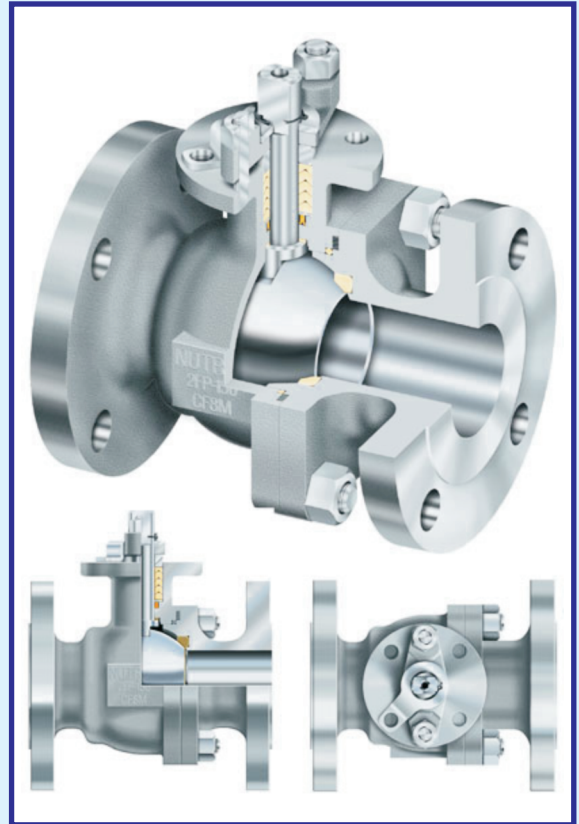


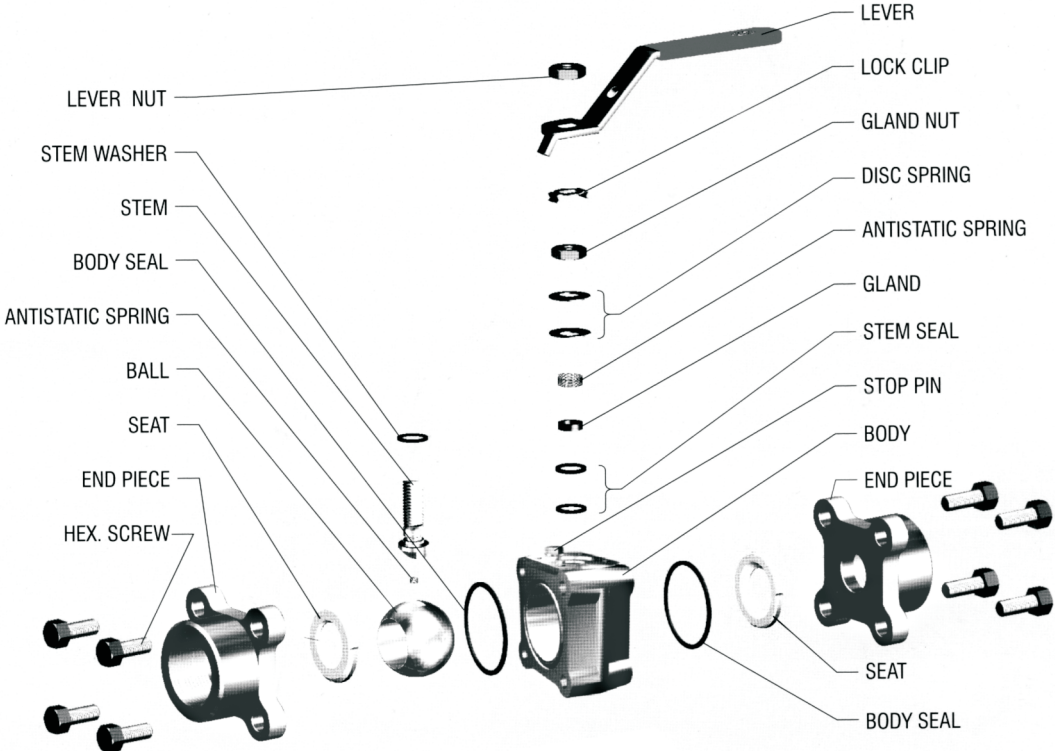
## SECTION IV : VALVES



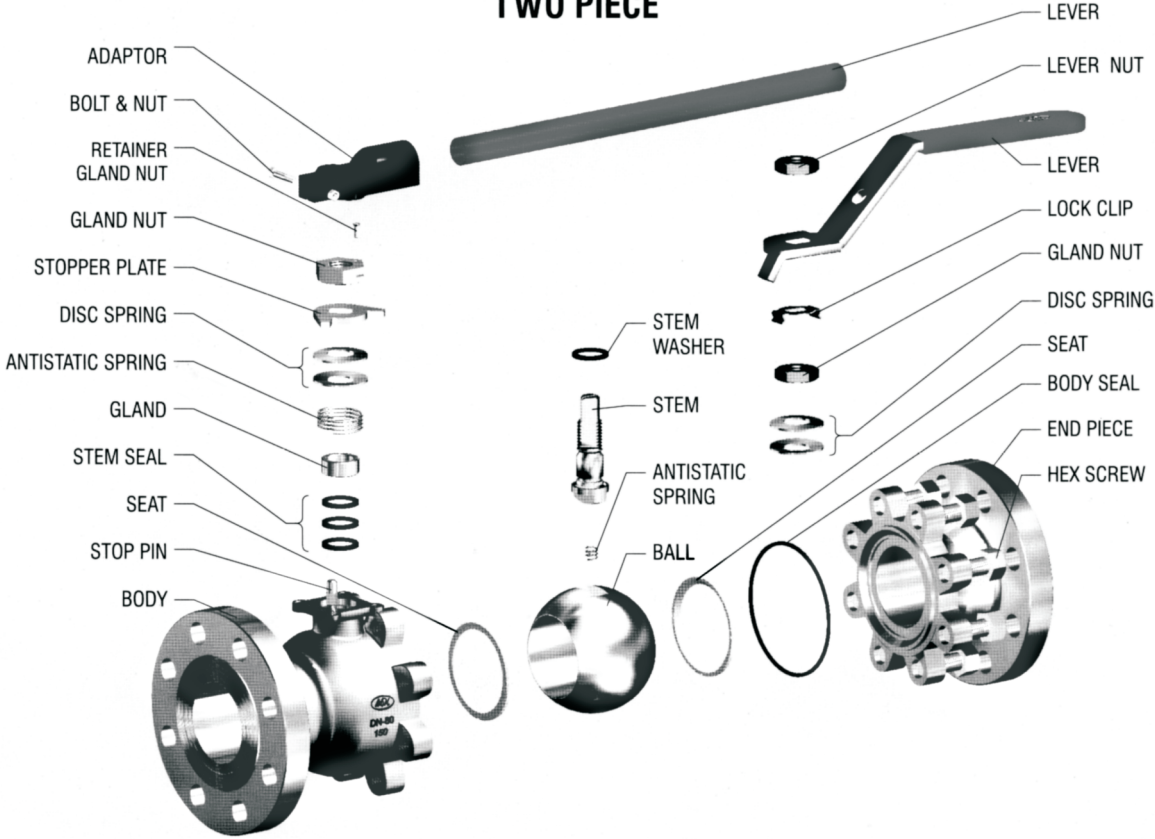


# BALL VALVE PARTS

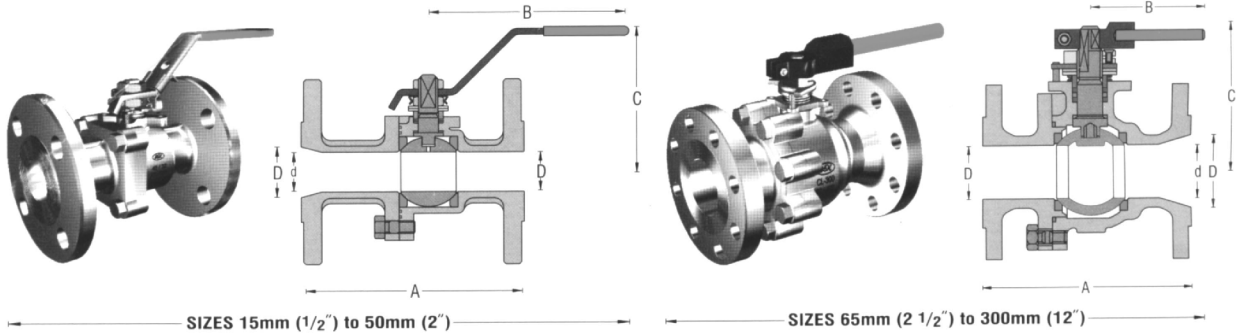
## THREE PIECE



## TWO PIECE



# TWO PIECE, REDUCED & FULL BORE BALL VALVES



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

'W' R2 / 'W'F2 (Class 150)

'W' R2 / 'W'F2 (Class 300)

## APPLICATION :

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

## RB - REDUCED BORE

Dimensions are in mm (inch)

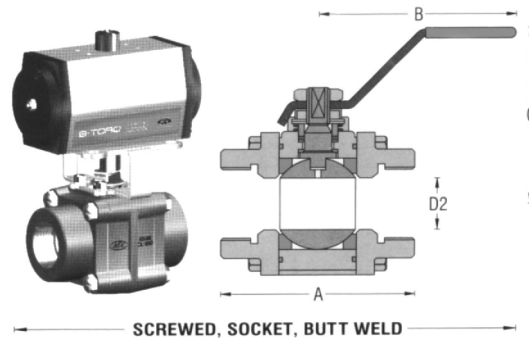
SIZE mm (inch)	A				C	d	D	Wt 1)											
	Class							Class 150		Class 150		Class 600		Class 900		Class 1500			
	150	300	600	900 & 1500	RB	RB & FB	RB	FB	RB	FB	RB	FB	RB	FB	RB	FB	RB	FB	
15 (1/2)	108 (4.3)	140 (5.5)	165 (6.5)	216 (8.5)	80 (3.1)	11 (0.4)	13 (0.5)	1.2 (2.6)	1.3 (3.0)	1.9 (4.2)	2.1 (4.6)	3.2 (7.1)	3.3 (7.3)	4.6 (10.1)	4.9 (10.8)	5.0 (11.0)	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 (20.3)	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)	-	-	-	-	-	-
150 (6)	267 (10.5)	403 (15.9)	559 (22.0)	-	★ (3.9)	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)	-	-	★ (5.7)	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)	-	-	★ (7.4)	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 <sup>1</sup> (14/24 <sup>2</sup> )	502 (19.8)	-	-	★ (9.0)	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 A126 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 / 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 Steel Valves	Base Phosphating. Additional External Coating : Smoke Grey Synthetic Enamel

1) Nett in Kg.(lbs) approx. (without obligation) 2) Dimension 'A' For FB. ★ Worm Gear operated. ■ For dimension '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. ■ Cavity free (Pocketless) also available. ■ Other materials not mentioned above available on request.

# TWO PIECE, REDUCED & FULL BORE



TEST PRESSURE IN BAR (psi)			
SE, SWE & BWE			
Pressure rating	Class 600	Class 800	
Hyd. Shell	150 (2176)	207 (3002)	
Seat	← 76(1102) →		
Air Seat	← 6.9 (100) →		

### SERIES

'W' R3 / 'W'F3 (Class 600)  
'W' R3 / 'W'F3 (Class 800)

### APPLICATIONS :

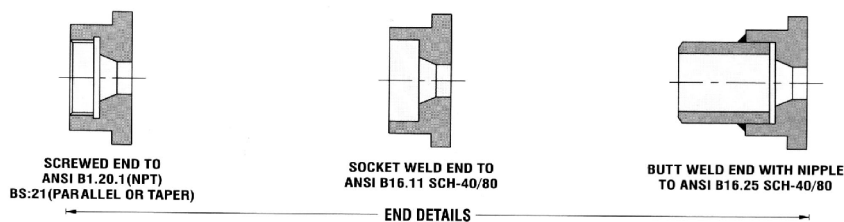
- ▶ Chemical Process Plants
- ▶ Fertilizer Plants
- ▶ Dyes and Pigments
- ▶ Pesticides
- ▶ Caustic Chlorine Plants
- ▶ Hazardous Fluids
- ▶ Acids and Alkalies

RB = REDUCED BORE

FB = FULL BORE

SIZE mm (inch)	A		B		C	d	D	D2	
	SE, SWE, BWE	FB	RB	FB				RB	FB
8	64	64	120	120	80	-	-	08	08
(1/4)	(2.5)	(2.5)	(4.7)	(4.7)	(3.1)	-	-	(0.3)	(0.3)
10	64	64	120	120	80	-	-	11	11
(3/8)	(2.5)	(2.5)	(4.7)	(4.7)	(3.1)	-	-	(0.4)	(0.4)
15	64	64	120	120	80	11	13	11	13
(1/2)	(2.5)	(2.5)	(4.7)	(4.7)	(3.1)	(0.4)	(0.5)	(0.4)	(0.5)
20	70	75	120	145	85	13	20	13	20
(3/4)	(2.8)	(3.0)	(4.7)	(5.7)	(3.3)	(0.5)	(0.8)	(0.5)	(0.8)
25	88	88	145	145	90	20	25	20	25
(1)	(3.5)	(3.5)	(5.7)	(5.7)	(3.5)	(0.8)	(1.0)	(0.8)	(1.0)
32	105	105	145	175	105	25	32	25	32
(1 1/4)	(4.1)	(4.1)	(5.7)	(6.9)	(4.1)	(1.0)	(1.3)	(1.0)	(1.3)
40	114	114	175	175	110	32	88	32	38
(1 1/2)	(4.5)	(4.5)	(6.9)	(6.9)	(4.3)	(1.3)	(1.5)	(1.3)	(1.5)
50	130	145	175	300	135	38	50	38	50
(2)	(5.1)	(5.7)	(6.9)	(11.8)	(5.3)	(1.5)	(2.0)	(1.5)	(2.0)

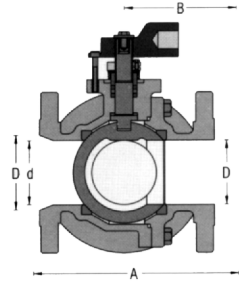
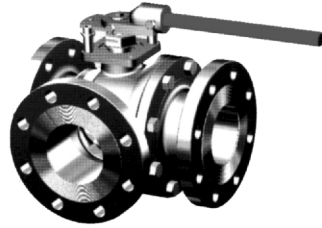
Materials	
Body / End piece	Forged Carbon Steel ASTM A105 / Cast Carbon Steel ASTM A216 Gr. WCB / Stainless Steel ASTM A182 Gr. F304 / F316, ASTM A351 Gr. CF8 / CF8M / CF3 / CF3M / CN7M / Duplex
Ball / Stem	Stainless Steel ASTM A276 A276 Type 410 / 304 / 316 / A20 / Duplex
Seat	PTFE / CFT / GFT / DELRIN / NYLON / PEEK / METAL
Stem Washer	GFT / Grafoil
Stem Seal / Body Seal	Grafoil
Lever	Steel with PVC Sleeve
Body Studs / Nuts	ASTM A193 Gr. B7 / ASTM A194 Gr. 2H
Surface Protection for Carbon Steel Valves	Base Phosphating. Additional External Coating : Smoke Grey Synthetic Enamel



1) Nett 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. ■ Cavity free (Pocketless) also available. ■ Other materials is not mentioned above available or 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

'W' R2-3W / 'W'F2-3W (Class 150)  
'W' R2-3W / 'W'F2-3W (Class 300)

### APPLICATIONS

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

RB = REDUCED BORE

FB = FULL BORE

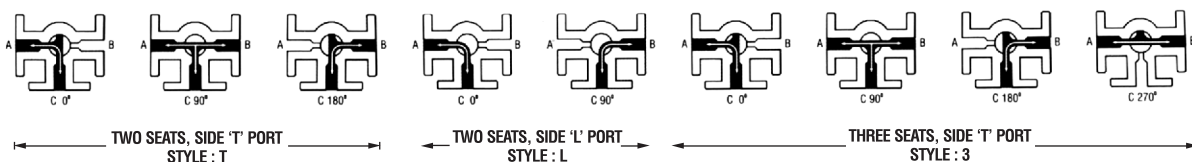
Dimensions are in mm (inch)

SIZE mm (inch)	A			B				C	d	D	Wt 1)			
	Class 150 2 SEATS	Class 300 3 SEATS	Class 300 2 & 3 SEATS	RB	FB	RB	FB				Class 150 RB	Class 150 FB	Class 300 RB	Class 300 FB
50 (2)	178 (7.0)	203 (8.0)	216 (8.5)	-	307 (12.1)	-	352 (13.9)	135 (5.3)	-	50 (2)	-	14 (30.9)	-	19 (41.9)
65 (2 1/2)	190 (7.5)	222 (8.7)	241 (9.5)	307 (12.1)	482 (19.0)	352 (13.9)	492 (19.4)	155 (6.1)	50 (2.0)	64 (2.5)	17 (37.5)	24 (52.9)	18 (39.7)	29 (63.9)
80 (3)	203 / 305 <sup>2</sup> (8.0 / 12.0 <sup>2</sup> )	241 (9.5)	283 (11.1)	482 (19.0)	482 (19.0)	492 (19.4)	592 (23.3)	170 (6.7)	58 (2.3)	76 (3.0)	26 (57.3)	29 (63.9)	33 (72.8)	40 (88.2)
100 (4)	229 / 394 <sup>2</sup> (9.0 / 15.5 <sup>2</sup> )	305 (12.0)	305 (12.0)	482 (19.0)	592 (23.3)	592 (23.3)	790 (31.1)	205 (8.1)	76 (3.0)	98 (3.9)	38 (83.8)	50 (110.2)	53 (116.8)	68 (149.9)
150 (6)	267 (10.5)	394 (15.5)	403 (15.9)	592 (23.3)	790 (31.1)	790 (31.1)	★	265 (10.4)	98 (3.9)	152 (6.0)	48 (105.8)	90 (198.4)	91 (200.6)	136 (299.8)
200 (8)	457 (18.0)	457 (18.0)	502 (19.8)	790 (31.1)	★	★	★	★	144 (5.7)	203 (8.0)	100 (220.5)	147 (324.1)	180 (368.8)	190 (418.9)
250 (10)	533 (21.0)	533 (21.0)	568 (22.4)	★	★	★	★	★	187 (7.4)	250 (9.8)	168 (370.4)	240 (529.1)	270 (595.2)	380 (837.8)
300 (12)	610 (24.0)	610 (24.0)	648 (25.5)	★	★	★	★	★	228 (9.0)	300 (11.8)	195 (429.9)	300 (661.4)	350 (771.6)	425 (937.0)

### Materials

Body / End piece	Carbon Steel ASTM A216 Gr. WCB, A352 Gr. LCB, Stainless Steel ASTM A351 Gr. CF8 / CF8M / CF3 / CF3M / CN7M / Duplex
Ball	Stainless Steel ASTM A217 Gr. CA15, A351 Gr. CF8 / CF8M / CN7M / Duplex
Stem / Gland	Stainless Steel ASTM A276 Type 410 / 304 / 316 / 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 Steel Valves	Base phosphating. Additional External Coating : Smoke Grey Synthetic Enamel

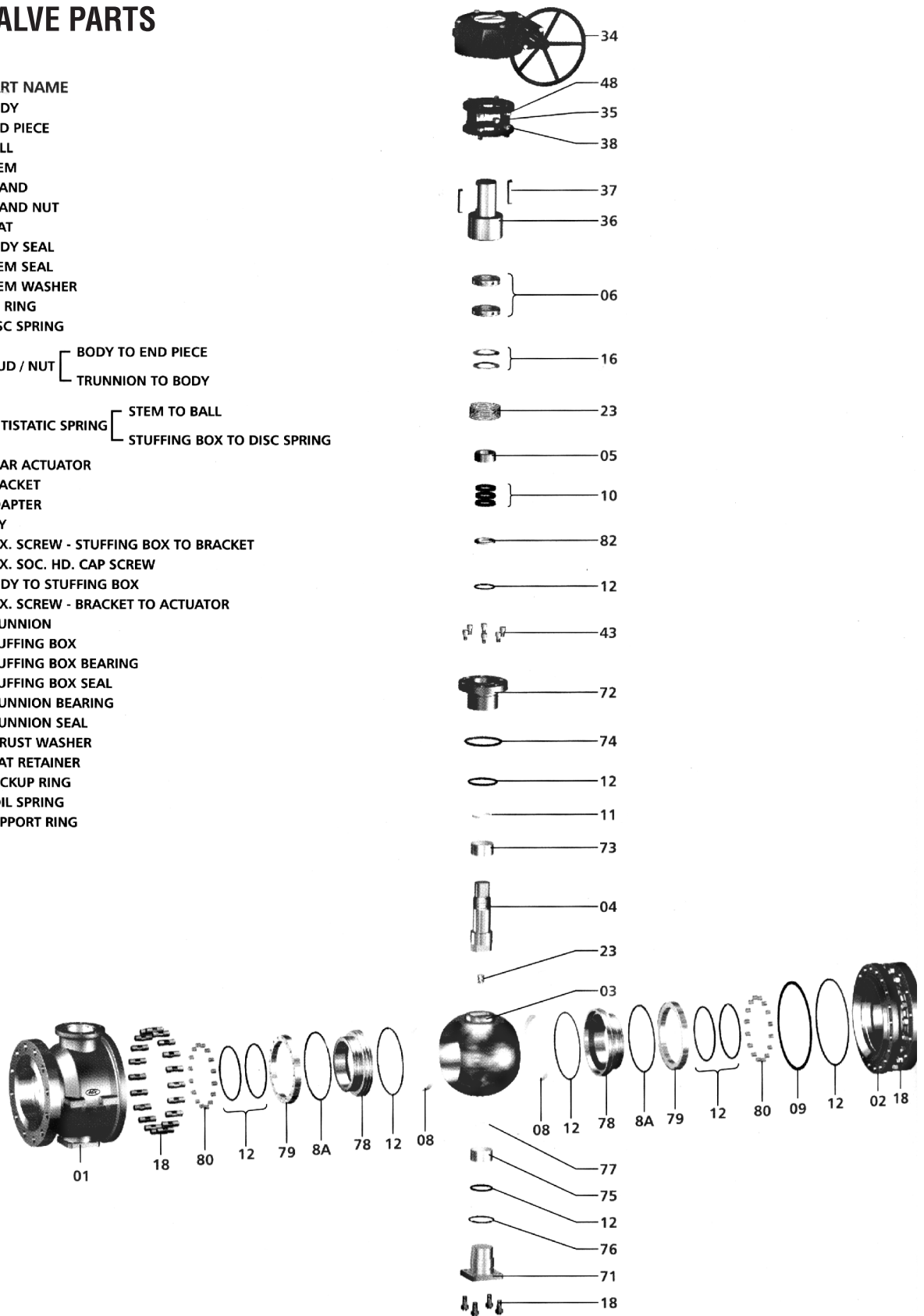
### FLOW PATTERNS



1) Nett in Kg.(lbs) approx. (without obligation) ■ 2) Dimension 'A' For FB. ★Worm Gear operated. ■ 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. ■ Cavity free (Pocketless) also available. ■ Other materials not mentioned above available on request.

# BALL VALVE PARTS

PART NO	PART NAME
01	BODY
02	END PIECE
03	BALL
04	STEM
05	GLAND
06	GLAND NUT
08	SEAT
8A	BODY SEAL
10	STEM SEAL
11	STEM WASHER
12	'O' RING
16	DISC SPRING
18	STUD / NUT [ BODY TO END PIECE TRUNNION TO BODY
23	ANTISTATIC SPRING [ STEM TO BALL STUFFING BOX TO DISC SPRING
34	GEAR ACTUATOR
35	BRACKET
36	ADAPTER
37	KEY
38	HEX. SCREW - STUFFING BOX TO BRACKET
43	HEX. SOC. HD. CAP SCREW BODY TO STUFFING BOX
48	HEX. SCREW - BRACKET TO ACTUATOR
71	TRUNNION
72	STUFFING BOX
73	STUFFING BOX BEARING
74	STUFFING BOX SEAL
75	TRUNNION BEARING
76	TRUNNION SEAL
77	THRUST WASHER
78	SEAT RETAINER
79	BACKUP RING
80	COIL SPRING
82	SUPPORT RING



# TRUNNION MOUNTED BALL VALVES

## STANDARDS

DESIGN : API 6D, B5 EN ISO 17292 (BS 5351), ASME B16.34

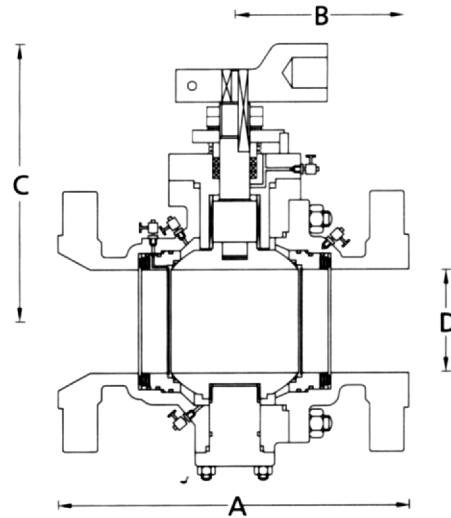
TESTING : API 6D, API 598, EN 12266-1, ASME B16.34, API 607 / 6FA

## FEATURES

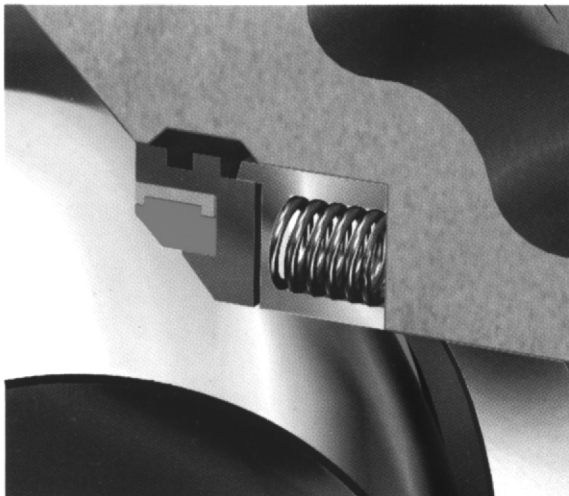
- 'W'TR = 'W' Series Trunnion Mounted Reduced Bore
- 'W'TF = 'W' Series Trunnion Mounted Full Bore
- 'W'TMR = 'W' Series Trunnion Mounted Metal Seat Redced Bore
- 'W'TMF = 'W' Series Trunnion Mounted Metal Seat Full Bore

## MODELS

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



## SPRING LOADED SEATS



## 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 / StainlessSteel ASTM A217 Gr. CA15 / ASTM A351 GR. CF8 / CF8M / CN7M / Duplex
Stem / Trunnion	Stainless Steel ASTM A564 Type 630 (17-4PH) / 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 A276 Type 410 / A217 Gr. CA15 / A276 Type 316 / A351 Gr. CF8M
Coil Spring	INCONEL X-750
'O' Ring	Viton Gr. B
Stem / Thrust Washer	RPTFE (GFT)
Body Seal	SPIRAL WOUND SS With Graphite filler
Stem Seal	Grafoil
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
Stuf. Box & Trunnion Bearing	SS Backed PTFE
Gland Nut	Stainless Steel
Body Stud / Nut	ASTM A193 Gr. B7 / ASTM A194 Gr 2H
Surface Protection for Carbon Steel Valves	Prime cost : 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 Nickle Plating (ENP) available on request.



Dimensions are in mm (inch)

SIZE mm (inch)	← A →			← B →						← D →		← Wt 1) →					
	Class 150	Class 300	Class 600	Class 150		Class 300		Class 600		RB/DRB	FB	Class 150		Class 300		Class 600	
	RB	FB	RB	FB	RB	FB	RB	FB	RB/DRB	FB	RB	FB	RB	FB	RB	FB	
50	178	216	292	184	307	184	307	240	602	36/30	49	11	15	15	20	19	25
(2)	(7.0)	(8.5)	(11.5)	(7.2)	(12.1)	(7.2)	(12.1)	(9.4)	(23.7)	(1.4/1.2)	(1.9)	(24)	(33)	(33)	(44)	(42)	(55)
65	190	241	330	307	482	307	502	602	602	49/41	62	18	22	26	34	36	52
(2 1/2)	(7.5)	(9.5)	(13.0)	(12.1)	(19.0)	(12.1)	(19.8)	(23.7)	(23.7)	(1.9/1.6)	(2.4)	(40)	(49)	(57)	(75)	(79)	(115)
80	203	283	356	482	482	502	602	602	625	55/49	75	25	30	38	43	68	90
(3)	(8.0)	(11.1)	(14.0)	(19.0)	(19.0)	(19.8)	(23.7)	(23.7)	(24.6)	(2.2/1.9)	(3.0)	(55)	(66)	(84)	(95)	(150)	(198)
100	229	305	432	482	602	602	★	625	★	74/62	98	34	42	54	76	105	140
(4)	(9.0)	(12.0)	(17.0)	(19.0)	(23.7)	(23.7)	★	(24.6)	★	(2.9/2.4)	(3.9)	(75)	(93)	(119)	(168)	(232)	(309)
150	267 <sup>2)</sup>	403	559	800	★	★	★	★	★	98/74	148	52	90	94	140	190	262
(6)	(10.5)	(15.9)	(22.0)	(31.5)	★	★	★	★	★	(3.9/2.9)	(5.8)	(115)	(198)	(207)	(309)	(419)	(578)
200	292 <sup>2)</sup>	502	660	★	★	★	★	★	★	144/100	198/194 <sup>3)</sup>	100	170	156	225	340	412
(8)	(10.5)	(19.8)	(26.0)	★	★	★	★	★	★	(5.7/3.9)	(7.8/7.6)	(221)	(375)	(345)	(496)	(750)	(908)
250	330 <sup>2)</sup>	568	787	★	★	★	★	★	★	186/151	245/241 <sup>3)</sup>	190	265	250	345	490	635
(10)	(13.0)	(22.4)	(31.0)	★	★	★	★	★	★	(7.3/5.9)	(9.6/9.5)	(419)	(584)	(551)	(761)	(1080)	(1400)
300	356 <sup>2)</sup>	648	838	★	★	★	★	★	★	227/202	295/291 <sup>3)</sup>	290	390	400	490	800	960
(12)	(14.0)	(25.5)	(33.0)	★	★	★	★	★	★	(8.9/8.0)	(11.6/11.5)	(639)	(860)	(882)	(1080)	(1764)	(2116)
350	686	762	889	★	★	★	★	★	★	266/230	325/318 <sup>3)</sup>	430	475	605	665	1045	1325
(14)	(27.0)	(30.0)	(35.0)	★	★	★	★	★	★	(10.4/9.1)	(12.8/12.5)	(948)	(1047)	(1334)	(1466)	(2304)	(2921)
400	762	838	991	★	★	★	★	★	★	305/250	375/365 <sup>3)</sup>	560	775	745	925	1520	(1785)
(16)	(30.0)	(33.0)	(39.0)	★	★	★	★	★	★	(12.0/9.8)	(14.8/14.4)	(1235)	(1709)	(1642)	(2039)	(2756)	(3935)
450	864	914	1093	★	★	★	★	★	★	335/305	430/421	840	925	995	1125	1860	2010
(18)	(34.0)	(36.0)	(43.0)	★	★	★	★	★	★	(13.2/12.0)	(16.9/16.6)	(1852)	(2039)	(2194)	(2480)	(4101)	(4431)
500	915	991	1194	★	★	★	★	★	★	375/335	475/453	960	1015	1335	1555	2150	2300
(20)	(36.0)	(39.0)	(47.0)	★	★	★	★	★	★	(14.8/13.2)	(18.7/17.8)	(2116)	(2238)	(2943)	(3428)	(4740)	(5071)
600	1067	1143	1397	★	★	★	★	★	★	487	589	1025	2050	2450	2800	3250	3900
(24)	(42.00)	(45.0)	(55.0)	★	★	★	★	★	★	(19.2)	(23.2)	(2260)	(4520)	(5401)	(6173)	(7165)	(8568)
750	1295	1397	-	★	★	★	★	-	-	633	735	2000	3200	3020	4100	-	-
(30)	(51.0)	(55.0)	-	★	★	★	★	-	-	(24.9)	(28.9)	(4409)	(7055)	(6658)	(9039)	-	-

Dimensions are in mm (inch)

SIZE mm (inch)	← A →		← B →		← C →		← D →				← Wt 1) →			
	Class		RB	FB	RB	FB	Class 900		Class 1500		Class 900		Class 1500	
	900	1500	RB	FB	RB	FB	RB/DRB	FB	RB/DRB	FB	RB	FB	RB	FB
50	368	368	550	550	247	450	36/30	49	36/30	49	38	52	38	52
(2)	(14.5)	(14.5)	(21.7)	(21.7)	(9.7)	(17.7)	(1.4/1.2)	(1.9)	(1.4/1.2)	(1.9)	(84)	(115)	(84)	(115)
65	419	419	550	550	425	475	49/41	62	49/41	62	75	90	75	90
(2. 1/2)	(16.5)	(16.5)	(21.7)	(21.7)	(16.7)	(18.7)	(1.9/1.6)	(2.4)	(1.9/1.6)	(2.4)	(165)	(198)	(165)	(198)
80	381	470	★	★	450	575	55/49	74	55/49	74	105	145	135	220
(3)	(15.0)	(18.5)	★	★	(17.7)	(22.6)	(2.2/1.9)	(2.9)	(2.2/1.9)	(2.9)	(232)	(320)	(298)	(485)
100	457	546	★	★	457	600	74/62	100	74/62	100	200	250	300	355
(4)	(18.0)	(21.5)	★	★	(18.0)	(23.6)	(2.9/2.4)	(3.9)	(2.9/2.4)	(3.9)	(441)	(551)	(661)	(783)
150	610	705	★	★	575	700	98/74	150	98/74	144	315	395	355	450
(6)	(24.0)	(27.8)	★	★	(22.6)	(27.6)	(3.9/2.9)	(5.9)	(3.9/2.9)	(5.7)	(695)	(871)	(783)	(992)
200	737	832	★	★	680	800	144/100	201	144/100	192	580	685	650	775
(8)	(29.0)	(32.8)	★	★	(26.8)	(31.5)	(5.7/3.9)	(7.9)	(5.7/3.9)	(7.6)	(1279)	(1510)	(1433)	(1708)
250	838	991	★	★	775	900	186/151	252	186/151	239	820	980	890	1125
(10)	(33.0)	(39.0)	★	★	(30.5)	(35.4)	(7.3/5.9)	(9.9)	(7.3/5.9)	(9.4)	(1808)	(2160)	(1962)	(2480)
300	965	1130	★	★	850	1000	227/202	303	227/202	287	1220	1375	1250	1580
(12)	(38.0)	(44.5)	★	★	(33.5)	(39.4)	(8.9/8.0)	(11.9)	(8.9/8.0)	(11.3)	(2690)	(3031)	(2756)	(3483)
350	1050	-	★	★	975	1125	266/230	322	-	-	1490	(1650)	-	-
(14)	(41.3)	-	★	★	(38.4)	(44.3)	(10.4/9.1)	(12.7)	-	-	(3284)	(3638)	-	-
400	1130	-	★	★	1200	1325	305/250	373	-	-	1620	1880	-	-
(16)	(44.5)	-	★	★	(47.2)	(52.2)	(12.0/9.8)	(14.7)	-	-	(3572)	(4145)	-	-

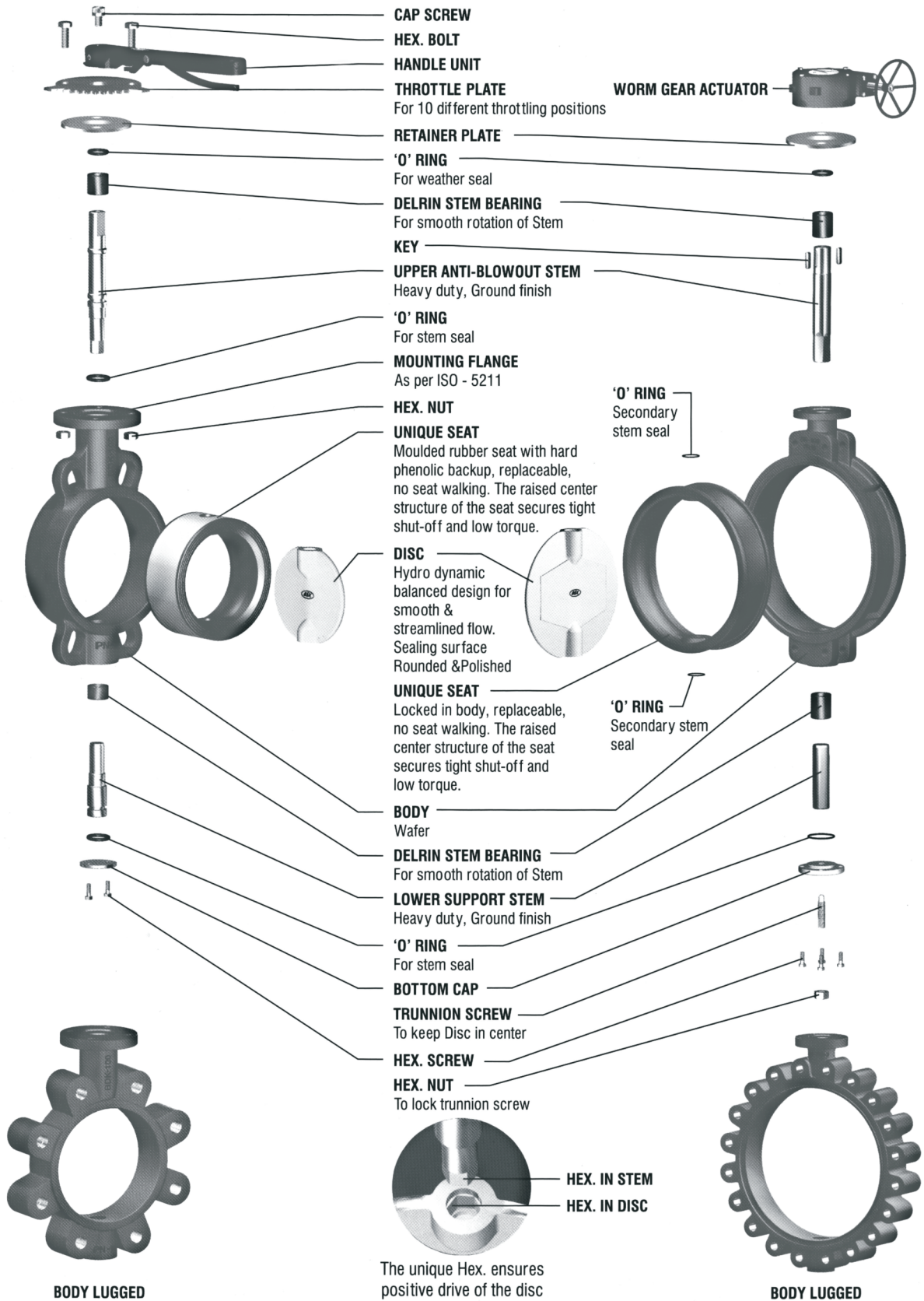
● RB = REDUCED BORE ● DRB = DOUBLE REDUCED BORE ● FB = FULL BORE ★ WORM GEAR OPERATOR

1) Nett in Kg,(lbs) approx, with flanged ends. (without obligation) 2) Long Pattern for Sealant Injection System. 3) Dimension 'D' For Class 600. ● For dimensions 'C' refer sale drgs.  
 ● Flanged Ends according to ASME B16.5; other drillings on request. ● Butt Weld 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.

# BUTTERFLY VALVES PARTS

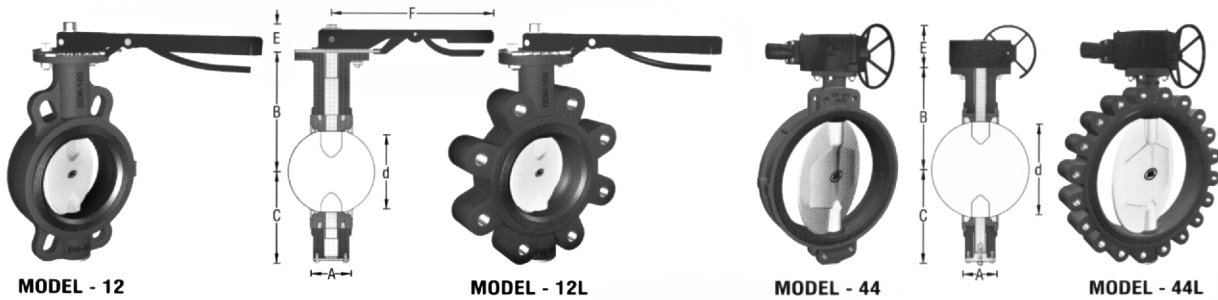
## MODEL 12 & 12L

## MODEL 44 & 44L



# BUTTERFLY VALVES

## MODEL 12, 12L, 44 & 44L



FULLY COMPLAINT TO DESIGN STD : EN 593 & API 609 TESTING STD : EN 12266-1 & API 598

Test Pressure in bar (psi)				
Pressure rating	PN16	PN10	PN6	PN4
Hyd. Shell	24 (348)	15(218)	9 (131)	6 (87)
Seat	17.6(255)	11 (160)	6.6 (96)	4.4 (64)
Air Seat	6.9 (100)		6.6 (96)	4.4 (64)

APPLICATION :		
a) WATER	b) SEA WATER & BRINE	c) AIR
d) EFFLUENTS	e) WEAK ACID & ALKALI	f) OILS

Dimensions are in mm (inch) MODEL - 12 & 12L - PN16 RATING								
SIZE	A	B	C	d	E	F	← Wt 1) →	
mm (inch)							12	12L
32/40 (1¼ / 1½)	33 (1.3)	95 (3.7)	65 (2.6)	13 (0.5)	30 (1.2)	300 (11.8)	4.0 (9)	5.5 (12)
50 (2)	43 (1.7)	115 (4.5)	75 (2.9)	33.5 (1.3)	30 (1.2)	300 (11.8)	4.5 (10)	6.5 (14)
65 (21/2)	46 (1.8)	117 (4.6)	85 (3.3)	47 (1.9)	30 (1.2)	300 (11.8)	5 (11)	8.5 (19)
80 (3)	46 (1.8)	135 (5.3)	90 (3.5)	66 (2.6)	30 (1.2)	300 (11.8)	5.5 (12)	9 (20)
100 (4)	52 (2.0)	153 (6.)	118 (4.6)	91.5 (3.6)	30 (1.2)	300 (11.8)	7 (15)	13 (29)
125 (5)	56 (2.2)	172 (6.8)	135 (5.3)	118 (4.6)	30 (1.2)	300 (11.8)	8 (17)	17 (37)
150 (6)	56 (2.2)	185 (7.3)	148 (5.8)	146 (5.7)	30 (1.2)	300 (11.8)	9 (20)	19 (42)
200 (8)	60 (2.4)	221 (8.7)	175 (6.9)	199 (7.8)	170 (6.7)	180 (7.1)	28 (62)	43 (95)
250 (10)	68 (2.7)	250 (9.8)	210 (8.3)	247 (9.7)	170 (6.7)	180 (7.1)	34 (75)	56 (123)
300 (12)	78 (3.1)	277 (10.9)	250 (9.8)	297 (11.7)	200 (7.9)	240 (9.4)	51 (112)	92 (209)

Dimensions are in mm (inch) MODEL - 44 & 44L - PN10 RATING								
SIZE	A	B	C	d	E	F	← Wt 1) →	
mm (inch)							44	44L
200 (8)	60 (2.4)	221 (8.7)	175 (6.9)	199 (7.8)	170 (6.7)	180 (7.1)	28 (62)	43 (95)
250 (10)	68 (2.7)	250 (9.8)	210 (8.3)	247 (9.7)	170 (6.7)	180 (7.1)	34 (75)	56 (123)
300 (12)	78 (3.1)	277 (10.9)	250 (9.8)	297 (11.7)	200 (7.9)	240 (9.4)	51 (112)	92 (209)
350 (14)	92 (3.6)	320 (12.6)	297 (11.7)	325 (12.8)	290 (11.4)	295 (11.6)	65 (143)	100 (220)
400 (16)	102 (4.0)	360 (14.2)	327 (12.9)	370 (14.6)	290 (11.4)	295 (11.6)	86 (190)	140 (309)
450 (18)	114 (4.5)	390 (15.4)	355 (14.0)	420(16.5)	335 (13.2)	370 (14.6)	110 (242)	190 (419)
500 (20)	127 (5.0)	420 (16.5)	385 (15.2)	465 (18.3)	335 (13.2)	370 (14.6)	140 (309)	230 (507)
600 (24)	154 (6.1)	490 (19.3)	475 (18.7)	560 (22.0)	445 (17.5)	410 (16.1)	220 (485)	310 (683)

Materials	
Body	Cast iron ASTM A126 Class B/EN 1561No EN-JL 1030 / Ductile Iron ASTM A536 Gr. 60-40-18 / EN 1536 No.EN-JS 1024 / Carbon Steel ASTM A216 Gr. WCB
Disc	Ductile Iron ASTM A536 Gr. 60-40-18 / EN 1563 No. EN-JS 1024 / Stainless Steel ASTM A217 CA15 / ASTM A351 Gr. CFB / CF8M, Even Rubber Lined.
Seat	Nitrile / Neoprane / EPDM / Butyl / Viton / Silicon
Stem	Stainless Steel ASTM A276 Type 410 / 304 / 316
Stem Bearing	Delrin
Handle Unit	Carbon Steel
Gear Unit	Housing In Cast Iron, Gear in S.G. Iron & Worm in EN8
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 : Black Stoving Enamel.

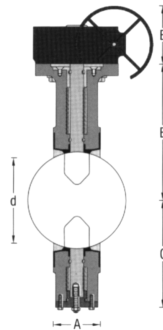
<sup>1)</sup> Nett in Kg.(lbs) approx. (without obligation) ■ PN6 Pressure Rating for Valves with Silicon & Viton Seat & PN10 & PN6 Rating Rubber Lined Disc for Model 12, 12L & 44. 44L respectively. ■ Concentric disc, Bi-directional, resilient seated, tight shut-off. ■ Worm Gear Actuators mandatory for Sizes 200mm (8") to 600mm (24") ■ Valves can be supplied to suit ASME / BS / DIN Flanges ■ Please Specify Working Pressure, Temperature & Service conditions. ■ Valves can be supplied with Locking, Extended Stem / Electrical / Pneumatic Actuators and accessories like Limit Switch, Solenoid Valve, Air Filter Regulator, Positioner etc. ■ Other materials not mentioned above available on request.

# BUTTERFLY VALVES

## MODEL 46, 46L, 48, 48L & 48F



MODEL - 46 & 48



MODEL - 46L & 48L



MODEL - 48F

RUBBER LINED BODY

FULLY COMPLAINT TO DESIGN STD : EN 593 & API 609 TESTING STD : EN 12266-1 & API 598

Test Pressure in bar (psi)		
Pressure rating	PN16	PN6
Hyd. Shell	24 (348)	9 (131)
Seat	17.6 (255)	6.6 (96)
Air Seat	6.9 (100)	6.6 (96)

APPLICATION :		
a) WATER	b) SEA WATER & BRINE	c) AIR
d) EFFLUENTS	e) WEAK ACID & ALKALI	f) OILS

**Dimensions are in mm (inch) MODEL - 46 & 46L - PN16 RATING**

SIZE	A	B	C	d	E	← Wt(1) →	
mm (inch)						46	46L
200 (8)	60 (2.4)	221 (8.7)	175 (6.9)	199 (7.8)	170 (6.7)	31 (68)	46 (102)
250 (10)	68 (2.7)	250 (9.8)	210 (8.3)	247 (9.7)	170 (6.7)	40 (88)	62 (137)
300 (12)	78 (3.1)	277 (10.9)	250 (9.8)	297 (11.7)	200 (7.9)	58 (128)	102 (225)
350 (14)	92 (3.6)	320 (12.6)	297 (11.7)	325 (12.8)	290 (11.4)	76 (168)	112 (247)
400 (16)	102 (4.0)	360 (14.2)	327 (12.9)	370 (14.6)	290 (11.4)	92 (203)	146 (322)
450 (18)	114 (4.5)	390 (15.4)	355 (14.0)	420 (16.5)	335 (13.2)	120 (265)	200 (441)
500 (20)	127 (5.0)	420 (16.5)	385 (15.2)	465 (18.3)	335 (13.2)	160 (353)	240 (529)
600 (24)	154 (6.1)	490 (19.3)	475 (18.7)	560 (22.0)	445 (17.5)	245 (540)	335 (738)

**Dimensions are in mm (inch) MODEL - 46, 48L & 48L - PN6 RATING**

SIZE	A	B	C	d	E	← Wt(1) →	
mm (inch)						48	48L
650 (26)	165 (6.5)	490 (19.3)	450 (17.7)	616 (24.3)	275 (10.8)	175 (386)	230 (507)
700 (28)	165 (6.5)	550 (21.7)	500(19.7)	670 (26.4)	352 (13.9)	230 (507)	365 (805)
750 (30)	190 (7.5)	610 (24.0)	540 (21.3)	715 (28.1)	303 (11.9)	275 (606)	403 (889)
800 (32)	190 (7.5)	635 (25.0)	560 (22.0)	764 (30.1)	303 (11.9)	310 (683)	490 (1080)
900 (36)	203 (8.0)	680 (26.8)	640 (25.2)	870 (34.3)	318 (12.5)	450 (992)	700 (1543)
1000 (40)	216 (8.5)	740 (29.1)	705 (27.8)	970 (38.2)	318 (12.5)	570 (1257)	840 (1852)

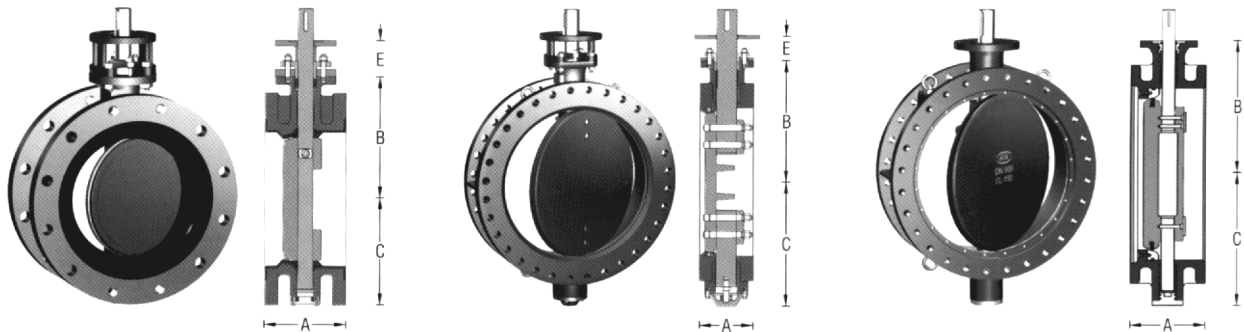
**Materials**

<b>Body</b>	Cast iron ASTM A126 Clas B / EN 1561 No. EN-JL 1030 / Ductile Iron ASTM A395 Gr. 60-40-18 / EN 1563 No. EN-JS 1024 / Carbon Steel ASTM A216 Gr. WCB
<b>Disc</b>	Ductile Iron ASTM A395 Gr. 60-40-18 / EN 1563 No. EN-JS 1024 / Stainless Steel ASTM A217 CA15 / ASRM A351 Gr. CFB / CF8M / Alluminium Bronze
<b>Seat 2)</b>	EPDM / Nitrile / Neoprene / Butyl
<b>Stem</b>	Stainelss Steel ASTM A276 Type 410 / 340 / 316 Monel
<b>Stem Bearing</b>	Poly Acetal (Delrin)
<b>Gear Unit</b>	Housing in Cast Iron, Gear in S.G. Iron & Worm in EN8
<b>Surface Protection for Ductile Iron and Cast Carbon Steel Valves</b>	Prime Coat : Chlorine free with modified alkyd resin unobjectionable in physiological and toxicological respects. Additional external coating : Black Stoving Enamel.

1) Nett in Kg.(lbs) approx. (without obligation) 2) Bonded to body ■ PN4 Pressure Rating for Rubber Lined Disc for Model 48, 48L & 48F. ■ Concentric disc. Bi-directional, resilient seated, tight shut-off. ■ Valves can be supplied to suit ASME / BS / DIN Flanges. ■ Please Specify working Pressure, Temperature & Service conditions. ■ Valves can be supplied with Locking, Extended Stem / Electrical / Pneumatic Actuators, and accessories like Limit Switch , Solenoid Valve, Air Filter Regulator, Positioner etc. ■ Other materials not mentioned above & higher size available on request.

# BUTTERFLY VALVES

## MODEL 85F, AWWA C504



SIZE 80 (3") TO 500 (20")  
RUBBER LINED BODY

SIZE 600 (24") TO 1800 (72")  
SEAL ON BODY

SIZE 80 (3") TO 1800 (72")  
SEAL ON DISC

FULLY COMPLIANT TO DESIGN STD : AWWA C504 TESTING STD : AWWA C504

Test Pressure in bar (psi)				
Pressure rating	Class - 250	Class - 150	Class - 75	Class - 25
Hyd. Shell	34 (500)	21 (300)	10.5 (150)	3.5 (50)
Seat	17.2 (254)	10.5 (152)	5.25 (76)	1.75 (25)
Air Seat	← 6.9 (100) →		5.25 (76)	1.75 (25)

APPLICATION :	
a) WATER	b) SEA WATER & BRINE
c) EFFLUENTS	

Dimensions are in mm (inch)

AWWA C504							
SIZE mm (inch)	A	B	C	E	Wt. 1) CLASS		
					150	75	25
80 (3)	127 (5.)	135 (5.3)	125 (4.9)	100 (4)	32 (71)	-	-
100 (4)	127 (5.0)	153 (6.0)	135 (5.3)	100 (4)	35 (77)	-	-
150 (6)	127 (5.0)	185 (7.3)	180 (7.1)	100 (4)	75 (165)	-	-
200 (8)	152 (6.0)	221 (8.7)	225 (8.9)	100 (4)	95 (209)	-	-
250 (10)	203 (8.0)	275 (10.8)	250 (9.8)	100 (4)	101 (223)	-	-
300 (12)	203 (8.0)	290 (11.4)	277 (10.9)	100 (4)	108 (238)	-	-
350 (14)	203 (8.0)	320 (12.6)	315 (12.4)	150 (6)	130 (287)	-	-
400 (16)	203 (8.0)	360 (14.2)	350 (13.8)	150 (6)	180 (397)	-	-
450 (18)	203 (8.0)	390 (15.4)	385 (15.2)	150 (6)	200 (441)	-	-
500 (20)	203 (8.0)	420 (16.5)	420 (16.5)	150 (6)	220 (485)	-	-
600 (24)	203 (8.0)	500 (19.7)	508 (20.0)	150 (6)	630 (1389)	-	-
750 (30)	305 (12.0)	590 (23.2)	565 (22.2)	225 (9)	920 (2028)	-	-
900 (36)	305 (12.0)	695 (27.4)	735 (28.9)	225 (9)	1425 (3142)	-	-
1050 (42)	305 (12.0)	775 (30.5)	800 (31.5)	225 (9)	1850 (4079)	-	-
1200 (48)	381 (15.0)	860 (33.9)	890 (35.0)	300 (12)	2260 (4982)	2000 (4409)	1900 (4189)
1350 (54)	381 (15.0)	950 (37.4)	975 (38.4)	300 (12)	3000 (6614)	2260 (4982)	2000 (4409)
1500 (60)	381 (18.0)	1035 (40.7)	1065 (41.9)	350 (14)	4850 (10692)	3000 (6614)	2500 (5512)
1650 (66)	457 (18.0)	1156 (45.5)	1130 (44.5)	350 (14)	5848 (12892)	4250 (9370)	3850 (8488)
1800 (72)	457 (18.0)	1245 (49.0)	1219 (48.0)	350 (14)	7740 (17064)	5848 (12892)	4850 (10692)

Materials	
Body	Cast iron ASTM A126 Clas B / Ductile Iron ASTM A536 Gr. 60-40-18 / ASTM A395 Gr. 65-45-15 / Carbon Steel ASTM A216 Gr. WCB / Stainless Steel ASTM A351 Gr. CFB / CF8M
Disc#	Cast iron ASTM A126 Class B / Ductile Iron ASTM A536 Gr. 60-40-18 / ASTM A395 Gr. 65-45-15 / Carbon Steel ASTM A216 Gr. WCB / Stainless Steel ASTM A351 Gr. CFB / CF8M
Body Lining / Body Seal* / Disc Seal	EPDM / Nitrile / Neoprene / Viton / Silicon
Body Seat**	Stainelss Steel ASTM A351 Gr. CFB / CF8M
Stem	Stainelss Steel ASTM A276 Type 410 / 304 / 316 / ASTM A564 TYPE 630 (17-4PH) Heat Treated
Stem Bearing	Carbon Steel backed PTFE / Stainless Steel backed PTFE / Leaded Bronze
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 : Black Enamel.

1) Nett in Kg.(lbs) approx. (without obligation) #With SS316 Seating edge over WCB for Lined Body & Seal on Body design. \* Bonded to the Body by Epoxy for size 600mm (24") & above. \*\* Application for Seal on Disc design only. ■ Eccentric disc, Bi-directional, resilient seated, tight shut-off. ■ Values can be supplied to suit ASME / MSS / SP / AWWA Flanges. ■ Please Specify working Pressure, Temperature & Service conditions. ■ Valves can be supplied with Locking, Extended Stem / Electrical / Pneumatic Actuators, and accessories like Limit Switch , Solenoid Valve, Air Filter Regulator, Positioner etc. ■ Fabricated construction available on request. ■ Other materials not mentioned above & higher size available on request.

# BUTTERFLY VALVES

## MODEL 85F, EN 593



FULLY COMPLAINT TO DESIGN STD : EN 593 TESTING STD : EN 12266-1

Test Pressure in bar (psi)				
Pressure rating	PN16	PN10	PN6	PN2.5
Hyd. Shell	24 (348)	15(218)	9 (131)	3.75(54)
Seat	17.6(255)	11 (160)	6.6 (96)	2.75(40)
Air Seat	6.9 (100)		6.6 (96)	2.75(40)

#### APPLICATION :

a) WATER	b) SEA WATER & BRINE
c) EFFLUENTS	

Dimensions are in mm (inch)

EN 593

SIZE mm (inch)	A	B	C	PN				Wt 1) PN			
				16	10	6	2.5	16	10	6	2.5
65 (2½)	112 (4.4)	135 (5.3)	118 (4.6)	300 (11.8)	300 (11.8)	-	-	12 (27)	12 (27)	-	-
80 (3)	114 (4.5)	135 (5.3)	115 (4.5)	300 (11.8)	300 (11.8)	-	-	32 (71)	32 (71)	-	-
100 (4)	127 (5.0)	153 (6.0)	135 (5.3)	300 (11.8)	300 (11.8)	-	-	35 (77)	35 (77)	-	-
150 (6)	140 (5.5)	185 (7.3)	180 (7.1)	300 (11.8)	300 (11.8)	-	-	65 (143)	65 (143)	-	-
200 (8)	152 (6.0)	221 (8.7)	215 (8.5)	210 (8.3)	210 (8.3)	-	-	75 (165)	75 (165)	-	-
250 (10)	165 (6.5)	250 (9.8)	245 (9.6)	210 (8.3)	210 (8.3)	-	-	100 (221)	80 (176)	-	-
300 (12)	178 (7.0)	277 (10.9)	277 (10.9)	225 (8.9)	225 (8.9)	-	-	120 (265)	90 (198)	-	-
350 (14)	190 (7.5)	320 (12.6)	315 (12.4)	265 (10.4)	225 (8.9)	-	-	150 (331)	120 (265)	-	-
400 (16)	216 (8.5)	360 (14.2)	350 (13.8)	315 (12.4)	265 (10.4)	-	-	200 (441)	175 (386)	-	-
450 (18)	222 (8.7)	390 (15.4)	385 (15.2)	325 (12.8)	315 (12.4)	-	-	280 (617)	190 (419)	-	-
500 (20)	229 (9.0)	420 (16.5)	420 (16.5)	375 (14.8)	325 (12.8)	-	-	350 (772)	295 (650)	-	-
600 (24)	267 (10.5)	500 (19.7)	508 (20.0)	410 (16.1)	375 (14.8)	-	-	580 (1279)	550 (1212)	-	-
700 (28)	292 (11.5)	565 (22.2)	540 (21.3)	615 (24.2)	620 (24.4)	-	-	820 (1808)	780 (1720)	-	-
800 (32)	318 (12.5)	630 (24.8)	650 (25.6)	930 (36.6)	615 (24.2)	-	-	890 (1962)	840 (1852)	-	-
900 (36)	330 (12.0)	695 (27.4)	735 (28.9)	735 (28.9)	930 (36.6)	-	-	1310 (2888)	900 (1984)	-	-
1000 (40)	410 (16.1)	745 (29.3)	756 (30.1)	735 (28.9)	930 (36.6)	-	-	1680 (3704)	1200 (2646)	-	-
1200 (48)	470 (18.5)	855 (33.7)	880 (34.6)	-	-	930 (36.6)	645 (25.4)	-	-	1020 (2249)	1020 (2249)
1400 (56)	530 (20.9)	990 (39.0)	1015 (40.0)	-	-	735 (28.9)	930 (36.6)	-	-	2000 (4409)	2000 (4409)
1600 (64)	600 (23.6)	1070 (42.1)	1190 (46.9)	-	-	765 (30.1)	735 (28.9)	-	-	3000 (6614)	3000 (6614)

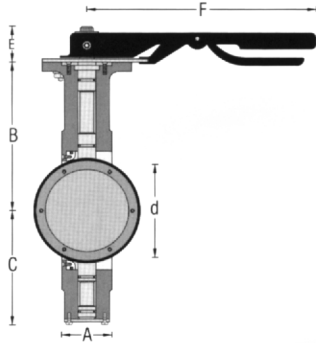
#### Materials

<b>Body</b>	Cast iron ASTM A126 Class B/EN 1561 No EN-JL 1040 / Ductile Iron ASTM A536 Gr. 60-40-18 / EN 1536 No.-JS 1024 / Carbon Steel ASTM A216 Gr. WCB / Stainless Steel ASTM A351 Gr. CFB / CFBM
<b>Disc</b>	Cast iron ASTM A126 Class B/EN 1561 No EN-JL 1040 / Ductile Iron ASTM A536 Gr. 60-40-18 / EN 1536 No.-JS 1024 / Carbon Steel ASTM A216 Gr. WCB / Stainless Steel ASTM A351 Gr. CFB / CFBM
<b>Disc Seat</b>	Nitrile / Neoprene / EPDM / Viton / Silicon
<b>Body Seat</b>	Stainless Steel ASTM A351 Gr. CFB / CFBM
<b>Stem</b>	Stainless Steel ASTM A276 Type 410 / 304 / 316
<b>Stem Bearing</b>	Carbon Steel backed PTFE / Leaded Bronze EN 1982 Gr. CC495K
<b>Gear Unit</b>	Housing In Cast Iron, Gear in S.G. Iron & Worm IN EN8 / EN19
<b>Surface Protection for Ductile Iron and Cast Carbon Steel Valves</b>	Prime Coat : Chlorine free with modified alkyd resin unobjectionable in physiological and toxicological respects. Additional external coating : Black Stoving Enamel.

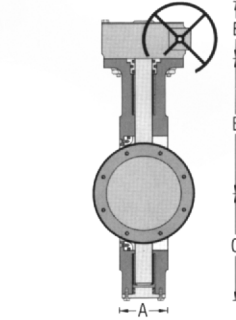
1) Nett in Kg.(lbs) approx. (without obligation) ■ Eccentric disc, Bi-directional, resilient seated, tight shut-off ■ Valves can be supplied to suit BS / DIN / ISO and ASME Flanges.  
 ■ Please Specify working Pressure, Temperature & Service conditions. ■ Valves can be supplied with Locking, Extended Stem / Electrical / Pneumatic Actuators, and accessories like Limit Switch , Solenoid Valve, Air Filter Regulator, Positioner etc. ■ **Fabricated & cast construction with face to face dimension of customers preference available on request.**  
 ■ **Hard Rubber lined Body & Disc are also available.** ■ Other materials not mentioned above and higher size available on request.

# BUTTERFLY VALVES

## MODEL 81



SIZE 80 (3") TO 300 (12")  
WAFER STYLE



SIZE 350 (14") TO 1000 (40")  
WAFER STYLE

FULLY COMPLAINT TO DESIGN STD : EN 593 TESTING STD : EN 12266-1

Test Pressure in bar (psi)			
Pressure rating	PN16	PN10	PN6
Hyd. Shell	24 (348)	15 (218)	9 (131)
Seat	17.6 (255)	11 (160)	6.6 (96)
Air Seat	6.9 (100)	6.6 (96)	

**APPLICATION :**

a) WATER	b) AIR
c) GASES	d) WEAK ACID & ALKALI

Dimensions are in mm (inch)

SIZE mm (inch)	A		B	C	d	E		F		Wt 1)
	SHORT	LONG				PN16	PN10	PN16	PN10	
80 (3)	-	64 (2.5)	135 (5.3)	95 (3.7)	48 (1.9)	30 (1.2)	-	300 (11.8)	-	10 (22)
100 (4)	-	64 (2.5)	153 (6.0)	105 (4.1)	78 (3.1)	30 (1.2)	-	300 (11.8)	-	12 (26)
125 (5)	-	70 (2.8)	172 (6.8)	125 (4.9)	103 (4.1)	30 (1.2)	-	300 (11.8)	-	14 (31)
150 (6)	-	76 (3.0)	185 (7.3)	135 (5.3)	128 (5.0)	30 (1.2)	-	300 (11.8)	-	15 (33)
200 (8)	-	89 (3.5)	221 (8.7)	175 (6.9)	160 (6.3)	74 (2.9)	-	450 (17.7)	-	29 (64)
250 (10)	-	114 (4.5)	250 (9.8)	210 (8.3)	210 (8.3)	74 (2.9)	-	600 (23.6)	-	36 (79)
300 (12)	-	114 (4.5)	277 (10.9)	240 (9.4)	260 (10.2)	74 (2.9)	-	600 (23.6)	-	52 (115)
350 (14)	78 (3.1)	127 (5.0)	320 (12.6)	315 (12.4)	-	236 (9.3)	236 (9.3)	240 (9.4)	138 (5.4)	125 (276)
400 (16)	102 (4.0)	140 (5.5)	360 (14.2)	350 (13.8)	-	270 (10.6)	270 (10.6)	320 (12.6)	170 (6.7)	155 (342)
450 (18)	114 (4.5)	152 (6.0)	390 (15.4)	385 (15.2)	-	280 (11.0)	280 (11.0)	320 (12.6)	205 (8.1)	185 (408)
500 (20)	127 (5.0)	152 (6.0)	420 (16.5)	420 (16.5)	-	360 (14.2)	360 (14.2)	365 (14.4)	275 (10.8)	250 (551)
600 (24)	154 (6.1)	178 (7.0)	500 (19.7)	508 (20.0)	-	403 (15.9)	403 (15.9)	385 (15.2)	365 (14.4)	350 (772)
700 (28)	165 (6.5)	229 (9.0)	565 (22.2)	540 (21.3)	-	-	615 (24.2)	650 (25.6)	620 (24.4)	550 (1213)
800 (32)	190 (7.5)	241 (9.5)	630 (24.8)	650 (25.6)	-	-	930 (36.6)	970 (38.2)	715 (28.1)	800 (1764)
900 (36)	203 (8.0)	241 (9.5)	695 (27.4)	735 (28.9)	-	-	735 (28.9)	1270 (48.4)	930 (36.6)	950 (2094)
1000 (40)	216 (8.5)	300 (11.8)	745 (29.3)	765 (30.1)	-	-	735 (28.9)	1350 (53.1)	1050 (41.3)	1100 (2425)

**Materials**

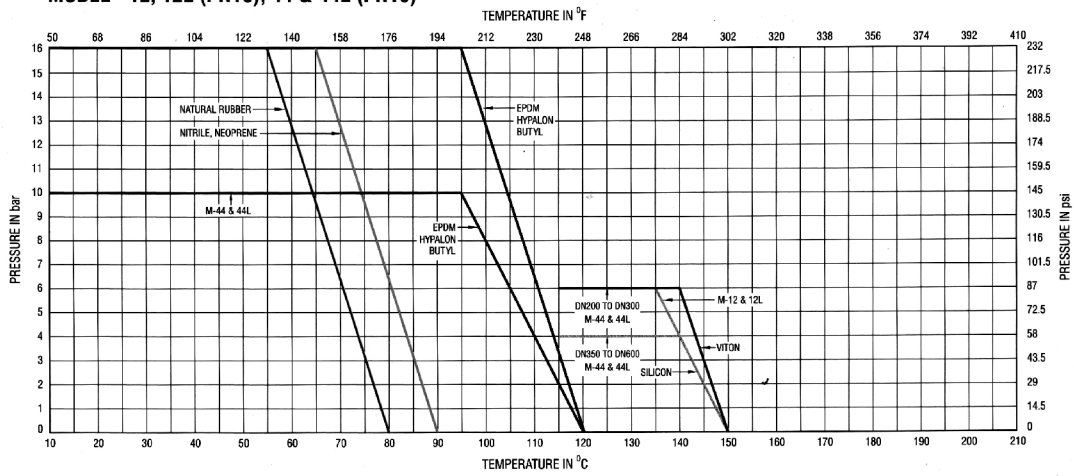
<b>Body</b>	Cast Iron ASTM A126 Class B/EN 1561No EN-JL 1040 / Ductile Iron ASTM A536 Gr. 60-40-18 / EN 1536 No.-JS 1024 Carbon Steel ASTM A216 Gr. WCB / Stainless Steel ASTM A351 Gr. CFB / CF8M / CN7M
<b>Disc</b>	Cast Iron ASTM A126 Class B/EN 1561No EN-JL 1040 / Ductile Iron ASTM A536 Gr. 60-40-18 / EN 1536 No.-JS 1024 Carbon Steel ASTM A216 Gr. WCB / Stainless Steel ASTM A217 CA15 / ASTM A351 Gr. CF8 / CF8M / CN7M
<b>Body Seat</b>	Stainless Steel ASTM A351 Gr. CFB / CF8M / CN7M
<b>Disc Seal</b>	Nitrile / Neoprene / EPDM / Viton / Silicon / PTFE *
<b>Stem</b>	Stainless Steel ASTM A276 Type 410 / 304 / 316 / A-20
<b>Stem Bearing</b>	Carbon Steel backed PTFE / Leaded Bronze EN 1982 Gr. CC495K
<b>Handle Unit</b>	Carbon Steel / Malleable Iron
<b>Gear Unit</b>	Housing in Cast Iron, Gear in S.G. Iron & Worm in EN8
<b>Surface Protection for Valves</b>	Prime Coat : Chlorine free with modified alkyd resin unobjectionable in physiological and toxicological respects. Additional external coating : Black Enamel.

1) Nett in Kg. (lbs) approx. (without obligation) for Long Series ★ PNG Rating for PTFE Seal ■ Eccentric disc, Bi-directional, resilient seated, tight shut-off. ■ Body and Disc in Cast Iron . Ductile Iron available for Sized 350mm (14") to 1000mm (40") ■ Worm Gear Actuators mandatory for Sizes 350mm (14") to 1000 (40") ■ Valves can be supplied to suit ASME / BS / DIN Flanges ■ Please Specify working Pressure, Temperature & Service conditions. ■ Valves can be supplied with Locking, Extended Stem / Electrical / Pneumatic Actuators, and accessories like Limit Switch , Solenoid Valve, Air Filter Regulator, Positioner etc. ■ Fabricated & cast construction with face to face dimension of customers preference available on request. ■ Other materials not mentioned above & higher size available on request.

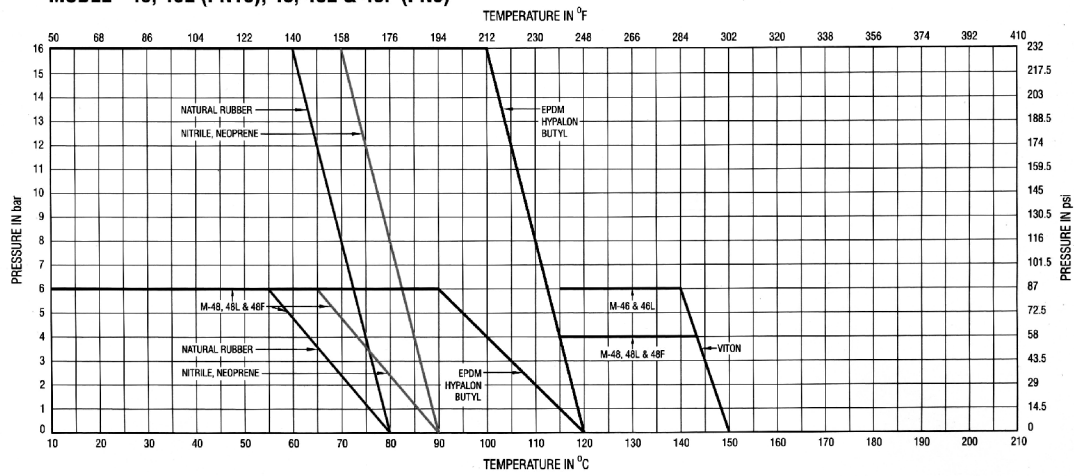
# BUTTERFLY VALVES TECHNICAL DATA

## PRESSURE TEMPERATURE RATING

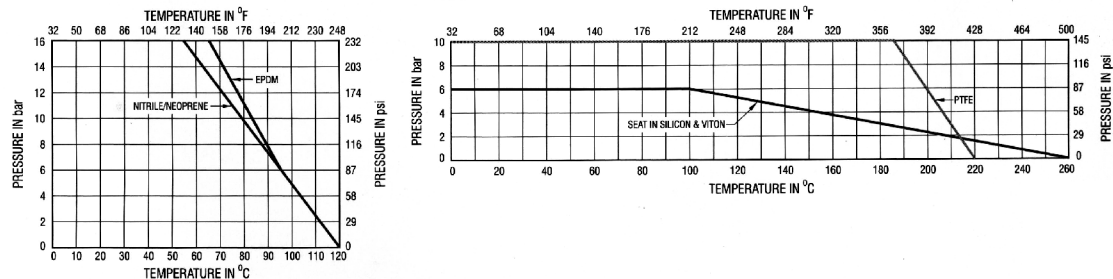
MODEL - 12, 12L (PN16), 44 & 44L (PN10)



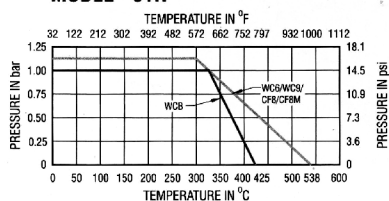
MODEL - 46, 46L (PN16), 48, 48L & 48F (PN6)



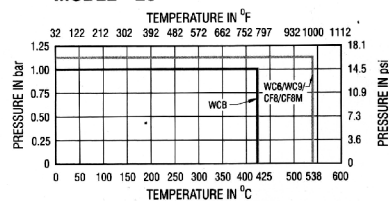
MODEL - 81 & 85F



MODEL - 81H



MODEL - 20



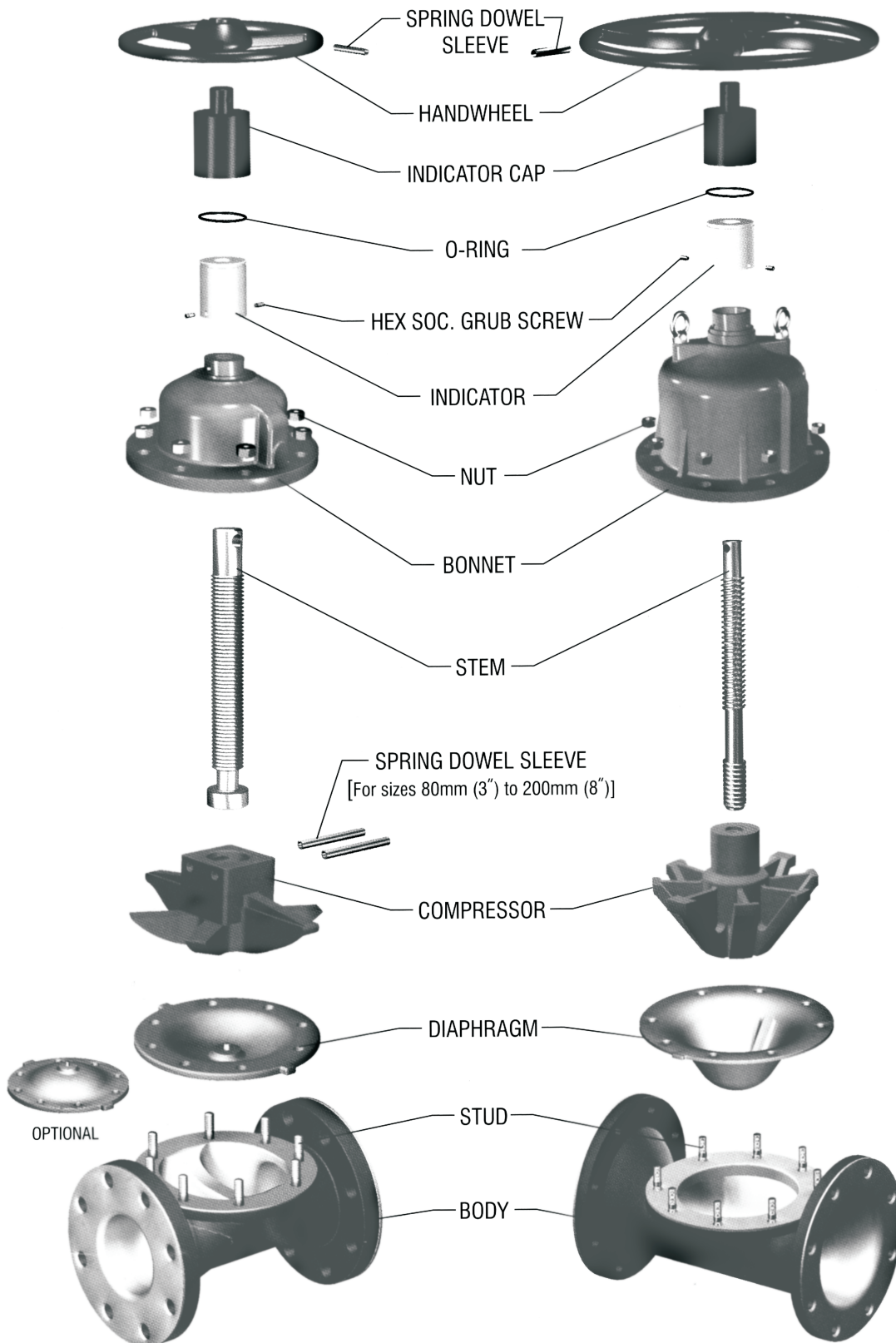


# DIAPHRAGM VALVE PARTS

## RISING HANDWHEEL

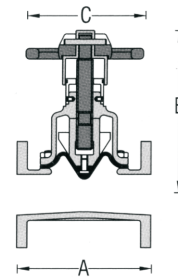
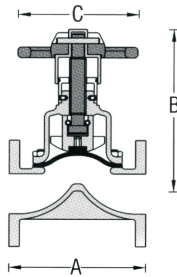
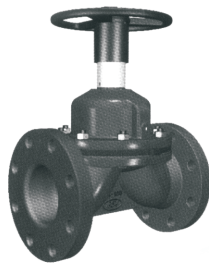
### SERIES 'S2K'

### SERIES 'G2K'



# DIAPHRAGM VALVES

## SERIES 'S2K' & 'G2K' RISING HANDWHEEL



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

		Test Pressure in bar (psi)					
		Series 'S2K'			Series 'G2K'		
Pressure rating 2)		16	10	7	10	7	5
Hyd. Shell		24 (348)	15 (218)	10.5 (152)	15 (218)	10.5 (152)	6 (87)
Seat		16 (232)	10 (145)	7 (102)	10 (145)	7 (102)	5 (73)
Air Seat			5 (73)			5 (73)	

Dimensions are in mm (inch)

		SERIES 'S2K' WEIR TYPE										SERIES 'G2K' STRAIGHT THROUGH TYPE				
SIZE mm (inch)	Unlined	Rubber Lined	PFA * Lined	DIN Unlined & Lined	MSS SP-88 PFA Lined	A	BS	C	Wt 1)			B	C	Wt 1)		
									BS	DIN	MSS			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)	2.5 (5.5)	2.8 (6.2)	2.5 (5.5)	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)	2.6 (5.7)	3.2 (7.0)	3.0 (6.6)	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)	132 (5.2)	120 (4.7)	3.5 (7.7)	4.2 (9.3)	4.0 (8.8)	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)	140 (5.5)	120 (4.7)	4.5 (9.9)	5.5 (12.1)	5.0 (11.0)	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)	180 (7.1)	150 (5.9)	7.0 (15.4)	8.0 (17.6)	7.5 (16.5)	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)	210 (8.3)	150 (5.9)	10 (22)	15 (33)	11 (24)	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)	235 (9.3)	180 (7.1)	15 (33)	19 (42)	16 (35)	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)	305 (12.0)	250 (9.8)	22 (49)	26 (57)	23 (51)	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)	340 (13.4)	250 (9.8)	38 (84)	43 (95)	38 (84)	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)	420 (16.5)	315 (12.4)	63 (139)	69 (152)	71 (156)	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)	490 (19.3)	360 (14.2)	92 (203)	107 (236)	94 (207)	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)	645 (25.4)	470 (18.5)	164 (361)	186 (410)	167 (368)	495 (19.5)	470 (18.5)	116 (256)	136 (300)		

\* Series 'S2K' only

### 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 'S2K' 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). Series 'G2K' for Sizes 15mm (1/2") to 100mm (4") - 10 bar (145 psi), for Size 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 Filter Regulator, Positioner etc.  
 ■ Other Materials not mentioned above available on request.

# DIAPHRAGMS

## SERIES 'S2K' & 'G2K'

*"Insist only on genuine  Diaphragms"*

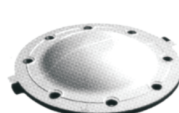
BDK elastomer technology has led to the development of a range of diaphragm grades to suit the widest variety of process applications.



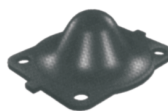
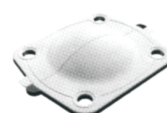
SERIES 'S2K' CLOSE TYPE



SERIES 'S2K' OPEN TYPE



SERIES 'S2K' PTFE WITH ELASTOMER PAD



SERIES 'G2K' CLOSE TYPE

### TYPICAL SELECTION AND APPLICATION


GRADE	MATERIAL	APPLICATION	TEMP RANGE °C (°F)	HARDNESS N SHORE - A	UTS Kg/cm <sup>2</sup> (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)	-	-	-

### TYPICAL 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, alkalis, chlorides, semiconductors, etc.**

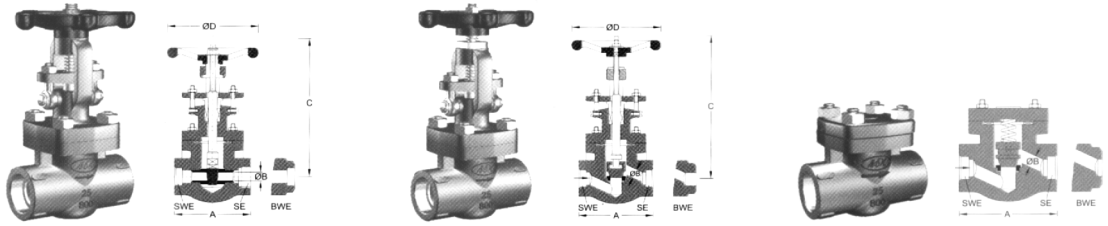
**Every Genuine BDK Diaphragm has moulded in details.**

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

■ For Series 'G2K' Hardness will be 10° less than the specified above. ■ Viton, Silicon & PTFE not available for Series 'G2K'.

# 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

	Test Pressure in bar (psi)	
	800	1500
Hyd. Shell	207 (3002)	384 (5568)
Seat / Back Seat	152 (2205)	282 (4089)
Air Seat	6.9 (100)	

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

Class - 800																
SIZE	A		ØB		C (Open)		C		ØD		GATE		GLOBE		CHECK	
	SB	RB	SB	RB	SB	RB	SB	RB	SB	RB	Wt 1)	SB	RB	SB	RB	
8	88	88	6.4	6.4	162	170	170	54	54	110	110	2.40	2.80	2.60	2.03	1.70
(1/4)	(3.5)	(3.5)	(0.25)	(0.25)	(6.4)	(6.7)	(6.7)	(2.1)	(2.1)	(4.3)	(4.3)	(5.3)	(6.2)	(5.7)	(4.5)	(3.7)
10	88	88	8.0	6.4	162	170	170	54	54	110	110	2.40	2.80	2.60	2.03	1.62
(3/8)	(3.5)	(3.5)	(0.31)	(0.25)	(6.4)	(6.7)	(6.7)	(2.1)	(2.1)	(4.3)	(4.3)	(5.3)	(6.2)	(5.7)	(4.5)	(3.6)
15	92	88	11.0	9.5	162	185	170	66	54	110	110	2.30	2.80	2.45	2.03	1.62
(1/2)	(3.6)	(3.5)	(0.43)	(0.37)	(6.4)	(7.3)	(6.7)	(2.6)	(2.1)	(4.3)	(4.3)	(5.1)	(6.2)	(5.4)	(4.5)	(3.6)
20	106	92	16.0	12.7	176	194	185	72	66	110	110	2.65	3.65	2.80	2.67	2.03
(3/4)	(4.2)	(3.6)	(0.63)	(0.50)	(6.9)	(7.6)	(7.3)	(2.8)	(2.6)	(4.3)	(4.3)	(5.8)	(8.0)	(6.2)	(5.9)	(4.5)
25	140	106	22.5	18.0	195	283	194	102	72	170	110	3.45	8.35	3.65	6.20	2.67
(1)	(5.5)	(4.2)	(0.89)	(0.71)	(7.7)	(11.1)	(7.6)	(4.0)	(2.8)	(6.7)	(4.3)	(7.6)	(18.4)	(8.0)	(13.7)	(5.9)
32	140	140	29.5	23.0	271	283	283	108	102	170	170	7.80	10.00	8.30	8.00	6.00
(1.1/4)	(5.5)	(5.5)	(1.16)	(0.91)	(10.7)	(11.1)	(11.1)	(4.3)	(4.0)	(6.7)	(6.7)	(17.2)	(22.0)	(18.3)	(17.6)	(13.2)
40	170	140	35.0	30.0	271	292	283	108	102	170	170	8.00	10.60	8.35	8.90	6.20
(1.1/2)	(6.7)	(5.5)	(1.38)	(1.18)	(10.7)	(11.5)	(11.1)	(4.3)	(4.0)	(6.7)	(6.7)	(17.6)	(23.4)	(18.4)	(19.6)	(13.7)
50	-	170	-	36.0	278	-	292	-	108	-	170	10.00	-	10.60	-	8.90
(2)	-	(6.7)	-	(1.42)	(10.9)	-	(11.5)	-	(4.3)	-	(6.7)	(22.0)	-	(23.4)	-	(19.6)

Class - 1500										Class - 2500								
SIZE	A		ØB		C (Open)		ØD	Wt 1)		A	ØB		C (Open)		ØD	Wt 1)		
	SB	RB	SB	RB	SB	RB		SB	RB		SB	RB	SB	RB		SB	RB	
15	88	9	173	178	54	110	2.3	2.4	1.6	106	11	216	217	72	200	400	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)	-	-	-	-	-	-	-	-	-

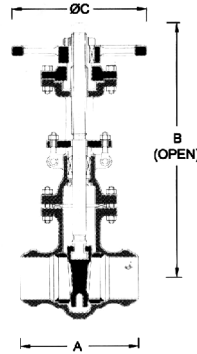
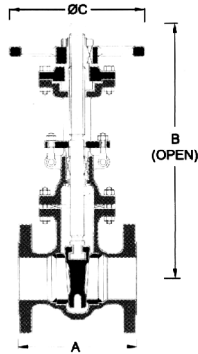
### Materials

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 / Graphie / PTFE filled
Spring	ASTM A312 TYPE 316
Stud / Nut	ASTM A193 Gr. B7 / B16 / B8 / B8M / A194 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. ■ 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 is not mentioned above available on request.

# 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 with most advanced design Features provide the ultimate in dependable, economic flow control.

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

Test Pressure in bar (psi)			
Class	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)

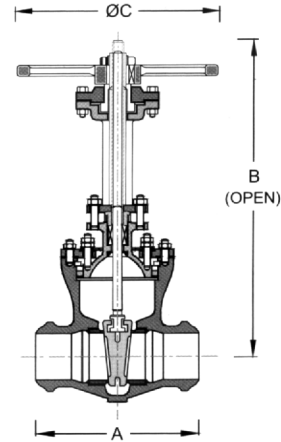
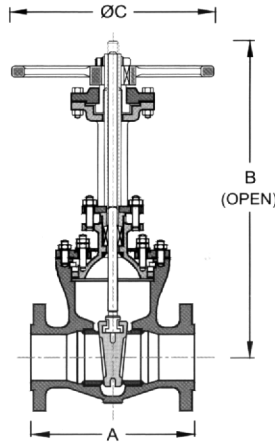
SIZE	Class - 150				Class - 300				Class - 600			
mm (inch)	A	B	ØC	Wt 1)	A	B	ØC	Wt 1)	A	B	ØC	Wt 1)
15 (1/2)	108 (4.3)	210 (8.3)	100 (3.9)	4.0 (9)	140 (5.5)	210 (8.3)	100 (4.0)	4.6 (10)	-	-	-	-
20 (3/4)	117 (4.6)	215 (8.5)	100 (3.90)	4.5 (10)	152 (6.0)	215 (8.5)	100 (4.0)	6 (13)	-	-	-	-
25 (1)	127 (5.0)	250 (9.8)	150 (5.9)	6.2 (14)	165 (6.5)	250 (9.8)	150 (5.9)	7.5 (17)	-	-	-	-
40 (1.1/2)	165 (6.5)	300 (11.8)	200 (7.9)	11.2 (25)	190 (7.5)	300 (11.8)	200 (7.9)	14.2 (31)	-	-	-	-
50 (2)	178 (7.0)	345 (13.6)	200 (7.9)	16.5 (36)	216 (8.5)	345 (13.6)	200 (7.9)	19 (42)	292 (11.5)	405 (15.9)	250 (9.8)	30 (66)
65 (2.1/2)	190 (7.5)	410 (16.1)	200 (7.9)	25 (55)	241 (9.5)	425 (16.7)	250 (9.8)	28 (62)	330 (13.0)	420 (16.5)	250 (9.8)	39 (86)
80 (3)	203 (8.0)	435 (17.1)	250 (9.8)	27 (60)	282 (11.1)	460 (18.1)	250 (9.8)	43 (95)	356 (14.0)	460 (18.1)	300 (11.8)	51 (112)
100 (4)	229 (9.0)	550 (21.7)	250 (9.8)	43 (95)	305 (12.0)	550 (21.7)	300 (11.8)	75 (165)	432 (17.0)	595 (23.4)	450 (17.7)	96 (212)
125 (5)	254 (10.0)	650 (25.6)	300 (11.8)	55 (121)	381 (15.0)	685 (27.0)	450 (17.7)	98 (216)	508 (20.0)	690 (27.2)	450 (17.7)	135 (298)
150 (6)	267 (10.5)	750 (29.5)	300 (11.8)	78 (172)	403 (15.9)	790 (31.1)	450 (17.7)	133 (293)	559 (22.0)	825 (32.5)	600 (23.6)	213 (470)
200 (8)	292 (11.5)	960 (37.8)	450 (17.7)	125 (276)	419 (16.5)	990 (39.0)	450 (17.7)	215 (474)	660 (26.0)	1065 (41.9)	600 (23.6)	355 (783)
250 (10)	330 (13.0)	1155 (45.5)	450 (17.7)	190 (419)	457 (18.0)	1230 (48.4)	600 (23.6)	368 (811)	787 (31.0)	1110 (43.7)	750 (29.5)	598 (1318)
300 (12)	356 (14.0)	1390 (54.7)	600 (23.6)	288 (635)	502 (19.8)	1475 (58.1)	600 (23.6)	475 (1047)	838 (33.0)	1770 (69.7)	★ (1819)	825 (1819)
350 (14)	381 (15.0)	1575 (62.0)	600 (23.6)	315 (695)	762 (30.0)	1310 (51.6)	750 (29.5)	580 (1279)	-	-	-	-
400 (16)	406 (16.0)	1710 (67.3)	750 (29.5)	420 (926)	838 (33.0)	1870 (73.6)	★ (2172)	985 (2172)	-	-	-	-
450 (18)	432 (17.0)	1950 (76.8)	750 (29.5)	650 (1433)	914 (36.0)	2035 (80.1)	★ (2613)	1185 (2613)	-	-	-	-
500 (20)	457 (18.0)	2225 (87.6)	★ (1598)	725 (1598)	991 (39.0)	2220 (87.4)	★ (3406)	1545 (3406)	-	-	-	-
600 (24)	508 (20.0)	2560 (100.8)	★ (2877)	1305 (2877)	1143 (45.0)	2550 (100.4)	★ (3979)	1805 (3979)	-	-	-	-
650 (26)	559 (22.0)	2800 (110.2)	★ (3417)	1550 (3417)	-	-	-	-	-	-	-	-
700 (28)	610 (24.0)	3050 (120.1)	★ (4145)	1880 (4145)	-	-	-	-	-	-	-	-
750 (30)	610 (24.0)	3130 (123.2)	★ (5071)	2300 (5071)	-	-	-	-	-	-	-	-
800 (32)	660 (26.0)	3280 (129.1)	★ (5622)	2550 (5622)	-	-	-	-	-	-	-	-
900 (36)	711 (28.0)	3720 (146.5)	★ (7474)	3390 (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 B 16.25. ■ 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 handwheel, renewable seating. Wall thickness as per ASME B16.34. Valves with most advanced design Features Provide the ultimate in dependable, economical flow control.

DESIGN STD : ASME B16.34 & 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							
mm (inch)	← A →		B	ØC	← Wt 1 →		← A →		B	ØC	← Wt 1 →		A	B	ØC	Wt 1)
	FE	BWE			FE	BWE	FE	BWE			FE	BWE	BWE			
50 (2)	368 (14.5)	216 (8.5)	520 (20.5)	300 (11.8)	58 (128)	40 (88)	368 (14.5)	216 (8.5)	520 (20.5)	300 (11.8)	58 (88)	40 (88)	279 (11.0)	450 (17.7)	450 (17.7)	52 (115)
65 (2.1/2)	419 (16.5)	254 (10.0)	595 (23.4)	450 (17.7)	86 (190)	55 (121)	419 (16.5)	254 (10.0)	595 (23.4)	450 (17.7)	86 (190)	55 (121)	330 (13.0)	520 (20.5)	600 (23.6)	79 (174)
80 (3)	381 (15.0)	305 (12.0)	665 (26.2)	450 (17.7)	95 (209)	65 (143)	470 (18.5)	305 (12.0)	650 (25.6)	600 (23.6)	115 (254)	76 (168)	368 (14.5)	575 (22.6)	* (*)	105 (232)
100 (4)	457 (18.0)	356 (14.0)	760 (29.9)	600 (23.6)	130 (287)	87 (192)	546 (21.5)	406 (16.0)	760 (29.9)	* (*)	171 (377)	106 (234)	457 (18.0)	685 (27.0)	* (*)	148 (326)
125 (5)	559 (22.0)	432 (17.0)	885 (34.8)	600 (23.6)	200 (441)	140 (309)	673 (26.5)	483 (19.0)	910 (35.8)	* (*)	285 (628)	190 (419)	533 (21.0)	820 (32.3)	* (*)	450 (992)
150 (6)	610 (24.0)	508 (20.0)	1070 (42.1)	* (*)	330 (728)	250 (551)	705 (27.8)	559 (22.0)	1070 (42.1)	* (*)	440 (970)	262 (578)	610 (24.0)	990 (39.9)	* (*)	510 (1124)
200 (8)	737 (29.0)	660 (26.0)	1415 (55.7)	* (*)	595 (1312)	415 (915)	832 (32.8)	711 (28.0)	1475 (58.1)	* (*)	875 (1929)	558 (1230)	762 (30.0)	1350 (53.1)	* (*)	1050 (2315)
250 (10)	838 (33.0)	787 (31.0)	1525 (60.0)	* (*)	795 (1753)	610 (1345)	991 (39.0)	863 (34.0)	1525 (60.0)	* (*)	1325 (2921)	889 (1960)	914 (36.0)	1706 (67.2)	* (*)	1265 (2789)
300 (12)	965 (38.0)	914 (36.0)	1610 (63.4)	* (*)	1110 (2447)	860 (1896)	1130 (44.5)	990 (39.0)	1610 (63.4)	* (*)	2525 (5567)	1580 (3483)	991 (39.0)	2145 (84.4)	* (*)	1505 (3318)

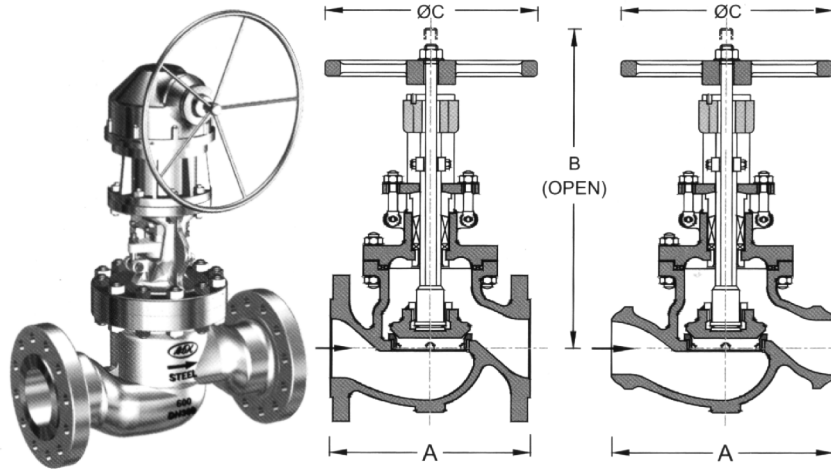
FE = Flanged End BWE = Butt Weld End

Materials	
Body & Bonnet	ASTM A216 Gr. WCB, A217 Gr. WC6 / WC9 / C5 / C12, A351 Gr. CF8M / CF8M / CF3 / CF3M
Wedge & Seat Ring	ASTM A216 Gr. WCB, A217 Gr. WC6, A351 Gr. CFB / CF8M / CF3 / CF3M, Seat faces are stellite
Steam & Gland	ASTM A276 TYPE 410 / 304 / 316
Yoke Sleeve	Ni-Resist ASTM A439 Gr. D2
Gland Packing	Pre moulded Grafoil 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 aluminium paint

1) Nett in Kg. (lbs) approx. (without obligation) \* Bevel Gear Actuators mandatory. • For Class 2500 ■ Butt Weld Ends to ASME B 16.25. ■ 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 12266-1

Test Pressure in bar (psi)			
Class	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)		

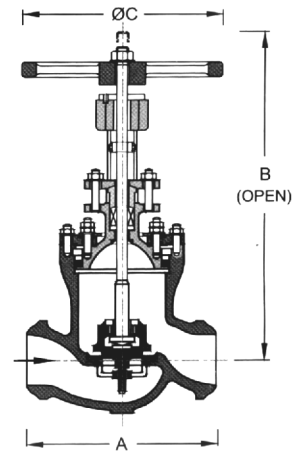
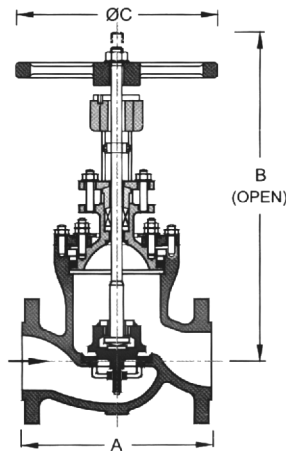
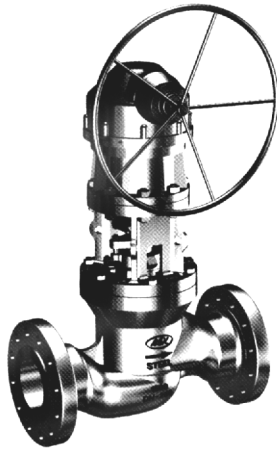
Dimensions are in mm (inch)												
SIZE	Class - 150				Class - 300				Class - 600			
mm (inch)	A	B	ØC	Wt 1)	A	B	ØC	Wt 1)	A	B	ØC	Wt 1)
15 (1/2)	108 (4.3)	205 (8.1)	100 (3.9)	4.1 (9)	152 (6.0)	205 (8.1)	100 (3.9)	45 (10)	-	-	-	-
20 (3/4)	117 (4.6)	210 (8.3)	100 (3.9)	4.6 (10)	178 (7.0)	210 (8.3)	100 (3.9)	6.2 (13)	-	-	-	-
25 (1)	127 (5.0)	230 (9.1)	150 (5.9)	6.1 (13)	203 (8.0)	230 (9.1)	150 (5.9)	7.2 (16)	-	-	-	-
40 (1.1/2)	165 (6.5)	260 (10.2)	200 (7.9)	9.2 (20)	229 (9.0)	260 (10.2)	200 (7.9)	13 (29)	-	-	-	-
50 (2)	203 (8.0)	295 (11.6)	200 (7.9)	14.5 (32.0)	267 (10.5)	295 (11.6)	200 (7.9)	17.2 (38)	292 (11.5)	330 (13.0)	250 (9.8)	40 (88)
65 (2.1/2)	216 (8.5)	290 (11.4)	200 (7.9)	30 (66)	292 (11.5)	351 (13.8)	250 (9.8)	35 (77)	330 (13.0)	347 (13.7)	300 (11.8)	55 (121)
80 (3)	241 (9.5)	345 (13.6)	250 (9.8)	36 (79)	318 (12.5)	360 (14.2)	300 (11.8)	46 (101)	356 (14.0)	408 (16.1)	450 (17.7)	70 (154)
100 (4)	292 (11.5)	349 (13.7)	300 (11.8)	52 (115)	356 (14.0)	413 (16.3)	450 (17.7)	73 (161)	432 (17.0)	480 (18.9)	600 (23.6)	121 (267)
125 (5)	356 (14.0)	410 (16.1)	300 (11.8)	77 (170)	400 (15.7)	471 (18.5)	450 (17.7)	110 (243)	508 (20.0)	595 (23.4)	★	270 (595)
150 (6)	406 (16.0)	450 (17.7)	450 (17.7)	92 (203)	444 (17.5)	567 (22.3)	600 (23.6)	166 (366)	559 (22.0)	1030 (40.6)	★	350 (772)
200 (8)	495 (19.5)	535 (21.1)	★	163 (359)	559 (22.0)	800 (31.5)	★	205 (452)	660 (26.0)	1150 (45.3)	★	625 (1378)
250 (10)	622 (24.5)	815 (32.1)	★	242 (534)	622 (24.5)	1235 (48.6)	★	450 (992)	787 (31.0)	1255 (49.4)	★	850 (1874)
300 (12)	698 (27.5)	900 (35.4)	★	380 (683)	711 (28.0)	1435 (56.5)	★	735 (1620)	838 (33.0)	1330 (52.4)	★	1030 (2271)
350 (14)	787 (31.0)	1080 (42.5)	★	485 (1069)	-	-	-	-	-	-	-	-

Materials	
Body & Bonnet	ASTM A216 Gr. WCB, A217 Gr. 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 + Stellite, 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 aluminium 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 B16.25. ■ Stellite 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 is 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 handwheel, renewable seating. Wall thickness as per ASME B16.34, Valves with most advanced design Features Provide the ultimate in dependable, economical flow control.

DESIGN STD : ASME B16.34

TESTING STD : API 598 ASME B16.34

Test Pressure in bar (psi)			
Class	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	Wt 1		
mm (inch)	FE	BWE		FE	BWE	FE	BWE		FE	BWE	BWE					
50 (2)	368 (14.5)	216 (8.5)	570 (22.4)	600 (23.6)	85 (187)	51 (112)	368 (14.5)	216 (8.5)	570 (22.4)	600 (23.6)	85 (187)	51 (112)	279 (11.0)	610 (24.0)	750 (29.5)	55 (121)
65 (2.1/2)	419 (16.5)	254 (10.0)	580 (22.8)	600 (23.6)	100 (220)	53 (117)	419 (16.5)	254 (10.0)	580 (22.8)	600 (23.6)	100 (220)	53 (117)	330 (13.0)	500 (19.7)	750 (29.5)	75 (165)
80 (3)	381 (15.0)	305 (12.0)	515 (20.3)	600 (23.6)	105 (231)	55 (121)	470 (18.5)	305 (12.0)	515 (20.3)	* (331)	150 (198)	90 (198)	368 (14.5)	630 (24.8)	* (231)	105 (231)
100 (4)	457 (18.0)	356 (14.0)	715 (28.1)	* (375)	170 (276)	125 (276)	546 (21.5)	406 (16.0)	715 (28.1)	* (452)	205 (322)	146 (322)	457 (18.0)	1210 (47.6)	* (970)	440 (970)
125 (5)	559 (22.0)	432 (17.0)	1010 (39.8)	* (562)	255 (445)	202 (445)	673 (26.5)	483 (19.0)	1025 (40.4)	* (672)	305 (500)	227 (500)	533 (21.0)	790 (31.1)	* (1080)	490 (1080)
150 (6)	610 (24.0)	508 (20.0)	1025 (40.4)	* (683)	310 (730)	331 (730)	705 (27.8)	559 (22.0)	1115 (43.9)	* (838)	355 (783)	610 (24.0)	1390 (54.7)	* (1190)	540 (1190)	
200 (8)	737 (29.0)	660 (26.0)	1230 (48.4)	* (1499)	680 (1385)	628 (1385)	832 (32.8)	711 (28.0)	1200 (47.2)	* (1720)	780 (1786)	810 (1786)	762 (30.0)	1455 (57.3)	* (2645)	1200 (2645)
250 (10)	838 (33.0)	787 (31.0)	1370 (53.9)	* (2866)	1300 (2509)	1138 (2509)	991 (39.0)	863 (34.0)	1320 (52.0)	* (3307)	1500 (2998)	1360 (2998)	-	-	-	-
300 (12)	965 (38.0)	914 (36.0)	1520 (59.8)	* (4189)	1900 (3792)	1720 (3792)	1130 (44.5)	990 (39.0)	1430 (56.3)	* (5070)	2300 (4277)	1940 (4277)	-	-	-	-

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
Disc & Seat Ring	ASTM A216 Gr. WCB, A217 Gr. WC6, A351 Gr. CFB / CF8M / CF3 / CF3M, Seat faces are stellite
Stem & Gland	ASTM A276 TYPE 410 / 304 / 316
Yoke Sleeve	Ni-Resist ASTM A439 Gr. D2
Gland Packing	Pre moulded Grafoil 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 aluminium paint

1) Nett in Kg. (lbs) approx. (without obligation) \* Bevel Gear Actuators mandatory. • For Class 2500 ■ Butt Weld Ends to ASME B 16.25. ■ 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 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 control.

DESIGN STD : API 6D 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 (1718)

Dimensions are in mm (inch)

SIZE	BOLTED COVER									PRESSURE SEAL								
	Class - 150			Class - 300			Class - 600			Class - 900			Class - 500			Class - 2500		
mm(inch)	A	B	Wt 1)	A	B	Wt 1)	A	B	Wt 1)	A	B	Wt 1)	A	B	Wt 1)	A	B	Wt 1)
40	165	95	68	241	95	10.5	-	-	-	-	-	-	-	-	-	-	-	-
(1½)	(6.5)	(3.7)	(15)	(9.5)	(3.7)	(23)	-	-	-	-	-	-	-	-	-	-	-	-
50	203	115	11.5	267	120	18	292	138	25	216	180	27	216	180	31	279	175	43
(2)	(8.0)	(4.5)	(25)	(10.5)	(4.7)	(40)	(11.5)	(5.4)	(55)	(8.5)	(7.1)	(60)	(8.5)	(7.1)	(68)	(11.0)	(6.9)	(95)
65	216	120	17	292	132	21	330	145	32	254	195	29	254	195	34	330	190	72
(2½)	(8.5)	(4.7)	(38)	(11.5)	(5.2)	(46)	(13.0)	(5.7)	(71)	(10.0)	(7.7)	(64)	(10.0)	(7.7)	(75)	(13.0)	(7.5)	(159)
80	241	135	25	318	150	34	356	165	62	305	235	31	305	235	37	368	230	91
(3)	(9.5)	(5.3)	(55)	(12.5)	(5.9)	(75)	(14.0)	(6.5)	(137)	(12.0)	(9.3)	(68)	(12.0)	(9.3)	(82)	(14.5)	(9.1)	(201)
100	292	150	41	356	170	54	432	190	115	356	265	41	406	265	64	457	260	125
(4)	(11.5)	(5.9)	(90)	(14.0)	(6.7)	(119)	(17.0)	(7.5)	(254)	(14.0)	(10.4)	(90)	(16.0)	(10.4)	(141)	(18.0)	(10.2)	(276)
125	330	170	56	400	210	75	508	220	165	432	310	69	483	310	96	533	290	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)	(212)	(21.0)	(11.4)	(419)
150	356	195	73	444	210	106	559	255	210	508	325	96	559	325	145	610	330	274
(6)	(14.0)	(7.7)	(161)	(17.5)	(8.3)	(234)	(22.0)	(10.0)	(463)	(20.0)	(12.8)	(212)	(22.0)	(12.8)	(320)	(24.0)	(13.0)	(604)
200	495	220	103	533	255	160	660	300	355	660	44.0	215	711	460	353	762	410	480
(8)	(19.5)	(8.7)	(227)	(21.0)	(10.0)	(353)	(26.0)	(11.8)	(783)	(26.0)	(17.3)	(474)	(28.0)	(18.1)	(778)	(30.0)	(16.1)	(1058)
250	622	260	160	622	305	254	787	335	580	787	535	330	863	535	602	-	-	-
(10)	(24.5)	(10.2)	(353)	(24.5)	(12.0)	(560)	(31.0)	(13.2)	(1279)	(31.0)	(21.1)	(728)	(34.0)	(21.1)	(1327)	-	-	-
300	698	310	224	711	350	355	838	395	725	914	630	546	990	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)	-	-	-	-	-	-	-	-	-	-	-	-

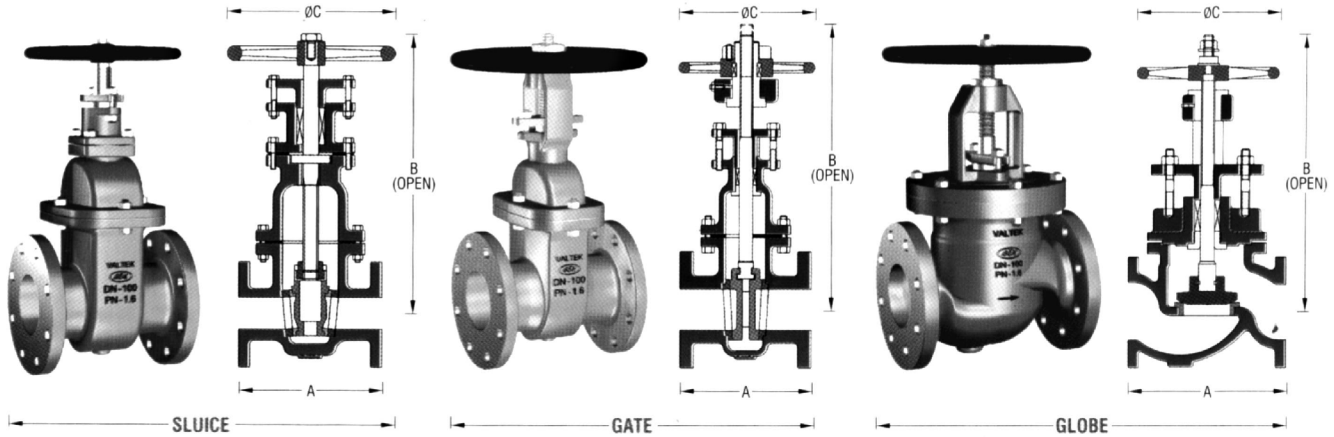
## Materials

Body / Cover / Hinge / bracket	ASTM A216 Gr. WCB, A217 Gr. WC6 / WC9 / C5 / C12, A352 Gr. LCB, A351 Gr. CF8 / CF8M / CF3 / CF3M
Disc / Seat Ring	ASTM A216 Gr. WCB, A351 Gr. CFB / CF8M / CF3 / CF3M
Gasket	Spiral Wound 304 / 316 with CAF / Graphite / PTFE filled (Application for bolted cover Valves)
Pressure Seal Ring	Expanded Graphite (Applicable for Pressure Seal Check Valves.)
Stud / Nut	ASTM A193 Gr. B7 / B16 / B8 / B8M / A194 Gr. 2H / 7 / 8 / 8M

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 Flanged Ends Class 150, 300 & 600, Butt Weld Ends Class 900, 1500 & 2500 (Short pattern) ■ Butt Weld Ends to ASME B 16.25. ■ Class 900, 1500 & 2500 Flanged Ends valves available on request. ■ Disc is mounted in cover for sizes 40 (1½) 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 Valves. ■ Stellite Seat 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.

# CAST IRON SLUICE, GATE & GLOBE VALVES



DESIGN STD & TESTING STD : BS 5150 & BS 5152

test Pressure in bar (psi)		
Pressure rating	PN 1.0	PN 1.6
Hyd. Shell	15 (218)	24 (348)
Seat	10 (145)	16 (232)
Air Seat	← 7 (101) →	

Dimensions are in mm (inch)

Size mm (inch)	← SLUICE & GATE →		GLOBE	SLUICE	GATE	GLOBE	ØB	SLUICE	GATE	GLOBE
	BS 5150	IS 14846	BS 5152	← B →				← Wt 1) →		
25 (1)	-	-	160 (6.3)	-	-	210 (8.3)	120 (4.7)	-	-	10 (22.0)
40 (1½)	-	-	200 (7.9)	-	-	250 (9.8)	140 (5.5)	-	-	12 (26.5)
50 (2)	178 (7.1)	215 (8.5)	203 (8.0)	265 (10.4)	455 (17.9)	310 (12.2)	180 (7.1)	30 (66.1)	26 (57.3)	16 (35.3)
65 (2½)	190 (7.5)	230 (9.1)	216 (8.5)	380 (15.0)	490 (19.3)	325 (12.8)	225 (8.9)	34 (75.0)	34 (75.0)	20 (44.1)
80 (3)	203 (8.0)	230 (9.1)	241 (9.5)	421 (16.6)	525 (20.7)	365 (14.4)	225 (8.9)	36 (79.4)	43 (94.8)	34 (75.0)
100 (4)	229 (9.0)	255 (10.0)	292 (11.5)	480 (18.9)	530 (20.9)	420 (16.5)	320 (12.6)	55 (121.3)	60 (132.3)	52 (114.6)
125 (5)	254 (10.0)	266 (10.5)	330 (13.0)	575 (22.6)	640 (25.2)	440 (17.3)	320 (12.6)	70 (154.3)	87 (191.8)	64 (141.1)
150 (6)	267 (10.5)	280 (11.0)	356 (14.0)	615 (24.2)	725 (28.5)	440 (17.3)	320 (12.6)	90 (198.4)	115 (253.5)	75 (165.3)
200 (8)	292 (11.5)	318 (12.5)	495 (19.5)	695 (27.4)	970 (38.2)	480 (18.9)	360 (14.2)	140 (308.6)	180 (396.8)	125 (275.6)
250 (10)	330 (13.0)	355 (14.)	-	815 (32.1)	1190 (46.9)	-	400 (15.7)	200 (440.9)	276 (608.5)	-
300 (12)	356 (14.0)	380 (15.0)	-	860 (33.9)	1490 (58.7)	-	400 (15.7)	290 (639.3)	360 (793.7)	-

## Materials

Body / Bonnet / Wedge / Yoke / Gland / Stuffing box / Hand Wheel	Cast Iron ASTM A126 Class B / EN 1561 NO. EN-JL 1040
Yoke Sleeve	S.G. IRON EN 1563 No. EN-JS 1050
Stem	Steel ASTM A276 Type 410 / 304 / 316
Disc / Wedge / Seat Ring	ASTM A217 Gr. CA15 / Bronze
Packing	Graphited Asbestos
Body Seal / Gasket	CAF
Stud / Nut	Steel Gr. 4.6 / 4
Surface Protection	Prime Coat : Chlorine free with modified alkyd resin unobjectionable in physiological and xicological respects. Additional external coating of machine varnish light blue

1) Nett in Kg.(lbs) approx. (without obligation) ■ Please Specify Working Pressure, Temperature & Service conditions. ■ Valves can be supplied with Electric or Gear Actuators  
 ■ Other materials not mentioned above available on request.

# C.I. LUBRICATES PLUG VALVES



DESIGN STD : BS 5158 TESTING STD : EN 12266-1

Test Pressure in bar (psi)	
Pressure rating	Class 125
Hyd. Shell	17.5 (254)
Seat	12.5 (181)
Air Seat	7 (101)

Dimensions are in mm (inch)

SIZE	A		B*		C*		Wt <sup>1)</sup>		
	REGULAR	SHORT	REGULAR	SHORT	REGULAR	SHORT	REGULAR	SCREWED	
mm (inch)	FLANGED	SCREWED	FLANGED/SCREWED	FLANGED	FLANGED/SCREWED	FLANGED	FLANGED	SCREWED	
15 (1/2)	130 (5.1)	-	89 (3.5)	-	162 (6.4)	-	4 (8.8)	2 (4.4)	
20 (3/4)	130 (5.1)	-	95 (3.7)	-	164 (6.5)	-	5 (11)	3 (6.6)	
25 (1)	140 (5.5)	-	111 (4.4)	-	168 (6.6)	-	6 (13)	4 (8.8)	
32 (1 1/4)	165 (6.5)	-	127 (5.0)	-	204 (8.0)	-	7 (15)	4.5 (10)	
40 (1 1/2)	165 (6.5)	-	133 (5.2)	-	215 (8.5)	-	10 (22)	7.5 (17)	
50 (2)	203 (8.0)	177.8 (7.0)	152 (6.0)	71 (2.8)	256 (10.1)	226 (8.9)	16 (35)	14 (31)	10.5 (23)
65 (2 1/2)	222 (8.7)	190 (7.5)	175 (6.9)	95 (3.7)	288 (11.3)	258 (10.2)	24 (53)	20 (44)	16 (35)
80 (3)	241 (9.5)	205.5 (8.1)	197 (7.8)	102 (4.0)	322 (12.7)	297 (11.7)	27 (60)	26 (57)	23 (51)
100 (4)	305 (12.0)	228.6 (9.0)	-	114 (4.5)	344.13.5	324 (12.8)	51 (112)	42 (93)	-
125 (5)	356 (14.0)	254 (10.0)	-	148 (5.8)	416 (16.4)	406 (16.0)	81 (179)	65 (143)	-
150 (6)	394 (15.5)	267 (10.5)	-	180 (7.1)	450 (17.7)	450 (17.7)	100 (220)	84 (185)	-
200 (8)	457 (18.0)	292 (11.5)	-	170 (6.7)	524 (20.6)	524 (20.6)	182 (401)	115 (254)	-

## Materials

Body / Cover / Plug / Stuffing Box / Gland	Cast Iron ASTM A126 Class C / EN1561 No. EN-JL 1040 / IS:210 Gr. FG 260
Gasket	Asbestos
Stuffing Box Bolt	Steel Gr. 4.6
Packing	Graphited Asbestos
Stud / Nuts	Steel Gr. 4.6 / 5
Lubricant	Dark Brown grease suitable for industrial application
Lubricant Bolt	ASTM A307 Gr. B / Steel Gr. 4.6
Surface Protection	Prime Coat : Chlorine free with modified alkyd resin unobjectionable in physiological and toxicological respects. with additional external coating of machine varnish Black

1) Nett in Kg.(lbs) approx. (without obligation) ★ Screwed end in Regular Pattern available up to sizes 80mm (3"). ■ Valves are supplied to suit ASME B16. 1 Class 125 Flanges, other flanges & drilling on request. ■ Screwed ends to BSP, BSPT or NPT. ■ Please Specify Working Pressure, Temperature & Service conditions. ■ Valves can be supplied with Pad - lock, Electric, Pneumatic or Gear Actuators and other accessories like Limit Switch, Scleroid Valves, Air Filter Regulator etc. ■ Other materials not mentioned above available on request.

# SELF LUBRICATED PTFE SLEEVED PLUG VALVES

## Special Valves for toxic services

- Designed and manufactured to eliminate fugitive emissions and to handle the toughest services such as:

Hydrofluoric Acid  
Chlorine  
Anhydrous HCl

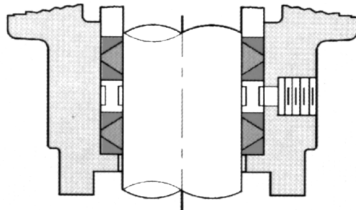
- The stuffing box design with all the positive shut-off, corrosion resisting features of other BDK PTFE Sleeve Plug Valves.

- Will accommodate all standard Packing.

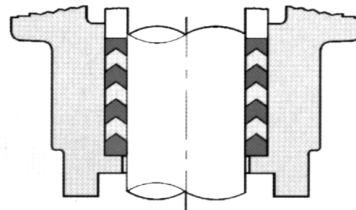
- Many options such as bonnet tap for insertion of Chlorine compatible lubricant or other greases, for inert gas pad, or as a leak-off connection.

- 3 Way plug configurations are available as options.

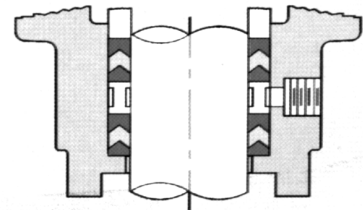
### Stuffing Box Options



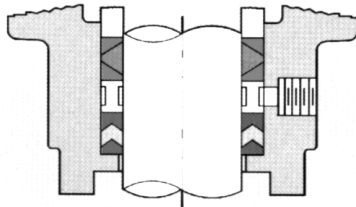
Cup and cone packing with lantern ring



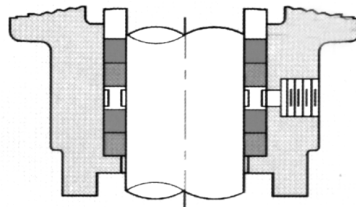
Chevron packing set



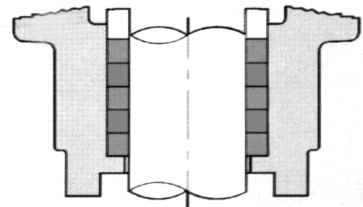
Chevron packing set with lantern ring



Combination packing set cup and cone (upper), chevron (lower) with lantern ring



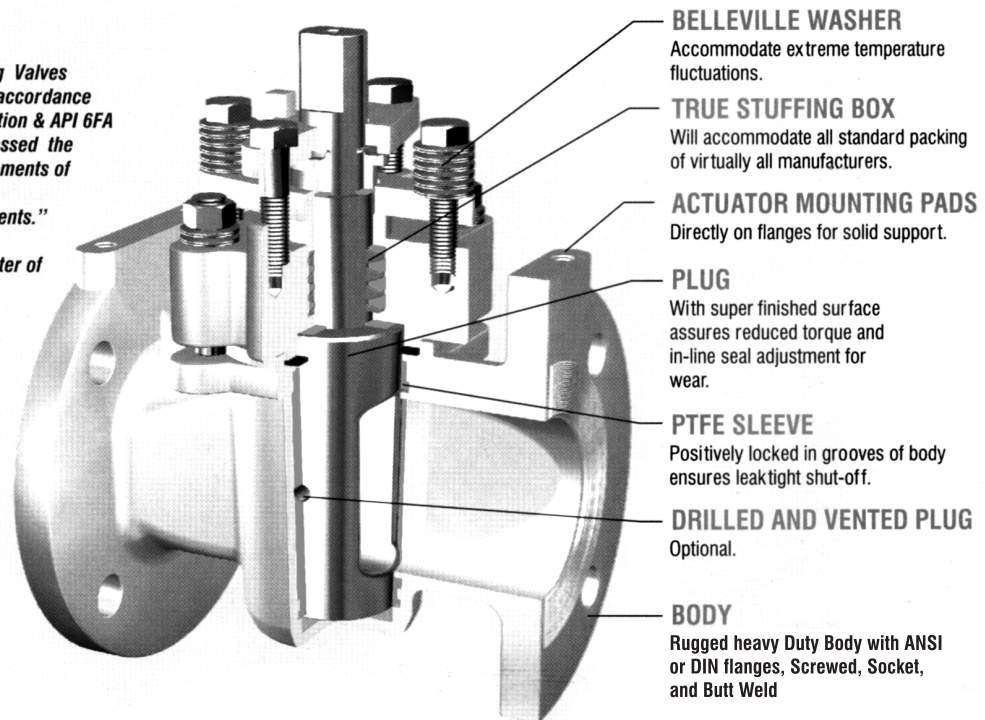
Compression packing with lantern ring



Compression packing set

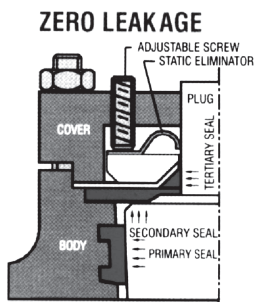
*BDK PTFE Sleeved Plug Valves have been fire tested in accordance with API 607 Fourth edition & API 6FA Third edition. They surpassed the external sealing requirements of section 4, paragraph 4.2, "Performance Requirements."*

*Certified by Lloyds Register of Industrial Services.*

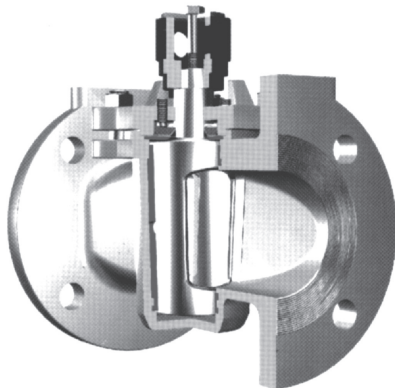


# CONSTRUCTION DETAILS

BDK'S line of PTFE Sleeved Plug Valves are designed for high standard of Performance. These tight shut-off, Bi-Directional Valves with cavity-free passage can be used on both Pressure and Vacuum services. Valves insure long-term reliable operations with simplified in-line maintenance.

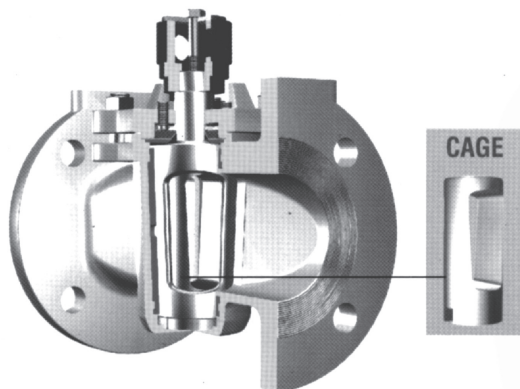


**PTFE SLEEVED PLUG VALVE**



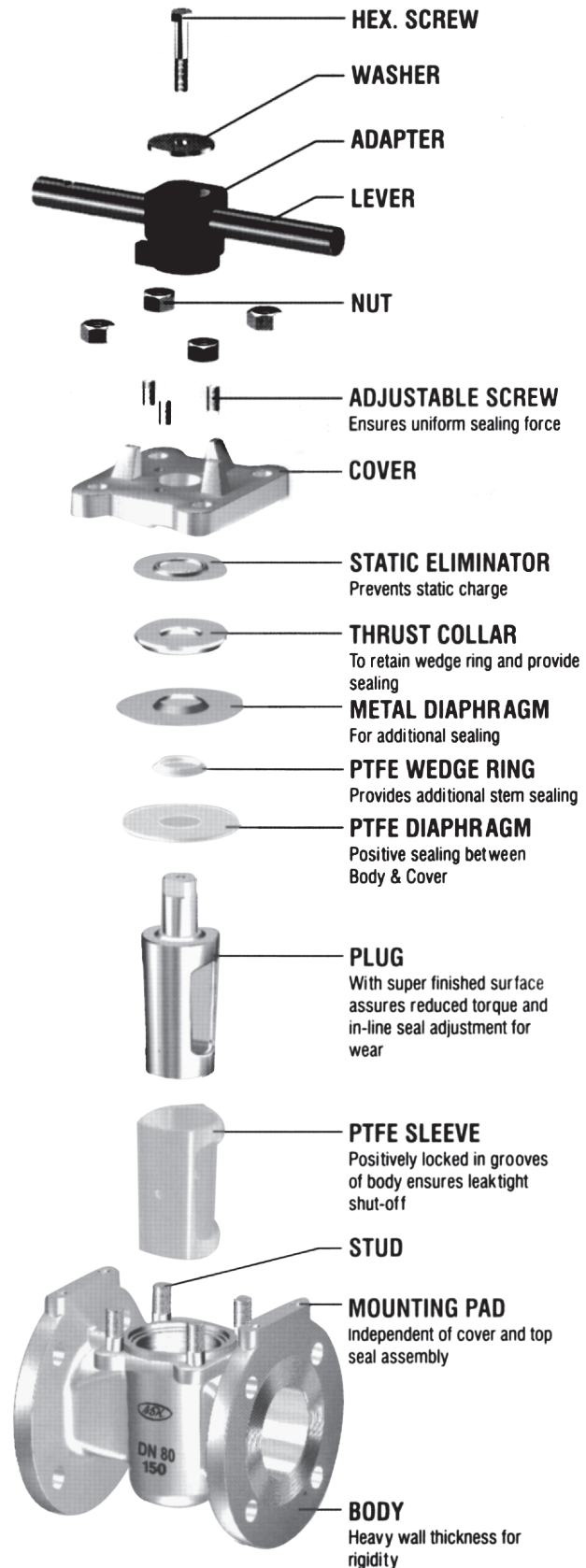
Positively locked PTFE Sleeve in grooves of body, ensures leaktight shut-off

**PTFE SLEEVED PLUG VALVE (CAGED)**



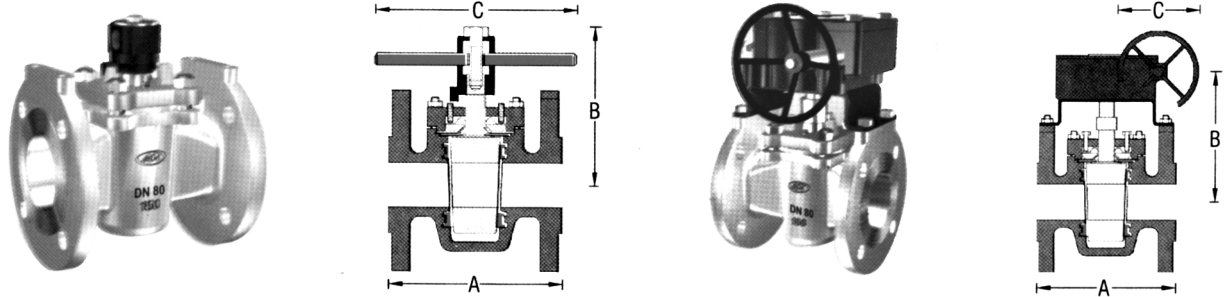
Protects the PTFE Sleeve from direct flow impingement in throttling position.

# PLUG VALVE PARTS



# PTFE SLEEVED PLUG VALVES

## Class - 150 & 300



DESIGN STD : API 599 & BS 5353 TESTING STD : API 598 & EN 12266-1

Pressure rating 2)	Test Pressure in bar (psi)			
	Class -150	Class -300	PN 10	PN 16
Hyd. Shell	30 (435)	76(1102)	15(218)	24.0(348)
Seat	22 (319)	55(789)	11(160)	17.6(255)
Air Seat	6.9(100)			

Dimensions are in mm (inch)

SIZE mm (inch)	← A →			B	C	PORT AREA IN mm <sup>2</sup> (inch <sup>2</sup> )	% PORT OPEN	← Wt 1) →		
	Class - 150	Class - 300	DIN					Class - 150	Class - 300	DIN
15 (1/2)	108 (4.3)	140 (5.5)	130 (5.1)	95 (3.7)	225 (8.9)	120 (0.19)	92	2.0 (4.5)	3.5 (8)	2.6 (6)
20 (3/4)	117 (4.6)	152 (6.0)	150 (5.9)	100 (3.9)	225 (8.9)	240 (0.37)	86	2.5 (5.5)	5.0 (11)	3.5 (8)
25 (1)	127 (5.0)	165 (6.5)	160 (6.3)	110 (4.3)	225 (8.9)	390 (0.60)	80	4.5 (10)	6.5 (14)	5.7 (13)
40 (1 1/2)	165 (6.5)	190 (7.5)	200 (7.9)	120 (4.7)	325 (12.8)	750 (1.16)	66	7.5 (17)	11 (24)	9.6 (21)
50 (2)	178 (7.0)	216 (8.5)	230 (9.1)	145 (5.7)	450 (17.7)	1450 (2.25)	74	12 (27)	16 (35)	15 (33)
65 (2 1/2)	190 (7.5)	241 (9.5)	290 (11.4)	175 (6.9)	600 (23.6)	2080 (3.22)	66	15 (33)	19 (42)	22 (49)
80 (3)	203 (8.0)	283 (11.1)	310 (12.2)	160 (6.3)	450 (17.7)	2540 (3.94)	53	18 (40)	22 (49)	24 (53)
100 (4)	229 (9.0)	305 (12.0)	350 (13.8)	195 (7.7)	750 (29.5)	4470 (6.93)	57	30 (66)	44 (97)	38 (84)
150 (6)	267 (10.5)	403 (15.9)	480 (18.9)	250 (9.8)	400 (15.7)	10010 (15.52)	55	65 (143)	96 (212)	90 (198)
200 (8)	292 (11.5)	419 (16.5)	600 (23.6)	280 (11.0)	450 (17.7)	15800 (24.50)	49	106 (234)	151 (333)	166 (366)
250 (10)	330 (13.0)	457 (18.0)	730 (28.7)	340 (13.4)	600 (23.6)	23820 (36.92)	47	160 (353)	225 (496)	270 (595)
300 (12)	356 (14.0)	502 (19.8)	850 (33.5)	390 (15.4)	700 (27.6)	31220 (48.40)	43	210 (463)	280 (617)	395 (870)
350 (14)	381 (15.0)	-	-	450 (17.7)	700 (27.6)	38180 (59.18)	43	310 (683)	-	-
400 (16)	762(30.0)	-	-	595 (23.4)	500 (19.7)	74458 (115.41)	61	650 (1433)	-	-

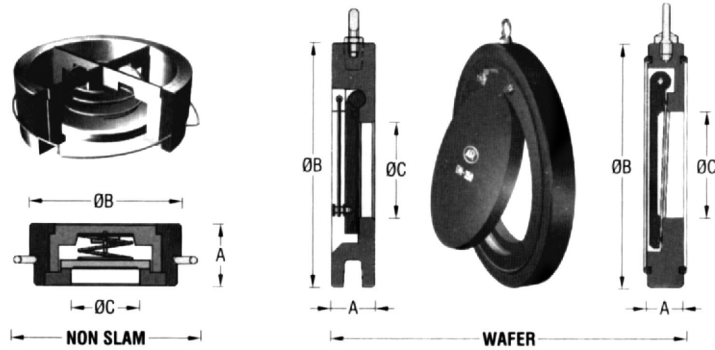
### Materials

Body & Cover <sup>3)</sup>	Ductile Iron ASTM A 395/ Steel ASTM A 216 Gr. WCB/ ASTM A 351 Gr. CF8/ CF8M/ CN7M
Plug	Steel ASTM A 217 Gr. CA15 / ASTM A 351 Gr. CF8 / CF8M / CN7M
Sleeve / Diaphragm	PTFE / CFT
Wedge Ring	PTFE / Grafoil <sup>5)</sup>
Metal Diaphragm	ASTM A 240 Type 304
Thrust Collar & Adj. Screws	ASTM A 276 Type 304 / ASTM A 351 Gr. CF8
Static Eliminator	ASTM A 240 Type 304
Studs / Nuts	ASTM A 193 Gr. B8 / ASTM A 194 Gr. 8
Adapter / Lever	Steel - Powder coated
Gear Unit	Housing in Cast Iron, Gear in S. G. Iron and Worm in EN8
Bearing <sup>4)</sup>	PTFE
Body Gasket <sup>5)</sup>	Grafoil
Surface Protection for Ductile Iron and Cast Carbon Steel Valves	Prime Coat : Chlorine free with modified alkyl resin unobjectionable in physiological and toxicological respects. Additional External Coating : Synthetic Enamel.

1) Nett in Kg. (lbs) approx. (without obligation) 2) Pressure rating PN10, PN16 & Class 150 for DIN Valves. 3) DI material for Class 150 only. 4) for Caged Valves only. 5) For Five sage Valves only. ■ Gear Actuators mandatory for Sizes 150 (6") & above. ■ Valves can be supplied to suit ASME B 16.5 Other Drillings on request if possible. ■ Face to Face dimensions (A) as per EN 558 - 2 Series 3 for Class 150 Sizes up to 350(14"), Series 12 for Size 400 (16"), Series 4 for Class 300, Series 1 for DIN Valves. ■ Please Specify Working Pressure, Temperature & service conditions. ■ Valves can be supplied with Pad - lock, Electric, Pneumatic or Gear Actuators ■ Other Materials not mentioned above available on request.

# CHECK VALVES

## NON SLAM & WAFER TYPE



CE 0044

	NON SLAM	WAFER
DESIGN STD	BDK STD	API 6D/BDK
TESTING STD	API 598	API 6D/598

	Test Pressure in bar (psi)			
	NONSLAM		WAFER	
Pressure rating	Class 150	Class 300	PN10	PN40
Hyd. Shell	30 (435)	77 (1117)	15 (217)	60 (870)
Seat	22 (319)	57 (827)	11 (159)	44 (638)

Dimensions are in mm (inch)

NON SLAM					WAFER			
SIZE	A	B	C	Wt (1)	A	B• Class 150	C	Wt (1)
15 (½)	17 (0.7)	38 (1.5)	14 (0.6)	0.17 (0.4)	-	-	-	-
20 (¾)	20 (0.8)	47 (1.9)	19 (0.7)	0.23 (0.5)	-	-	-	-
25(1)	23 (0.9)	54(2.1)	24 (0.9)	0.30 (0.7)	-	-	-	-
32 (1¼)	28 (1.1)	67 (2.6)	32 (1.3)	0.60 (1.3)	-	-	-	-
40 (1½)	32 (1.3)	76 (3.0)	38 (1.5)	0.70 (1.5)	-	-	-	-
50(2)	40 (1.6)	96 (3.8)	48 (1.9)	1.2 (2.6)	19 (0.7)	104.5 (4.1)	30 (1.2)	1.5 (3.3)
65 (2½)	46 (1.8)	109 (4.3)	63 (2.5)	1.8 (4.0)	19 (0.7)	124 (4.9)	38 (1.5)	2 (4.4)
80(3)	50 (2.0)	131 (5.2)	76 (3.0)	2.6 (5.7)	19 (0.7)	136.5 (5.4)	52 (2.0)	2.5 (5.5)
100 (4)	60 (2.4)	162 (6.4)	98 (3.9)	4.6 (10)	19 (0.7)	164.5 (6.9)	72 (2.8)	3 (6.6)
125(5)	90 (3.5)	194 (7.6)	125 (4.9)	11.5 (25)	22 (0.9)	197 (7.8)	90 (3.5)	4 (8.8)
150(6)	106 (4.2)	224 (8.8)	150 (5.9)	16 (35)	22 (0.9)	222.5 (8.8)	115 (4.5)	6 (13)
200(8)	140 (5.5)	291 (11.5)	200 (7.9)	31 (68)	29 (1.1)	279.5 (11.0)	158 (6.2)	14 (31)
250(10)	200 (7.9)	329 (13.0)	250 (9.8)	30 (66)	38 (1.5)	340 (13.4)	196 (7.7)	19 (42)
300(12)	250 (9.8)	384 (15.1)	300 (11.8)	50 (110)	38 (1.5)	409.5 (16.1)	242 (9.5)	27 (60)
350(14)	-	-	-	-	45 (1.8)	448 (17.6)	270 (10.6)	41 (90)
400(16)	-	-	-	-	51 (20)	511.5 (20.1)	310 (12.2)	56 (123)
450(18)	-	-	-	-	60 (2.4)	546 (21.5)	360 (14.2)	78 (172)
500(20)	-	-	-	-	64 (2.5)	603 (23.7)	405 (15.9)	101 (223)
600(24)	-	-	-	-	76 (3.0)	714.5 (28.1)	460 (18.1)	180 (397)
700(28)	-	-	-	-	89 (3.5)	828.5 (32.6)	510 (20.1)	240 (529)
800(32)	-	-	-	-	102 (4.0)	937 (36.9)	610 (24.0)	310 (683)
900(36)	-	-	-	-	127 (5.0)	1045 (41.1)	700 (27.6)	445 (981)
1000(40)	-	-	-	-	146 (5.7)	1159 (45.6)	770 (30.3)	640 (1411)
1200(48)	-	-	-	-	172 (6.8)	1381 (54.4)	965 (38.0)	1075 (2370)
1400(56)	-	-	-	-	203 (8.0)	1603 (63.1)	1100 (43.3)	1700 (3748)
1600(64)	-	-	-	-	229 (9.0)	1724 (67.9)	1250 (49.2)	2650 (5842)

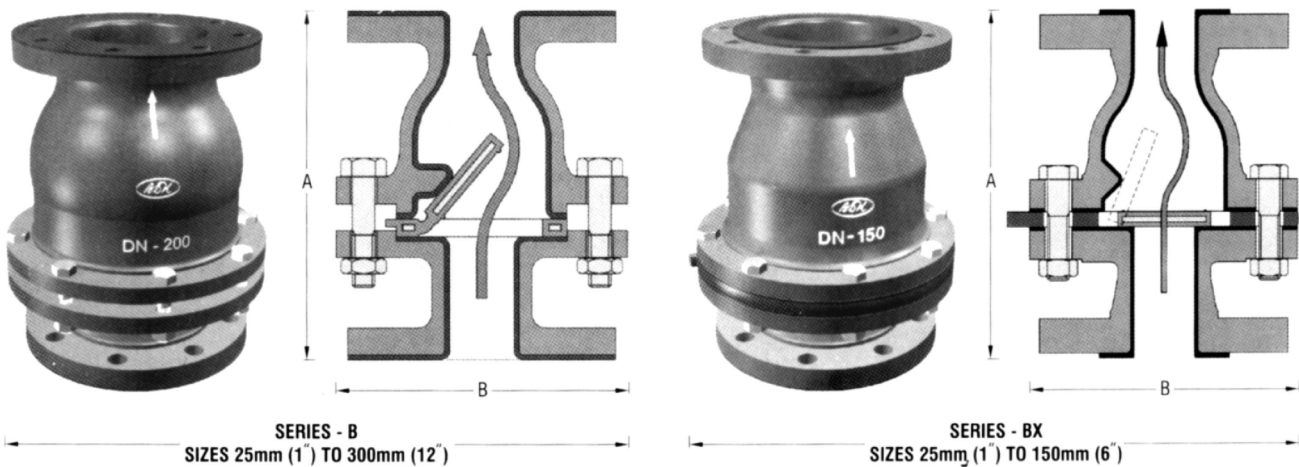
### Materials

Body	Cast iron ASTM A126 Gr. WCB / Stainless Steel A351 Gr. CF8 / CF8M / Ductile Iron ASTM A395 / S.G. Iron EN 1563 No. EN-JS1024
Disc & Cover	Stainless Steel ASTM A276 Type 410 / 304 / 316 / ASTM A217 Gr. CA15 / Carbon Steel ASTM A216 Gr. WCB / Stainless Steel ASTM A351 Gr. CF8 / CF8M / Ductile Iron ASTM A395 / S.G. Iron EN1563 No. EN-JS1024
Guide plate & Spring	Stainless Steel ASTM A240-Type 316 / ASTM A312 Type 316
O-ring (For Water Check only)	EPDM (Other grades available on request)
Hinge pin	Stainless Steel ASTM A276 Type 410 / 304 / 316
Surface Protection for Ductile Iron and Cast Carbon Steel Valves	Prime Coat : Chlorine free with modified alkyl resin unobjectionable in physiological and toxicological respects. Additional external coating : Enamel.

1) Nett in Kg. (lbs) approx. (without obligation) ■ Valves can be supplied to suit ASME / BE / DIN Flanges. Ductile Iron only for Wafer check Valves ■ COVER & Guide plate applicable for Non Slam only. ■ Spring applicable for Water Check Valves from Sizes 50mm (2") to 300mm (12") & Non Slam only. DUal plate Valves can be supplied with soft seating arrangement on request. Please Specify Working Pressure, Temperature & Service conditions. ■ Other materials not mentioned above available on request.

# RUBBER LINED CHECK VALVES

## SERIES 'B' & 'BX'



DESIGN STD & TESTING STD : BDK STD

Test Pressure in bar (psi)	
Pressure rating	PN10
Hyd. Shell	15 (218)
Seat	10 (145)

Dimensions are in mm (inch)

SERIES - B					SERIES - BX			
Size	B		Wt <sup>1)</sup>		A		B	Wt <sup>1)</sup>
mm (inch)	Unlined	Rubber Lined	Unlined	Rubber Lined	Unlined	Rubber Lined	Unlined	Rubber Lined
25 (1)	144 (5.7)	150 (5.9)	124 (4.9)	4.0 (8.8)	150 (5.9)	157 (6.2)	126 (5.0)	55 (12)
40 (1½)	174 (6.9)	180 (7.1)	144 (5.7)	7.0 (15)	180 (7.1)	186 (7.3)	149 (5.9)	9.5 (21)
50 (2)	194 (7.6)	200 (7.9)	166 (6.5)	8.5 (19)	200 (7.9)	206 (8.1)	163 (6.4)	11.0 (24)
65 (2½)	234 (9.2)	240 (9.4)	220 (8.7)	14 (31)	240 (9.4)	244 (9.6)	185 (7.3)	17.5 (39)
80 (3)	254 (10.0)	260 (10.2)	220 (8.7)	20 (44)	260 (10.2)	266 (10.5)	218 (8.6)	21.5 (47)
100 (4)	292 (11.5)	300 (11.8)	270 (10.6)	34 (75)	350 (13.8)	358 (14.1)	295 (11.6)	37.5 (83)
150 (6)	392 (15.4)	400 (15.7)	322 (12.7)	56 (123)	400 (15.7)	406 (16.0)	325 (12.8)	64.5 (142)
150 (6)	492 (19.4)	500 (19.7)	396 (15.6)	103 (227)	-	-	-	-
200 (8)	590 (23.2)	600 (23.6)	500 (19.7)	190 (419)	-	-	-	-
250 (10)	690 (27.2)	700 (27.6)	554 (21.8)	310 (693)	-	-	-	-
300 (12)								

### Materials

<b>Body / End piece</b>	Cast Iron ASTM A126 Class C / EN1561 No. EN-JL 1040 / ASTM A216 Gr. WCB
<b>Disc</b>	Steel plate duly rubber lined. (Grade according to working condition)
<b>Connecting bolts / nuts</b>	Steel ASTM A307 Gr. A / ASTM A563 Gr. A
<b>Surface Protection for Valves</b>	Prime Coat : Chlorine free with modified alkyd resin unobjectionable in physiological and toxicological respects. Additional external coating : Stoving enamel

1) Nett in Kg.(lbs) approx. (without obligation) 2) Face to Face dimension 'A' for R/L Valves DIn 3202 F6 for Series - B only & other as manufacturers standard ■ Valves can be supplied to suit ASME / BS / DIN Flanges. ■ Please Specify Working Pressure, Temperature & Service conditions. ■ Other materials not mentioned above available on request.



# B-TORQ PNEUMATIC ACTUATORS

## DESIGN

B-TORQ Pneumatic Actuators incorporate latest technology and materials, through designing, developing, testing and engineering application. We have obtained a high grade product with the characteristics of reliability, high performance, long cycle life, large adjustment, and highest levels of corrosion protection, wide selection of model with ease and economy.

## STRUCTURE

### 1. INDICATOR

Position indicator with NAMUR is convenient for mounting accessories such as Limit Switch Box, Positioner and so on.

### 2. PINION

The pinion is high-precision and integrative, made from Nickel Alloy Steel, conform to the latest standards of ISO 5211, DIN 3337, NAMUR. The dimensions can be customized and the stainless steel is also available on request.

### 3. ACTUATOR BODY

The extruded Aluminum Alloy ASTM 6005 body, treated with hard anodized.

### 4. END CAPS

Die-casting Aluminum, powder polyester painted.

### 5. PISTONS

The twin rack pistons made from die-casting aluminum treated with hard anodized or made from cast steel with galvanization. Symmetric mounting position, long cycle life and fast operation, reversing rotation by simply inverting the pistons.

### 6. TRAVEL ADJUSTMENT

External stroke adjustment screw can adjust  $\pm 4^\circ$  of travel.

### 7. HIGH PERFORMANCE SPRINGS

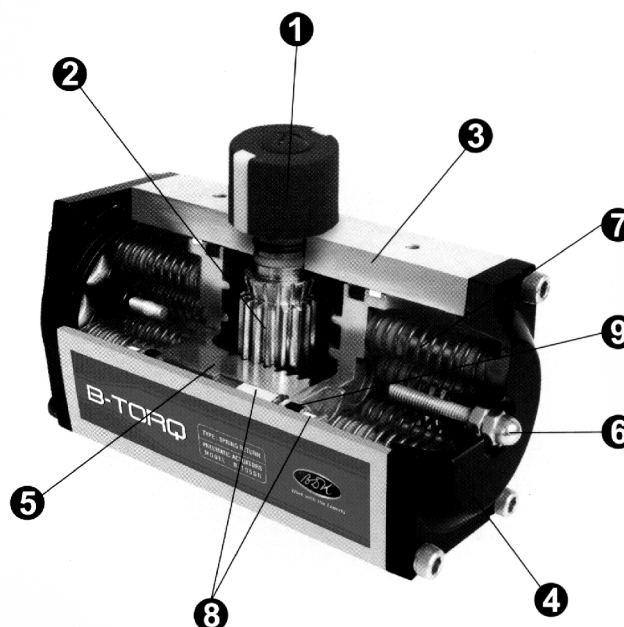
Pre-loaded coating springs made from the high quality material for resistant to corrosion and longer cycle life, which can be demounted safely and conveniently to satisfy different requirements of torque by changing quantity of springs.

### 8. BEARINGS & GUIDES

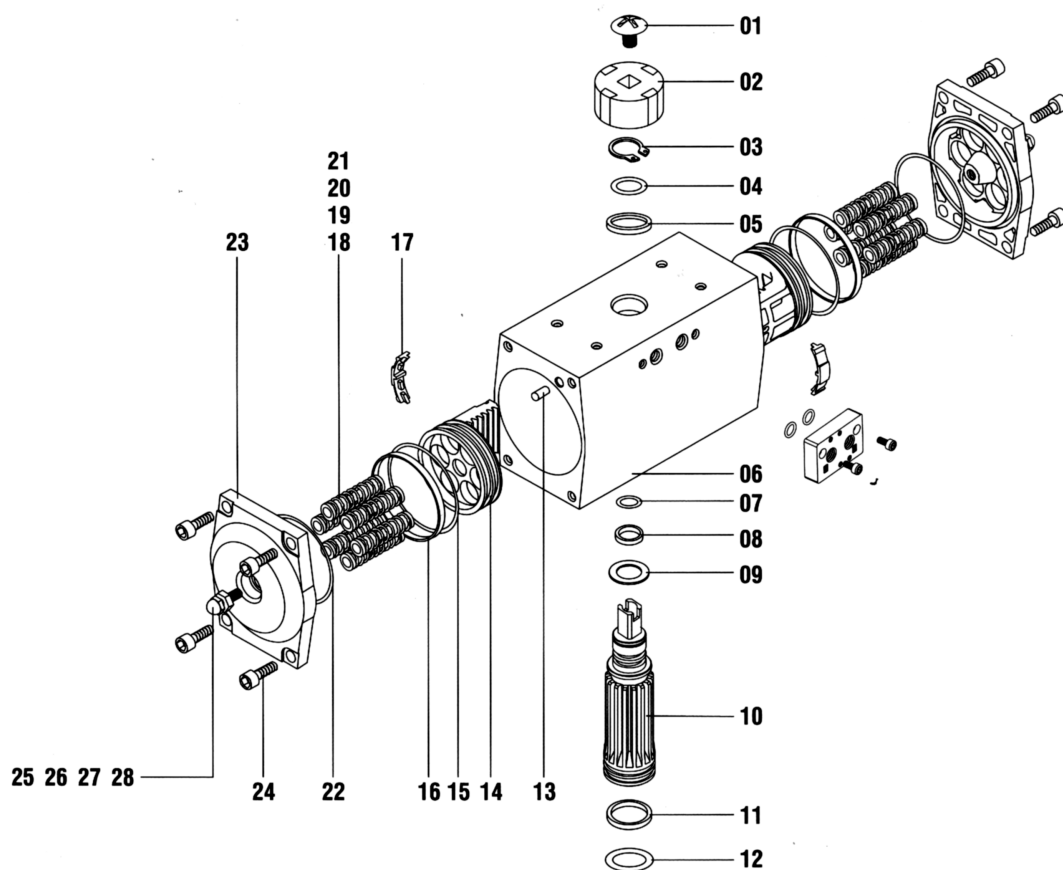
Made from low friction, long-life compound material, to avoid the direct contact between metals. The maintenance and replacement are easy and convenient.

### 9. O-RINGS

NBR rubber O-rings provide trouble-free operation at standard temperature ranges. For high and low temperature, viton or silicon can be offered on request.



# ACTUATORS PARTS



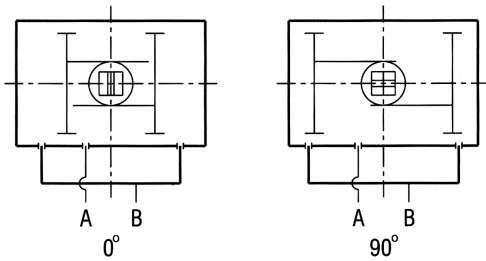
PART NO.	PART NAME	QTY	MATERIALS
01	Indicator Screw	01	Stainless Steel
02	Indicator	01	Plastic
03	Snap Ring	01	Stainless steel
04	Washer	01	Stainless steel
05	Outside Washer	01	Polyoxymethylene
06	Body	01	Aluminium alloy
07	O-Ring Top	01	Viton / NBR
08	Bearing Top	01	Polyoxymethylene
09	Inside Washer	01	Polyoxymethylene
10	Pinion	01	Alloy steel
11	Bearing Bottom	01	Polyoxymethylene
12	O-Ring Bottom	01	Viton / NBR
13	Plug	02	NBR
14	Piston	02	Die-casting Aluminium / steel
15	Piston O-Ring	02	Viton / NBR
16	Piston Bearing	02	Polyoxymethylene
17	Guide Piston	02	Nylon66
18	Spring	★	Spring steel
19	Spring Retainer (L)	★	Nylon66
20	Spring Retainer (R)	★	Nylon66
21	Retainer Connector	★	Brass
22	End-Cap O-Ring	02	Viton / NBR
23	End-Cap	02	Die-casting Aluminium
24	End-Cap Stop Screw	08	Stainless steel
25	Adjust Screw	02	Stainless steel
26	Adjust Screw Nut	02	Stainless steel
27	Adjust Screw Washer	02	Stainless steel
28	Adjust Screw O-Ring	02	Viton / NBR

★ REFER OPERATING PRINCIPLE PAGE

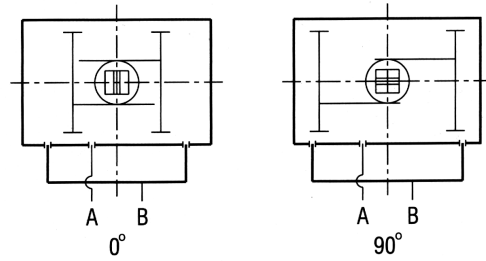
# OPERATING PRINCIPLE

## DOUBLE ACTING

STANDARD ROTATION



REVERSE ROTATION



### Standard Rotation:

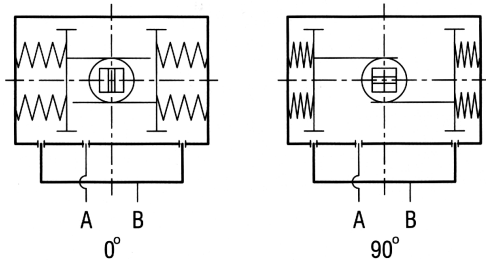
Air to port A forces the pistons outwards, causing the pinion to turn counterclockwise while the air is being exhausted from port B. Air to port B forces the pistons inwards, causing the pinion to turn clockwise while the air is being exhausted from port A.

### Reverse Rotation:

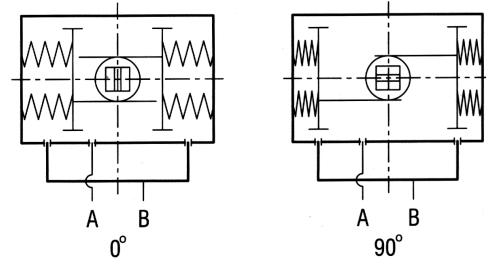
Air to port A forces the pistons outwards, causing the pinion to turn clockwise while the air is being exhausted from port B. Air to port B forces the pistons inwards, causing the pinion to turn counterclockwise while the air is being exhausted from port A.

## SPRING RETURN

STANDARD ROTATION



REVERSE ROTATION



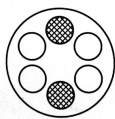
### Standard Rotation:

Air to port A forces the pistons outwards, causing the springs to compress, the pinion turns counterclockwise while air is being exhausted from port B. Loss of air pressure on port A, the stored energy in the springs forces the pistons inwards. The pinion turns clockwise while air is being exhausted from port A.

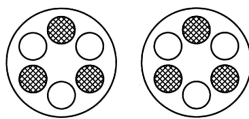
### Reverse Rotation:

Air to port A forces the pistons outwards, causing the springs to compress, the pinion turns clockwise while air is being exhausted from port B. Loss of air pressure on port A, the stored energy in the springs forces the pistons inwards. The pinion turns counterclockwise while air is being exhausted from port A.

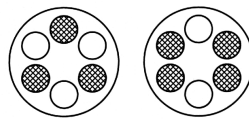
## SPRINGS MOUNTING FORM FOR SPRING RETURN ACTUATORS:



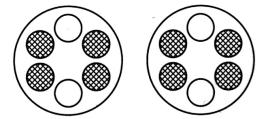
5 SPRINGS



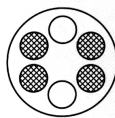
6 SPRINGS



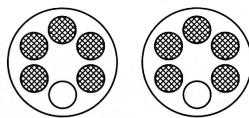
7 SPRINGS



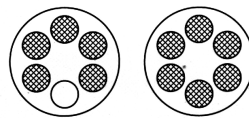
8 SPRINGS



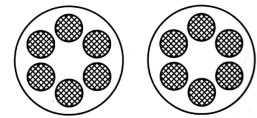
9 SPRINGS



10 SPRINGS



11 SPRINGS



12 SPRINGS

# GUN METAL GATE VALVE, NON-RISING STEM, SCREWED IS : 778 CLASS-1, MARKED

## SPECIFICATION :

Gunmetal Wedge Gate Valve, screwed in bonnet, inside screw, non-rising stem, integral seats; screwed female ends (BSP) to IS:554-1985, handwheel operated; conforming to IS:778-1984 class 1 valves are painted blue

## TESTING & CERTIFICATION :

Body Test Pressure = 1.5 MPa Hyd.  
Seat & Backseat Test Pressure = 1.0 MPa Hyd.  
All Valves are supplied duly ISI Marked.  
Our Works' Test Certificate is furnished with every supply.

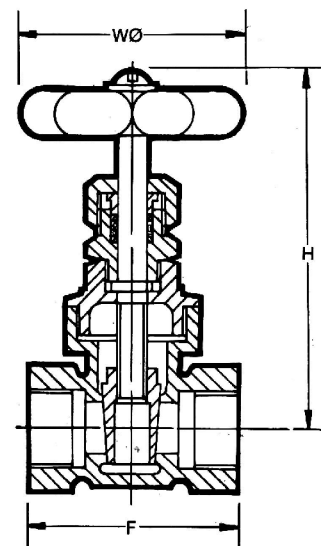
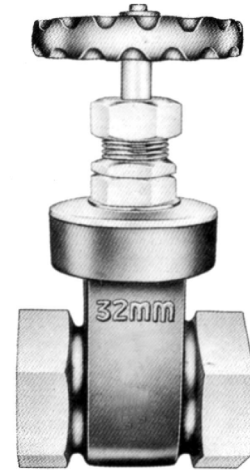
## MATERIALS

Components	Material	Material code
Body, Bonnet, Wedge, Stuffing Box, Gland & Gland Nut	Gunmetal/Leaded Tin Bronze	GM/LTB2
Spindle	Forged Brass	FB
Handwheel	Cast Iron	CI
Gland Packing	Asbestos	ASB
Screw & Washer for Handwheel	Mild Steel	MS

## DIMENSIONS IN mm

Nominal Size	F	H	W
8	50	80	44
10	50	85	44
15	60	95	56
20	60	110	56
25	70	130	65
32	80	140	75
40	90	160	80
50	100	180	90
65	105	210	105
80	125	250	115
100	160	300	160

# IS 1



# GUN METAL GATE VALVE, NON-RISING STEM, FLANGED IS : 778 CLASS-1, MARKED

## SPECIFICATION :

Gunmetal Wedge Gate Valve, screwed in bonnet, inside screw, non-rising stem, integral seats; Handwheel operated, Flanged Ends; Conforming to IS:778-1984 class 1. Valves are painted blue.

## TESTING & CERTIFICATION :

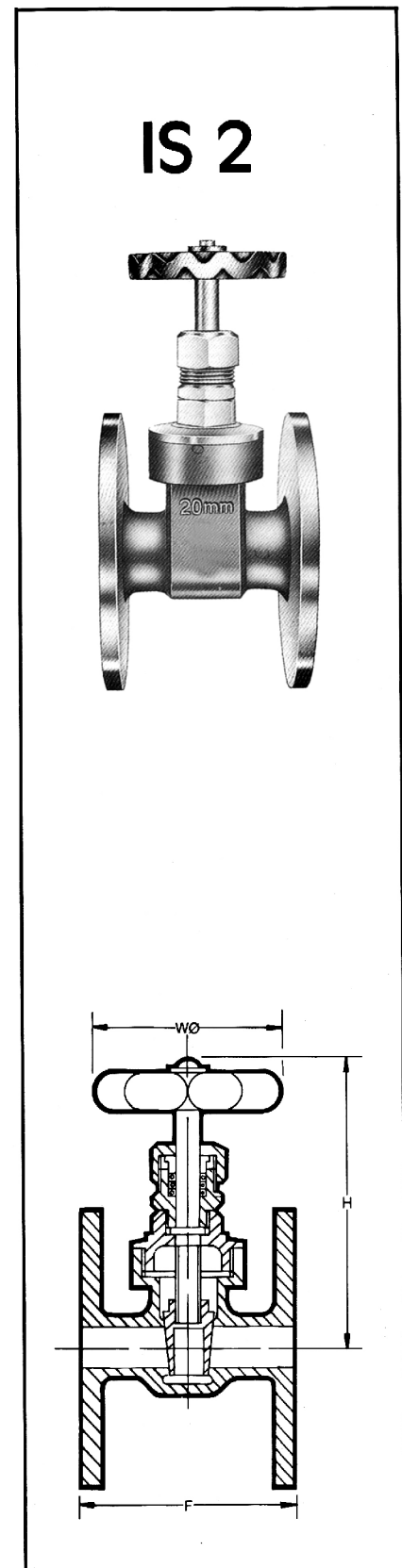
Body Test Pressure = 1.5 MPa Hyd.  
Seat & Backseat Test Pressure = 1.0 MPa Hyd.  
All Valves are supplied duly ISI Marked.  
Our Works' Test Certificate is furnished with every supply.

## MATERIALS

Components	Material	Material code
Body, Bonnet, Wedge, Stuffing Box, Gland & Gland Nut	Gunmetal/Leaded Tin Bronze	GM/LTB2
Spindle	Forged Brass	FB
Handwheel	Cast Iron	CI
Gland Packing	Asbestos	ASB
Screw & Washer for Handwheel	Mild Steel	MS

## DIMENSIONS IN mm

Nominal Size	F	H	W
15	72	95	56
20	76	110	56
25	90	130	65
32	100	140	75
40	110	160	80
50	120	180	90
65	140	210	105
80	150	250	115
100	190	300	160



# GUN METAL GATE VALVE, RISING STEM, SCREWED IS : 778 CLASS-1, MARKED

## SPECIFICATION :

Gunmetal Wedge Gate Valve, screwed in bonnet, inside screw,  
Rising Stem, integral seats; screwed female ends (BSP) to IS:554-1985,  
handwheel operated; conforming to IS:778-1984 class 1 valves are  
painted blue

## TESTING & CERTIFICATION :

Body Test Pressure = 1.5 MPa Hyd.  
Seat & Backseat Test Pressure = 1.0 MPa Hyd.  
All Valves are supplied duly ISI Marked.  
Our Works' Test Certificate is furnished with every supply.

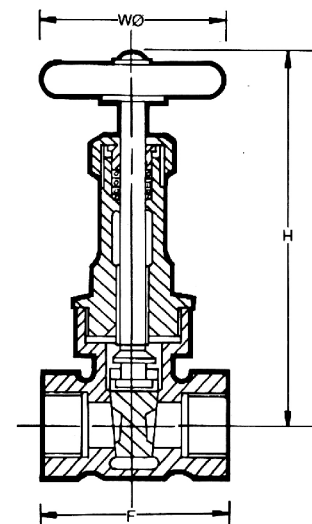
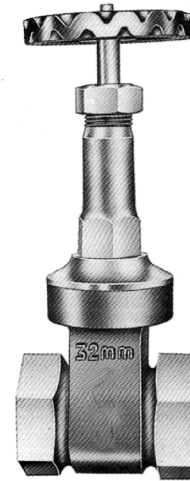
## MATERIALS

Components	Material	Material code
Body, Bonnet, Wedge, Gland & Gland Nut	Gunmetal/Leaded Tin Bronze	GM/LTB2
Spindle	Forged Brass	FB
Handwheel	Cast Iron	CI
Gland Packing	Asbestos	ASB
Screw & Washer for Handwheel	Mild Steel	MS

## DIMENSIONS IN mm

Nominal Size	F	H	W
8	50	105	44
10	50	105	44
15	60	125	56
20	60	145	56
25	70	165	65
32	80	180	75
40	90	210	80
50	100	240	90
65	105	290	105
80	125	360	115
100	160	450	160

# IS 3



# GUN METAL GATE VALVE, RISING STEM, FLANGED IS : 778 CLASS-1, MARKED

## SPECIFICATION :

Gunmetal Wedge Gate Valve, screwed in bonnet, inside screw,  
Rising Stem, integral seats; Handwheel operated, Flanged Ends;  
Conforming to IS:778-1984 class 1. Valves are painted blue.

## TESTING & CERTIFICATION :

Body Test Pressure = 1.5 MPa Hyd.  
Seat & Backseat Test Pressure = 1.0 MPa Hyd.  
All Valves are supplied duly ISI Marked.  
Our Works' Test Certificate is furnished with every supply.

## MATERIALS

Components	Material	Material code
Body, Bonnet, Wedge, Gland & Gland Nut	Gunmetal/Leaded Tin Bronze	GM/LTB2
Spindle	Forged Brass	FB
Handwheel	Cast Iron	CI
Gland Packing	Asbestos	ASB
Screw & Washer for Handwheel	Mild Steel	MS

## DIMENSIONS IN mm

Nominal Size	F	H	W
15	72	125	56
20	76	145	56
25	90	165	65
32	100	180	75
40	110	210	80
50	120	240	90
65	140	290	105
80	150	360	115
100	190	450	160



# GUN METAL GATE VALVE, NON-RISING STEM, SCREWED IS : 778 CLASS-2, MARKED

## SPECIFICATION :

Gunmetal Wedge Gate Valve, screwed in bonnet, inside screw, non-rising stem, integral seats; screwed female ends (BSP) to IS:554-1985, Handwheel operated, Conforming to IS:778-1984 class 2. Valves are painted red.

## TESTING & CERTIFICATION :

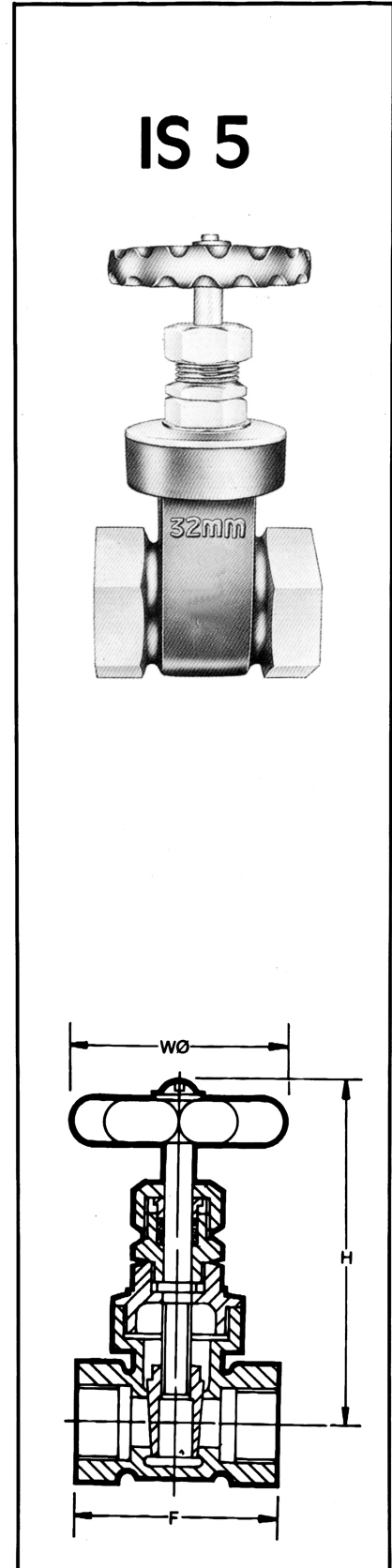
Body Test Pressure                    — 2.4 MPa Hyd.  
Seat & Backseat Test Pressure — 1.6 MPa Hyd.  
All Valves are supplied duly ISI Marked.  
Our Works' Test Certificate is furnished with every supply.

## MATERIALS

Components	Material	Material code
Body, Bonnet, Wedge, Stuffing Box, Gland & Gland Nut	Gunmetal/Leaded Tin Bronze	GM/LTB2
Spindle	Forged Brass	FB
Handwheel	Cast Iron	CI
Gland Packing	Asbestos	ASB
Screw & Washer for Handwheel	Mild Steel	MS

## DIMENSIONS IN mm

Nominal Size	F	H	W
15	60	95	56
20	60	110	56
25	70	130	65
32	80	140	75
40	90	160	80
50	100	180	90
65	105	210	105
80	125	250	115
100	160	300	160





# GUN METAL GATE VALVE, NON-RISING STEM, FLANGED IS : 778 CLASS-2.

## SPECIFICATION :

Gunmetal Wedge Gate Valve, screwed in bonnet, inside screw, non-rising stem, integral seats; Handwheel operated, Flanged Ends; Conforming to IS:778-1984 class 2. Valves are painted blue.

## TESTING & CERTIFICATION :

Body Test Pressure – 2.4 MPa Hyd.  
Seat & Backseat Test Pressure – 1.6 MPa Hyd.  
Our Works' Test Certificate is furnished with every supply.  
Gate Valves upto 50 mm size are duly ISI Marked.

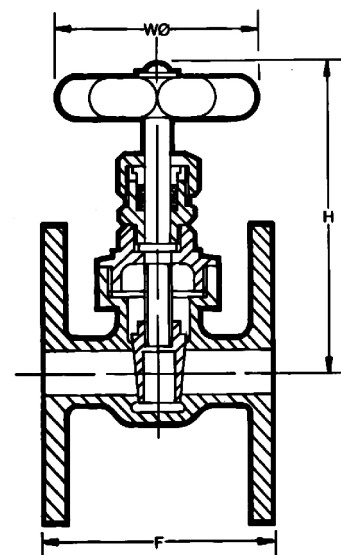
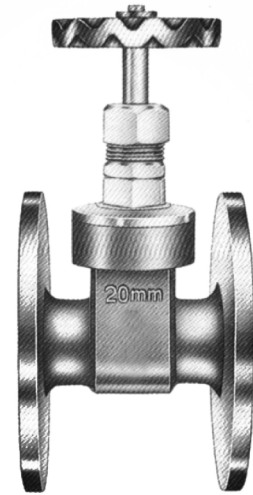
## MATERIALS

Components	Material	Material code
Body, Bonnet, Wedge, Stuffing Box, Gland & Gland Nut	Gunmetal/Leaded Tin Bronze	GM/LTB2
Spindle	Forged Brass	FB
Handwheel	Cast Iron	CI
Gland Packing	Asbestos	ASB
Screw & Washer for Handwheel	Mild Steel	MS

## DIMENSIONS IN mm

Nominal Size	F	H	W
15	72	95	56
20	76	110	56
25	90	130	65
32	100	140	75
40	110	160	80
50	120	180	90
65	140	210	105
80	150	250	115
100	190	300	160

# IS 6



# GUN METAL GATE VALVE, NON-RISING STEM, SCREWED IS:778-1971 CLASS-3

## SPECIFICATION :

Gunmetal Wedge Gate Valve, screwed in bonnet, inside screw, non-rising stem, integral seats; screwed female ends (BSP) to IS:554-1985, handwheel operated; conforming to IS:778-1971 class 3 valves are painted red.

## TESTING & CERTIFICATION :

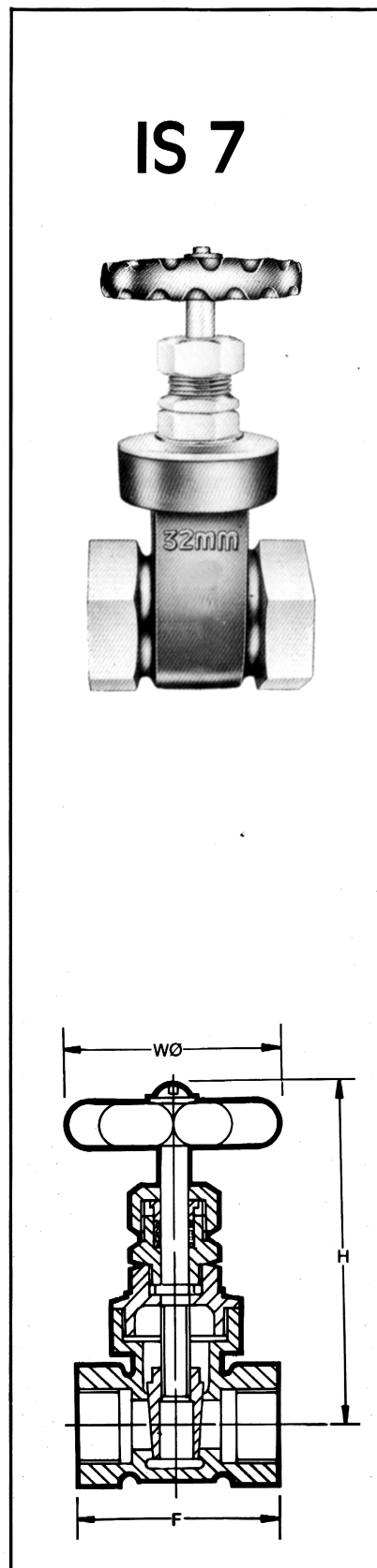
Body Test Pressure = 50 kg/cm<sup>2</sup> g Hyd.  
Seat & Backseat Test Pressure = 40 kg/cm<sup>2</sup> g Hyd.  
Our Works' Test Certificate is furnished with every supply.

## MATERIALS

Components	Material	Material code
Body, Bonnet, Wedge, Stuffing Box, Gland & Gland Nut	Gunmetal/Leaded Tin Bronze	GM/LTB2
Spindle	Forged Brass	FB
Handwheel	Cast Iron	CI
Gland Packing	Asbestos	ASB
Screw & Washer for Handwheel	Mild Steel	MS

## DIMENSIONS IN mm

Nominal Size	F	H	W
15	83	105	56
20	86	125	65
25	100	145	90
32	120	160	90
40	120	185	105
50	133	210	115



# GUN METAL VERTICAL LIFT CHECK VALVE; SCREWED IS : 778 CLASS-1, MARKED

## SPECIFICATION :

Gunmetal Vertical Lift Check Valve, integral seat; screwed female ends (BSP) to IS:554-1985, conforming to IS:778-1984 class 1. Valves are painted blue.

## TESTING & CERTIFICATION :

Body Test Pressure = 1.5 MPa Hyd.

Seat & Backseat Test Pressure = 1.0 MPa Hyd.

All Valves are supplied duly ISI Marked.

Our Works' Test Certificate is furnished with every supply.

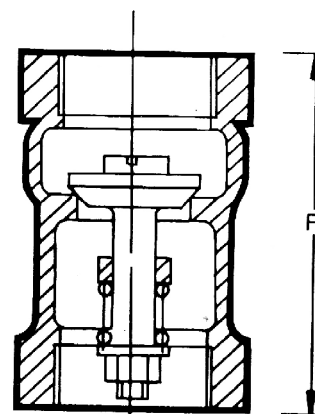
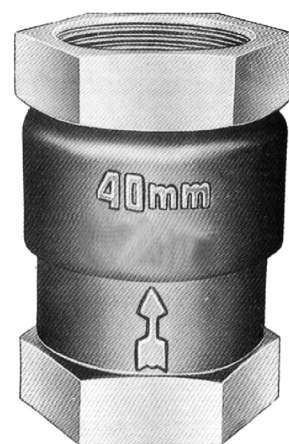
## MATERIALS

Components	Material	Material code
Body & Valve Disc	Gunmetal/Leaded Tin Bronze	GM/LTB2
Nut & Washer	Forged Brass	FB
Spring	Phosphor Bronze	PB

## DIMENSIONS IN mm

Nominal Size	F
15	65
20	70
25	75
32	85
40	95
50	110
65	130
80	145
100	190

# IS 8



# GUN METAL GLOBE VALVE; RISING STEM, SCREWED IS : 778 CLASS-1 & 2, MARKED

## SPECIFICATION :

Gunmetal Globe Valve, screwed in bonnet, inside screw, rising stem, integral seats; Handwheel operated, with backseat arrangement, screwed female ends (BSP); Conforming to IS:778-1984, class 1 and class 2. Class 1 valves are painted blue and Class 2 valves are painted red.

## TESTING & CERTIFICATION :

Class	Body Test Pressure (Hyd.)	Seat & Backseat Test Pressure (Hyd.)
1	1.5 MPa	1.0 MPa
2	2.4 MPa	1.6 MPa

All Sizes of Class 1 valves and sizes upto and including 50 mm size of class 2 valves are supplied duly ISI Marked.

Our Works' Test Certificate is furnished with every supply.

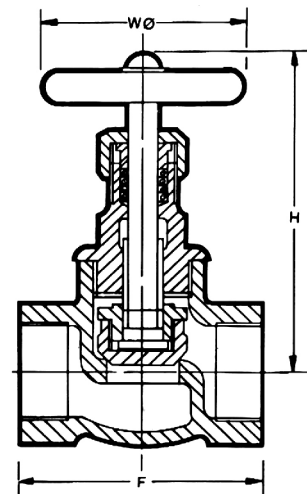
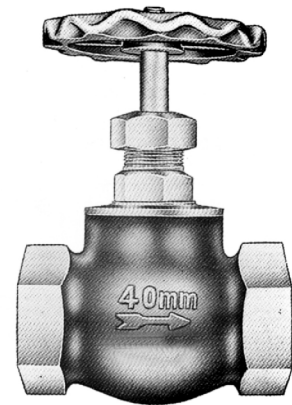
## MATERIALS

Components	Material	Material code
Body, Bonnet, Valve Disc., Check Nut, Gland & Gland Nut	Gunmetal/Leaded Tin Bronze	GM/LTB2
Spindle	Forged Brass	FB
Handwheel	Cast Iron	CI
Gland Packing	Asbestos	ASB
Washer & Screw for Handwheel	Mild Steel	MS

## DIMENSIONS IN mm

Nominal Size	F	H	W
8	47	75	44
10	50	80	44
15	60	85	56
20	70	90	56
25	80	108	65
32	95	120	75
40	110	130	80
50	125	135	90
65	160	170	144
80	180	200	175
100	216	230	195

IS 9 CLASS 1  
IS 11 CLASS 2



# GUN METAL GLOBE VALVE; RISING STEM, FLANGED IS : 778 CLASS-1, MARKED & CLASS-2

## SPECIFICATION :

Gunmetal Globe Valve, screwed in bonnet, inside screw, rising stem, integral seats; Handwheel operated, with backseat arrangement, Flanged Ends, Conforming to IS:778-1984, class 1 and class 2. Class 1 valves are painted blue and Class 2 valves are painted red.

## TESTING & CERTIFICATION :

Class	Body Test Pressure (Hyd.)	Seat & Backseat Test Pressure (Hyd.)
1	1.5 MPa	1.0 MPa
2	2.4 MPa	1.6 MPa

Class 1 valves are supplied duly ISI Marked.  
Our Works' Test Certificate is furnished with every supply.

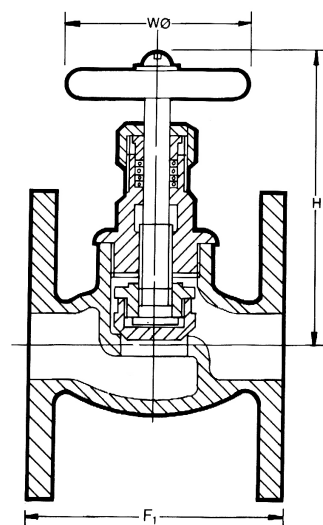
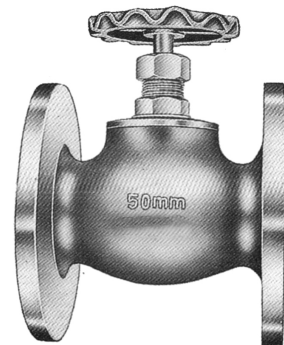
## MATERIALS

Components	Material	Material code
Body, Bonnet, Valve Disc, Check Nut, Gland & Gland Nut	Gunmetal/Leaded Tin Bronze	GM/LTB2
Spindle	Forged Brass	FB
Handwheel	Cast Iron	CI
Gland Packing	Asbestos	ASB
Washer & Screw for Handwheel	Mild Steel	MS

## DIMENSIONS IN mm

Nominal Size	F 1	H	W
15	75	85	56
20	85	90	56
25	95	108	65
32	110	120	75
40	120	130	80
50	145	135	90
65	165	170	144
80	185	200	175
100	216	230	195

IS 10 CLASS 1  
IS 12 CLASS 2



# GUN METAL GLOBE VALVE, RISING STEM, SCREWED IS:778-1971 CLASS-3

## SPECIFICATION :

Gunmetal Globe Valve, screwed in bonnet, inside screw, rising stem, integral seats; screwed female ends (BSP), Handwheel operated; conforming to IS:778-1971 class 3 valves are painted red.

## TESTING & CERTIFICATION :

Body Test Pressure = 50 kg/cm<sup>2</sup> g Hyd.  
Seat & Backseat Test Pressure = 40 kg/cm<sup>2</sup> g Hyd.  
Our Works' Test Certificate is furnished with every supply.

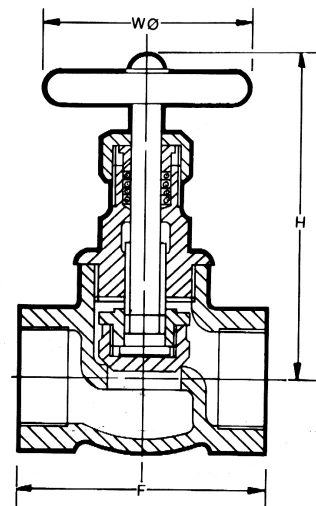
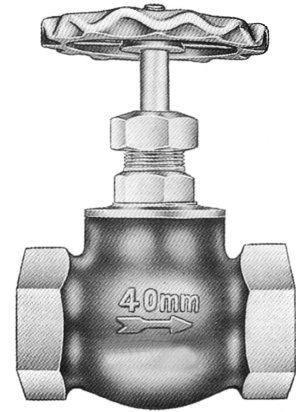
## MATERIALS

Components	Material	Material code
Body, Bonnet, Valve Disc, Check Nut, Gland & Gland Nut	Gunmetal/Leaded Tin Bronze	GM/LTB2
Spindle	Forged Brass	FB
Handwheel	Cast Iron	CI
Gland Packing	Asbestos	ASB
Screw & Washer for Handwheel	Mild Steel	MS

## DIMENSIONS IN mm

Nominal Size	F	H	W
15	89	90	56
20	100	110	65
25	117	120	80
32	133	130	90
40	150	150	144
50	178	180	175
65	200	210	195
80	250	226	195
100	300	250	229

# IS 13



# GUN METAL HORIZONTAL LIFT CHECK VALVE; SCREWED IS : 778 CLASS-1, MARKED

## SPECIFICATION :

Gunmetal Horizontal Lift Check Valve, screwed cover,  
integral seats; screwed female ends (BSP); conforming to IS:778-1984  
class 1. Valves are painted blue

## TESTING & CERTIFICATION :

Body Test Pressure = 1.5 MPa Hyd.  
Seat Test Pressure = 1.0 MPa Hyd.  
All Valves are supplied duly ISI Marked.  
Our Works' Test Certificate is furnished with every supply.

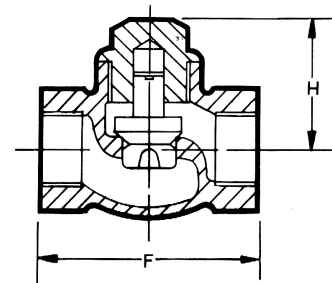
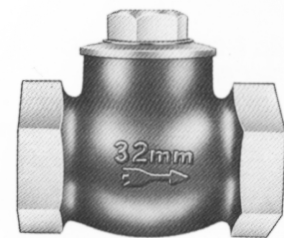
## MATERIALS

Components	Material	Material code
Body, Bonnet, & Valve Disc	Gunmetal/Leaded Tin Bronze	GM/LTB2

## DIMENSIONS IN mm

Nominal Size	F	H
15	60	36
20	70	40
25	80	51
32	95	60
40	110	70
50	125	85
65	160	90
80	180	105
100	216	130

# IS 14



# GUN METAL HORIZONTAL LIFT CHECK VALVE; FLANGED IS : 778 CLASS-1, MARKED

## SPECIFICATION :

Gunmetal Horizontal Lift Check Valve, screwed cover,  
integral seats; Flanged ends; conforming to IS:778-1984  
class 1. Valves are painted blue

## TESTING & CERTIFICATION :

Body Test Pressure                    – 1.5 MPa Hyd.  
Seat Test Pressure                    – 1.0 MPa Hyd.  
All Valves are supplied duly ISI Marked.  
Our Works' Test Certificate is furnished with every supply.

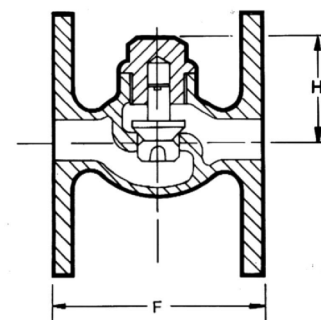
## MATERIALS

Components	Material	Material code
Body, Bonnet, & Valve Disc	Gunmetal/Leaded Tin Bronze	GM/LTB2

## DIMENSIONS IN mm

Nominal Size	F	H
15	75	36
20	85	40
25	95	51
32	110	60
40	120	70
50	145	85
65	165	90
80	185	105
100	216	130

# IS 15





# GUN METAL FERRULE, IS : 2692, MARKED

## SPECIFICATION :

Gunmetal Ferrule as per IS:2692-1978; Screw male ends (BSPT) as per IS:554. Ferrules are supplied with rough finish.

## TESTING & CERTIFICATION :

Test Pressure – 2.0 MPa Hyd.  
All Ferrules are supplied duly ISI Marked.  
Our Works' Test Certificate is furnished with every supply.

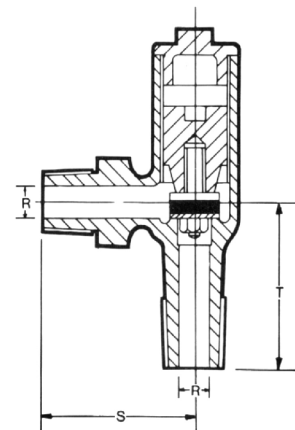
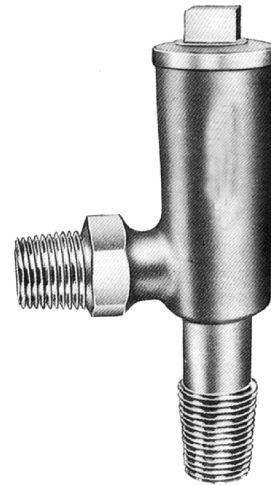
## MATERIALS

Components	Material	Material code
Body, Plug & Cap	Gunmetal/Leaded Tin Bronze	GM/LTB2
Washer Plate & Nut	High Tensile Brass	HTB
Gasket	Compressed Asbestos Fibre	CAF
Rubber Washer	Natural Rubber	NR
Copper Washer	Copper Sheet	Cu

## DIMENSIONS IN mm

Nominal Size	R (MINIMUM)	S (MINIMUM)	T (MINIMUM)
15	12.3	55	60
20	17.8	60	65
25	24.5	70	75
32	30.8	85	90
40	36.8	95	100
50	46.8	115	120

# IS 16



## Cast Iron Reflex Valves Flanged

As Per IS 5312  
(Non-Return or Vertical Check Valve)  
(Flange Ends)

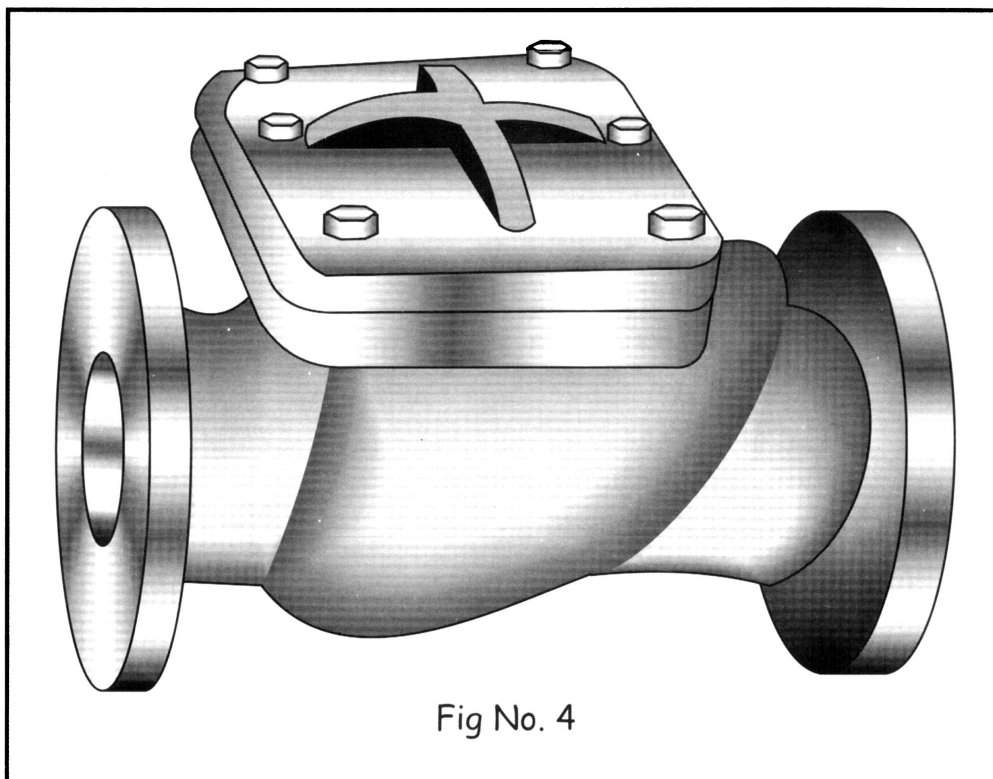


Fig No. 4

Flanges -IS-5312

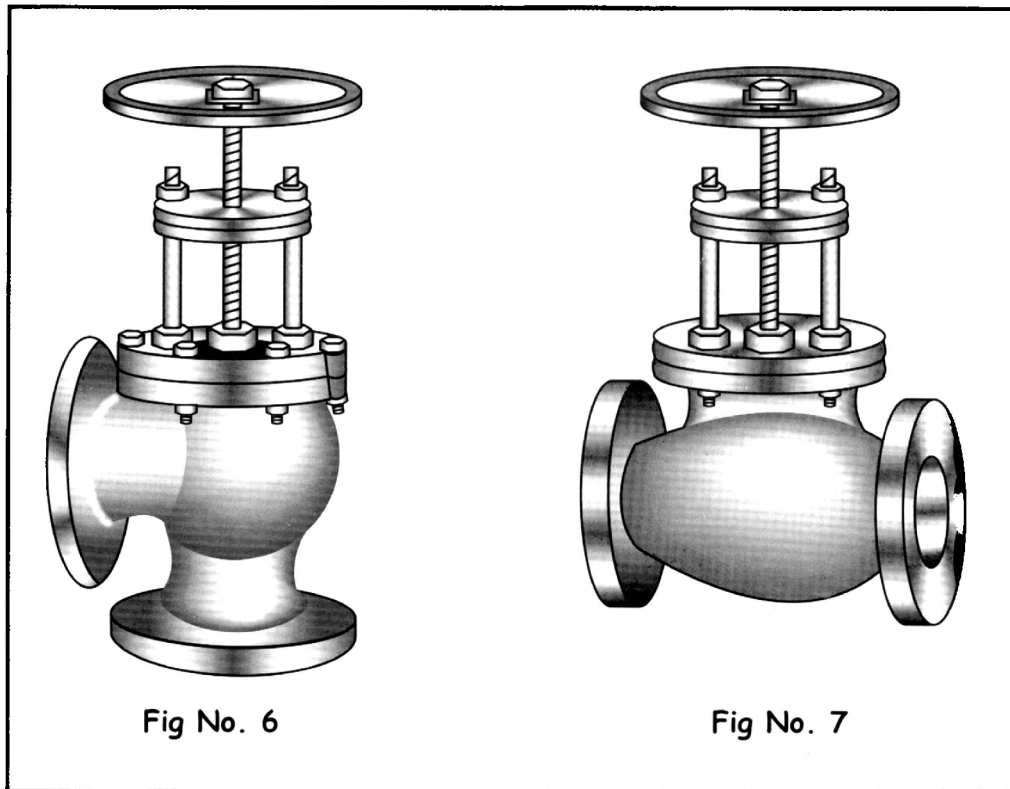
### D I M E N S I O N S

Bore	50 MM	65 MM	80 MM	100 MM	125 MM	150 MM	200 MM	250 MM	300 MM
Face to Face	200	240	260	300	350	400	500	600	700
Flange Diametre	165	185	200	220	250	285	340	395	445
Flange Of Thickness	18	18	20	22	22	24	25	28	28
Approx weight in kg. (each)	17	24	33	43	58	66	113	199	350

The following Special Features are supplied to customers requirements :

- Bye-pass in body
  - Light Weight Gun Metal Flaps
  - Leather Faced Flaps.
  - Vent Cock in cover.
- Reflux Valves from 12" Size Upward Upto 24" Size are Provided with Bye Pass 82  
Brass Rod hinges Pin Each & Every Valve is Tested to 300 lbs. H. P. S. I.

## Globe & Angle Globe Valve



Cast-Iron Globe Angle Valves

Cast-Iron Globe Stop Valves

### STEAM VALVE

DIMENSIONS OF GLOBE STOP VALVES AS PER FIG NO. 9  
(WITH APPROXIMATE WEIGHT)

MEASUREMENT	Inches	Prox. MM	Inches	Prox. MM	Inches	Prox. MM	Inches	Prox. MM	Inches	Prox. MM	Inches	Prox. MM	Inches	Prox. MM	Inches	Prox. MM
	Bore	2	50	2.1/2	65	3	75	4	100	5	125	6	150	8	200	10
Diameter of Flanges	6.1/2	165	7.1/4	184	8	200	9	225	11	279	12	300	14½	337	17	425
Thickness of Flanges	7/8	22	7/8	22	1	25	1.1/8	29	1.1/4	32	1.1/4	32	1.3/8	35	1.3/8	35
F. to F. Meas.	8	200	9	225	10.1/4	260	11.3/4	298	13.3/4	342	15.3/4	400	19.3/4	501	23.1/2	585
Approx weight In Kg. (Each)	22		27		39		59		90		123		231		345	401

Globe Steam Valve as per Fig No. 6 & 7 are tested to 150 lbs Steam pressure per sq. inch. Valve Seat & Spindle can be provided with Stainless Steel When required, ordinarily Gun Metal / Bronze Mounting are Provided.