



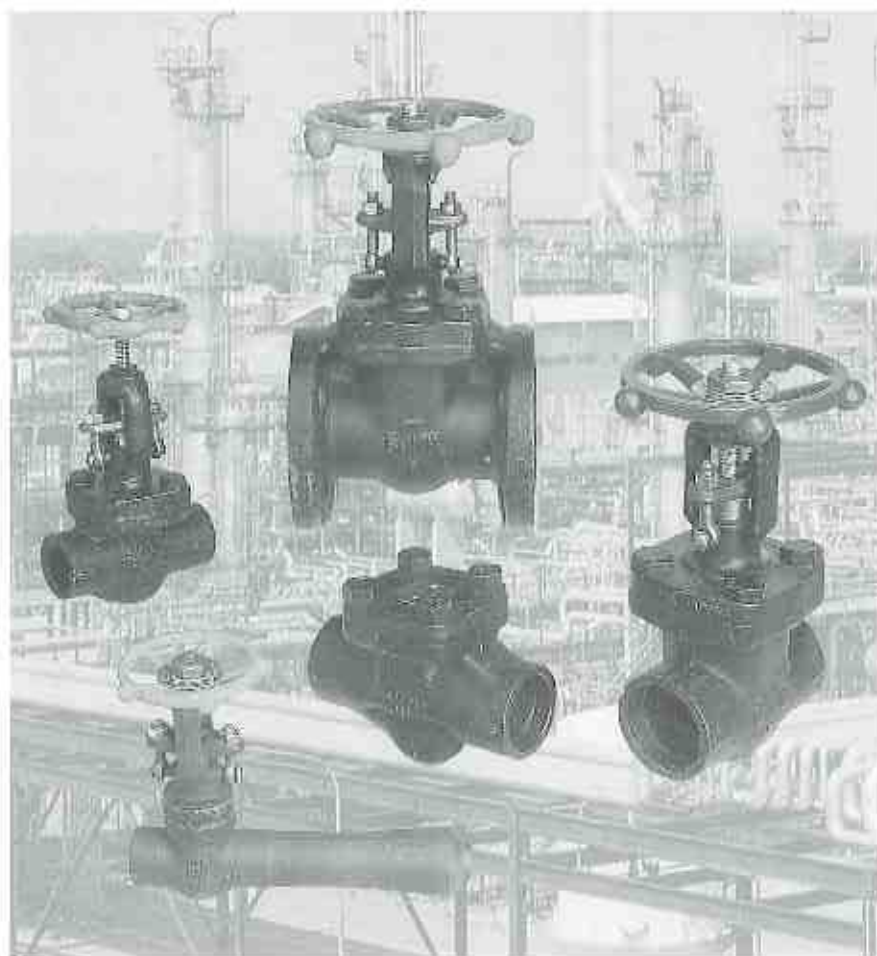
闸阀，球形截止阀
，止回阀

**GATE, GLOBE,
CHECK VALVES**





Grinnell
FLOW CONTROL



Forged Steel Valves 锻钢阀门

Gate 闸阀

Globe 球形截止阀

Check 止回阀



Grinnell
FLOW CONTROL



800 & 870

Gate Valves

闸阀

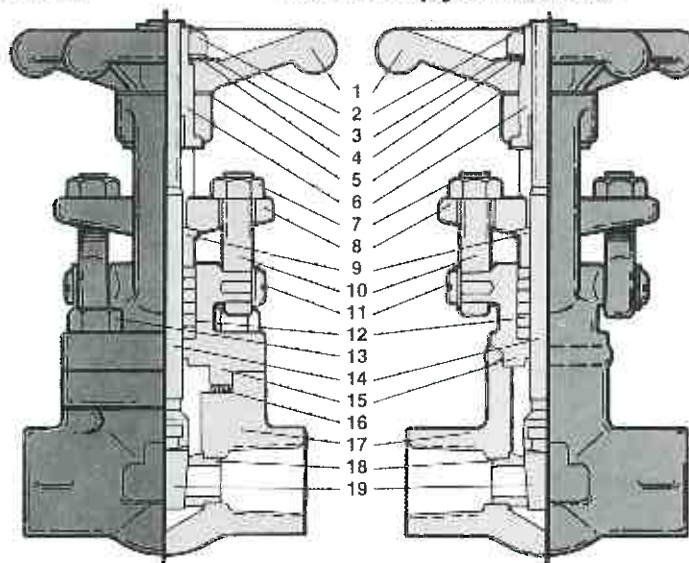
Forged Steel OS&Y

Conventional Port 1/4" - 2" Threaded or Socket Weld

API/ASME Class 800

PART	STANDARD MATERIALS
1 Handwheel	Malleable Iron, Painted
2 Handwheel Nut	Steel
3 Lockwasher	Steel
4 Nameplate	Aluminum
5 Thrustwasher	410 Stainless
6 Yoke Nut	416 Stainless/Lubricated
7 Gland Nut	304 Stainless
8 Gland Flange	Forged Steel A105
9 Gland	316 Stainless
10 Eyebolt	410 Stainless
11 Screw	Steel, Plated
12 Packing	Graph. & braided graph. end rings
13 Hex Head Bolt	Steel, A193 B7
14 Stem	410 Stainless
15 Bonnet	Forged Steel A105 NLC
16 Gasket	304-S.S. Flex. Graph. Comp.
17 Body	Forged Steel A105 NLC
18 Seat Ring	410 Stainless — Stellite Faced
19 Wedge	420 Stainless

Valves comply with API 602



800 - Bolted Bonnet

870 - Welded Bonnet

VALVE SIZE (800)	Diam. of Port Opening	End to End	Diam. of Pipe End	Hand Wheel Diam.	Center to Top (open)	Center to Top (closed)	Socket Weld Bore	Socket Weld Depth	Stuffing Box Depth	Diam. of Bolts	Approx. weight
NPS (DN)	inches (mm)	Inches (mm)	Inches (mm)	Inches (mm)	Inches (mm)	Inches (mm)	Inches (mm)	Inches (mm)	Inches (mm)	Inches (mm)	Pounds (kg)
1/4	5/16	3-1/4	1-1/4	4	6-1/4	5-13/16	.555	3/8	7/8	3/8	3-3/4
8	5	83	32	102	159	148	14	10	22	10	1.7
3/8	25/64	3-1/4	1-1/4	4	6-5/16	5-3/4	.690	3/8	7/8	3/8	3-3/4
10	10	83	32	102	160	146	18	10	22	10	1.7
1/2	25/64	3-1/4	1-1/4	4	6-5/16	5-3/4	.855	3/8	7/8	3/8	3-3/4
15	10	83	32	102	160	146	22	10	22	10	1.7
3/4	1/2	3-1/2	1-1/2	4	6-1/2	5-13/16	1.065	1/2	7/8	3/8	4-1/2
20	10	89	38	102	165	148	27	13	22	10	2.0
1	3/4	3-7/8	1-13/16	4	7-1/4	6-5/16	1.330	1/2	1	7/16	6-1/4
25	19	98	46	102	184	160	34	13	25	11	2.8
1-1/4	1-3/16	4-3/4	2-1/2	5-1/2	9-1/8	7-3/4	1.675	1/2	1-3/16	1/2	9-1/2
32	30	121	64	140	232	197	43	13	30	13	4.3
1-1/2	1-3/16	4-3/4	2-1/2	5-1/2	9-1/8	7-3/4	1.915	1/2	1-3/16	1/2	12
40	30	121	64	140	232	197	49	13	30	13	5.4
2	1-1/2	5-1/2	3-1/16	6-5/8	11-1/16	9-3/8	2.406	5/8	1-1/2	5/8	20-1/2
50	38	140	78	168	281	238	61	16	38	16	9.3

(870)	Inches (mm)	Inches (mm)	Inches (mm)	Inches (mm)	Inches (mm)	Inches (mm)	Inches (mm)	Inches (mm)	Inches (mm)	Pounds (kg)
NPS (DN)										
1/4	5/16	3-1/4	1-1/4	4	6-1/4	5-13/16	.555	3/8	7/8	3-1/4
8	5	83	32	102	159	148	14	10	22	1.47
3/8	25/64	3-1/4	1-1/4	4	6-5/16	5-3/4	.690	3/8	7/8	3-1/4
10	10	83	32	102	160	146	18	10	22	1.47
1/2	25/64	3-1/4	1-1/4	4	6-5/16	5-3/4	.855	3/8	7/8	3-1/4
15	10	83	32	102	160	146	22	10	22	1.47
3/4	1/2	3-1/2	1-1/2	4	6-1/2	5-13/16	1.065	1/2	7/8	3-3/4
20	10	89	38	102	165	148	27	13	22	1.7
1	3/4	3-7/8	1-13/16	4	7-1/4	6-5/16	1.330	1/2	1	5-1/4
25	19	98	46	102	184	160	34	13	25	2.38
1-1/4	1-3/16	4-3/4	2-1/2	5-1/2	9-1/8	7-3/4	1.675	1/2	1-3/16	10-1/4
32	30	121	64	140	232	197	43	13	30	4.85
1-1/2	1-3/16	4-3/4	2-1/2	5-1/2	9-1/8	7-3/4	1.915	1/2	1-3/16	9-3/4
40	30	121	64	140	232	197	49	13	30	4.42
2	1-1/2	5-1/2	3-1/16	6-5/8	11	9-3/8	2.406	5/8	1-1/2	16
50	38	140	78	168	279	238	61	16	38	7.28



Grinnell
FLOW CONTROL



888 & 5870

Gate Valves

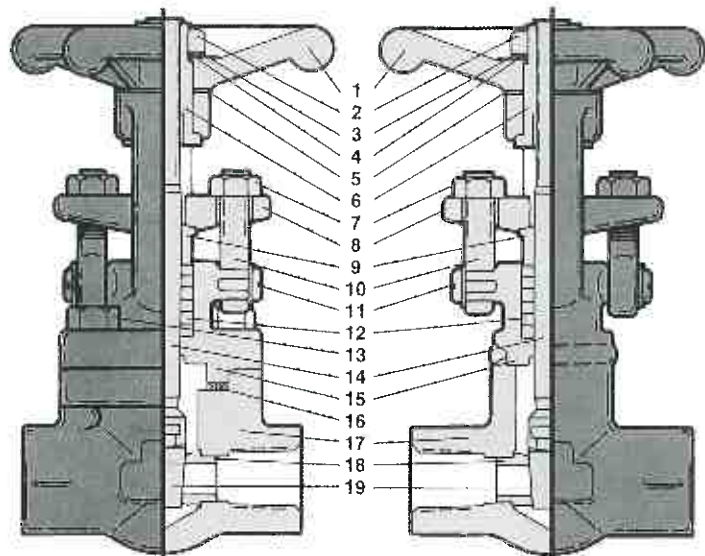
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Forged Steel OS&Y

Full Port 1/4" - 2" Threaded or Socket Weld

API/ASME Class 800

Valves comply with API 602



888 - Bolted Bonnet

5870 - Welded Bonnet

PART	STANDARD MATERIALS
1 Handwheel	Malleable Iron, Painted
2 Handwheel Nut	Steel
3 Lockwasher	Steel
4 Nameplate	Aluminum
5 Thrustwasher	410 Stainless
6 Yoke Nut	416 Stainless/Lubricated
7 Gland Nut	304 Stainless
8 Gland Flange	Forged Steel A105
9 Gland	316 Stainless
10 Eyebolt	410 Stainless
11 Screw	Steel, Plated
12 Packing	Graph. & braided graph. end rings
13 Hex Head Bolt	Steel, A193 B7
14 Stem	410 Stainless
15 Bonnet	Forged Steel A105 NLC
16 Gasket	304-S.S. Flex. Graph. Comp.
17 Body	Forged Steel A105 NLC
18 Seat Ring	410 Stainless — Stellite Faced
19 Wedge	420 Stainless

VALVE SIZE (888) NPS (DN)	Diam. of Port Opening Inches (mm)	End to End Inches (mm)	Diam. of Pipe End Inches (mm)	Hand Wheel Diam. Inches (mm)	Center to Top (open) Inches (mm)	Center to Top (closed) Inches (mm)	Socket Weld Bore Inches (mm)	Socket Weld Depth Inches (mm)	Stuffing Box Depth Inches (mm)	Diam. of Bolts Inches (mm)	Approx. weight Pounds (kg)
1/4	5/16	3-1/4	1-1/4	4	0-1/4	5-13/16	.555	3/8	7/8	3/8	3-3/4
8	0	03	32	102	159	148	14	10	22	10	1.70
3/8	25/64	3-1/4	1-1/4	4	6-5/16	5-3/4	.690	3/8	7/8	3/8	3-3/4
10	10	83	32	102	160	146	18	10	22	10	1.70
1/2	1/2	3-1/2	1-1/2	4	6-1/2	5-13/16	.855	3/8	7/8	3/8	4-3/4
15	13	89	38	102	165	148	22	10	22	10	2.15
3/4	3/4	3-7/8	1-13/16	4	7-1/4	6-5/16	1.065	1/2	1	7/16	6-1/4
20	19	98	46	102	184	160	27	13	25	11	2.83
1	15/16	4-3/4	2-1/2	5-1/2	8-7/8	7-3/4	1.330	1/2	1-3/16	1/2	9-3/4
25	24	121	64	140	225	197	34	13	30	13	4.62
1-1/4	1-3/16	4-3/4	2-1/2	5-1/2	9-1/8	7-3/4	1.675	1/2	1-3/16	1/2	11-1/2
32	30	121	64	140	232	197	43	13	30	13	5.22
1-1/2	1-1/2	5-1/2	3-1/16	6-5/8	11-1/16	9-3/8	1.915	1/2	1-1/2	5/8	21-3/4
40	38	140	78	168	281	238	49	13	38	16	9.87
2	2	5-11/16	3-1/2	6-5/8	12-7/16	10-1/8	2.406	5/8	1-1/2	5/8	24
50	51	144	89	168	316	257	61	16	38	16	10.88

(5870) NPS/Inches (DN/mm)	Inches (mm)	Inches (mm)	Inches (mm)	Inches (mm)	Inches (mm)	Inches (mm)	Inches (mm)	Inches (mm)	Inches (mm)	Pounds (kg)
1/4	5/16	3-1/4	1-1/4	4	6-1/4	5-13/16	.555	3/8	7/8	3-1/4
8	0	83	32	102	159	148	14	10	22	1.47
3/8	25/64	3-1/4	1-1/4	4	6-5/16	5-3/4	.690	3/8	7/8	3-1/4
10	10	83	32	102	160	146	18	10	22	1.67
1/2	1/2	3-1/2	1-1/2	4	6-1/2	5-13/16	.855	3/8	7/8	4-1/4
15	13	89	32	102	165	148	22	10	22	1.93
3/4	3/4	3-7/8	1-13/16	4	7-1/4	6-5/16	1.065	1/2	1	5-3/4
20	19	98	46	102	184	160	27	13	25	2.61
1	15/16	4-3/4	2-1/2	5-1/2	8-7/8	7-3/4	1.330	1/2	1-3/16	10-1/2
25	24	121	64	140	225	197	34	13	30	4.76
1-1/4	1-3/16	4-3/4	2-1/2	5-1/2	9-1/8	7-3/4	1.675	1/2	1-3/16	10-1/4
32	30	121	64	140	232	197	43	13	30	4.65
1-1/2	1-1/2	5-1/2	3-1/16	6-5/8	11	9-3/8	1.915	1/2	1-1/2	17
40	38	140	78	168	279	238	49	13	38	7.71



Grinnell®
FLOW CONTROL



1500 & 1570

Gate Valves

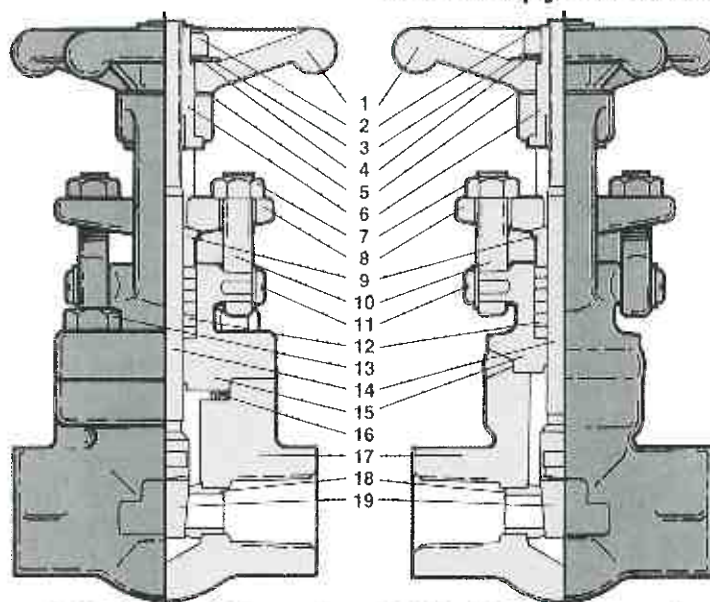
闸阀

Forged Steel OS&Y, Conventional Port 1/4 - 2" Threaded or Socket Weld

API Class 1500/PN250

PART	STANDARD MATERIALS
1 Handwheel	Malleable Iron, Painted
2 Handwheel Nut	Steel
3 Lockwasher	Steel
4 Nameplate	Aluminum
5 Thrustwasher	410 Stainless
6 Yoke Nut	416 Stainless/Lubricated
7 Gland Nut	304 Stainless
8 Gland Flange	Forged Steel A105
9 Gland	316 Stainless
10 Eyebolt	410 Stainless
11 Screw	Steel, Plated
12 Packing	Graph. & braided graph. end rings
13 Hex Head Bolt	Steel A193 B7
14 Stem	410 Stainless
15 Bonnet	Forged Steel A105 NLC
16 Gasket	304 Stainless, Flex Graph.
17 Body	Forged Steel A105 NLC
18 Seat Ring	410 Stainless — Stellite Faced

Valves comply with API 602



1500 - Bolted Bonnet

1570 - Welded Bonnet

VALVE SIZE (1500) NPS (DN)	Diam. of Port Opening Inches (mm)	End to End Inches (mm)	Diam. of Pipe End Inches (mm)	Hand Wheel Diam. Inches (mm)	Center to Top (open) Inches (mm)	Center to Top (closed) Inches (mm)	Socket Weld Bore Inches (mm)	Socket Weld Depth Inches (mm)	Stuffing Box Depth Inches (mm)	Diam. of Bolts Inches (mm)	Approx. weight Pounds (kg)
1/4	5/16	3-1/2	1-1/2	4	6-7/16	6	.555	3/8	7/8	3/8	5-1/4
8	8	89	38	102	164	152	14	10	22	10	2.38
3/8	3/8	3-1/2	1-1/2	4	6-1/2	5-15/16	.690	3/8	7/8	3/8	5-1/4
10	10	89	38	102	165	161	18	10	22	10	2.38
1/2	25/64	3-1/2	1-1/2	4	6-1/2	5-15/16	.855	3/8	7/8	3/8	5
15	10	89	38	102	165	151	22	10	22	10	2.27
3/4	1/2	3-7/8	1-13/16	4	8-7/8	6-1/2	1.065	1/2	1	7/16	7-1/4
20	13	98	46	102	225	165	27	13	25	11	3.29
1	3/4	4-3/4	2-1/2	5-1/2	8-7/8	8	1.330	1/2	1-3/16	1/2	14
25	19	121	64	140	225	203	34	13	30	13	6.35
1-1/4	1-3/16	5-1/2	3-1/16	6-5/8	11	9-5/8	1.675	1/2	1-1/2	5/8	23
32	30	140	78	188	279	244	43	13	38	16	10.43
1-1/2	1-3/16	5-1/2	3-1/16	6-5/8	11	9-5/8	1.915	1/2	1-1/2	5/8	22-1/2
40	30	140	78	188	279	244	49	13	38	16	10.21
2	1-1/2	6-1/4	3-5/8	6-5/8	11-9/16	9-7/8	2.406	5/8	1-1/2	3/4	29-1/2
50	36	159	92	168	294	251	61	16	38	19	13.98

(1570) NPS (DN)	Inches (mm)	Inches (mm)	Inches (mm)	Inches (mm)	Inches (mm)	Inches (mm)	Inches (mm)	Inches (mm)	Inches (mm)	Pounds (kg)
1/4	5/16	3-1/2	1-1/2	4	6-5/16	5-7/8	.555	3/8	7/8	4-3/4
8	8	89	38	102	160	149	14	10	22	2.15
3/8	3/8	3-1/2	1-1/2	4	6-7/16	5-13/16	.690	3/8	7/8	4-3/4
10	10	89	38	102	164	149	18	10	22	2.15
1/2	25/64	3-1/2	1-1/2	4	6-7/16	5-13/16	.855	3/8	7/8	4-1/2
15	10	89	38	102	164	148	22	10	22	2.04
3/4	1/2	3-7/8	1-13/16	4	7	6-5/16	1.065	1/2	1	6
20	13	98	46	102	175	160	27	13	25	2.72
1	3/4	4-3/4	2-1/2	5-1/2	8-11/16	7-3/4	1.330	1/2	1-3/16	11-1/4
25	19	121	64	140	221	197	34	13	30	5.10
1-1/4	1-3/16	5-1/2	3-1/16	6-5/8	10-11/16	9-3/8	1.675	1/2	1-1/2	17-3/4
32	30	140	78	188	271	238	43	13	38	9.05
1-1/2	1-3/16	5-1/2	3-1/16	6-5/8	10-11/16	9-3/8	1.915	1/2	1-1/2	17-1/2
40	30	140	78	188	271	238	48	13	38	7.94
2	1-1/2	6-1/4	3-5/8	6-5/8	11-1/16	9-5/8	2.406	5/8	1-1/2	24-1/4
50	36	159	92	168	251	238	61	16	38	11.00



Grinnell
FLOW CONTROL



1588 & 1578

Gate Valves

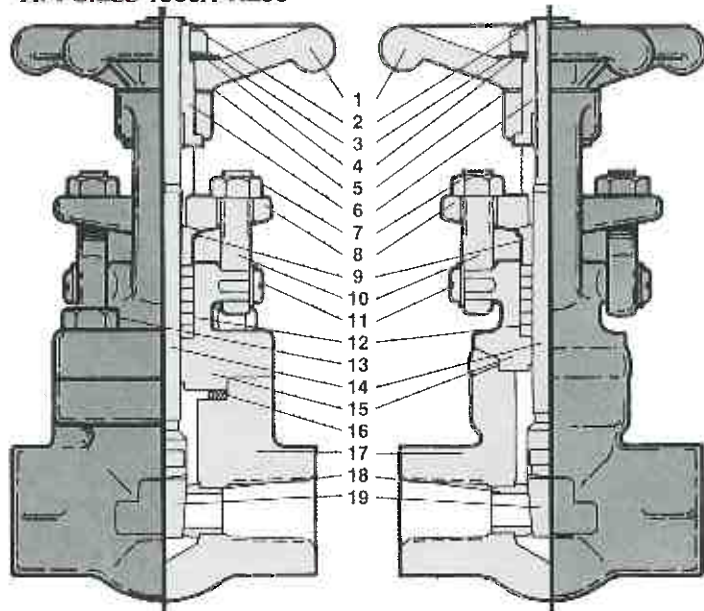
闸阀

Forged Steel OS&Y

Full Port 1/4 - 1 1/2" Threaded or Socket Weld

API Class 1500/PN250

Valves comply with API 602



1588 - Bolted Bonnet

1578 - Welded Bonnet

PART

- 1 Handwheel
- 2 Handwheel Nut
- 3 Lockwasher
- 4 Nameplate
- 5 Thrustwasher
- 6 Yoke Nut
- 7 Gland Nut
- 8 Gland Flange
- 9 Gland
- 10 Eyebolt
- 11 Screw
- 12 Packing
- 13 Hex Head Bolt
- 14 Stem
- 15 Bonnet
- 16 Gasket
- 17 Body
- 18 Seat Ring
- 19 Wedge

STANDARD MATERIALS

- Malleable Iron, Painted
- Steel
- Steel
- Aluminum
- 410 Stainless
- 416 Stainless/Lubricated
- 304 Stainless
- Forged Steel A105
- 316 Stainless
- 410 Stainless
- Steel, Plated
- Graph. & braided graph. end rings
- Steel A193 B7
- 410 Stainless
- Forged Steel A105 NLC
- 304-S.S. Flex. Graph. Comp.
- Forged Steel A105 NLC
- 410 Stainless — Stellite Faced
- 420 Stainless

VALVE SIZE (1588) NPS (DN)	Diam. of Port Opening Inches (mm)	End to End Inches (mm)	Diam. of Pipe End Inches (mm)	Hand Wheel Diam. Inches (mm)	Center to Top (open) Inches (mm)	Center to Top (closed) Inches (mm)	Socket Weld Bore Inches (mm)	Socket Weld Depth Inches (mm)	Stuffing Box Depth Inches (mm)	Diam. of Bolts Inches (mm)	Approx. weight Pounds (kg)
1/4	5/16	3-1/2	1-1/2	4	6-7/16	6	.555	3/8	7/8	3/8	5-1/4
8	8	89	38	102	164	152	14	10	22	10	22.38
3/8	25/64	3-1/2	1-1/2	4	6-1/2	6-15/16	.690	3/8	7/8	3/8	5-1/4
10	10	89	38	102	165	151	18	10	22	10	2.38
1/2	1/2	3-7/8	1-13/16	4	7-1/4	6-1/2	.855	3/8	1	7/16	7-1/2
15	13	98	46	102	184	165	22	10	25	11	3.40
3/4	3/4	4-3/4	2-1/2	5-1/2	8-7/8	7-15/16	1.065	1/2	1-3/16	1/2	14-3/4
20	19	121	64	140	225	202	27	13	30	13	6.69
1	15/16	4-3/4	2-1/2	5-1/2	9-1/16	7-15/16	1.330	1/2	1-3/16	1/2	23-1/2
25	24	121	64	140	230	202	34	13	30	13	10.66
1-1/4	1-3/16	5-1/2	3-1/16	6-5/8	11	9-5/8	1.675	1/2	1-1/2	5/8	23
32	30	140	78	168	279	244	43	13	38	16	10.43
1-1/2	1-1/2	6-1/4	3-5/8	6-5/8	11-9/16	9-7/8	1.915	1/2	1-1/2	3/4	30-1/2
40	38	159	92	168	294	251	49	13	38	19	13.83

(1578) NPS (DN)	Inches (mm)	Inches (mm)	Inches (mm)	Inches (mm)	Inches (mm)	Inches (mm)	Inches (mm)	Inches (mm)	Inches (mm)	Pounds (kg)
1/4	5/16	3-1/2	1-1/2	4	6-5/16	5-7/8	.555	3/8	7/8	4-3/4
8	8	89	38	102	160	149	14	10	22	2.15
3/8	25/64	3-1/2	1-1/2	4	6-3/8	5-13/16	.690	3/8	7/8	4-3/4
10	10	89	38	102	162	149	18	10	22	2.15
1/2	1/2	3-7/8	1-13/16	4	7	6-5/16	.855	3/8	1	6-1/4
15	13	98	46	102	175	160	22	10	25	2.83
3/4	3/4	4-3/4	2-1/2	5-1/2	8-11/16	7-3/4	1.065	1/2	1-3/16	11-1/2
20	19	121	64	140	221	197	27	13	30	3.22
1	15/16	4-3/4	2-1/2	5-1/2	8-7/8	7-3/4	1.330	1/2	1-3/16	19
25	24	121	64	140	225	197	34	13	30	8.67
1-1/4	1-3/16	5-1/2	3-1/16	6-5/8	10-11/16	9-3/8	1.675	1/2	1-1/2	17-3/4
32	30	140	78	168	271	238	43	13	38	8.05
1-1/2	1-1/2	6-1/4	3-5/8	6-5/8	11-1/16	9-3/8	1.915	1/2	1-1/2	25
40	38	159	92	168	281	238	49	13	38	11.34



Grinnell
FLOW CONTROL



G80 & G87

Globe Valves

球形截止阀

Forged Steel OS&Y

Conventional Port 1/4 - 2" Threaded or Socket Weld

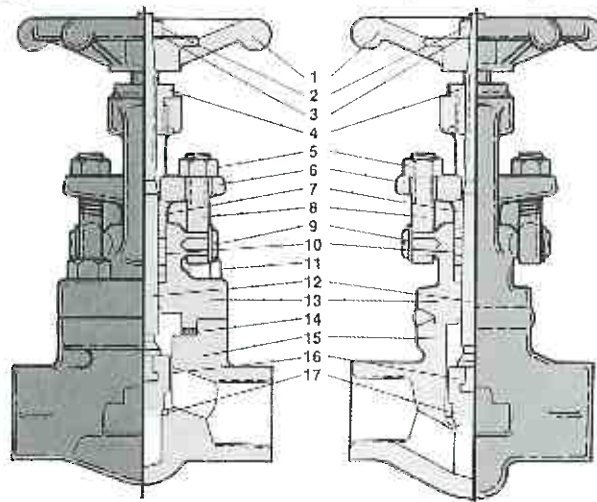
API/ASME Class 800

Valves comply with applicable portions of API 602 and ASME B16.34

PART

STANDARD MATERIALS

1 Handwheel	Malleable Iron, Painted
2 Handwheel Nut	Steel
3 Nameplate	Aluminum
4 Yoke Nut	416 Stainless
5 Gland Nut	304 Stainless
6 Gland Flange	Forged Steel A105
7 Gland	316 Stainless
8 Eyebolt	410 Stainless
9 Screw	Steel, Plated
10 Packing	Graph. & braided graph. end rings
11 Hex Head Bolt	Steel, A193 B7
12 Stem	410 Stainless
13 Bonnet	Forged Steel A105
14 Gasket	305-S.S. Flex Graph. Comp.
15 Body	Forged Steel A105 NLC
16 Disc	420 Stainless
17 Seat	Stellite, Integral



G80 - Bolted Bonnet

G87 - Welded Bonnet

VALVE SIZE (G80) NPS (DN)	Diam. of Port Opening Inches (mm)	End to End Inches (mm)	Diam. of Pipe End Inches (mm)	Hand Wheel Diam. Inches (mm)	Center to Top (open) Inches (mm)	Center to Top (closed) Inches (mm)	Socket Weld Bore Inches (mm)	Socket Weld Depth Inches (mm)	Stuffing Box Depth Inches (mm)	Diam. of Bolts Inches (mm)	Approx. weight Pounds (kg)
1/4	1/4	3-1/4	1-1/4	4	6-3/8	6-1/16	.555	3/8	7/8	3/8	3-3/4
6	6	83	32	102	162	154	14	10	22	10	1.70
3/8	1/4	3-1/4	1-1/4	4	6-3/8	6-1/16	.690	3/8	7/8	3/8	3-3/4
10	6	83	32	102	162	154	18	10	22	10	1.70
1/2	3/8	3-1/4	1-1/4	4	6-3/8	6-1/16	.855	3/8	7/8	3/8	3-3/4
15	10	83	32	102	162	154	22	10	22	10	1.70
3/4	1/2	3-1/2	1-1/2	4	6-9/16	6-3/16	1.065	1/2	7/8	3/8	4-3/4
20	13	89	38	102	167	157	27	13	22	10	2.15
1	3/4	4-1/2	1-13/16	4	6-13/16	6-5/16	1.330	1/2	1	7/16	6-1/4
25	19	114	46	102	173	160	34	13	25	11	2.03
1-1/4	1	6-1/4	2-7/16	4-5/8	8-1/16	7-1/4	1.675	1/2	1-3/16	1/2	12-3/4
32	25	159	52	117	205	184	43	13	30	13	5.78
1-1/2	1-3/16	6-1/4	2-7/16	4-5/8	8-1/16	7-1/4	1.915	1/2	1-3/16	1/2	12-1/4
40	30	159	52	117	205	184	48	13	30	13	5.56
2	1-7/16	7-1/4	3-1/16	6-5/8	10-1/8	9	2.406	5/8	1-1/2	5/8	22-1/2
50	37	184	75	168	257	229	61	16	38	19	10.21

(G87)

NPS (DN)	Inches (mm)	Inches (mm)	Inches (mm)	Inches (mm)	Inches (mm)	Inches (mm)	Inches (mm)	Inches (mm)	Inches (mm)	Pounds (kg)
1/4	1/4	3-1/4	1-1/4	4	6-3/8	6-1/16	.555	3/8	7/8	3-1/2
6	6	83	32	102	162	154	14	10	22	1.59
3/8	1/4	3-1/4	1-1/4	4	6-3/8	6-1/16	.690	3/8	7/8	3-1/2
10	6	83	32	102	162	154	18	10	22	1.59
1/2	3/8	3-1/4	1-1/4	4	6-3/8	6-1/16	.855	3/8	7/8	3-1/2
15	10	83	32	102	162	154	22	10	22	1.59
3/4	1/2	3-1/2	1-1/2	4	6-9/16	6-3/16	1.065	1/2	7/8	4-1/2
20	13	89	38	102	167	157	27	13	22	2.04
1	3/4	4-1/2	1-13/16	4	6-13/16	6-5/16	1.330	1/2	1	6
25	19	114	46	102	173	160	34	13	25	2.72
1-1/4	1	6-1/4	2-7/16	4-5/8	8-3/16	7-1/4	1.675	1/2	1-3/16	12-1/4
32	25	159	52	117	208	184	43	13	30	5.75
1-1/2	1-3/16	6-1/4	2-7/16	4-5/8	8-3/16	7-1/4	1.915	1/2	1-3/16	11-3/4
40	30	159	52	117	208	184	48	13	30	5.80
2	1-7/16	7-1/4	3-1/16	6-5/8	10-3/16	9	2.406	5/8	1-1/2	22
50	37	184	75	168	259	229	61	16	38	9.98



Grinnell
FLOW CONTROL



G150 & G157

Globe Valves

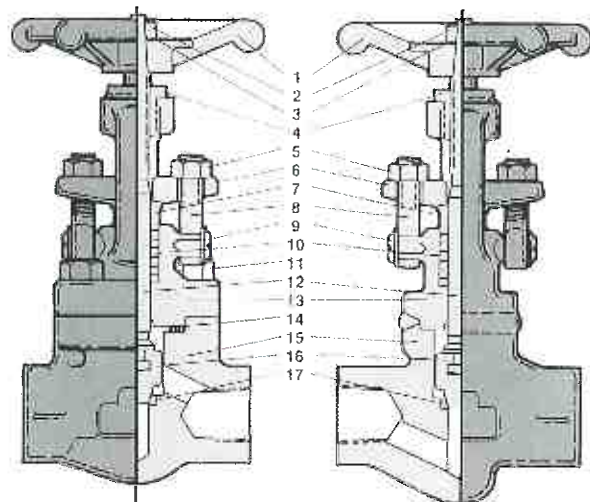
球形截止阀

Forged Steel OS&Y

Conventional Port 1/4" - 2" Threaded or Socket Weld

ASME Class 1500/PN250

Valves comply with applicable portions of API 602 and ASME B16.34



G150 - Bolted Bonnet G157 - Welded Bonnet

PART

- 1 Handwheel
- 2 Handwheel Nut
- 3 Nameplate
- 4 Yoke Nut
- 5 Gland Nut
- 6 Gland Flange
- 7 Gland
- 8 Eyebolt
- 9 Screw
- 10 Packing
- 11 Hex Head Bolt
- 12 Stem
- 13 Bonnet
- 14 Gasket
- 15 Body
- 16 Disc
- 17 Seat

STANDARD MATERIALS

- Malleable Iron, Painted
- Steel
- Aluminum
- 416 Stainless
- 304 Stainless
- Forged Steel A105
- 316 Stainless
- 410 Stainless
- Steel, Plated
- Graph. & braided graph. end rings
- Steel A193 B7
- 410 Stainless
- Forged Steel A105
- 305-S.S. Flex. Graph. Comp.
- Forged Steel — A105 NLC
- 420 Stainless
- Stellite, Integral

VALVE SIZE (G150) NPS (DN)	Diam. of Port Opening Inches (mm)	End to End Inches (mm)	Diam. of Pipe End Inches (mm)	Hand Wheel Diam. Inches (mm)	Center to Top (open) Inches (mm)	Center to Top (closed) Inches (mm)	Socket Weld Bore Inches (mm)	Socket Weld Depth Inches (mm)	Stuffing Box Depth Inches (mm)	Diam. of Bolts Inches (mm)	Approx. weight Pounds (kg)
1/4	1/4	3-1/2	1-1/2	4	6-5/8	6-5/16	.555	3/8	7/8	3/8	6
8	6	89	38	102	165	160	14	10	22	10	2.72
3/8	1/4	3-1/2	1-1/2	4	6-5/8	6-5/16	.690	3/8	7/8	3/8	6
10	6	89	38	102	165	160	10	10	22	10	2.72
1/2	3/8	3-1/2	1-1/2	4	6-5/8	6-5/16	.855	3/8	7/8	3/8	5-3/4
15	10	89	38	102	168	160	22	10	22	10	2.61
3/4	1/2	4-1/2	1-13/16	4	6-13/16	6-7/16	1.065	1/2	1	7/16	8-1/2
20	13	114	46	102	173	164	27	13	25	11	3.86
1	3/4	6-1/4	2-7/16	4-5/8	7-7/8	7-7/16	1.330	1/2	1-3/16	1/2	14-3/4
25	10	159	52	117	200	189	34	13	30	13	6.69
1-1/4	1	7-1/4	3-1/16	6-5/8	10-1/16	9-3/16	1.675	1/2	1-1/2	5/8	27
32	25	184	78	150	256	233	43	13	38	16	12.27
1-1/2	1-3/16	7-1/4	3-1/16	6-5/8	10-1/16	9-3/16	1.915	1/2	1-1/2	5/8	27
40	31	184	78	150	256	233	49	13	38	16	12.27
2	1-7/16	7-1/4	3-5/8	6-5/8	10-7/8	9-5/8	2.406	5/8	1-1/2	3/4	31
50	37	184	92	168	276	244	61	16	38	19	14.06

(G157) NPS (DN)	Inches (mm)	Inches (mm)	Inches (mm)	Inches (mm)	Inches (mm)	Inches (mm)	Inches (mm)	Inches (mm)	Inches (mm)	Pounds (kg)
1/4	1/4	3-1/2	1-1/2	4	6-9/16	6-1/8	.555	3/8	7/8	4-1/4
8	6	89	38	102	167	156	14	10	22	1.93
3/8	1/4	3-1/2	1-1/2	4	6-9/16	6-1/8	.690	3/8	7/8	4-1/4
10	6	89	38	102	167	156	16	10	22	1.93
1/2	3/8	3-1/2	1-1/2	4	6-9/16	6-1/8	.855	3/8	7/8	4
15	10	89	38	102	167	156	22	10	22	1.81
3/4	1/2	4-1/2	1-13/16	4	6-7/8	6-7/16	1.065	1/2	1	6
20	13	114	46	102	175	164	27	13	25	2.72
1	3/4	6-1/4	2-7/16	4-5/8	8-1/8	7-7/16	1.330	1/2	1-3/16	12-1/2
25	20	159	52	117	200	189	34	13	30	5.87
1-1/4	1	7-1/4	3-1/16	6-5/8	10-7/16	9-3/16	1.675	1/2	1-1/2	19-1/2
32	25	184	78	150	265	233	44	13	38	8.85
1-1/2	1-3/16	7-1/4	3-1/16	6-5/8	10-7/16	9-3/16	1.915	1/2	1-1/2	19-1/2
40	30	184	78	150	265	233	49	13	38	9.85
2	1-7/16	7-1/4	3-5/8	6-5/8	10-1/2	9-1/4	2.406	5/8	1-1/2	24
50	37	184	92	168	287	235	61	16	38	10.69



Grinnell®
FLOW CONTROL



C80 & SC80

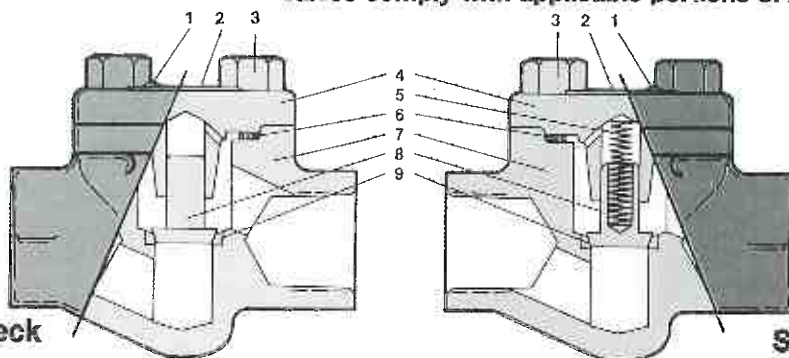
Check Valves

止回阀

**Forged Steel, Bolted Cap, Horizontal, Piston-type
Conventional Port 1/4 - 2" Threaded or Socket Weld**

API/ASME Class 800

Valves comply with applicable portions of API 602 and ASME B16.34



C80 - Piston Check

SC80 - Piston Spring Check

PART	STANDARD MATERIALS
1 Drive Screw	Steel
2 Nameplate	Aluminum
3 Hex Head Bolt	Steel, A193 B7
4 Cap	Forged Steel A105
5 Spring	302 Stainless

PART	STANDARD MATERIALS
6 Gasket	304-S.S. Flex. Graph. Comp.
7 Body	Forged Steel A105
8 Disc	420 Stainless
9 Seat	Stellite, Integral

VALVE SIZE (C80) NPS (DN)	Diam. of Port Opening Inches (mm)	End to End Inches (mm)	Center to Top of Bolts Inches (mm)	Diam. of Pipe End Inches (mm)	Socket Weld Bore Inches (mm)	Socket Weld Depth Inches (mm)	Diam. of Bolts Inches (mm)	Cracking Pressure PSI (bar)	Approx. weight Pounds (kg)
1/4	1/4	3-1/4	2	1-1/4	.555	3/8	3/8	0.3	2-1/2
8	.8	.83	.51	.32	.14	.10	.10	.020	1.13
3/8	1/4	3-1/4	2	1-1/4	.690	3/8	3/8	0.3	2-1/2
10	.8	.83	.51	.32	.18	.10	.10	.020	1.15
1/2	3/8	3-1/4	2	1-1/4	.855	3/8	3/8	0.3	2-1/4
15	1.0	.83	.51	.32	.22	.10	.10	.020	1.02
3/4	1/2	3-1/2	2-5/16	1-1/2	1.065	1/2	3/8	0.3	3-1/4
20	1.3	.89	.59	.38	.27	.13	.10	.020	1.47
1	3/4	4-1/2	2-3/8	1-13/16	1.330	1/2	7/16	0.3	5
25	1.9	1.14	.60	.46	.34	.13	.11	.020	2.27
1-1/4	1	6-1/4	3-1/8	2-7/16	1.675	1/2	1/2	0.3	10-1/2
32	2.5	1.59	.79	.62	.43	.13	.13	.020	4.76
1-1/2	1-3/16	6-1/4	3-1/8	2-7/16	1.915	1/2	1/2	0.3	10
40	3.0	1.59	.79	.62	.49	.13	.13	.020	4.54
2	1-7/16	7-1/4	3-13/16	3-1/16	2.406	5/8	5/8	0.4	18-1/4
50	3.7	1.84	.97	.78	.61	.16	.16	.027	8.28

(SC80) NPS (DN)	Inches (mm)	Inches (mm)	Inches (mm)	Inches (mm)	Inches (mm)	Inches (mm)	Inches (mm)	PSI (bar)	Pounds (kg)
1/4	1/4	3-1/4	2	1-1/4	.555	3/8	3/8	1.8	2-1/2
8	.8	.83	.51	.32	.14	.10	.10	.124	1.13
3/8	1/4	3-1/4	2	1-1/4	.690	3/8	3/8	1.8	2-1/2
10	.8	.83	.51	.32	.18	.10	.10	.124	1.13
1/2	3/8	3-1/4	2	1-1/4	.855	3/8	3/8	1.8	2-1/4
15	1.0	.83	.51	.32	.22	.10	.10	.124	1.02
3/4	1/2	3-1/2	2-5/16	1-1/2	1.065	1/2	3/8	1.0	3-1/4
20	1.3	.89	.59	.38	.27	.13	.10	.068	1.47
1	3/4	4-1/2	2-3/8	1-13/16	1.330	1/2	7/16	0.6	5
25	1.9	1.14	.60	.46	.34	.13	.11	.041	2.27
1-1/4	1	6-1/4	3-1/8	2-7/16	1.675	1/2	1/2	0.5	10-1/2
32	2.5	1.59	.79	.62	.43	.13	.13	.034	4.76
1-1/2	1-3/16	6-1/4	3-1/8	2-7/16	1.915	1/2	1/2	0.5	10
40	3.0	1.59	.79	.62	.49	.13	.13	.034	4.54
2	1-7/16	7-1/4	3-13/16	3-1/16	2.406	5/8	5/8	0.7	18-1/4
50	3.7	1.84	.97	.78	.61	.16	.16	.045	8.28



Grinnell®
FLOW CONTROL



B80 & SB80

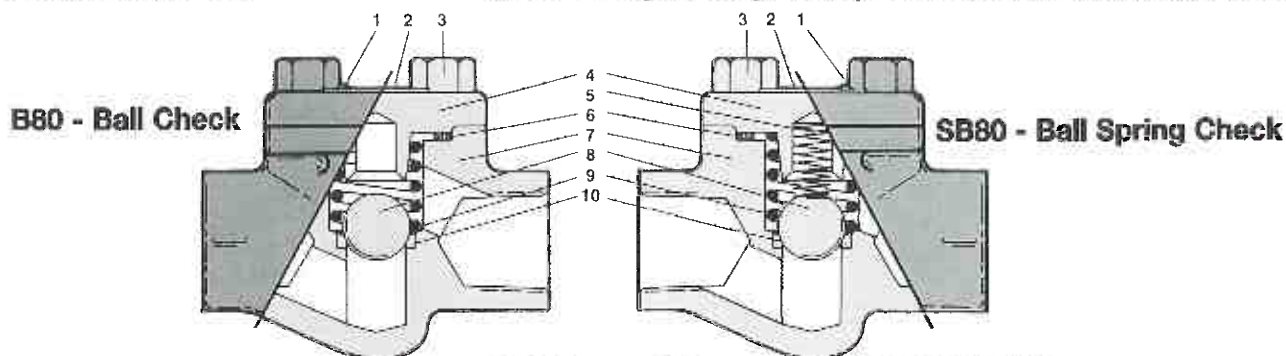
Check Valves

止回阀

**Forged Steel, Bolted Cap, Horizontal, Ball-type
Conventional Port 1/4 - 2" Threaded or Socket Weld**

API/ASME Class 800

Valves comply with applicable portions of API 602 and ASME B16.34



PART	STANDARD MATERIALS
1 Drive Screw	Steel
2 Nameplate	Aluminum
3 Hex Head Bolt	Steel, A193 B7
4 Cap	Forged Steel A105
5 Spring	302 Stainless

PART	STANDARD MATERIALS
6 Gasket	304-S.S. Flex. Graph. Comp.
7 Body	Forged Steel A105
8 Ball	440 Stainless
9 Cage	302 Stainless
10 Seat	Stellite, Integral

VALVE SIZE (B80) NPS (DN)	Diam. of Port Opening Inches (mm)	End to End Inches (mm)	Center to Top of Bolts Inches (mm)	Diam. of Pipe End Inches (mm)	Socket Weld Bore Inches (mm)	Socket Weld Depth Inches (mm)	Diam. of Bolts Inches (mm)	Cracking Pressure PSI (bar)	Approx. weight Pounds (kg)
1/4	1/4	3-1/4	2	1-1/4	.555	3/8	3/8	0.2	2-1/2
8	6	83	51	32	14	10	10	.014	1.13
3/8	1/4	3-1/4	2	1-1/4	.690	3/8	3/8	0.2	2-1/2
10	6	83	51	32	18	10	10	.014	1.13
1/2	3/8	3-1/4	2	1-1/4	.855	3/8	3/8	0.2	2-1/4
15	10	83	51	32	22	10	10	.014	1.02
3/4	1/2	3-1/2	2-5/16	1-1/2	1.065	1/2	3/8	0.3	3-1/4
20	13	89	59	38	27	13	10	.021	1.47
1	3/4	4-1/2	2-3/8	1-13/16	1.330	1/2	7/16	0.3	5
25	19	114	60	46	34	13	11	.021	2.27
1-1/4	1	6-1/4	3-1/8	2-7/16	1.675	1/2	1/2	0.4	10-1/2
32	25	159	79	62	43	13	13	.028	4.76
1-1/2	1-3/16	6-1/4	3-1/8	2-7/16	1.915	1/2	1/2	0.4	10
40	30	159	79	62	49	13	13	.028	4.54
2	1-7/16	7-1/4	3-13/16	3-1/16	2.406	5/8	5/8	0.5	18-1/4
50	37	184	97	70	61	16	16	.034	8.28

(SB80)

NPS (DN)	Inches (mm)	Inches (mm)	Inches (mm)	Inches (mm)	Inches (mm)	Inches (mm)	Inches (mm)	PSI (bar)	Pounds (kg)
1/4	1/4	3-1/4	2	1-1/4	.555	3/8	3/8	2.1	2-1/2
8	6	83	51	32	14	10	10	145	1.13
3/8	1/4	3-1/4	2	1-1/4	.690	3/8	3/8	2.1	2-1/2
10	6	83	51	32	18	10	10	145	1.13
1/2	3/8	3-1/4	2	1-1/4	.855	3/8	3/8	2.1	2-1/4
15	10	83	51	32	22	10	10	145	1.02
3/4	1/2	3-1/2	2-5/16	1-1/2	1.065	1/2	3/8	2.1	3-1/4
20	13	89	59	38	27	13	10	145	1.47
1	3/4	4-1/2	2-3/8	1-13/16	1.330	1/2	7/16	3.5	5
25	19	114	60	46	34	13	11	241	2.27
1-1/4	1	6-1/4	3-1/8	2-7/16	1.675	1/2	1/2	2.7	10-1/2
32	25	159	79	62	43	13	13	185	4.76
1-1/2	1-3/16	6-1/4	3-1/8	2-7/16	1.915	1/2	1/2	2.7	10
40	30	159	79	62	49	13	13	185	4.54
2	1-7/16	7-1/4	3-13/16	3-1/16	2.406	5/8	5/8	6.0	18-1/4
50	37	184	97	70	61	16	16	414	8.28

PRESSURE/TEMPERATURE RATINGS

温度与工作压力对比表



FORGED STEEL VALVES

Grinnell®

	CARBON STEEL 碳钢				ALLOY STEEL 合金钢				316 STAINLESS 不锈钢																
MATERIAL	A105(1) & A350-LF(2)				1½%Cr-½%Mo A182-F11(3)				5% Cr-½%Mo A182-F5				9%Cr-1%Mo A182-F9				A182-F316				A182-F316L				MATERIAL
CLASS	150 PN20	300 PN50	600 PN100	800 PN250	1500 PN250	800 PN250	1500 PN250	800 PN250	1500 PN250	800 PN250	1500 PN250	800 PN250	1500 PN250	800 PN250	1500 PN250	800 PN250	1500 PN250	800 PN250	1500 PN250	800 PN250	1500 PN250	CLASS			
TEMP. (°F/°C)	285	740	1480	1975	3705	2000	3750	2000	3750	2000	3750	2000	3750	2000	3750	2000	3750	2000	3750	2000	3750	TEMP. (°F/°C)			
-20 to 100/-30 to 40	260	675	1350	1800	3375	1900	3560	2000	3750	2000	3750	2000	3750	2000	3750	2000	3750	2000	3750	2000	3750	-20 to 100/-30 to 40			
200°F 100°C	230	655	1315	1750	3280	1795	3365	1940	3640	1940	3640	1940	3640	1940	3640	1940	3640	1940	3640	1940	3640	200°F 100°C			
300°F 150°C	200	635	1270	1690	3170	1755	3290	1880	3530	1880	3530	1880	3530	1880	3530	1880	3530	1880	3530	1880	3530	300°F 150°C			
400°F 200°C	170	600	1200	1595	2995	1710	3210	1775	3325	1775	3325	1775	3325	1775	3325	1775	3325	1775	3325	1775	3325	400°F 200°C			
500°F 250°C	140	550	1095	1460	2735	1615	3025	1615	3025	1615	3025	1615	3025	1615	3025	1615	3025	1615	3025	1615	3025	500°F 250°C			
600°F 300°C	125	535	1075	1430	2685	1570	2940	1570	2940	1570	2940	1570	2940	1570	2940	1570	2940	1570	2940	1570	2940	600°F 300°C			
650°F 350°C	110	535	1065	1420	2665	1515	2840	1515	2840	1515	2840	1515	2840	1515	2840	1515	2840	1515	2840	1515	2840	650°F 350°C			
700°F 375°C	95	505	1010	1345	2520	1420	2660	1420	2660	1420	2660	1420	2660	1420	2660	1420	2660	1420	2660	1420	2660	700°F 375°C			
750°F 400°C																						750°F 400°C			
800°F 425°C	80	410	825	1100	2060	1355	2540	1325	2485	1355	2540	1325	2485	1355	2540	1325	2485	1355	2540	1325	2485	800°F 425°C			
850°F 450°C	65	270	535	715	1340	1300	2435	1170	2195	1300	2435	1170	2195	1300	2435	1170	2195	1300	2435	1170	2195	850°F 450°C			
900°F 475°C	50	170	345	460	860	1200	2245	940	1765	1200	2245	940	1765	1200	2245	940	1765	1200	2245	940	1765	900°F 475°C			
950°F 500°C	35	105	205	275	515	1005	1885	695	1305	985	1850	695	1305	985	1850	695	1305	985	1850	695	1305	950°F 500°C			
1000°F 525°C	20	50	105	140	260	595	1115	510	960	780	1460	510	960	780	1460	510	960	780	1460	510	960	1000°F 525°C			
1050°F 550°C	A350-LF2 is suitable to -50°F/-45°C at -20°F/-30°C pressure ratings.				365	685	375	705	505	945	365	685	375	705	505	945	365	685	375	705	505	945			
1100°F 600°C					255	480	275	515	300	565	255	480	275	515	300	565	255	480	275	515	300	565	255	480	1100°F 600°C
1150°F 625°C					140	260	185	345	200	380	140	260	185	345	200	380	140	260	185	345	200	380	140	260	1150°F 625°C
1200°F 650°C					95	170	120	225	140	260	95	170	120	225	140	260	95	170	120	225	140	260	95	170	120
1250°F 675°C	Consult factory for bolting materials for applications over 1100° F/600°C. Grafoil packing & gasket must be used above 1200°F/650°C.				Consult factory for bolting materials for applications over 1100° F/600°C. Grafoil packing & gasket must be used above 1200°F/650°C.																485	910	1250°F 675°C		
1300°F 700°C																					365	685	1300°F 700°C		
1350°F 750°C																					275	515	1350°F 750°C		
1400°F 775°C																					200	380	1400°F 775°C		
1450°F 800°C																					155	290	1450°F 800°C		
1500°F 825°C																					110	205	1500°F 825°C		

▲ Data in table are maximum fluid pressures at temperatures shown in side columns per ANSI-B16.34 (1988).
User should be aware of specifications which sometimes supersede these limits.

1. Permissible, but not recommended, for prolonged use above 800°F/425°C.
2. Not to be used over 650°F/350°C.
3. Permissible, but not recommended, for prolonged use above 1100°F/600°C.

Triangle Valve Co. is a major U.K. manufacturer of cast steel valves and serves the oil, refining, petrochemical process, energy and mechanical engineering industries throughout the world.

Long life and trouble-free service under extreme operation conditions are offered by Triangle valves. Attention to valve design and strict control of all processes from foundry and forge, through manufacture to assembly and test, ensures the quality is maintained.

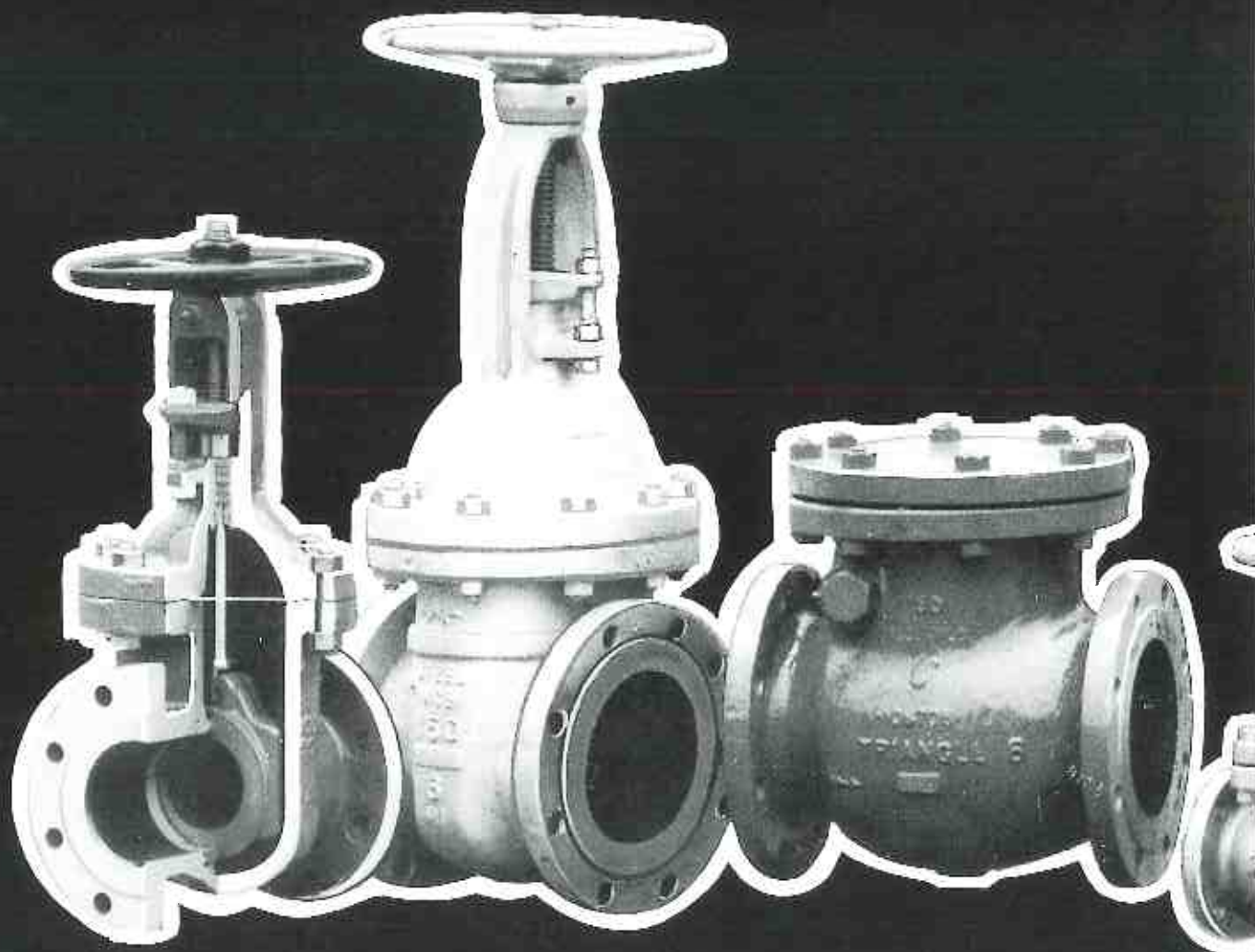
The range of steel valves is one of the largest in the Western world. Valves up to 1900mm (76") have been manufactured but valves up to 876mm (36") are the more general production range.

Extensive warehouse facilities allow Triangle to hold a wide range of valves in stock and these are further supported by components to allow speedy trim changes to be made. These include Stellite, N.A.C.E., 18-10-2, and Monel trims in particular for the more popular valve sizes.

This publication covers the more popular types of valve which Triangle produce.

The information contained in this catalogue is as accurate as possible, however no responsibility can be accepted for inaccurate or incomplete information.

We reserve the right to make changes without notification.



品质保证
Quality assurance



Triangle Valve Co. operate a programme of Quality Control to ensure that the quality demanded by designers and customers is achieved and standards maintained. The company operates a quality control system to BS5750 Part 2, ISO 9002. Quality manual available on request.

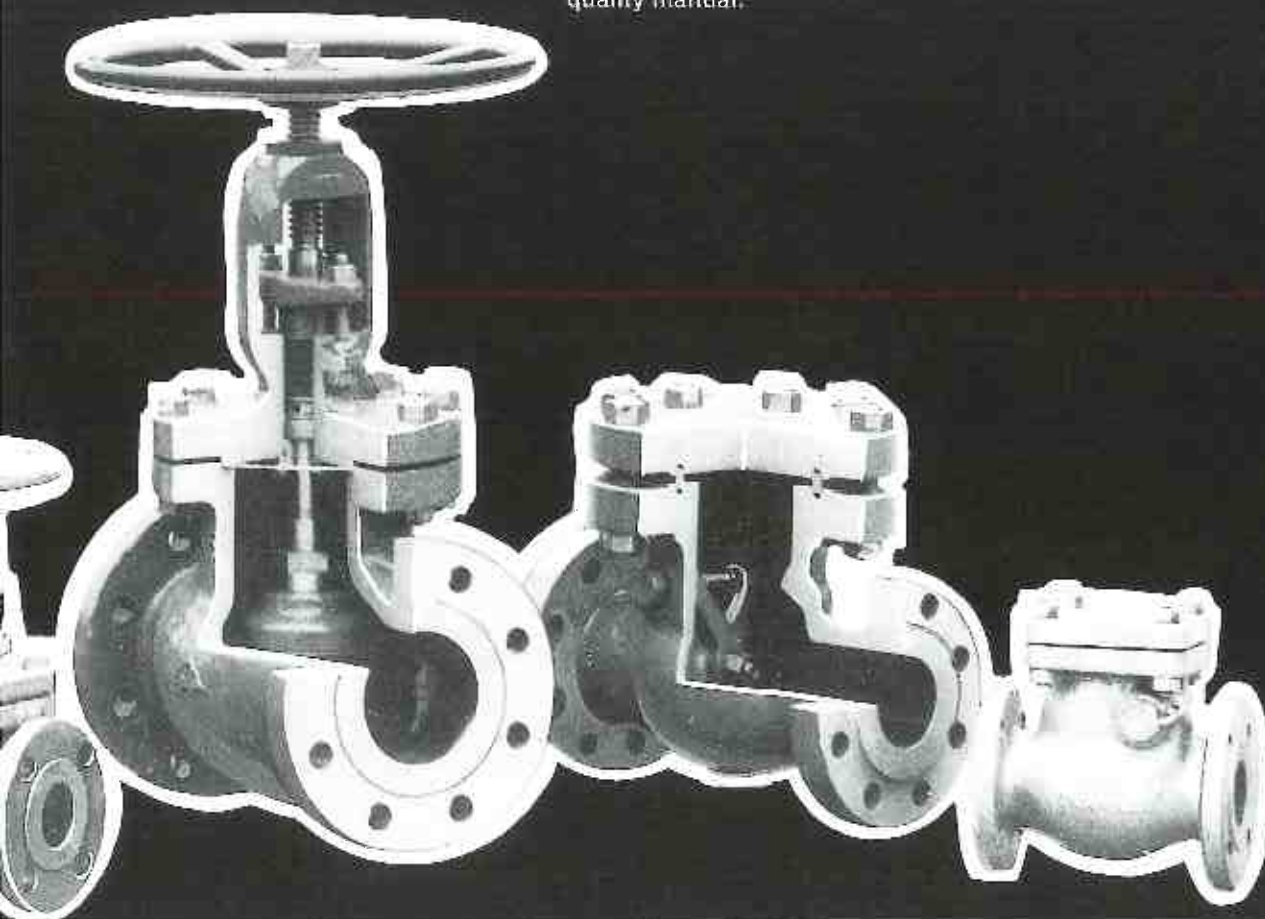
Non-destructive testing such as Dye Penetrant, Magnetic Particle is carried out 'in House' during manufacture and to meet customer requirements.

The quality control is administered by a department operating independently from manufacturing and sales, thus ensuring the authority and integrity of their operations.

Triangle Valve Co. quality procedures start with incoming castings, forgings and raw materials, which are delivered to the goods inward inspection department. The function of this department is to ensure that quality, material identification, certification and marking complies with the order and quality manual.

The same standards of inspection are applied to the manufacturing processes right through to final test and packaging for despatch. International standards such as British, American and European set the broad parameters for design, manufacture and testing of valves.

Triangle valves are used in a wide variety of markets, with differing needs. The quality control manual sets out to satisfy those needs and, in the process, meets or exceeds the requirements set by the International standards.



NOW AVAILABLE TO THE GENERAL MARKET
the Stockham - Triangle "GEOSEAL" valve offering the same technology and low emission levels as the BP "EFV" valve

"After two years of extensive research and testing, the Stockham Triangle® Valve was selected as the 'Environmental Friendly Valve' for BP Chemicals."

*Barrie Kirkman, Bsc C Eng MI Mech E
 Engineering Technology Manager
 Vessels and Piping
 BP CHEMICALS*

BP Chemicals is committed to cutting half its 1990 level of hydrocarbon emissions to the air by 1997, amounting to 18,000 tons per year. Of this total, some 7,000 tons are fugitive emissions, with valve stem emissions accounting for up to 70% of it.

BP Chemicals took the initiative to determine a cost-effective method to reduce valve leakage of fugitive emissions. They launched tests in 1993 at BP Chemicals Laboratories in Sunbury-on-Thames, Middlesex, England. Tests continued through two phases, concluding in latter 1994. Barrie Kirkman was chosen to manage the research project.

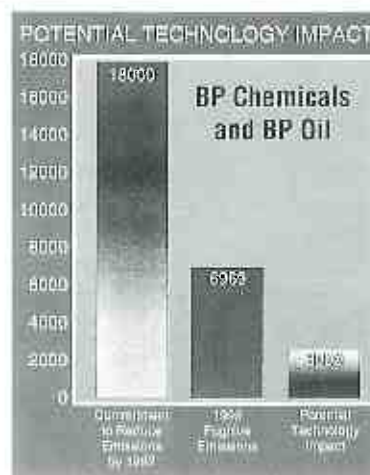
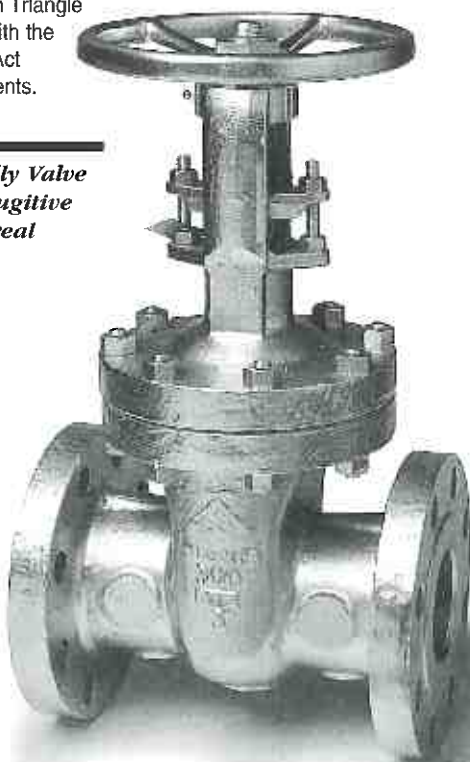
After extensive testing, Stockham Triangle Valves were selected as the Environmental Friendly Valve (EFV) for BP. The EFV combines the best in technology in valve design and manufacturing, while utilizing the best in class Garlock EVSP 9000 graphite packing and Klinger graphite body-bonnet gaskets. Testing proved that the Stockham Triangle



EFV complies with the 1995 Clean Air Act (CAA) Amendments.

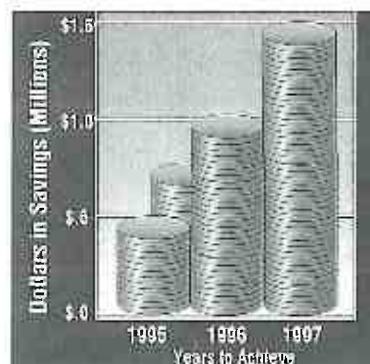
The Environmental Friendly Valve is on the cutting edge of fugitive emissions control. It's a real problem solver.

BP estimates that the EFV will reduce fugitive emissions by 43% and also result in projected production savings of \$1.5 million annually by 1997. Testing further proved that this EFV improves maintenance and reliability in the field.



Impact in reduced hydrocarbon emissions projected by BP

Every detail was given the greatest attention in the manufacturing of the valves



Projected annual savings by BP Chemicals and BP Oil, based on reduced fugitive emissions.

Stockham Triangle manufactures quality cast steel valves, certified to ISO 9001. Valves are competitively priced, thoroughly proven by independent testing and are also production tested to ensure very low leakage ppm.

Contact us for more information about

Triangle steel gate, globe and check valves are manufactured in cast steel conforming to ASTM A 216 grade WCB or in forged steel conforming to ASTM A 105. Both materials do not exceed a carbon content of 0.25%.

Valves are manufactured in a variety of other materials, including some of the more common listed below:—

Material Description	ASTM Specification	Body/Nameplate Marking	Service Recommendation
Cast carbon steel	A216 Grade WCB	WCB	Steam, water, oil, vapour, gas and general services. Temperatures –30°C to 425°C (–20°F to 800°F).
Forged carbon steel	A.105	Steel	
Cast low temperature steel	A.352 LCC/LCB	LCC/LCB	Low temperature service to –46°C (–50°F). Not for use above 340°C (650°F).
Forged low temperature steel	A.350 LF2	LF.2	
Cast low temperature steel	A.352 LC2	LC.2	Low temperature service to –73°C (–100°F). Not for use above 340°C (650°F).
Forged low temperature steel	A.350 LF3	LF.3	
Cast low temperature steel	A.352 LC3	LC.3	Low temperature service to –100°C (–150°F). Not for use above 340°C (650°F).
Forged low temperature steel	A.350 LF3	LF.3	
Cast 5% Cr. ½% Mo.	A.217 C5	C5	Corrosive – erosive refinery service at temperatures of –30°C to 650°C (–20°F to 1200°F).
Forged 5% Cr. ½% Mo.	A.182 F5	F5	
Cast 1¼% Cr. ½% Mo.	A217 Grade WC6	WC6	Steam, water, oil, oil vapour, gas and general services at temperatures –30°C to 595°C (–20°F to 1100°F).
Forged 1¼% Cr. ½% Mo.	A.182 F.11	F.11	
Cast 18% Cr. 10% Ni. 2% Mo.	A.351 Grade CF8M	CF8M	Corrosive service conditions or extreme temperatures from –200°C (–330°F) to 815°C (1500°F).
Forged 18% Cr. 10% Ni. 2% Mo.	A.182 F.316	F.316	

Gland Packing: Flexible Graphite rings with top and bottom rings of braided graphite filament packing unless otherwise stated.

Valve Trims for Cast Steel Valves

A variety of trims are available which are generally applied to the valve internal working parts.

The components below are designated as trim.
The table shows the more common trim alternatives. Others are available.

Fig No. Suffix	Gate/Disc. (i)	Seat (i)	Stem	Backseat Bush, Wedge Gate & Globe Valves	Hinge Pin & Valve Nut, Swing Check Valves	Valve Nut & Antifriction Washer, Globe Valves
P	18.10.2. (F316)	18.10.2. (F316)	18.10.2. (F316)	18.10.2. (F316)	18.10.2	18.10.2
RR	Monel	Monel	Monel	Monel	Monel	Monel
U	Stellite	Stellite	13% Cr. (F6)	13% Cr. (F6)	13% Cr. (F6)	13% Cr. (F6)
V	13% Cr. (F6)	Stellite	13% Cr. (F6)	13% Cr. (F6)	13% Cr. (F6)	13% Cr. (F6)

(i) These components will be supplied in a facing material rather than a solid component on most sizes, unless solid material is specifically stated as being the requirement.

Stellite is the trade name of the Deloro Stellite Company

Valves for 'sour' service

Valves are available with materials for critical components subject to strict hardness controls, suitable for handling sour oil and gas services. Valves are in accordance with NACE specification MR-01-75 (1980 revision) or to customer's individual specifications.

温度与工作压力比表

Pressure temperature ratings

Flanged End Valves For: Water, Steam and Oil Services

Maximum non-shock pressure: lb per sq inch / Bar

For Standard A.N.S.I. Flange Facings

TEMP °F	CARBON STEEL					CARBON-MOLYBDENUM STEEL					5% CHROME-MOLY STEEL					18% Cr. 10% Ni. 2% Mo. Stainless Steel				
CLASS	150	300	600	900	1500	150	300	600	900	1500	150	300	600	900	1500	150	300	600	900	1500
-20 to 100	285	740	1480	2220	3705	265	695	1390	2085	3470	290	750	1500	2250	3750	275	720	1440	2160	3600
200	260	675	1350	2025	3375	260	680	1360	2035	3395	280	750	1500	2250	3750	240	620	1240	1860	3095
300	230	655	1315	1970	3280	230	655	1305	1955	3260	230	730	1455	2185	3640	215	560	1120	1680	2795
400	200	635	1270	1900	3170	200	640	1280	1920	3200	200	705	1410	2115	3530	195	515	1030	1540	2570
500	170	600	1200	1795	2995	170	620	1245	1865	3105	170	665	1330	1995	3325	170	480	955	1435	2390
600	140	550	1095	1640	2735	140	605	1210	1815	3025	140	605	1210	1815	3025	140	450	905	1355	2255
650	125	535	1075	1610	2685	125	590	1175	1765	2940	125	590	1175	1765	2940	125	445	890	1330	2220
700	110	535	1065	1600	2665	110	570	1135	1705	2840	110	570	1135	1705	2840	110	430	865	1295	2160
750	95	505	1010	1510	2520	95	530	1065	1595	2660	95	530	1065	1595	2660	95	425	845	1270	2110
800	80	410	825	1235	2060	80	510	1015	1525	2540	80	500	995	1490	2485	80	415	830	1245	2075
850	65	270	535	805	1340	65	485	975	1460	2435	65	440	880	1315	2195	65	405	810	1215	2030
900	* 50	170	345	515	860	50	450	900	1350	2245	50	355	705	1060	1765	50	395	790	1180	1970
950	* 35	105†	205†	310†	515†	35	280†	560†	845†	1405†	35	260	520	780	1305	35	385	775	1160	1930
1000	* 20†	50†	105†	155†	260†	20†	165†	330†	495†	825†	20	190	385	575	960	20	365	725	1090	1820
1050												140	280	420	705		360	720	1080	1800
1100												105	205	310	515		325	645	965	1610
1150												70	140	205	345		275	550	825	1370
1200												45	90	135	225		205	410	620	1030

† TEST PRESSURES: lb per sq inch

BODY	450	1125	2225	3350	5575	400	1050	2100	3150	5225	450	1125	2250	3375	5625	425	1100	2175	3250	5400
SEAT	314	814	1628	2442	4076	292	765	1529	2294	3817	319	825	1650	2475	4125	303	792	1584	2376	3960

TEMP °C	CARBON STEEL					CARBON-MOLYBDENUM STEEL					5% CHROME-MOLY STEEL					18% Cr. 10% Ni. 2% Mo. Stainless Steel				
CLASS	150	300	600	900	1500	150	300	600	900	1500	150	300	600	900	1500	150	300	600	900	1500
-29 to 38	19.6	51.1	102.1	153.2	255.3	18.4	47.9	95.8	143.6	239.4	20.0	51.7	103.4	155.2	258.6	19.0	49.6	99.3	148.9	248.1
50	19.2	50.1	100.2	150.2	250.4	18.3	47.6	95.3	142.9	238.2	19.2	51.7	103.4	155.2	258.6	18.4	48.1	96.3	144.4	240.6
100	17.7	46.4	92.8	139.1	231.9	17.7	46.6	93.2	139.8	233.0	17.7	51.5	103.1	154.6	257.7	16.2	42.2	84.4	126.6	211.0
150	15.8	45.2	90.6	135.7	226.1	15.8	45.0	89.9	134.9	224.8	15.8	50.2	100.4	150.6	251.0	14.8	38.5	77.0	115.5	192.5
200	14.0	43.8	87.6	131.5	219.1	14.0	44.2	88.4	132.6	221.0	14.0	48.8	97.6	146.4	243.9	13.7	35.7	71.3	107.0	178.4
250	12.1	41.7	83.4	125.2	208.6	12.1	43.1	86.2	129.2	215.4	12.1	46.3	92.7	139.0	231.7	12.1	33.4	66.8	100.2	166.9
300	10.2	38.7	77.5	116.2	193.7	10.2	42.0	84.1	126.1	210.1	10.2	42.4	84.9	127.3	212.1	10.2	31.6	63.3	94.9	158.1
350	8.4	37.0	73.9	110.9	184.8	8.4	40.2	80.5	120.7	201.1	8.4	40.2	80.5	120.7	201.2	8.4	30.4	60.8	91.3	152.1
375	7.4	36.5	72.9	109.4	182.3	7.4	38.8	77.6	116.4	194.0	7.4	38.8	77.6	116.4	194.0	7.4	29.7	59.4	89.1	148.5
400	6.5	34.5	69.0	103.5	172.5	6.5	36.6	73.2	109.8	182.9	6.5	36.6	73.2	109.8	182.9	6.5	29.1	58.2	87.3	145.6
425	5.6	28.8	57.5	86.3	143.8	5.6	35.1	70.2	105.3	175.5	5.6	34.5	69.0	103.5	172.5	5.6	28.7	57.3	86.0	143.3
450	4.7	20.0	40.1	60.1	100.2	4.7	33.8	67.6	101.4	169.0	4.7	30.9	61.8	92.7	154.5	4.7	28.1	56.2	84.2	140.4
475	* 3.7	13.5	27.1	40.6	67.7	3.7	31.7	63.3	95.0	158.3	3.7	25.9	51.8	77.7	129.5	3.7	27.4	54.7	82.1	136.8
500	* 2.8	8.8†	17.6†	26.4†	44.0†	2.8	24.1†	48.1†	72.2†	120.3†	2.8	20.3	40.5	60.8	101.3	2.8	26.8	53.7	80.5	134.1
525	* 1.9	5.2†	10.4†	15.5†	25.9†	1.9	15.0†	30.1†	45.1†	75.2†	1.9	15.4	30.8	46.3	77.1	1.9	26.3	52.6	78.9	131.5
540	* 1.3†	3.3†	6.5†	9.8†	16.3†	1.3†	10.7†	21.4†	32.1†	53.5†	1.3	11.7	23.4	35.0	58.4	1.3	25.0	49.9	74.9	124.8
575												8.8	17.6	26.4	44.1		24.1	48.2	72.3	120.5
600												6.5	13.1	19.6	32.6		21.4	42.9	64.3	107.2
625												4.5	9.0	13.5	22.5		18.3	36.5	58.4	91.3
650												3.0	6.0	9.0	15.0		14.1	28.2	42.4	70.6

† TEST PRESSURES: Bar

BODY	30	77	154	230	383	28	72	144	216	360	30	78	156	233	388	29	75	149	224	373
SEAT	21.6	56.3	112.4	168.6	280.9	20.3	52.7	105.4	158.0	263.4	22	56.9	113.8	170.8	284.5	20.9	54.6	109.3	163.8	273.1

* To be used on Oil Service only. † Consideration should be given to scaling due to oxidation. ‡ Hydrostatic Tests carried out with water.

Stem threads on popular sizes are produced by thread rolling for higher strength and better surface finish to improve operating efficiency.

Stem manufactured in wrought stainless steel for strength and a superior surface finish to ensure good stuffing box sealing and reduce opening/closing friction loads.

Gland packing of braided construction for high temperatures eliminates corrosion in the stuffing box by incorporation of a sacrificial metal.

Seat rings with a long thread engagement in the body prevents leakage between seat and body. The robust seat allows trim changes from hard facing to PTFE soft seat inserts without a change in the seat size, and ensures positive shut-off.

Body guides are extra long to ensure gate alignment and support under conditions of large loads, due to high fluid velocities in the part open gate positions. Proper gate positioning reduces seal wear and operating torque.

Body and bonnet wall thickness conforms to international standards. The contours are designed to give the optimum flow characteristics through the body, and in co-operation with our foundry to give maximum strength and rigidity, coupled with good castability and quality.

Flexible wedge to give positive shut-off at lower stem torques even under conditions of thermal cycling or pipe stress.



**Fig. 1822 Flanged
1722 Butt Weld**

Conforms to—
B.S.1414 and A.P.I.600

Specification

Cast carbon steel wedge gate valve, outside screw and yoke; bolted bonnet; rising stem; solid wedge; renewable seats; 13% chrome stainless steel trim. Alternative body and trim materials are available. Solid wedge can be replaced by a flexible wedge. Flanges to BS 1560, Class 150 and ANSI B 16.5—1977, Class 150. Butt weld ends are available as an alternative.

Pressure/Temperature Rating

For pressure/temperature ratings and test pressures see page 9.

Valve Selection

Some applications, for example steam or heat transfer services, may require different materials and trim to the standard construction of WCB steel bodies/bonnets and 13% Cr (F6) trim. Refer to page 8, but if in doubt contact Triangle supplying the information requested on page 5 of this brochure.

Material Specifications

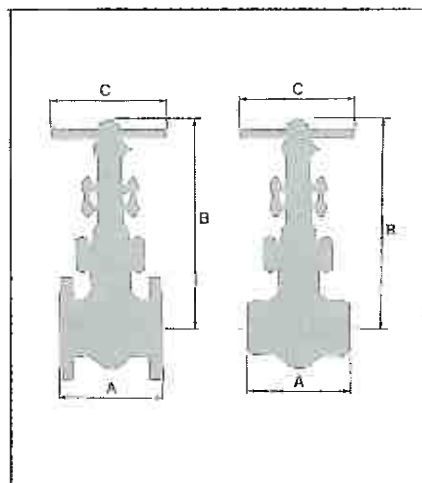
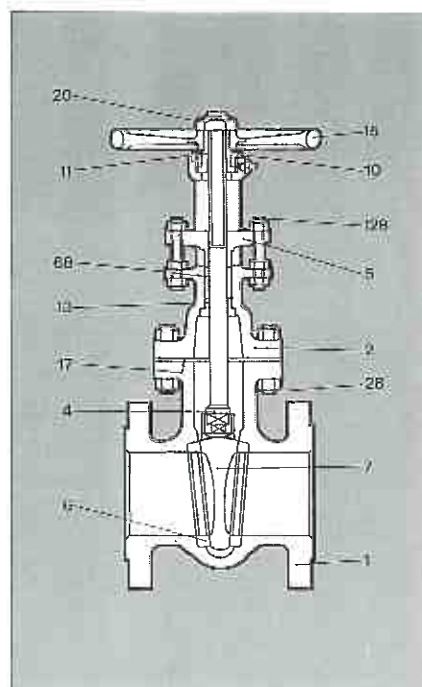
REF	Component	Material	BS Spec.	ASTM Spec.
1	Body	Carbon Steel	1504-161 Gr.480	A216 Gr. WCB
2	Bonnet	Carbon Steel	1504-161 Gr.480	A216 Gr. WCB
4	Stem	13% Cr. (F6) Stainless Steel	1506-713	A182 Gr. F6A
5	Gland	13% Cr. (F6) Stainless Steel	1506-713	A182 Gr. F6A
6	Seat	Hard Faced Deposited		
7	Wedge	13% Cr. (F6) Stainless Steel	1506-713	A182 Gr. F6A
10	Cap Nut	Steel	970-070 M20	A575 Gr. 1020
11	Sleeve	Austenitic SG Iron	3468 Gr. S2	A439 Gr. D2
13	Backseat Bush	13% Cr. (F6) Stainless Steel	1506-713	A182 Gr. F6A
15	Handwheel	Malleable Cast Iron		
17	Gasket	Corrugated Soft Steel		
20	Sleeve Nut	Steel	970-070 M20	A575 Gr. 1020
28	Bonnet Studs	Alloy Steel	4882 Gr. B7	A193 Gr. B7
	Bonnet Nuts	Carbon Steel	4882 Gr. 2H	A194 Gr. 2H
68	Packing	Graphite (see page 8)		
128	Gland Studs	Alloy Steel	4882 Gr. B7	A193 Gr. B7
	Gland Nuts	Carbon Steel	4882 Gr. 2H	A194 Gr. 2H

Cover Yoke Assembly replaces bonnet on 18" size and larger. Fabricated steel handwheel fitted on 10" size and larger. Wedges 8" and larger are 13% Cr. (F6) Stainless Steel. Deposited. Seats up to and including 12" size – Stellite deposited on MS 14" and upwards 13% Cr. on MS.

Dimensions

Details of sizes above 20" Class 150 see page 12.

Nominal Size		2	2½	3	4	6	8	10	12	14	16	18	20
Bore	ins	2	2½	3	4	6	8	10	12	13¼	15¼	17¼	19¼
	mm	50	65	80	100	150	200	250	300	336	387	438	489
A(Flanged RF)	ins	7	7½	8	9	10½	11½	13	14	15	16	17	18
	mm	178	190	203	229	267	292	330	356	381	406	432	457
A(Butt Weld)	ins	8½	9½	11½	12	15½	16½	18	19¾	22½	24	26	28
	mm	216	241	282	305	403	419	457	502	571	609	661	711
B(Closed)	ins	11¾	13¼	15	18¾	24¾	31¼	35½	43¾	47¾	54½	61¾	69¾
	mm	298	337	381	467	619	793	902	1101	1213	1384	1568	1755
B(Open)	ins	14¾	16¼	18½	22¼	30¾	40	45¾	56	62	70¾	82	90¾
	mm	359	412	470	578	784	1015	1165	1422	1575	1793	2082	2301
C	ins	8	8	9	10	12	15	18	21	24	24	27	27
	mm	203	203	229	254	305	381	457	533	610	610	686	686
Flanged	lbs	41	66	68	102	170	345	496	780	1040	1420	1800	2500
Weights	kg	19	30	31	46	77	157	225	354	473	644	818	1136



楔形闸阀 Wedge Gate Valves

Class 150

**Fig. BG 1822 Flanged
BG 1722 Butt Weld**

Conforms to—
B.S. 1414 and A.P.I. 600

Specification

Cast carbon steel wedge gate valve, outside screw and yoke; bolted bonnet; rising stem; solid wedge; renewable seats; 13% chrome stainless steel trim. Valves 24" and larger are fitted with a bevel gear unit.

Alternative body and trim materials are available. Solid wedge can be replaced by a flexible wedge. Flanges to BS 1560, Class 150 and ANSI B 16.5—1977, Class 150. Butt weld ends are available as an alternative.

Flanges for 30" & 36" to BS 3293 or MSS-SP-44

Pressure/Temperature Rating

For pressure/temperature ratings and test pressures see page 9.

Valve Selection

Some applications, for example steam or heat transfer services, may require different materials and trim to the standard construction of WCB steel bodies/bonnets and 13% Cr (F6) trim. Refer to page 8, but if in doubt contact Triangle supplying the information requested on page 5 of this brochure.

Material Specifications

REF	Component	Material	BS Spec.	ASTM Spec.
1	Body	Carbon Steel	1504-161 Gr. 480	A216 Gr. WCB
2	Yoke	Carbon Steel	1504-161 Gr. 480	A216 Gr. WCB
3	Cover	Carbon Steel	1504-161 Gr. 480	A216 Gr. WCB
4	Stem	13% Cr. (F6) Stainless Steel	1506-713	A182 Gr. F6A
5	Gland	Carbon Steel	970-070 M20	A575 Gr. 1020
6	Seat	13% Cr. (F6) Stainless Steel Deposited	1506-713	A182 Gr. F6A
7	Wedge	13% Cr. (F6) Stainless Steel Deposited	1506-713	A182 Gr. F6A
13	Backseat Bush	13% Cr. (F6) Stainless Steel	1506-713	A182 Gr. F6A
15	Handwheel	Fabricated Steel		
17	Gasket	Corrugated Soft Steel		
28	Bonnet Studs	Alloy Steel	4882 Gr. B7	A193 Gr. B7
	Bonnet Nuts	Carbon Steel	4882 Gr. 2H	A194 Gr. 2H
30	Gland Plate	Carbon Steel	1501-161 Gr. 28	A516 Gr. 60
68	Packing	Graphite (see page 8)		
128	Gland Studs	Alloy Steel	4882 Gr. B7	A193 Gr. B7
	Gland Nuts	Carbon Steel	4882 Gr. 2H	A194 Gr. 2H

30" size and above fitted with a Compressed Asbestos Fibre, Wire Reinforced Gasket.

Dimensions

Nominal Size	24	30	36
Bore	ins 23 1/4	29 1/4	35 1/4
	mm 590	743	895
A(Flanged RF)	ins 20	24	28
	mm 508	610	711
A(Butt Weld)	ins 32	39	48
	mm 813	991	1219
B(Closed)	ins BG	BG	BG
	mm /	/	/
B(Open)	ins 136	168 1/2	199 1/2
	mm 3454	4286	5067
C	ins 32	32	32
	mm 812	812	812
Flanged	lbs 3791	5775	6060
Weights	kg 1723	2625	3118

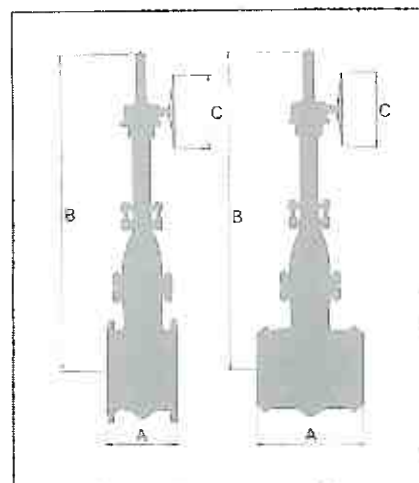
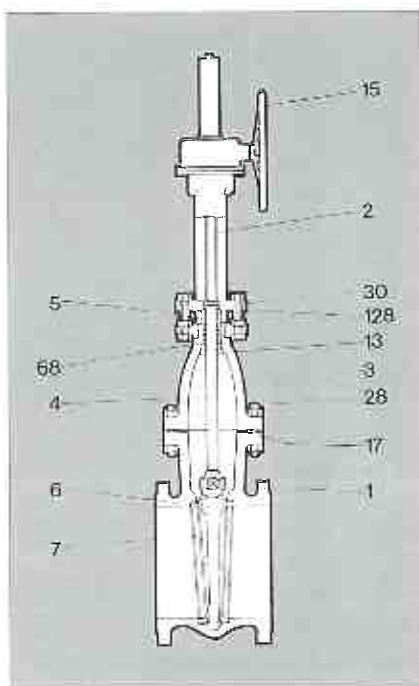


Fig. 3822 Flanged
3722 Butt WeldConforms to—
B.S. 1414 and A.P.I. 500**Specification**

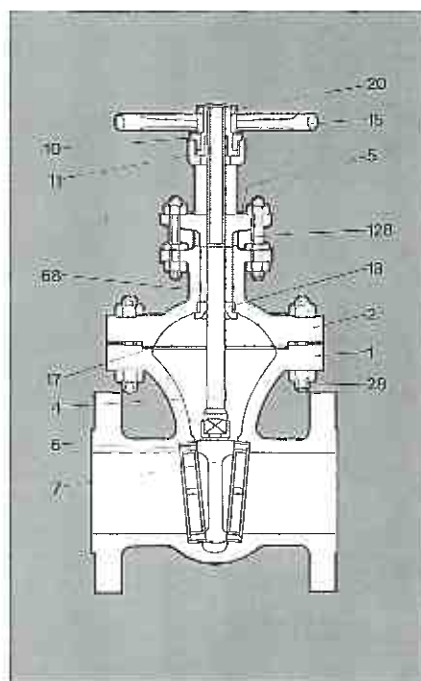
Cast carbon steel wedge gate valve, outside screw and yoke; bolted bonnet; rising stem; solid wedge; renewable seats; 13% chrome stainless steel trim. Alternative body and trim materials are available. Solid wedge can be replaced by a flexible wedge. Flanges to BS 1560, Class 300 and ANSI B16.5—1977, Class 300. Butt weld ends are available as an alternative.

Pressure/Temperature Rating

For pressure/temperature ratings and test pressures see page 9.

Valve Selection

Some applications, for example steam or heat transfer services, may require different materials and trim to the standard construction of WCB steel bodies/bonnets and 13% Cr (F6) trim. Refer to page 8, but if in doubt contact Triangle supplying the information requested on page 5 of this brochure.

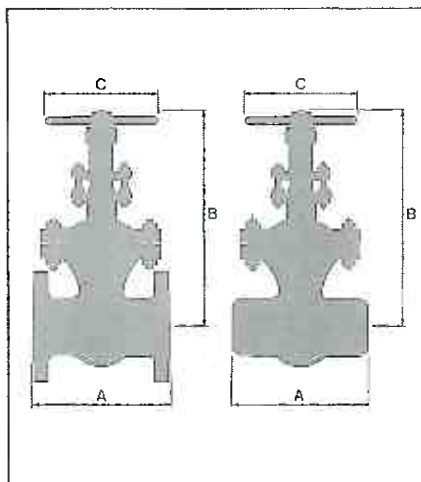
**Material Specifications**

REF	Component	Material	BS Spec.	ASTM Spec.
1	Body	Carbon Steel	1504-161 Gr.480	A216 Gr. WCB
2	Bonnet	Carbon Steel	1504-161 Gr.480	A216 Gr. WCB
4	Stem	13% Cr. (F6) Stainless Steel	1506-713	A182 Gr. F6A
5	Gland	13% Cr. (F6) Stainless Steel	1506-713	A182 Gr. F6A
6	Seat	Hard Faced Deposited		
7	Wedge	13% Cr. (F6) Stainless Steel	1506-713	A182 Gr. F6A
10	Cap Nut	Steel	970-070 M20	A575 Gr. 1020
11	Sleeve	Austenitic SG Iron	3468 Gr. S2	A439 Gr. D2
13	Backseat Bush	13% Cr. (F6) Stainless Steel	1506-713	A182 Gr. F6A
15	Handwheel	Fabricated Steel		
17	Gasket	SS/Graphite Spiral Wound		
20	Sleeve Nut	Steel	970-070 M20	A575 Gr. 1020
28	Bonnet Studs	Alloy Steel	4882 Gr. B7	A193 Gr. B7
	Bonnet Nuts	Carbon Steel	4882 Gr. 2H	A194 Gr. 2H
68	Packing	Graphite (see page 8)		
128	Gland Studs	Alloy Steel	4882 Gr. B7	A193 Gr. B7
	Gland Nuts	Carbon Steel	4882 Gr. 2H	A194 Gr. 2H

2" to 6" sizes are fitted with malleable iron handwheels. Cover, Yoke Assembly replaces Bonnet on 18" size and above. Wedges 8" and larger are 13% Cr. (F6) Stainless Steel Deposited. Seats up to 12" size incl. Stellite deposit on MS. 14" and upwards - 13% Cr. deposit on MS. 14" Gasket - Corrugated soft steel asbestos filled (double jacketed).

Dimensions Details of sizes above 14" Class 300 see page 14.

Nominal Size	2	2½	3	4	6	8	10	12	14
Bore	ins	2	2½	3	4	6	8	10	12 13¼
	mm	50	65	80	100	150	200	250	300 336
A(Flanged RF)	ins	8½	9½	11½	12	15½	16½	18	19¾ 30
	mm	216	241	283	305	403	419	457	502 762
A(Butt Weld)	ins	8½	9½	11½	12	15½	16½	18	19¾ 30
	mm	216	241	283	305	403	419	457	502 762
B(Closed)	ins	12½	14	16	19¾	26½	33½	40½	47¼ 50¾
	mm	315	356	406	492	673	851	1019	1200 1289
B(Open)	ins	14¾	17	19½	23¾	33	42½	50¾	60 58
	mm	372	432	495	603	838	1080	1289	1524 1473
C	ins	8	8	9	10	15	18	21	24 24
	mm	203	203	229	254	381	457	533	610 610
Flanged	lbs	57	85	95	156	336	666	900	1330 1650
Weights	kg	26	39	43	71	153	303	409	604 750



**Fig. BG 3822 Flanged
BG 3722 Butt Weld**

Conforms to:—
B.S.1414 and A.P.1600

Specification

Cast carbon steel wedge gate valve, outside screw and yoke; bolted bonnet; rising stem; solid wedge; renewable seats; 13% chrome stainless steel trim. Valves 16" and larger are fitted with a bevel gear unit.

Alternative body and trim materials are available. Solid wedge can be replaced by a flexible wedge. Flanges to BS 1560, Class 300 and ANSI B 16.5—1977 Class 300 Butt weld ends are available as an alternative.

Flanges on size 30" to BS 3293 or MSS-SP-44.

Pressure/Temperature Rating

For pressure/temperature ratings and test pressures see page 9.

Valve Selection

Some applications, for example steam or heat transfer services, may require different materials and trim to the standard construction of WCB steel bodies/bonnets and 13% Cr. (F6) trim. Refer to page 8, but if in doubt contact Triangle supplying the information requested on page 5 of this brochure.

Material Specifications

REF	Component	Material	BS Spec.	ASTM Spec.
1	Body	Carbon Steel	1504-161 Gr.480	A216 Gr. WCB
2	Yoke	Carbon Steel	1504-161 Gr.480	A216 Gr. WCB
3	Cover	Carbon Steel	1504-161 Gr.480	A216 Gr. WCB
4	Stem	13% Cr. (F6) Stainless Steel	1506-713	A182 Gr. F6A
5	Gland	Carbon Steel	970-070 M20	A575 Gr. 1020
6	Seat	13% Cr. (F6) Stainless Steel Deposited	1506-713	A182 Gr. F6A
7	Wedge	13% Cr. (F6) Stainless Steel Deposited	1506-713	A182 Gr. F6A
13	Backseat Bush	13% Cr. (F6) Stainless Steel	1506-713	A182 Gr. F6A
15	Handwheel	Fabricated Steel		
17	Gasket	SS/Graphite Spiral Wound		
28	Bonnet Studs	Alloy Steel	4882 Gr. B7	A193 Gr. B7
	Bonnet Nuts	Carbon Steel	4882 Gr. 2H	A194 Gr. 2H
30	Gland Plate	Carbon Steel	1501-161 Gr. 28	A516 Gr. 60
68	Gland Packing	Graphite (see page 8)		
128	Gland Studs	Alloy Steel	4882 Gr. B7	A193 Gr. B7
	Gland Nuts	Carbon Steel	4882 Gr. 2H	A194 Gr. 2H

Dimensions

Nominal Size	16	18	20	24	30
Bore	ins 15 1/4	17	19	23	29
	mm 387	432	483	584	737
A(Flanged RF)	ins 33	36	39	45	55
	mm 838	914	991	1143	1397
A(Butt Weld)	ins 33	36	39	45	55
	mm 838	914	991	1143	1397
B(Closed)	ins BG	BG	BG	BG	BG
	mm /	/	/	/	/
B(Open)	ins 92 1/4	118	122 1/2	138	172 1/4
	mm 2343	2997	3111	3505	4375
C	ins 24	24	30	30	30
	mm 610	610	762	762	762
Flanged	lbs 2278	3220	4264	6770	13426
Weights	kg 1035	1464	1938	3077	6103

**Fig. 6822 Flanged
6722 Butt Weld**

Conforms to:
D.S.1414 and A.P.I. 600

Specification

Cast carbon steel wedge gate valve, outside screw and yoke; bolted bonnet; rising stem; solid wedge; renewable seats; 13% chrome stainless steel trim. Valves 14" and larger are fitted with a bevel gear unit. Figure numbers will change from 6822 to BG 6822.

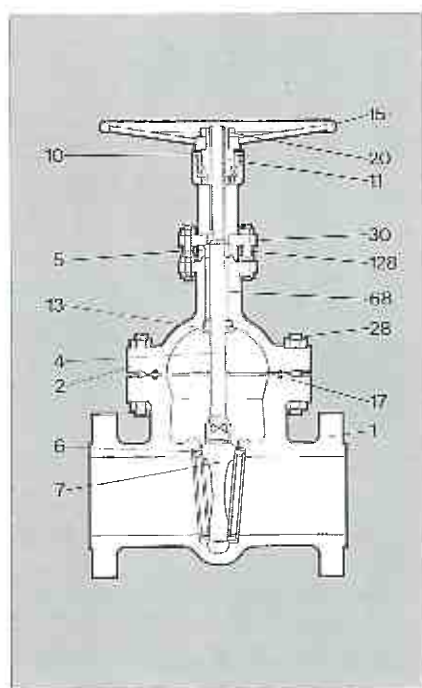
Alternative body and trim materials are available. Solid wedge can be replaced by a flexible wedge. Flanges to BS 1560, Class 600 and ANSI B16.5—1977, Class 600. R.T.J. Flanges and Butt weld ends are available as an alternative.

Pressure/Temperature Rating

For pressure/temperature ratings and test pressures see page 9.

Valve Selection

Some applications, for example steam or heat transfer services, may require different materials and trim to the standard construction of WCB steel bodies/bonnets and 13% Cr. (F6) trim. Refer to page 8, but if in doubt contact Triangle supplying the information requested on page 5 of this brochure.



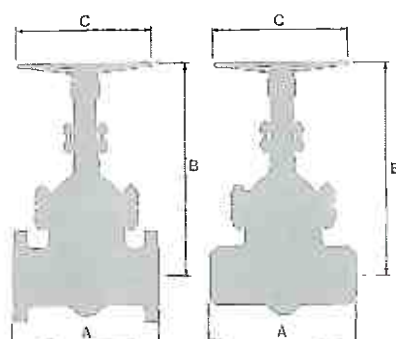
Material Specifications

REF	Component	Material	BS Spec.	ASTM Spec.
1	Body	Carbon Steel	1504-161 Gr.480	A216 Gr. WCB
2	Bonnet	Carbon Steel	1504-161 Gr.480	A216 Gr. WCB
4	Stem	13% Cr. (F6) Stainless Steel	1506-713	A182 Gr. F6A
5	Gland	13% Cr. (F6) Stainless Steel	1506-713	A182 Gr. F6A
6	Seat	Hard Faced Deposited		
7	Wedge	13% Cr. (F6) Stainless Steel	1506-713	A182 Gr. F6A
10	Cap Nut	Steel	970-070 M20	A575 Gr. 1020
11	Sleeve	Austenitic SG Iron	3468 Gr. S2	A439 Gr. D2
13	Backseat Bush	13% Cr. (F6) Stainless Steel	1506-713	A182 Gr. F6A
15	Handwheel	Fabricated Steel		
17	Joint Ring	Soft Steel		
20	Sleeve Nut	Steel	970-070 M20	A575 Gr. 1020
28	Bonnet Studs	Alloy Steel	4882 Gr. B7	A193 Gr. B7
	Bonnet Nuts	Carbon Steel	4882 Gr. 2H	A194 Gr. 2H
30	Gland Plate	Carbon Steel	1501-161 Gr. 28	A516 Gr. 60
68	Packing	Graphite (see page 8)		
128	Gland Studs	Alloy Steel	4882 Gr. B7	A193 Gr. B7
	Gland Nuts	Carbon Steel	4882 Gr. 2H	A194 Gr. 2H

2" & 3" have Malleable Cast Iron Handwheels. Sizes below 6" have a SS/Graphite spiral wound. Gasket Wedges 6" and larger are 13% Cr. (F6) Stainless Steel Deposited. Valves 14" and larger are fitted with Bevel Gear and figure number becomes BG 6822. Cover-Yoke assembly replaces Bonnet on 18" and larger. Seats up to and including 6" size - Stellite deposited. 8" and upwards 13% Cr. on MS.

Dimensions

Nominal Size	2	2½	3	4	6	8	10	12	14	16	18	20	24
Bore	ins 2	2½	3	4	6	8	10	11 11/16	13	15	17	18½	22½
	mm 50	65	80	100	150	200	250	300	330	381	432	470	575
A(Flanged RF)	ins 11½	13	14	17	22	26	31	33	35	39	43	47	55
	mm 292	330	356	432	559	660	787	838	889	991	1092	1192	1397
A(Butt Weld)	ins 11½	13	14	17	22	26	31	33	35	39	43	47	55
	mm 292	330	356	432	559	660	787	838	889	991	1092	1192	1397
B(Closed)	ins 13½	17½	17½	24¾	31¾	38¾	43¾	54½	BG	BG	BG	BG	BG
	mm 340	435	454	629	806	984	1102	1384	/	/	/	/	/
B(Open)	ins 15¾	20½	21¼	29¼	38½	47¾	55	67	96	100	117	142	163
	mm 400	521	540	743	978	1213	1397	1702	2438	2540	2972	3606	4140
C	ins 8	10	10	15	21	21	24	27	30	30	30	24	30
	mm 203	254	254	381	533	533	610	686	762	762	762	610	762
Flanged	lbs 68	120	144	319	610	1030	1856	2280	2504	3730	5048	7620	12580
Weights	kg 31	54	65	146	277	468	844	1036	1179	1695	2294	3464	5718



**Fig. 9822 Flanged
9722 Butt Weld**

Conforms to:—
B.S. 1414 and A.P.I. 600

Specification

Cast carbon steel wedge gate valve, outside screw and yoke; bolted bonnet; rising stem; solid wedge; renewable seats; 13% chrome stainless steel trim. Valves 10" and larger are fitted with a bevel gear unit and supplied with pressure-seal body-cover design. Figure numbers will change from 9822 to BG 9822.

Alternative body and trim materials are available. Solid wedge can be replaced by a flexible wedge. Flanges to BS 1560, Class 900 and ANSI B 16.5—1977, Class 900. R.T.J. Flanges and Butt weld ends are available as an alternative.

Pressure/Temperature Rating

For pressure/temperature ratings and test pressures see page 9.

Valve Selection

Some applications, for example steam or heat transfer services, may require different materials and trim to the standard construction of WCB steel bodies/bonnets and 13% Cr. (F6) trim. Refer to page 8, but if in doubt contact Triangle supplying the information requested on page 5 of this brochure.

Material Specifications

REF	Component	Material	BS Spec.	ASTM Spec.
1	Body	Carbon Steel	1504-161 Gr. 480	A216 Gr. WCB
2	Bonnet	Carbon Steel	1504-161 Gr. 480	A216 Gr. WCB
4	Stem	13% Cr. (F6) Stainless Steel	1506-713	A182 Gr. F6A
5	Gland	Carbon Steel	970-070 M20	A575 Gr. 1020
6	Seat	13% Cr. (F6) Stainless Steel Dep'd	1506-713	A182 Gr. F6A
7	Wedge	13% Cr. (F6) Stainless Steel Dep'd	1506-713	A182 Gr. F6A
10	Cap Nut	Steel	970-070 M20	A575 Gr. 1020
11	Sleeve	Austenitic SG Iron	3468 Gr. S2	A439 Gr. D2
13	Backseat Bush	13% Cr. (F6) Stainless Steel	1506-713	A182 Gr. F6A
15	Handwheel	Fabricated Steel		
17	Joint Ring	Soft Steel		
20	Sleeve Nut	Steel	970-070 M20	A575 Gr. 1020
28	Bonnet Studs	Alloy Steel	4882 Gr. B7	A193 Gr. B7
	Bonnet Nuts	Carbon Steel	4882 Gr. 2H	A194 Gr. 2H
30	Gland Plate	Carbon Steel	1501-161 GR 28	A516 Gr. 60
68	Packing	Graphite (see page 8)		
128	Gland Studs	Alloy Steel	4882 Gr. B7	A193 Gr. B7
	Gland Nuts	Carbon Steel	4882 Gr. 2H	A194 Gr. 2H

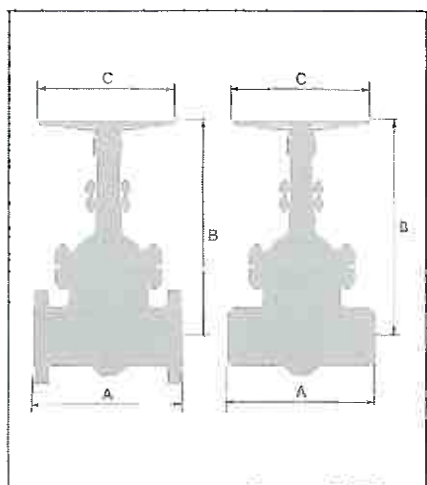
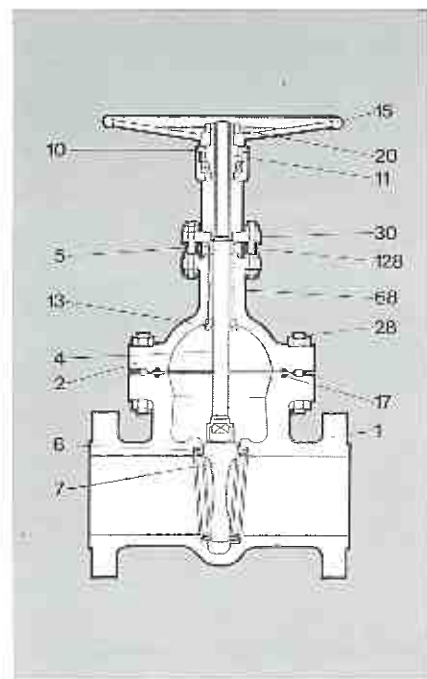
Cover, Yoke Assembly replaces Bonnet on 10" size and larger.

Valves 10" and larger are fitted with bevel gear and figure number becomes BG 9822.

Valves 10" and larger are fitted with Pressure Seal Ring.

Dimensions

Nominal Size		2½	3	4	6	8	10	12
Bore	ins	2½	3	4	5¼	7½	9½	11½
	mm	65	80	100	146	190	240	283
A(Flanged RF)	ins		15	18	24	29	33	38
	mm		381	457	610	737	838	965
A(Butt Weld)	ins		15	18	24	29	33	38
	mm		381	457	610	737	838	965
B(Closed)	ins		22½	24¾	33	42¾	BG	BG
	mm		562	619	838	1086	/	/
B(Open)	ins		26	29¾	39½	51¼	74¾	93¾
	mm		660	756	1003	1302	1897	2378
C	ins		15	18	24	27	30	30
	mm		381	457	610	686	762	762
Flanged	lbs		290	435	886	1540	2480	3580
Weights	kg		132	198	403	700	1127	1627



楔形闸阀 Wedge Gate Valves

Class 1500

**Fig. BG 15822 Flanged
BG 15722 Butt Weld**

Conforms to—
B.S. 1414 and A.P.I. 600

Specification

Cast carbon steel wedge gate valve, outside screw and yoke; bolted bonnet; rising stem; solid wedge; renewable seats; 13% chrome stainless steel trim. Valves 6" and larger are fitted with a bevel gear unit and supplied with pressure-seal body-cover design. Figure numbers will change from 15822 to BG 15822.

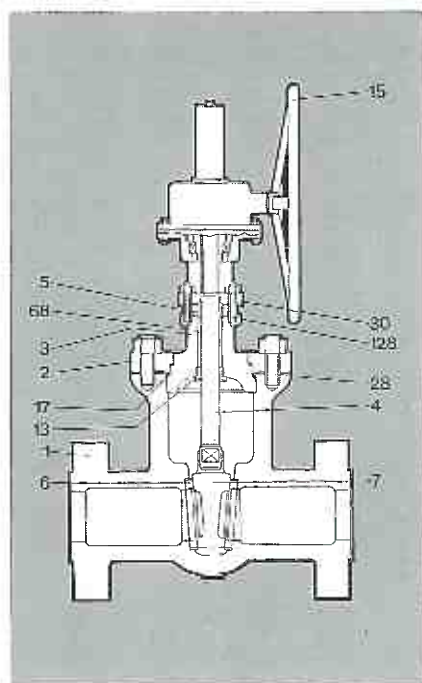
Alternative body and trim materials are available. Solid wedge can be replaced by a flexible wedge. Flanges to BS 1560, Class 1500 and ANSI B16.5 — 1977, Class 1500. R.T.J. Flanges and Butt weld ends are available as an alternative.

Pressure/Temperature Rating

For pressure/temperature ratings and test pressures see page 9.

Valve Selection

Some applications, for example steam or heat transfer services, may require different materials and trim to the standard construction of WCB steel bodies/bonnets and 13% Cr. (F6) trim. Refer to page 8, but if in doubt contact Triangle supplying the information requested on page 5 of this brochure.



Material Specifications

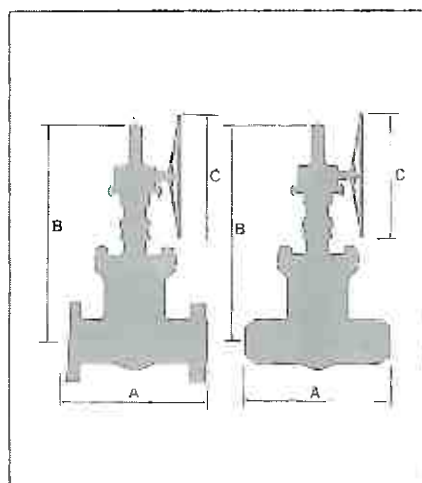
REF	Component	Material	BS Spec.	ASTM Spec.
1	Body	Carbon Steel	1504-161 Gr. 480	A216 Gr. WCB
2	Yoke	Carbon Steel	1504-161 Gr. 480	A216 Gr. WCB
3	Cover	Carbon Steel	1504-161 Gr. 480	A216 Gr. WCB
4	Stem	13% Cr. (F6) Stainless Steel	1506-713	A182 Gr. F6A
5	Gland	Carbon Steel	970-070 M20	A575 Gr. 1020
6	Seat	13% Cr. (F6) Stainless Steel Deposited	1506-713	A182 Gr. F6A
7	Wedge	13% Cr. (F6) Stainless Steel Deposited	1506-713	A182 Gr. F6A
13	Backseat Bush	13% Cr. (F6) Stainless Steel	1506-713	A182 Gr. F6A
15	Handwheel	Fabricated Steel		
17	Pressure Seal Ring	18/8 Stainless Steel Cr. Plated		
28	Bonnet Studs	Alloy Steel	4882 Gr. B7	A193 Gr. B7
	Bonnet Nuts	Carbon Steel	4882 Gr. 2H	A194 Gr. 2H
30	Gland Plate	Carbon Steel	1501-161 Gr. 28	A516 Gr. 60
68	Packing	Graphite (see page 8)		
128	Gland Studs	Alloy Steel	4882 Gr. B7	A193 Gr. B7
	Gland Nuts	Carbon Steel	4882 Gr. 2H	A194 Gr. 2H

2" 3" and 4" valves are not fitted with bevel gear. Figure numbers are 15822.

2" 3" and 4" valves are fitted with Soft Steel Joint Ring.

Dimensions

Nominal Size	2	3	4	6	8	10	12
Bore	ins 2	2 3/4	3 1/2	5 1/4	7	8 3/4	10 3/4
	mm 50	70	92	137	178	222	264
A (Flanged RF)	ins 14 1/2	18 1/2	21 1/2	27 3/4	32 3/4	39	44 1/2
	mm 368	470	546	705	832	991	1130
A (Butt Weld)	ins 14 1/2	18 1/2	21 1/2	27 3/4	32 3/4	39	44 1/2
	mm 368	470	546	705	832	991	1130
B (Closed)	ins 16 1/4	22 1/2	25 1/4	BG	BG	BG	BG
	mm 422	571	641	/	/	/	/
B (Open)	ins 19 1/2	28	31	50 1/4	67	86 1/4	98 1/2
	mm 495	711	787	1280	1702	2188	2502
C	ins 10	18	21	24	30	30	30
	mm 254	457	533	610	762	762	762
Flanged	lbs 195	410	840	1700	1970	4080	5840
Weights	kg 89	186	382	773	835	1854	2654



球形截止阀 Globe Valves

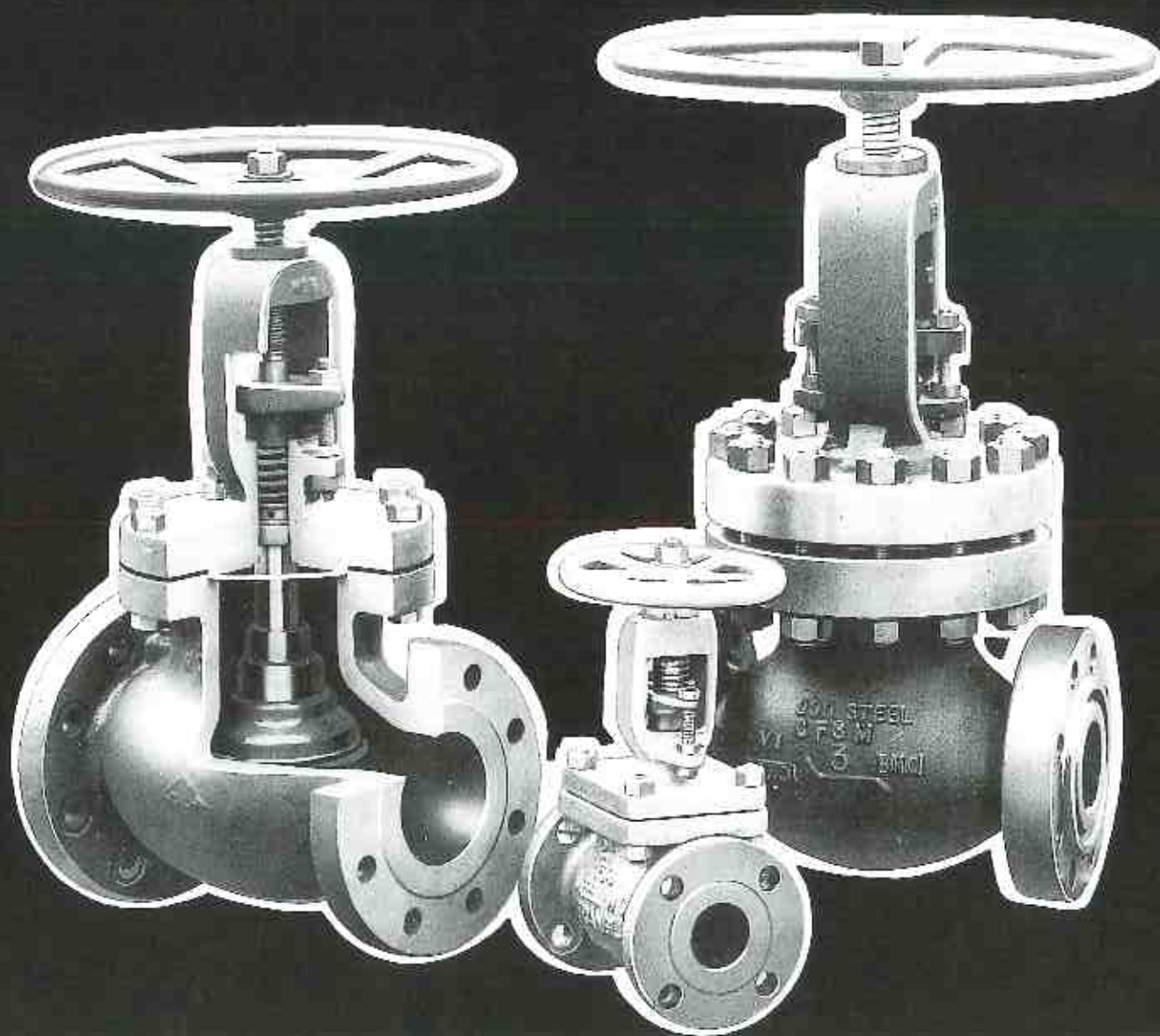
Body and bonnet wall thickness conforms to International standards. The contours are designed to give the optimum flow characteristics through the body, and in co-operation with our foundry to give maximum strength and rigidity, coupled with good castability and quality.

Stem thread on popular sizes are produced by thread rolling for higher strength and better surface finish to improve operating efficiency.

Gland packing of braided construction for high temperatures eliminates corrosion in the stuffing box by incorporation of a sacrificial metal.

Seat rings with a long thread engagement in the body prevents leakage between seat and body. Also available with integral deposited seat, with a flat faced valve head / seat and a choke to minimise erosion on sealing faces to ensure continuing positive shut-off.

Valve head attached securely to valve stem and the valve not locked in position to prevent loosening in service.



**Fig. 1812 Flanged
1712 Butt Weld**

Conforms to:-
B.S. 1873

Specification

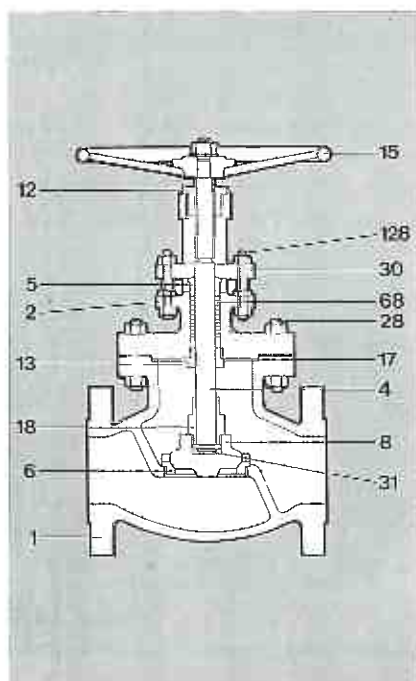
Cast carbon steel globe valve, outside screw and yoke; bolted bonnet; renewable seat; 13% Cr. (F6) stainless steel trim. Alternative body and trim materials are available. Bevel gear is recommended on 8" sizes when used on high pressure differentials. Figure number will change to BG 1812. Flanges to BS 1560 Class 150, and ANSI B16.5 - 1977, Class 150. Butt weld ends are available as an alternative.

Pressure/Temperature Rating

For pressure / temperature ratings and test pressures see page 9.

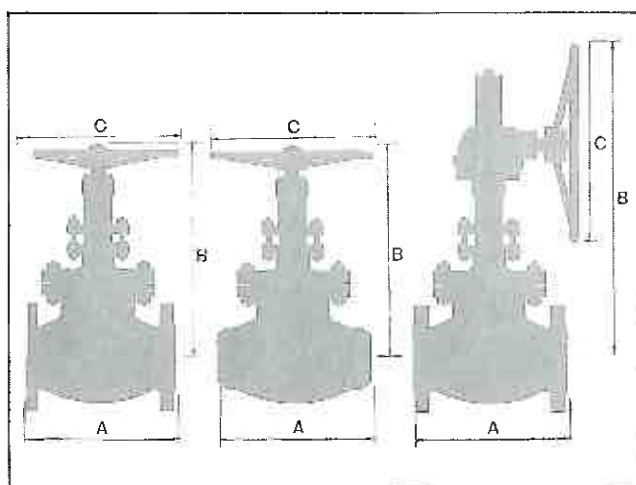
Valve Selection

Some applications, for example steam or heat transfer services, may require different materials and trim to the standard construction of WCB steel bodies/bonnets and 13% Cr. (F6) trim. Refer to page 8, but if in doubt contact Triangle supplying the information requested on page 5 of this brochure.



Material Specifications

REF.	Component	Material	BS Spec.	ASTM Spec.
1	Body	Carbon Steel	1504-161 Gr.480	A216 Gr. WCB
2	Bonnet	Carbon Steel	1504-161 Gr.480	A216 Gr. WCB
4	Stern	13% Cr. Stainless Steel	1506-713	A182 Gr. F6A
5	Gland	Aluminium Bronze	2874 CA 104M	B150 Alloy 630
6	Seat	13% Cr. (F6) Stainless Steel	1506-713	A182 Gr. F6A
8	Disc	13% Cr. (F6) Stainless Steel	1506-713	A182 Gr. F6A
12	Bush	Aluminium Bronze	2874 CA 104 M	B150 Alloy 630
13	Backseat Bush	13% Cr. (F6) Stainless Steel	1506-713	A182 Gr. F6A
15	Handwheel	Mild Steel Fabricated		
17	Gasket	Corrugated Soft Steel		
18	Valve Nut	13% Cr. (F6) Stainless Steel	1506-713	A182 Gr. F6A
28	Bonnet Studs	Alloy Steel	4882 Gr. B7	A193 Gr. B7
	Bonnet Nuts	Carbon Steel	4882 Gr. 2H	A194 Gr. 2H
30	Gland Plate	Carbon steel	1501-161 Gr. 28	A516 Gr. 60
31	Anti Friction Washer	13% Cr. (F6) Steel	1506-713	A182 Gr. F6A
68	Gland Packing	Graphite (see page 8)		
128	Gland Studs	Alloy Steel	4882 Gr. B7	A193 Gr. B7
	Gland Nuts	Carbon Steel	4882 Gr. 2H	A194 Gr. 2H



Dimensions

		Without Gear Box					With Gear Box
		2	3	4	6	8	8
Nominal Size		2	3	4	6	8	8
Bore	ins	2	3	4	6	8	8
	mm	50	80	100	150	200	200
A(Flanged RF)	ins	8	9 1/2	11 1/2	16	19 1/2	19 1/2
	mm	203	241	292	406	495	495
A(Butt Weld)	ins	8	9 1/2	11 1/2	16	19 1/2	19 1/2
	mm	203	241	292	406	495	495
B(Closed)	ins	11 1/4	14 3/8	16 1/2	20 15/16	30 3/4	BG
	mm	286	365	419	532	781	BG
B(Open)	ins	12 1/8	15 3/4	18 5/16	22 5/8	33 1/4	44 1/4
	mm	308	400	465	575	845	1124
C	ins	7	10	12	15	18	24
	mm	178	254	305	381	457	610
Flanged	lbs	42	88	134	227	423	520
Weights	kg	19	40	61	103	192	236

球形截止阀 Globe Valve

Class 300

**Fig. 3812 Flanged
3712 Butt Weld**

Conforms to:-
B.S. 1873

Specification

Cast carbon steel globe valve, outside screw and yoke; bolted bonnet; renewable seat, 13% Cr. (F6) stainless steel trim. Alternative body and trim materials are available. Bevel gear is recommended on 6" and larger. Figure number will change to BG 3812.
Flanges to BS 1560 Class 300, and ANSI B16.5 - 1977, Class 300. Butt weld ends are available as an alternative.

Pressure/Temperature Rating

For pressure/temperature ratings and test pressures see page 9.

Valve Selection

Some applications, for example steam or heat transfer services, may require different materials and trim to the standard construction of WCB steel bodies/bonnets and 13% Cr. (F6) trim. Refer to page 8, but if in doubt contact Triangle supplying the information requested on page 5 of this brochure.

Material Specifications

REF	Component	Material	BS Spec.	ASTM Spec.
1	Body	Carbon Steel	1504-161 Gr.480	A216 Gr. WCB
2	Bonnet	Carbon Steel	1504-161 Gr.480	A216 Gr. WCB
4	Stem	13% Cr. (F6) Stainless Steel	1506-713	A182 Gr. F6A
5	Gland	Aluminium Bronze	2874 CA 104M	B150 Alloy 630
6	Seat	13% Cr. (F6) Stainless Steel	1506-713	A182 Gr. F6A
8	Valve Head	13% Cr. (F6) Stainless Steel	1503-713	A182 Gr. F6A
10	Cap Nut	Carbon Steel	970-070 M20	A575 Gr. 1020
11	Sleeve	Aluminium Bronze	1400-AB2-C	B148 Alloy 955
13	Backseat Bush	13% Cr. (F6) Stainless Steel	1506-713	A182 Gr. F6A
15	Handwheel	Mild Steel Fabricated		
17	Gasket	SS/Graphite Spiral Wound		
18	Valve Nut	13% Cr. (F6) Stainless Steel	1506-713	A182 Gr. F6A
20	Sleeve Nut	Carbon Steel	970-070 M20	A575 Gr. 1020
28	Body/ Bonnet Studs	Alloy Steel	4882 Gr. B7	A193 Gr. B7
	Body/ Bonnet Nuts	Carbon Steel	4882 Gr. 2H	A194 Gr. 2H
30	Gland Plate	Carbon steel	1501-161 Gr. 28	A516 Gr. 60
68	Gland Packing	Graphite (see page 8)		
128	Gland Studs	Alloy Steel	4882 Gr. B7	A193 Gr. B7
	Gland Nuts	Carbon Steel	4882 Gr. 2H	A194 Gr. 2H
152	Anti Rotation Plate	Carbon Steel	1501-161 Gr. 28	A516 Gr. 60

Dimensions

		Without Gear Box				With Gear Box	
Nominal Size		2	3	4	6	6	8
Bore	ins	2	3	4	6	6	8
	mm	50	80	100	150	150	200
A(Flanged RF)	ins	10½	12½	14	17½	17½	22
	mm	267	318	356	445	445	559
A(Butt Weld)	ins	10½	12½	14	17½	17½	22
	mm	267	318	356	445	445	559
B(Closed)	ins	11⅜	16¼	19⅜	24	BG	BG
	mm	284	413	503	610	BG	BG
B(Open)	ins	12⅞	17⅞	21⅞	26⅞	38½	47⅞
	mm	306	446	545	670	978	1197
C	ins	7	12	15	18	24	24
	mm	178	305	381	457	610	610
Flanged	lbs	55	120	196	330	426	824
Weights	kg	25	54	89	150	194	374

球形截止阀 Globe Valve

Class 600

**Fig. 6812 Flanged
6712 Butt Weld**

Conforms to:-
B.S. 1873

Specification

Cast carbon steel globe valve, outside screw and yoke; bolted bonnet; renewable seat; 13% Cr. (F6) stainless steel trim. Alternative body and trim materials are available. Non-rotating stem is used on sizes 4" and larger. Bevel gear is recommended on 6" and larger. Figure number will change to BG 6812.

Flanges to BS 1560 Class 600, and ANSI B16.5 - 1977, Class 600.

R.T.J. Flanges and Butt weld ends are available as an alternative.

Pressure/Temperature Rating

For pressure/temperature ratings and test pressures see page 9.

Valve Selection

Some applications, for example steam or heat transfer services, may require different materials and trim to the standard construction of WCB steel bodies/bonnets and 13% Cr. (F6) trim. Refer to page 8, but if in doubt contact Triangle supplying the information requested on page 5 of this brochure.

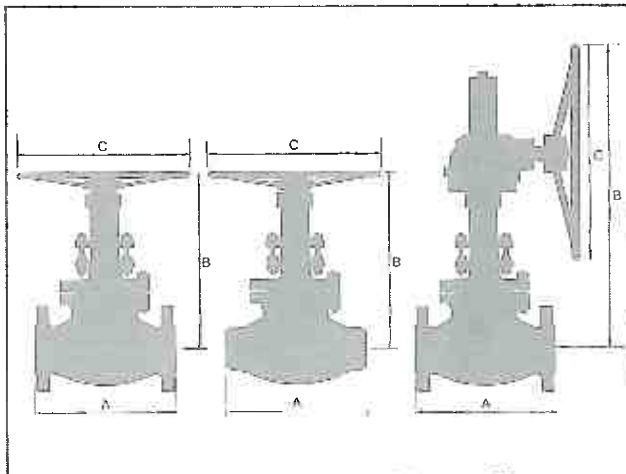
Material Specifications

REF.	Component	Material	BS Spec.	ASTM Spec.
1	Body	Carbon Steel	1504-161 Gr.480	A216 Gr. WCB
2	Bonnet	Carbon Steel	1504-161 Gr.480	A216 Gr. WCB
4	Stem	13% Cr. (F6) Stainless Steel	1506-713	A182 Gr. F6A
5	Gland	Aluminium Bronze	2874 CA 104M	B150 Alloy 630
6	Seat	13% Cr. (F6) Stainless Steel	1506-713	A182 Gr. F6A
8	Valve Head	13% Cr. (F6) Stainless Steel	1503-713	A182 Gr. F6A
10	Cap Nut	Carbon Steel	970-070 M20	A575 Gr. 1020
11	Sleeve	Aluminium Bronze	1400-AB2-C	B148 Alloy 955
13	Backseat Bush	13% Cr. (F6) Stainless Steel	1506-713	A182 Gr. F6A
15	Handwheel	Mild Steel Fabricated		
17	Gasket	SS/Graphite Spiral Wound		
18	Valve Nut	13% Cr. (F6) Stainless Steel	1506-713	A182 Gr. F6A
20	Sleeve Nut	Carbon Steel	970-070 M20	A575 Gr. 1020
28	Body/ Bonnet Studs	Alloy Steel	4882 Gr. B7	A193 Gr. B7
	Body/ Bonnet Nuts	Carbon Steel	4882 Gr. 2H	A194 Gr. 2H
30	Gland Plate	Carbon steel	1501-161 Gr. 28	A516 Gr. 60
68	Gland Packing	Graphite (see page 8)		
128	Gland Studs	Alloy Steel	4882 Gr. B7	A193 Gr. B7
	Gland Nuts	Carbon Steel	4882 Gr. 2H	A194 Gr. 2H
152	Anti Rotation Plate	Carbon Steel	1501-161 Gr. 28	A516 Gr. 60

*6" and 8" valves are fitted with Soft Steel Joint Ring.

Dimensions

		Without Gear Box			With Gear Box		
Nominal Size		2	3	4	4	6	8
Bore	ins	2	3	4	4	6	8
	mm	50	80	100	100	150	200
A(Flanged RF)	ins	11 1/2	14	17	17	22	26
	mm	292	355	432	432	559	660
A(Butt Weld)	ins	11 1/2	14	17	17	22	26
	mm	292	355	432	432	559	660
B(Closed)	ins	14	19 1/2	21 1/2	BG	BG	BG
	mm	356	492	550	BG	BG	BG
B(Open)	ins	14 1/4	20 1/2	24	34	49	53
	mm	375	521	610	864	1245	1346
C	ins	10	15	27	21	32	20
	mm	254	381	686	533	812	508
Flanged	lbs	96	190	388	440	868	1400
Weights	kg	44	86	176	200	394	636



**Fig. 9812 Flanged
9712 Butt Weld**

Conforms to—
B.S. 1873

Specification

Cast carbon steel globe valve, outside screw and yoke; bolted bonnet; renewable seat; 13% Cr. (F6) stainless steel trim. Alternative body and trim materials are available. Bevel gear is recommended on sizes 4" and larger. Figure number will change to BG 9812.

8" valve is supplied with a pressure seal body-cover design.

Flanges to BS 1560 Class 900, and ANSI B16.5—1977, Class 900.

R.T.J. Flanges and Butt weld ends are available as an alternative.

Pressure/Temperature Rating

For pressure/temperature ratings and test pressures see page 9.

Valve Selection

Some applications, for example steam or heat transfer services, may require different materials and trim to the standard construction of WCB steel bodies/bonnets and 13% Cr. (F6) trim. Refer to page 8, but if in doubt contact Triangle supplying the information requested on page 5 of this brochure.

Material Specifications

REF.	Component	Material	BS Spec.	ASTM Spec.
1	Body	Carbon Steel	1504-161 Gr. 480	A216 Gr. WCB
2	Bonnet	Carbon Steel	1504-161 Gr. 480	A216 Gr. WCB
4	Stern	13% Cr. (F6) Stainless Steel	1506-713	A182 Gr. F6A
5	Gland	Aluminium Bronze	2874 CA 104M	B150 Alloy 630
6	Seat	13% Cr. (F6) Stainless Steel	1506-713	A182 Gr. F6A
8	Valve Head	13% Cr. (F6) Stainless Steel	1503-713	A182 Gr. F6A
13	Backseat Bush	13% Cr. (F6) Stainless Steel	1506-713	A182 Gr. F6A
15	Handwheel	Mild Steel Fabricated		
17	Joint Ring	Soft Steel*		
18	Valve Nut	13% Cr. (F6) Stainless Steel	1506-713	A182 Gr. F6A
28	Body/ Bonnet Studs	Alloy Steel	4882 Gr. B7	A193 Gr. B7
	Body/ Bonnet Nuts	Carbon Steel	4882 Gr. 2H	A194 Gr. 2H
30	Gland Plate	Carbon Steel	1501-161 Gr. 28	A516 Gr. 60
68	Gland Packing	Graphite (see page 8)		
128	Gland Studs	Alloy Steel	4882 Gr. B7	A193 Gr. B7
	Gland Nuts	Carbon Steel	4882 Gr. 2H	A194 Gr. 2H

*8" Size is fitted with Pressure Seal Ring.

Dimensions

		Without Gear Box		With Gear Box	
Nominal Size		3	4	6	8
Bore	ins	3	4	5 3/4	7 1/2
	mm	80	100	146	190
A(Flanged RF)	ins	15	18	24	29
	mm	381	457	610	737
A(Butt Weld)	ins	15	18	24	29
	mm	381	457	610	737
H(Closed)	ins	24 1/4	BG	BG	BG
	mm	616	BG	BG	BG
B(Open)	ins	25 1/2	44 1/4	48 1/2	65 3/4
	mm	648	1137	1232	1670
C	ins	18	32	32	20
	mm	457	813	813	508
Flanged	lbs	196	311	528	590
Weights	kg	89	141	240	268

**Fig. 15812 Flanged
15712 Butt Weld**

Conforms to
B.S. 1873

Specification

Cast carbon steel globe valve, outside screw and yoke; bolted bonnet; renewable seat; 13% Cr. (F6) stainless steel trim. Alternative body and trim materials are available. Valves 6" and larger are supplied with a pressure seal body-cover design. Bevel gear is recommended on sizes 3" and larger. Figure number will change to BG 15812.

Flanges to BS 1560 Class 1500, and ANSI B16.5 - 1977, Class 1500.

R.T.J. Flanges and Butt weld ends are available as an alternative.

Pressure/Temperature Rating

For pressure/temperature ratings and test pressures see page 9.

Valve Selection

Some applications, for example steam or heat transfer services, may require different materials and trim to the standard construction of WCB steel bodies/bonnets and 13% Cr. (F6) trim. Refer to page 8, but if in doubt contact Triangle supplying the information requested on page 5 of this brochure.

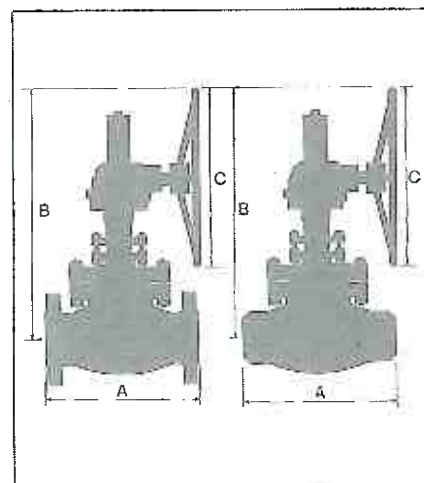
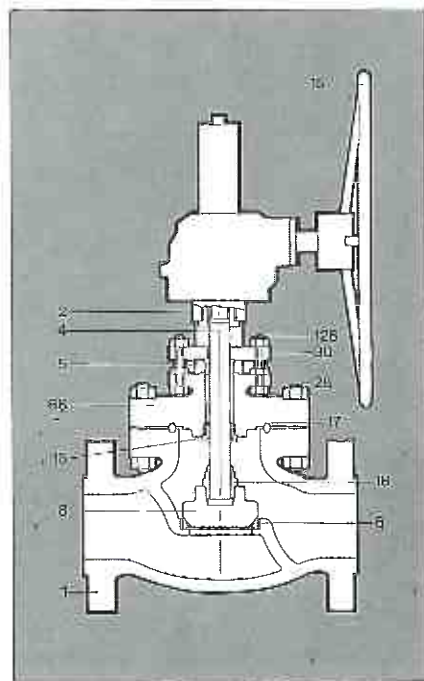
Material Specifications

REF.	Component	Material	BS Spec.	ASTM Spec.
1	Body	Carbon Steel	1504-161 Gr. 480	A216 Gr. WCB
2	Bonnet	Carbon Steel	1504-161 Gr. 480	A216 Gr. WCB
4	Stern	13% Cr. (F6) Stainless Steel	1506-713	A182 Gr. F6A
5	Gland	Aluminium Bronze	2874 CA 104M	B150 Alloy 630
6	Seat	13% Cr. (F6) Stainless Steel	1506-713	A182 Gr. F6A
8	Valve Head	13% Cr. (F6) Stainless Steel	1503-713	A182 Gr. F6A
13	Backseat Bush	13% Cr. (F6) Stainless Steel	1506-713	A182 Gr. F6A
15	Handwheel	Mild Steel Fabricated		
17	Joint Ring	Soft Steel*		
18	Valve Nut	13% Cr. (F6) Stainless Steel	1506-713	A182 Gr. F6A
28	Body/ Bonnet Studs	Alloy Steel	4882 Gr. B7	A193 Gr. B7
	Body/ Bonnet Nuts	Carbon Steel	4882 Gr. 2H	A194 Gr. 2H
30	Gland Plate	Carbon Steel	1501-161 Gr. 28	A516 Gr. 60
68	Gland Packing	Graphite (see page 8)		
128	Gland Studs	Alloy Steel	4882 Gr. B7	A193 Gr. B7
	Gland Nuts	Carbon Steel	4882 Gr. 2H	A194 Gr. 2H

*6" and 8" valves are fitted with Pressure Seal Ring.

Dimensions

Nominal Size	Without Gear Box		With Gear Box			
	2	3	3	4	6	8
Bore	ins	2	2 3/4	2 3/4	3 3/8	5 3/8
	mm	50	70	70	92	137
A(Flanged RF)	ins	14 1/2	18 1/2	18 1/2	21 1/2	27 3/4
	mm	368	470	470	546	705
A(Butt Weld)	ins	14 1/2	18 1/2	18 1/2	21 1/2	27 3/4
	mm	368	470	470	546	705
B(Closed)	ins	19 1/8	25 1/2	BG	BG	BG
	mm	486	648	BG	BG	BG
B(Open)	ins	20 1/8	27	40 1/2	35 1/8	36 3/4
	mm	511	686	1029	892	933
C	ins	15	27	24	30	30
	mm	380	686	762	762	762
Flanged	lbs	210	628	714	890	1800
Weights	kg	95	285	324	404	818



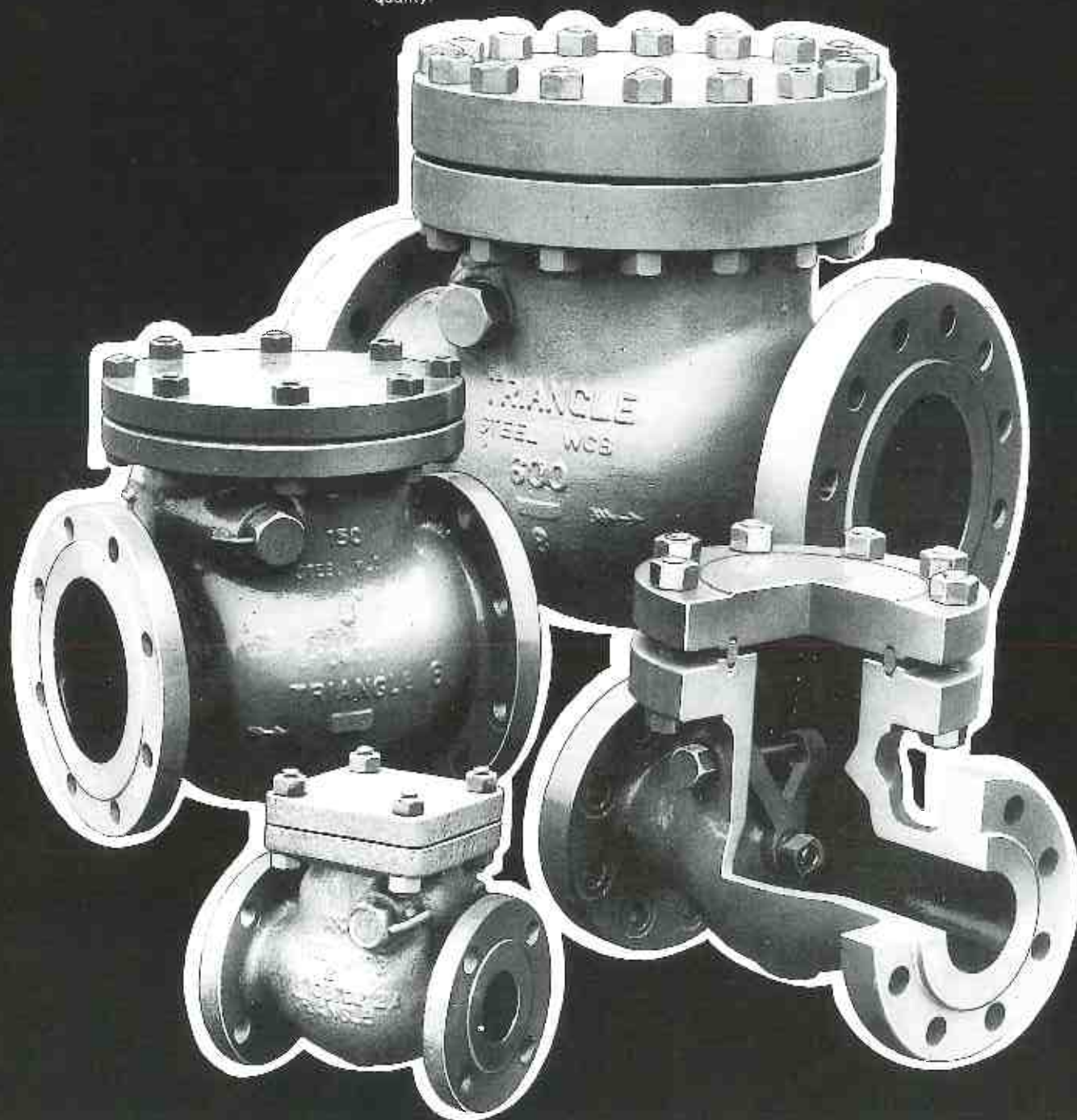
止回阀

Swing Check Valves

Seat rings with long thread engagement in the body prevents leakage between seat and body. The robust seat allows trim changes from hard faced to PTFE soft inserts without a change in the seat size and ensures a positive shut-off.

Body and cover wall thickness conforms to International standards. The contours have been designed in co-operation with our own foundry to give maximum strength and rigidity, coupled with good castability and quality.

Disc assembly is of rugged construction to give long life, with the disc attached securely to valve arm and locked to prevent loosening in service. The disc assembly and body design allows full flow and minimal pressure drop across the valve.



**Fig. 1842 Flanged
1742 Butt Weld**
Conforms to -
BS 1868 and A.P.I. 6D

Specification

Cast carbon steel regular opening swing check valve, bolted cover; renewable seat and hinge pin; 13% chrome stainless steel trim.

Alternative body and trim materials are available. Valves can be supplied with outside lever and weight, or quadrant, or utilising a fusible link.

The valve disc nut and plug nuts are retained by a locking device for security in service.

Flanges to BS 1560 Class 150, and ANSI B 16.5—1977, Class 150. Butt weld ends are available as an alternative.

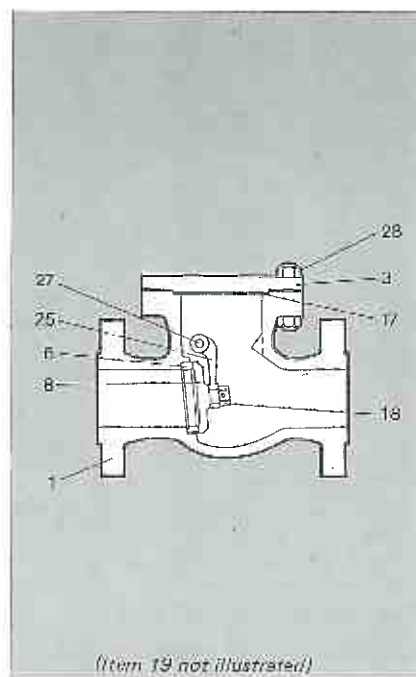
Pressure/Temperature Rating

For pressure/temperature ratings and test pressures see page 9.

Valve Selection

Some applications, for example steam or heat transfer services, may require different materials and trim to the standard construction of WCB steel bodies/bonnets and 13% Cr. (F6) trim. Refer to page 8, but if in doubt contact Triangle supplying the information requested on page 5 of this brochure.

Material Specifications



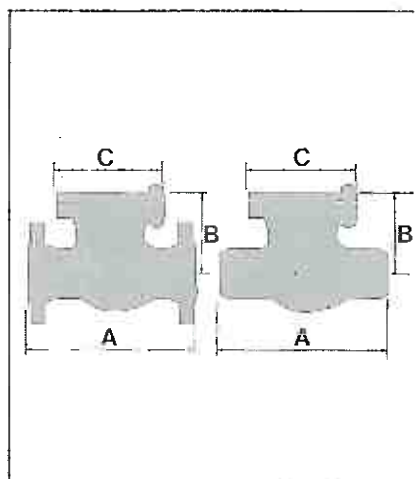
REF	Component	Material	BS Spec.	ASTM Spec.
1	Body	Carbon Steel	1504-161 Gr.480	A216 Gr. WCB
3	Cover	Carbon Steel	1504-161 Gr.480	A216 Gr. WCB
6	Seat	Hard Faced Deposited		
8	Disc	13% Cr. (F6) Stainless Steel	1503-713	A182 Gr. F6A
17	Gasket	Corrugated Soft Steel		
18	Valve Nut	13% Cr. (F6) Stainless Steel	1506-713	A182 Gr. F6A
19	Plug Nut	Carbon Steel	970.070.M20	A575 Gr. 1020
25	Valve Arm	Cast Steel	1504-161 Gr.480	A216 Gr. WCB
27	Hinge Pin	13% Cr. (F6) Stainless Steel	1506-713	A182 Gr. F6A
28	Cover Studs	Alloy Steel	4882 Gr. B7	A193 Gr. B7
	Cover Nuts	Carbon Steel	4882 Gr. 2H	A194 Gr. 2H

Disc 6" and larger are 13% Cr (F6) stainless steel deposited.

Seats up to and including 12" size, Stellite Deposited on MS.

Seats 14" and upwards are 13% Cr. (F6). Stainless steel deposited on MS.

Dimensions



Nominal Size	2	2½	3	4	6	8	10	12	14	16	18	20	24
Bore	ins 2 2½ 3 4 6 8 10 12 13¼ 15¼ 17¼ 19¼ 23¼												
	mm 50 65 80 100 150 200 250 300 336 387 438 489 590												
A(Flanged RF)	ins 8 8½ 9½ 11½ 14 19½ 24½ 27½ 31 34 38½ 38½ 51												
	mm 203 216 241 292 356 495 622 699 787 864 978 978 1295												
A(Butt Weld)	ins 8 8½ 9½ 11½ 14 19½ 24½ 27½ 31 34 38½ 38½ 51												
	mm 203 216 241 292 356 495 622 699 787 864 978 978 1295												
B	ins 5¾ 8¾ 7 8¾ 9¾ 12¾ 14¾ 16½ 18¾ 21 19½ 21¾ 24¾												
	mm 146 222 178 206 251 308 378 419 473 533 495 556 619												
C	ins 5¾ 8¾ 8¾ 9¾ 12 15½ 19 21 23¼ 26¼ 27¾ 30½ 35¾												
	mm 130 210 210 248 305 394 483 533 591 667 691 775 911												
Flanged	lbs 34 61 68 107 210 373 608 920 1350 1680 2044 2450 2720												
Weights	kg 15 28 31 49 95 169 276 418 614 764 929 1114 1236												

**Fig. 3842 Flanged
3742 Butt Weld**

Conforms to:-
BS 1868 and A.P.I. 6D

Specification

Cast carbon steel regular opening swing check valve, bolted cover; renewable seat and hinge pin; 13% chrome stainless steel trim.

Alternative body and trim materials are available. Valves can be supplied with outside lever and weight, or quadrant, or utilising a fusible link.

The valve disc nut and plug nuts are retained by a locking device for security in service. Flanges to BS 1560 Class 300, and ANSI B 16.5—1977, Class 300 Butt weld ends are available as an alternative.

Pressure/Temperature Rating

For pressure/temperature ratings and test pressures see page 9.

Valve Selection

Some applications, for example steam or heat transfer services, may require different materials and trim to the standard construction of WCB steel bodies/bonnets and 13% Cr (F6) trim. Refer to page 8, but if in doubt contact Triangle supplying the information requested on page 5 of this brochure.

Material Specifications

REF.	Component	Material	BS Spec.	ASTM Spec.
1	Body	Carbon Steel	1504-161 Gr. 480	A216 Gr. WCB
3	Cover	Carbon Steel	1504-161 Gr. 480	A216 Gr. WCB
6	Seat	Hard Faced Deposited		
8	Disc	13% Cr. (F6) Stainless Steel	1503-713	A182 Gr. F6A
17	Gasket	SS/Graphite Spiral Wound		
18	Valve Nut	13% Cr. (F6) Stainless Steel	1506-713	A182 Gr. F6A
19	Plug Nut	Carbon Steel	970.070.M20	A575 Gr. 1020
25	Valve Arm	Cast Steel	1504-161 Gr. 480	A216 Gr. WCB
27	Hinge Pin	13% Cr. (F6) Stainless Steel	1506-713	A182 Gr. F6A
28	Cover Studs	Alloy Steel	4882 Gr. B7	A193 Gr. B7
	Cover Nuts	Carbon Steel	4882 Gr. 2H	A194 Gr. 2H

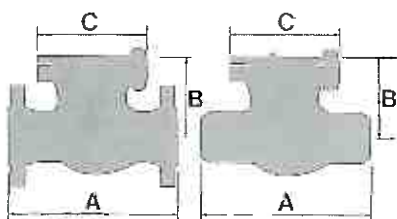
Seats up to and including 12" size are Stellite deposited on MS.

14" and upwards are 13% Cr. (F6) stainless steel deposited on MS.

Gaskets 14" size and upwards are corrugated soft steel asbestos filled double jacketed.

Disc 6" and upwards are 13% Cr. (F6) stainless steel deposited on MS.

Dimensions



Nominal Size	2	2½	3	4	6	8	10	12	14	16	18	20
Bore	ins 2	2½	3	4	6	8	10	12	13¼	15¼	17	19¼
	mm 50	65	80	100	150	200	250	300	387	432	483	489
A(Flanged RF)	ins 10½	11½	12½	14	17½	21	24½	28	33	34	38½	40
	mm 267	292	318	356	445	533	622	711	838	864	978	1016
A(Butt Weld)	ins 10½	11½	12½	14	17½	21	24½	28	33	34	38½	40
	mm 267	292	318	356	445	533	622	711	838	864	978	1016
B	ins 6¾	7¾	6¾	9	10¾	14	16	18½	20½	21	23¼	23¾
	mm 172	192	175	229	276	356	406	470	521	533	591	603
C	ins 5¾	8¼	8¼	10¼	12¾	17¼	20	23	24¾	27½	30	32
	mm 143	209	210	260	327	438	508	584	629	699	762	813
Flanged	lbs 62	98	110	174	308	575	840	1130	1700	2200	2850	3500
Weights	kg 28	45	50	79	140	261	331	514	773	1000	1295	1591

**Fig. 6842 Flanged
6742 Butt Weld**
Conforms to:-
BS 1868 and A.P.I. 6D

Specification

Cast carbon steel regular opening swing check valve, bolted cover; renewable seat and hinge pin; 13% chrome stainless steel trim.

Alternative body and trim materials are available. Valves can be supplied with outside lever and weight, or quadrant, or utilising a fusible link.

The valve disc nut and plug nuts are retained by a locking device for security in service. Flanges to BS 1560 Class 600, and ANSI B 16.5—1977, Class 600. R.T.J. Flanges and Butt weld ends are available as an alternative.

Pressure/Temperature Rating

For pressure/temperature ratings and test pressures see page 9.

Valve Selection

Some applications, for example steam or heat transfer services, may require different materials and trim to the standard construction of WCB steel bodies/bonnets and 13% Cr trim. (F6) Refer to page 8, but if in doubt contact Triangle supplying the information requested on page 5 of this brochure.

Material Specifications

REF.	Component	Material	BS Spec.	ASTM Spec.
1	Body	Carbon Steel	1504-161 Gr.480	A216 Gr. WCB
3	Cover	Carbon Steel	1504-161 Gr.480	A216 Gr. WCB
6	Seat	Hard Faced Deposited		
8	Disc	13% Cr. (F6) Stainless Steel	1503-713	A182 Gr. F6A
17	Gasket	SS/Graphite Spiral Wound		
18	Valve Nut	13% Cr. (F6) Stainless Steel	1506-713	A182 Gr. F6A
19	Plug Nut	Carbon Steel	970.070.M20	A575 Gr. 1020
25	Valve Arm	Cast Steel	1504-161 Gr.480	A216 Gr. WCB
27	Hinge Pin	13% Cr. (F6) Stainless Steel	1506-713	A182 Gr. F6A
28	Cover Studs	Alloy Steel	4882 Gr. B7	A193 Gr. B7
	Cover Nuts	Carbon Steel	4882 Gr. 2H	A194 Gr. 2H

Seats up to and including 6" size are Stellite deposited on MS.

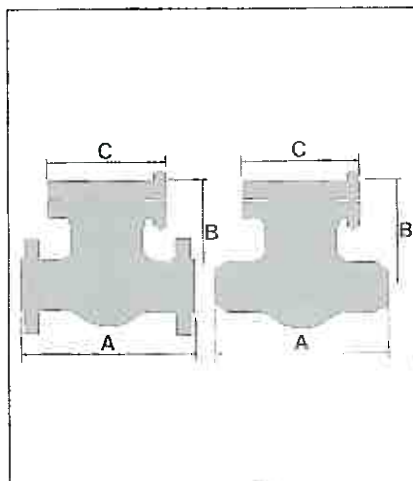
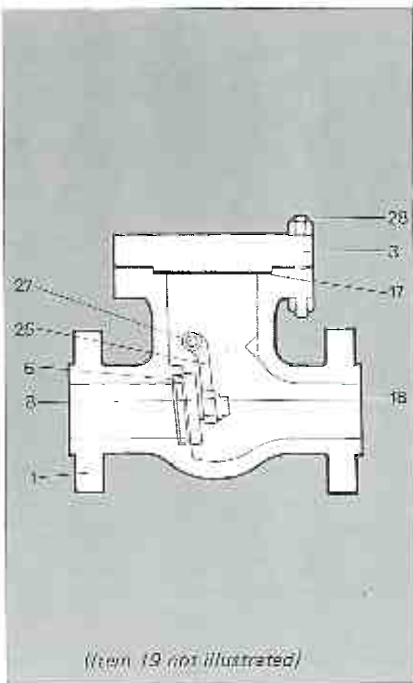
8" and upwards are 13% Cr. (F6) Stainless Steel deposited on MS.

Disc 6" and upwards are 13% Cr. (F6) Stainless Steel deposited.

6" size and upwards are fitted with Ring Type Joint.

Dimensions

Nominal Size		2	2½	3	4	6	8	10	12	14	16	18	20
Bore	ins	2	2½	3	4	6	8	10	11 1/8	13	15¼	17¼	18½
	mm	50	65	80	100	150	200	250	300	330	387	432	470
A(Flanged RF)	ins	11½		14	17	22	26	31	33	35	39	43	47
	mm	292		356	432	559	660	787	838	889	990	1092	1194
A(Butt Weld)	ins	11½		14	17	22	26	31	33	35	39	43	47
	mm	292		356	432	559	660	787	838	889	990	1092	1194
B	ins	7¾		9	10½	13½	15¾	18	19½	22½	24¼	30	31
	mm	197		229	267	343	400	457	495	575	616	762	787
C	ins	7¾		10¼	12½	15¾	18½	22¼	24½	27¾	29	33¼	38
	mm	197		260	318	400	470	565	622	705	736	845	965
Flanged	lbs	75		150	285	520	882	1164	1850	2200	3700	4300	5500
Weights	kg	34		68	129	236	401	529	845	1000	1681	1954	2500



止回阀 Swing Check Valve

Class 900

**Fig. 9842 Flanged
9742 Butt Weld**

Conforms to:-
BS 1868 and A.P.I. 6D

Specification

Cast carbon steel regular opening swing check valve, bolted cover; renewable seat and hinge pin; 13% chrome stainless steel trim.

Alternative body and trim materials are available. Valves can be supplied with outside lever and weight, or quadrant, or utilising a fusible link.

The valve disc nut and plug nuts are retained by a locking device for security in service.

Flanges to BS 1560 Class 900, and ANSI B 16.5—1977, Class 900. R.T.J. Flanges and Butt weld ends are available as an alternative.

Pressure/Temperature Rating

For pressure/temperature ratings and test pressures see page 9.

Valve Selection

Some applications, for example steam or heat transfer services, may require different materials and trim to the standard construction of WCB steel bodies/bonnets and 13% Cr (F6) trim. Refer to page 8, but if in doubt contact Triangle supplying the information requested on page 5 of this brochure.

Material Specifications

REF.	Component	Material	BS Spec.	ASTM Spec.
1	Body	Carbon Steel	1504-161 Gr.480	A216 Gr. WCB
3	Cover	Carbon Steel	1504-161 Gr.480	A216 Gr. WCB
6	Seat	13% Cr. (F6) Stainless Steel	1503-713	A182 Gr. F6A
8	Disc	13% Cr. (F6) Stainless Steel	1503-713	A182 Gr. F6A
17	Joint Ring	Soft Steel		
18	Valve Nut	13% Cr. (F6) Stainless Steel	1506-713	A182 Gr. F6A
19	Plug Nut	Carbon Steel	970.070.M20	A575 Gr. 1020
25	Valve Arm	Cast Steel	1504-161 Gr.480	A216 Gr. WCB
27	Hinge Pin	13% Cr. (F6) Stainless Steel	1506-713	A182 Gr. F6A
28	Cover Studs	Alloy Steel	4882 Gr. B7	A193 Gr. B7
	Cover Nuts	Carbon Steel	4882 Gr. 2H	A194 Gr. 2H

Seats 8" and larger are 13%Cr (F6) stainless steel deposited.

Disc 6" and larger are 13% Cr (F6) stainless steel deposited.

14" sizes and above are fitted with pressure seal ring

Dimensions

Nominal Size	2	3	4	6	8	10	12	14	16	20
Bore	ins	3	4	6	8	10	12	12 3/4	14 3/4	18 3/4
	mm	80	100	150	200	250	300	323	375	473
A(Flanged RF)	ins	15	18	24	29	33	38	40 1/2	44 1/2	52
	mm	381	457	610	737	838	965	1029	1130	1321
A(Butt Weld)	ins	15	18	24	29	33	38	40 1/2	44 1/2	52
	mm	381	457	610	737	838	965	1029	1130	1321
B	ins	10 1/8	12	13 1/4	17 1/4	20 1/2	22	22	30	32
	mm	276	305	366	451	521	559	559	762	813
C	ins	12	11 1/4	12 1/4	14 1/4	18 3/4	26 1/4	21 1/2	28	35 1/4
	mm	305	286	311	364	476	667	549	711	895
Flanged	lbs	242	497	655	1430	2200	3100	4300		
Weights	kg	110	226	298	650	1000	1409	1954		

* Refer to class 1500 for 2" valve dimensions

**Fig. 15842 Flanged
15742 Butt Weld**
Conforms to:-
BS 1868 and A.P.I. 6D

Specification

Cast carbon steel regular opening swing check valve, bolted cover; renewable seat and hinge pin; 13% chrome stainless steel trim.

Alternative body and trim materials are available. Valves can be supplied with outside lever and weight, or quadrant, or utilising a fusible link.

The valve disc nut and plug nuts are retained by a locking device for security in service.

Flanges to BS 1560 Class 1500, and ANSI B 16.5—1977, Class 1500. R.T.J. Flanges and Butt weld ends are available as an alternative.

Pressure/Temperature Rating

For pressure/temperature ratings and test pressures see page 9.

Valve Selection

Some applications, for example steam or heat transfer services, may require different materials and trim to the standard construction of WCB steel bodies/bonnets and 13% Cr. (F6) trim. Refer to page 8, but if in doubt contact Triangle supplying the information requested on page 5 of this brochure.

Material Specifications

REF.	Component	Material	BS Spec.	ASTM Spec.
1	Body	Carbon Steel	1504-161 Gr.480	A216 Gr. WCB
3	Cover	Carbon Steel	1504-161 Gr.480	A216 Gr. WCB
6	Seat	13% Cr. (F6) Stainless Steel	1503-713	A182 Gr. F6A
8	Disc	13% Cr. (F6) Stainless Steel	1503-713	A182 Gr. F6A
17	Joint Ring	Soft Steel		
18	Valve Nut	13% Cr. (F6) Stainless Steel	1506-713	A182 Gr. F6A
19	Plug Nut	Carbon Steel	970.070.M20	A575 Gr. 1020
25	Valve Arm	Cast Steel	1504-161 Gr.480	A216 Gr. WCB
27	Hinge Pin	13% Cr. (F6) Stainless Steel	1506-713	A182 Gr. F6A
28	Cover Studs	Alloy Steel	4882 Gr. B7	A193 Gr. B7
	Cover Nuts	Carbon Steel	4882 Gr. 2H	A194 Gr. 2H

Seats 8" and larger are 13% Cr (F6) stainless steel deposited.

Disc 6" and larger are 13% Cr (F6) stainless steel deposited.

8" Sizes and above are fitted with Pressure Seal Ring.

Dimensions

Nominal Size		2	3	4	6	8	10	12
Bore	ins	2	2¾	3⅜	5⅛	7⅛	8¾	10⅜
	mm	50	70	92	137	194	222	264
A(Flanged RF)	ins	14½	18½	21½	27¾	32¾	39	44½
	mm	368	470	546	704	832	991	1130
A(Butt Weld)	ins	14½	18½	21½	27¾	32¾	39	44½
	mm	368	470	546	704	832	991	1130
B	ins	9½	11½	14¼	18¼	22⅝	27⅞	28
	mm	241	292	362	464	575	689	686
C	ins	10½	12	14	18	22⅞	26⅞	27
	mm	267	305	356	457	562	664	711
Flanged	lbs	156	420	670	1200	1700	2586	4202
Weights	kg	71	191	304	545	773	1175	1910

