.0)	(5.7)	(6.4)	(9.5)	(10.8)	(3.5)	(4.4)	
32	140	178	105	105	145	175	105	25	32	25	32	3.8	4.2	5.1	6.8	2.2	3.1	
(1 1/4)	(5.5)	(7.0)	(4.1)	(4.1)	(5.7)	(6.9)	(4.1)	(1.0)	(1.3)	(1.0)	(1.3)	(8.4)	(9.3)	(11.2)	(15.0)	(4.8)	(6.8)	
40	165	190	114	114	175	175	110	32	38	32	38	5.7	6.5	9.3	10.2	3.5	4.7	
(1 1/2)	(6.5)	(7.5)	(4.5)	(4.5)	(6.9)	(6.9)	(4.3)	(1.3)	(1.5)	(1.3)	(1.5)	(12.6)	(14.3)	(20.5)	(22.5)	(7.7)	(10.4)	
50	178	216	130	145	175	300	135	38	50	38	50	8.2	9.5	11.2	14.5	4.9	8.5	
(2)	(7.0)	(8.5)	(5.1)	(5.7)	(6.9)	(11.8)	(5.3)	(1.5)	(2.0)	(1.5)	(2.0)	(18.1)	(21.0)	(24.7)	(32.0)	(10.8)	(18.7)	

Materials >>>>>

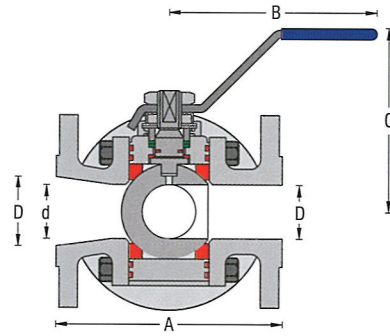
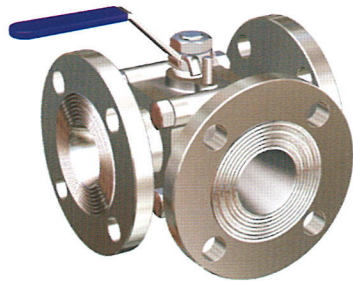
Body / End piece	Forged Carbon steel ASTM A105/ Cast Carbon Steel ASTM A 216 Gr.WCB/ Stainless Steel ASTM A 182 Gr. F 304/F316. ASTM A351 Gr.CF8 / CF8M / CF3 / CN7M / Duplex
Ball / Stem	STAINLESS STEEL ASTM A276 TYPE 410 / 304 / 316 , A20 / Duplex
Seat	PTFE / CFT / GFT / DELRIN / NYLON / PEEK / METAL
Stem Washer	GFT / Grafoil
Stem Seal / Body Seal	Grafoil
Lever	Steel
Body Studs / Nuts	ASTM A193 Gr. B7/ ASTM A194 Gr. 2H
Surface Protection for Carbon	Base Phosphating. Additional External Coating : Silver Streak Aluminum Paint
Steel Valves	



END DETAILS

- ▶ Net in Kg. (lbs) approx. (without obligation)
- ▶ Valves can be supplied to suit ASME/BS/DIN Flanges.
- ▶ Flanged Ends not available in Forging.
- ▶ Valves can be supplied with Pad-Lock, Electric, Pneumatic or Gear Actuators and accessories like Limit Switch, Solenoid Valve Air Filter Regulator etc.
- ▶ Actuator Bracket Mounting as per ISO 5211.
- ▶ Please Specify Working Pressure, Temperature & Service conditions.
- ▶ Other materials not mentioned above available on request.

THREE PIECE-THREE WAY, REDUCED & FULL BORE



DESIGN STD : BS EN ISO 17292 (BS 5351) TESTING STD : EN 12266-1

Test Pressure in bar (psi)			
Pressure rating		Class 150	Class 300
Hyd. Shell		30 (435)	76 (1102)
Seat		REFER TECHNICAL DATA	
Air Seat		6.9 (100)	

SERIES >>>>>>

KR3-3W / KF3-3W (Class 150)
KR3-3W / KF3-3W (Class 300)

APPLICATIONS

- ▶ Chemical Process Plants
- ▶ Fertilizer Plants
- ▶ Dyes and Pigments
- ▶ Pesticides
- ▶ Caustic Chlorine Plants
- ▶ Hazardous Fluids
- ▶ Acids and Alkalies
- ▶ Gas

RB = REDUCED BORE

FB = FULL BORE

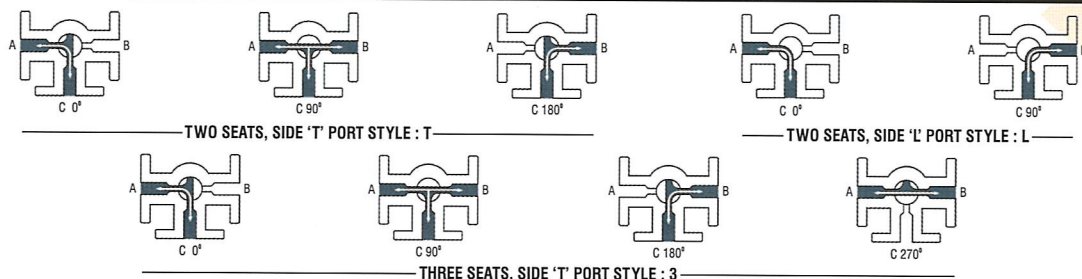
Dimensions are in mm (inch)

size	← A →		← B →		C	d	D	← Wt1 →			
	Class		RB	FB				Class 150		Class 300	
	mm							RB	FB	RB	FB
15 (1/2)	108 (4.3)	140 (5.5)	175 (6.9)	175 (6.9)	80 (3.1)	11 (0.4)	13 (0.5)	1.8 (4.0)	2.0 (4.4)	3.0 (6.6)	3.5 (7.7)
20 (3/4)	117 (4.6)	152 (6.0)	175 (6.9)	175 (6.9)	85 (3.3)	13 (0.5)	19 (0.7)	2.2 (4.9)	3.0 (6.6)	4.0 (8.8)	4.6 (10.1)
25 (1)	127 (5.0)	165 (6.5)	175 (6.9)	175 (6.9)	90 (3.5)	19 (0.7)	25 (1.0)	3.2 (7.1)	3.5 (7.7)	5.0 (11.0)	5.8 (12.8)
32 (1 1/4)	140 (5.5)	178 (7.0)	175 (6.9)	184 (7.2)	105 (4.1)	25 (1.0)	32 (1.3)	4.6 (10.1)	4.8 (10.6)	6.0 (13.2)	7.6 (16.8)
40 (1 1/2)	165 (6.5)	190 (7.5)	184 (7.2)	184 (7.2)	110 (4.1)	32 (1.3)	38 (1.5)	6.5 (14.3)	7.5 (16.5)	10.0 (22.0)	12.0 (26.5)
50 (2)	178 (7.0)	216 (8.5)	184 (7.2)	-	135 (5.3)	38 (1.5)	50 (2.0)	9.6 (21.2)	-	12.0 (26.5)	-

Materials >>>>>>

Body / End piece	Carbon Steel ASTM A216 Gr.WCB Stainless Steel ASTM A351 Gr. CF8/ CF8M / CF3M / CN7M / Duplex
Ball / Stem	STAINLESS STEEL ASTM A276 TYPE 410 / 304 / 316 , ASTM A351 Gr.CN7M/ Duplex
Seat	PTFE / CFT / GFT / DELRIN / NYLON / PEEK / METAL
Stem Washer	GFT / Grafoil
Stem Seal / Body Seal	Grafoil
Lever	Steel
Body Studs / Nuts	ASTM A193 Gr. B7/ ASTM A194 Gr. 2H
Surface Protection for Carbon	Base Phosphating. Additional External Coating : Silver Streak Aluminum Paint
Steel Valves	

FLOW PATTERN

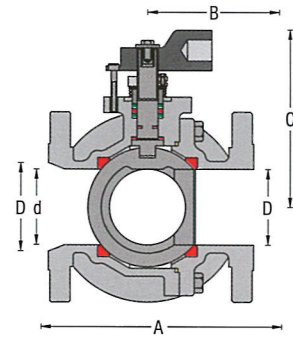
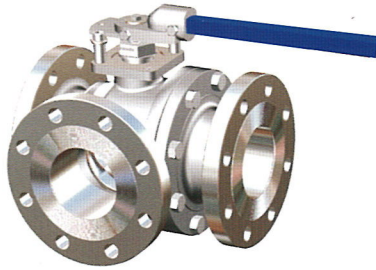


▶ Net in Kg. (lbs) approx. (without obligation) ▶ Valves can be supplied to suit ASME/BS/DIN Flanges.

▶ Valves can be supplied with Pad-Lock, Electric, Pneumatic or Gear Actuators and accessories like Limit Switch, Solenoid Valve Air Filter Regulator etc.

▶ Actuator Bracket Mounting as per ISO 5211. ▶ Please Specify Working Pressure, Temperature & Service conditions. ▶ Other materials not mentioned above available on request.

TWO PIECE-THREE WAY, REDUCED & FULL BORE



DESIGN STD : BS EN ISO 17292 (BS 5351) TESTING STD : EN 12266-1

Test Pressure in bar (psi)			
Pressure rating		Class 150	Class 300
Hyd. Shell		30 (435)	76 (1102)
Seat		REFER TECHNICAL DATA	
Air Seat		6.9 (100)	

SERIES >>>>>

KR 2-3 W / KR 2-3 W (Class 150)
KR 2-3 W / KF 2-3 W (Class 300)

APPLICATIONS

- > Chemical Process Plants
- > Fertilizer Plants
- > Dyes and Pigments
- > Pesticides
- > Caustic Chlorine Plants
- > Hazardous Fluids
- > Acids and Alkalies
- > Gas

RB = REDUCED BORE

FB = FULL BORE

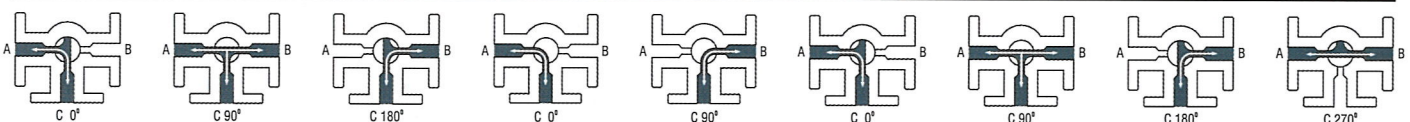
Dimensions are in mm (inch)

size	← A →			← B →				C	d	D	← Wt1 →			
	Class 150		Class 300	RB	FB	RB	FB				Class 150		Class 300	
(Inch)	2 SEATS	3 SEATS	2&3 SEATS									RB	RB&FB	RB
50	178	203	216	-	307	-	352	135	-	50	-	14	-	19
(2)	(7.0)	(8.0)	(8.5)	-	(12.1)	-	(13.9)	(5.3)	-	(2)	-	(30.9)	-	(41.9)
65	190	222	241	307	482	352	492	155	50	64	17	24	18	2.9
21/2	(7.5)	(8.7)	(9.5)	(12.1)	(19.0)	(31.9)	(19.4)	(6.1)	(2.0)	(2.5)	(37.5)	(52.9)	(39.7)	(63.9)
80	203/305 ²	241	283	482	482	492	592	170	58	76	26	29	33	40
(3)	(8.0/12.0 ²)	(9.5)	(11.1)	(19.0)	(19.0)	(19.4)	(23.3)	(6.7)	(2.3)	(3.0)	(57.3)	(63.9)	(72.8)	(88.2)
100	229/394 ²	305	305	482	592	592	790	205	76	98	38	50	53	68
(4)	(90/15.5 ²)	(12.0)	(12.0)	(19.0)	(23.3)	(23.3)	(31.1)	(8.1)	(3.0)	(3.9)	(83.8)	(110.2)	(116.8)	(149.9)
150	267	394	403	592	790	790	*	265	98	152	48	90	91	136
(6)	(10.5)	(15.5)	(15.9)	(23.3)	(31.1)	(31.1)	*	(10.4)	(3.9)	(6.0)	(105.8)	(198.4)	(200.6)	(299.8)
200	457	457	502	790	*	*	*	*	144	203	100	147	180	190
(8)	(18.0)	(18.0)	(19.8)	(31.1)	*	*	*	*	(5.7)	(8.0)	(220.5)	(324.1)	(396.8)	(418.9)
250	533	533	568	*	*	*	*	*	187	250	168	240	270	380
(10)	(21.0)	(21.0)	(22.4)	*	*	*	*	*	(7.4)	(9.8)	(370.4)	(529.1)	(595.2)	(837.8)
300	610	610	648	*	*	*	*	*	228	300	195	300	350	425
(12)	(24.0)	(24.0)	(25.5)	*	*	*	*	*	(9.0)	(11.8)	(429.9)	(661.4)	(771.6)	(937.0)

Materials >>>>>

Body / End piece	Carbon Steel ASTM A216 Gr.WCB Stainless Steel ASTM A351 Gr. CF8/ CF8M / CF3M / CN7M / Duplex
Ball / Stem	STAINLESS STEEL ASTM A276 TYPE 410 / 304 / 316 , ASTM A351 Gr.CN7M/ Duplex
Seat	PTFE / CFT / GFT / DELRIN / NYLON / PEEK / METAL
Stem Washer	GFT / Grafoil
Stem Seal / Body Seal	Grafoil
Lever	Steel
Body Studs / Nuts	ASTM A193 Gr. B7/ ASTM A194 Gr. 2H
Surface Protection for Carbon	Base Phosphating. Additional External Coating : Silver Streak Aluminum Paint
Steel Valves	

FLOW PATTERN



TWO SEATS, SIDE 'T' PORT
STYLE : T

TWO SEATS, SIDE 'L' PORT
STYLE : L

THREE SEATS, SIDE 'T' PORT
STYLE : 3

▶ Net in Kg. (lbs) approx. (without obligation) ▶ Valves can be supplied to suit ASME/BS/DIN Flanges.

▶ Valves can be supplied with Pad-Lock, Electric, Pneumatic or Gear Actuators and accessories like Limit Switch, Solenoid Valve Air Filter Regulator etc.

▶ Actuator Bracket Mounting as per ISO 5211. ▶ Please Specify Working Pressure, Temperature & Service conditions. ▶ Other materials not mentioned above available on request.

TECHNICAL DATA

Cv VALUE

SIZE mm (inch)	10 (3/8)	15 (1/2)	20 (3/4)	25 (1)	32 (1 1/4)	40 (1 1/2)	50 (2)	65 (2 1/2)	80 (3)	100 (4)	125 (5)	150 (6)	200 (8)	250 (10)	300 (12)
RB	8	10	15	35	58	91	115	272	303	542	780	970	2300	3375	5538
FB	8	20	42	88	142	210	396	615	1099	2171	3500	5200	9418	15170	24900

BREAK AWAY TORQUE VALUE FOR SOFT SEATED Nm (ft. lbs.)

SIZE mm (inch)	10 (3/8)	15 (1/2)	20 (3/4)	25 (1)	32 (1 1/4)	40 (1 1/2)	50 (2)	65 (2 1/2)	80 (3)	100 (4)	125 (5)	150 (6)	200 (8)	250 (10)	300 (12)	
20 (290)	RB	3.0 (2.2)	3.0 (2.2)	3.0 (2.2)	5.5 (4.0)	11.0 (8.1)	13.0 (9.6)	18.5 (13.6)	33.0 (24.4)	46.0 (33.9)	81.0 (59.8)	120.0 (88.5)	166.0 (122.5)	350.0 (258.3)	540.0 (398.5)	945.0 (697.4)
	FB	3.0 (2.2)	3.0 (2.2)	6.0 (4.4)	7.5 (5.5)	14.0 (10.3)	18.5 (13.6)	31.0 (22.8)	58.0 (42.8)	83.0 (61.3)	141.0 (104.1)	152.0 (112.0)	324.0 (239.1)	540.0 (398.5)	945.0 (697.4)	2340.0 (1727.0)
50 (725)	RB	3.5 (2.6)	3.5 (2.6)	3.5 (2.6)	7.5 (5.5)	13.0 (9.6)	14.0 (10.3)	22.0 (16.2)	59.0 (43.5)	79.0 (58.3)	107.0 (78.9)	147.0 (108.4)	166.5 (122.5)	570.0 (420.6)	980.0 (723.2)	-
	FB	3.5 (2.6)	3.5 (2.6)	7.5 (5.5)	10.5 (7.7)	19.5 (14.4)	22.0 (16.2)	46.0 (33.9)	87.0 (64.2)	109.0 (80.4)	167.0 (123.2)	440.0 (324.5)	490.0 (361.6)	970.0 (715.8)	-	-
70 (1102)	RB	6.0 (4.4)	6.0 (4.4)	6.0 (4.4)	10.0 (7.4)	-	-	-	-	-	-	-	-	-	-	-
	FB	7.0 (5.2)	7.0 (5.2)	11.0 (8.1)	-	-	-	-	-	-	-	-	-	-	-	-

■ FOR RE-INFORCED PTFE SEAT MULTIPLY ABOVE VALUES BY 1.2, FOR METAL SEAT BY 2.25 & PEEK SEAT BY 2.5

HYDRO TEST PRESSURE IN Kg/Cm² (psi)

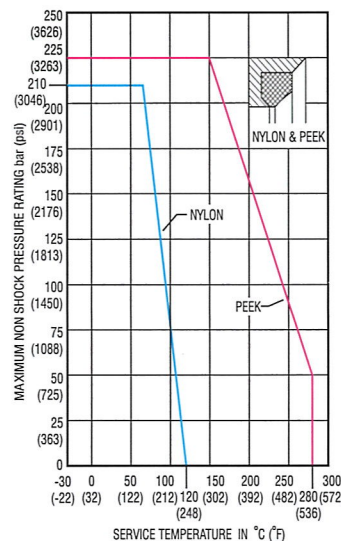
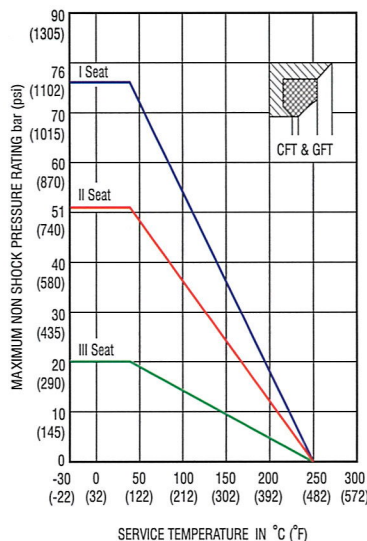
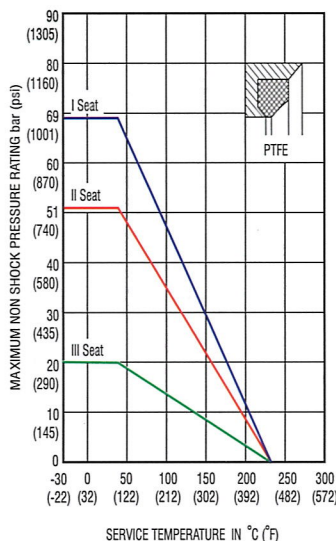
EN 12266 -1

SIZE mm (inch)	Materials								
	I		II		III		I, II & III		
	Class 150	Class 300	Class 150	Class 300	Class 150	Class 300	Class 600 & 800		
8 (1/4)	TO 50 (327)	23 (839)	59 (839)	22 (313)	57 (811)	18 (256)	48 (683)	69*/76** (981*/1081**) (725)	
65 (2 1/2)	TO 100 (327)	23 (725)	51 (725)	22 (313)	51 (725)	18 (256)	48 (683)	51 (725)	
125 (6)	TO 300 (285)	20 (285)	20 (285)	20 (285)	20 (285)	18 (256)	20 (285)	20 (285)	

- Materials
- I) WCB, WC6, WC9, LCC
- II) CF3, CF8, CF3M, CF8M, CF8C, LCB
- III) CN7M

■ For API 6D Valves, Testing shall be carried out at full rated pressure. ★ PTFE ★★ RPTFE

PRESSURE TEMPERATURE RATING



Seat Symbol	Nominal Valve Size PTFE, CFT & GFT
I	8 (1/4) To 50 (2)
II	65 (2 1/2) To 100 (4)
III	125 (5) To 300 (12)

FEATURES

- Fire Safe :
 - API 6FA - III Edition
 - API 607 - V Edition
- Anti Static
- Anti Blow Out Stem
- Fugitive Emission
- Cavity Pressure Relief
- Pressure Temperature Rating : ASME B16.34
- Compliant To API 608 Also

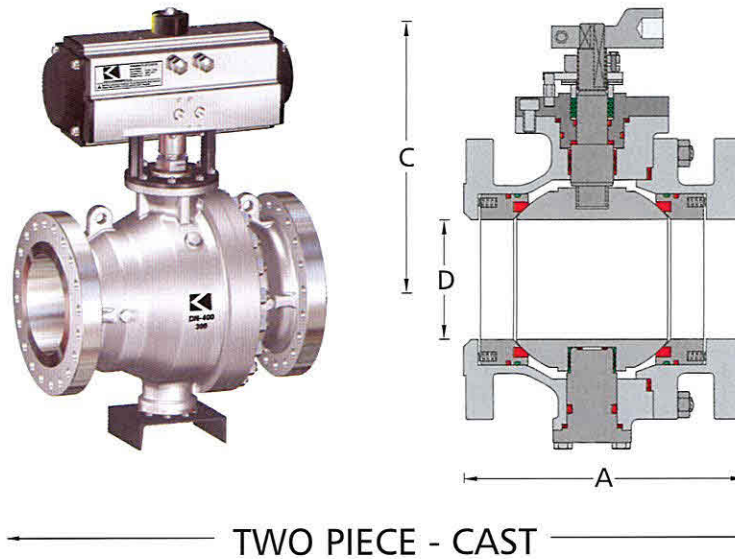


Khimji Flow Equipments Private Limited.
Block NO. 67/E 67/F, Tarihal Revadihal Road,
Revadihal Village Hubli - 580 026.
E : info@kfel.com, W : www.kfel.com

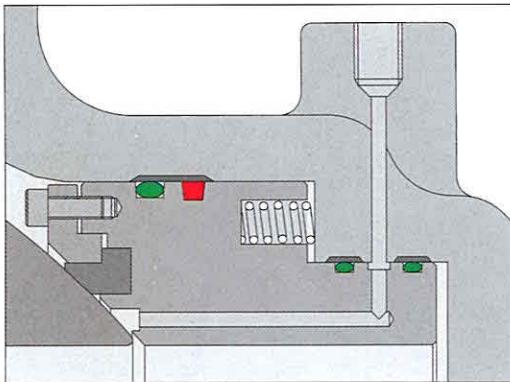


TRUNNION MOUNTED BALL VALVES

TRUNNION MOUNTED BALL VALVES



SPRING LOADED SEATS AND SEALANT INJECTION FEATURE



STANDARDS

DESIGN : API 6D, BS EN ISO 17292 (BS 5351), ASME B16.34, API 608

TESTING : API 6D, API 598, EN 12266-1, ASME B16.34

SERIES

'K' TR = Two Piece - Trunnion Mounted Reduced Bore

'K' TF = Two Piece - Trunnion Mounted Full Bore

APPLICATIONS

- ▶ Chemical Process Plants
- ▶ Fertilizer Plants
- ▶ Pesticides
- ▶ Caustic Chlorine Plants
- ▶ Hazardous Fluids
- ▶ Acids and Alkalies
- ▶ Oil, Gas & Petrochemical Industries

FEATURES

- Fire Safe
- Anti Static
- Anti Blow Out
- Double Block & Bleed
- Vent & Drain
- Cavity Pressure Relief
- Spring Loaded Seats
- Sealant Injection
- Fugitive Emission

MATERIALS

Body / End piece	Carbon Steel ASTM A216 Gr. WCB, A352 Gr. LCB, Stainless Steel ASTM A351 Gr. CF8 / CF8M / CN7M / Duplex
Ball	Carbon Steel ASTM A216 Gr. WCB+ENP / Stainless Steel ASTM A217 Gr. CA15 / ASTM A351 Gr. CF8 / CF8M / CN7M / Duplex
Stem / Trunnion	Stainless Steel ASTM A564 TYPE 630 (17-4PH) / ASTM A276 Type 410 Hardened / UNS S31803
Seat / Seat Insert	PTFE / RPTFE / DELRIN / NYLON / PEEK / METAL
Metal Seat	Stainless Steel ASTM A276 Type 410 Hardened / ASTM A276 Type 316 Stellite
Seat Retainer	ASTM A217 Gr. CA15 / ASTM A351 Gr. CF8 / CF8M / CN7M / Duplex
Coil Spring	INCONEL X-750
'O' Ring	Viton Gr. B
Stem Seal	Grafoil
Stem Washer	RPTFE / Grafoil
Body Seal	SPIRAL WOUND SS With Graphite filler
Trunnion / Stuffing Box Seal	PTFE / Grafoil / SPIRAL WOUND SS With Graphite filler
Stuffing Box	Carbon Steel ASTM A216 Gr. WCB, A352 Gr. LCB, Stainless Steel ASTM A351 Gr. CF8 / CF8M / CN7M / Duplex
Stuf. Box & Trunnion Bearing	SS Backed PTFE
Gland Nut	Stainless Steel
Body Stud / Nut	ASTM A193 Gr. B7, ASTM A194 Gr. 2H / ASTM A320 Gr. L7, ASTM A194 Gr. 7
Surface Protection for Carbon Steel Valves	Prime coat : Chlorine free with modified alkyd resin unobjectionable in Physiological and Toxicological respects with additional external coating of Machine varnish Smoke Gray

- Other Materials not mentioned above are available on request.
- Other Ball Materials with Electro Nickel Plating (ENP) available on request.

TWO PIECE DIMENSIONS

Dimensions are in mm (inch)

SIZE mm (Inch)	A			C				D			
	Class 150	Class 300	Class 600	Class 150		Class 300		Class 600			
				RB	FB	RB	FB	RB	FB		
50 (2)	178 (7.0)	216 (8.5)	292 (11.5)	100 (3.9)	135 (5.3)	170 (6.7)	135 (5.3)	140 (5.5)	180 (7.1)	38 (1.5)	50 (2.0)
65 (2 1/2)	190 (7.5)	241 (9.5)	330 (13.0)	135 (5.3)	155 (6.1)	185 (7.3)	155 (6.1)	180 (7.1)	190 (7.5)	50 (2.0)	62 (2.4)
80 (3)	203 (8.0)	283 (11.1)	356 (14.0)	150 (5.9)	170 (6.7)	210 (8.3)	170 (6.7)	190 (7.5)	210 (8.3)	55 (2.2)	76 (3.0)
100 (4)	229 (9.0)	305 (12.0)	432 (17.0)	170 (6.7)	205 (8.1)	230 (9.1)	512 (20.2)	420 (16.5)	585 (23.0)	76 (3.0)	98 (3.9)
150 (6)	267 ¹⁾ (10.5)	403 (15.9)	559 (22.0)	205 (8.1)	525 (20.7)	675 (26.6)	610 (24.0)	585 (23.0)	685 (27.0)	98 (3.9)	150 (5.9)
200 (8)	292 ¹⁾ (10.5)	502 (19.8)	660 (26.0)	490 (19.3)	675 (26.6)	745 (29.3)	684 (26.9)	685 (27.0)	895 (35.2)	150 (5.9)	200 (7.9)
250 (10)	330 ¹⁾ (13.0)	568 (22.4)	787 (31.0)	630 (24.8)	695 (27.4)	738 (29.0)	740 (29.1)	905 (35.6)	960 (37.8)	187 (7.4)	252 (9.9)
300 (12)	356 ¹⁾ (14.0)	648 (25.5)	838 (33.0)	700 (27.6)	755 (29.7)	810 (31.9)	808 (31.8)	975 (38.4)	980 (38.6)	228 (9.0)	305 (12.0)
350 (14)	686 (27.0)	762 (30.0)	889 (35.0)	725 (28.5)	865 (34.1)	855 (33.7)	879 (34.6)	995 (39.2)	1050 (41.3)	266 (10.4)	335 (13.2)
400 (16)	762 (30.0)	838 (33.0)	991 (39.0)	810 (31.9)	935 (36.8)	950 (37.4)	968 (38.1)	1050 (41.3)	1125 (44.3)	305 (12.0)	385 (15.2)
450 (18)	864 (34.0)	914 (36.0)	1092 (43.0)	980 (38.6)	1105 (43.5)	1025 (40.4)	1092 (43.0)	1075 (42.3)	1200 (47.2)	335 (13.2)	436 (17.2)
500 (20)	914 (36.0)	991 (39.0)	1194 (47.0)	1050 (41.3)	1180 (46.5)	1085 (42.7)	1220 (48.0)	1125 (44.3)	1350 (53.1)	385 (15.2)	487 (19.2)
600 (24)	1067 (42.00)	1143 (45.0)	1397 (55.0)	1190 (46.9)	1420 (55.9)	1165 (45.9)	1340 (52.8)	1350 (53.1)	1450 (57.1)	487 (19.2)	589 (23.2)
750 (30)	1295 (51.0)	1397 (55.0)	1651 (65.0)	1450 (57.1)	1650 (65.0)	1550 (61.0)	1800 (70.9)	1580 (62.2)	1650 (65.0)	633 (24.9)	735 (28.9)

Dimensions are in mm (inch)

SIZE mm (Inch)	A		C				D	
	Class		Class 900		Class 1500			
	900	1500	RB	FB	RB	FB	RB	FB
50 (2)	368 (14.5)	368 (14.5)	247 (9.7)	450 (17.7)	247 (9.7)	450 (17.7)	38 (1.5)	50 (2.0)
65 (2 1/2)	419 (16.5)	419 (16.5)	425 (16.7)	475 (18.7)	425 (16.7)	475 (18.7)	50 (2.0)	62 (2.4)
80 (3)	381 (15.0)	470 (18.5)	450 (17.7)	575 (22.6)	550 (21.7)	650 (25.6)	62 (2.4)	76/74 ²⁾ (3.0/2.9)
100 (4)	457 (18.0)	546 (21.5)	457 (18.0)	600 (23.6)	650 (25.6)	725 (28.5)	76/74 ²⁾ (3.0/2.9)	100 (3.9)
150 (6)	610 (24.0)	705 (27.8)	575 (22.6)	750 (29.5)	725 (28.5)	900 (35.4)	100 (3.9)	150/144 ²⁾ (5.9/5.7)
200 (8)	737 (29.0)	832 (32.8)	730 (28.7)	850 (33.5)	900 (35.4)	950 (37.4)	150/144 ²⁾ (5.9/5.7)	201/192 ²⁾ (7.9/7.6)
250 (10)	838 (33.0)	991 (39.0)	810 (31.9)	950 (37.4)	950 (37.4)	1075 (42.3)	201/192 ²⁾ (7.9/7.6)	252/239 ²⁾ (9.9/9.4)
300 (12)	965 (38.0)	1130 (44.5)	870 (34.3)	1150 (45.3)	1075 (42.3)	1225 (48.2)	252/239 ²⁾ (9.9/9.4)	305/287 ²⁾ (12.0/11.3)
350 (14)	1029 (40.5)	-	975 (38.4)	1125 (44.3)	-	-	252 (9.9)	322 (12.7)
400 (16)	1130 (44.5)	-	1200 (47.2)	1325 (52.2)	-	-	305 (12.0)	373 (14.7)

● RB = REDUCED BORE ● FB = FULL BORE

1) Long Pattern for Full Bore & Sealant Injection System. 2) Dimension 'D' for Class 1500. ■ Lever Operation for size 50mm (2") to 100mm (4") Class 150 & 300, size 50mm (2") to 80mm (3") Class 600 & size 50mm (2") Class 1500. ■ Rest sizes Worm Gear Operated. ■ Flanged Ends according to ASME B16.5; other drillings on request. ■ Butt Weld Ends according to ASME B16.25. ■ Please Specify Working Pressure, Temperature & Service conditions. ■ Valves can be supplied with Padlock, Electric, Pneumatic or Gear Actuators & other accessories like Limit Switch, Solenoid Valve, Air Filter Regulator, Positioner etc.

VALVE WEIGHTS

TWO PIECE - CAST VALVES

SIZE mm (Inch)	Weights in Kg (lbs) approx									
	Class 150		Class 300		Class 600		Class 900		Class 1500	
	RB	FB	RB	FB	RB	FB	RB	FB	RB	FB
50 (2)	11 (24)	15 (33)	15 (33)	19 (42)	24 (53)	34 (75)	38 (84)	52 (115)	38 (84)	52 (115)
65 (2 1/2)	18 (40)	22 (49)	26 (57)	34 (75)	37 (82)	48 (106)	75 (165)	90 (198)	75 (165)	90 (198)
80 (3)	28 (62)	34 (75)	38 (84)	43 (95)	52 (115)	72 (159)	105 (232)	145 (320)	135 (298)	220 (485)
100 (4)	38 (84)	56 (123)	54 (119)	62 (137)	96 (212)	138 (304)	200 (441)	250 (551)	300 (661)	355 (783)
150 (6)	60 (132)	126 (278)	118 (260)	182 (401)	183 (403)	310 (683)	315 (695)	395 (871)	355 (783)	450 (992)
200 (8)	135 (298)	210 (463)	210 (463)	298 (657)	360 (794)	446 (983)	580 (1279)	685 (1510)	650 (1433)	775 (1708)
250 (10)	201 (443)	282 (622)	360 (794)	435 (959)	560 (1235)	790 (1742)	820 (1808)	980 (2160)	890 (1962)	1125 (2480)
300 (12)	270 (595)	398 (877)	496 (1094)	525 (1157)	850 (1874)	968 (2134)	1220 (2690)	1375 (3031)	1250 (2756)	1580 (3483)
350 (14)	410 (904)	554 (1221)	660 (1455)	890 (1962)	920 (2028)	1290 (2844)	1490 (3284)	1650 (3638)	-	-
400 (16)	550 (1213)	898 (1980)	854 (1883)	1190 (2624)	1310 (2888)	1710 (3770)	1620 (3572)	1880 (4145)	-	-
450 (18)	646 (1424)	1090 (2403)	1060 (2337)	1440 (3175)	1510 (3329)	2200 (4850)	-	-	-	-
500 (20)	960 (2116)	1340 (2954)	1335 (2943)	1555 (3428)	2050 (4519)	2900 (6393)	-	-	-	-
600 (24)	1450 (3197)	2050 (4520)	2450 (5401)	2800 (6173)	3250 (7165)	4600 (10141)	-	-	-	-
750 (30)	2000 (4409)	3200 (7055)	3020 (6658)	4100 (9039)	-	-	-	-	-	-

TECHNICAL DATA

Cv VALUE

SIZE mm (Inch)	Class 150		Class 300		Class 600		Class 900		Class 1500	
	RB	FB	RB	FB	RB	FB	RB	FB	RB	FB
50 (2)	140	500	140	420	135	350	125	320	125	320
65 (2 1/2)	170	880	170	830	160	805	150	790	150	790
80 (3)	220	1390	210	1050	190	1000	185	910	180	820
100 (4)	630	2550	600	2000	560	1850	505	1760	500	1610
150 (6)	925	5249	910	5186	800	4400	730	4300	730	4080
200 (8)	2500	10750	2498	10262	2150	8450	2010	8400	2005	7980
250 (10)	5000	17775	4990	17220	4500	14250	4160	14160	4150	13020
300 (12)	8400	26750	8390	25950	8000	22790	7300	21230	7280	19610
350 (14)	14080	32600	14040	30900	13990	28600	13920	26600	-	-
400 (16)	14780	44700	14750	42600	14720	39250	14690	36600	-	-
450 (18)	20840	58500	20820	56450	20750	52000	-	-	-	-
500 (20)	28100	76000	28000	72700	27850	70500	-	-	-	-
600 (24)	29000	113500	28850	109450	28750	99000	-	-	-	-
750 (30)	-	179300	-	171700	-	158900	-	-	-	-

BREAK AWAY TORQUE VALUE FOR SOFT SEATED Nm (ft. lbs.)

SIZE mm (Inch)	← Class 150 →		← Class 300 →		← Class 600 →		← Class 900 →		← Class 1500 →	
	20 bar (290 psi) RB	FB	50 bar (725 psi) RB	FB	100 bar (1450 psi) RB	FB	150 bar (2176 psi) RB	FB	250 bar (3626 psi) RB	FB
50 (2)	24 (17.7)	40 (29.5)	40 (29.5)	60 (44.3)	115 (84.9)	145 (107.0)	190 (140.2)	240 (177.1)	230 (169.7)	310 (228.8)
65 (2 1/2)	40 (29.5)	62 (45.8)	60 (44.3)	95 (70.1)	145 (107.0)	170 (125.5)	240 (177.1)	290 (214.0)	310 (228.8)	380 (280.4)
80 (3)	62 (45.8)	74 (54.6)	90 (66.4)	115 (84.9)	170 (125.5)	250 (184.5)	290 (214.0)	720 (531.4)	380 (280.4)	1100 (811.8)
100 (4)	74 (54.6)	148 (109.2)	115 (84.9)	240 (177.1)	260 (191.9)	890 (656.8)	720 (531.4)	1850 (1365.3)	1100 (811.8)	2850 (2103.3)
150 (6)	148 (109.2)	324 (239.1)	240 (177.1)	670 (494.5)	840 (317.5)	2100 (1549.8)	1850 (1365.3)	3800 (2804.4)	2850 (2103.3)	4700 (3468.6)
200 (8)	324 (239.1)	640 (472.3)	670 (494.5)	1240 (915.1)	2050 (1512.9)	2960 (2184.5)	3800 (2804.4)	5100 (3763.8)	4700 (3468.6)	5900 (4354.2)
250 (10)	640 (472.3)	696 (513.6)	1240 (915.1)	1380 (1018.4)	3050 (2250.9)	3350 (2472.3)	5100 (3763.8)	5900 (4354.2)	5900 (4354.2)	6950 (5129.1)
300 (12)	696 (513.6)	1050 (774.9)	1300 (959.4)	1540 (1136.5)	3780 (2789.6)	4100 (3025.8)	5900 (4354.2)	7100 (5239.8)	6950 (5129.1)	11800 (8708.4)
350 (14)	1030 (760.1)	1790 (1321.0)	1380 (1018.4)	3180 (2346.8)	4300 (3173.4)	5100 (3763.8)	7100 (5239.8)	12800 (9446.4)	-	-
400 (16)	1280 (944.6)	2510 (1852.4)	1540 (1136.5)	4050 (2988.9)	5050 (3726.9)	5670 (4184.5)	12800 (9446.4)	16780 (12383.6)	-	-
450 (18)	1790 (1321.0)	2980 (2199.2)	3180 (2346.8)	5800 (4280.4)	6600 (4870.8)	12650 (9335.7)	-	-	-	-
500 (20)	2510 (1852.4)	4250 (3136.5)	4050 (2988.9)	7420 (5476.0)	12650 (9335.7)	17200 (12693.6)	-	-	-	-
600 (24)	4250 (3136.5)	8800 (6494.4)	7420 (5476.0)	15200 (11217.6)	17200 (12693.6)	32000 (23616.0)	-	-	-	-
750 (30)	-	18680 (13785.8)	-	27600 (20368.8)	-	41940 (30951.7)	-	-	-	-

HYDRO TEST PRESSURES

BS EN ISO 17292 (BS 5351), API 608 Seat Test Pressure in Bar (psi) As Per The Material Shown Below

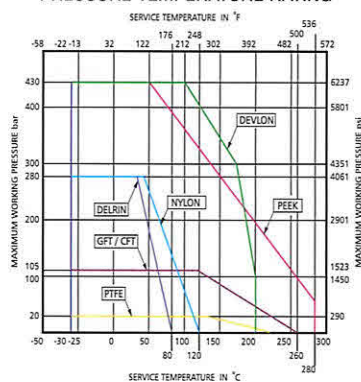
Materials	I		II		III		I, II & III
	Class 150	Class 300	Class 150	Class 300	Class 150	Class 300	Class 600
	22 (339)	51 (740)	21 (305)	51 (740)	18 (261)	48 (696)	51 (740)
I) WCB, WC6, WC9, LCC, Duplex SS, WCC							
II) CF3, CF8, CF3M, CF8M, CF8C, LCB							
III) CN7M, Hast-B, Hast-C							

API 6D / ASME B16.34 in Bar (psi)

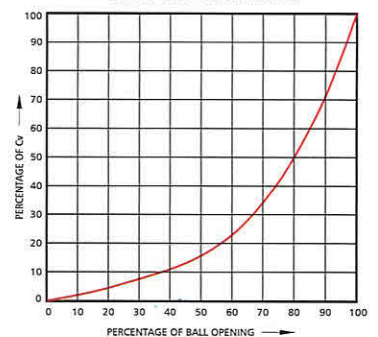
Pressure rating	Class 150	Class 300	Class 600	Class 900	Class 1500
Shell	30 (435)	78 (1131)	153 (2219)	229 (3321)	380 (5511)
Seat	22 (319)	56 (812)	112 (1624)	169 (2451)	281 (4075)
Air Seat	7 (102)				

- Torque values are with PTFE seat for Class 150 TO 600. For re-inforced PTFE seat multiply above values by 1.2, For Nylon seat by 1.5, for Metal & Peek seat by 2.0
- Torque values are with Nylon seat for Class 900 & 1500. For Metal & Peek seat multiply the above values by 2.0
- PTFE / RPTFE Seat not available in Class 900 & 1500.
- For BS EN ISO 17292 (BS 5351) Valves, Shell & Air Seat Test shall be according to ASME B16.34
- Metal Seated Valves are tested for full rated pressure
- Leakage Rate : Soft Seat : Class VI (100% Tight shut-off), Metal Seat : Class V
- Fire Safe : As Per API 607 & 6FA

PRESSURE TEMPERATURE RATING

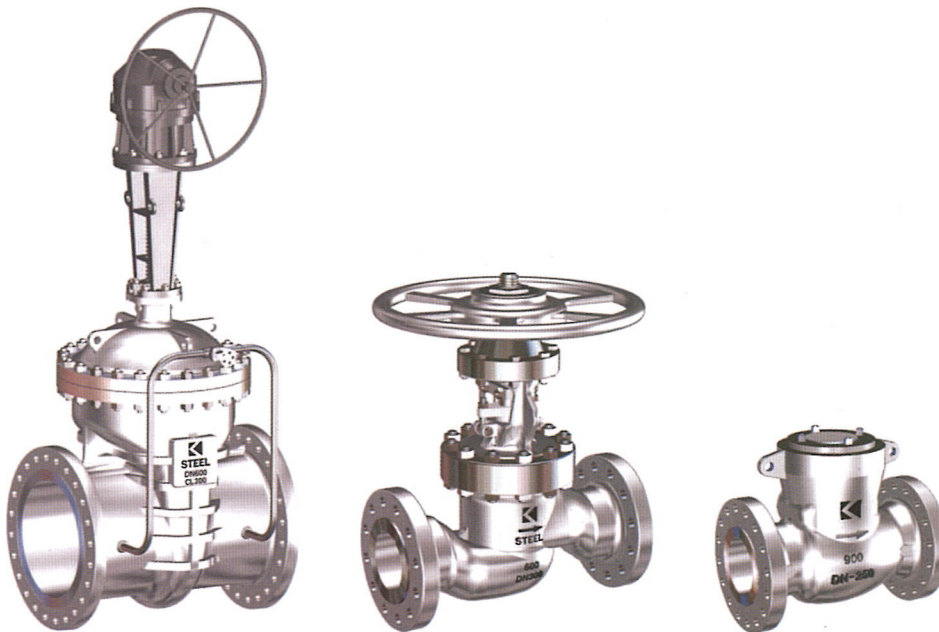


FLOW CHARACTERISTIC





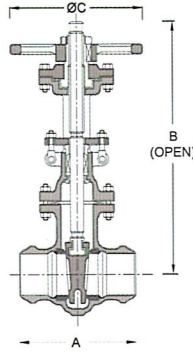
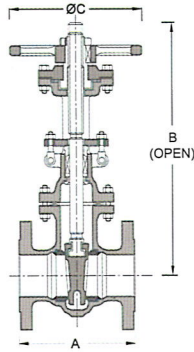
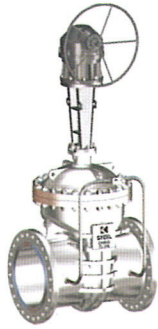
Khimji Flow Equipments Private Limited.
Block NO. 67/E 67/F, Tarihal Revadihal Road,
Revadihal Village Hubli - 580 026.
E : info@kfel.com, W : www.kfel.com



CAST AND FORGED GATE, GLOBE & CHECK VALVES

GATE VALVES

CLASS - 150 - 300 - 600



Features :

Heavy duty OS & Y type, bolted bonnet, rising stem, non rising hand wheel, renewable seating for Carbon Steel Valves, integral for Stainless Steel Valves. Valves with most advanced design Features provide the ultimate in dependable, economic flow control.

DESIGN STD : API 6D, API 600 TESTING STD : APL 6D, API 598

Class	Test Pressure in bar (psi)		
	150	300	600
Hyd. Shell	30 (435)	77 (1117)	155 (2248)
Seat /Back Seat	22 (319)	57 (827)	113 (1639)
Air Seat		6.9 (100)	

Dimensions are in mm (inch)

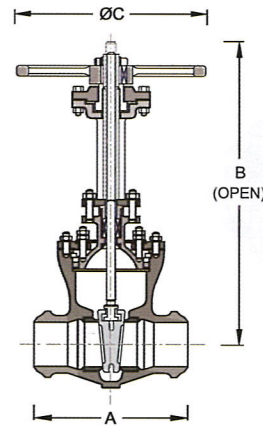
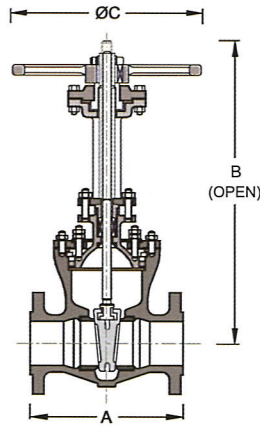
SIZE	CLASS-150				CLASS-300				CLASS-600			
	mm (inch)	A	B	ØC	Wt 1)	A	B	ØC	Wt 1)	A	B	ØC
15	108	210	100	4.0	140	210	100	4.6	-	-	-	-
(1/2)	(4.3)	(8.3)	(3.9)	(9)	(5.5)	(8.3)	(4.0)	(10)	-	-	-	-
20	117	215	100	4.5	152	215	100	6	-	-	-	-
(3/4)	(4.6)	(8.5)	(3.9)	(10)	(6.0)	(8.5)	(4.0)	(13)	-	-	-	-
25	127	250	150	6.2	165	250	150	7.5	-	-	-	-
(1)	(5.0)	(9.8)	(5.9)	(14)	(6.5)	(9.8)	(5.9)	(17)	-	-	-	-
40	165	300	200	11.2	190	300	200	14.2	-	-	-	-
(1 1/2)	(6.5)	(11.8)	(7.9)	(25)	(7.5)	(11.8)	(7.9)	(31)	-	-	-	-
50	178	345	200	16.5	216	345	200	19	292	405	250	30
(2)	(7.0)	(13.6)	(7.9)	(36)	(8.5)	(13.6)	(7.9)	(42)	(11.5)	(15.9)	(9.8)	(66)
65	190	410	200	25	241	425	250	28	330	420	250	39
(2 1/2)	(7.5)	(16.1)	(7.9)	(55)	(9.5)	(16.7)	(9.8)	(62)	(13.0)	(16.5)	(9.8)	(86)
80	203	435	250	27	282	460	250	43	356	460	300	51
(3)	(8.0)	(17.1)	(9.8)	(60)	(11.1)	(18.1)	(9.8)	(95)	(14.0)	(18.1)	(11.8)	(112)
100	229	550	250	43	305	550	300	75	432	595	450	96
(4)	(9.0)	(21.7)	(9.8)	(95)	(12.0)	(21.7)	(11.8)	(165)	(17.0)	(23.4)	(17.7)	(212)
125	254	650	300	55	381	685	450	98	508	690	450	135
(5)	(10.0)	(25.6)	(11.8)	(121)	(15.0)	(27.0)	(17.7)	(216)	(20.0)	(27.2)	(17.7)	(298)
150	267	750	300	78	403	790	450	133	559	825	600	213
(6)	(10.5)	(29.5)	(11.8)	(172)	(15.9)	(31.1)	(17.7)	(293)	(22.0)	(32.5)	(23.6)	(470)
200	292	960	450	125	419	990	450	215	660	1065	600	355
(8)	(11.5)	(37.8)	(17.7)	(276)	(16.5)	(39.0)	(17.7)	(474)	(26.0)	(41.9)	(23.6)	(783)
250	330	1155	450	190	457	1230	600	368	787	1110	750	598
(10)	(13.0)	(45.5)	(17.7)	(419)	(18.0)	(48.4)	(23.6)	(811)	(31.0)	(43.7)	(29.5)	(1318)
300	356	1390	600	288	502	1475	600	475	838	1770	★	825
(12)	(14.0)	(54.7)	(23.6)	(635)	(19.8)	(58.1)	(23.6)	(1047)	(33.0)	(69.7)	★	(1819)
350	381	1575	600	315	762	1310	750	580	-	-	-	-
(14)	(15.0)	(62.0)	(23.6)	(695)	(30.0)	(51.6)	(29.5)	(1279)	-	-	-	-
400	406	1710	750	420	838	1870	★	985	-	-	-	-
(16)	(16.0)	(67.3)	(29.5)	(926)	(33.0)	(73.6)	★	(2172)	-	-	-	-
450	432	1950	750	650	914	2035	★	1185	-	-	-	-
(18)	(17.0)	(76.8)	(29.5)	(1433)	(36.0)	(80.1)	★	(2613)	-	-	-	-
500	457	2225	★	725	991	2220	★	1545	-	-	-	-
(20)	(18.0)	(87.6)	★	(1598)	(39.0)	(87.4)	★	(3406)	-	-	-	-
600	508	2560	★	1305	1143	2550	★	1805	-	-	-	-
(24)	(20.0)	(100.8)	★	(2877)	(45.0)	(100.4)	★	(3979)	-	-	-	-
650	559	2800	★	1550	-	-	-	-	-	-	-	-
(26)	(22.0)	(110.2)	★	(3417)	-	-	-	-	-	-	-	-
700	610	3050	★	1880	-	-	-	-	-	-	-	-
(28)	(24.0)	(120.1)	★	(4145)	-	-	-	-	-	-	-	-
750	610	3130	★	2300	-	-	-	-	-	-	-	-
(30)	(24.0)	(123.2)	★	(5071)	-	-	-	-	-	-	-	-
800	660	3280	★	2550	-	-	-	-	-	-	-	-
(32)	(26.0)	(129.1)	★	(5622)	-	-	-	-	-	-	-	-
900	711	3720	★	3390	-	-	-	-	-	-	-	-
(36)	(28.0)	(146.5)	★	(7474)	-	-	-	-	-	-	-	-

Materials : Refer Globe Valves materials chart.

1) Nett in Kg. (lbs) approx. (without obligation) for Flanged Ends. ★Bevel Gear Actuators mandatory. ▶ Butt Weld Ends to ASME B16.25. ▶ End to End dim. for Class 150 Butt Weld Ends as per manufacturer standard. ▶ By-pass arrangement & Pressure Relief device available on request. ▶ Please Specify Working pressure, Temperature & Service conditions. ▶ Valves can be supplied with Electric or Gear Actuators. ▶ Ring Joint, Large or Small Tongue & Groove Flanges are available on request.

PRESSURE SEAL GATE VALVES

CLASS - 900-1500-2500



Features :

Heavy duty OS & Y type, Pressure Seal Bonnet, rising stem, non rising hand wheel, renewable seating. Wall thickness as per ASME B16.34, Valves with most advanced design Features provide the ultimate in dependable, economic flow control.

DESIGN STD :ASME B 16.34 & API 6D

TESTING STD : API 598/API 6D, ASME B16.34

Class	Test Pressure in bar (psi)		
	900	1500	2500
Hyd. Shell	230 (3335)	384 (5568)	647 (9282)
Seat /Back Seat	169 (2451)	282 (4089)	474 (6873)
Air Seat		6.9 (100)	

Dimensions are in mm (inch)

SIZE	CLASS-900				CLASS-1500				CLASS-2500							
	← A →		B	ØC	← Wt 1) →		← A →		B	ØC	← Wt 1) →		A	B	ØC	Wt1)
mm (inch)	FE	BWE		FE	BWE	FE	BWE		FE	BWE	BWE					
50	368	216	490	300	58	40	368	216	490	300	58	40	279	480	450	52
(2)	(14.5)	(8.5)	(19.3)	(11.8)	(128)	(88)	(14.5)	(8.5)	(19.3)	(11.8)	(88)	(88)	(11.0)	(18.9)	(17.7)	(115)
65	419	254	545	450	86	55	419	254	545	450	86	55	330	570	600	79
(2 1/2)	(16.5)	(10.0)	(21.5)	(17.7)	(190)	(121)	(16.5)	(10.0)	(21.5)	(17.7)	(190)	(121)	(13.0)	(22.4)	(23.6)	(174)
80	381	305	625	450	95	65	470	305	625	600	115	76	368	610	600	105
(3)	(15.0)	(12.0)	(24.6)	(17.7)	(209)	(143)	(18.5)	(12.0)	(24.6)	(23.6)	(254)	(168)	(14.5)	(24.0)	(23.6)	(232)
100	457	356	680	600	130	87	546	406	680	750	140	120	457	760	★	148
(4)	(18.0)	(14.0)	(26.8)	(23.6)	(287)	(192)	(21.5)	(16.0)	(26.8)	(29.5)	(309)	(265)	(18.0)	(29.9)	★	(326)
125	559	432	870	600	200	140	673	483	885	★	285	190	533	820	★	450
(5)	(22.0)	(17.0)	(34.3)	(23.6)	(441)	(309)	(26.5)	(19.0)	(34.8)	★	(628)	(419)	(21.0)	(32.3)	★	(992)
150	610	508	1050	★	330	205	705	559	1090	★	440	280	610	1015	★	870
(6)	(24.0)	(20.0)	(41.3)	★	(728)	(452)	(27.8)	(22.0)	(42.9)	★	(970)	(617)	(24.0)	(40.0)	★	(1918)
200	737	660	1310	★	595	415	832	711	1495	★	875	560	762	1505	★	1050
(8)	(29.0)	(26.0)	(51.6)	★	(1312)	(915)	(32.8)	(28.0)	(58.9)	★	(1929)	(1235)	(30.0)	(59.3)	★	(2315)
250	838	787	1425	★	795	650	991	864	1595	★	1325	910	914	1716	★	1600
(10)	(33.0)	(31.0)	(56.1)	★	(1753)	(1433)	(39.0)	(34.0)	(62.8)	★	(2921)	(2006)	(36.0)	(67.6)	★	(3527)
300	965	914	1680	★	1110	860	1130	991	1850	★	2525	1950	1041	2145	★	1875
(12)	(38.0)	(36.0)	(66.1)	★	(2447)	(1896)	(44.5)	(39.0)	(72.8)	★	(5567)	(4299)	(41.0)	(84.4)	★	(4134)

FE = Flanged End

BWE = Butt Weld End

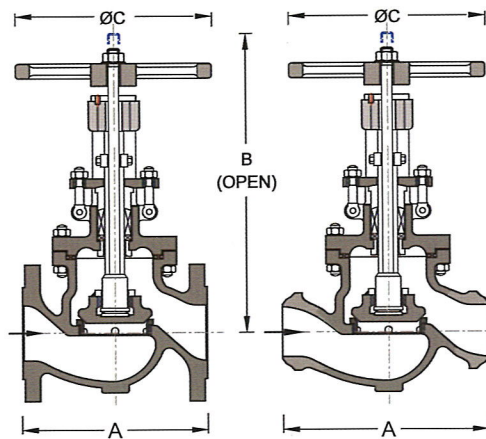
Materials

Body & Bonnet	ASTM A216 Gr. WCB, A217 Gr. WC6/ WC9/C5/C12, A351 Gr. CF8/ CF8M/CF3/CF3M
Wedge & Seat Ring	ASTM A216 Gr. WCB A217 Gr. WC6, A351 Gr. CF8/ CF8M/ CF3/ CF3M, Seat faces are satellite
Stem & Gland	ASTM A276 TYPE 410 / 304 /316
Yoke Sleeve	Ni-Resist ASTM A439 Gr. D2
Gland Packing	Pre moulded Gratoil rings / Braided + Moulded Grafoil rings.●
Pressure Seal Ring	Expanded Graphite
Stud / Nut	ASTM A193 Gr. B7/B16/ B8/ B8M/ A194 Gr. 2H/ 7/ 8 / 8M
Yoke & Hand Wheel	Carbon Steel, Alloy Steel
Surface Protection for Carbon Steel Valves	Prime Coat : Chlorine free with modified alkyd resin unobjectionable in physiological and toxicological respects. Additional external coating : Silver Streak aluminum paint

1) Nett in Kg. (lbs) approx. (without obligation) ★Bevel Gear Actuators mandatory. ● For Class 2500. ▶ Butt Weld Ends to ASME B16.25. ▶ Class 2500 Valves are with Butt Weld Ends (Short pattern), Flanged Ends available on request. ▶ By-pass arrangement & Pressure Relief device available on request. ▶ Please Specify Working pressure, Temperature & Service conditions. ▶ Valves can be supplied with Electric or Gear Actuators. ▶ Ring Joint, Large or Small Tongue & Groove Flanges are available on request. ▶ Other Materials not mentioned above available on request.

GLOBE VALVES

CLASS - 150 - 300 - 600



Features :

Heavy duty OS & Y type, bolted bonnet, rising or non rising hand wheel, renewable Seating for Carbon Steel & integral seating for stainless steel Valves with most advanced design Features provide the ultimate in dependable, economic flow control.

DESIGN STD :BS 1873 TESTING STD : EN 1266-1

Class	Test Pressure in bar (psi)		
	150	300	600
Hyd. Shell	30 (435)	77 (1117)	155 (2248)
Seat /Back Seat	22 (319)	57 (827)	113 (1639)
Air Seat		6.9 (100)	

Dimensions are in mm (inch)

SIZE	CLASS-150				CLASS-300				CLASS-600			
	A	B	ØC	Wt 1)	A	B	ØC	Wt 1)	A	B	ØC	Wt 1)
15	108	205	100	4.1	152	205	100	4.5	-	-	-	-
(1/2)	(4.3)	(8.1)	(3.9)	(9)	(6.0)	(8.1)	(3.9)	(10)	-	-	-	-
20	117	210	100	4.6	178	210	100	6.2	-	-	-	-
(3/4)	(4.6)	(8.3)	(3.9)	(10)	(7.0)	(8.3)	(3.9)	(13)	-	-	-	-
25	127	230	150	6.1	203	230	150	7.2	-	-	-	-
(1)	(5.0)	(9.1)	(5.9)	(13)*	(8.0)	(9.1)	(5.9)	(16)	-	-	-	-
40	165	260	200	9.2	229	260	200	13	-	-	-	-
(1 1/2)	(6.5)	(10.2)	(7.9)	(20)	(9.0)	(10.2)	(7.9)	(29)	-	-	-	-
50	203	295	200	14.5	267	295	200	17.2	292	330	250	40
(2)	(8.0)	(11.6)	(7.9)	(32.0)	(10.5)	(11.6)	(7.9)	(38)	(11.5)	(13.0)	(9.8)	(88)
65	216	290	200	30	292	351	250	35	330	347	300	55
(2 1/2)	(8.5)	(11.4)	(7.9)	(66)	(11.5)	(13.8)	(9.8)	(77)	(13.0)	(13.7)	(11.8)	(121)
80	241	345	250	36	318	360	300	46	356	408	450	70
(3)	(9.5)	(13.6)	(9.8)	(79)	(12.5)	(14.2)	(11.8)	(101)	(14.0)	(16.1)	(17.7)	(154)
100	292	349	300	52	356	413	450	73	432	480	600	121
(4)	(11.5)	(13.7)	(11.8)	(115)	(14.0)	(16.3)	(17.7)	(161)	(17.0)	(18.9)	(23.6)	(267)
125	356	410	300	77	400	471	450	110	508	595	★	270
(5)	(14.0)	(16.1)	(11.8)	(170)	(15.7)	(18.5)	(17.7)	(243)	(20.0)	(23.4)	★	(595)
150	406	450	450	92	444	567	600	166	559	1030	★	350
(6)	(16.0)	(17.7)	(17.7)	(203)	(17.5)	(22.3)	(23.6)	(366)	(22.0)	(406)	★	(772)
200	495	535	★	163	559	800	★	205	660	1150	★	625
(8)	(19.5)	(21.1)	★	(359)	(22.0)	(31.5)	★	(452)	(26.0)	(45.3)	★	(1378)
250	622	815	★	242	622	1235	★	450	787	1255	★	850
(10)	(24.5)	(32.1)	★	(534)	(24.5)	(48.6)	★	(992)	(31.0)	(49.4)	★	(1874)
300	698	900	★	380	711	1435	★	735	838	1330	★	1030
(12)	(27.5)	(35.4)	★	(683)	(28.0)	(56.5)	★	(1620)	(33.0)	(52.4)	★	(2271)
350	787	1080	★	485	-	-	-	-	-	-	-	-
(14)	(31.0)	(42.5)	★	(1069)	-	-	-	-	-	-	-	-

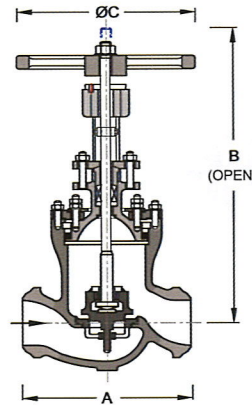
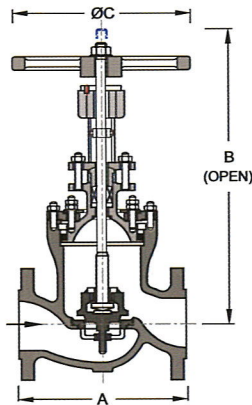
Materials

Body & Bonnet	ASTMA216, Gr. WCB, A217 6r. WC6/WC9/.C5/.C12, A352 Gr LCB.A351 Gr.CF8, CF8M / CF3 / CF3M
Wedge / Disc & Seat Ring	ASTM A217 Gr. Ca15 or WCB + 13% Cr. Facing ● WC6 + Stelliited, A351 Gr. CF8. CF8M / CF3 / CF3M
Stem, Gland & Bonnet Bush	ASTM A276 TYPE 410/ 304/ 316
Yoke Sleeve	Ni-Resist ASTM A439 Gr. D2
Gland Packing	Pre moulded Grafoil rings / Braided Grafoil rings / PTFE
Gasket	Spiral Wound 304 / 316 with CAF / Graphite / PTFE filled
Stud / Nut	ASTM A193 Gr. B7/B16/ B8/ B8M/ A194 Gr. 2H/ 7/ 8 / 8M
Hand Wheel	Carbon Steel
Surface Protection for Carbon Steel Valves	Prime Coat : Chlorine free with modified alkyd resin unobjectionable in physiological and toxicological respects. Additional external coating : Silver Streak aluminum paint

1) Nett in Kg. (lbs) approx. (without obligation) for Flanged Ends. ★Bevel Gear Actuators mandatory. ●Applicable (for size 65 (2'1/2) & above Valves. ▶ Butt Weld Ends to ASME 316.25 ▶ Stelliited Seating & Wedge / Disc available on request ▶ Please Specify Working pressure, Temperature & Service conditions. ▶ Valves can be supplied with Electric or Gear Actuators. ▶ Ring Joint, Large or Small Tongue & Groove Flanges are available on request. ▶ Other Materials not mentioned above available on request

PRESSURE SEAL GLOBE VALVES

CLASS - 900-1500-2500



Features :

Heavy duty OS & Y type. Pressure Seal Bonnet, rising or non rising hand wheel, renewable seating, wall thickness as per ASME B16.34, Valves with most advanced design Features provide the ultimate in dependable, economic flow control.

DESIGN STD : ASME B 16.34

TESTING STD : API 598, ASME B16.34

Class	Test Pressure in bar (psi)		
	900	1500	2500
Hyd. Shell	230 (3335)	384 (5568)	647 (9382)
Seat /Back Seat	169 (2451)	282 (4089)	474 (6873)
Air Seat		6.9 (100)	

Dimensions are in mm (inch)

SIZE	CLASS-900				CLASS-1500				CLASS-2500							
	← A →		B	ØC	← Wt 1 →		← A →		B	ØC	← Wt 1 →		A	B	ØC	Wt1
mm (inch)	FE	BWE		FE	BWE	FE	BWE		FE	BWE	BWE					
50	368	216	570	600	85	51	368	216	570	600	85	60	279	610	750	75
(2)	(14.5)	(8.5)	(22.4)	(23.6)	(187)	(112)	(14.5)	(8.5)	(22.4)	(23.6)	(157)	(132)	(11.0)	(24.0)	(29.5)	(165)
65	419	254	580	600	100	53	419	254	580	600	100	53	330	690	750	102
(2 1/2)	(16.5)	(10.0)	(22.8)	(23.6)	(220)	(117)	(16.5)	(10.0)	(22.8)	(23.6)	(220)	(117)	(13.0)	(27.2)	(29.5)	(225)
80	381	305	515	600	105	55	470	305	630	*	110	90	368	650	*	105
(3)	(15.0)	(12.0)	(20.3)	(23.6)	(231)	(121)	(18.5)	(12.0)	(24.8)	*	(243)	(198)	(14.5)	(25.6)	*	(231)
100	457	356	715	*	140	125	546	406	715	*	235	110	457	1210	*	440
(4)	(18.0)	(14.0)	(28.1)	*	(309)	(276)	(21.5)	(16.0)	(28.1)	*	(518)	(243)	(18.0)	(47.6)	*	(970)
125	559	432	1010	*	225	202	673	483	1025	*	305	227	533	790	*	490
(5)	(22.0)	(17.0)	(39.8)	*	(496)	(445)	(26.5)	(19.0)	(40.4)	*	(672)	(500)	(21.0)	(31.1)	*	(1080)
150	610	508	1150	*	265	325	705	559	1115	*	466	355	610	1390	*	515
(6)	(24.0)	(20.0)	(45.3)	*	(584)	(717)	(27.8)	(22.0)	(43.9)	*	(1027)	(783)	(24.0)	(54.7)	*	(1135)
200	737	660	1230	*	680	628	832	711	1200	*	780	810	762	1455	*	785
(8)	(29.0)	(26.0)	(48.4)	*	(1499)	(1385)	(32.8)	(28.0)	(47.2)	*	(1720)	(1786)	(30.0)	(57.3)	*	(1731)
250	838	787	1370	*	1300	827	991	864	1320	*	1500	1360	-	-	-	-
(10)	(33.0)	(31.0)	(53.9)	*	(2866)	(1823)	(39.0)	(34.0)	(52.0)	*	(3307)	(2998)	-	-	-	-
300	965	914	1520	*	1900	1720	1130	991	1430	*	2300	1940	-	-	-	-
(12)	(38.0)	(36.0)	(59.8)	*	(4189)	(3792)	(44.5)	(39.0)	(56.3)	*	(5070)	(4277)	-	-	-	-

FE = Flanged End

BWE = Butt Weld End

Materials

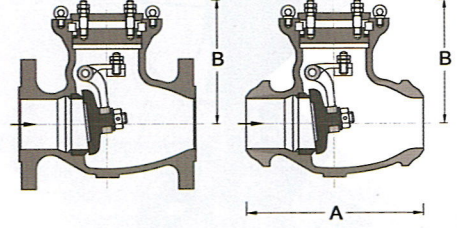
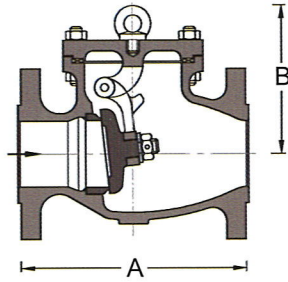
Body & Bonnet
Disc & Seat Ring
Stem & Gland
Yoke Sleeve
Gland Packing
Pressure Seal Ring
Stud / Nut
Yoke & Hand Wheel
Surface Protection for Carbon Steel Valves

ASTM A216 Gr. WCB, A217 Gr. WC6 / WC9 / C5 / C12, A351 Gr. CF8 / CF8M / CF3 / CF3M
ASTM A216 Gr. WCB, A217 Gr. WC6, A351 Gr. CF8 / CF8M / CF3 / CF3M, Seat faces are stellite
ASTM A276 TYPE 410/304/316
Ni-Resist ASTM A439 Gr. D2
Pre moulded Grafoil rings / Braided + Moulded Grafoil rings ●
Expanded Graphite
ASTM A193 Gr. B7/B16/B8 / B8M / A194 Gr. 2H / 7 / 8 / 8M
Carbon Steel, Alloy Steel
Prime Coat : Chlorine free with modified alkyd resin unobjectionable in physiological and toxicological respects. Additional external coating : Silver Streak aluminum paint

1) Nett in Kg. (lbs) approx. (without obligation) ★Bevel Gear Actuators mandatory. ●For Class 2500. ▶ Butt Weld Ends to ASME B16.25. ▶ Class 900, 1500 & 2500 Valves are with Butt Weld Ends (Short pattern). Flanged Ends available on request. ▶ Please Specify Working pressure, Temperature & Service conditions. ▶ Valves can be supplied with Electric or Gear Actuators. ▶ Ring Joint, Large or Small Tongue & Groove Flanges are available on request. ▶ Other Materials not mentioned above available on request.

BOLTED COVER & PRESSURE SEAL SEAL SWING CHECK VALVES

CLASS - 150 - 300 - 600 - 900 - 1500 - 2500



Features :

Heavy duty bolted cover/Pressure seal cover, with renewable seating for Carbon Steel & integral seating for stainless steel, Cover mounted/body mounted disc. Valves with most advanced design Features provide the ultimate in dependable, economical flow check.

DESIGN STD : API 60, BS 1868 FOR CLASS 150, 300 & 600
: API 6D, ASME B16.34 FOR CLASS 900, 1500 & 2500

TESTING STD : API 6D, EN 12266-1 FOR CLASS 150, 300 & 600
: API 6D, API 598 FOR CLASS 900, 1500 & 2500

Class	Test Pressure in bar (psi)					
	150	300	600	900	1500	2500
Hyd. Shell	30 (435)	77 (1117)	155 (2248)	230 (3335)	384 (5568)	647 (9382)
Seat	22 (319)	57 (827)	113 (1639)	169 (2451)	282 (4089)	474 (6873)
Min. Seat	5.5 (80)	14 (203)	28 (406)	42 (609)	70.5 (1022)	118.5 (17182)

Dimensions are in mm (inch)

SIZE mm (inch)	BOLTED COVER									PRESSURE SEAL								
	CLASS-150			CLASS-300			CLASS-600			CLASS-900			CLASS-1500			CLASS-2500		
	A	B	Wt 1)	A	B	Wt 1)	A	B	Wt 1)	A	B	Wt 1)	A	E	Wt 1)	A	B	Wt 1)
40	165	95	6.8	241	95	10.5	-	-	-	-	-	-	-	-	-	-	-	-
(1 1/2)	(6.5)	(3.7)	(15)	(9.5)	(3.7)	(23)	-	-	-	-	-	-	-	-	-	-	-	-
50	203	115	11.5	267	120	18	292	138	25	216	180	18	216	180	18	279	215	43
(2)	(8.0)	(4.5)	(25)	(10.5)	(4.7)	(40)	(11.5)	(5.4)	(55)	(8.5)	(7.1)	(40)	(8.5)	(7.1)	(40)	(11.0)	(8.5)	(95)
65	216	120	17	292	132	21	330	145	32	254	195	29	254	195	26	330	285	72
(2 1/2)	(8.5)	(4.7)	(38)	(11.5)	(5.2)	(46)	(13.0)	(5.7)	(71)	(10.0)	(7.7)	(64)	(10.0)	(7.7)	(57)	(13.0)	(11.2)	(159)
80	241	135	25	318	150	34	356	165	62	305	235	34	305	235	38	368	320	91
(3)	(9.5)	(5.3)	(55)	(12.5)	(5.9)	(75)	(14.0)	(6.5)	(137)	(12.0)	(9.3)	(75)	(12.0)	(9.3)	(84)	(14.5)	(12.6)	(201)
100	292	150	41	356	170	54	432	190	115	356	265	47	406	265	83	457	390	125
(4)	(11.5)	(5.9)	(90)	(14.0)	(6.7)	(119)	(17.0)	(7.5)	(254)	(14.0)	(10.4)	(104)	(16.0)	(10.4)	(183)	(18.0)	(15.4)	(276)
125	330	170	56	400	210	75	508	220	165	432	310	69	483	310	114	533	480	190
(5)	(13.0)	(6.7)	(124)	(15.7)	(8.3)	(165)	(20.0)	(8.7)	(364)	(17.0)	(12.2)	(152)	(19.0)	(12.2)	(251)	(21.0)	(18.9)	(419)
150	356	195	73	444	210	106	559	255	210	508	325	106	559	325	145	610	570	274
(6)	(14.0)	(7.7)	(161)	(17.5)	(8.3)	(234)	(22.0)	(10.0)	(463)	(20.0)	(12.8)	(234)	(22.0)	(12.8)	(320)	(24.0)	(22.4)	(604)
200	495	220	103	533	255	168	660	300	355	660	460	275	711	460	353	762	675	480
(8)	(19.5)	(8.7)	(227)	(21.0)	(10.0)	(353)	(26.0)	(11.8)	(783)	(26.0)	(18.1)	(606)	(28.0)	(18.1)	(778)	(30.0)	(26.6)	(1058)
250	622	260	106	622	305	254	787	355	580	787	535	470	864	535	602	-	-	-
(10)	(24.5)	(10.2)	(353)	(24.5)	(12.0)	(560)	(31.0)	(13.2)	(1279)	(31.0)	(21.1)	(1036)	(34.0)	(21.1)	(1327)	-	-	-
300	698	310	224	711	350	355	838	395	725	914	630	546	991	630	691	-	-	-
(12)	(27.5)	(12.2)	(494)	(28.0)	(13.8)	(783)	(33.0)	(15.6)	(1598)	(36.0)	(24.8)	(1204)	(39.0)	(24.8)	(1523)	-	-	-
350	787	365	350	838	390	620	-	-	-	-	-	-	-	-	-	-	-	-
(14)	(31.0)	(14.4)	(772)	(33.0)	(15.4)	(1367)	-	-	-	-	-	-	-	-	-	-	-	-
400	864	505	472	864	530	680	-	-	-	-	-	-	-	-	-	-	-	-
(16)	(34.0)	(19.9)	(1041)	(34.0)	(20.9)	(1499)	-	-	-	-	-	-	-	-	-	-	-	-
450	978	565	535	978	590	1250	-	-	-	-	-	-	-	-	-	-	-	-
(18)	(38.5)	(22.2)	(1179)	(38.5)	(23.2)	(2756)	-	-	-	-	-	-	-	-	-	-	-	-
500	978	610	870	1016	655	1460	-	-	-	-	-	-	-	-	-	-	-	-
(20)	(38.5)	(24.0)	(1918)	(40.0)	(25.8)	(3219)	-	-	-	-	-	-	-	-	-	-	-	-
600	1295	740	1090	1346	790	2055	-	-	-	-	-	-	-	-	-	-	-	-
(24)	(51.0)	(29.1)	(2403)	(53.0)	(31.1)	(4531)	-	-	-	-	-	-	-	-	-	-	-	-

Materials :

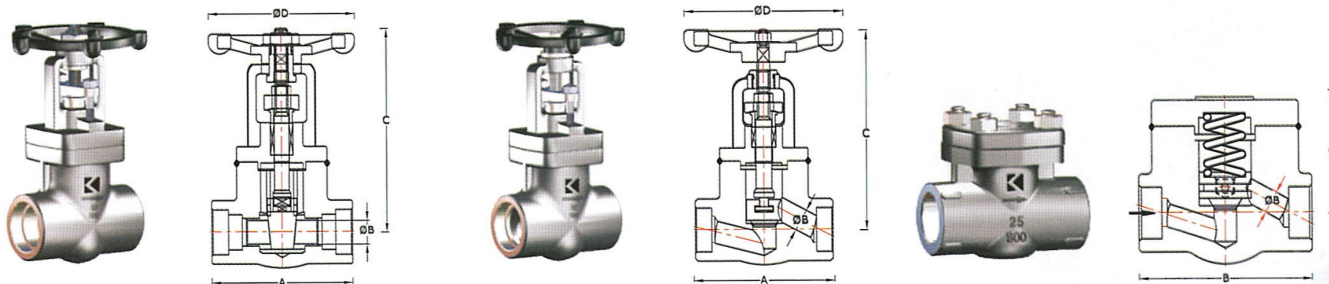
Body / Cover / Hinge / Bracket
Disc / Seat Ring
Gasket
Pressure Seal Ring
Stud / Nut
Surface Protection for Carbon Steel
Valves

ASTM A216 Gr. WCB, A217 Gr. WC6 / WC9 / C5 / C12, A352 Gr. LCB, A351 Gr. CF8 / CF8M / CF3 / CF3M
ASTM A216 Gr. WCB, A351 Gr. CF8 / CF8M / CF3 / CF3M
Spiral Wound 304 / 316 with CAF / Graphite / PTFE filled (Applicable for bolted cover Valves)
Expanded Graphite (Applicable for Pressure Seal Check Valves)
ASTM A193 Gr. B7 / B16 / B8 / B8M / A194 Gr. 2H / 7/8/8M
Prime Coat : Chlorine free with modified alkyd resin unobjectionable in physiological and toxicological respects. Additional external coating : Silver Streak aluminium paint.

1) Nett in Kg. (lbs) approx. (without obligation) for Flanged Ends Class. 150, 300 & 600, Butt Weld Ends Class 900, 1500 & 2500 (Short Pattern) ▶ Butt Weld Ends to ASME B16.25. ▶ Class 900, 1500 & 2500 Flanged Ends valves available on request, Face to Face Dimensions equal to Globe Valve. ▶ Disc is mounted in cover for sizes 40 (1 1/2) to 300 (12) Class 150, 300 & 600 Valves and body mounted for remaining Sizes & Classes. ▶ Seal faces of Disc & Seating of WCB material are 13% Chrome overlaid for Class 150, 300 & 600 Valve. ▶ Stellite Seated faces for Class 900, 1500 & 2500 Valves ▶ Please Specify Working Pressure, Temperature & Service conditions. ▶ Valves can be supplied with Ring Joint, Large or Small Tongue & Groove. ▶ Other Materials not mentioned above available on request.

FORGED STEEL GATE, GLOBE & CHECK VALVES

CLASS - 800 - 1500 - 2500



Features :

Heavy duty compact OS & Y type, bolted bonnet/ cover, rising stem, with renewable seating Valves; Piston Lift Check Valves with spring loaded disc; resulting with most advanced design Features provide the ultimate in dependable, economical flow control.

SE=SCREWED ENDS TO NPT(F) OR BSP (F) OR BSPT(F)
SWE = SOCKET WELD ENDS TO ASME B16.11
BWE = BUTT WELD ENDS TO ASME B16.25

DESIGN STD : API 602, BS 5352 FOR GATE VALVES
:BS 5352 FOR GLOBE & CHECK VALVES
TESTING STD : API 598, EN 12266-1

Class	Test Pressure in bar (psi)	
	800	1500
Hyd. Shell	207 (3002)	384 (5568)
Seat/Back Seat	152 (2205)	282 (4089)

Dimensions are in mm (inch) SB = Standard bore RB= Reduced bore

SIZE mm (inch)	CLASS-800																	
	GATE		GLOBE & CHECK			GATE		GLOBE		CHECK		GATE		GLOBE		CHECK		
	SB	RB	SB	RB	SB	RB	SB	RB	SB	RB	SB	RB	SB	RB	SB	RB		
8	82	73	82	73	6.4	6.4	132	116	126	114	60	50	2.50	2.20	2.68	2.26	2.00	1.46
(1/4)	(3.2)	(2.9)	(3.2)	(2.9)	(0.25)	(0.25)	(5.2)	(4.6)	(5.0)	(4.5)	(2.4)	(2.0)	(5.5)	(4.9)	(5.9)	(5.0)	(4.4)	(3.2)
10	82	73	82	73	8.0	6.4	132	116	126	114	60	50	2.50	2.20	2.68	2.26	2.00	1.46
(3/8)	(3.2)	(2.9)	(3.2)	(2.9)	(0.31)	(0.25)	(5.2)	(4.6)	(5.0)	(4.5)	(2.4)	(2.0)	(5.5)	(4.9)	(5.9)	(5.0)	(4.4)	(3.2)
15	82	73	82	73	12.0	9.0	132	116	126	114	60	50	2.50	2.20	2.68	2.26	2.00	1.46
(1/2)	(3.2)	(2.9)	(3.2)	(2.9)	(0.47)	(0.35)	(5.2)	(4.6)	(5.0)	(4.5)	(2.4)	(2.0)	(5.5)	(4.9)	(5.9)	(5.0)	(4.4)	(3.2)
20	90	82	108	82	17.5	12.0	150	132	153	126	65	60	3.30	2.50	3.50	2.68	2.50	2.00
(3/4)	(3.5)	(3.2)	(4.3)	(3.2)	(0.68)	(0.47)	(5.9)	(5.2)	(6.0)	(5.0)	(2.6)	(2.4)	(7.3)	(5.5)	(7.7)	(5.9)	(5.5)	(4.4)
25	127	90	152	108	22.5	17.5	194	150	196	153	90	65	7.60	3.30	8.06	3.50	6.10	2.50
(1)	(5.0)	(3.5)	(6.0)	(4.3)	(0.88)	(0.68)	(7.6)	(5.9)	(7.7)	(6.0)	(3.5)	(2.6)	(16.8)	(7.3)	(17.8)	(7.7)	(13.4)	(5.5)
40	148	127	148	152	35.0	29.5	234	194	257	196	125	90	9.50	7.60	10.00	8.06	8.50	6.10
(1 1/2)	(5.8)	(5.0)	(5.8)	(6.0)	(1.37)	(1.16)	(9.2)	(7.6)	(10.1)	(7.7)	(4.9)	(3.5)	(20.9)	(16.8)	(22.0)	(17.8)	(18.7)	(13.4)
50	-	148	-	148	-	35.0	-	234	-	257	-	125	-	9.50	-	10.00	-	8.50
(2)	-	(5.8)	-	(5.8)	-	(1.37)	-	(9.2)	-	(10.1)	-	(4.9)	-	(20.9)	-	(22.0)	-	(18.7)

SIZE mm (inch)	Class - 1500																	
	GATE			GLOBE			CHECK			GATE								
	A	ØB	C (Open)	ØD	WT 1)	ØD	WT 1)	ØD	WT 1)	A	ØB	C (Open)						
15	88	9	173	178	54	110	2.3	2.4	1.6	106	11	216	217	72	200	4.0	4.2	2.9
(1/2)	(3.5)	(0.3)	(6.8)	(7.0)	(2.1)	(4.3)	(5.0)	(5.3)	(3.5)	(4.2)	(0.4)	(8.5)	(8.5)	(2.8)	(7.9)	(8.8)	(9.2)	(6.4)
20	92	12	180	190	68	110	3.3	3.4	2.4	128	14	225	242	102	200	9.8	10.3	6.7
(3/4)	(3.6)	(0.5)	(7.1)	(7.5)	(2.7)	(4.3)	(7.3)	(7.5)	(5.3)	(5.0)	(0.6)	(8.9)	(9.5)	(4.0)	(7.9)	(21.6)	(22.7)	(14.8)
25	106	15	216	222	72	170	4.0	4.2	2.9	140	19	269	281	112	200	13.6	14.2	9.6
(1)	(4.2)	(0.6)	(8.5)	(8.7)	(2.8)	(6.7)	(8.8)	(9.3)	(6.4)	(5.5)	(0.7)	(10.6)	(11.1)	(4.4)	(7.9)	(30.0)	(31.3)	(21.2)
40	128	27	249	250	102	170	12.0	13.5	9.0	-	-	-	-	-	-	-	-	-
(1 1/2)	(5.0)	(1.1)	(9.8)	(9.8)	(4.0)	(6.7)	(26.5)	(29.8)	(19.8)	-	-	-	-	-	-	-	-	-
50	140	34	292	296	112	200	13.6	14.2	9.6	-	-	-	-	-	-	-	-	-
(2)	(5.5)	(1.3)	(11.5)	(11.6)	(4.4)	(7.9)	(30.0)	(31.3)	(21.2)	-	-	-	-	-	-	-	-	-

SIZE mm (inch)	Class - 2500																	
	GATE			GLOBE			CHECK			GATE								
	A	ØB	C (Open)	ØD	WT 1)	ØD	WT 1)	ØD	WT 1)	A	ØB	C (Open)						
15	88	9	173	178	54	110	2.3	2.4	1.6	106	11	216	217	72	200	4.0	4.2	2.9
(1/2)	(3.5)	(0.3)	(6.8)	(7.0)	(2.1)	(4.3)	(5.0)	(5.3)	(3.5)	(4.2)	(0.4)	(8.5)	(8.5)	(2.8)	(7.9)	(8.8)	(9.2)	(6.4)
20	92	12	180	190	68	110	3.3	3.4	2.4	128	14	225	242	102	200	9.8	10.3	6.7
(3/4)	(3.6)	(0.5)	(7.1)	(7.5)	(2.7)	(4.3)	(7.3)	(7.5)	(5.3)	(5.0)	(0.6)	(8.9)	(9.5)	(4.0)	(7.9)	(21.6)	(22.7)	(14.8)
25	106	15	216	222	72	170	4.0	4.2	2.9	140	19	269	281	112	200	13.6	14.2	9.6
(1)	(4.2)	(0.6)	(8.5)	(8.7)	(2.8)	(6.7)	(8.8)	(9.3)	(6.4)	(5.5)	(0.7)	(10.6)	(11.1)	(4.4)	(7.9)	(30.0)	(31.3)	(21.2)
40	128	27	249	250	102	170	12.0	13.5	9.0	-	-	-	-	-	-	-	-	-
(1 1/2)	(5.0)	(1.1)	(9.8)	(9.8)	(4.0)	(6.7)	(26.5)	(29.8)	(19.8)	-	-	-	-	-	-	-	-	-
50	140	34	292	296	112	200	13.6	14.2	9.6	-	-	-	-	-	-	-	-	-
(2)	(5.5)	(1.3)	(11.5)	(11.6)	(4.4)	(7.9)	(30.0)	(31.3)	(21.2)	-	-	-	-	-	-	-	-	-

Materials : Refer Globe Valves materials chart.

Body, Bonnet, Gland flange & Cover	ASTM A105 / ASTM A182 Gr. F11, F22, F5, F9, F304 & F316.
Wedge / Plug	ASTM A217 Gr. CA15 / ASTM A351 Gr. CF8 /CF8M
Disc/Seat Ring / Stem & Gland	ASTM A276 TYPE 410 / 304/ 316
Yoke Sleeve	S.G. Iron EN 1563 NO. EN-JS 1050 /Ni - Resist ASTM A439 Gr. D2
Packing	Pre moulded Grafoil rings /Braided + Moulded Grafoil rings.●
Gasket	Spiral Wound 304/316 with CAF/Graphite/PTFE filled
Spring	ASTM A312 TYPE 316
Stud/Nut	ASTM A193 Gr. B7/B16/B8/B8M/A914 Gr.2H/7/8/8M
Hand Wheel	Malleable iron
Surface Protection for Carbon Steel Valves	Prime Coat : Chlorine free with modified alkyd resin unobjectionable in physiological and toxicological respects. Additional external coating : Silver Streak aluminium paint.

1) Nett in Kg. (lbs) approx. (without obligation) ● For Class 2500 ▶ For Class 800, Gland Bolting shall be either Eye Bolt or Stud Bolting Design, dimension ØD refer sales drawings. ▶ Welded Flanged ends Valves available on request. ▶ Stellite Seating & Wedge/Plug/ Disc & Seal Welded Bonnet as standard for Class 1500 & 2500, available on request for Class 800 valves. ▶ When Stellite, Body Seat is integral as standard for Class 800, 1500 & 2500 Globe & Lift Check Valves. ▶ Class 2500 Y-Pattern Globe & Lift Check Valves, Straight Pattern Gate Valves are also available on request. ▶ Please Specify Working pressure. Temperature & Service conditions. ▶ Other Materials not mentioned above available on request.

TECHNICAL DATA

TORQUE VALUES IN Nm (ft. lbs) 100 % ΔP

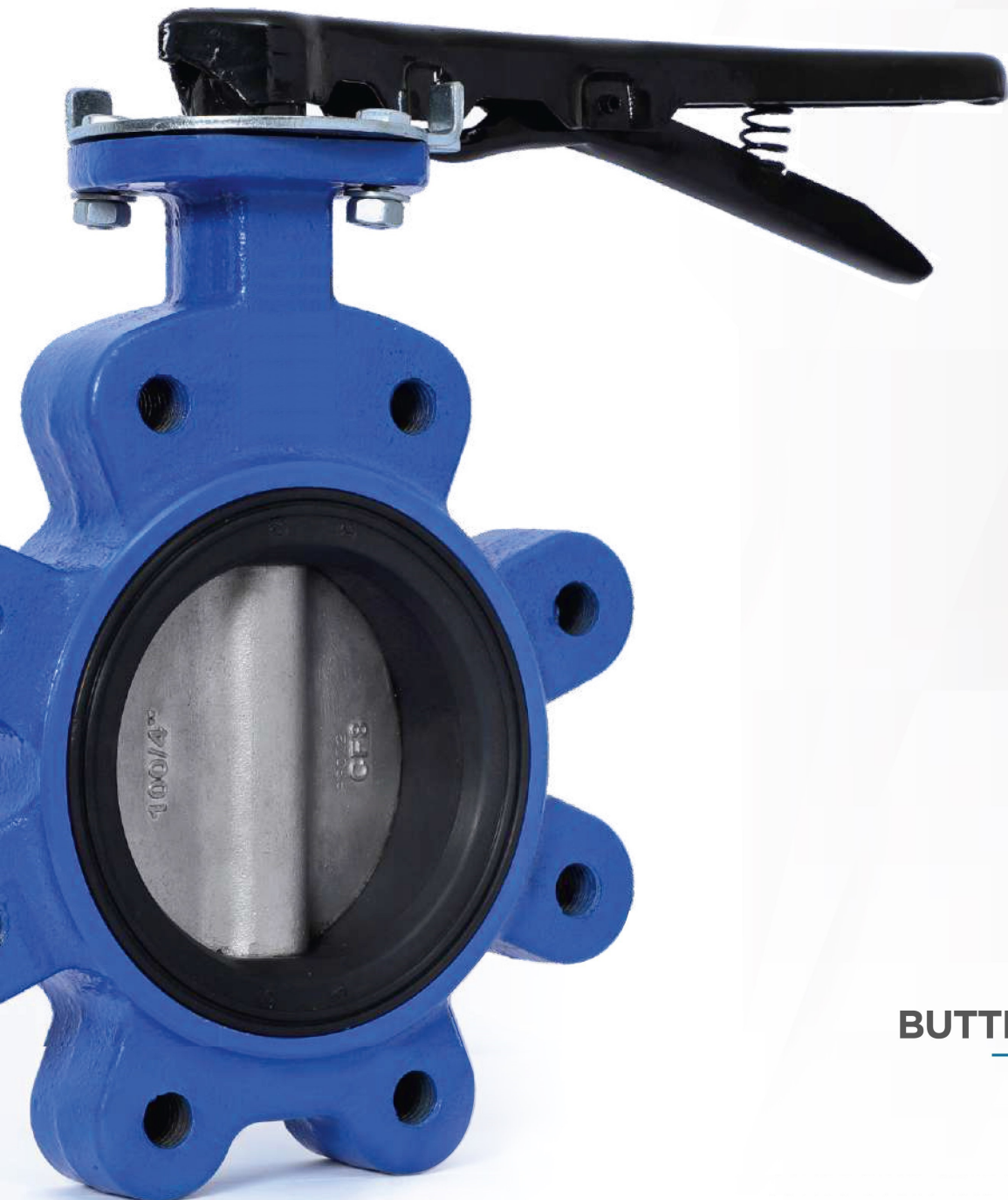
SIZE	GATE CLASS						GLOBE CLASS					
	150	300	600	900	1500	2500	150	300	600	900	1500	2500
15	2	5	-	-	-	-	2	6	-	-	-	-
(1/2)	(1.5)	(3.7)	-	-	-	-	(1.5)	(4.4)	-	-	-	-
20	3	6	-	-	-	-	3	8	-	-	-	-
(3/4)	(2.2)	(4.4)	-	-	-	-	(2.2)	(5.9)	-	-	-	-
25	4	10	-	-	-	-	5	15	-	-	-	-
(1)	(3.0)	(7.4)	-	-	-	-	(3.7)	(11.1)	-	-	-	-
40	7	17	-	-	-	-	8	22	-	-	-	-
(1 ½)	(5.2)	(12.5)	-	-	-	-	(5.9)	(16.2)	-	-	-	-
50	80	20	23	54	90	116	9	24	57	127	212	238
(2)	(5.9)	(14.8)	(17.0)	(39.9)	(66.4)	(85.6)	(6.6)	(17.1)	(42.1)	(93.7)	(156.5)	(175.6)
65	9	22	33	77	128	145	13	41	92	181	302	433
(2 ½)	(6.6)	(16.2)	(24.4)	(56.8)	(94.5)	(107.0)	(9.6)	(30.3)	(67.9)	(133.6)	(222.9)	(319.6)
80	13	35	48	116	188	192	20	61	136	314	495	700
(3)	(9.6)	(25.8)	(35.4)	(85.6)	(138.7)	(141.7)	(14.8)	(45.0)	(100.4)	(231.7)	(365.3)	(516.6)
100	20	60	73	169	269	309	42	111	287	525	795	1072
(4)	(14.8)	(44.3)	(53.9)	(124.7)	(198.5)	(228.0)	(31.0)	(81.9)	(211.8)	(387.5)	(586.7)	(791.1)
125	28	92	95	287	449	568	62	193	532	825	1197	2021
(5)	(20.7)	(68.0)	(70.1)	(211.8)	(331.4)	(419.2)	(45.8)	(142.4)	(392.6)	(608.9)	(883.4)	(1491.5)
150	40	104	219	427	671	843	101	292	810	1455	1840	3013
(6)	(29.5)	(76.8)	(161.6)	(315.1)	(495.2)	(622.1)	(74.5)	(215.5)	(597.8)	(1073.8)	(1357.9)	(2223.6)
200	41	115	337	825	1299	2020	191	616	1431	2828	5829	7106
(8)	(30.3)	(84.9)	(248.7)	(608.9)	(958.7)	(1490.8)	(141.0)	(454.6)	(1056.1)	(2087.1)	(4301.8)	(5244.2)
250	66	186	586	1034	1728	2285	334	1043	2454	3729	11674	-
(10)	(48.7)	(137.3)	(432.5)	(763.1)	(1275.3)	(1686.3)	(246.5)	(769.7)	(1811.1)	(2752.0)	(8615.4)	-
300	92	349	915	1598	3091	6219	509	1578	4014	8770	16382	-
(12)	(67.9)	(257.6)	(675.3)	(1179.3)	(2281.2)	(4589.6)	(375.6)	(1164.6)	(2962.3)	(6472.3)	(12089.9)	-
350	130	452	-	-	-	-	618	-	-	-	-	-
(14)	(95.9)	(333.6)	-	-	-	-	(456.1)	-	-	-	-	-
400	171	672	-	-	-	-	-	-	-	-	-	-
(16)	(126.2)	(495.9)	-	-	-	-	-	-	-	-	-	-
450	239	800	-	-	-	-	-	-	-	-	-	-
(18)	(176.4)	(590.4)	-	-	-	-	-	-	-	-	-	-
500	315	1151	-	-	-	-	-	-	-	-	-	-
(20)	(232.5)	(849.4)	-	-	-	-	-	-	-	-	-	-
600	512	1822	-	-	-	-	-	-	-	-	-	-
(24)	(377.9)	(1344.6)	-	-	-	-	-	-	-	-	-	-
650	645	2005	-	-	-	-	-	-	-	-	-	-
(26)	(476.0)	(1479.7)	-	-	-	-	-	-	-	-	-	-
700	820	2465	-	-	-	-	-	-	-	-	-	-
(28)	(605.2)	(1819.2)	-	-	-	-	-	-	-	-	-	-
750	935	3370	-	-	-	-	-	-	-	-	-	-
(30)	(690.0)	(2487.1)	-	-	-	-	-	-	-	-	-	-
800	1150	4080	-	-	-	-	-	-	-	-	-	-
(32)	(848.7)	(3011.0)	-	-	-	-	-	-	-	-	-	-
900	1365	4729	-	-	-	-	-	-	-	-	-	-
(36)	(1007.4)	(3490.0)	-	-	-	-	-	-	-	-	-	-

FOR GEAR & ELECTRICAL OPERATOR MULTIPLY THE ABOVE VALUE BY MINIMUM OF 1.2

APPLICATIONS

- 1) SATURATED & SUPER HEATED STEAM
- 2) OIL & GAS
- 3) HYDRO CARBONS
- 4) NACE & SOUR SERVICES
- 5) LNG & NATURAL GAS
- 6) STEEL & POWER PLANT
- 7) PETRO CHEMICAL & REFINERIES
- 8) OFF- SHORE & ON - SHORE PLATFORMS
- 9) CHEMICAL & PROCESS INDUSTRIES
- 10) OXYGEN & HYDROGEN SERVICES





BUTTERFLY VALVE

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02 CENTRIC LUG BODY BUTTERFLY VALVES

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2.2 Material of Construction.	... 7
2.3 Dimension Specification.	... 8

03 OPERATORS AVAILABILITY LEVER, GEAR, ACTUATOR ... 9

OUR PRODUCT RANGE

VALVE	TYPE	1.5"	2"	2.5"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"
Butterfly Valve	Wafer	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Butterfly Valve	Lug	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

CENTRIC WAFER BODY BUTTERFLY VALVE FEATURES

1. STEM Precision double “D” disc to stem connection drives the disc without the need for screws or pins. The close tolerance, double “D” connection that drives the valve disc is an exclusive feature of the KFEL valve. Disassembly of the KFEL stem is just a matter of pulling the stem out of the disc.
2. STEM RETAINING : The stem is retained in the body by means of a unique stainless steel Spirolox retaining ring, manufactured from stainless steel as standard,
3. Top plate drilled to fit iso 5211 dimensions. All handles, gear operators and pneumatic actuators are designed to mount directly.
4. STEM BUSHING : An upper stem bushing, retained by a stainless steel ring, is provided to absorb actuator side thrusts and is PTFE as standard.
5. STEM SEAL: Double “U” cup seal design is self-adjusting and gives positive sealing in both directions. Keeps environmental contaminants from entering the stem bore.
6. BODY: One piece wafer or lug style allows for ease of assembly and maintenance.
7. SEAT: KFEL’s Replaceable tongue and groove seat design provides complete isolation of flowing media from the body. The seat also features a moulded o-ring which eliminates the need of flange gaskets.
8. DISC/STEM: One piece design. The disc edge is spherically machined and hand polished to produce a bubble tight shut off, minimum torque, and longer seat life. For erosion and abrasion resistance.



CENTRIC WAFER BODY BUTTERFLY VALVE



TECHNICAL SPECIFICATION

Design & Manufacturing Standards

API 609 / BS EN-593 / IS13095 / ASME B16.5 / ISO 7005

Testing Standard

API 598 / API6D / BSEN 12266-1

Valve face to face Dimension

Category A API 609 / IS13095 / EN593 / ISO5752Tab5

TOP Flange Drilling

ISO 5211

Flang Standard

DIN EN 1092-PN6, PN10, Class 150, BS10 Tab D&E, IS6392, Tab 11/17, JIS 5K/10K

MATERIAL OF CONSTRUCTION

BODY

Cast Iron ASTM A126 Class B IS 210 FG 260,
Ductile Iron ASTM A 395 (60-40-18), WCB (CS)
ASTM A 216, Stainless Steel (CF8M/CF8) ASTM A 351M/351

DISC

Cast Iron ASTM A126 Class B IS 210 FG 260, Ductile Iron
ASTM A 395 (60-40-18), WCB (CS) ASTM A 216,
Stainless Steel (CF8M/CF8) ASTM A 351M/351
Alluminium Bronze, Duplex, Super Duplex

***DISC also available with Rubber Lining in EBBONITE/
EPDM/NBR/NYLON/HYPLON (with Gurranted Spark
Test Pass)**

SEAT

EPDM / White EPDM (FOOD GRADE)
BUNA-N / White - BUNA N (Food Garde)
(NITRILE - NBR) VITON, HYPLON, BUTYLE, SILICON,
NEOPRENE, NATURAL RUBBER

STEM

Stainless Steel ASTM A 479 TYPE 410
Stainless Steel ASTM A 276 TYPE 316
Stainless Steel ASTM A 276 TYPE 304
Duplex, Super Duplex, Monel, Bronze

STEM BUSHING : PTFE, ACETAL

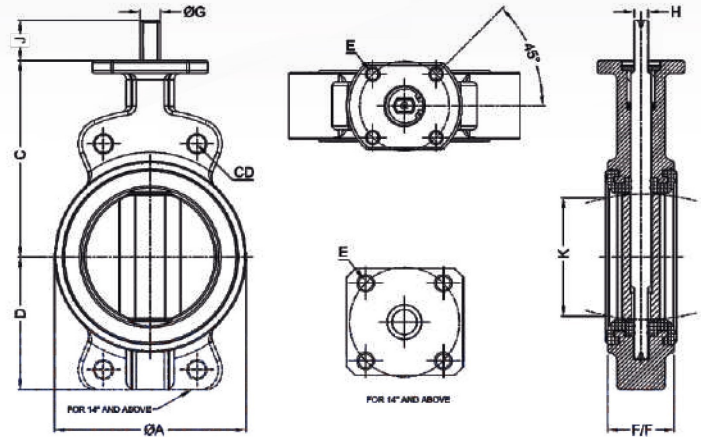
OIL SEAL (Stem Seal) : EPDM

WASHER : SS304

RETAINING CIRCLIP : SPRING STEEL

Note : Note : All Body and Disc are **IC** Cast from 1.5" (**DN40**) To 24" (**DN600**) Available. any other Special Material are also work on request for Body / Disc / Stem / Seat.

DIMENSION SPECIFICATION



Valve Size		ØA	F/F	C	D	Top Mounting Flange			ØG	H	J	K	Bolting Dia	
Inch	DIN					E	No. of Holes	Hole Dia					ASME B16.5 CD	ISD 7005 CD
1.5	40	71.80	43.00	87.00	47.00	F05	4	8.00	12.00	8.00	30.00	-	98.40	110.00
2	50	91.00	43.00	113.00	59.00	F05	4	8.00	14.00	10.00	29.40	30.98	120.70	125.00
2.5	65	96.80	46.00	110.00	61.00	F05	4	8.00	14.00	10.00	30.00	48.741	139.70	145.00
3	80	116.80	46.00	128.00	73.00	F05	4	8.00	14.00	10.00	30.00	66.42	152.40	160.00
4	100	149.00	52.00	154.00	91.00	F07	4	9.00	16.00	11.00	31.40	90.64	190.50	180.00
5	125	168.90	56.00	169.00	105.00	F07	4	9.00	19.00	13.00	32.00	115.10	215.90	210.00
6	150	202.00	56.00	189.00	122.00	F07	4	9.00	19.00	13.00	30.00	140.23	241.30	240.00
8	200	250.00	60.00	214.00	146.00	F07/F10	4/4	9.00/11.00	22.00	16.00	30.00	189.53	298.50	295.00
10	250	308.00	68.00	251.00	185.00	F10	4	11.00	28.00	20.00	32.00	240.99	362.00	350.00
12	300	361.40	78.00	289.00	214.00	F10	4	11.00	30.00	22.00	32.00	289.68	431.80	400.00
14	350	413.00	78.00	340.00	262.00	F12	4	14.50	35.00	27.00	52.00	325.65	476.30	460.00
16	400	474.00	102.00	373.00	294.00	F12	4	14.50	35.00	27.00	52.00	374.88	539.80	515.00
18	450	528.00	114.00	407.00	319.00	F16	4	21.00	47.00	36.00	59.00	424.97	577.90	565.00
20	500	582.00	127.00	436.00	354.00	F16	4	21.00	49.00	36.00	59.00	473.25	635.00	620.00
22	550	634.00	127.00	464.00	381.00	F16	4	21.00	49.00	36.00	59.00	525.88	692.10	-
24	600	690.00	154.00	494.00	422.00	F16	4	21.00	59.00	46.00	80.00	571.61	749.30	725.00

Torque Rating(NM) for Rubber Line Wafer Butterfly Valve

VALVE	1.5"	2"	2.5"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"	
Full Rated Pressure	3.5	7	7	13	14	29	44	58	102	164	269	351	418	659	768	996	1091
Valve ΔP Bar (PSI)	7	8	8	14	18	30	47	65	118	183	317	401	504	825	957	1295	1412
	10	8	8	14	18	30	48	66	122	198	337	450	585	989	1144	1684	1760
	12	12	12	18	23	34	53	73	131	218	369	540	702	1186	1373	2189	2288
	16	17	17	22	32	45	65	110	210	319	468	800	1025	1730	2002	2845	3080

CENTRIC LUG BODY BUTTERFLY VALVE FEATURES

1. STEM Precision double “D” disc to stem connection drives the disc without the need for screws or pins. The close tolerance, double “D” connection that drives the valve disc is an exclusive feature of the KFEL valve. Disassembly of the KFEL stem is just a matter of pulling the stem out of the disc.

2. STEM RETAINING : The stem is retained in the body by means of a unique stainless steel Spirolox retaining ring, manufactured from stainless steel as standard,

3. Top plate drilled to fit iso 5211 dimensions. All handles, gear operators and pneumatic actuators are designed to mount directly.

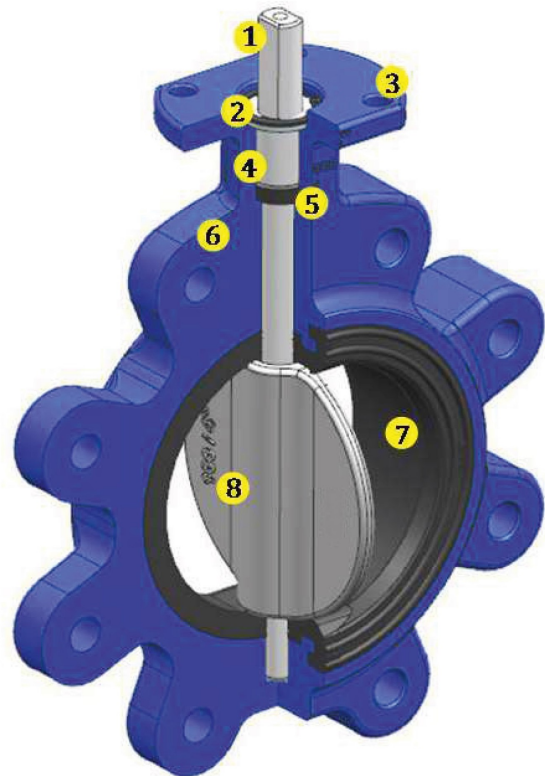
4. STEM BUSHING : An upper stem bushing, retained by a stainless steel ring, is provided to absorb actuator side thrusts and is PTFE as standard.

5. STEM SEAL: Double “U” cup seal design is self-adjusting and gives positive sealing in both directions. Keeps environmental contaminants from entering the stem bore.

6. BODY: One piece wafer or lug style allows for ease of assembly and maintenance.

7. SEAT: KFEL’s Replaceable tongue and groove seat design provides complete isolation of flowing media from the body. The seat also features a moulded o-ring which eliminates the need of flange gaskets.

8. DISC/STEM: One piece design. The disc edge is spherically machined and hand polished to produce a bubble tight shut off, minimum torque, and longer seat life. For erosion and abrasion resistance.



CENTRIC LUG BODY BUTTERFLY VALVE



TECHNICAL SPECIFICATION

Design & Manufacturing Standards

API 609 / BS EN-593 / IS13095 / ASME B16.5 / ISO 7005

Testing Standard

API 598 / API6D / BSEN 12266-1

Valve face to face Dimension

Category A API 609 / IS13095 / EN593 / ISO5752Tab5

TOP Flange Drilling

ISO 5211

Flang Standard

DIN EN 1092-PN6, PN10, Class 150, BS10
Tab D&E, IS6392, Tab 11/17, JIS 5K/10K

MATERIAL OF CONSTRUCTION

BODY

Cast Iron ASTM A126 Class B IS 210 FG 260,
Ductile Iron ASTM A 395 (60-40-18), WCB (CS)
ASTM A 216, Stainless Steel (CF8M/CF8) ASTM A 351M/351

DISC

Cast Iron ASTM A126 Class B IS 210 FG 260, Ductile Iron
ASTM A 395 (60-40-18), WCB (CS) ASTM A 216,
Stainless Steel (CF8M/CF8) ASTM A 351M/351
Alluminium Bronze, Duplex, Super Duplex

***DISC also available with Rubber Lining in EBBONITE/
EPDM/NBR/NYLON/HYPLON (with Gurranted Spark
Test Pass)**

SEAT

EPDM / White EPDM (FOOD GRADE)
BUNA-N / White - BUNA N (Food Garde)
(NITRILE - NBR) VITON, HYPLON, BUTYLE, SILICON,
NEOPRENE, NATURAL RUBBER

STEM

Stainless Steel ASTM A 479 TYPE 410
Stainless Steel ASTM A 276 TYPE 316
Stainless Steel ASTM A 276 TYPE 304
Duplex, Super Duplex, Monel, Bronze

STEM BUSHING : PTFE, ACETAL

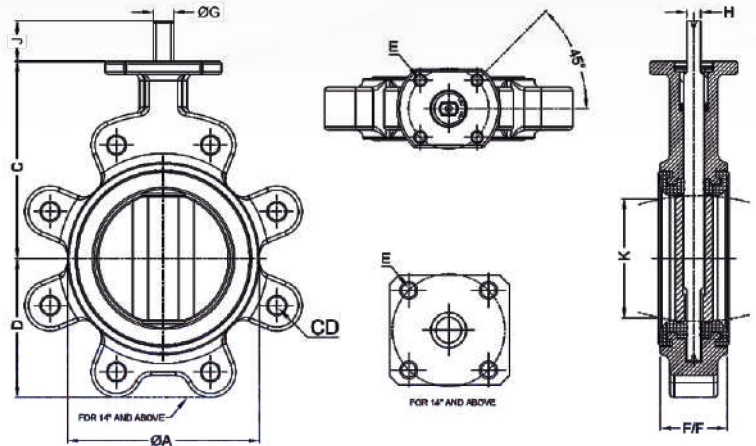
OIL SEAL (Stem Seal) : EPDM

WASHER : SS304

RETAINING CIRCLIP : SPRING STEEL

Note : Note : All Body and Disc are **IC** Cast from
1.5" (**DN40**) To 24" (**DN600**) Available. any other
Special Material are also work on request for
Body / Disc / Stem / Seat.

DIMENSION SPECIFICATION



Valve Size		ØA	F/F	C	D	Top Mounting Flange			ØG	H	J	K	Bolting Dia		
Inch	DIN					E	No. of Holes	Hole Dia					ASME B16.5 CD	No. of Holes	Threads UNC-2B
1.5	40	71.80	43.00	87.00	47.00	F05	4	8.00	12.00	8.00	30.00	-	98.40	4	1/2-13
2	50	91.00	43.00	113.00	59.00	F05	4	8.00	14.00	10.00	29.40	30.98	120.70	4	5/8-11
2.5	65	96.80	46.00	110.00	61.00	F05	4	8.00	14.00	10.00	30.00	48.741	139.70	4	5/8-11
3	80	116.80	46.00	128.00	73.00	F05	4	8.00	14.00	10.00	30.00	66.42	152.40	4	5/8-11
4	100	149.00	52.00	154.00	91.00	F07	4	9.00	16.00	11.00	31.40	90.64	190.50	8	5/8-11
5	125	168.90	56.00	169.00	105.00	F07	4	9.00	19.00	13.00	32.00	115.10	215.90	8	3/4-10
6	150	202.00	56.00	189.00	122.00	F07	4	9.00	19.00	13.00	30.00	140.23	241.30	8	3/4-10
8	200	250.00	60.00	214.00	146.00	F07/F10	4/4	9.00/11.00	22.00	16.00	30.00	189.53	398.50	8	3/4-10
10	250	308.00	68.00	251.00	185.00	F10	4	11.00	28.00	20.00	32.00	240.99	362.00	12	7/8-9
12	300	361.40	78.00	289.00	214.00	F10	4	11.00	30.00	22.00	32.00	289.68	431.80	12	7/8-9
14	350	413.00	78.00	340.00	262.00	F12	4	14.50	35.00	27.00	52.00	325.65	476.30	12	1-8
16	400	474.00	102.00	373.00	294.00	F12	4	14.50	35.00	27.00	52.00	374.88	539.80	16	1-8
18	450	528.00	114.00	407.00	319.00	F16	4	21.00	47.00	36.00	59.00	424.97	577.90	16	1 1/8-7
20	500	582.00	127.00	436.00	354.00	F16	4	21.00	49.00	36.00	59.00	473.25	635.00	20	1 1/8-7
22	550	634.00	127.00	464.00	381.00	F16	4	21.00	49.00	36.00	59.00	525.88	692.10	20	1 1/4-7
24	600	690.00	154.00	494.00	422.00	F16	4	21.00	59.00	46.00	80.00	571.61	749.30	20	1 1/4-7

Torque Rating(NM) for Rubber Line Lug Butterfly Valve

VALVE	1.5"	2"	2.5"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"	
Full Rated Pressure	3.5	7	7	13	14	29	44	58	102	164	269	351	418	659	768	996	1091
Valve ΔP Bar	7	8	8	14	18	30	47	65	118	183	317	401	504	825	957	1295	1412
(PSI)	10	8	8	14	18	30	48	66	122	198	337	450	585	989	1144	1684	1760
	12	12	12	18	23	34	53	73	131	218	369	540	702	1186	1373	2189	2288
	16	17	17	22	32	45	65	110	210	319	468	800	1025	1730	2002	2845	3080

OPERATORS



BARE SHAFT

Valve up to Size 24" for customizes Operating System available in Different Shape & Size Stem Direct Mounting



LEVER

Valve up to 12" Size Depending on pressure rating can be supplied with lever handles for manual operation. Pad locking can also be provided for preventing unauthorized operation.



GEAR

Valve up to 24" Size can be direct mounted with gear operators for manual operation gear operates can be attached with chain wheel operators for opening or closing valves located on pipe lines at high elevators.

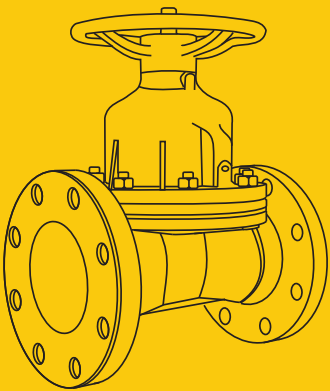


ACTUATOR

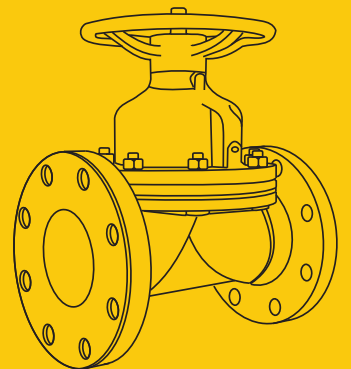
Valve can be direct mounted with pneumatic Actuator or Electric Actuators and access for complete automation options controlled valves can be mounted with manual override.

SEAT SELECTION GUIDE

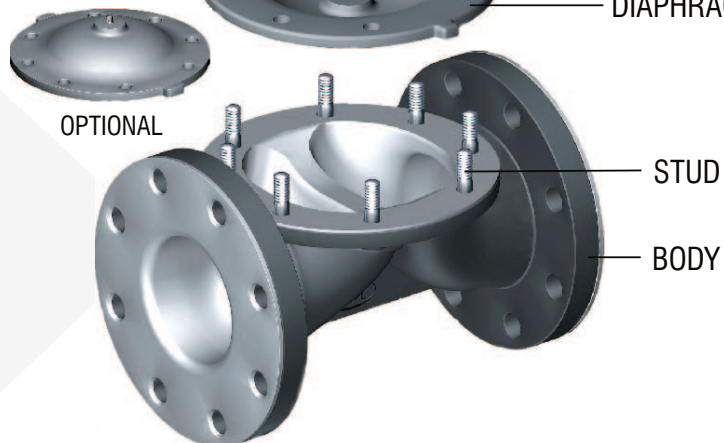
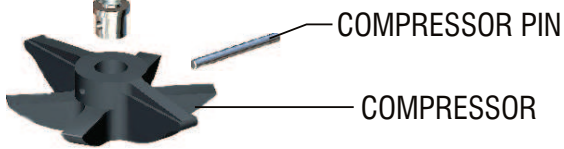
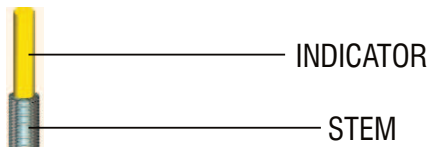
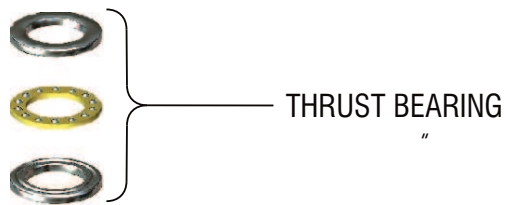
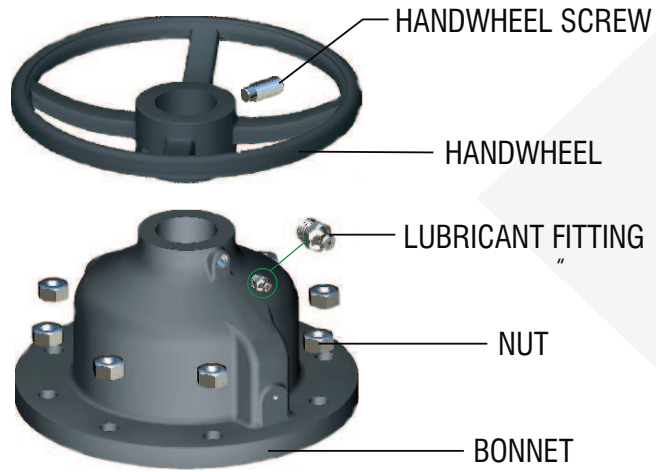
Seat Type	Temperature Range		Media
	Max	Max	
EPDM / White EPDM	-20°F (-29°C)	302°F (150°C)	Water+Steam+Chemical Oils All Oils Hot Air Application & All Food Ind. Goods Whether Resistance Moderate Oil Resistant All Oils
Buna-N / White Buna-N (Nitrile)	0°F (-18°C)	212°F (100°C)	
Viton (FKM)	0°F (-18°C)	392°F (200°C)	
Silicon	0°F (-18°C)	392°F (200°C)	
Neoprene	0°F (-18°C)	240°F (120°C)	Moderate Oil Resistant All Oils
Viton Extreme	0°F (-18°C)	536°F (280°C)	



DIAPHRAGM VALVES

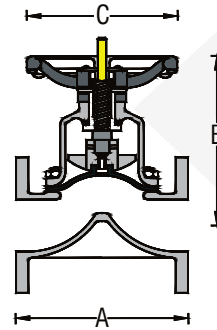


SERIES 'S' NON RISING HANDWHEEL



DIAPHRAGM VALVES

SERIES 'S' NON RISING HANDWHEEL



DESIGN STD : BS EN 13397 TESTING STD : BS 6755 - 1

		Test Pressure in bar (psi)			
		Series 'S2K'			
Pressure rating 2)		16	10	7	5
Hyd. Shell		24 (348)	15 (218)	10.5 (152)	9 (131)
Seat		16 (232)	10 (145)	7 (102)	6 (87)
Air Seat				5 (73)	

Dimensions are in mm (Inch)

SERIES 'S' WEIR TYPE

SIZE mm (inch)	BS			DIN Unlined & Lined	MSS SP-88 PFA Lined	B	C	Wt 1)		
	Unlined	Rubber Lined	PFA Lined					BS	DIN	MSS
15 (1/2)	108 (4.3)	114 (4.5)	114 (4.5)	130 (5.1)	108 (4.3)	92 (3.6)	70 (2.8)	2.5 (5.5)	2.8 (6.2)	2.5 (5.5)
20 (3/4)	117 (4.6)	123 (4.8)	123 (4.8)	150 (5.9)	149 (5.9)	100 (3.9)	70 (2.8)	2.6 (5.7)	3.2 (7.0)	3.0 (6.6)
25 (1)	127 (5.0)	133 (5.2)	133 (5.2)	160 (6.3)	149 (5.9)	114 (4.5)	100 (3.9)	3.5 (7.7)	4.2 (9.3)	4.0 (8.8)
32 (1 1/4)	146 (5.7)	152 (6.0)	152 (6.0)	180 (7.1)	152 (6.0)	115 (4.5)	100 (3.9)	4.5 (9.9)	5.5 (12.1)	5.0 (11.0)
40 (1 1/2)	159 (6.3)	165 (6.5)	165 (6.5)	200 (7.9)	176 (6.9)	153 (6.0)	140 (5.5)	7.0 (15.4)	8.0 (17.6)	7.5 (16.5)
50 (2)	190 (7.5)	196 (7.7)	196 (7.7)	230 (9.1)	202 (7.9)	160 (6.3)	140 (5.5)	10 (22)	15 (33)	11 (24)
65 (2 1/2)	216 (8.5)	222 (8.7)	222 (8.7)	290 (11.4)	222 (8.7)	180 (7.1)	180 (7.1)	15 (33)	19 (42)	16 (35)
80 (3)	254 (10.0)	260 (10.2)	260 (10.2)	310 (12.2)	264 (10.4)	233 (9.2)	225 (8.9)	22 (49)	26 (57)	23 (51)
100 (4)	305 (12.0)	313 (12.3)	311 (12.2)	350 (13.8)	329 (12.9)	256 (10.1)	225 (8.9)	37 (82)	42 (93)	37 (82)
125 (5)	356 (14.0)	364 (14.3)	362 (14.2)	400 (15.7)	416 (16.4)	306 (12.0)	310 (12.2)	62 (137)	68 (150)	70 (154)
150 (6)	406 (15.9)	414 (16.3)	412 (16.2)	480 (18.9)	416 (16.4)	368 (14.5)	368 (14.5)	91 (201)	106 (234)	93 (205)
200 (8)	521 (20.5)	529 (20.8)	527 (20.7)	600 (23.6)	530 (20.9)	479 (18.9)	471 (18.5)	163 (359)	185 (408)	166 (366)
250 (10)	635 (25.0)	645 (25.4)	641 (25.2)	730 (28.7)	-	585 (23.0)	587 (23.1)	240 (529)	275 (606)	-
300 (12)	749 (29.5)	759 (29.9)	-	850 (33.5)	-	689 (27.1)	690 (27.2)	418 (921)	480 (1058)	-
350 (14)	749 (29.5)	759 (29.9)	-	980 (38.6)	-	830 (32.7)	690 (27.2)	480 (1058)	550 (1212)	-

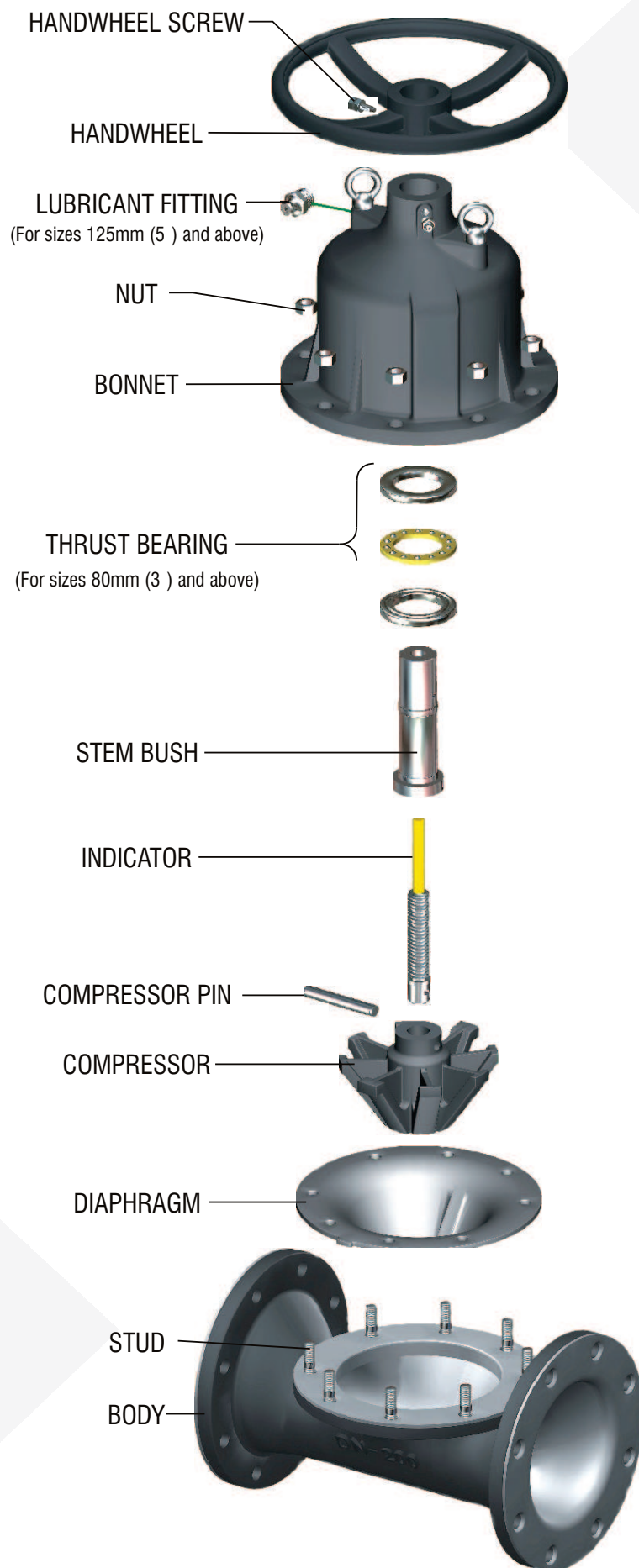
Materials

Body/Bonnet/Compressor	Cast Iron ASTM A126 Class B / EN-1561 No.EN-JL1040 / S G Iron EN-1563 No.EN-JS1024, Cast Steel ASTM A743 Gr. CC50 / ASTM A216 Gr. WCB / Stainless Steel ASTM A351 Gr. CF8 / CF8M / CN7M
Body Lining	Ebonite / Natural / Butyl / Neoprene / EPDM / Nitrile, other Elastomers & even PFA, ETFE, PP etc.
Diaphragm	Natural / Butyl / Neoprene / EPDM / Nitrile / Hypalon / Viton / Silicon / PTFE etc.
Stem	Steel ASTM A276 TYPE 410
Bushing	S G Iron EN-1563 No.EN-JS1050
Connecting studs / nuts	Steel Gr. 4.6 / 4
Handwheel	Cast Iron ASTM A126 Class B / EN-1561 No.EN-JL1040
Surface Protection for Cast Iron and Cast Carbon Steel Valves	Prime Coat : Chlorine free with modified alkyd resin unobjectionable in physiological and toxicological respects. Additional external coating : Black Stoving Enamel

1) Net in Kg. (lbs) approx. (without obligation) 2) Pressure Rating : Series 'S' for Sizes 15mm (1/2") to 50mm (2") - 16 bar (232 psi), for Sizes 65mm (2 1/2") to 150mm (6") - 10 bar (145 psi), for Size 200mm (8") - 7 bar (102 psi). ■ Halar coating also available on request. ■ Face to Face Dimension (A) for Size 350mm (14") as per 'KFEL' Standard. ■ Valves Flanges can be drilled to suit ASME / BS / DIN / JIS. ■ Please Specify Working Pressure, Temperature & Service conditions. ■ Valves can be supplied with Pad - lock, Chainwheel, Travel Stop Arrangement, Extended Stem, Electrical / Pneumatic Actuators & other accessories like Limit Switch, Solenoid Valve, Air Filtre Regulator, Positioner etc. ■ Other Materials not mentioned above available on request.

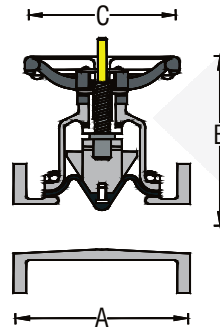
DIAPHRAGM VALVES

SERIES 'K' NON RISING HANDWHEEL



DIAPHRAGM VALVES

SERIES 'K' NON RISING HANDWHEEL



DESIGN STD : BS EN 13397 TESTING STD : BS 6755 - 1

Test Pressure in bar (psi)			
Series 'K'			
Pressure rating 2)	10	7	5
Hyd. Shell	15 (218)	10.5 (152)	6 (87)
Seat	10 (145)	7 (102)	5 (73)
Air Seat		5 (73)	

Dimensions are in mm (Inch)

SERIES 'K' WEIR TYPE

SIZE mm (Inch)	BS			DIN		MSS		Wt 1)	
	Unlined	Rubber Lined	PFA Lined	Unlined & Lined	SP-88 PFA Lined	B	C	BS	DIN
15 (1/2)	108 (4.3)	114 (4.5)	114 (4.5)	130 (5.1)	108 (4.3)	90 (3.5)	70 (2.8)	2.4 (5.3)	2.6 (5.7)
20 (3/4)	117 (4.6)	123 (4.8)	123 (4.8)	150 (5.9)	149 (5.9)	90 (3.5)	70 (2.8)	2.8 (6.2)	3.2 (6.6)
25 (1)	127 (5.0)	133 (5.2)	133 (5.2)	160 (6.3)	149 (5.9)	112 (4.4)	100 (3.9)	4.2 (9.3)	4.6 (10.1)
32 (1 1/4)	146 (5.7)	152 (6.0)	152 (6.0)	180 (7.1)	152 (6.0)	112 (4.4)	100 (3.9)	4.5 (9.9)	5.5 (12.1)
40 (1 1/2)	159 (6.3)	165 (6.5)	165 (6.5)	200 (7.9)	176 (6.9)	112 (4.4)	100 (3.9)	5.5 (12.1)	6.0 (13.2)
50 (2)	190 (7.5)	196 (7.7)	196 (7.7)	230 (9.1)	202 (7.9)	146 (5.7)	140 (5.5)	10 (22)	11 (24)
65 (2 1/2)	216 (8.5)	222 (8.7)	222 (8.7)	290 (11.4)	222 (8.7)	177 (7.0)	180 (7.1)	15 (33)	17 (37)
80 (3)	254 (10.0)	260 (10.2)	260 (10.2)	310 (12.2)	264 (10.4)	205 (8.1)	225 (8.9)	25 (55)	28 (62)
100 (4)	305 (12.0)	313 (12.3)	311 (12.2)	350 (13.8)	329 (12.9)	244 (9.6)	225 (8.9)	32 (71)	36 (79)
125 (5)	356 (14.0)	364 (14.3)	362 (14.2)	400 (15.7)	416 (16.4)	272 (10.7)	310 (12.2)	57 (126)	64 (141)
150 (6)	406 (15.9)	414 (16.3)	412 (16.2)	480 (18.9)	416 (16.4)	433 (14.5)	368 (14.5)	66 (146)	81 (179)
200 (8)	521 (20.5)	529 (20.8)	527 (20.7)	600 (23.6)	530 (20.9)	420 (16.5)	368 (14.5)	115 (253)	135 (298)
250 (10)	635 (25.0)	645 (25.4)	641 (25.2)	730 (28.7)	-	545 (21.5)	587 (23.1)	180 (397)	235 (518)
300 (12)	749 (29.5)	759 (29.9)	-	850 (33.5)	-	640 (25.2)	587 (23.1)	280 (617)	300 (661)
350 (14)	749 (29.5)	759 (29.9)	-	980 (38.6)	-	640 (25.2)	587 (23.1)	300 (661)	320 (706)

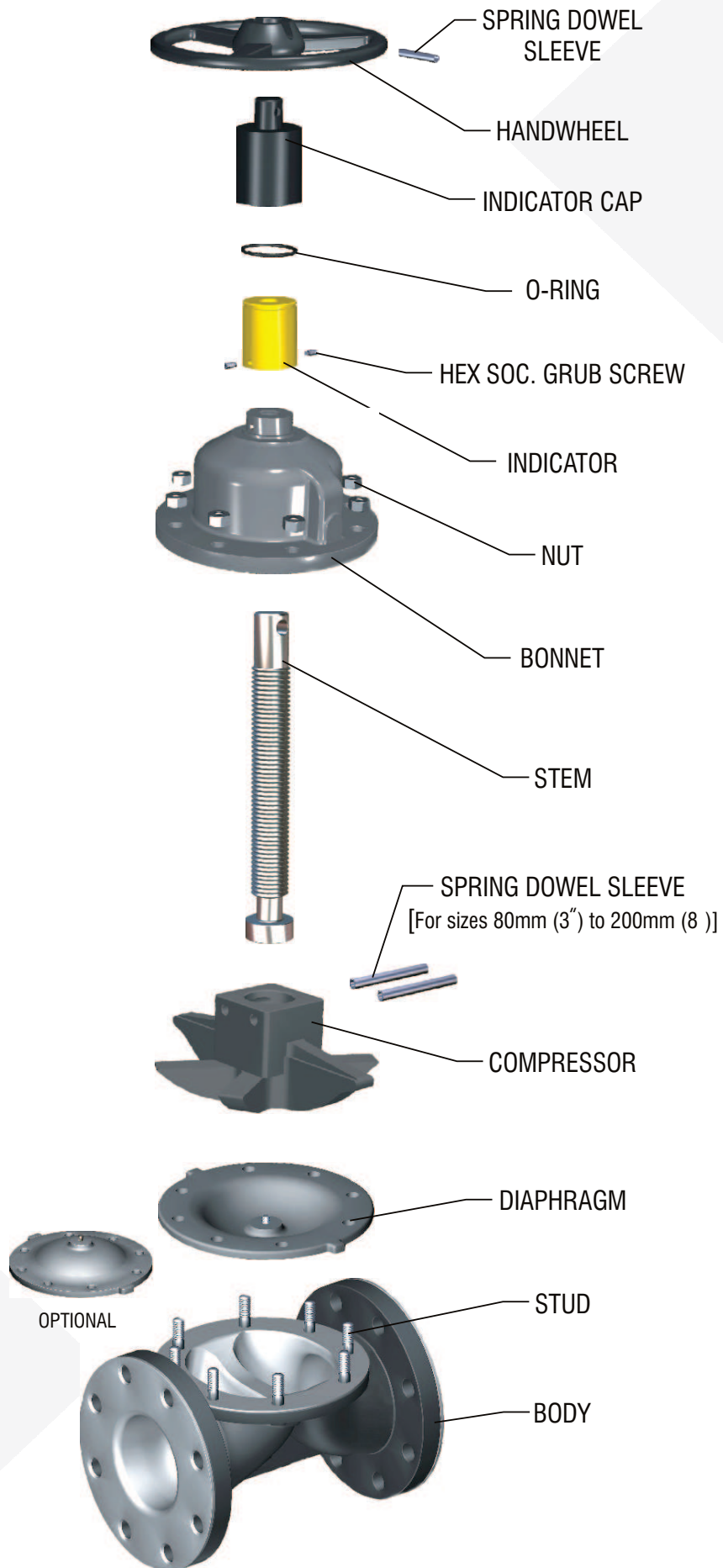
Materials

Body/Bonnet/Compressor	Cast Iron ASTM A126 Class B / EN-1561 No.EN-JL1040 / S G Iron EN-1563 No.EN-JS1024, Cast Steel ASTM A743 Gr. CC50 / ASTM A216 Gr. WCB / Stainless Steel ASTM A351 Gr. CF8 / CF8M / CN7M
Body Lining	Ebonite / Natural / Butyl / Neoprene / EPDM / Nitrile, other Elastomers & even PFA, ETFE, PP etc.
Diaphragm	Natural / Butyl / Neoprene / EPDM / Nitrile / Hypalon / Viton / Silicon / PTFE etc.
Stem	Steel ASTM A276 TYPE 410
Bushing	S G Iron EN-1563 No.EN-JS1050
Connecting studs / nuts	Steel Gr. 4.6 / 4
Handwheel	Cast Iron ASTM A126 Class B / EN-1561 No.EN-JL1040
Surface Protection for Cast Iron and Cast Carbon Steel Valves	Prime Coat : Chlorine free with modified alkyd resin unobjectionable in physiological and toxicological respects. Additional external coating : Black Stoving Enamel

1) Net in Kg. (lbs) approx. (without obligation) 2) Pressure Rating : Series 'K' for Sizes 15mm (1/2") to 100mm (4") - 10 bar (145 psi), for Size 125mm (5") - 7 bar (102 psi), or Sizes 150mm (6") to 300mm (12") - 5 bar (73 psi) & 350mm (16") - 6 bar (87 psi) ■ Halar coating also available on request. ■ Face to Face Dimension (A) for Size 350mm (14") as per 'KFEL' Standard.

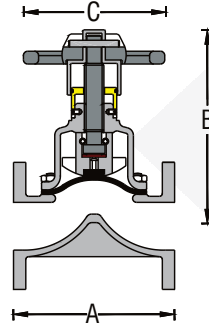
■ Valves Flanges can be drilled to suit ASME / BS / DIN / JIS. ■ Please Specify Working Pressure, Temperature & Service conditions ■ Valves can be supplied with Pad - lock, Chainwheel, Travel Stop Arrangement, Extended Stem, Electrical / Pneumatic Actuators & other accessories like Limit Switch, Solenoid Valve, Air Filter Regulator, Positioner etc. ■ Other Materials not mentioned above available on request.

SERIES 'S' RISING HANDWHEEL



DIAPHRAGM VALVES

SERIES 'S' RISING HANDWHEEL



DESIGN STD : BS EN 13397 TESTING STD : EN 12266 - 1

		Test Pressure in bar (psi)		
		Series 'S'		
Pressure rating 2)		16	10	7
Hyd. Shell		24 (348)	15 (218)	10.5 (152)
Seat		16 (232)	10 (145)	7 (102)
Air Seat			5 (73)	

Dimensions are in mm (Inch)

SERIES 'S' WEIR TYPE

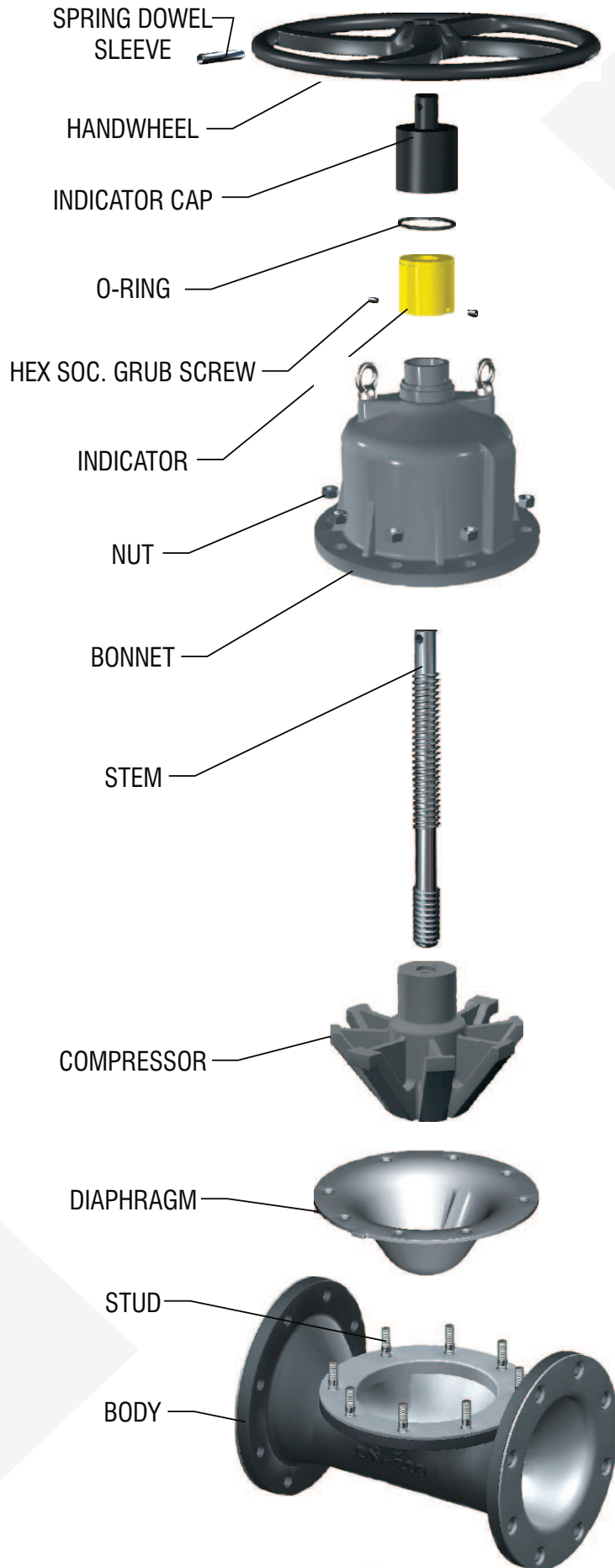
SIZE mm (inch)	← BS →			← A →		← B →		← C →		
	Unlined	Rubber Lined	PFA Lined	DIN Unlined & Lined	MSS SP-88 PFA Lined	← Wt 1) →		BS	DIN	MSS
15 (1/2)	108 (4.3)	114 (4.5)	114 (4.5)	130 (5.1)	108 (4.3)	105 (4.1)	80 (3.1)	2.5 (5.5)	2.8 (6.2)	2.5 (5.5)
20 (3/4)	117 (4.6)	123 (4.8)	123 (4.8)	150 (5.9)	149 (5.9)	115 (4.5)	80 (3.1)	2.6 (5.7)	3.2 (7.0)	3.0 (6.6)
25 (1)	127 (5.0)	133 (5.2)	133 (5.2)	160 (6.3)	149 (5.9)	132 (5.2)	120 (4.7)	3.5 (7.7)	4.2 (9.3)	4.0 (8.8)
32 (1 1/4)	146 (5.7)	152 (6.0)	152 (6.0)	180 (7.1)	152 (6.0)	140 (5.5)	120 (4.7)	4.5 (9.9)	5.5 (12.1)	5.0 (11.0)
40 (1 1/2)	159 (6.3)	165 (6.5)	165 (6.5)	200 (7.9)	176 (6.9)	180 (7.1)	150 (5.9)	7.0 (15.4)	8.0 (17.6)	7.5 (16.5)
50 (2)	190 (7.5)	196 (7.7)	196 (7.7)	230 (9.1)	202 (7.9)	210 (8.3)	150 (5.9)	10 (22)	15 (33)	11 (24)
65 (2 1/2)	216 (8.5)	222 (8.7)	222 (8.7)	290 (11.4)	222 (8.7)	235 (9.3)	180 (7.1)	15 (33)	19 (42)	16 (35)
80 (3)	254 (10.0)	260 (10.2)	260 (10.2)	310 (12.2)	264 (10.4)	305 (12.0)	250 (9.8)	22 (49)	26 (57)	23 (51)
100 (4)	305 (12.0)	313 (12.3)	311 (12.2)	350 (13.8)	329 (12.9)	340 (13.4)	250 (9.8)	38 (84)	43 (95)	38 (84)
125 (5)	356 (14.0)	364 (14.3)	362 (14.2)	400 (15.7)	416 (16.4)	420 (16.5)	315 (12.4)	63 (139)	69 (152)	71 (156)
150 (6)	406 (15.9)	414 (16.3)	412 (16.2)	480 (18.9)	416 (16.4)	490 (19.3)	360 (14.2)	92 (203)	107 (236)	94 (207)
200 (8)	521 (20.5)	529 (20.8)	527 (20.7)	600 (23.6)	530 (20.9)	645 (25.4)	470 (18.5)	164 (361)	186 (410)	167 (368)

Materials

Body/Bonnet/Compressor	Cast Iron ASTM A126 Class B / EN-1561 No.EN-JL1040 / S G Iron EN-1563 No.EN-JS1024 / ASTM A395 Gr. 60-40-18 / 30% Cr. Cast Steel ASTM A743 Gr. CC50 / ASTM A216 Gr. WCB / Stainless Steel ASTM A351 Gr. CF8 / CF8M
Body Lining	Ebonite / Natural / Butyl / Neoprene / EPDM / Nitrile, other Elastomers & even PFA, PTFE, PP etc.
Diaphragm	Natural / Butyl / Neoprene / EPDM / Nitrile / Hypalon / Viton / Silicon / PTFE etc.
Stem	Steel ASTM A276 TYPE 410
Connecting studs / nuts	Steel Gr. 4.6 / 4
Handwheel	Cast Iron ASTM A126 Class B / EN-1561 No.EN-JL1040
Surface Protection for Cast Iron and Cast Carbon Steel Valves	Prime Coat : Chlorine free with modified alkyd resin unobjectionable in physiological and toxicological respects. Additional external coating : Black Stoving Enamel

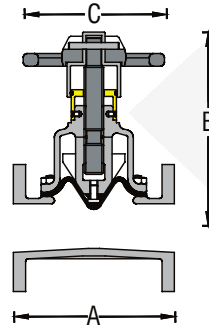
1) Net in Kg. (lbs) approx. (without obligation) 2) Pressure Rating : Series 'S' for Sizes 15mm (1/2") to 50mm (2") - 16 bar (232 psi), for Sizes 65mm (2 1/2") to 150mm (6") - 10 bar (145 psi), for Size 200mm (8") - 7 bar (102 psi). ■ Halar coating also available on request. ■ Valves Flanges can be drilled to suit ASME / BS / DIN / JIS. ■ Please Specify Working Pressure, Temperature & Service conditions. ■ Valves can be supplied with Pad - lock, Chainwheel, Travel Stop Arrangement, Extended Stem, Electrical / Pneumatic Actuators & other accessories like Limit Switch, Solenoid Valve, Air Filtre Regulator, Positioner etc. ■ Other Materials not mentioned above available on request.

SERIES 'K' RISING HANDWHEEL



DIAPHRAGM VALVES

SERIES 'K' RISING HANDWHEEL



DESIGN STD : BS EN 13397 TESTING STD : EN 12266 - 1

		Test Pressure in bar (psi)		
		Series 'K'		
Pressure rating 2)		10	7	5
Hyd.	Shell	15 (218)	10.5 (152)	6 (87)
	Seat	10 (145)	7 (102)	5 (73)
Air	Seat		5 (73)	5 (73)

Dimensions are in mm (Inch)

SERIES 'K' STRAIGHT THROUGH TYPE

SIZE mm (Inch)	BS		A		DIN		MSS		B		C		Wt 1)	
	Unlined	Rubber Lined	PFA Lined	Unlined & Lined	SP-88 PFA Lined	BS	DIN							
15 (1/2)	108 (4.3)	114 (4.5)	114 (4.5)	130 (5.1)	108 (4.3)	105 (4.1)	80 (3.1)	2.4 (5.3)	2.6 (5.7)					
20 (3/4)	117 (4.6)	123 (4.8)	123 (4.8)	150 (5.9)	149 (5.9)	115 (4.5)	80 (3.1)	2.8 (6.2)	3.0 (6.6)					
25 (1)	127 (5.0)	133 (5.2)	133 (5.2)	160 (6.3)	149 (5.9)	135 (5.3)	120 (4.7)	4.2 (9.3)	4.6 (10.1)					
32 (1 1/4)	146 (5.7)	152 (6.0)	152 (6.0)	180 (7.1)	152 (6.0)	135 (5.3)	120 (4.7)	4.5 (9.9)	5.5 (12.1)					
40 (1 1/2)	159 (6.3)	165 (6.5)	165 (6.5)	200 (7.9)	176 (6.9)	135 (5.3)	120 (4.7)	5.5 (12.1)	6.0 (13.2)					
50 (2)	190 (7.5)	196 (7.7)	196 (7.7)	230 (9.1)	202 (7.9)	175 (6.9)	180 (7.1)	10 (22)	11 (24)					
65 (2 1/2)	216 (8.5)	222 (8.7)	222 (8.7)	290 (11.4)	222 (8.7)	200 (7.9)	180 (7.1)	16 (35)	18 (39)					
80 (3)	254 (10.0)	260 (10.2)	260 (10.2)	310 (12.2)	264 (10.4)	260 (10.2)	250 (9.8)	25 (55)	28 (62)					
100 (4)	305 (12.0)	313 (12.3)	311 (12.2)	350 (13.8)	329 (12.9)	275 (10.8)	250 (9.8)	33 (73)	37 (82)					
125 (5)	356 (14.0)	364 (14.3)	362 (14.2)	400 (15.7)	416 (16.4)	340 (13.4)	315 (12.4)	57 (126)	64 (141)					
150 (6)	406 (15.9)	414 (16.3)	412 (16.2)	480 (18.9)	416 (16.4)	440 (17.3)	360 (14.2)	67 (148)	82 (181)					
200 (8)	521 (20.5)	529 (20.8)	527 (20.7)	600 (23.6)	530 (20.9)	495 (19.5)	470 (18.5)	116 (256)	136 (300)					

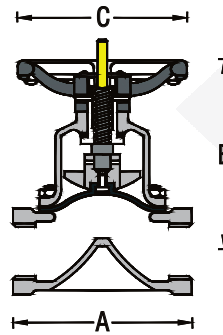
Materials

Body/Bonnet/Compressor	Cast Iron ASTM A126 Class B / EN-1561 No.EN-JL1040 / S G Iron EN-1563 No.EN-JS1024 / ASTM A395 Gr. 60-40-18 / 30% Cr. Cast Steel ASTM A743 Gr. CC50 / ASTM A216 Gr. WCB / Stainless Steel ASTM A351 Gr. CF8 / CF8M
Body Lining	Ebonite / Natural / Butyl / Neoprene / EPDM / Nitrile, other Elastomers & even PFA, PTFE, PP etc.
Diaphragm	Natural / Butyl / Neoprene / EPDM / Nitrile / Hypalon / Viton / Silicon / PTFE etc.
Stem	Steel ASTM A276 TYPE 410
Connecting studs / nuts	Steel Gr. 4.6 / 4
Handwheel	Cast Iron ASTM A126 Class B / EN-1561 No.EN-JL1040
Surface Protection for Cast Iron and Cast Carbon Steel Valves	Prime Coat : Chlorine free with modified alkyd resin unobjectionable in physiological and toxicological respects. Additional external coating : Black Stoving Enamel

1) Net in Kg. (lbs) approx. (without obligation) 2) Pressure Rating : Series 'K' for Sizes 15mm (1/2") to 100mm (4") - 10 bar (145 psi), for Sizes 125mm (5") - 7 bar (102 psi), for Sizes 150mm (6") to 200mm (8") - 5 bar (73 psi). ■ Halar coating also available on request. ■ Valves Flanges can be drilled to suit ASME / BS / DIN / JIS. ■ Please Specify Working Pressure, Temperature & Service conditions. ■ Valves can be supplied with Pad - lock, Chainwheel, Travel Stop Arrangement, Extended Stem, Electrical / Pneumatic Actuators & other accessories like Limit Switch, Solenoid Valve, Air Filtre Regulator, Positioner etc. ■ Other Materials not mentioned above available on request.

DIAPHRAGM VALVES

SERIES 'S' NON RISING HANDWHEEL



DESIGN STD : BS EN 13397 TESTING STD : BS 6755 - 1

		Test Pressure in bar (psi)	
		Series 'S'	
Pressure rating 2)		16	10
Hyd.	Shell	24 (348)	15 (218)
	Seat	16 (232)	10 (145)
Air	Seat	5 (73)	

Dimensions are in mm (Inch)

SERIES 'S' WEIR TYPE

SIZE mm (inch)	← A → SE, SWE, BWE		B	C	Wt 1) SE, SWE, BWE
	CI	Alloy			
6 (1/4)/10 (3/8)	48 (1.9)	108 (4.3)	85 (3.3)	70 (2.8)	0.6 (1.3)
15 (1/2)	64 (2.5)	108 (4.3)	85 (3.3)	70 (2.8)	0.9 (2.0)
20 (3/4)	83 (3.3)	117 (4.6)	90 (3.5)	70 (2.8)	1.5 (3.3)
25 (1)	108 (4.3)	127 (5.0)	107 (4.2)	100 (3.9)	2.1 (4.6)
32 (1 1/4)	121 (4.7)	146 (5.7)	115 (4.5)	100 (3.9)	3.5 (7.7)
40 (1 1/2)	140 (5.5)	159 (6.3)	146 (5.7)	140 (5.5)	4.9 (10.8)
50 (2)	165 (6.5)	190 (7.5)	156 (6.1)	140 (5.5)	6.4 (14.1)
65 (2 1/2)	203 (8.0)	216 (8.5)	173 (6.8)	180 (7.1)	9.6 (21.2)
80 (3)	254 (10.0)	254 (10.0)	227 (8.9)	225 (8.8)	18 (39.7)
100 (4)	-	305 (12.0)	255 (10.0)	225 (8.9)	26 (57.3)

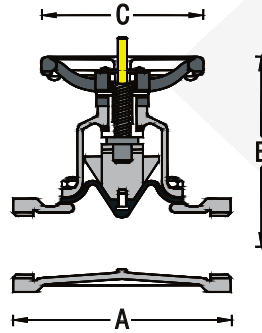
Materials

Body/Bonnet/Compressor	Cast Iron ASTM A126 Class B / EN-1561 No.EN-JL1040 / S G Iron EN-1563 No.EN-JS1024, Cast Steel ASTM A743 Gr. CC50 / ASTM A216 Gr. WCB / Stainless Steel : ASTM A351 Gr. CF8 / CF8M / CN7M
Diaphragm	Natural / Butyl / Neoprene / EPDM / Nitrile / Hypalon / Viton / Silicon / PTFE etc.
Stem	Steel ASTM A276 TYPE 410
Bushing	S G Iron EN-1563 No.EN-JS1050
Connecting studs / nuts	Steel Gr. 4.6 / 4
Handwheel	Cast Iron ASTM A126 Class B / EN-1561 No.EN-JL1040
Surface Protection for Cast Iron and Cast Carbon Steel Valves	Prime Coat : Chlorine free with modified alkyd resin unobjectionable in physiological and toxicological respects. Additional external coating : Black Stoving Enamel

1) Net in Kg. (lbs) approx. (without obligation) 2) Pressure Rating : Series 'S' for Sizes 6mm (1/4") to 50mm (2") - 16 bar (232 psi), for Sizes 65mm (2 1/2") to 100mm (4") - 10 bar (145 psi). ■ Face to Face Dimension (A) as per 'KFEL' Standard. ■ Standard Screwed ends to have BS : 21(Parallel or Taper) or ASME B1.20.1 (NPT) threads. Socket Weld ends as per ASME B16.11 & Butt Weld ends as per ASME B16.25 suitable for schedule 40/40S. ■ Please specify Working Pressure, Temperature & Service conditions. ■ Valves can be supplied with Pad - lock, Chainwheel, Travel Stop Arrangement, Extended type Stem, Electrical / Pneumatic Actuators & other accessories like Limit Switch, Solenoid Valve, Air Filter Regulator, Positioner etc. ■ Other Materials not mentioned above available on request.

DIAPHRAGM VALVES

SERIES 'K' NON RISING HANDWHEEL



DESIGN STD : BS EN 13397 TESTING STD : BS 6755 - 1

Test Pressure in bar (psi)		
Series 'K'		
Pressure rating 2)		10
Hyd. Shell		15.75 (228)
Seat		10 (145)
Air Seat		5 (73)

Dimensions are in mm (inch)

SERIES 'K' STRAIGHT THROUGH TYPE

SIZE mm (inch)	A SCREWED ENDS	B	C	Wt 1)
6 (1/4)/10 (3/8)	-	-	-	-
15 (1/2)	64 (2.5)	90 (3.5)	70 (2.8)	0.9 (2.0)
20 (3/4)	83 (3.3)	90 (3.5)	70 (2.8)	1.8 (4.0)
25 (1)	108 (4.3)	112 (4.4)	100 (3.9)	3.0 (6.6)
32 (1 1/4)	121 (4.7)	112 (4.4)	100 (3.9)	3.2 (7.0)
40 (1 1/2)	140 (5.5)	112 (4.4)	100 (3.9)	3.5 (7.7)
50 (2)	165 (6.5)	146 (5.7)	140 (5.5)	6.5 (14.3)
65 (2 1/2)	203 (8.0)	177 (7.0)	180 (7.1)	10 (22.0)
80 (3)	254 (10.0)	205 (8.1)	225 (8.9)	21 (46.3)
100 (4)	-	-	-	-

Materials

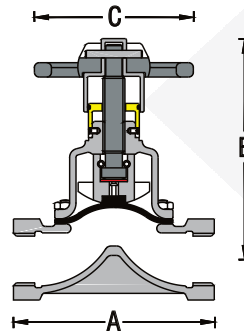
Body/Bonnet/Compressor	Cast Iron ASTM A126 Class B / EN-1561 No.EN-JL1040 / S G Iron EN-1563 No.EN-JS1024, Cast Steel ASTM A743 Gr. CC50 / ASTM A216 Gr. WCB / Stainless Steel : ASTM A351 Gr. CF8 / CF8M / CN7M
Diaphragm	Natural / Butyl / Neoprene / EPDM / Nitrile / Hypalon / Viton / Silicon / PTFE etc.
Stem	Steel ASTM A276 TYPE 410
Bushing	S G Iron EN-1563 No.EN-JS1050
Connecting studs / nuts	Steel Gr. 4.6 / 4
Handwheel	Cast Iron ASTM A126 Class B / EN-1561 No.EN-JL1040
Surface Protection for Cast Iron and Cast Carbon Steel Valves	Prime Coat : Chlorine free with modified alkyd resin unobjectionable in physiological and toxicological respects. Additional external coating : Black Stoving Enamel

1) Net in Kg. (lbs) approx. (without obligation) ■ Face to Face Dimension (A) as per 'KFEL' Standard ■ Standard Screwed ends to have BS : 21 (Parallel or Taper) or ASME B1.20.1 (NPT) threads. Socket Weld ends as per ASME B16.11 & Butt Weld ends as per ASME B16.25 suitable for schedule 40/40S. ■ Please specify Working Pressure, Temperature & Service conditions.

■ Valves can be supplied with Pad - lock, Chainwheel, Travel Stop Arrangement, Extended type Stem, Electrical / Pneumatic Actuators & other accessories like Limit Switch, Solenoid Valve, Air Filter Regulator, Positioner etc. ■ Other Materials not mentioned above available on request.

DIAPHRAGM VALVES

SERIES 'S' RISING HANDWHEEL



DESIGN STD : BS EN 13397 TESTING STD : BS 6755 - 1

		Test Pressure In bar (psi)	
		Series 'S'	
Pressure rating 2)		16	10
Hyd. Shell		24 (348)	15 (218)
	Seat	16 (232)	10 (145)
Air	Seat	5 (73)	

Dimensions are in mm (Inch)

SERIES 'S' WEIR TYPE

SIZE mm (inch)	A		B	C	Wt 1) SE, SWE, BWE
	SE, SWE, BWE				
	CI	Alloy			
15 (1/2)	64 (2.5)	108 (4.3)	105 (4.1)	80 (3.1)	0.9 (2.0)
20 (3/4)	83 (3.3)	117 (4.6)	115 (4.5)	80 (3.1)	1.5 (3.3)
25 (1)	108 (4.3)	127 (5.0)	132 (5.2)	120 (4.7)	2.1 (4.6)
32 (1 1/4)	121 (4.7)	146 (5.7)	140 (5.5)	120 (4.7)	3.5 (7.7)
40 (1 1/2)	140 (5.5)	159 (6.3)	180 (7.1)	150 (5.9)	4.9 (10.8)
50 (2)	165 (6.5)	190 (7.5)	210 (8.3)	150 (5.9)	6.4 (14.1)
65 (2 1/2)	203 (8.0)	216 (8.5)	235 (9.3)	180 (7.1)	9.6 (21.2)
80 (3)	254 (10.0)	254 (10.0)	305 (12.0)	250 (9.8)	18 (39.7)
100 (4)	-	305 (12.0)	340 (13.4)	250 (9.8)	27 (59.5)

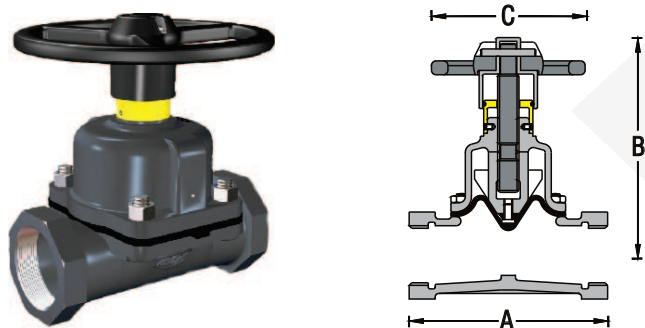
Materials

Body/Bonnet/Compressor	Cast Iron ASTM A126 Class B / EN-1561 No.EN-JL1040 / S G Iron EN-1563 No.EN-JS1024, Cast Steel ASTM A743 Gr. CC50 / ASTM A216 Gr. WCB / Stainless Steel : ASTM A351 Gr. CF8 / CF8M / CN7M
Diaphragm	Natural / Butyl / Neoprene / EPDM / Nitrile / Hypalon / Viton / Silicon / PTFE etc.
Stem	Steel ASTM A276 TYPE 410
Connecting studs / nuts	Steel Gr. 4.6 / 4
Handwheel	Cast Iron ASTM A126 Class B / EN-1561 No.EN-JL1040
Surface Protection for Cast Iron and Cast Carbon Steel Valves	Prime Coat : Chlorine free with modified alkyd resin unobjectionable in physiological and toxicological respects. Additional external coating : Black Stoving Enamel

1) Net in Kg. (lbs) approx. (without obligation) 2) Pressure rating : Series 'S' for Sizes 6mm (1/4") to 50mm (2") - 16 bar (232 psi), for Sizes 65mm (2 1/2") to 100mm (4") - 10 bar (145 psi). ■ Face to Face Dimension (A) as per 'KFEL' Standard. ■ Standard Screwed ends to have BS : 21 (Parallel or Taper) or ASME B1.20.1 (NPT) threads. Socket Weld ends as per ASME B16.11 & Butt Weld ends as per ASME B16.25 suitable for schedule 40/40S. ■ Please Specify Working Pressure, Temperature & Service conditions. ■ Valves can be supplied with Pad - lock, Chainwheel, Travel Stop Arrangement, Extended type Stem, Electrical / Pneumatic Actuators & other accessories like Limit Switch, Solenoid Valve, Air Filtr Regulator, Positioner etc. ■ Other Materials not mentioned above available on request.

DIAPHRAGM VALVES

SERIES 'K' RISING HANDWHEEL



DESIGN STD : BS EN 13397 TESTING STD : BS 6755 - 1

Test Pressure in bar (psi)		
Series 'K'		
Pressure rating 2)	10	
Hyd. Shell	15.75	(228)
Seat	10	(145)
Air Seat	5	(73)

Dimensions are in mm (inch)

SERIES 'K' STRAIGHT THROUGH TYPE

SIZE mm (inch)	A SCREWED ENDS	B	C	Wt 1)
15 (1/2)	64 (2.5)	105 (4.1)	80 (3.1)	0.9 (2.0)
20 (3/4)	83 (3.3)	115 (4.5)	80 (3.1)	1.8 (4.0)
25 (1)	108 (4.3)	135 (5.3)	120 (4.7)	3.0 (6.6)
32 (1 1/4)	121 (4.7)	135 (5.3)	120 (4.7)	3.2 (7.0)
40 (1 1/2)	140 (5.5)	135 (5.3)	120 (4.7)	3.5 (7.7)
50 (2)	165 (6.5)	175 (6.9)	180 (7.1)	6.5 (14.3)
65 (2 1/2)	203 (8.0)	200 (7.9)	180 (7.1)	11 (24.3)
80 (3)	254 (10.0)	250 (9.8)	250 (9.8)	22 (48.5)
100 (4)	-	-	-	-

Materials

Body/Bonnet/Compressor	Cast Iron ASTM A126 Class B / EN-1561 No.EN-JL1040 / S G Iron EN-1563 No.EN-JS1024, Cast Steel ASTM A743 Gr. CC50 / ASTM A216 Gr. WCB / Stainless Steel : ASTM A351 Gr. CF8 / CF8M / CN7M
Diaphragm	Natural / Butyl / Neoprene / EPDM / Nitrile / Hypalon / Viton / Silicon / PTFE etc.
Stem	Steel ASTM A276 TYPE 410
Connecting studs / nuts	Steel Gr. 4.6 / 4
Handwheel	Cast Iron ASTM A126 Class B / EN-1561 No.EN-JL1040
Surface Protection for Cast Iron and Cast Carbon Steel Valves	Prime Coat : Chlorine free with modified alkyd resin unobjectionable in physiological and toxicological respects. Additional external coating : Black Stoving Enamel

1) Net in Kg. (lbs) approx. (without obligation) ■ Face to Face Dimension (A) as per 'KFEL' Standard ■ Standard Screwed ends to have BS : 21 (Parallel or Taper) or ASME B1.20.1 (NPT) threads. Socket Weld ends as per ASME B16.11 & Butt Weld ends as per ASME B16.25 suitable for schedule 40/40S. ■ Please specify Working Pressure, Temperature & Service conditions. ■ Valves can be supplied with Pad - lock, Chainwheel, Travel Stop Arrangement, Extended type Stem, Electrical / Pneumatic Actuators & other accessories like Limit Switch, Solenoid Valve, Air Filter Regulator, Positioner etc. ■ Other Materials not mentioned above available on request.

DIAPHRAGMS

SERIES 'S' & 'K'

KFEL elastomer technology has led to the development of a range of diaphragm grades to suit the widest variety of process applications.



SERIES 'S' CLOSE TYPE



SERIES 'S' OPEN TYPE



SERIES 'S' PTFE WITH ELASTOMER PAD



SERIES 'K' CLOSE TYPE

TYPICAL SELECTION AND APPLICATION

GRADE	MATERIAL	APPLICATION	TEMP RANGE °C (°F)	HARDNESS IN SHORE - A	UTS Kg/cm ² (psi)	COLOUR CODE
A	Natural Rubber	Mildly acid Resistant	-30 To 80 (-22 To 176)	65 - 75	170 (2418)	White
AA	Natural Rubber	Abrasion Resistant	-30 To 80 (-22 To 176)	60 - 70	150 (2134)	White
AS	Natural Rubber	Highly Abrasion Resistant	-30 To 80 (-22 To 176)	45 - 55	150 (2134)	White
WA	White Natural Rubber	Food & Pharmaceuticals	-10 To 80 (14 To 176)	55 - 65	100 (1422)	White
N	Neoprene Rubber	Diluted Acid Resistant	-25 To 95 (-13 To 203)	60 - 70	120 (1707)	Red
NWT	Neoprene Rubber	Water Treatment	-25 To 95 (-13 To 203)	60 - 70	120 (1707)	Red
NCMS	Neoprene Rubber	Caustic Soda	-25 To 95 (-13 To 203)	60 - 70	120 (1707)	Red
B	Butyl Rubber	Steam Sterilisation	-25 To 120 (-13 To 248)	60 - 70	100 (1422)	Blue
WB	White Butyl Rubber	Food & Pharmaceuticals	-25 To 105 (-13 To 221)	55 - 65	80 (1138)	Blue
R	Nitrile Rubber	Oils and Fats	-10 To 90 (14 To 194)	65 - 75	120 (1707)	Yellow
H	Hypalon Rubber	Acid Resistant	-15 To 100 (5 To 212)	60 - 70	80 (1138)	Green
EP	Ethylene Propylene	Radio Active Materials	-30 To 150 (-22 To 302)	65 - 75	80 (1138)	Orange
V	Viton Rubber	Aromatics Chlorine	-5 To 150 (23 To 302)	70 - 80	70 (996)	Pink
S	Silicon Rubber	High Temperatures	-100 To 250 (-148 To 482)	55 - 65	70 (996)	Black
T	PTFE	All Chemicals and Food	-30 To 175 (-22 To 347)	-	-	-

TECHNICAL DATA FOR FLUOROPOLYMER RESIN

RESIN	TECHNICAL NAME	TRADE NAME	TEMP RANGE °C (°F)	MELTING PT. °C (°F)
PTFE	Poly Tetra Fluoro Ethylene	Teflon	-50 To 260 (-58 To 500)	327 (621)
PFA	Per Fluoro Alkoxy	Teflon	-50 To 260 (-58 To 500)	310 (590)
ETFE	Ethylene Tetra Fluoro Ethylene	Tefzel	-50 To 180 (-58 To 356)	240 (464)
FEP	Fluorinated Ethylene Propylene	Teflon	-50 To 200 (-58 To 392)	265 (509)
ECTFE	Ethylene Chloro Trifluoro Ethylene	Halar	-50 To 170 (-58 To 338)	240 (464)
PVDF	Poly Vinylidene Fluoride	Kynar	-50 To 140 (-58 To 284)	160 (320)
PP	Poly Propylene	-	-50 To 120 (-58 To 248)	150 (302)

General Application : Highly corrosive fluids, acids, alkalies, chlorides, semiconductors, etc.

Every Genuine KFEL Diaphragm has moulded in details.

1) The KFEL LOGO. 2) Size in mm (inch). 3) Diaphragm grade. 4) Month and Year of manufacture. 5) Batch No. 6) Material code.

■ For Series 'K' Hardness will be 10° less than the specified above. ■ Viton, Silicon & PTFE not available for Series 'K'.

TECHNICAL DATA

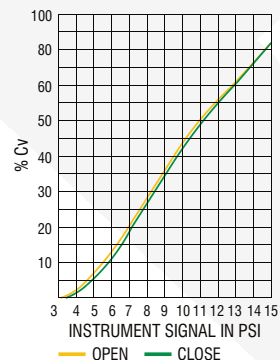
DATA FOR MANUAL OPERATED VALVES

Valve Size mm (inch)	Series 'S'				Series 'K'			
	Stem Travel	Turns*	100% ΔP		Stem Travel	Turns*	100% ΔP	
			Torque Nm (ft. lbs.)	Closing Force N (lbs.)			Torque Nm (ft. lbs.)	Closing Force N (lbs.)
6(1/4)/10(3/8)	6.4 (0.25)	2.250 (0.08)	0.8 (0.6)	250 (56)	6.0 (0.23)	3.00 (0.11)	—	—
15 (1/2)	6.4 (0.25)	2.250 (0.08)	1.3 (0.9)	650 (146)	11.4 (0.44)	4.00 (0.15)	1.2 (0.9)	600 (135)
20 (3/4)	9.5 (0.37)	3.250 (0.12)	2.2 (1.6)	1103 (248)	11.4 (0.44)	4.00 (0.15)	1.2 (0.9)	600 (135)
25 (1)	12.7 (0.50)	4.250 (0.16)	3.1 (2.3)	1545 (347)	18.5 (0.72)	6.25 (0.24)	2.6 (1.9)	1300 (292)
32 (1 1/4)	15.9 (0.62)	5.375 (0.21)	5.1 (3.8)	2529 (568)	24.5 (0.96)	8.25 (0.32)	2.6 (1.9)	1300 (292)
40 (1 1/2)	20.6 (0.81)	5.250 (0.20)	7.6 (5.6)	2853 (641)	24.5 (0.96)	8.25 (0.32)	2.6 (1.9)	1300 (292)
50 (2)	28.6 (1.12)	7.250 (0.28)	12.0 (8.8)	4464 (1003)	34.4 (1.35)	8.75 (0.34)	8.7 (6.4)	3200 (719)
65 (2 1/2)	34.9 (1.37)	8.750 (0.34)	16.2 (12.0)	6039 (1358)	42.9 (1.68)	10.75 (0.43)	12.0 (8.8)	4800 (1079)
80 (3)	41.3 (1.62)	8.375 (0.32)	25.7 (19.0)	9502 (2136)	53.6 (2.11)	10.75 (0.43)	18.0 (13.3)	6200 (1394)
100 (4)	54.0 (2.12)	11.000 (0.43)	39.0 (29.0)	14391 (3235)	57.8 (2.27)	11.75 (0.46)	26.0 (19.2)	9000 (2023)
125 (5)	69.8 (2.74)	14.000 (0.55)	42.2 (31.0)	15638 (3515)	95.0 (3.74)	15.00 (0.59)	38.0 (28.0)	11000 (2473)
150 (6)	79.4 (3.12)	13.250 (0.52)	72.5 (54.0)	21600 (4856)	108.0 (4.25)	18.00 (0.71)	48.0 (35.4)	14000 (3147)
200 (8)	117.5 (4.62)	19.750 (0.77)	113.0 (83.0)	33852 (7610)	159.0 (6.25)	22.75 (0.89)	75.0 (55.3)	20000 (4496)
250 (10)	142.9 (5.62)	24.000 (0.94)	115.0 (85.0)	34233 (7696)	190.5 (7.50)	27.25 (1.07)	90.0 (66.4)	24000 (5395)
300 (12)	165.1 (6.50)	23.750 (0.93)	200.0 (148.0)	45868 (10311)	190.5 (7.50)	27.25 (1.07)	90.0 (66.4)	24000 (5395)
350 (14)	225.0 (8.85)	32.250 (1.26)	263.0 (194.0)	60227 (13539)	190.5 (7.50)	27.25 (1.07)	105.0 (77.5)	27000 (6075)

* Between Open & Close Positions.
Torque and Closing-Force values are for rated Working Pressure for 100% ΔP.
For 0% ΔP multiply by 1.9 to the above values.

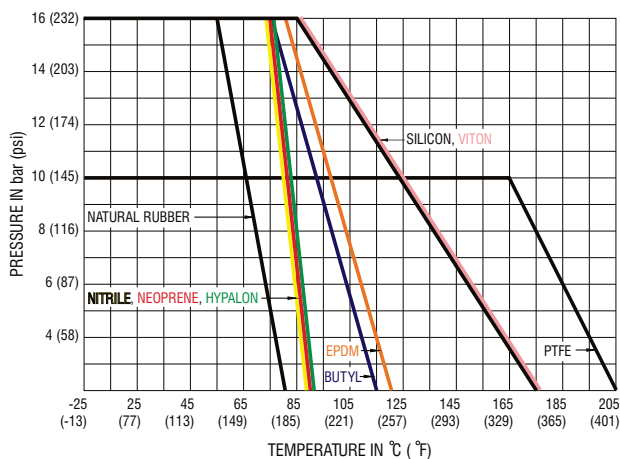
FINE CONTROL

This hysteresis graph shows the installed characteristics of a typical BA control valve with positioner dependable, repeatable performance at a fraction of traditional control valve costs. Hysteresis error within 1 % FS.

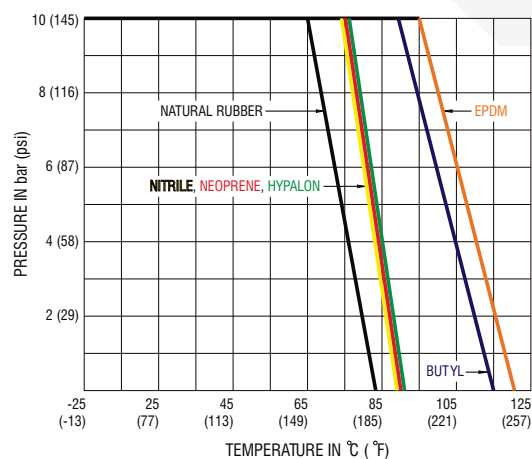


PRESSURE TEMPERATURE RATING

SERIES - 'S' WEIR TYPE

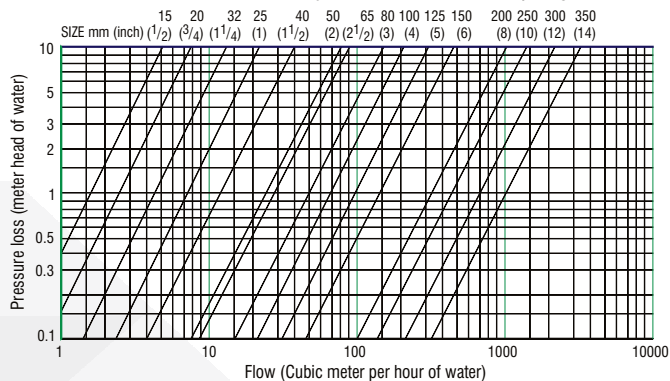


SERIES - 'K' STRAIGHT THROUGH TYPE

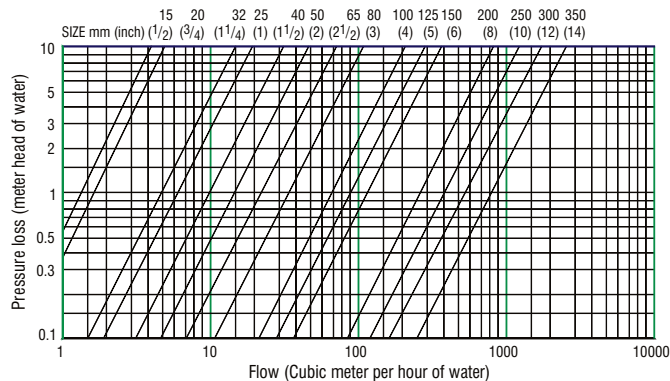


SERIES - 'S' WEIR TYPE

Metal / PFA Lined body - Elastomer / PTFE Diaphragm

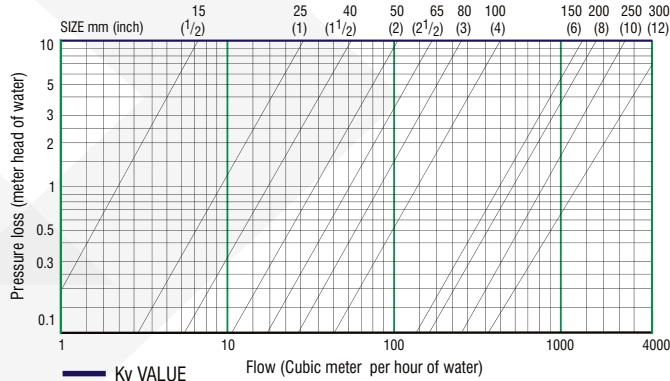


Rubber lined Body - Elastomer Diaphragm

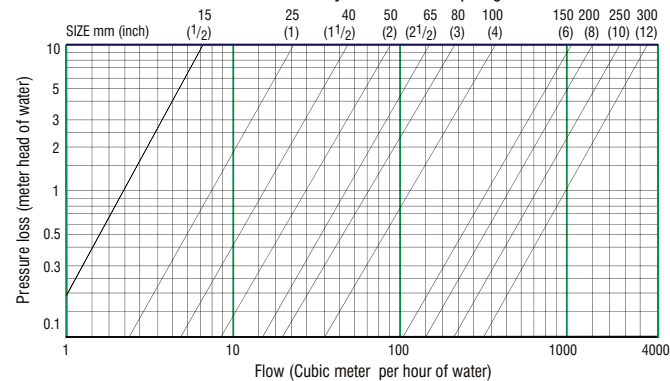


SERIES - 'K' STRAIGHT THROUGH TYPE

Metal body - Elastomer Diaphragm

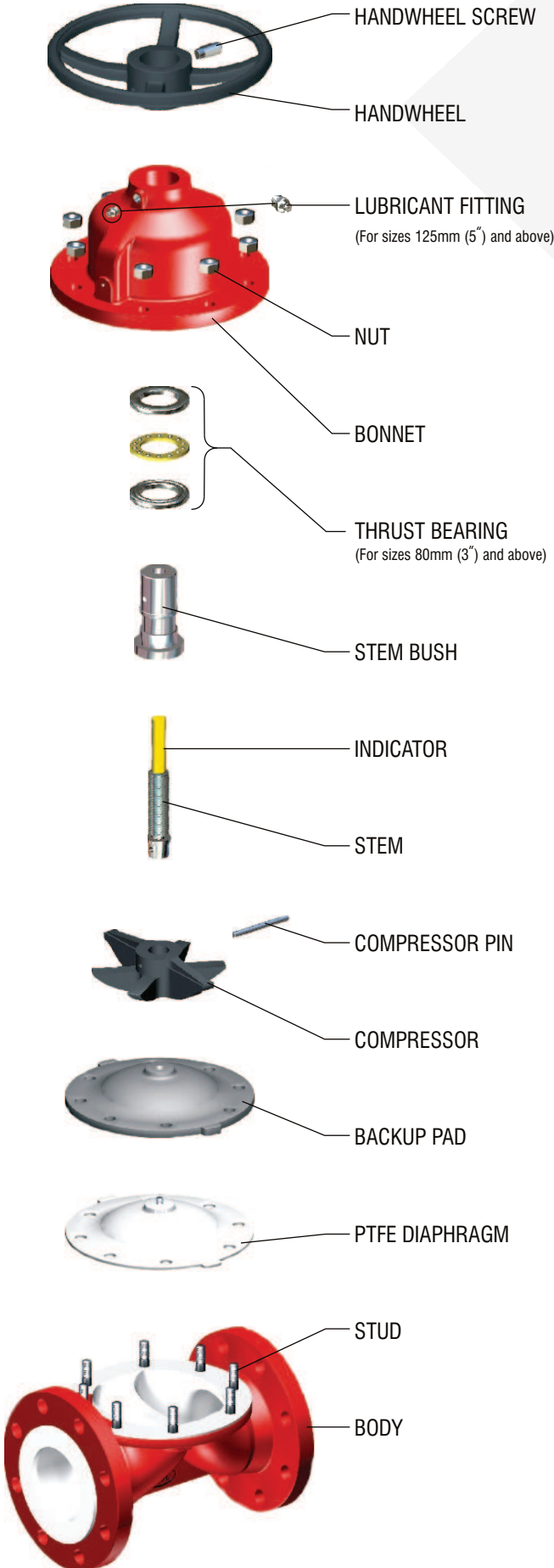


Rubber lined Body - Elastomer Diaphragm

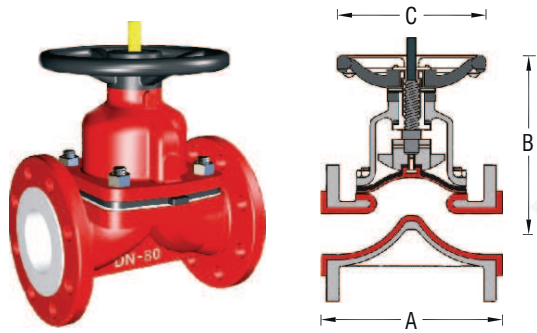


PFA LINED DIAPHRAGM VALVES

VALVE PARTS



PFA LINED VALVES



DESIGN STD : BS EN 13397. TESTING STD : EN 12266 - 1

Test Pressure in bar (psi)			
Pressure rating		PN5	PN10
Hyd. Shell		7.5 (109)	15 (218)
Seat		5 (73)	10 (145)
Air Seat		5 (73)	

Dimensions are in mm (Inch)

SIZE mm (inch)	A			B	C	Wt 1)
	BS	DIN	MSS SP-88			
15 (1/2)	114 (4.5)	130 (5.1)	108 (4.3)	92 (3.6)	70 (2.8)	2.5 (5.5)
20 (3/4)	123 (4.8)	150 (5.9)	149 (5.9)	100 (3.9)	70 (2.8)	3.0 (6.6)
25 (1)	133 (5.2)	160 (6.3)	149 (5.9)	114 (4.5)	100 (3.9)	4.0 (8.8)
32 (1 1/4)	152 (6.0)	180 (7.1)	159 (6.3)	115 (4.5)	100 (3.9)	5.5 (12)
40 (1 1/2)	165 (6.5)	200 (7.9)	176 (6.9)	153 (6.0)	140 (5.5)	7.5 (17)
50 (2)	196 (7.7)	230 (9.1)	202 (8.0)	160 (6.3)	140 (5.5)	11 (24)
65 (2 1/2)	222 (8.7)	290 (11.4)	226 (8.9)	180 (7.1)	180 (7.1)	16 (35)
80 (3)	260 (10.2)	310 (12.2)	264 (10.4)	233 (9.2)	225 (8.9)	23 (51)
100 (4)	311 (12.2)	350 (13.8)	329 (13.0)	256 (10.1)	225 (8.9)	37 (82)
125 (5)	362 (14.3)	400 (15.7)	416 (16.4)	306 (12.0)	310 (12.2)	64 (141)
150 (6)	412 (16.2)	480 (18.9)	416 (16.4)	368 (14.5)	368 (14.5)	91 (201)
200 (8)	527 (20.7)	600 (23.6)	530 (20.9)	479 (18.8)	471 (18.5)	165 (364)

Materials

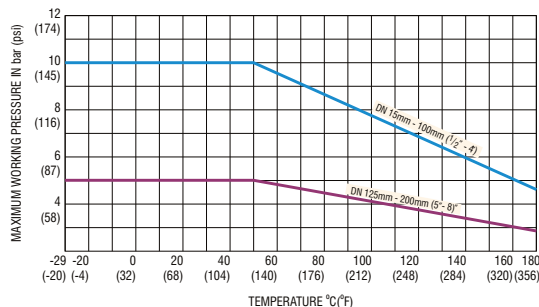
Body	Ductile Iron ASTM A395 Gr. 60 - 40 - 18 / S.G. Iron EN-1563 No.EN-JS1024 / Steel : ASTM A216 Gr. WCB Stainless Steel ASTM A351 Gr. CF8 / CF8M
Body Lining	PFA / ETFE / FEP / PP / PVDF
Bonnet / Compressor	Cast Iron EN-1561 No.EN-JL1040
Diaphragm	PTFE
Backup Pad	Neoprene / EPDM / Butyl / Viton
Bushing	S.G. Iron EN 1563 No.EN-JS1050
Connecting studs / nuts	Steel ASTM A193 B7 / A194 Gr. 2H
Surface Protection for Ductile Iron and Cast Carbon Steel Valves	Prime Coat : Chlorine free with modified alkyd resin unobjectionable in physiological and toxicological respects. Additional External Coating : Enamel Red.

TECHNICAL DATA

BREAK AWAY TORQUE VALUE Nm (ft. lbs.)

SIZE mm (inch)	
15 (1/2)	5.5 (4)
20 (3/4)	7 (5)
25 (1)	10 (7)
40 (1 1/2)	20 (15)
50 (2)	35 (26)
65 (2 1/2)	28 (21)
80 (3)	40 (37)
100 (4)	60 (44)
125 (5)	-
150 (6)	50 (37)
200 (8)	74 (55)

PRESSURE TEMPERATURE RATING



1) Nett in Kg. (lbs) approx. (without obligation) ■ Pressure Rating : PN5 For Sizes 125mm (5") and above. ■ Face to Face Dimension (A) as per DIN EN 558-1. ■ Valves can be supplied to suit ASME/ BS/ DIN Flanges. ■ Travel Stop Arrangement can be supplied on request. ■ Please Specify Working Pressure, Temperature & Service conditions. ■ Valves can be supplied with auxiliary arrangements like Pad - lock, Chainwheel, Travel Stop Arrangement, Extended stem, Electrical / Pneumatic Actuators etc. ■ Materials not mentioned above available on request.



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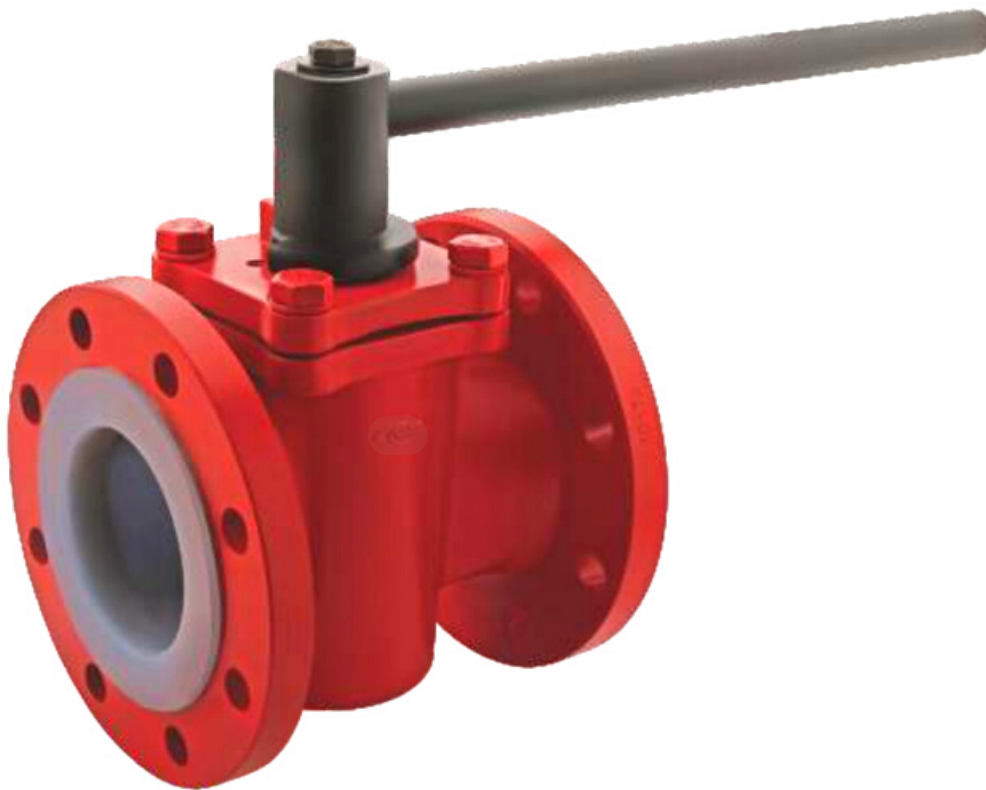


Work with experts!



PFA/FEP LINED VALVE

Lined Plug Valve



TECHNICAL SPECIFICATION

Design STD	: API 599
Face to Face	: ASME B 16.10
Flange End	: ASME B 16.5, Table D, E, F, DIN PN 10, JIS 10K
Testing STD	: API 598
Lining Material	: PFA, FEP
MOC	: Alloy Steel, Stainless Steel, Carbon Steel
Lining Thickness	: 3 to 5 mm
Spark Test	: 20 K.V.
Operation	: Manual Lever, Gear Box, Actuator

END	CLASS	SIZE IN MM
Flange end	#150	15-200

Lined Jacketed Plug Valve



TECHNICAL SPECIFICATION

Design STD	: API 599
Face to Face	: ASME B 16.10
Flange End	: ASME B 16.5, Table D, E, F, DIN PN 10, JIS 10K
Testing STD	: API 598
Lining Material	: PFA, FEP
MOC	: Alloy Steel, Stainless Steel, Carbon Steel
Lining Thickness	: 3 to 5 mm
Spark Test	: 20 K.V.
Operation	: Manual Lever, Gear Box, Actuator

END	CLASS	SIZE IN MM
Flange end	#150	15-200

Soft Seat Butterfly Valve



TECHNICAL SPECIFICATION

Design STD	: API 609 Cat A
Face to Face	: API 609 Cat A
End Connection	: Wafer Lug Type
Design	: Centric - Replaceable seat
Testing STD	: API 598
MOC	: Nickel, Titanium, Inconel, Hastelloy, Monel, Super Duplex, Alloy Steel, Stainless Steel, Carbon Steel
Seat MOC	: PTFE, Glass PTFE, Carbon PTFE, Graphite PTFE, TFM
Operation	: Manual Lever, Gear Box, Actuator

END	CLASS	SIZE IN MM
Wafer	#150	15-200

Lined Butterfly Valve



TECHNICAL SPECIFICATION

Design STD.	: API 609 Cat A
Face to Face	: API 609 Cat A
End Connection	: Wafer Lug Type
Design	: Centric - Replaceable seat
Testing STD.	: API 598
Lining Material	: PFA, FEP
MOC	: Alloy Steel, Stainless Steel, Carbon Steel
Lining Thickness	: 3 to 5 mm
Spark Test	: 20 K.V.
Operation	: Manual Lever, Gear Box, Actuator

END	CLASS	SIZE IN MM
Wafer	#150	50-200

Lined Ball Valve



TECHNICAL SPECIFICATION

Design STD	: BS 5351 / BS EN ISO 17292 : 2004
Face to Face	: ASME B 16.10
Flange End	: ASME B 16.5, Table D, E, F, DIN PN 10, JIS 10K
Testing STD	: API 598
Lining Material	: PFA, FEP
MOC	: Alloy Steel, Stainless Steel, Carbon Steel
Lining Thickness	: 3 to 5 mm
Spark Test	: 20 K.V.
Operation	: Manual Lever, Gear Box, Actuator

BORE	END	CLASS	SIZE IN MM
Full	Flange End	#150	15-200

Lined Diaphragm Valve



TECHNICAL SPECIFICATION

Design STD.	: BS EN 13397:2002 (BS 5156)
Face to Face	: BS EN 558
Flange End	: ASME B16.5, BS10 Table D, E, F, DIN PN 10
Testing STD.	: API 598, BS EN 12266
Lining Material	: PFA, FEP
MOC	: Stainless Steel, Carbon Steel, Ductile Iron
Lining Thickness	: 3 to 5 mm
Spark Test	: 20 K.V.
Operation	: Manual Wheel

END	CLASS	SIZE IN MM
Flange End	#150	25-100

Lined Swing Check Valve



TECHNICAL SPECIFICATION

Design STD.	: Mfr. Std.
Face to Face	: BS EN 558 (Series 20)
End Connection	: Wafer Type
Testing STD.	: API 598
Lining Material	: PFA, FEP
MOC	: Alloy Steel, Stainless Steel, Carbon Steel
Lining Thickness	: 3 to 5 mm
Spark Test	: 20 K.V.

END	CLASS	SIZE IN MM
Wafer	#150	50-300

Lined Ball Check Valve



TECHNICAL SPECIFICATION

Design STD	: Mfr. Std.
Face to Face	: ASME B 16.10
Flange End	: ASME B 16.5, Table D, E, F, DIN PN 10, JIS 10K
Testing STD	: API 598
Lining Material	: PFA, FEP
MOC	: Alloy Steel, Stainless Steel, Carbon Steel
Lining Thickness	: 3 to 5 mm
Spark Test	: 20 K.V.

END	CLASS	SIZE IN MM
Flange End	#150	15-100

P P Ball Valve



TECHNICAL SPECIFICATION

Design STD	: Mfr. Std.
Face to Face	: DIN 3302
Flange End	: ASME B 16.5, Table D, E, F, DIN PN 10
Testing STD	: API 598
MOC	: ISO Tactic P.P.
Operation	: Manual Lever

BORE	END	CLASS	SIZE IN MM
Full	Flange End	#150	15-100

ASME B 16.5(2009) -Raised Face Flanges Dimensions CLASS 150



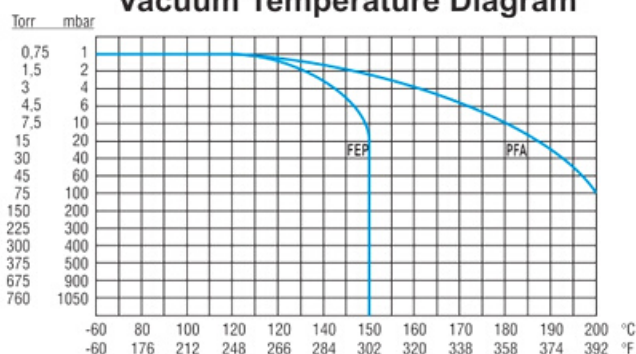
SIZE NPS (")	1/2	3/4	1	1 1/2	2	2 1/2	3	4	6	8	10	12	14	16	18	20	24
SIZE DN (mm)	15	20	25	40	50	65	80	100	150	200	250	300	350	400	450	500	600
RFD RAISED FACE DIA	34.9	42.9	50.8	73	92.1	104.8	127	157.2	215.9	269.9	323.8	381	412.8	469.9	533.4	584.2	692.2
B BORE DIA	13	19	25	38	51	64	76	102	152	203	254	305	337	387	438	489	591
O OUT SIDE DIA	90	100	110	125	150	180	190	230	280	345	405	485	535	595	635	700	815
C THICKNESS	10	10.9	11.6	14.7	16.3	17.9	19.5	24.3	25.9	29	30.6	32.2	35.4	37	40.1	43.3	48.1
P PCD	60.3	69.9	79.4	98.4	120.7	139.7	152.4	190.5	241.3	298.5	362	431.8	476.3	539.8	577.9	635	749.3
N NO. OF HOLES	4	4	4	4	4	4	4	8	8	8	12	12	12	16	16	20	20
D DRILL DIA	15.9	15.9	15.9	15.9	19.1	19.1	19.1	19.1	22.2	22.2	25.4	25.4	28.6	28.6	31.8	31.8	34.9

Test Pressures To ASME B 16.34 /API 598

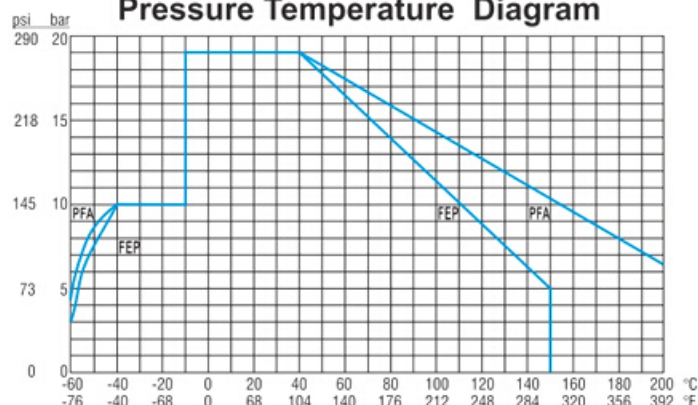
Hydrostatic Test

RATING	150#	
	Shell	Seat
MATERIAL	kg/cm2	
A216 WCB	32	23
A352-LCB	28.5	21.5
A217-WC4	32	23
A217-WC5		
A217-WC6	32	23.7
A217-WC9	32	23.7
A217-C5	32	23.7
A351-CF3	30	23
A351-CF8		
A351-CF3A	30	23
A351-CF8A		
A351-CF3M		
A351-CF8M		
A351-CN7M		
A351-CN7M	25	19.5

Vacuum Temperature Diagram



Pressure Temperature Diagram



Fluoroplastic Comparison - Typical Properties



Mechanical Properties

Property	ASTM Standard	Unit	PTFE	FEP	PFA
Specific Gravity	D792	-	2.15	2.15	2.15
Tensile Strength	D1457 D1708 D638	Mpa(psi)	21-34(3,000-5,000)	23 (3,400)	25 (3,600)
Elongation	D1457 D1708 D638	%	300-500	325	300
Flexural Modulus	D790	Mpa(psi)	496(72,000)	586(85000)	586(85000)
Folding Endurance	D2176	(MIT)Cycles	>10 ⁵	5-80 x 10 ³	10-500x 10 ³
Impact Strength	D256	J/M(ft-lb/in)	189(3.5)	No Break	No Break
Hardness	D2240	Shore D Pencil	50-60 HB	56 HB	60
Coefficient Of Friction, Dynamic	D1894	-	0.05-0.10	0.08-0.3	-

Thermal Properties

Property	ASTM Standard	Unit	PTFE	FEP	PFA
Melting Point	D3418C	(°F)	327(621)	260(500)	360(582)
Cure Temperature	--C	(°F)	379-429(715-805)	360-385(680-725)	379-399(715-750)
Flame Rating*	UL94	--	V0	V0	V0
Limiting Oxygen Index	D2863	%	>95	>95	>95
Heat Of Combustion	D240	MJ/Kg. (Btu/Lb)	5.1 (2,200)	5.1(2,200)	5. (2,300)
Theoretical Max. Temp.	-	°C	260	205	260
Recommended Max. Temp.	-	°C	200	150	200

*Statements Regarding Behavior in a Flame Situation are not intended to Reflect Hazards Presented by This or any Other Material When Under Actual Fire Conditions

Chemical Properties

Property	ASTM Standard	Unit	PTFE	FEP	PFA
Chemical/Solvent Resistance	D543	--	Excellent	Excellent	Excellent
Water Absorption, 24 h	D570	%	<0.01	<0.01	<0.03
Salt Spray Resistance (1)					
-on Aluminum	B-117	Hours	744+	744+	1000
-on Steel		Hours	192	---	---
Detergent Resistance (2)					
-on Aluminum		Hours	264	744	
-on Grit - Blasted Aluminum	---	Hours	624	600	---
-on Grit - Blasted Steel		Hours	24	480	
Weather Resistance	Florida Exposure	Years Unaffected	20	20	10

Notes:- 1. Salt Spray Resistance : 5% NaCl at 35°C/95 °F, Hours To Failure 2. Detergent Resistance : Hours To Failure

Electrical Properties

Property	ASTM Standard	Unit	PTFE	FEP	PFA
Dielectric Constant	D150	1 MHz	2.1	2.1	2.1
Dielectric Strength*	D149	V/□m	18	53	80
Dissipation Factor	D1501	MHz	<0.0001	0.0006	0.0001
Arc Resistance	D495	Sec	>300	300	>180
Volume Resistivity	D257	Ohm Cm	>10 ¹⁸	>10 ¹⁸	>10 ¹⁸
Surface Resistivity	D257	Ohm/sq	>10 ¹⁸	>10 ¹⁶	>10 ¹⁷



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<https://www.kfel.com/>



PTFE SLEEVED PLUG VALVE

Sleeved Plug Valve



TECHNICAL SPECIFICATION

Design STD	:	API 599
Face to Face	:	ASME B16.10
Flanged End	:	ASME B16.5 , Table D,E,F, DIN PN10, JIS 10K
Testing STD	:	API 598
MOC	:	Nickel, Inconel, Hastelloy, Monel , Super Duplex, Alloy Steel
	:	Stainless steel , Carbon Steel
Sleeve MOC	:	PTFE , Glass PTFE , Carbon PTFE , Graphite PTFE , RBC 006 , TFM
Operation	:	Manual Lever , Gear box , Actuator

ENDS	CLASS	SIZE IN MM
Flanged End	150#	15-300
Flanged End	300#	15-200

Sleeved Jacketed Plug Valve



TECHNICAL SPECIFICATION

Design STD	:	API 599
Face to Face	:	ASME B16.10
Flanged End	:	ASME B16.5 , Table D,E,F, DIN PN10, JIS 10K
Testing STD	:	API 598
MOC	:	Nickel, Inconel, Hastelloy, Monel , Super Duplex, Alloy Steel
	:	Stainless steel , Carbon Steel
Sleeve MOC	:	PTFE , Glass PTFE , Carbon PTFE , Graphite PTFE , RBC 006 , TFM
Operation	:	Manual Lever , Gear box, Actuator, RBC 006,TFM

ENDS	CLASS	SIZE IN MM
Flanged End	150#	15-300
Flanged End	300#	15-200

ASME B 16.5(2009) -Raised Face Flanges Dimensions CLASS 150

SIZE NPS (")	1/2	3/4	1	1 1/2	2	2 1/2	3	4	6	8	10	12	14	16	18	20	24	
SIZE DN (mm)	15	20	25	40	50	65	80	100	150	200	250	300	350	400	450	500	600	
RFD	RAISED FACE DIA	34.9	42.9	50.8	73	92.1	104.8	127	157.2	215.9	269.9	323.8	381	412.8	469.9	533.4	584.2	692.2
B	BORE DIA	13	19	25	38	51	64	76	102	152	203	254	305	337	387	438	489	591
O	OUT SIDE DIA	90	100	110	125	150	180	190	230	280	345	405	485	535	595	635	700	815
C	THICKNESS	10	10.9	11.6	14.7	16.3	17.9	19.5	24.3	25.9	29	30.6	32.2	35.4	37	40.1	43.3	48.1
P	PCD	60.3	69.9	79.4	98.4	120.7	139.7	152.4	190.5	241.3	298.5	362	431.8	476.3	539.8	577.9	635	749.3
N	NO. OF HOLES	4	4	4	4	4	4	4	8	8	8	12	12	16	16	20	20	
D	DRILL DIA	15.9	15.9	15.9	15.9	19.1	19.1	19.1	19.1	22.2	22.2	25.4	25.4	28.6	28.6	31.8	31.8	34.9

CLASS 300

SIZE NPS (")	1/2	3/4	1	1 1/2	2	2 1/2	3	4	6	8	10	12	14	16	18	20	24	
SIZE DN (mm)	15	20	25	40	50	65	80	100	150	200	250	300	350	400	450	500	600	
RFD	RAISED FACE DIA	34.9	42.9	50.8	73	92.1	104.8	127	157.2	215.9	269.9	323.8	381	412.8	469.9	533.4	584.2	692.2
B	BORE DIA	13	19	25	38	51	64	76	102	152	203	254	305	337	387	432	483	584
O	OUT SIDE DIA	95	115	125	155	165	190	210	255	320	380	445	520	585	650	710	775	915
C	THICKNESS	14.7	16.3	17.9	21.1	22.7	25.9	29	32.2	37	41.7	48.1	51.3	54.4	57.6	60.8	64	70.3
P	PCD	66.7	82.6	88.9	114.3	127	149.2	168.3	200	269.9	330.2	387.4	450.8	514.4	571.5	628.6	685.8	812.8
N	NO. OF HOLES	4	4	4	4	8	8	8	8	12	12	16	16	20	20	24	24	24
D	DRILL DIA	15.9	19.1	19.1	22.2	19.1	22.2	22.2	22.2	25.4	28.6	31.8	31.8	34.9	34.9	34.9	41.3	

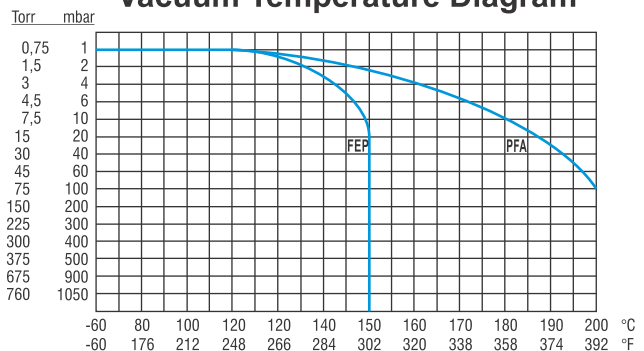
Test Pressures To ASME B 16.34 /API 598

Hydrostatic Test

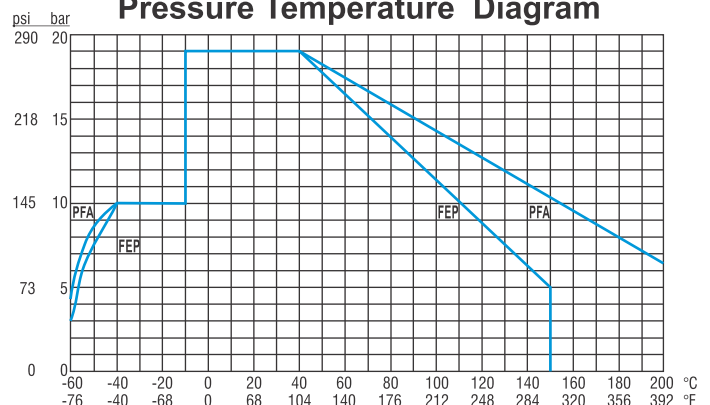
RATING	150#		300#	
	Shell	Seat	Shell	Seat
MATERIAL	kg/cm2		kg/cm2	
A216 WCB	32	23	79.5	58.5
A352-LCB	28.5	21.5	74	54.5
A217-WC4	32	23	79.5	58.5
A217-WC5				
A217-WC6	32	23.7	9.5	58.5
A217-WC9	32	23.7	9.5	58.5
A217-C5	32	23.7	9.5	58.5
A351-CF3	30	23	77.5	56.5
A351-CF8				
A351-CF3A	30	23	77.5	56.5
A351-CF8A				
A351-CF3M				
A351-CF8M				
A351-CN7M	25	19.5	63.5	49.5

JACKET AIR SHELL TEST 6.9 bar

Vacuum Temperature Diagram



Pressure Temperature Diagram





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