

Piston Valves

Description :

Piston valves provide perfect tightness and durable stability on different mediums such as steam, superheated steam, heat transfer fluid, ammonia, L.P.G, acids, alkalis etc.

Size and Pipe Connections :

1. 15 NB / 20 NB / 25 NB / 32NB / 40 NB

Screwed BSPT/NPT ends.

Socket weld ends.

2. 50NB/65NB/80NB/100NB/125NB/150NB/200NB

Flange type : ANSI 150

Flange type : ANSI 300

Limiting Conditions as per IBR norms :

For (15,20,25 & 40NB) socket weld ends.

Maximum operating pressure : 78 bar g

Maximum operating temperature : 425° C

Maximum hydraulic test pressure: 156 bar g

For 15,20,& 25NB screwed ends.

Maximum operating pressure : 78 bar g

Maximum operating temperature : 425° C

Maximum hydraulic test pressure : 156 bar g

For (32-40 NB) screwed ends.

Maximum operating pressure : 41.5 bar g

Maximum operating temperature : 425° C

Maximum hydraulic test pressure: 83 bar g

Limiting Conditions :

For 50NB/65NB/80NB/100NB/125NB/150NB/200NB

Body design conditions : ANSI 300 Flanged ends

Maximum allowable pressure : 51 bar g @ 38° C

Maximum operating pressure : 41.5 bar g @ 253° C

Maximum operating temperature : 425° C @ 28.8 bar g

Maximum hydraulic test pressure: 83 bar g

Body design conditions : ANSI 150 Flanged ends

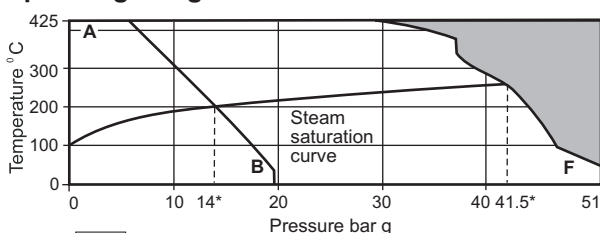
Maximum allowable pressure : 19.6 bar g @ 38° C

Maximum operating pressure : 14 bar g @ 197° C

Maximum operating temperature : 425° C @ 5.5 bar g

Maximum hydraulic test pressure : 28 bar g

Operating Range : 50-200 NB



■ The product must not be used in this region.

A - B Flanged ANSI 150

A - F Flanged ANSI 300

* PMO- Maximum operating Pressure



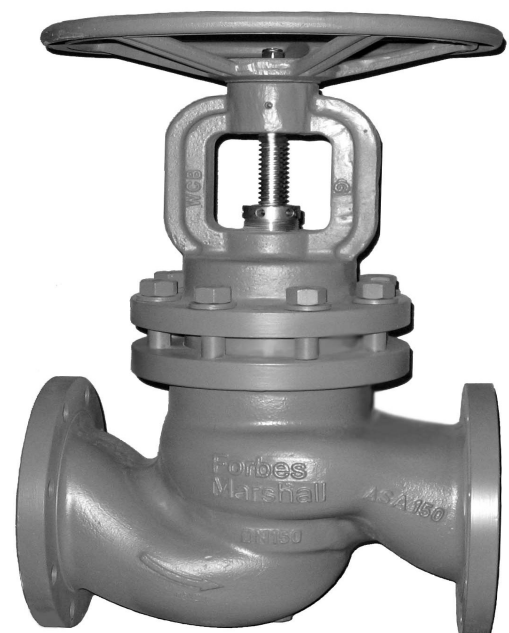
15/20/25 NB



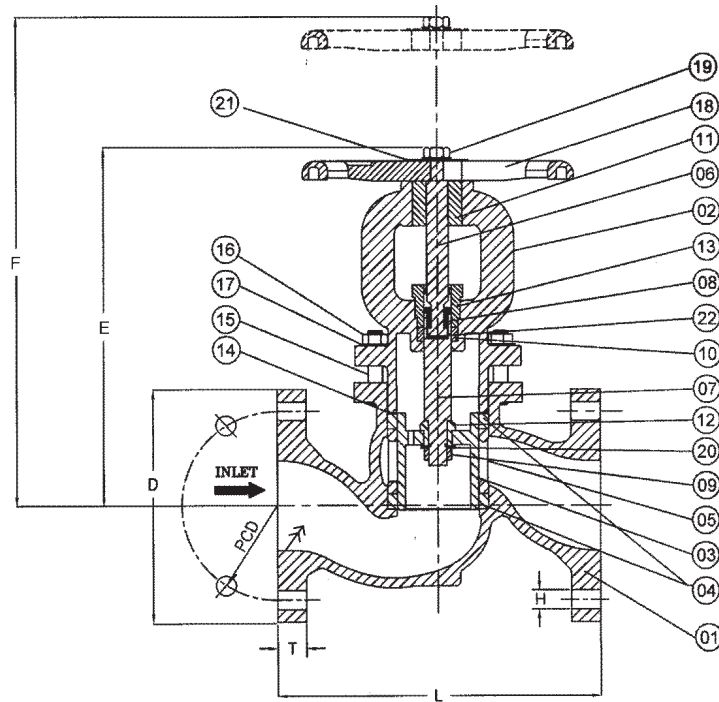
32/40 NB



50 NB



65-200 NB



Always open & close Valve fully
Do not use 'F' Key

Material :(65-200NB)

Sr.no.	Description	Material	
1	Body	Cast Steel	ASTM A 216 Gr. WCB
2	Bonnet	Cast Steel	ASTM A 216 Gr. WCB
3	Piston	Stainless Steel	ASTM A 351 CF8
4	Body Sealing Stack	S/S Reinforced Graphite	
5	Spacer	Stainless Steel	ASTM A 743 CA 15
6	Spindle	Stainless Steel	ASTM A 276 Type 410
7	Stem	Stainless Steel	ASTM A 276 Type 304
8	Split Nut	Brass	
9	LH Nut	Stainless Steel	ASTM A 276 Type 304
10	Gland Sealing Stack	S/S Reinforced Graphite	
11	Threaded Bush	Ph. Bronze	
12	Back Seat	Stainless Steel	ASTM A 276 Type 410
13	Gland Nut	Stainless Steel	ASTM A 276 Type 410
14	Bonnet Sealing Ring	Graphite	
15	Stud	Carbon Steel	ASTM A 193 Gr. B7
16	Nut	Carbon Steel	ASTM A 194 Gr. 2H
17	Beleville Washer	Spring Steel	50 CrV4
18	Handwheel	S.G. Iron	
19	Nyloc Nut	Carbon Steel	
20	Washer	Stainless Steel	ASTM A 240 Type 304
21	Name Plate	Stainless Steel	
22	Thrust Plate	Stainless Steel	ASTM A 276 Type 420

Dimensions:(approximate) in millimeters

SIZES	ANSI CLASS	L	D	PCD	H	No. of Holes	T	E	F	Approx. Weight.
65NB	300	292	φ 191	149	φ 22	8	25	335	400	31 Kg.
65NB	150	216	φ 178	140	φ 19	4	22	335	400	27 Kg.
80NB	300	318	φ 210	168	φ 22	8	28	320	384	37 Kg.
80NB	150	241	φ 191	152	φ 19	4	24	320	384	31 Kg.
100NB	300	356	φ 254	200	φ 22	8	32	395	479	58 Kg.
100NB	150	292	φ 229	191	φ 19	8	24	395	479	47 Kg.
125NB	300	400	φ 280	235	φ 22	8	35	446	540	87 Kg.
125NB	150	356	φ 254	216	φ 22	8	24	446	540	70 Kg.
150NB	300	445	φ 318	270	φ 22	12	37	486	598	117 Kg.
150NB	150	406	φ 279	241	φ 22	8	26	486	598	90 Kg.
200NB	300	559	φ 381	330	φ 25	12	41	591	728	210 Kg.
200NB	150	495	φ 343	298	φ 22	8	28	591	728	164 Kg.

Material : 15-40NB

Sectional View

Sr.no.	Description	Material	
1	Body	Forged Carbon Steel	ASTM A 105
2	Bonnet	Forged Carbon Steel	ASTM A 105
3	Piston	Stainless Steel	ASTM A 276 Type 304
4	Spindle	Stainless Steel	ASTM A 276 Type 410
5	Nyloc Nut	Carbon Steel	Carbon Steel
6	Stud	Carbon Steel	ASTM A 193 Gr. B7
7	Nut	Carbon Steel	ASTM A 194 Gr. 2H
8	B.Washer	Spring Steel	50CrV4
9	Sealing Ring	S/S Reinforced Graphite	
10	Spacer	Stainless Steel	ASTM A 276 Type 410
11	* Handwheel	Sheet metal/SG Iron	

* Note: For 15-25NB Handwheel - Sheet Metal
For 32-40NB Handwheel - S.G Iron

Dimensions : (approximate) in millimeters

Size	A	B	C
15 NB	110	118	146
20 NB	110	118	146
25 NB	126	133	165
32 NB	165	175	215
40 NB	165	175	215

Additional Material for 40 NB :

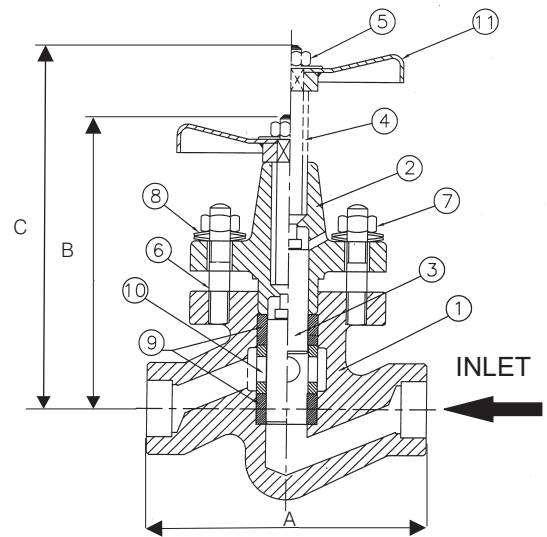
Sr.no.	Description	Material	Standard
12	Split Nut	Brass	
13	Thrust Plate	Stainless Steel	ASTM A 276 Type 420

Material for 50 NB :

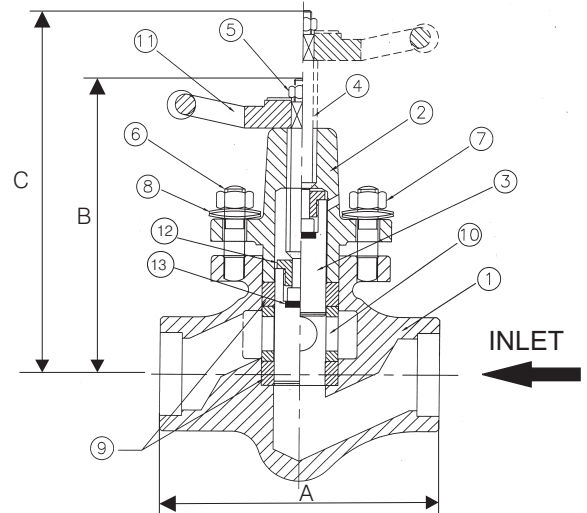
Sr.no.	Description	Material	
1	Body	Cast Steel	ASTM A 216 Gr.WCB
2	Bonnet	Cast Steel	ASTM A 216 Gr.WCB
3	Piston	Stainless Steel	ASTM A 276 Type 304
4	Spindle	Stainless Steel	ASTM A 276 Type 410
5	Nyloc Nut	Carbon Steel	
6	Stud	Carbon Steel	ASTM A 193 Gr. B7
7	Nut	Carbon Steel	ASTM A 194 Gr. 2H
8	B.Washer	Spring Steel	50 CrV4
9	Sealing Ring	S/S reinforced Graphite	
10	Spacer	Stainless Steel	ASTM A 743 Gr.CA15
11	Handwheel	S.G. Iron	
12	Thrust Plate	Stainless Steel	ASTM A 276 Type 420
13	Name Plate	Stainless Steel	
14	Split nut	Brass	

Dimensions:(approximate) in millimeters

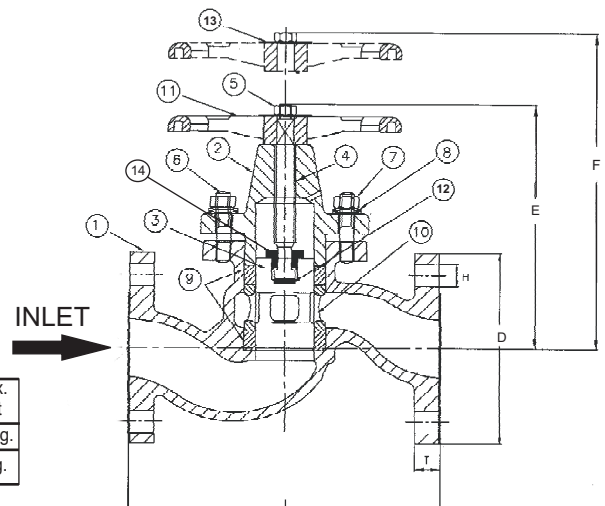
SIZES	ANSI CLASS	L	D	PCD	H	No. of Holes	T	E	F	Approx. Weight
50NB	150	203	φ152.5	121	φ 19	4	19	210	262	14.5 Kg.
50NB	300	267	φ165	127	φ 19	8	22	210	262	17.5Kg.



15-25 NB Piston Valve
Always open & close Valve fully
Do not use Valve Key



32-40 NB Piston Valve
Always open & close Valve fully
Do not use Valve Key



50 NB Piston Valve
Always open & close Valve fully
Do not use Valve Key

How to order :

Example : Forbes Marshall 15 NB Piston Valve with socket weld ends.

Available Spares :

15-50NB

Sealing Rings

65-200NB

Body Sealing Stack Set, Bonnet Sealing Ring & Gland Sealing Stack.

How to order Spares :

Order Spares as per the code no. specified in the 'User Manual'

Installation :

The Valve is designed for installation in a vertical line or horizontal line with inlet as per the arrow direction. To open the valve turn hand wheel till it stops at the top and to close turn hand wheel till it touches the bonnet. Do not use 'F' Key. If any leakage is observed during operation at the outlet, close valve fully and tighten opposite Nuts equally half or one turn until leakage stops.

Safety Information :

Pressure

Before attempting any maintenance of the Valve, ensure that pressure is isolated and safely vented to atmosphere. Do not assume that the system is depressurized even when a pressure gauge indicates zero.

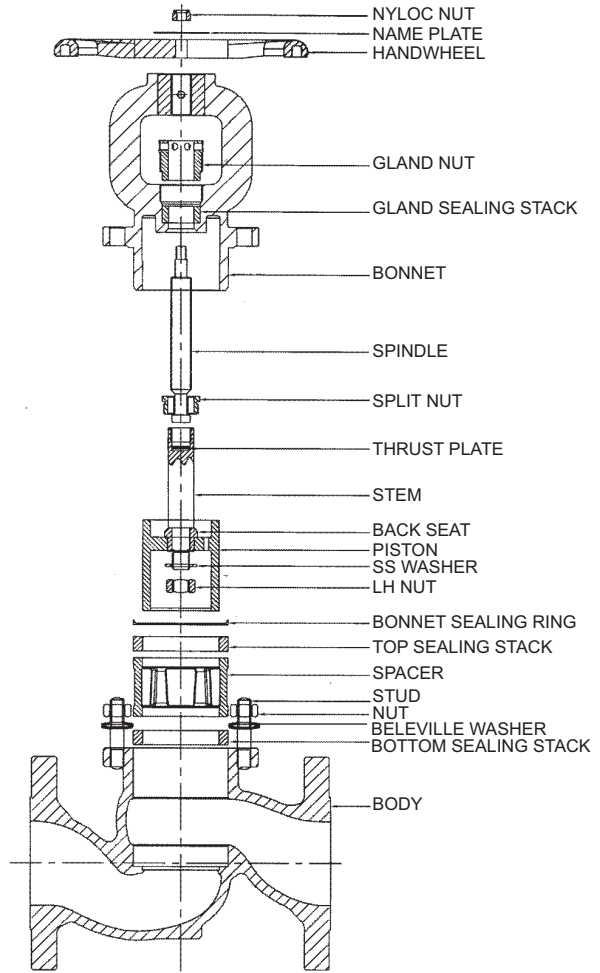
Maintenance :

Use Molykote M30 oil for lubrication.

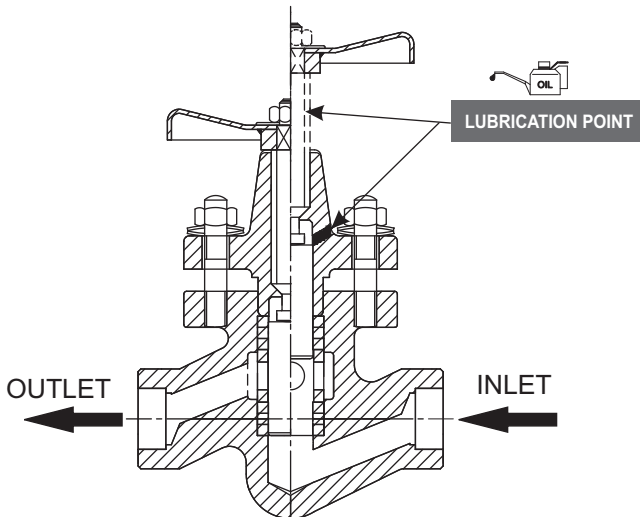
For 15-50NB sizes lubricate spindle regularly through bonnet hole & spindle threads.

For 65-200NB Lubricate frequently through spindle threads ,split nut and stem.

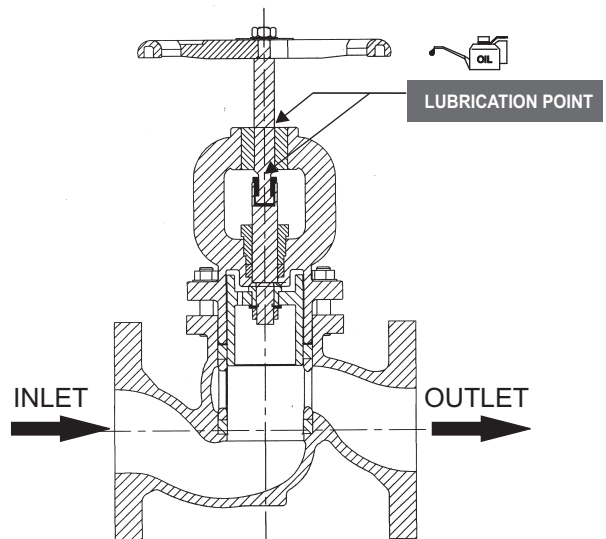
Operate once or twice after lubrication.



EXPLODED VIEW



Lubrication details 15-50NB



Lubrication details 65-200NB

Subject to change without notice.

FTIS-5

Manufactured Marketed by :

Forbes Marshall Pvt. Limited

A Forbes Marshall Company

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