



The Peter Smith Valve Company Ltd

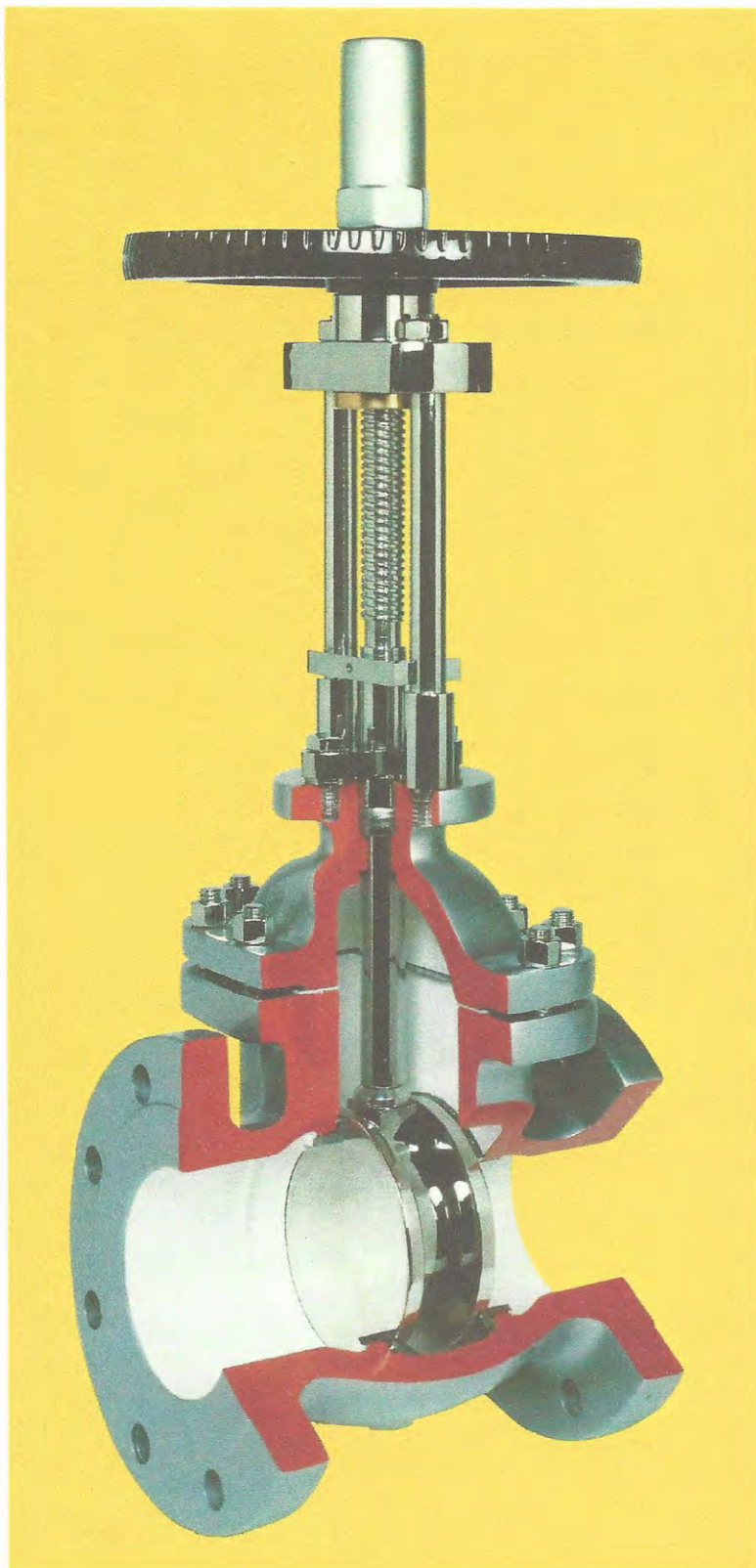
Manufacturers of Industrial and Marine Valves

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BSI APPROVED
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FM 01392
PED CERT No.
CE 62276
H&S CERT No.
OHS 512384



Double Block & Bleed Valves

Carbon Steel - Fig. 640BB

Carbon Steel - Fig. 280BB

Parallel Slide Valves

Cast Steel - Fig. 650

Swing Check Valves

Cast Iron - Fig. 184SC

Cast Iron - Fig. 184SCLW

Cast Iron - Fig. 184SCRF

Equilibrium Ball Float Valves

Cast Iron Globe - Fig. 500

Cast Iron Angle - Fig. 501

Lift Check Valves

Cast Iron - Fig. 184, 185

Cast Steel - Fig. 282, 283

Gunmetal - Fig. 134, 134L

Boiler Crown Valves

Cast Steel Globe - Fig. 280DP

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Relief Check Valves

Cast Iron External Spring - Fig. 195, 196

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Double Regulating Valves

Cast Iron - Fig. BV203

Gunmetal - Fig. BV307

Globe Stop Valves

Cast Iron - Fig. 181

Cast Steel - Fig. 280

Gunmetal - Fig. 133

Angle Stop Valves

Cast Iron - Fig. 182

Cast Steel - Fig. 281

Gunmetal - Fig. 133L

e-catalogue



Bleed Flange c/w Drain Outlet

Carbon Steel - Fig 640

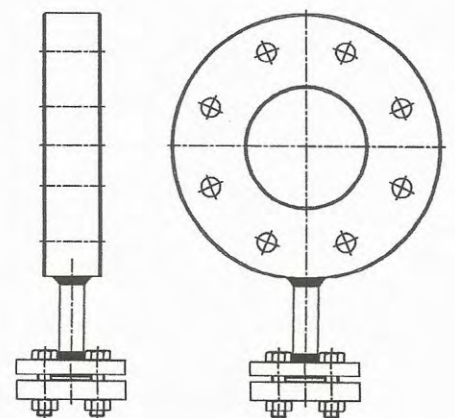
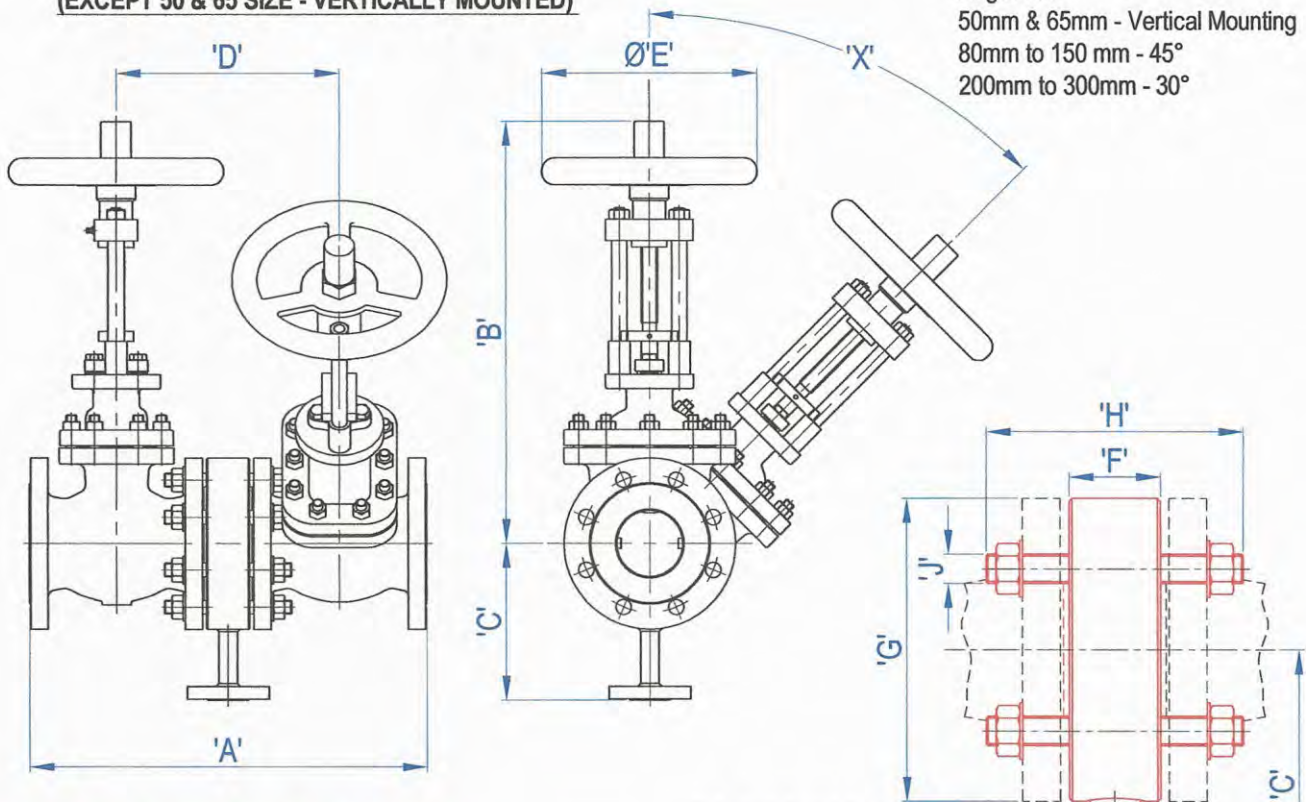


FIG 650DBB CAST STEEL DOUBLE BLOCK & BLEED UNIT PN16 RATING - SIZES 50mm to 300mm

**FIG. 650DBB PN16 INDEX MOUNTED OPTION
(EXCEPT 50 & 65 SIZE - VERTICALLY MOUNTED)**

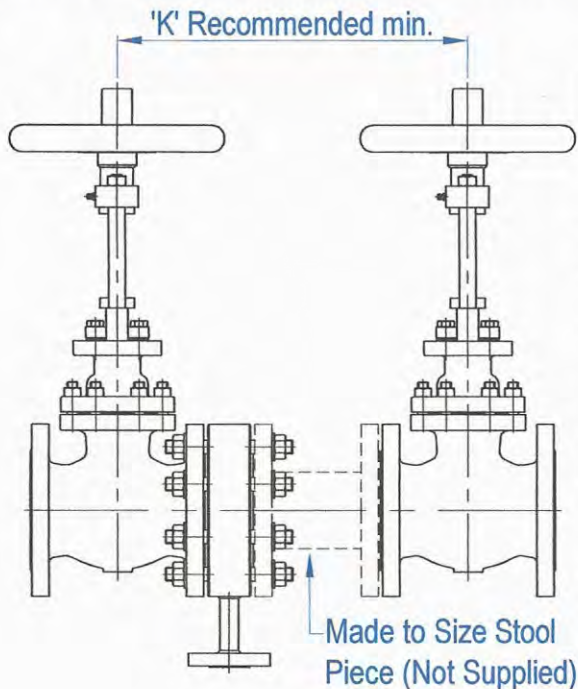


Refer to Fig. 650DBB PN40 data sheet for specification details

**FIG. 640 PN16 BLEED FLANGE
WITH DRAIN OUTLET**

PN16 Rated, Sizes 50mm to 300mm
Body Material - Carbon Steel to BS EN 10028 161 - 430.

**FIG. 650DBB PN16 VERTICALLY MOUNTED OPTION - USING
MADE TO SIZE STOOL PIECE - SUPPLIED BY CUSTOMER**



ALL DIMENSIONS ARE IN mm.
WEIGHTS ARE APPROXIMATE.

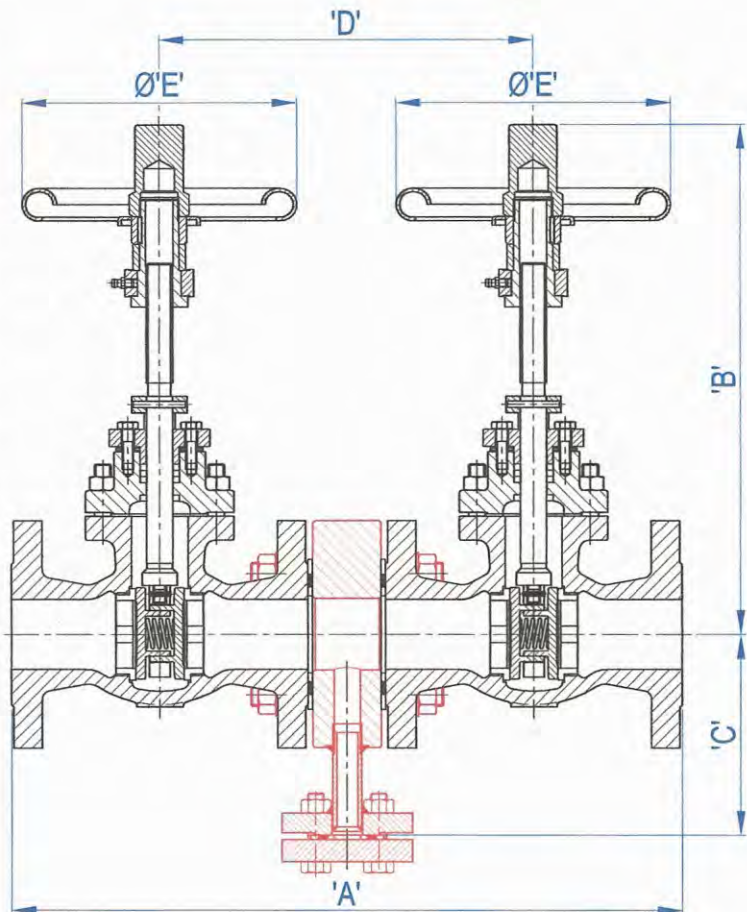
Fig. 640 PN16 Bleed Flange

SIZE	50	65	80	100	125	150	200	250	300
A	412	436	462	514	564	590	640	716	768
B	370	431	490	580	743	810	1012	1250	1454
C	165	175	182	200	217	235	252	285	312
D	234	246	259	285	310	323	348	386	412
E	200	200	250	315	400	400	530	530	530
F	50	50	50	50	50	50	50	50	50
G	165	185	200	235	270	305	340	405	460
H	150	150	150	160	160	170	180	190	200
J	M16	M16	M16	M16	M16	M20	M20	M24	M24
K	n/a	n/a	330	395	480	480	610	610	610
WGT. (kg)	50	65	80	100	125	150	200	250	300
650DBB	47	60	75	105	168	200	310	495	778
640	9	10	11	15	20	23	25	31	37

FIG 650DBB CAST STEEL DOUBLE BLOCK & BLEED UNIT PN25/40 RATING - SIZES 50mm to 150mm

Fig 640 PN25/40 Bleed Flange						
SIZE	50	65	80	100	125	150
A	488	538	622	666	818	862
B	370	431	490	580	743	810
C	165	177	182	200	217	235
D	272	297	339	361	438	459
E	200	200	250	315	400	400
F	50	50	50	50	50	50
G	165	190	200	235	270	305
H	150	150	160	170	200	190
J	M16	M16	M16	M20	M24	M24
WGT. (kg)	50	65	80	100	125	150
650DBB	53	66	87	121	198	241
640	9	10	11	15	20	23

ALL DIMENSIONS ARE IN mm.
WEIGHTS ARE APPROXIMATE.



Specification:-

Fig. 650 Parallel slide valves are supplied to PN25/40 rating. Alternatively, valves can be supplied PN16 rated - see over. ANSI 150/300 can also be supplied upon request.

Additional Fig. 640 Bleed Flanges are available for fitting downstream from the Fig. 650DBB Double Block & Bleed unit assembly to assist drainage of the system and to verify the closure of both of the double isolation valves and for end of line service capped with a blind flange c/w a drain valve.

The Fig. 640 bleed flange is an approved seal welded assembly, consisting of the body, extension tube and Ø15mm PN40 flange (or as specified by Customer) in certified carbon steel, B7 tie-rods with 2H nuts and 2 spiral wound graphite filled gaskets (suitable for use on steam).

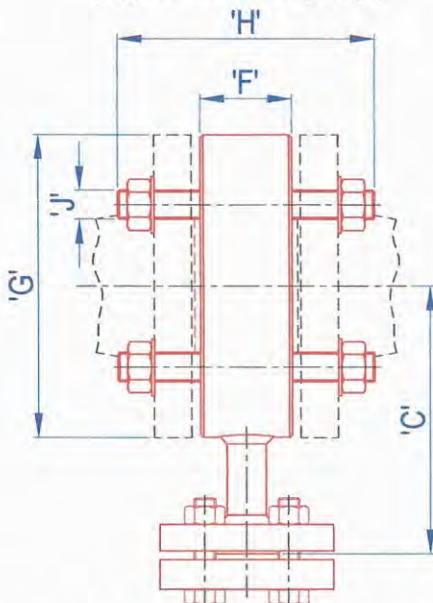
Our 15mm fig. 280 cast steel globe stop valve, PN25/40 rated is available as a drain valve upon request.

All of the parallel slide valve details are as the current Peter Smith Valve Co. Ltd catalogue.

The assembly can be supplied as a unit or in kit form or as a modification to existing valves on site.

When assembled, the double block and bleed unit has a straight through, virtually full bore design, with only nominal pressure drop and internal turbulence

**FIG. 640 PN25/40 BLEED FLANGE
WITH DRAIN OUTLET**
(supplied with blanking flange)



PN25/40 Rated, Sizes 50mm to 150mm
Body Material - Carbon Steel to BS EN 10028 161 - 430.

Details of Sizes 200mm to 300mm upon request.

FIG 280DBB CAST STEEL GLOBE DOUBLE BLOCK & BLEED UNIT PN16 RATING - SIZES 50mm to 200mm

Fig 640 PN16 Bleed Flange							
SIZE	50	65	80	100	125	150	200
A	565	617	667	769	869	971	1123
B	285	321	324	394	460	553	678
C	165	175	182	200	217	235	252
D	311	337	362	413	463	514	590
E	200	200	200	250	315	400	530
F	50	50	50	50	50	50	50
G	165	185	200	235	270	305	340
H	150	150	150	160	160	170	180
J	M16	M16	M16	M16	M16	M20	M20
WGT. (kg)	50	65	80	100	125	150	200
280DBB	55	72	87	133	206	293	455
640	9	10	11	15	20	23	25

All dimensions are in mm. Weights are approximate.

**THESE VALVES SHOULD BE INSTALLED
WITH THE VALVE HEAD VERTICAL**

FIG. 640 PN16 BLEED FLANGE WITH DRAIN OUTLET
(supplied with blanking flange)

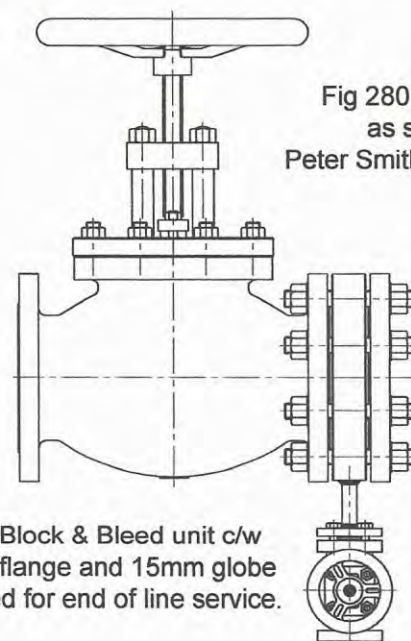
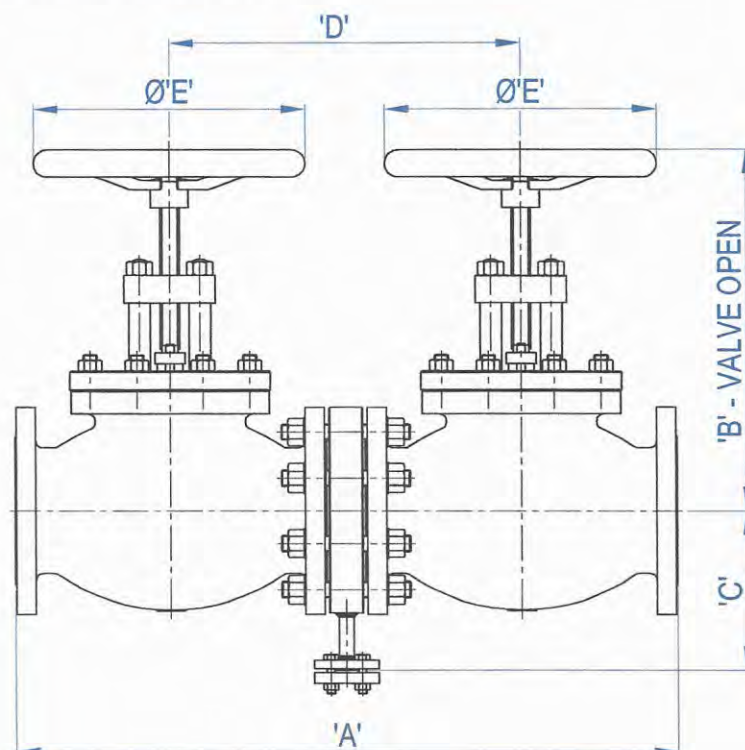
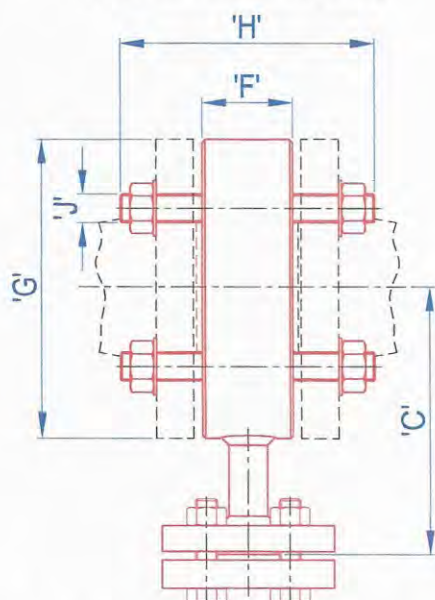


Fig 280 globe valve details are as stated in the current Peter Smith Valve Co. Ltd catalogue.

Additional Fig. 640 Bleed Flanges are available for fitting downstream from the Double Block & Bleed unit assembly to assist drainage of the system and to verify the closure of both of the double isolation valves or for end of line service (as shown)

Fig. 280 globe valves are supplied to PN16 rating. Valves can be supplied PN40 rated (refer to PN40 data sheet). Details of other flange ratings supplied upon request.

The Fig. 640 bleed flange is an approved seal welded assembly, consisting of the body, extension tube and Ø15mm PN16-40 flange (or as specified by Customer) in certified carbon steel, B7 tie-rods with 2H nuts and 2 spiral wound graphite filled gaskets (suitable for use on steam).

15mm fig. 280 PN40 rated cast steel globe stop valve is available as a drain valve upon request, replacing the standard blanking flange.

FIG 280DBB CAST STEEL GLOBE DOUBLE BLOCK & BLEED UNIT PN40 RATING - SIZES 50mm to 200mm

Fig 640 PN40 Bleed Flange							
SIZE	50	65	80	100	125	150	200
A	565	617	667	769	869	971	1123
B	285	321	324	394	460	553	678
C	165	177	182	200	217	235	270
D	311	337	362	413	463	514	590
E	200	200	200	250	315	400	530
F	50	50	50	50	50	50	50
G	165	195	200	235	270	305	375
H	150	150	160	170	200	190	225
J	M16	M16	M16	M20	M24	M24	M27
WGT. (kg)	50	65	80	100	125	150	200
280DBB	55	72	87	133	206	293	460
640	9	10	11	15	20	23	30

All dimensions are in mm. Weights are approximate.

**THESE VALVES SHOULD BE INSTALLED
WITH THE VALVE HEAD VERTICAL**

FIG. 640 PN40 BLEED FLANGE WITH DRAIN OUTLET
(supplied with blanking flange)

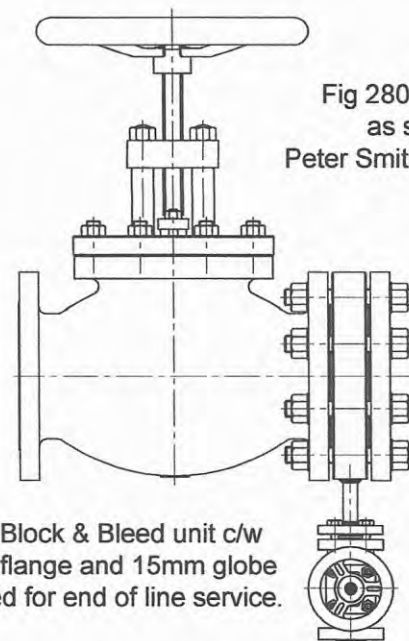
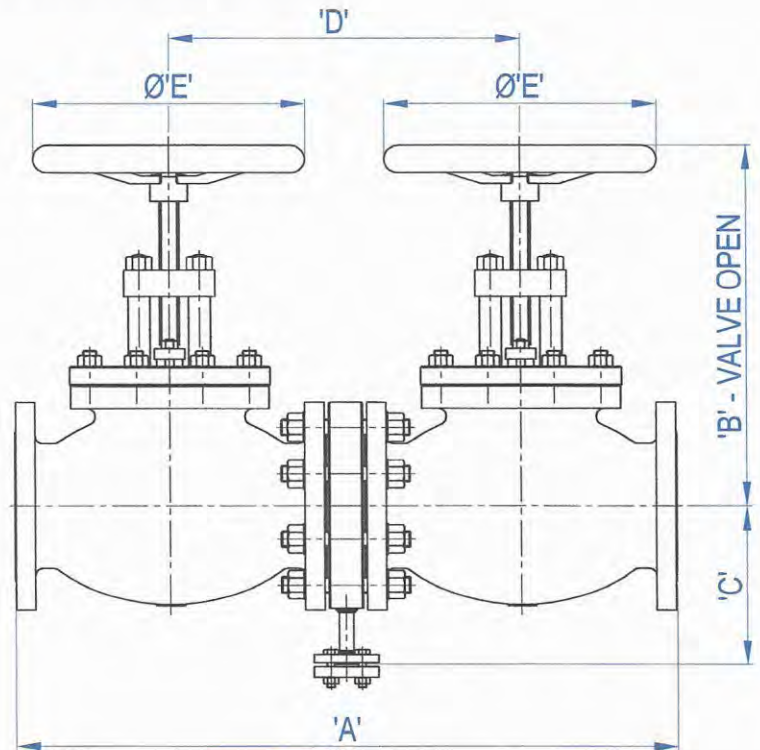
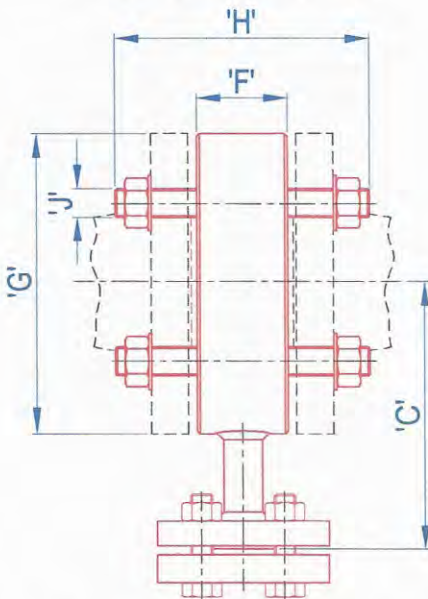


Fig 280 globe valve details are as stated in the current Peter Smith Valve Co. Ltd catalogue.

Double Block & Bleed unit c/w blanking flange and 15mm globe valve used for end of line service.

Additional Fig. 640 Bleed Flanges are available for fitting downstream from the Double Block & Bleed unit assembly to assist drainage of the system and to verify the closure of both of the double isolation valves or for end of line service (as shown)

Fig. 280 globe valves are supplied to PN40 rating. Valves can be supplied PN16 rated (refer to PN16 data sheet). Details of other flange ratings supplied upon request.

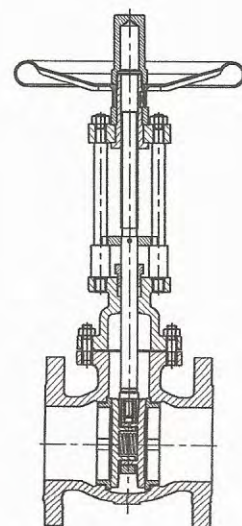
The Fig. 640 bleed flange is an approved seal welded assembly, consisting of the body, extension tube and Ø15mm PN16-40 flange (or as specified by Customer) in certified carbon steel, B7 tie-rods with 2H nuts and 2 spiral wound graphite filled gaskets (suitable for use on steam).

15mm fig. 280 PN40 rated cast steel globe stop valve is available as a drain valve upon request, replacing the standard blanking flange.



Parallel Slide Valves

Cast Steel - Fig 650



CAST STEEL PARALLEL SLIDE VALVE

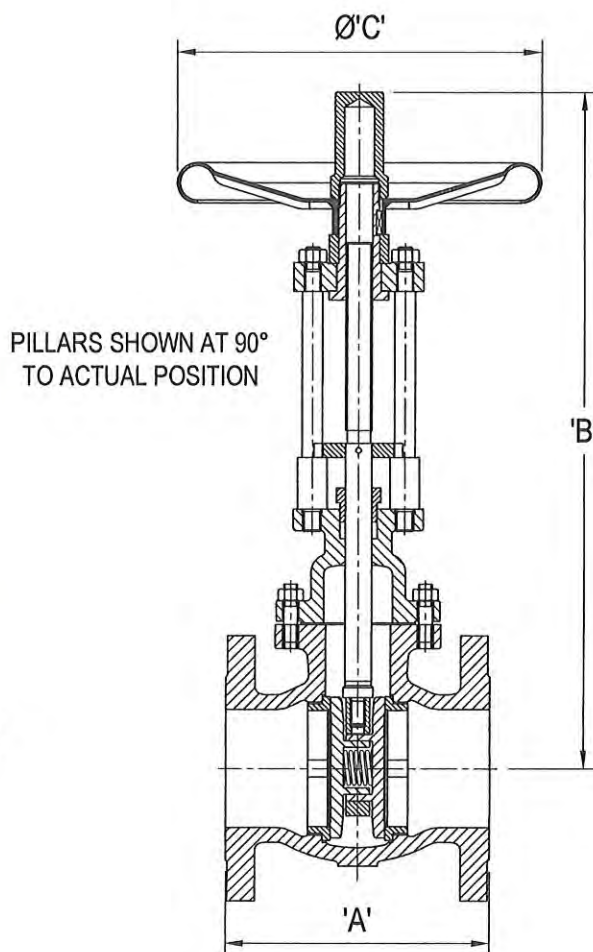


FIG No. 650

PRESSURE / TEMPERATURE RATING:

In accordance with BSI, BS EN 1984 (Formerly BS 5157) and ANSI specifications.

For the line flange connection required, refer to the Pressure Temperature Rating Chart in the Technical Data Section of our website.

FLANGED:

BS EN 1092-1 PN10, PN16, PN25, PN40.
BS 10 Tables E, F, H.
ANSI B16.5 Class 150, Class 300.

CONSTRUCTION:

The gland incorporates pre-compressed pure exfoliated graphite under controlled compression, with facility for adjustment, giving improved sealing and reduced maintenance.

The valve is fitted with a backseating device to further protect the gland packing when fully open.

Seats and doors are made of our special TDA58 nickel based alloy developed for high galling resistance.

Valves 200mm bore and above incorporate thrust bearings to reduce torque.

OPTIONAL EXTRAS:

Positive open / shut indication.
Locking device.
Drain plug and / or bypass.
Actuator operation.
Gearbox and remote operation.

MATERIALS:

Body / Cover Carbon steel BS EN 10213 gr. GP240GH (WCB) 0.23%C max.
Seat Rings / Doors TDA58 copper nickel silicon alloy
Stem Stainless steel to BS EN 10088-3 1.4057
Gland Packing Exfoliated graphite

Nominal Size		50	65	80	100	125	150	200	250	300
A	PN 16	178	190	203	229	254	267	292	330	356
	PN 25/40	216	241	283	305	381	403	419	457	502
	ANSI 150	178	190	203	229	254	267	292	330	356
	ANSI 300	216	241	283	305	381	403	419	457	502
B		368	431	490	580	743	810	1012	1250	1454
C		200	200	250	315	400	400	530	530	530
Wgt. Kg.	ANSI 300	22	28	38	53	89	109	181	302	470
	PN 16	19	25	32	45	74	88	142	232	370

TYPE OF APPLICATION:
Isolation.

LINE MEDIA:

Wet / saturated steam.
High temperature hot water.
Medium temperature hot water.
Low temperature hot water.
Cold 'clean' water.

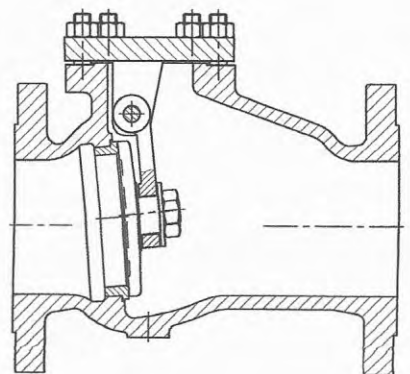


Swing Check Valves

Cast Iron - Fig 184SC

Cast Iron Lever & Weight -Fig 184SCLW

Cast Iron with Rubber Face - Fig 184SCRF



CAST IRON SWING CHECK VALVE

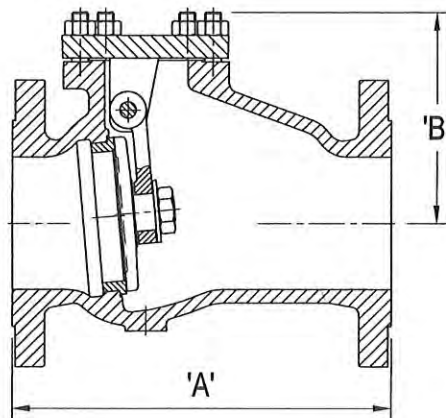


FIG No. 184SC / 184SCLW

PRESSURE / TEMPERATURE RATING:

In accordance with BSI, BS EN 12334 (Formerly BS 5153) and ANSI Specifications.

10 Bar at 0°C to 120°C maximum.

FLANGED:

BS EN 1092-2 PN6, PN10, PN16.

BS 10 Tables D, E.

ANSI B16.1 Class 125.

CONSTRUCTION:

Fig. 184SC - bolted cover flange assembly is removable complete with hinge and disc for maintenance or replacement on site.

Fig. 184SCLW - lever and weight type valves will be supplied with the lever on the right hand side when looking at the valve inlet port as illustrated, unless opposite hand is specified.

Fig. 184SC and Fig. 184SCLW are suitable for horizontal or vertical pipelines (Fig. 184SCLW lever has provision for realignment when vertically mounted).

Flanges will be drilled unless otherwise specified on order.

MATERIALS:

Body / Cover Cast iron to BS EN 1561 EN GJL 250

Disc / Seat Ring Gunmetal to BS EN 1982 CC491K

Hinge Pin High tensile brass to BS EN 12164 CW 721 R

Stuffing box, spindle and side plug (184SCLW):
high tensile brass to BS EN 12164 CW 721 R.

Alternative trim available: stainless steel.

Nominal Size	80	100	125	150	200	250	300
A	241	292	330	356	495	622	698
B	134	153	165	184	273	324	337
Weight Kg.	184SC	21	29	39	54	113	162
	184SCLW	24	32	43	60	123	173

OPTIONAL EXTRAS:

Body and cover tappings

By-pass

Limit switches

Lever arm guard

Rubber faced disc (max. temp 65°C)

TYPE OF APPLICATION:

Fluid non-return.

LINE MEDIA:

Medium temperature hot water.

Low temperature hot water.

Cold 'clean' water.

Cold 'dirty' water.

Sewage.

Effluent.

CAST IRON SWING CHECK VALVE with BONDED RUBBER DISC FACE

FIG: 184 SCRF

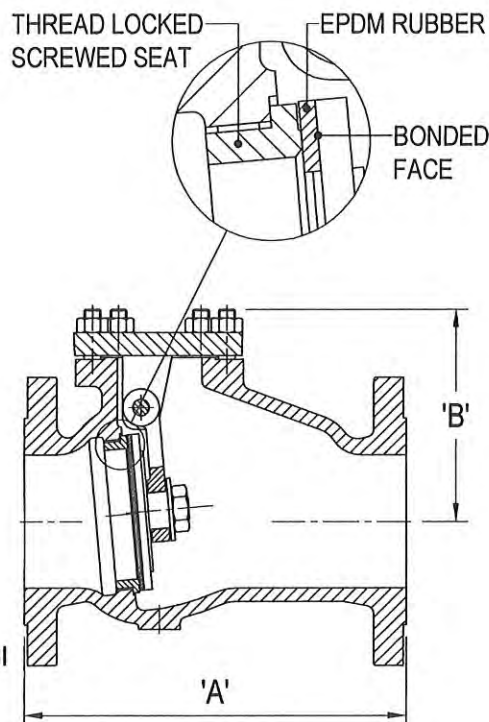


FIG No. 184SCRF

PRESSURE / TEMPERATURE RATING:

In accordance with BSI, BS EN 12334 (Formerly BS 5153) and ANSI Specifications.

16 Bar at 0°C to 65°C maximum.

FLANGED:

BS EN 1092-2 PN6, PN10, PN16.

BS 10 Tables D, E.

ANSI B16.1 Class 125.

CONSTRUCTION:

Bolted cover flange assembly is removable complete with hinge and disc for maintenance or replacement on site.

Suitable for horizontal or vertical pipelines.

Flanges will be drilled unless otherwise specified on order.

MATERIALS:

Body / Cover Cast iron to BS EN 1561 EN GJL 250

Seat Ring Gunmetal to BS EN 1982 CC491K

Disc EPDM rubber seating face bonded to

Cast iron to BS EN 1561 EN GJL 250

Hinge Pin High tensile brass to BS EN 12164 CW 721 R

Nominal Size	80	100	150	200	250	300
A	241	292	356	495	622	698
B	134	153	184	273	324	337
Weight Kg.	21	29	55	113	162	242

OPTIONAL EXTRAS:

Body and cover tappings

By-pass

TYPE OF APPLICATION:

Fluid non-return.

LINE MEDIA:

Medium temperature hot water.

Low temperature hot water.

Cold 'clean' water.

Cold 'dirty' water.

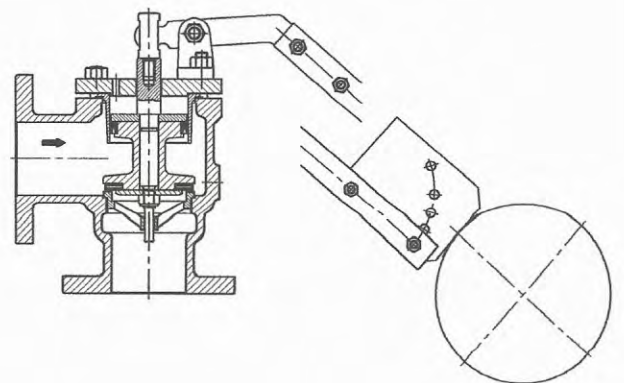
Sewage.

Effluent.



Equilibrium Globe and Angle Ball Float Valves

Cast Iron - Fig 500, 501



CAST IRON EQUILIBRIUM BALL FLOAT VALVE

WRAS APPROVED

FIG: 501

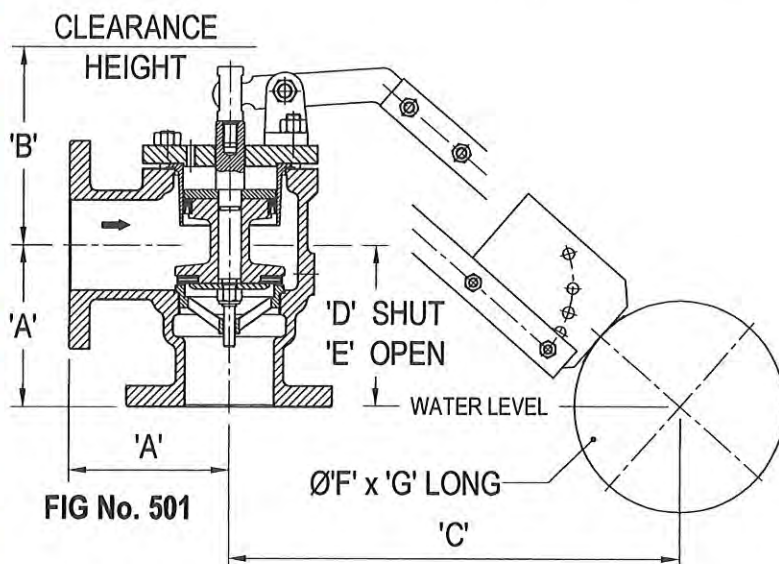


FIG No. 501

PRESSURE / TEMPERATURE RATING:

50mm - 300mm Temp.
10 Bar 23°

FLANGED: BS 10 Table 'F'

DRILLED:

BS EN 1092-2 PN10, PN16.
BS 10 Tables D, E, F.
ANSI B16.1 Class 125.

CONSTRUCTION:

Bolted cover plate to protect seal and cylinder from the ingress of debris.
Maintenance is simplified by easily replaceable piston seal and steel reinforced renewable rubber disc.
Adjustable float for optimum water level control.
The valves are supplied with line flanges to BST 'F' diameter. Unless otherwise instructed the inlet flange will be drilled to match the flange specified on order.
The outlet flange will not be drilled unless ordered.

MATERIALS:

Body / Cover	Cast iron to BS EN 1561 EN GJL 250 (with Rilsan nylon coating)
Seat Ring and Cylinder	Gunmetal to BS EN 1982 CC491K
Disc	EPDM rubber bonded to steel reinforcing plate
Piston Seal	EPDM rubber
Float	Tough Rilsan nylon coating heat-fused to steel

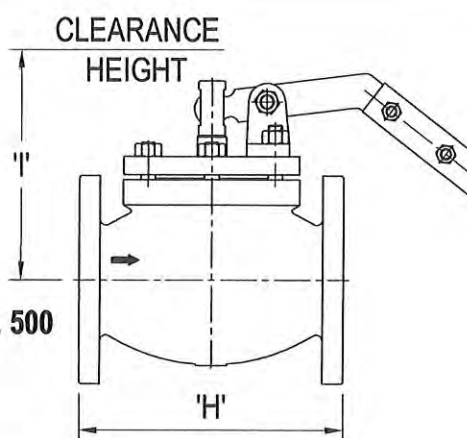


FIG No. 500

APPROVAL:

Range : 50mm - 200mm only
WRAS Water Regulations
Advisory Scheme.

TYPE OF APPLICATION:

Reservoir / water storage tank infill.

LINE MEDIA:

Water.
Potable water.

Nominal Size	A	B	C	D	E	F	G	H	I	Flow J	Capacity K	L	Wgt. Kg.
50	125	165	1090	436	700	305	203	203	203	6	78	160	22
80	155	190	1100	560	860	305	292	241	248	14.2	187	160	33
100	178	228	1295	610	1040	356	305	292	267	24.7	326	170	52
150	229	280	1467	760	1284	457	356	356	279	55.7	735	200	96
200	248	305	1714	960	1570	508	356	495	445	98.5	1300	220	146
250	311	381	1950	930	1750	508	356	622	445	175	2300	220	270
300	350	483	2250	1060	2170	508	356	698	483	260	3400	220	311

Note:

Dimension 'D' conforms to WRC requirements for minimum height above water level byelaw no. 11 type 'A' air gap
Due to HIGH LEVER RATIOS, dimension 'D' is subject to a tolerance of +/- 10%.
It is recommended that the flow velocity should not exceed 3m/s (10f/s) giving a maximum flow of: J litres/sec, K gall/min.

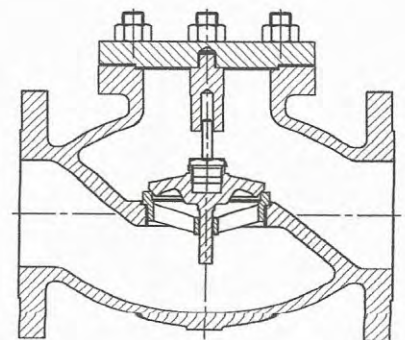


Globe and Angle Lift Check Valves

Cast Steel - Fig 282, 283

Cast Iron - Fig 184, 185

Gunmetal - Fig 134, 134L



CAST STEEL GLOBE and ANGLE LIFT CHECK VALVE

FIG: 282



FIG: 283

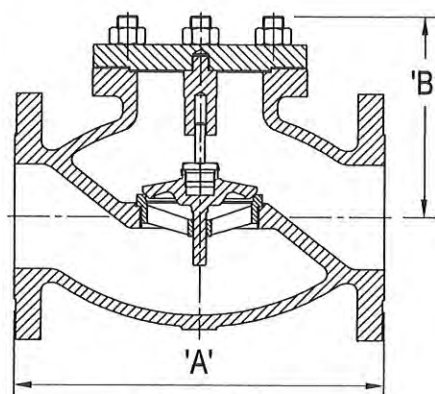


FIG No. 282

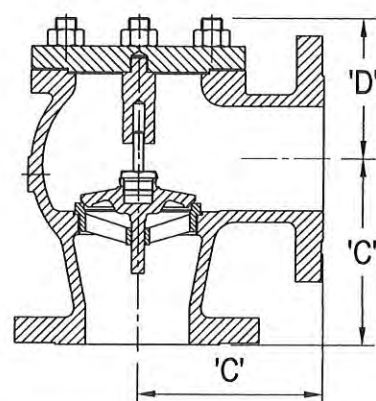


FIG No. 283

PRESSURE / TEMPERATURE RATING:

In accordance with BSI, BS EN 14341 (Formerly BS 5160*) and ANSI specifications.

For the line flange connection required, refer to the Pressure Temperature Rating Chart in the Technical Data Section of our website.

FLANGED:

BS EN 1092-1 PN10, PN16, PN25, PN40.
BS 10 Tables E, F, H.
ANSI B16.5 Class 150.

CONSTRUCTION:

Bolted cover, top and bottom guided disc.

These valves should be installed with the Valve Head vertical.

Flanges will be drilled unless otherwise specified on order.

MATERIALS:

Body Carbon Steel to BS EN 10213 gr. GP240GH (WCB) 0.23%C max.
Cover Carbon Steel to BS EN 10028 161 - 430
Disc Stainless Steel to ASME SA 487 CA6NM Cl.'A'
Seat Ring Stainless Steel to BS EN 10283 1.4408

* DIM A face dimensions to BS 4312

Nominal Size (Fig. 282)		15-20	25	32	40	50	65	80	100	125	150	200
A	PN 10 16 25 40	152	152	200	200	254	280	305	356	406	457	533
	BST E, F H, ANSI 150	152	152	184	184	254	280	305	356	406	457	533
B		78	87	98	98	123	142	150	179	206	226	278

Nominal Size (Fig. 283)		15-20	25	32	40	50	65	80	100	125	150	200
C*	PN 10 16 25 40	83	83	114	114	127	140	152	178	203	229	260
	BST E, F H, ANSI 150	83	83	102	102	127	140	152	178	203	229	260
D		62	75	98	98	103	103	120	131	164	193	278

* Dimension 'C' centre to face dimension to BS 4312.

OPTIONAL EXTRAS:

Dashpot (sizes 50mm and above)

TYPE OF APPLICATION:

Fluid non-return.

LINE MEDIA:

Wet / saturated steam.
Condensate.
High temperature hot water.
Medium temperature hot water.
Low temperature hot water.
Cold 'clean' water.

CAST IRON GLOBE and ANGLE LIFT CHECK VALVE

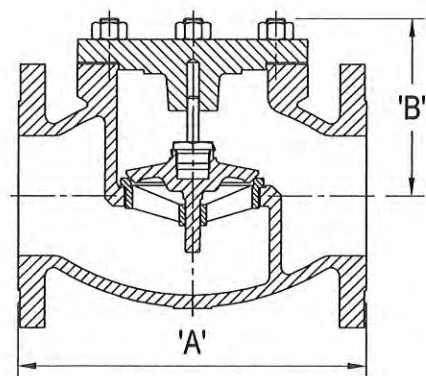
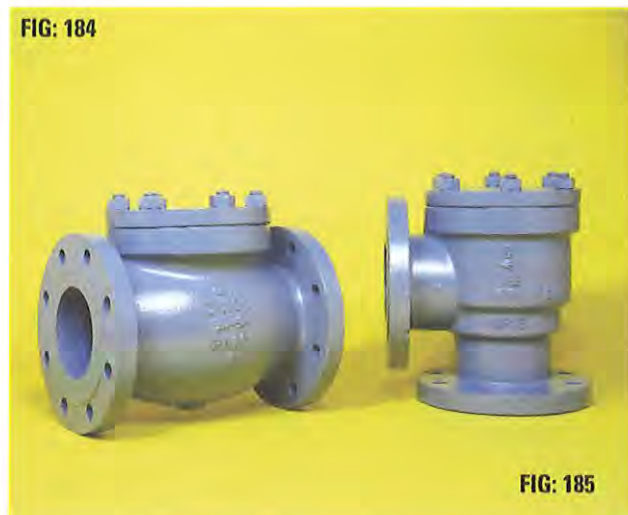


FIG No. 184

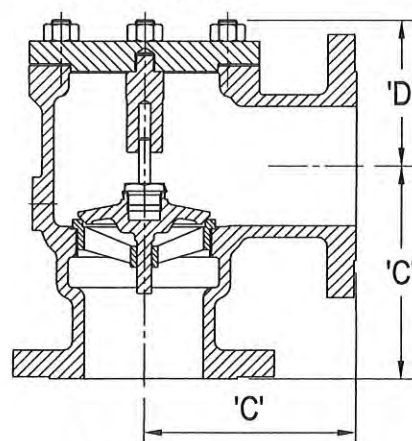


FIG No. 185

PRESSURE / TEMPERATURE RATING:

In accordance with BSI, BS EN 12334 (Formerly BS 5153) and ANSI specifications.

For the line flange connection required, refer to the Pressure Temperature Rating Chart in the Technical Data Section of our website.

Max. temp. 180°C - restricted use.

FLANGED:

BS EN 1092-2 PN6, PN10, PN16.

BS 10 Tables D, E, F.

ANSI B16.1 Class 125.

CONSTRUCTION:

Bolted cover, top and bottom guided disc.

These valves should be installed with the Valve Head vertical.

Flanges will be drilled unless otherwise specified on order.

MATERIALS:

Body / Cover Cast iron to BS EN 1561 EN GJL 250

Disc / Seat Ring Gunmetal to BS EN 1982 CC491K

Alternative trim available: stainless steel.

TYPE OF APPLICATION:

Fluid non-return.

LINE MEDIA:

High temperature hot water.

Medium temperature hot water.

Low temperature hot water.

Cold 'clean' water.

Nominal Size (Fig. 184)	25	32	40	50	65	80	100	125	150	200
A	160	180	200	203	216	241	292	330	356	495
B	86	87	87	98	108	120	153	160	163	272
Weight Kg.	8	9	10	12	17	20	31	47	55	128

Nominal Size (Fig. 185)	25	32	40	50	65	80	100	125	150	200
C	100	105	115	125	145	155	178	203	229	248
D	75	76	76	88	96	108	136	140	153	187
Weight Kg.	7	8	8	13	17	18	35	39	67	

GUNMETAL GLOBE and ANGLE LIFT CHECK VALVE

FIG: 134



FIG: 134L

PRESSURE / TEMPERATURE RATING:

In accordance with BSI, BS 5154 & ANSI specifications.
For the line flange connection required, refer to the Pressure Temperature Rating Chart in the Technical Data Section of our website.

FLANGED:

BS EN 1092-3 PN6, PN10, PN16, PN25.
BS 10 Tables D, E, F, H.
ANSI B16.24 Class 150.

CONSTRUCTION:

Bolted cover, top and bottom guided disc and integral seat.
Valves can be supplied with gunmetal or stainless steel screwed seat as shown * if specified on order.

Flanges will be drilled unless otherwise specified on order.

These valves should be installed with the Valve Head vertical.

MATERIALS:

Body / Bonnet Gunmetal to BS EN 1982 CC491K
Disc Gunmetal to BS EN 1982 CC491K
Alternative trim available: stainless steel.

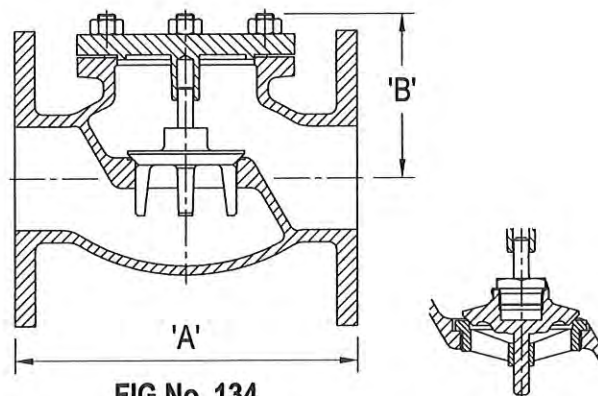


FIG No. 134

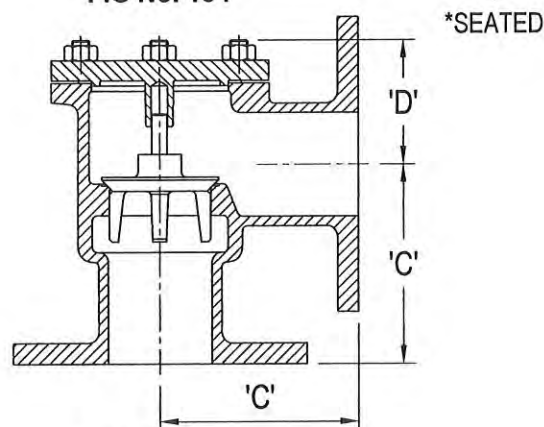


FIG No. 134L

TYPE OF APPLICATION:

Fluid non-return.

LINE MEDIA:

Wet / saturated steam.
Condensate.
High temperature hot water.
Medium temperature hot water.
Low temperature hot water.
Cold 'clean' water.

Nominal Size (Fig. 134)	15	20	25	32	40	50	65	80	100
A	108	117	127	146	159	190	216	254	305
B	62	62	80	83	87	92	105	110	130
Weight Kg	3	3	5	7	8	12	15	20	

Nominal Size (Fig. 134L)	15	20	25	32	40	50	65	80	100
C*	70	75	85	95	100	115	125	135	146
D	52	52	65	70	72	72	75	82	105
Weight Kg	4	4	5	5	8	10	14	19	

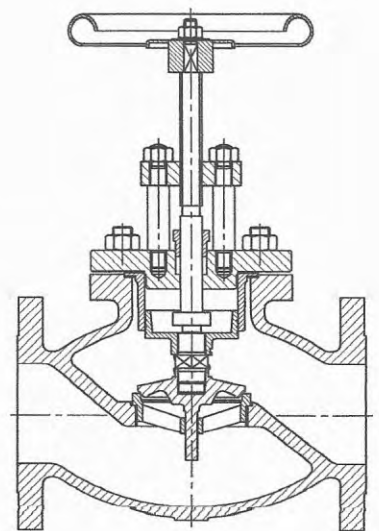
* Dimension 'C' centre to face dimension to BS 4312.



Boiler Crown Combined Stop and Non-return Valves

Cast Steel Globe - Fig 280DP

Cast Steel Angle - Fig 281DP



CAST STEEL GLOBE BOILER CROWN COMBINED STOP and NON-RETURN VALVE

FIG: 280DP



PRESSURE / TEMPERATURE RATING:

In accordance with BSI, BS EN 13709 (Formerly BS 5160)* and ANSI specifications.

For the line flange connection required, refer to the Pressure Temperature Rating Chart in the Technical Data Section of our website.

FLANGED:

BS EN 1092-1 PN10, PN16, PN25, PN40.
BS 10 Tables E, F, H.
ANSI B16.5 Class 150.

CONSTRUCTION:

Bolted cover, outside screw SDNR valve with rising spindle.

These valves should be installed with the Valve Head vertical.

Supplied with internal dashpot to minimise noise and wear caused by chatter.

Flanges will be drilled unless otherwise specified on order.

MATERIALS:

Body Carbon steel to BS EN 10213 gr. GP240GH (WCB) 0.23%C max.
Cover Carbon steel to BS EN 10028 161 - 430
Disc Stainless steel to ASME SA 487 CA6NM Cl.'A'
Seat Ring Stainless steel to BS EN 10283 1.4408
Stem Stainless steel to BS EN 10088-3 1.4006
Dashpot / Cylinder Gunmetal to BS EN 1982 CC491K
Gland Packing Exfoliated graphite

*DIM A face to face dimensions to BS 4312

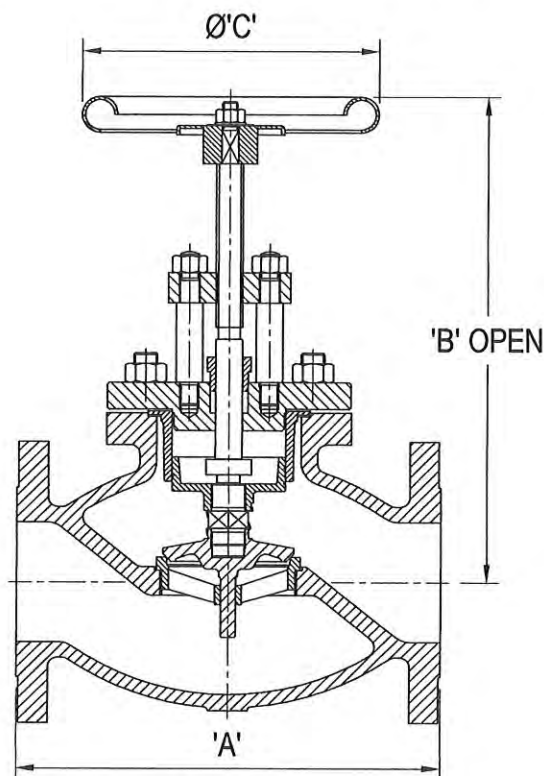


FIG No. 280DP

OPTIONAL EXTRAS:

Open and shut indicator
Locking device.
Gearbox.

TYPE OF APPLICATION:

Isolation.
Fluid non-return.

LINE MEDIA:

Wet / saturated steam.
Condensate.
High temperature hot water.
Medium temperature hot water.
Low temperature hot water.
Cold 'clean' water.

Nominal Size		80	100	125	150	200
A	PN 10 16 25 40	305	356	406	457	533
	BST E, F, H, ANSI 150					
B		365	430	495	610	673
C		200	250	315	400	530
Weight Kg		40	60	96	145	225

CAST STEEL ANGLE BOILER CROWN COMBINED STOP and NON-RETURN VALVE

FIG: 281DP



PRESSURE / TEMPERATURE RATING:

In accordance with BSI, BS EN 13709 (Formerly BS 5160*) and ANSI specifications.

For the line flange connection required, refer to the Pressure Temperature Rating Chart in the Technical Data Section of our website.

FLANGED:

BS EN 1092-1 PN10, PN16, PN25, PN40.
BS 10 Tables E, F, H.
ANSI B16.5 Class 150.

CONSTRUCTION:

Bolted cover, outside screw SDNR valve with rising spindle.

These valves should be installed with the Valve Head vertical.

Supplied with internal dashpot to minimise noise and wear caused by chatter.

Flanges will be drilled unless otherwise specified on order.

MATERIALS:

Body Carbon steel to BS EN 10213 gr. GP240GH (WCB) 0.23%C max.
Cover Carbon steel to BS EN 10028 161 - 430
Disc Stainless steel to ASME SA 487 CA6NM Cl.'A'
Seat Ring Stainless steel to BS EN 10283 1.4408
Stem Stainless steel to BS EN 10088-3 1.4006
Dashpot / Cylinder Gunmetal to BS EN 1982 CC491K
Gland Packing Exfoliated graphite

* DIM C centre to face dimensions to BS 4312

Nominal Size		80	100	125	150	200
C	PN 10 16 25 40	152	178	203	229	260
	BST E, F, H, ANSI 150					
D		333	372	457	577	665
E		200	250	315	400	530
Weight Kg		36	54	85	120	207

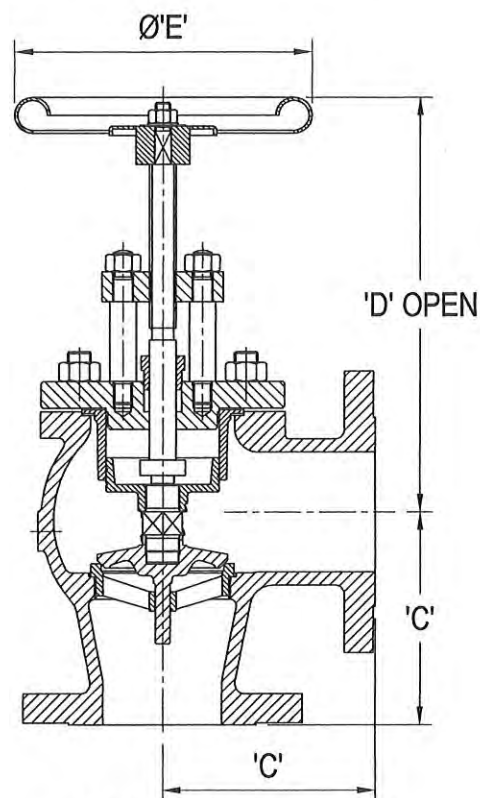


FIG No. 281DP

OPTIONAL EXTRAS:

Open and shut indicator
Locking device.
Gearbox.

TYPE OF APPLICATION:

Isolation.
Fluid non-return.

LINE MEDIA:

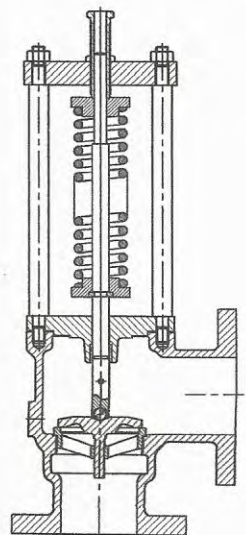
Wet / saturated steam.
Condensate.
High temperature hot water.
Medium temperature hot water.
Low temperature hot water.
Cold 'clean' water.



External Spring Globe and Angle Relief Check Valves

Cast Steel - Fig 295, 296

Cast Iron - Fig 195, 196



CAST STEEL RELIEF CHECK VALVE FOR LIQUIDS (EXTERNAL SPRING)

**FOR WATER INDUSTRY USE ONLY
WITHIN THE EUROPEAN COMMUNITY**

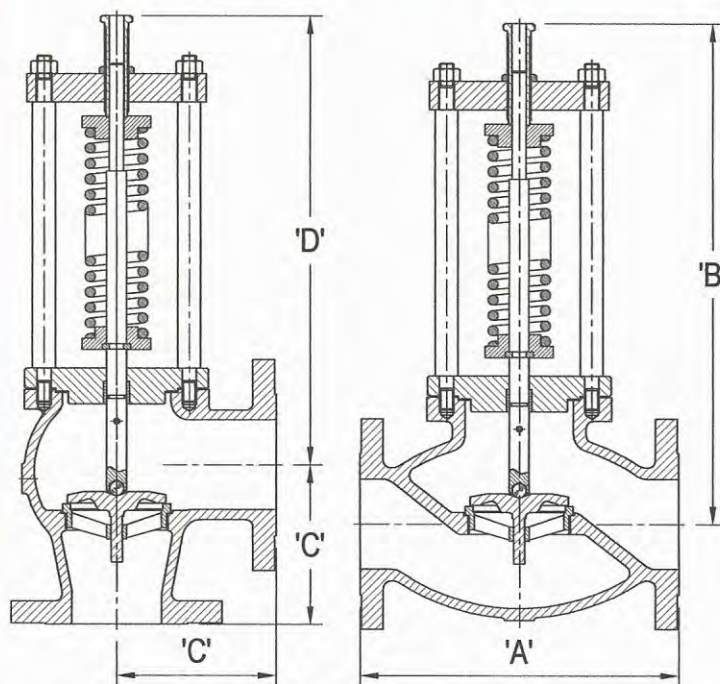


FIG No. 295

FIG No. 296

FLANGED:

BS EN 1092-1 PN10, PN16, PN25, PN40.
BS 10 Tables E, F, H.
ANSI B16.5 Class 150.

CONSTRUCTION:

This traditional design is suitable for systems with open discharge to atmosphere.

The external spring is not in contact with the discharge liquid.
The valve is intended to relieve excess liquid, and must not be used as a safety valve to prevent system failure as referenced in the Pressure Systems Safety Regulations SI 2000 No. 128.
Flanges will be drilled unless otherwise specified on order.

MATERIALS:

Body Carbon steel BS EN 10213 gr. GP240GH (WCB) 0.23%C max.
Cover Carbon steel to BS EN 10028 161 - 430
Disc Stainless steel to ASME SA 487 CA6NM Cl.'A'
Seat Ring Stainless steel to BS EN 10283 1.4408
Spring Spring alloy steel in accordance with BS 1726 chrome vanadium alloy coated.

PILLARS SHOWN AT 90°
TO ACTUAL POSITION

PRESSURE / TEMPERATURE RATING:

(Detailed on Valve I/D plate)

Minimum set pressure 5psi (0.35 Bar)
Maximum set pressure 116psi (8.0 Bar)
Maximum Temperature 40°C

STANDARD SPRING RANGE:

Nominal Sizes 50mm to 100mm

Spring No.	PSI	Bar
1	5 - 13	0.35 - 0.9
2	10 - 25	0.7 - 1.7
3	20 - 50	1.4 - 3.5
4	40 - 100	2.7 - 6.9
5	90 - 116	6.2 - 8.0

Nominal Size (Fig. 296)		50	65	80	100
A	PN 10	254	280	305	356
	BST E, F	254	280	305	356
B		343	400	443	564

Nominal Size (Fig. 295)		50	65	80	100
C	PN 10	127	140	152	178
	BST E, F	127	140	152	178
D		324	360	413	516

OPTIONAL EXTRAS:

Easing lever and cover locking unit.

TYPE OF APPLICATION:

Thermal and pressure relief

LINE MEDIA:

Effluent.
Sewage sludge.

CAST IRON RELIEF CHECK VALVE FOR LIQUIDS (EXTERNAL SPRING)

**FOR WATER INDUSTRY USE ONLY
WITHIN THE EUROPEAN COMMUNITY**

FIG: 195

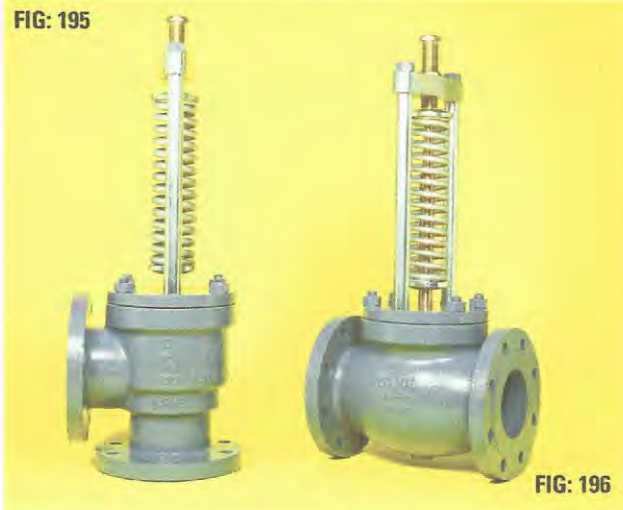


FIG: 196

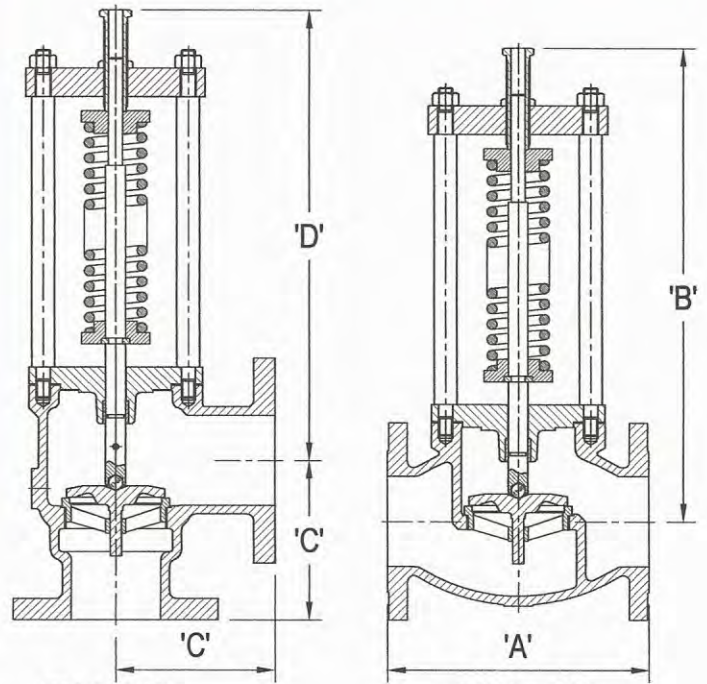


FIG No. 195

FIG No. 196

FLANGED:

BS EN 1092-2 PN6, PN10, PN16.
BS 10 Tables D, E, F.
ANSI B16.1 Class 125.

CONSTRUCTION:

This traditional design is suitable for systems with open discharge to atmosphere.

The external spring is not in contact with the discharge liquid.

The valve is intended to relieve excess liquid, and must not be used as a safety valve to prevent system failure as referenced in the Pressure Systems Safety Regulations SI 2000 No. 128.

Flanges will be drilled unless otherwise specified on order.

MATERIALS:

Body / Cover Cast iron to BS EN 1561 EN GJL 250
Disc Stainless steel to ASME SA 487 CA6NM Cl.'A'
Seat Ring Stainless steel to BS EN 10283 1.4408
Spring Spring alloy steel in accordance with BS 1726 chrome vanadium alloy coated.

PRESSURE / TEMPERATURE RATING:

(Detailed on Valve I/D plate)

Minimum set pressure 5psi (0.35 Bar)
Maximum set pressure 116psi (8.0 Bar)
Maximum temperature 40°C.

STANDARD SPRING RANGE:

Nominal Sizes 50mm to 100mm

Spring No.	PSI	Bar
1	5 - 13	0.35 - 0.9
2	10 - 25	0.7 - 1.7
3	20 - 50	1.4 - 3.5
4	40 - 100	2.7 - 6.9
5	90 - 116	6.2 - 8.0

OPTIONAL EXTRAS:

Easing lever and cover locking unit.

TYPE OF APPLICATION:

Thermal and pressure relief

LINE MEDIA:

Effluent.
Sewage sludge.

Nominal Size (Fig. 196)	50	65	80	100
A	203	216	241	292
B	324	368	421	544

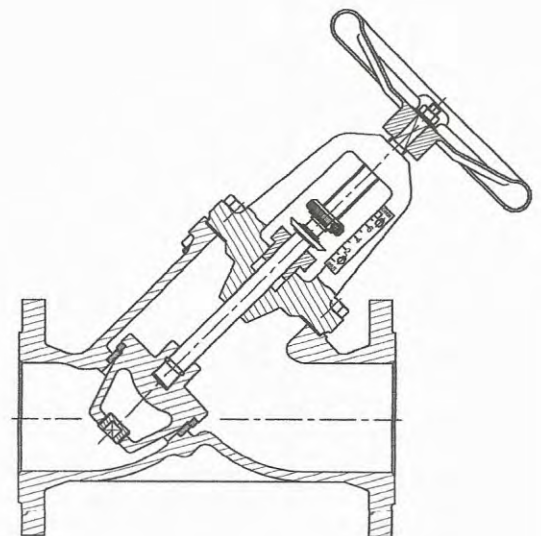
Nominal Size (Fig. 195)	50	65	80	100
A	125	145	155	178
B	316	372	410	527



Oblique Double Regulating Valves

Cast Iron - Fig BV203

Gunmetal - Fig BV307



CAST IRON DOUBLE REGULATING VALVE

FIG: BV 203

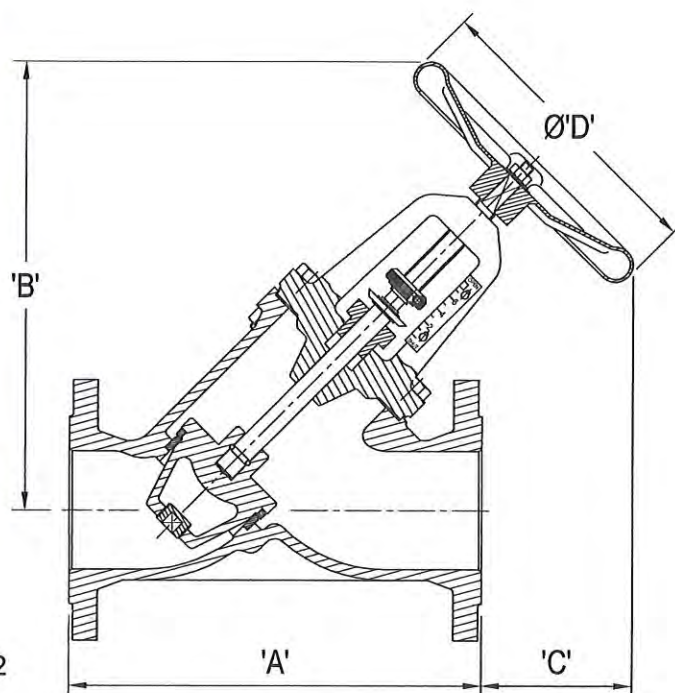
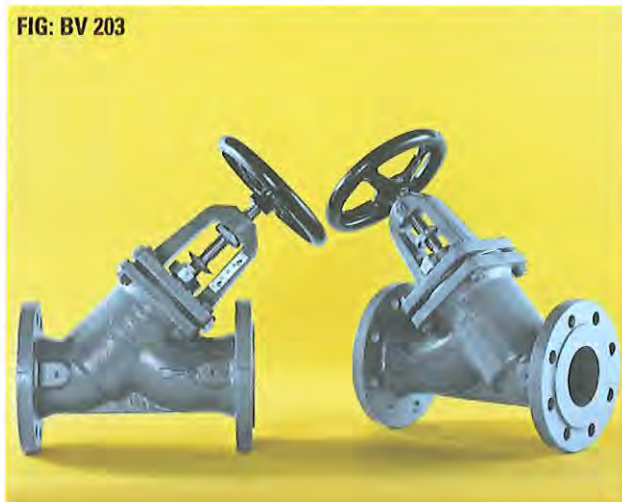


FIG No. BV203

PRESSURE / TEMPERATURE RATING:

In accordance with BSI, BS EN 13789 (Formerly BS 5152 complies with BS 7350) and ANSI specifications. For the line flange connection required, refer to the Pressure Temperature Rating Chart in the Technical Data Section of our website.

Max. temp. 180°C - restricted use.

FLANGED:

BS EN 1092-2 PN16.

CONSTRUCTION:

Valves will be supplied fitted with regulating disc, double regulating device and indicator. Flanges will be drilled unless otherwise specified on order.

COMMISSIONING VALVE OPTIONS:

Fixed orifice metering station BV 411 available for coupling as a commissioning set. Available as BV 223 fitted with test points for variable orifice flow measurement and regulation.

MATERIALS:

Body / Bonnet	Cast iron to BS EN 1561 EN GJL 250
Seat Ring	Stainless steel type 316
Disc Facing Ring	Stainless steel type 316
Stem	High tensile brass to BS EN 12164 CW 721 R
Gland Packing	Exfoliated graphite
Gasket	Exfoliated reinforced graphite

FLOW FACTOR:

Refer to Doc. SD1-20 for KV and Kv's.

TYPE OF APPLICATION:

Fluid regulation.
Heating systems.

LINE MEDIA:

High temperature hot water.
Medium temperature hot water.
Low temperature hot water.
Cold 'clean' water.

Nominal Size	65	80	100	125	150	200
A	290	310	350	400	480	598
B	315	340	418	512	604	966
C (Open)	110	138	175	195	211	460
D (Open)	200	200	250	315	400	530
Weight Kg	20	25	36	60	91	153

BRONZE (GUNMETAL) DOUBLE REGULATING VALVE

FIG: BV 307



PRESSURE / TEMPERATURE RATING:

In accordance with BSI, BS 5154 complies with BS 7350 and ANSI specifications.

For the line flange connection required, refer to the Pressure Temperature Rating Chart in the Technical Data Section of our website.

FLANGED:

BS EN 1092-3 PN25.

CONSTRUCTION:

Valves will be supplied fitted with regulating disc, double regulating device and indicator.
Flanges will be drilled unless otherwise specified on order.

COMMISSIONING VALVE OPTIONS:

Fixed orifice metering station BV 412 available for coupling as a commissioning set.
Available as BV 327 fitted with test points for variable orifice flow measurement and regulation.

MATERIALS:

Body / Bonnet	Gunmetal BS EN 1982 CC491K
Disc / Seat Ring	Stainless steel type 316
Stem	High tensile brass to BS EN 12164 CW 721 R
Gland Packing	Exfoliated graphite

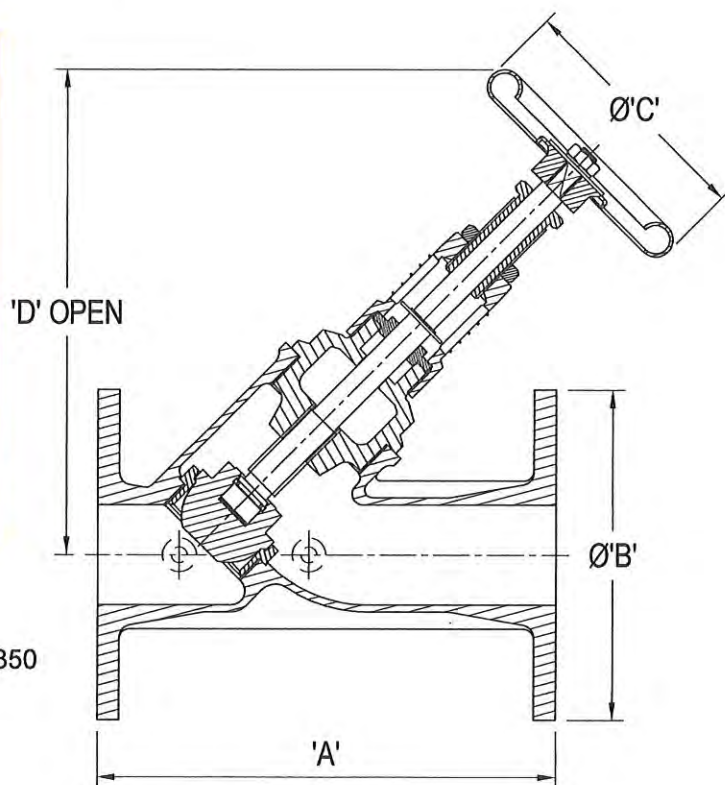


FIG No. BV307

FLOW FACTOR:

Refer to Doc. SD1-20 for KV and KVs.

TYPE OF APPLICATION:

Fluid regulation.
Heating systems.
Heating and ventilation systems.

LINE MEDIA:

Wet / saturated steam.
Condensate.
High temperature hot water.
Medium temperature hot water.
Low temperature hot water.
Cold 'clean' water.

Nominal Size	15	20	25	32	40	50
A	130	150	160	180	200	230
B	95	105	115	140	150	165
C	100	100	100	125	125	160
D (Open)	140	155	165	215	240	270
Weight Kg	2	3	3.5	5.5	7	10

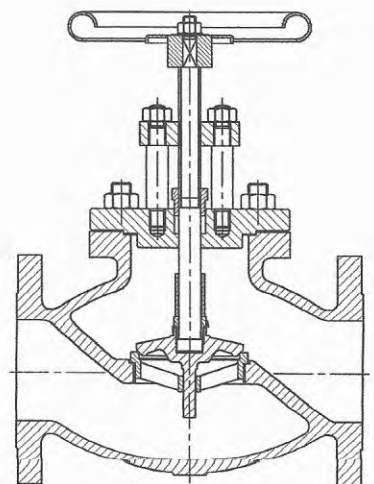


Globe and Angle Stop Valves

Cast Steel - Fig 280, 281

Cast Iron - Fig 181, 182

Gunmetal - Fig 133, 133L



CAST STEEL GLOBE STOP VALVE

FIG: 280



PRESSURE / TEMPERATURE RATING:

In accordance with BSI, BS EN 13709 (Formerly BS5160*) and ANSI specifications.

For the line flange connection required, refer to the Pressure Temperature Rating Chart in the Technical Data Section of our website.

FLANGED:

BS EN 1092-1	PN10, PN16, PN25, PN40.
BS 10 Tables	E, F, H.
ANSI B16.5	Class 150.

CONSTRUCTION:

Valves will be supplied as stop valves screw lift (S/L) as illustrated unless specified combined stop and non-return (SDNR) as shown*.

These valves should be installed with the Valve Head vertical.

Bolted cover, outside screw and rising stem.

Flanges will be drilled unless otherwise specified on order.

MATERIALS:

Body Carbon steel to BS EN 10213 gr. GP240GH (WCB) 0.23%C max.

Cover Carbon steel to BS EN 10028 161 - 430

Disc Stainless steel to ASME SA 487 CA6NM Cl.'A'

Seat Ring Stainless steel to BS EN 10283 1.4408

Stem Stainless steel to BS EN 10088-3 1.4006

Gland Packing Exfoliated graphite

Alternative trim available:

Gunmetal disc and seat, high tensile brass spindle.

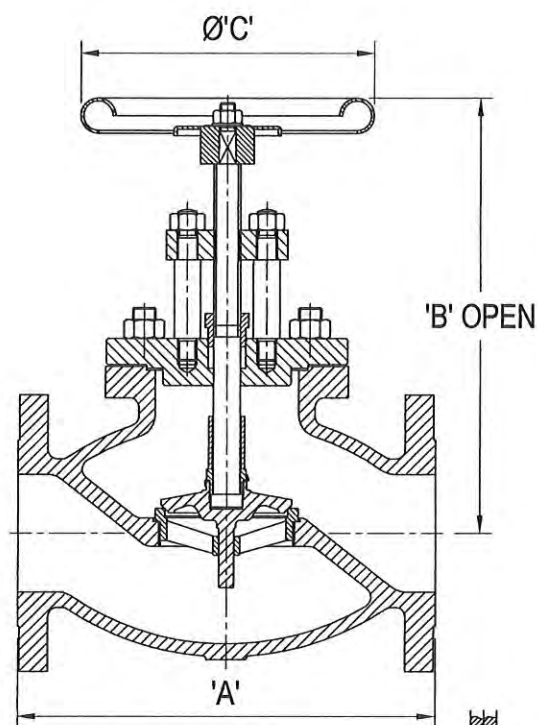
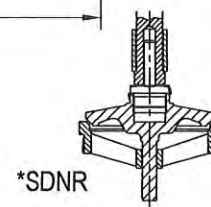


FIG No. 280



*SDNR

OPTIONAL EXTRAS:

Open and shut indicator
Locking device.
Actuator operation.
Gearbox and remote operation.

TYPE OF APPLICATION:

Isolation.

LINE MEDIA:

Wet / saturated steam.
Condensate.
High temperature hot water.
Medium temperature hot water.
Low temperature hot water.
Cold 'clean' water.

*DIM A face to face dimensions to BS 4312

Nominal Size		15-20	25	32	40	50	65	80	100	125	150	200
A	PN 10 16 25 40	152	152	200	200	254	280	305	356	406	457	533
	BST E, F, H, ANSI 150	152	152	184	184	254	280	305	356	406	457	533
B		200	223	226	226	285	321	324	394	460	553	678
C		125	160	160	160	200	200	200	250	315	400	530
Weight Kg		7	9	15	15	23	31	38	59	93	135	215

CAST STEEL ANGLE STOP VALVE

FIG: 281



PRESSURE / TEMPERATURE RATING:

In accordance with BSI, BS EN 13709 (Formerly BS 5160*) and ANSI specifications.

For the line flange connection required, refer to the Pressure Temperature Rating Chart in the Technical Data Section of our website.

FLANGED:

BS EN 1092-1 PN10, PN16, PN25, PN40.
BS 10 Tables E, F, H.
ANSI B16.5 Class 150.

CONSTRUCTION:

Valves will be supplied as stop valves screw lift (S/L) as illustrated unless specified combined stop and non-return (SDNR) as shown*.

These valves should be installed with the Valve Head vertical.

Bolted cover, outside screw and rising stem.

Flanges will be drilled unless otherwise specified on order.

MATERIALS:

Body Carbon steel to BS EN 10213 gr. GP240GH (WCB) 0.23%C max.

Cover Carbon steel to BS EN 10028 161 - 430

Disc Stainless steel to ASME SA 487 CA6NM Cl.'A'

Seat Ring Stainless steel to BS EN 10283 1.4408

Stem Stainless steel to BS EN 10088-3 1.4006

Gland Packing Exfoliated graphite

Alternative trim available:

Gunmetal disc and seat, high tensile brass spindle.

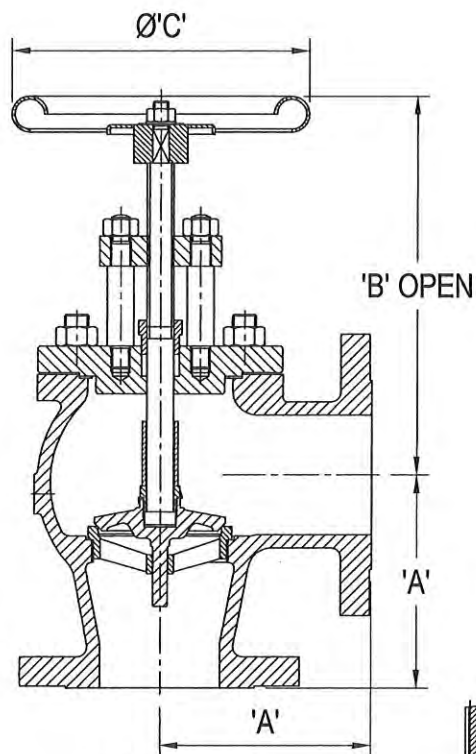
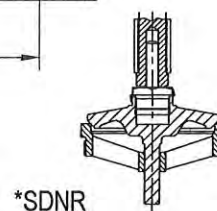


FIG No. 281



*SDNR

OPTIONAL EXTRAS:

Open and shut indicator

Locking device.

Actuator operation.

Gearbox and remote operation.

TYPE OF APPLICATION:

Isolation.

LINE MEDIA:

Wet / saturated steam.

Condensate.

High temperature hot water.

Medium temperature hot water.

Low temperature hot water.

Cold 'clean' water.

* DIM A centre to face to BS 4312

Nominal Size		15-20	25	32	40	50	65	80	100	125	150	200
A	PN 10 16 25 40	83	83	114	114	127	140	152	178	203	229	260
	BST E, F H, ANSI 150	83	83	102	102	127	140	152	178	203	229	260
B		185	209	229	229	277	280	289	337	422	541	670
C		125	160	160	160	200	200	200	250	315	400	530
Weight Kg		7	8	16	16	22	26	33	48	77	108	207

CAST IRON GLOBE STOP VALVE

FIG: 181



PRESSURE / TEMPERATURE RATING:

In accordance with BSI, BS EN 13789 (Formerly BS 5152) and ANSI specifications.

For the line flange connection required, refer to the Pressure Temperature Rating Chart in the Technical Data Section of our website.

Max. temp. 180°C - restricted use.

FLANGED:

BS EN 1092-2 PN6, PN10, PN16.

BS 10 Tables D, E, F.

ANSI B16.1 Class 125.

CONSTRUCTION:

Valves will be supplied as stop valves screw lift (S/L) as illustrated unless specified combined stop and non-return (SDNR) as shown*.

These valves should be installed with the Valve Head vertical.

Bolted cover, outside screw and rising stem.

Flanges will be drilled unless otherwise specified on order.

MATERIALS:

Body / Cover Cast iron to BS EN 1561 EN GJL 250

Disc / Seat Ring Gunmetal to BS EN 1982 CC491K

Stem High tensile brass to BS EN 12164 CW 721 R

Gland Packing Exfoliated graphite

Alternative trim available: stainless steel.

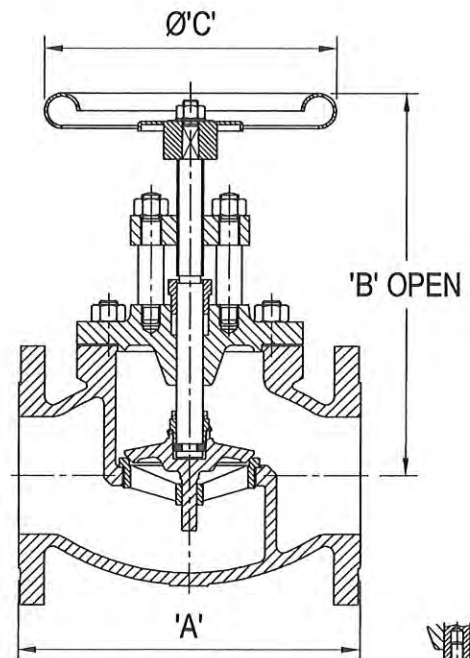


FIG No. 181

*SDNR

OPTIONAL EXTRAS:

Open and shut indicator
Locking device.

TYPE OF APPLICATION:

Isolation.

LINE MEDIA:

High temperature hot water.
Medium temperature hot water.
Low temperature hot water.
Cold 'clean' water.

Nominal Size	25	32	40	50	65	80	100	125	150	200
A	160	180	200	203	216	241	292	330	356	495
B	213	213	213	243	283	302	351	442	533	640
C	160	160	160	200	200	200	250	315	400	530
Weight Kg.	9	10	12	17	19	27	38	56	77	157

CAST IRON ANGLE STOP VALVE

FIG: 182



PRESSURE / TEMPERATURE RATING:

In accordance with BSI, BS EN 13789 (Formerly BS 5152) and ANSI specifications.

For the line flange connection required, refer to the Pressure Temperature Rating Chart in the Technical Data Section of our website.

Max. temp. 180°C - restricted use.

FLANGED:

BS EN 1092-2	PN6, PN10, PN16.
BS 10 Tables	D, E, F.
ANSI B16.1	Class 125.

CONSTRUCTION:

Valves will be supplied as stop valves screw lift (S/L) as illustrated unless specified combined stop and non-return (SDNR) as shown*.

These valves should be installed with the Valve Head vertical.

Bolted cover, outside screw and rising stem.

Flanges will be drilled unless otherwise specified on order.

MATERIALS:

Body / Cover	Cast iron to BS EN 1561 EN GJL 250
Disc / Seat Ring	Gunmetal to BS EN 1982 CC491K
Stem	High tensile brass to BS EN 12164 CW 721 R
Gland Packing	Exfoliated graphite

Alternative trim available: stainless steel.

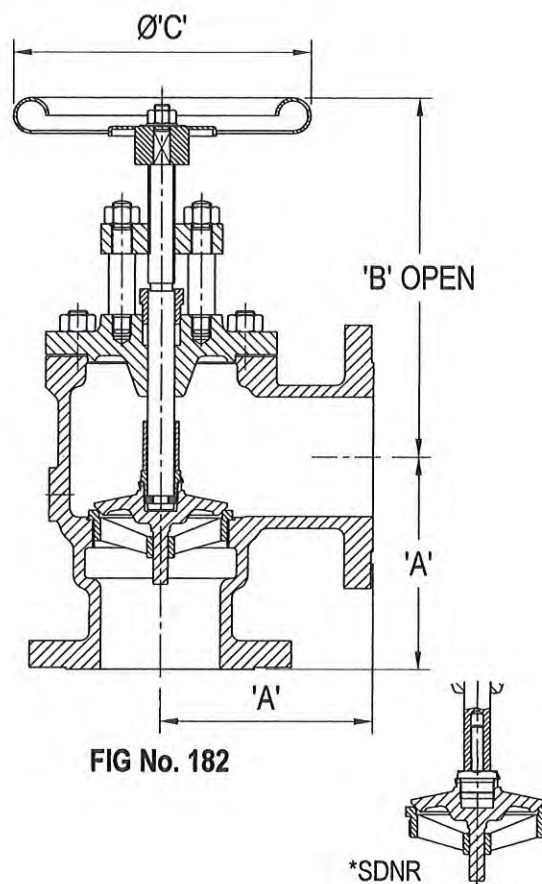


FIG No. 182

OPTIONAL EXTRAS:

Open and shut indicator
Locking device.

TYPE OF APPLICATION:

Isolation.

LINE MEDIA:

High temperature hot water.
Medium temperature hot water.
Low temperature hot water.
Cold 'clean' water.

Nominal Size	25	32	40	50	65	80	100	125	150	200
A	100	105	115	125	145	155	178	203	229	248
B	179	200	200	238	273	295	334	400	515	560
C	160	160	160	200	200	200	250	315	400	530
Weight Kg.	9	11	11	17	21	24	34	48	64	125

GUNMETAL GLOBE STOP VALVE

FIG: 133



PRESSURE / TEMPERATURE RATING:

In accordance with BSI, BS 5154 & ANSI specifications.
For the line flange connection required, refer to the Pressure Temperature Rating Chart in the Technical Data Section of our website.

FLANGED:

BS EN 1092-3 PN6, PN10, PN16, PN25.
BS 10 Tables D, E, F, H.
ANSI B16.24 Class 150.

CONSTRUCTION:

Valves will be supplied as stop valves screw lift (S/L) as illustrated unless specified combined stop and non-return (SDNR) as shown*.

These valves should be installed with the Valve Head vertical.

Bolted cover, integral seat, outside screw and rising stem.

Supplied with an open / shut indicator as standard.

Valves are fitted with a back seating stem.

Valves can be supplied with gunmetal or stainless screwed seat as shown ** if specified on order.

Flanges will be drilled unless otherwise specified on order.

MATERIALS:

Body / Bonnet Gunmetal to BS EN 1982 CC491K
Disc Gunmetal to BS EN 1982 CC491K
Stem High tensile brass to BS EN 12164 CW 721 R
Gland Packing Exfoliated graphite
Alternative trim available: stainless steel.

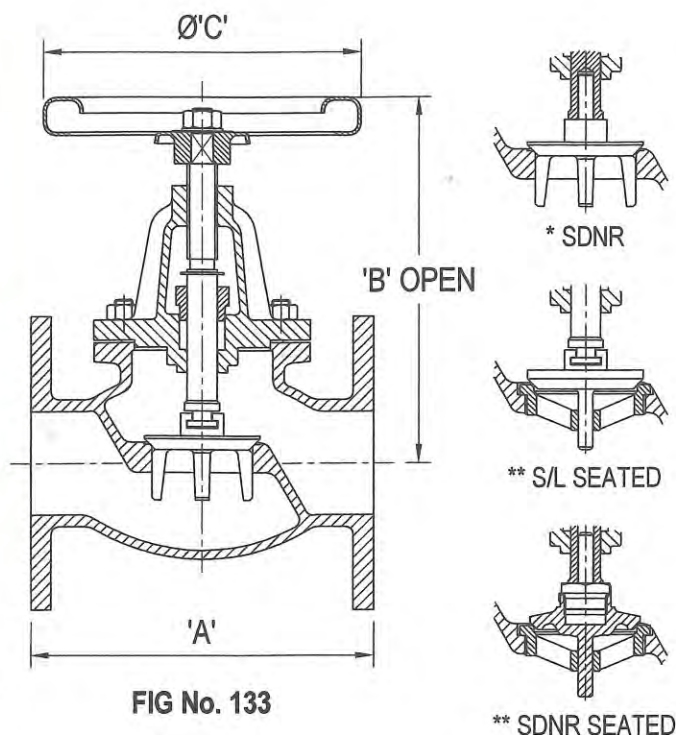


FIG No. 133

OPTIONAL EXTRAS:

Locking device.

TYPE OF APPLICATION:

Isolation.

Fluid non-return (SDNR).

LINE MEDIA:

Wet / saturated steam.

Condensate.

High temperature hot water.

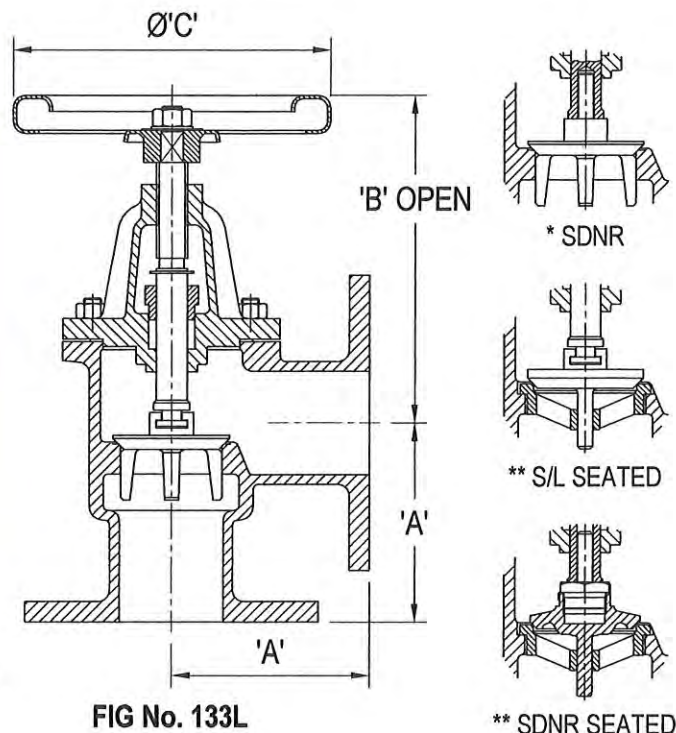
Medium temperature hot water.

Low temperature hot water.

Cold 'clean' water.

Nominal Size	15	20	25	32	40	50	65	80	100
A	108	117	127	146	159	190	216	254	305
B	166	166	194	200	207	236	243	264	324
C	125	125	125	125	160	160	200	200	250
Weight Kg	5	5	7	8	9	13	17	22	36

GUNMETAL ANGLE STOP VALVE



PRESSURE / TEMPERATURE RATING:

In accordance with BSI, BS 5154 & ANSI specifications.
For the line flange connection required, refer to the Pressure Temperature Rating Chart in the Technical Data Section of our website.

FLANGED:

BS EN 1092-3 PN6, PN10, PN16, PN25.
BS 10 Tables D, E, F, H.
ANSI B16.24 Class 150.

CONSTRUCTION:

Valves will be supplied as stop valves screw lift (S/L) as illustrated unless specified combined stop and non-return (SDNR) as shown*.

These valves should be installed with the Valve Head vertical
Bolted cover, integral seat, outside screw and rising stem.

Supplied with an open / shut Indicator as standard.

Valves are fitted with a back seating stem.

Valves can be supplied with gunmetal or stainless screwed seat as shown ** if specified on order.

Flanges will be drilled unless otherwise specified on order.

MATERIALS:

Body / Bonnet Gunmetal to BS EN 1982 CC491K
Disc Gunmetal to BS EN 1982 CC491K
Stem High tensile brass to BS EN 12164 CW 721 R
Gland Packing Exfoliated graphite
Alternative trim available: stainless steel.

OPTIONAL EXTRAS:

Locking device.

TYPE OF APPLICATION:

Isolation.

Fluid non-return (SDNR).

LINE MEDIA:

Wet / saturated steam.

Condensate.

High temperature hot water.

Medium temperature hot water.

Low temperature hot water.

Cold 'clean' water.

Nominal Size	15	20	25	32	40	50	65	80	100
A	70	75	85	95	100	115	125	135	146
B	158	158	177	185	188	210	218	236	298
C	125	125	125	125	160	160	200	200	250
Weight Kg	4	4	6	8	8	12	16	21	31



Technical Data

TD

PRESSURE / TEMPERATURE RATING CHART

MINIMUM TEMPERATURE FOR ALL MATERIALS IS LIMITED, WITHIN SPECIFICATION, TO 0°C/32°F

NOTE: THE PETER SMITH VALVE CO. LTD. RESTRICT THE USE OF CAST IRON VALVES TO 180°C TO ELIMINATE POSSIBLE MISUSE OF VALVES ON STEAM SERVICE.

CAST IRON: BS EN 1092 - 2 MAX PRESSURE/TEMPERATURE RATINGS						
Temp	°C	0/120	150	180	200	220
	°F	32/248	302	356	392	428
PN10	BAR	10.0	9.0	8.4	8.0	7.5
	PSI	145	131	122	116	108
PN16	BAR	16.0	14.4	13.4	12.8	12.0
	PSI	232	209	194	186	174

FOR PN6 USE
PN10 RATING

CAST STEEL: BS EN 1092 - 1 MAX PRESSURE/TEMPERATURE RATINGS								
Temp	°C	0/120	150	200	250	300	350	400
	°F	32/248	302	392	482	572	662	752
PN16	BAR	16.0	15.2	14.5	13.3	12.2	11.3	10.2
	PSI	232	220	210	193	177	164	148
PN25	BAR	25.0	23.8	22.7	20.8	19.1	17.7	16.0
	PSI	363	345	329	302	277	257	232

GUNMETAL: BS EN 1092 - 3 MAX PRESSURE/TEMPERATURE RATINGS								
Temp	°C	0/120	150	180	200	220	250	260
	°F	32/248	302	356	393	428	482	500
PN16	BAR	16.0	16.0	16.0	13.5	11.3	8.0	7.0
	PSI	232	232	232	196	164	116	102
PN25	BAR	25.0	25.0	25.0	21.2	17.5	12.2	10.5
	PSI	363	363	363	307	254	177	152

CAST IRON: ANSI /ASME B16.1 MAX PRESSURE/TEMPERATURE RATINGS									
Temp	°F	32/150	200	250	300	350	400	430	450
	°C	0/66	93	121	149	177	204	221	232
CLASS 125	PSI	200	190	175	165	150	140	130	125
	BAR	13.8	13.1	12.1	11.4	10.3	9.7	9.0	8.6

CAST STEEL: ANSI /ASME B16.5 MAX PRESSURE/TEMPERATURE RATINGS									
Temp	°F	32/150	200	300	400	500	600	700	752
	°C	0/38	93	149	204	260	316	371	400
CLASS 150	PSI	285	260	230	200	170	140	110	94
	BAR	19.6	17.9	15.9	13.8	11.7	9.7	7.6	6.5
CLASS 300	PSI	740	680	655	635	605	570	530	503
	BAR	51.0	46.9	45.2	43.8	41.7	39.3	36.5	34.7

GUNMETAL: ANSI /ASME B16.24 MAX PRESSURE/TEMPERATURE RATINGS								
Temp	°F	32/150	200	250	300	350	400	450
	°C	0/66	93	121	149	177	204	232
CLASS 150	PSI	225	210	195	180	165	150	135
	BAR	15.5	14.5	13.4	12.4	11.4	10.3	9.3

PRESSURE / TEMPERATURE RATING CHART

MINIMUM TEMPERATURE FOR ALL MATERIALS IS LIMITED, WITHIN SPECIFICATION, TO 0°C/32°F

NOTE: THE PETER SMITH VALVE CO. LTD. RESTRICT THE USE OF CAST IRON VALVES TO 180°C TO ELIMINATE POSSIBLE MISUSE OF VALVES ON STEAM SERVICE.

CAST IRON: BS 10 MAX PRESSURE/TEMPERATURE RATINGS						
Temp	°F	32/250	300	350	375	430
	°C	0/121	149	177	191	221
TABLE 'E'	PSI	200	150	150	150	100
	BAR	13.8	10.3	10.3	10.3	6.9
TABLE 'F'	PSI	300	200	200	200	190
	BAR	20.7	13.8	13.8	13.8	13.1

CAST STEEL: BS 10 MAX PRESSURE/TEMPERATURE RATINGS								
Temp	°F	32/450	500	550	600	650	700	750
	°C	0/232	260	288	316	343	371	399
TABLE 'E'	PSI	200	185	170	155	140	130	115
	BAR	13.8	12.8	11.7	10.7	9.7	9.0	7.9
TABLE 'F'	PSI	300	280	255	235	215	195	170
	BAR	20.7	19.3	17.6	16.2	14.8	13.4	11.7
TABLE 'H'	PSI	500	465	430	395	355	320	285
	BAR	34.5	32.1	29.6	27.2	24.5	22.1	19.6
TABLE 'J'	PSI	700	650	600	550	500	450	400
	BAR	48.3	44.8	41.4	37.9	34.5	31.0	27.6

GUNMETAL: BS 10 MAX PRESSURE/TEMPERATURE RATINGS							
Temp	°F	32/250	300	350	400	450	500
	°C	0/248	149	177	204	232	260
TABLE 'E'	PSI	200	200	200	165	130	100
	BAR	13.8	13.8	13.8	11.4	9.0	6.9
TABLE 'F'	PSI	300	300	300	245	195	150
	BAR	20.7	20.7	20.7	16.9	13.4	10.3
TABLE 'H'	PSI500	500	500	500	410	330	250
	BAR	34.5	34.5	34.5	28.3	22.8	17.2
TABLE 'E'	PSI	175	165	155	135	120	100
	BAR	12.1	11.4	10.7	9.3	8.3	6.9
TABLE 'F'	PSI	250	240	220	195	175	150
	BAR	17.2	16.6	15.2	13.4	12.1	10.3
TABLE 'H'	PSI	400	380	350	320	285	250
	BAR	27.6	26.2	24.1	22.1	19.7	17.2

DOC SD1-20 FLOW FACTOR KV & KVs CHART

Performance figures for Double Regulating Valves, Metering Stations & Commissioning Sets

PERFORMANCE FIGURES - KVs VALUES

Formula for Fixed Orifice Metering Station and Commissioning Set Signal Pressure Drop and Flow Calculations

Where Q = Flow l/s and spd = signal pressure drop in kPa

1. To size within a suitable spd band $KVs = \frac{Q \times 36}{\sqrt{spd}}$
2. To find spd with known KVs $spd = \frac{Q^2 \times 1296}{KVs^2}$
3. To find flow with known KVs $Q = \frac{\sqrt{spd} \times KVs}{36}$

BV412 Fixed Orifice Metering Station & Commissioning Set comprising BV412 & BV307 Double Regulating Valve

BV411 Fixed Orifice Metering Station & Commissioning Set comprising BV411 & BV203 Double Regulating Valve

Size (mm)	15	20	25	32	40	50	65	80	100	125	150	200	250	300
KVs value	2.34	4.91	8.34	18.9	27.5	53	82	149	265	340	555	1080	1930	2640

Note: KVs - The actual or stated KV Value of a Fixed Orifice Metering Station or Commissioning Set.

VALVE PERFORMANCE FIGURES - KV VALUES

Formula for Double Regulating Valve Headloss and Flow Calculations

Where Q = Flow l/s and hl = headloss in kPa

1. To size within a suitable hl band $KV = \frac{Q \times 36}{\sqrt{hl}}$
2. To find hl with known KV $hl = \frac{Q^2 \times 1296}{KV^2}$
3. To find flow with known KV $Q = \frac{\sqrt{hl} \times KV}{36}$

BV307 Double Regulating Valve

BV203 Double Regulating Valve

DN	15	20	25	32	40	50	65	80	100	125	150	200	250	300
100%	2.77	7.1	13	20	32	54	78.5	114	176	253	362	952	1720	2430
90%	2.77	6.7	11	17	27	49	65.8	102	153	219	315	914	1690	2370
80%	2.68	6.1	9.6	15	23	43	53.5	87.4	131	193	270	854	1640	2280
70%	2.49	5.5	8.1	12	18	37	45.3	74.2	112	167	229	754	1490	2050
60%	2.16	4.8	6.7	10	14	30	37.1	61.4	94.6	140	192	618	1190	1660
50%	1.84	3.9	5.4	7.7	11	23	29.6	49.4	76	112	152	647	939	1420
40%	1.49	3	4.1	5.5	7.6	15	21.6	37.2	56.7	83.3	111	438	720	1130
30%	1.05	2	2.8	3.4	4.7	7	14.1	25.5	38.9	53.4	68.5	315	483	813
20%	0.677	1.5	2.2	2.4	3.4	2.7	10.5	19.8	29.9	37.3	46.6	256	348	644