



BRONZE GLOBE STEAM STOP VALVES

SPECIFICATIONS

SCREWED IN BONNET, INSIDE SCREW RISING STEM, RENEWABLE SEAT & DISC, SCREWED FEMALE BSP TAPER THREADS TO BS21. OTHER FORMS OF THREADS CAN BE PROVIDED ON REQUEST

CERTIFICATE

ITEMS CAN BE SUPPLIED WITH CERTIFICATE OF MANUFACTURE AND TEST ON FORM III-C AS PER REGULATION 269 OF IBR.

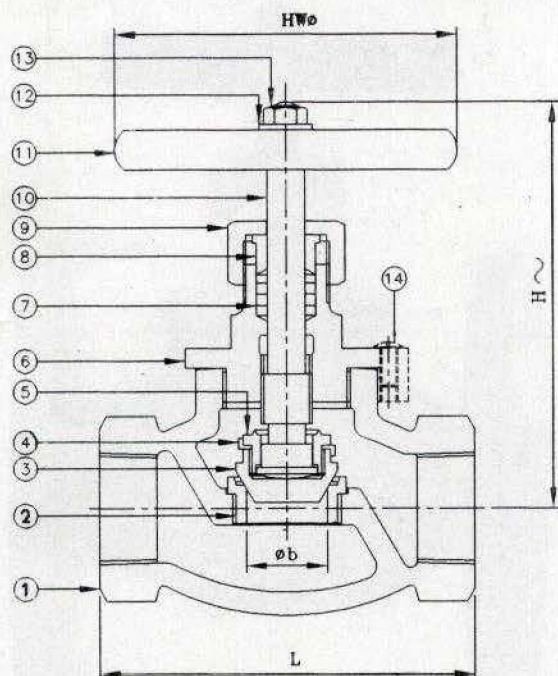


FIG NO : BM 001



STANDARD MATERIAL COMBINATION

P. NO.	QTY	DESCRIPTION	MATERIALS	SPECIFICATIONS
1	1	BODY	BRONZE	IBR CLAUSE 282 (a) (iv) Gr. B
2	1	BODY SEAT RING	13% Cr. STEEL (HB 250 Min.)	ASTM A182 Gr. F6a or its Eq.
3	1	DISC	13% Cr. STEEL (HB 300 Min.)	ASTM A182 Gr. F6a or its Eq.
4	1	LOCKING WASHER	S.S.	TYPE 304
5	1	CHECK NUT	BRONZE	IBR CLAUSE 282 (a) (iv) Gr. B
6	1	BONNET	BRONZE	IBR CLAUSE 282 (a) (iv) Gr. B
7	-	GLAND PACKING	GRAPHITED ASBESTOS	----
8	1	GLAND	BRONZE	IBR CLAUSE 282 (a) (iv) Gr. B
9	1	GLAND NUT	BRONZE	IBR CLAUSE 282 (a) (iv) Gr. B
10	1	STEM	13% Cr. STEEL (HB 200 Min.)	ASTM A182 Gr. F6a or its Eq.
11	1	HAND WHEEL	C.I.	IS 210 Gr. FG 200
12	1	WASHER	CARBON STEEL	Any Grade
13	1	NUT FOR HANDWHEEL	CARBON STEEL	BS 916
14	1	LOCKING SCREW	CARBON STEEL	Any Grade

DIMENSIONAL DATA

NPS	1/2	3/4	1	1 1/4	1 1/2	2
L	83	95	111	133	150	178
b	12	19	24	32	36.5	50
H	120	120	125	140	158	190
HW	90	102	102	127	127	150
ITEM CODE NOS.	BM 001 AD	BM 001 AF	BM 001 AG	BM 001 AH	BM 001 AI	BM 001 AJ

END DETAILS	MAXIMUM WORKING PRESSURES	TEST PRESSURES			
		SHELL TEST (HYDROSTATIC)	SEAT TEST		CODE
			(HYDROSTATIC)	(STEAM)	
Threaded as per BS 21	250 psig (17.24 bar) AT 435°F (225°C)	500 psig	500 psig	250 psig	INDIAN BOILER REGULATIONS
NOTE : The above data is subject to change without notice due to our continuing programme of product improvements.		Cat. No. : BM : 1-2 : 96		LEADER VALVES LTD. IND. AREA, JALANDHAR -144004 (INDIA)	



BRONZE GLOBE STEAM STOP VALVES

SPECIFICATIONS

SCREWED IN BONNET, INSIDE SCREW RISING STEM, RENEWABLE SEAT & DISC, FLANGED ENDS AS PER BS 10 TABLE H.

CERTIFICATE

ITEMS CAN BE SUPPLIED WITH CERTIFICATE OF MANUFACTURE AND TEST ON FORM III-C AS PER REGULATION 269 OF IBR.

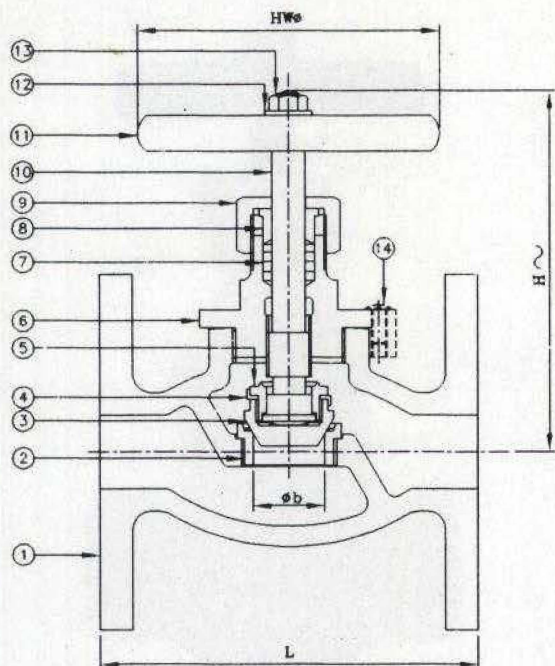


FIG NO : BM 002



STANDARD MATERIAL COMBINATION

P. NO.	QTY	DESCRIPTION	MATERIALS	SPECIFICATIONS
1	1	BODY	BRONZE	IBR CLAUSE 282 (a) (iv) Gr. B
2	1	BODY SEAT RING	13% Cr STEEL (HB 250 Min.)	ASTM A182 Gr. F6a or its Eq.
3	1	DISC	13% Cr STEEL (HB 300 Min.)	ASTM A182 Gr. F6a or its Eq.
4	1	LOCKING WASHER	S.S.	TYPE 304
5	1	CHECK NUT	BRONZE	IBR CLAUSE 282 (a) (iv) Gr. B
6	1	BONNET	BRONZE	IBR CLAUSE 282 (a) (iv) Gr. B
7	-	GLAND PACKING	GRAPHITED ASBESTOS	----
8	1	GLAND	BRONZE	IBR CLAUSE 282 (a) (iv) Gr. B
9	1	GLAND NUT	BRONZE	IBR CLAUSE 282 (a) (iv) Gr. B
10	1	STEM	13% Cr STEEL (HB 200 Min.)	ASTM A182 Gr. F6a or its Eq.
11	1	HAND WHEEL	C.I.	IS 210 Gr. FG 200
12	1	WASHER	CARBON STEEL	ANY GRADE
13	1	NUT FOR HANDWHEEL	CARBON STEEL	BS 916
14	1	LOCKING SCREW	CARBON STEEL	ANY GRADE

DIMENSIONAL DATA

DN NPS	15 1/2	20 3/4	25 1	32 1 1/4	40 1 1/2	50 2
L	102	115	127	140	153	179
b	12	19	24	32	36.5	50
H	120	120	125	140	158	190
HW	90	102	102	127	127	150
ITEM CODE NOS.	BM 002 AD	BM 002 AF	BM 002 AG	BM 002 AH	BM 002 AI	BM 002 AJ

END TETAILS	MAXIMUM WORKING PRESSURES	TEST PRESSURES			
		SHELL TEST (HYDROSTATIC)	SEAT TEST		CODE
			(HYDROSTATIC)	(STEAM)	
FLANGED ENDS AS PER BS 10 TABLE H	250 psig (17.24 bar) AT 435°F (225°C)	500 psig	500 psig	250 psig	INDIAN BOILER REGULATIONS
NOTE : The above data is subject to change without notice due to our continuing programme of product improvements.		Cat. No. : BM : 1-2 : 96		LEADER VALVES LTD. IND. AREA, JALANDHAR -144004 (INDIA)	



CAST IRON GLOBE STEAM STOP VALVES

SPECIFICATIONS

Straight pattern, bolted bonnet, rising stem, crosshead & pillar type design, flanged ends as per BS 10 table-F

CERTIFICATE

Items Can be Supplied with Certificate of Manufacturer and Test on form III C as per Regulation 269 of IBR.

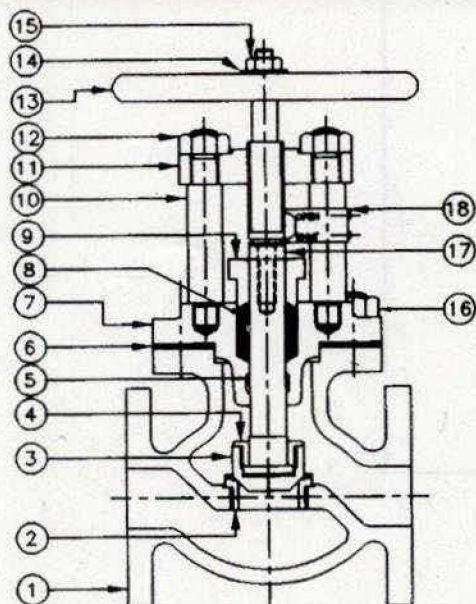
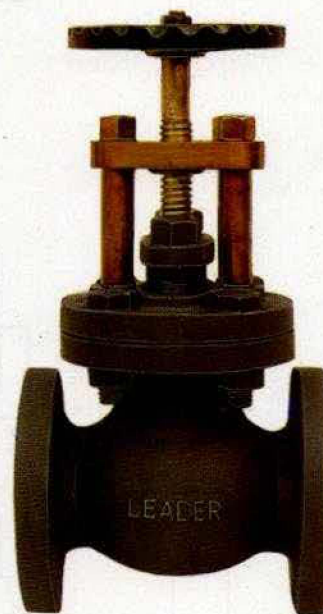


Fig. No. BM 003



STANDARD MATERIAL COMBINATION

P.NO.	QTY.	DESCRIPTION	MATERIAL	SPECIFICATIONS
1	1	Body	Cast Iron	IBR Clause 86 to 93 Gr. A
2	1	Body Seat Ring	13% Cr. Steel	ASTM A182 Gr. F6a or its eq.
3	1	Disc	13% Cr. Steel	ASTM A182 Gr. F6a or its eq.
4	1	Disc Nut	Bronze	IBR Clause 282(a)(IV) Gr. B
5	1	STEM	13% Cr. Steel	ASTM A182 Gr. F6a or its eq.
6	1	Gasket	C.A.F.	IS 2712 Gr. W/1
7	1	Bonnet	Cast Iron	IBR Clause 86 to 93 Gr.A
8	1	Gland Packing	Graphited Asbestos	-
9	1	Gland	Bronze	IBR Clause 282(a)(IV) Gr.B
10	2	Pillar	Carbon Steel	IS 2062 Gr.B
11	1	Cross Head	Carbon steel	IS 2062 Gr.B
12	2	NUT For Pillar	Carbon Steel	BS 916
13	1	Handwheel	Cast Iron	BS 916
14	1	Washer	Carbon Steel	-
15	1	Nut for Handwheel	Carbon Steel	BS 916
16	To Suit	Bolts & Nuts	Carbon Steel	BS 916
17	2 Each	Studs & Nuts for Gland	Carbon Steel	BS 916
18	1	Indicator	Brass Sheet	-

Note : The above data is subject to change without notice due to our continuing programme of product improvements.

CAT. NO. BM3-96

LEADER VALVES LTD. IND. AREA,
JALANDHAR - 144 004 (INDIA)



CAST IRON GLOBE STEAM STOP VALVES

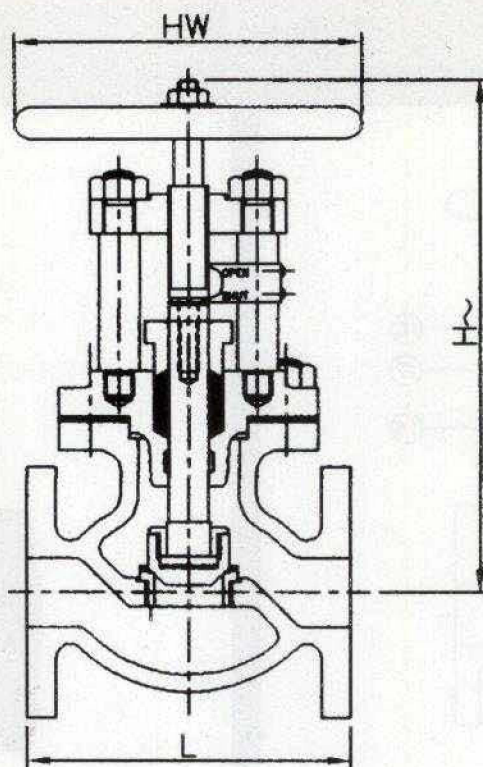


Fig. No. BM 003

ITEM CODE NO.

ITEM	FIG. NO.	END DETAILS
Cast iron globe steam stop valve, out side screw rising stem, cross Head & Pillar type design, flanged ends.	BM003	Flanges as per BS 10 table-F

DIMENSIONAL DATA

NPS	20	25	32	40	50	65	80	100	125	150	200
L	127	139.5	159	178	203	229	241.5	289	330	355.5	495.5
H	205	225.5	254	289	305	338	374.5	414.5	511	530	622.5
HW	101.5	101.5	127	165	165	190.5	190.5	228.6	330	330	470
Item Code No.	BM003 AF	BM003 AG	BM003 AH	BM003 AI	BM003 AJ	BM003 AK	BM003 AL	BM003 AN	BM003 AO	BM003 AP	BM003 AR

ITEM CODE NO.

MAX. WORKING PRESSURE	SHELL TEST (DYDROSTATIC)	SEAT TEST (HYDROSTATIC)
188.6 psig (13 bar) at 428°F (220°C)	377 psig (26 bar) hyd.	377 psig (26 bar) hyd.

INFORMATION TO BE SUPPLIED BY THE PURCHASER IN THE ENQUIRY :

1. Item code no.
2. Type of valve and nominal size
3. The shell material & trim material
4. Working fluid and its Pressure/Temperature
5. Ends Details :

Please specify flange details. Also state clearly whether flanges are to be supplied in drilled or undrilled condition.

Note : The above data is subject to change without notice due to our continuing programme of product improvements.	CAT. NO. BM3-96	LEADER VALVES LTD. IND. AREA, JALANDHAR - 144 004 (INDIA)
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CAST IRON JUNCTION STEAM STOP VALVES

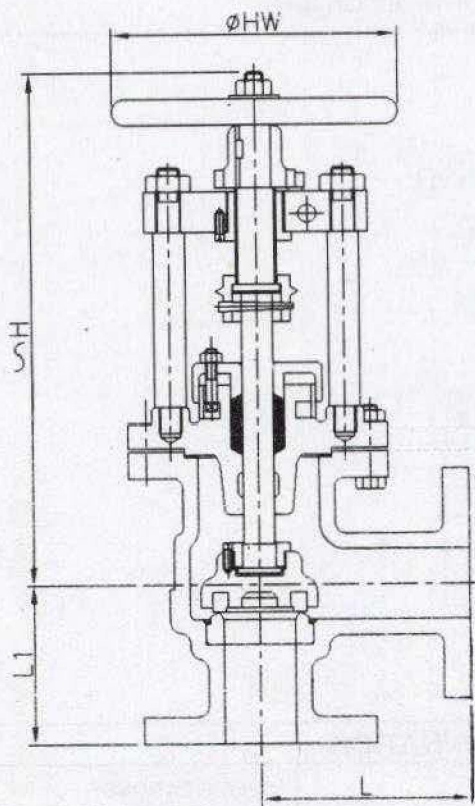
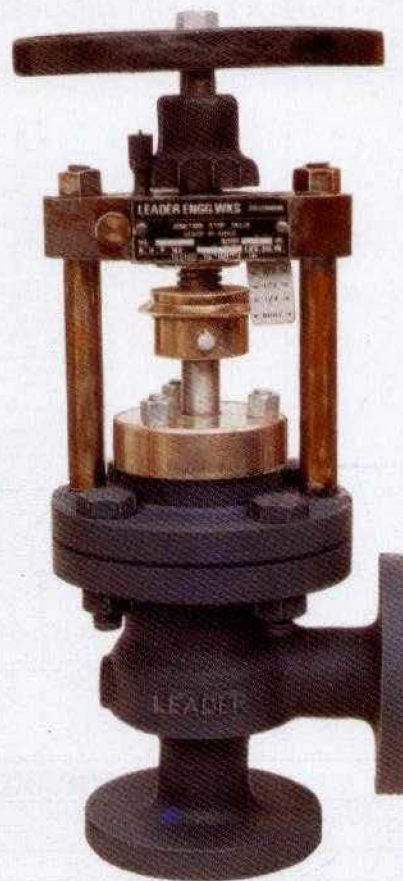


FIG NO. BM 004



CATALOGUE NO.

ITEM	FIG NO.	END DETAILS
C.I. JUNCTION STEAM STOP VALVE, RIGHT ANGLE PATTERN, RISING STEM PILLAR TYPE	BM 004	FLANGED AS PER BS 10 TABLE -F

DIMENSIONAL DATA

DN	25	32	40	50	65	80	90	100	125	150	200
NPS	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4	5	6	8
L	101.5	114.5	114.5	149	140	152.5	165	178	203	228.5	292
L1	89	95	101.5	114.5	127	140	165	152.5	178	203	241.5
H	320	330	330	368	413	428	466	444	508	584	774
HW	101.5	127	178	203	203	228	279	279	330	381	470
ITEM CODE NOS.	BM 004 AG	BM 004 AH	BM 004 AI	BM 004 AJ	BM 004 AK	BM 004 AL	BM 004 AM	BM 004 AN	BM 004 AO	BM 004 AP	BM 004 AR

TEST PRESSURES

MAX. WORKING PRESSURE	SHELL TEST (HYDROSTATIC)	SEAT TEST (HYDROSTATIC)
188.6 psig (13 bar) at 428°F (220°C)	377 psig (26 bar)	377 psig (26 bar)
NOTE : The above data is subject to change without notice due to our continuing programme of product improvements.		
Cat. No. : BM : 04 : 96		LEADER VALVES LTD., IND. AREA, JALANDHAR - 144004 (INDIA)

AN ISO 9001 : 94 COMPANY



CAST IRON JUNCTION STEAM STOP VALVES

SPECIFICATIONS

RIGHT ANGLE PATTERN, BOLTED BONNET, RISING STEM, CROSS HEAD & PILLAR TYPE DESIGN.
FLANGES ENDS AS PER BS 10 TABLE-F.

CERTIFICATE

ITEMS CAN BE SUPPLIED WITH CERTIFICATE OF MANUFACTURE AND TEST ON FORM III-C AS PER REGULATION 269 OF IBR.

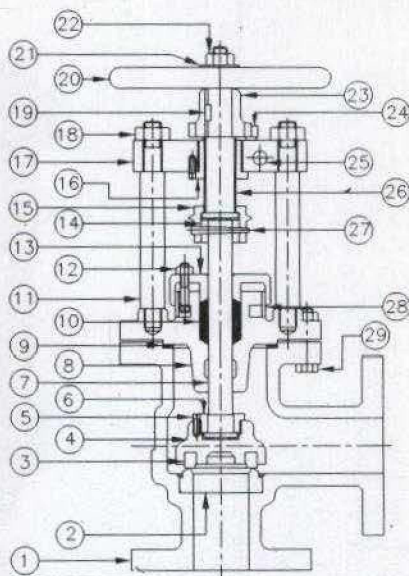


FIG NO. BM : 004

STANDARD MATERIAL COMBINATION

P. NO.	QTY.	DESCRIPTION	MATERIAL	SPECIFICATIONS
1	1	BODY	CAST IRON	IBR CLAUSE 86 TO 93 Gr. A
2	1	BODY SEAT RING	13% Cr. STEEL	ASTMA 182 Gr. F6a or its Eq.
3	1	DISC RING	13% Cr. STEEL	ASTMA 182 Gr. F6a or its Eq.
4	1	DISC	CAST IRON	IBR CLAUSE 86 TO 93 Gr. A
5	1	LOCKING SCREW	BRASS	-
6	1	CHECK NUT	BRONZE	IBR CLAUSE 282 (a) (iv) Gr. B
7	1	LOWER STEM	13% Cr. STEEL	ASTMA 182 Gr. F6a or its Eq.
8	1	BONNET	CAST IRON	IBR CLAUSE 86 TO 93 Gr. A
9	1	GASKET	C.A.F.	IS 2712 Gr. w 1
10	1	PACKING	GRAPHITED ASBESTOS	-
11	2	PILLARS	CARBON STEEL	--
12	3 EACH	T-HEAD BOLTS & NUTS	CARBON STEEL	BS 916
13	1	GLAND	BRONZE	IBR CLAUSE 282 (a) (iv) Gr. B
14	1	LOCK RING	BRONZE	IBR CLAUSE 282 (a) (iv) Gr. B
15	1	STEM JOINT RING	BRONZE	IBR CLAUSE 282 (a) (iv) Gr. B
16	1	CROSSHEAD BUSH	BRONZE	IBR CLAUSE 282 (a) (iv) Gr. B
17	1	CROSSHEAD	CARBON STEEL	-
18	2	CROSSHEAD PILLAR NUT	CARBON STEEL	BS 916
19	1	KEY FOR LOCKING GUARD	CARBON STEEL	-
20	1	HANDWHEEL	CAST IRON	IBR CLAUSE 86 TO 93 Gr. A
21	1	WASHER	CARBON STEEL	--
22	1	NUT FOR HANDWHEEL	CARBON STEEL	BS 916
23	1	LOCKING GUARD	CAST IRON	IBR CLAUSE 86 TO 93 Gr. A
24	1	PIN	CARBON STEEL	--
25	1	LOCK PIN	CARBON STEEL	--
26	1	UPPER STEM	13% Cr. STEEL	ASTMA 182 Gr. F6a or its Eq.
27	1	SOLID TAPERED PIN	CARBON STEEL	--
28	1	GUIDE RING	BRONZE	IBR CLAUSE 282 (a) (iv) Gr. B
29	TO SUIT	BOLTS & NUTS	CARBON STEEL	BS 916

NOTE : The above data is subject to change without notice due to our continuing programme of product improvements.

Cat. No. : BM 04:96

LEADER VALVES LTD. IND. AREA,
JALANDHAR - 144004 (INDIA)

AN ISO 9001 : 94 COMPANY



CAST STEEL JUNCTION STEAM STOP VALVES

SPECIFICATIONS

STEAM STOP VALVE, RIGHT ANGLE PATTERN, BOLTED BONNET, OUTSIDE SCREW, CROSSHEAD & PILLAR TYPE, FLANGES AS PER BS 10 TABLE 'J'.

CERTIFICATE

ITEMS CAN BE SUPPLIED WITH CERTIFICATE OF MANUFACTURE AND TEST ON FORM III-C AS PER REGULATION 269 OF IBR.

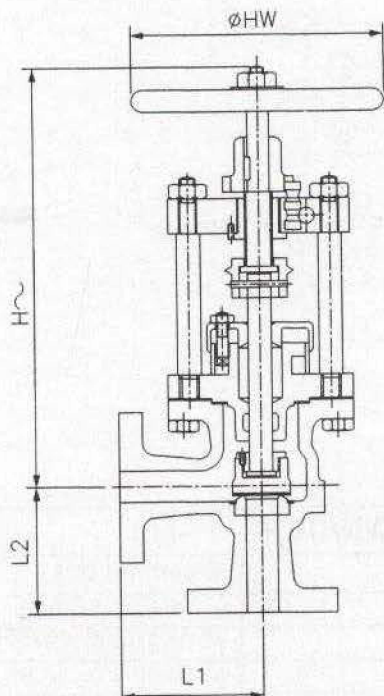
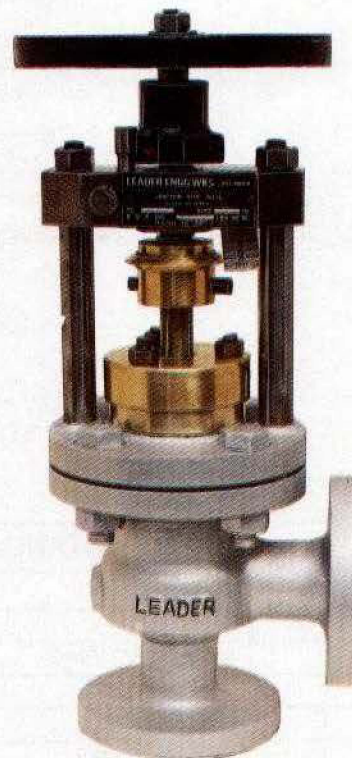


FIG NO : BM 005



DIMENSIONAL DATA

DN NPS	40 1 1/2	50 2	65 2 1/2	80 3	100 4	125 5	150 6	200 8
L1	127	146	165	178	203	235	254	305
L2	101.5	114.5	127	152.5	197	222	241.5	292
H	333	379	409	444	487	533	673	774
HW	178	229	229	279	330	381	470	508
ITEM CODE NOS.	BM 005 AI	BM 005 AJ	BM 005 AK	BM 005 AL	BM 005 AN	BM 005 AO	BM 005 AP	BM 005 AR

TEST PRESSURES

MAX. WORKING PRESSURE	SHELL TEST (HYDROSTATIC)	SEAT TEST		STANDARD NO.
		(HYDROSTATIC)	STEAM	
350 psig (24.1 bar) AT 800°F (427°C)	700 psig	700 psig	250 psig	INDIAN BOILER REGULATIONS
NOTE : The above data is subject to change without notice due to our continuing programme of product improvements.		Cat. No. : BM : 05 : 96		LEADER VALVES LTD. IND. AREA, JALANDHAR - 144004 (INDIA)

AN ISO 9001 : 94 COMPANY



CAST STEEL JUNCTION STEAM STOP VALVES

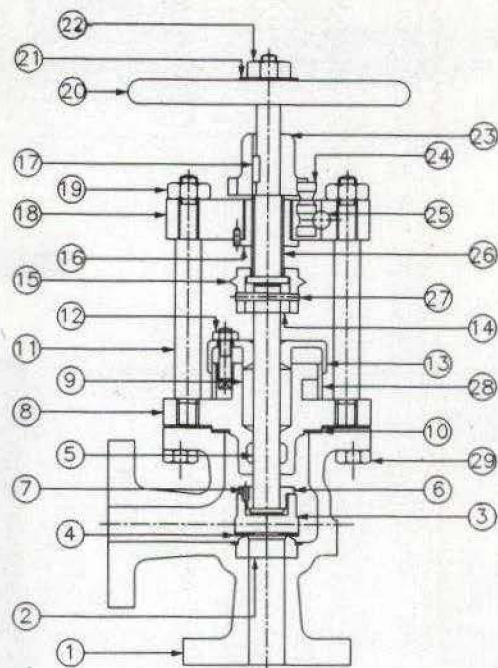


FIG NO. BM 005

STANDARD MATERIAL COMBINATION

P. NO.	QTY.	DESCRIPTION	MATERIAL	SPECIFICATIONS
1	1	BODY	C.S.	ASTM A216 Gr. WCB
2	1	BODY SEAT RING	13% Cr. STEEL	ASTM A182 Gr. F6a or its Eq.
3	1	DISC	C.S.	ASTM A216 Gr. WCB
4	1	DISC FACING	13% Cr. STEEL WELD DEPOSIT	---
5	1	LOWER STEM	13% Cr. STEEL	ASTM A182 Gr. F6a or its Eq.
6	1	CHECK NUT	BRONZE	IBR CLAUSE 282 (a) (iv) Gr. B
7	1	LOCKING SCREW	BRASS	---
8	1	BONNET	C.S.	ASTM A216 Gr. WCB
9	-	PACKING	GRAPHITED ASBESTOS	---
10	1	GASKET	C.A.F.	I.S. 2712
11	2	PILLAR	CARBON STEEL	---
12	3-EACH	T-HEADS BOLTS & NUTS	CARBON STEEL	B.S. 916
13	1	GLAND	BRONZE	IBR CLAUSE 282 (a) (iv) Gr. B
14	1	LOCK RING	BRONZE	IBR CLAUSE 282 (a) (iv) Gr. B
15	1	STEM JOINT RING	BRONZE	IBR CLAUSE 282 (a) (iv) Gr. B
16	1	CROSS HEAD BUSH	BRONZE	IBR CLAUSE 282 (a) (iv) Gr. B
17	1	KEY FOR LOCKING GUARD	CARBON STEEL	---
18	1	CROSSHEAD	CARBON STEEL	---
19	2	CROSSHEAD PILLAR NUTS	CARBON STEEL	B.S. 916
20	1	HANDWHEEL	C.I.	IBR CLAUSE 86 TO 93 Gr. A
21	1	WASHER	CARBON STEEL	---
22	1	NUT FOR HANDWHEEL	CARBON STEEL	BS 916
23	1	LOCKING GUARD	C.S.	ASTM A216 Gr. WCB
24	2	PIN	CARBON STEEL	---
25	1	LOCK PIN	CARBON STEEL	---
26	1	UPPER STEM	13% Cr. STEEL	ASTM A182 Gr. F6a or its Eq.
27	1	SOLID TAPERED PIN	CARBON STEEL	---
28	1	GUIDE RING	BRONZE	IBR CLAUSE 282 (a)-(iv) Gr. B
29	TO SUIT	BOLTS & NUTS	CARBON STEEL	BS 916
NOTE : The above data is subject to change without notice due to our continuing programme of product improvements.			Cat. No. : BM : 05 : 96	LEADER VALVES LTD. IND. AREA, JALANDHAR -144004 (INDIA)



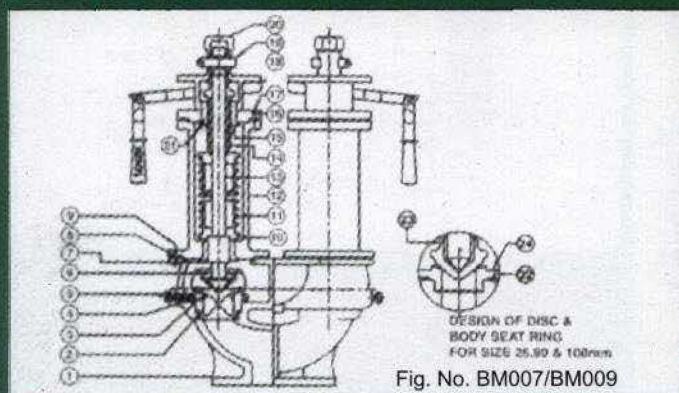
LEADER DOUBLE POST HI-LIFT SAFETY VALVES

SPECIFICATIONS

DOUBLE POST HI-LIFT SAFETY VALVES,
FLANGED ENDS AS PER RELEVANT
TABLE OF BS-10.

CERTIFICATE

ITEMS CAN BE SUPPLIED WITH CERTIFICATE OF
MANUFACTURE AND TEST ON FORM III C AS
PER REGULATION 269 OF IBR



STANDARD MATERIAL COMBINATION

S. No.	QTY.	DESCRIPTION	MATERIAL	
			CAST IRON	CAST STEEL
1	1	BODY	C.I. TO IBR CLAUSE 86 TO 93 Gr. A	C.S. ASTM A216:93 Gr. WCB
2	2	BODY SEAT RING	LUMINA TO Ni,Cu. ALLOY	LUMINA TO Ni,Cu. ALLOY
3	2	VALVE DISC	LUMINA TO Ni,Cu. ALLOY	LUMINA TO Ni,Cu. ALLOY
4	2	REGULATING RING	BRONZE TO IBR CLAUSE 282 (a) (IV) Gr. B	BRONZE TO IBR CLAUSE 282(a) (IV) Gr. B
5	2	REGULATING SCREW	H.T. BRASS TO B6912FH1B1	H.T. BRASS
6	2	STEM LOCK NUT	BRONZE TO IBR CLAUSE 282(a) (IV) Gr. B	BRONZE TO IBR CLAUSE 282(a) (IV) Gr. B
7	2	STEM BUSH	BRONZE TO IBR CLAUSE 282(a) (IV) Gr. B	BRONZE TO IBR CLAUSE 282(a) (IV) Gr. B
8	2	GASKET	C.A.F. TO IS 2712	C.A.F. TO IS 2712
9	TOSUIT	BOLTS & NUTS	CARBON STEEL TO BS 916	CARBON STEEL TO BS 916
10	4	SPRING DISC	C.I. TO IBR CLAUSE 86 TO 93 Gr. A	C.I. TO IBR CLAUSE 86 TO 93 Gr. A
11	2	SPRING	C.S. TO IBR CLAUSE 307-314	C.S. TO IBR CLAUSE 307-314
12	2	SPRING CHAMBER	C.I. TO IBR CLAUSE 86 TO 93 Gr. A	C.I. TO IBR CLAUSE 86 TO 93 Gr. A
13	2	STEM	13% Cr. S.S. TO ASTM A182 Gr. F6a	13% Cr. S.S. TO ASTM A 182 Gr. F6a
14	2	SPRING ADJUSTING SCREW	BRONZE TO IBR CLAUSE 282(a) (IV) Gr. B	BRONZE TO IBR CLAUSE 282(a) (IV) Gr. b
15	2	COVER BUSH	BRONZE TO IBR CLAUSE 282(a) (IV) Gr. B	BRONZE TO IBR CLAUSE 282(a) (IV) Gr. B
16	2	COVER	C.I. TO IBR CLAUSE 86 TO 93 Gr. A	C.I. TO IBR CLAUSE 86 TO 93 Gr. A
17	TOSUIT	STUDS & NUTS	CARBON STEEL TO BS 916	CARBON STEEL TO BS 916
18	2	HANDLE	C.I. TO IBR CLAUSE 86 TO 93 Gr. A	C.I. TO IBR CLAUSE 86 TO 93 Gr. A
19	2	CAP COTTER	BRONZE TO IBR CLAUSE 282(a) (IV) Gr. B	BRONZE TO IBR CLAUSE 282(a) (IV) Gr. B
20	2	HOUSING CAP	C.I. TO IBR CLAUSE 86 TO 93 Gr. A	C.I. TO IBR CLAUSE 86 TO 93 Gr. A
21	2	SET SCREW	BRASS	BRASS
22	2	BODY SEAT RING	LUMINA TO Ni,Cu. ALLOY	LUMINA TO Ni,Cu. ALLOY
23	2	VALVE DISC	LUMINA TO Ni,Cu. ALLOY	LUMINA TO Ni,Cu. ALLOY
24	TOSUIT	LOCKING SCREW	BRASS	BRASS

TEST PRESSURES

ITEM	ITEM CODE NO.	MAX. BOILER OPERATING PRESSURE	SHELL TEST (HYDROSTATIC)	CODE
C.I. DOUBLE POST SAFETY VALVE	BM007	188.6 psig (13 bar) at 428 F (220 C)	300 psig (20.7 bar)	INDIAN BIOLER REGULATIONS
C.S. DOUBLE POST SAFETY VALVE	BM009	250 psig (17.24 bar) at 800 F (427 C)	500 psig (34.5 bar)	

NOTE : The above data is subject to change without notice due to our continuing programme of product improvements.

CAT. NO. : BM:7-9.99

LEADER VALVES LTD. IND. AREA
JALANDHAR - 144 004



DOUBLE POST HI-LIFT SAFETY VALVES

DIMENSIONAL DATA

DN NPS	25 1"	40 1-1/2"	50 2"	65 2-1/2"	80 3"	90 3-1/2"	100 4"
lb(mm)	38.1	57	73*	89	108	127	136.5
IE(mm)	152.4	165.1	184.2	203.2	254	279.4	279.4
IF(mm)	44.5	63.5	76.2	89	127	152.4	152.4
Rp(inch)	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"

CAST IRON

H(mm)	482.5	559	574.5	835	864	1021	1176.5
C(mm)	152.4	165.1	190.5	203.2	254	266.7	266.7
D(mm)	139.7	184.2	203.2	215.9	254	279.4	304.8
T(mm)	17.5	22.2	22.2	24.5	24.5	28.6	25.4
Nxd(mm)	4x17.5	8x17.5	8x17.5	8x17.5	8x17.5	8x22.5	12x22.5
K(mm)	104.8	146.1	165.1	177.8	190.5	235	260.4

CAST STEEL

H(mm)	521	610	889	940	988	988	--
C(mm)	152.4	177.8	190	244.4	254	266.7	--
D(mm)	139.7	203.2	216	228.6	254	279.5	--
T(mm)	22.2	25.4	25.4	28.6	28.6	31.8	--
Nxd(mm)	4x17.5	8x17.5	8x17.5	8x17.5	8x17.5	8x17.5	--
K(mm)	104.8	165	177.8	190.5	209.6	235	--

ITEM CODE NO.	CAST IRON	BM007 AG	BM007 AI	BM007 AJ	BM007 AK	BM007 AL	BM007 AM	BM007 AN
CAST STEEL	BM009 AG	BM009 AI	BM009 AJ	BM009 AK	BM009 AL	BM009 AM	BM009 AN	BM009 AN

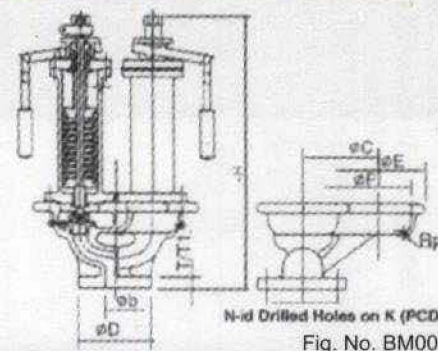


Fig. No. BM007/BM009

'LEADER' Spring Loaded Safety Valve incorporates in adjusting ring which gives a high lift to valve and hence ensures a better discharge capacity. Advantage is taken of the reaction of escaping steam to augment the lift, the adjusting ring merely varies the below down as may be necessary in the stipulated set pressure. To avoid unauthorised alteration to the set pressure the adjusting screw and locking ring are encased by a cast iron cap which is attached to the valve spindle by cotter and a pad lock. Every safety valve is provided with

RELIEVING CAPACITY

(IN Kg/hr. OF DRY SATURATED STEAM AT SET PRESSURE)

NOMINAL SIZE SET PRESSURE in kg/cm ²	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	3 1/2"	4"	5"	6"	8"
1.0	164	256	370	658	1028	1480	2000	2300	4100	5160	10460
2.0	244	382	552	982	1534	2208	3000	3440	6100	7740	15640
3.0	324	508	734	1306	2040	2938	4000	4580	8140	10300	20820
4.0	406	634	916	1630	2546	3666	4996	5720	10120	12860	26020
5.0	486	760	1098	1954	3052	4396	5990	6860	12140	15420	31200
6.0	566	886	1280	2278	3560	5124	6980	8000	14160	18000	36400
7.0	648	1012	1462	2602	4066	5854	7960	9140	16160	20560	41580
8.0	728	1138	1644	2926	4572	6582	8960	10280	18180	23120	46760
9.0	810	1264	1828	3250	5078	7312	10220	11420	20200	25680	51960
10.0	890	1390	2010	3574	5584	8040	10940	12560	22220	28260	57140
12.0	1052	1642	2374	4222	6598	9498	12940	14840	26260	33380	67520
15.0	1294	2020	2920	5194	8116	11686	15920	18280	32340	41120	83160
17.57	1502	2344	3390	6028	9418	13560	18460	21200	37520	47700	96460

For Superheated Steam, Divide the Capacity given above by the factor.

$$K = \sqrt{1 + \frac{2.7T}{1000}}$$

Where T = Degree of Superheat (C)

WHEN ORDERING PLEASE STATE

1. Boiler Operating Pressure
2. Set Pressure
3. Maximum evaporation of boiler in lbs. or kg/hr.
4. Code Number
5. Flanges drillings, Valves are supplied with blind flanges unless otherwise specified.

NOTE : The above data is subject to change without notice due to our continuing programme of product improvements.

CAT. NO. : BM : 7-9.99

LEADER VALVES LTD. IND. AREA
JALANDHAR - 144 004

ISO 9001:94 COMPANY



SINGLE POST HI-LIFT SAFETY VALVES

SPECIFICATIONS

Single Post Hi-Lift Safety Valves, Right Angle Pattern, Flanged Ends as Per Relevant Table of BS-10.

CERTIFICATE

Items Can be Supplied with Certificate of Manufacture and Test on form III-C as per Regulation 269 of IBR.

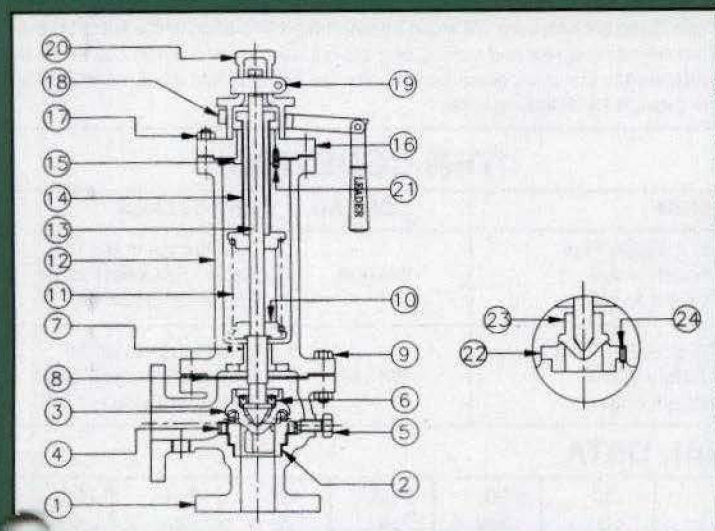


FIG. NO. BM 006 / BM 008

STANDARD MATERIAL COMBINATION

P No.	Qty.	Description	Materials	
			Cast Iron	Cast Steel
1	1	Body	C.I. To IBR Clause 86 To 93 Gr. A	C.S. ASTM 216 : Gr wcb
2	1	Body Seat Ring	Lumina To (Ni, Cu. Alloy)	Lumina To Ni, Cu. Alloy
3	1	Valve Disc	Lumina To (Ni, Cu. Alloy)	Lumina To Ni, Cu. Alloy
4	1	Regulating Ring	Bronze To IBR Clause 282 (a) (iv) Gr. B	Bronze To IBR Clause 282 (a) (iv) Gr. B
5	1	Regulating Screw	H.T. Brass to IS 6912 FHTB1	Brass
6	1	Stem Lock Nut	Bronze To IBR Clause 282 (a) (iv) Gr. B	Bronze To IBR Clause 282 (a) (iv) Gr. B
7	1	Stem Bush	Bronze To IBR Clause 282 (a) (iv) Gr. B	Bronze To IBR Clause 282 (a) (iv) Gr. B
8	1	Gasket	C.A.F. To Is 2712 Gr. Wl	C.A.F. To IS 2712 Gr. Wl
9	To Suit	Bolts & Nuts	Carbon Steel To BS 916	Carbon Steel To BS 916
10	2	Spring Disc	C.I. To IBR Clause 86 To 93 Gr. A	C.I. To IBR Clause 86 To 93 Gr. A
11	1	Spring	C.s. To IBR Clause 307-314	C.S. To IBR Clause 307-314
12	1	Spring Chamber	C.I. To IBR Clause 86 To 93 Gr. A	C.I. To IBR Clause 86 To 93 Gr. A
13	1	Stem	13% Cr. Steel To ASTM 182 Gr. F6a	13% Cr. Steel To ASTM 182 Gr. F6a
14	1	Spring Adjusting Screw	Bronze To IBR Clause 282 (a) (iv) Gr. B	Bronze To IBR Clause 282 (a) (iv) Gr. B
15	1	Cover Bush	Bronze To IBR Clause 282 (a) (iv) Gr. B	Bronze To IBR Clause 282 (a) (iv) Gr. B
16	1	Cover	C.I. To IBR Clause 86 To 93 Gr. A	C.I. To IBR Clause 86 To 93 Gr. A
17	To Suit	Studs & Nuts	Carbon Steel To Bs 916	Carbon Steel To Bs 916
18	1	Handle	C.I. To IBR Clause 86 To 93 Gr. A	C.I. To IBR Clause 86 To 93 Gr. A
19	1	Cap Cotter	Bronze To IBR Clause 282 (a) (iv) Gr. B	Bronze To IBR Clause 282 (a) (iv) Gr. B
20	1	HOUSING CAP	C.I. TO IBR CLAUSE 86 TO 93 GR. A	C.I. To IBR Clause 86 To 93 Gr. A
21	1	Set Screw	Brass	Brass
22	1	Body Seat Ring	Lumina To (Ni, Cu. Alloy)	Lumina To (Ni, Cu. Alloy)
23	1	Valve Disc	Ilumina To (Ni, Cu. Alloy)	Ilumina To (Ni, Cu. Alloy)
24	3	Locking Screw	Brass	Brass

TEST PRESSURES

ITEM	ITEM Code No.	MAX. BOILER OPERATING Pressure	SHELL TEST (Hydrostatic)	CODE
C.I. Single Post Safety Vaive	BM 006	188.6 Psig (13 Bar)	377 psig (26bar)	Indian boiler Regulations
C.S. Single Post Safety Valve	BM 008	250 Psig (17.24 Bar)	500 psig (39.5bar)	

Note : The above data is subject to change without notice due to our continuing programme of product improvements.

CAT. NO. BM 6, 8 : 96

LEADER VALVES LTD. IND. AREA,
JALANDHAR - 144 004 (INDIA)



SINGLE POST HI-LIFT SAFETY VALVES

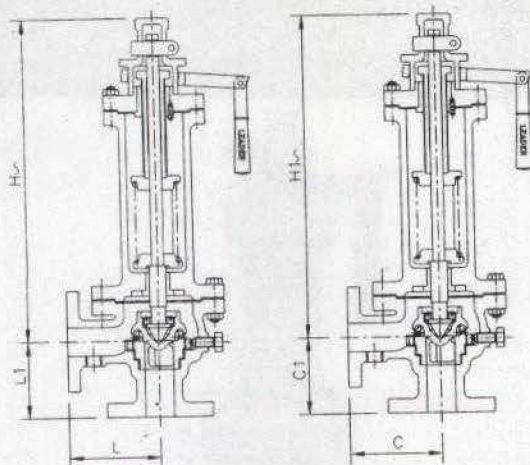


FIG. NO. BM 006

FIG. NO. BM 008

"Leader" Spring Loaded Safety Valve incorporates an adjusting ring which gives a high lift to valve and hence ensures a better discharge capacity. Advantage is taken of the reaction of escaping steam to augment the lift; the adjusting ring merely varies the blow down as may be necessary in the stipulated set pressure. To avoid unauthorised alteration to the set pressure the adjusting screw and locking ring are encased by a cast iron cap which is attached to the valve spindle by a cotter and a pad lock. Every safety valve is provided with easing lever.

ITEM CODE NOS.

ITEM	CODE NO.	END DETAILS
C.I. Single Post Safety Valve (Right Angle)	BM 006	Inlet Flange to BS 10 Table - F & Outlet Flange To BS 10 Table - D
C.S. Single Post Safety Valve (Right Angle)	BM 008	Inlet Flange to BS 10 Table-H & Outlet Flange To BS 10 Table - D

DIMENSIONAL DATA

DN NPS	25 1	32 1¼	40 1½	50 2	65 2½	80 3	90 3½	100 4	125 5	150 6	200 8
L	108	121	121	140	152.5	178	178	190.5	216	228.5	292
L1	89	95	101.5	121	127	140	152.5	165	178	203	276
H	454	520	524	580	767	786	813	886	1054	1170	1343
C	108	127	133.5	152.4	165	190.5	203	203	228.5	241.5	—
C1	89	95	101.5	133.5	140	152.5	165	178	216	216	—
H1	365	469	580	697	745	658	777	915	1130	1080	—
Item Code Nos.	CAST IRON BM 006 AG	BM 006 AH	BM 006 AI	BM 006 AJ	BM 006 AK	BM 006 AL	BM 006 AM	BM 006 AN	BM 006 AO	BM 006 AP	BM 006 AR
	CAST STEEL BM 008 AG	BM 008 AH	BM 008 AI	BM 008 AJ	BM 008 AK	BM 008 AL	BM 008 AM	BM 008 AN	BM 008 AO	BM 008 AP	BM 008 AR

RELIEVING CAPACITY

(In Kg/hr. of Dry Saturated Steam at Set Pressure)

NOMINAL SIZE →	1"	1¼"	1½"	2"	2½"	3"	3½"	4"	5"	6"	8"
SET PRESSURE (IN KG/CM²) ↓											
1.0	82	128	185	329	514	740	1000	1150	2050	2580	5230
2.0	122	191	276	491	767	1104	1500	1720	3050	3870	7820
3.0	162	254	367	653	1020	1469	2000	2290	4070	5150	10410
4.0	203	317	458	815	1273	1833	2498	2860	5060	6430	13010
5.0	243	380	549	977	1526	2198	2995	3430	6070	7710	15600
6.0	283	443	640	1139	1780	2562	3490	4000	7080	9000	18200
7.0	324	506	731	1301	2033	2927	3980	4570	8080	10280	20790
8.0	364	569	822	1463	2286	3291	4480	5140	9090	11560	23380
9.0	405	632	914	1625	2539	3656	5110	5710	10100	12840	25980
10.0	445	695	1005	1787	2792	4020	5470	6280	11110	14130	28570
12.0	526	821	1187	2111	3299	4749	6470	7420	13130	16690	33760
15.0	647	1010	1460	2597	4058	5843	7960	9140	16170	20560	41580
17.57	751	1172	1695	3014	4709	6780	9230	10600	18760	23850	48230

Notes :- For Superheated Steam, divide the Capacity given above by the factor.

WHEN ORDERING PLEASE STATE

1. Boiler Operating Pressure
2. Set Pressure
3. Maximum evaporation of boiler in lbs. or kg/hr.

$$K = \frac{\sqrt{1 + 2.7 T}}{1000} \text{ Where } T = \text{Degree of Superheat } (^{\circ}\text{C})$$

4. Code No.
5. Flanges drilling, valves are supplied with undrilled flanges unless other wise specified

Note : The above data is subject to change without notice due to our continuing programme of product improvements.

CAT. NO. BM 6, 8 : 96

LEADER VALVES LTD. IND. AREA,
JALANDHAR - 144 004 (INDIA)



BRONZE POP TYPE SAFETY VALVES

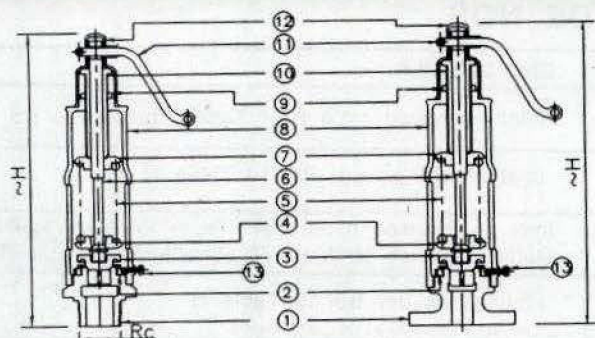


Fig. No. BM010 OPEN DISCHARGE Fig. No. BM011

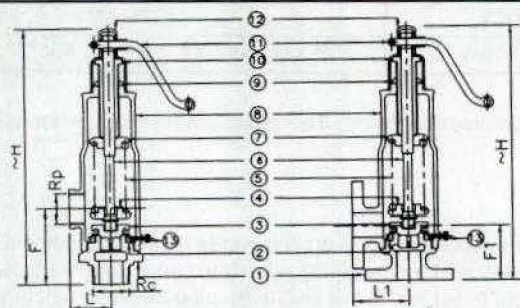


Fig. No. BM012 ENCLOSED DISCHARGE Fig. No. BM013



BM010/BM011



BM012/BM013

STANDARD MATERIAL COMBINATION

P.NO.	QTY.	DESCRIPTION	MATERIALS	SPECIFICATION
1	1	Body	Bronze	IBR Clause 282(a) (iv) Gr. B
2	1	Adjusting Ring	Bronze	IBR Clause 282(a) (iv) Gr. B
3	1	Valve Disc	Bronze	IBR Clause 282 (a) (iv) Gr. B
4	1	Lower Spring Disc	Bronze	IBR Clause 282(a) (iv) Gr. B
5	1	Spring	Carbon Steel	IBR Clause 307 to 314
6	1	Stem	H.T. Brass	IS 6912 Gr. FHTB1
7	1	Upper Spring Disc	Bronze	IBR Clause 282(a) (IV) Gr. B
8	1	Chamber	Bronze	IBR Clause 282(a) (iv) Gr. B
9	1	Check Nut	Bronze	IBR Clause 282(a) (iv) Gr. B
10	1	Adjusting Screw	Bronze	IBR Clause 282 (a) (iv) Gr. B
11	1	Easing Lever	Carbon Steel	-
12	1	Stem Housing Cap	Aluminium	-
13	1	Adjusting Ring Fastener	Brass	IS 6912 Gr. FHTB1

DIMENSIONAL DATA

NPS	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
H	285	305	305	405	405	455	495	515
RC	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
Product Code	BM010AD	BM010AF	BM010AG	BM010AH	BM010AI	BM010AJ	BM010AK	BM010AL
Nos.	BM011AD	BM011AF	BM011AG	BM011AH	BM011AI	BM011AJ	BM011AK	BM011AL
H	285	305	305	405	405	455	495	515
L	45	64	64	66	66	86	108	121
F	72	84	84	111	111	114	114	145
Rp	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2-1/2"	3"
Rc	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
Product Code No.	BM012AD	BM012AF	BM012AG	BM012AH	BM012AI	BM012AJ	BM012AK	BM012AL
H	285	305	305	405	405	455	495	515
L1	59	73	75	83	84	111	113	140
F1	67	73	75	83	84	111	110	140
Product Code No.	BM013AD	BM013AF	BM013AG	BM013AH	BM013AI	BM013AJ	BM013AK	BM013AL

Note : The above data is subject to change without notice due to our continuing programme of product improvements.

CAT. NO. BM:10-13:96

LEADER VALVES LTD. IND. AREA,
JALANDHAR - 144 004 (INDIA)

BRONZE POP TYPE SAFETY VALVES

PRODUCT CODE NOS.

PRODUCT	CODE NO.	END DETAILS
Pop type safety valves, Open discharge, Screwed Inlet	BM010	Inlet:- screwed male BSP Taper Threads to BS 21
Pop-type safety, valves, Open Discharge, Flanged	BM011	Inlet Flange as per BS 10 Table H
Pop-type safety valves, Angle Pattern, Enclosed discharge, Threaded Ends	BM012	Inlet :- Screwed male BSP Taper Threads to BS 21 Outlet:-Screwed female BSP Parallel Threads to BS 21
Pop-type safety valves, Angle Pattern, Enclosed Discharge, Flanged Ends	BM013	Flanges as per BS 10 Table H

TEST PRESSURES

MAX. WORKING PRESSURE	SHELL TEST (HYDROSTATIC)	MAX. SET PRESSURE (STEAM)
250 psig (17.24 bar) at 435°F (225°C)	500 psig (34.5 bar)	250 psig (17.24 bar) At 435°F (225°C)

APPLICATION

Pop type safety valves are meant for use on steam, air, gas or vapour service (i.e. for compressible fluids). The maximum set pressure for which these valves can be supplied is 250 psig(17.24 bar)

Recommended maximum working temperature is 435°F (225°C)

INSTALLATION

Pop type safety valves should be connected directly to the boiler nozzle super heater outlet connection or other vessels to which they are attached and in no case the area of such connection should be less than that of the valve inlet. Any intervening piping is likely to cause chattering. Nor should a stop valve or other fittings be placed between the safety valve and pressure vessel outlet nor in the discharge pipe between safety valve and atmosphere. Before mounting valve, all connections or piping must be carefully cleaned. Use very little pipe compound and only on male threads. Wrenches should be used with care so as not to distort the valve. Outlet piping should be as short as possible. If discharging against a constant back pressure, the valve must be set to compensate for the back pressure. Pop type safety valves should be operated regularly to ensure certainty of proper functioning. The disc may be lifted from its seat by means of easing lever. All valves should be installed with their spindles in vertical upright position.

RELIEVING CAPACITIES

The relieving or diacharge capacities of these valves at various set pressures are tabulated in capacity tables.

TABLE 1 RELIEVING CAPACITIES

Pop type safety valves for saturated steam at 10% accumulation

Size At inlet	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"
Set Pressure Kg/Cm ² g	KILOGRAMS OF STEAM PER HOUR AT SET PRESSURE							
1.0	20	46	82	128	185	329	514	740
2.0	29	68	122	191	276	491	767	1104
3.0	39	91	162	254	367	653	1020	1469
4.0	49	113	203	317	458	815	1273	1833
5.0	59	136	243	380	549	977	1526	2198
6.0	69	159	283	443	640	1139	1780	2562
7.0	79	181	324	506	731	1301	2033	2927
8.0	88	204	364	569	822	1463	2286	3291
9.0	98	227	405	632	914	1625	2539	3656
10.0	108	249	445	695	1005	1787	2792	4020
12.0	128	295	526	821	1187	2111	3299	4749
15.0	157	363	647	1010	1460	2597	4058	5843
17.57	183	421	751	1172	1695	3014	4709	6780

TABLE II RELIEVING CAPACITIES

Pop type safety valves for air at 10% accumulation at inlet temperature at 15°C

Size At inlet	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"
Set Pressure Kg/Cm ² g	KILOGRAMS OF STEAM PER HOUR AT SET PRESSURE							
1.0	0.6	1.0	1.7	2.0	3.0	4.5	6.5	10.0
2.0	1.0	1.5	2.5	3.0	4.5	7.0	10.0	15.0
3.0	1.3	2.0	3.2	4.0	5.8	9.0	13.0	19.0
4.0	1.6	2.5	4.0	5.0	7.4	11.5	16.5	26.0
5.0	2.0	3.0	5.0	6.2	9.0	14.0	20.0	30.0
6.0	2.3	3.5	5.9	7.4	10.5	16.5	23.5	35
7.0	2.6	4.0	6.8	8.5	12.2	19.0	27.0	41.5
8.0	3.0	4.5	7.5	9.3	13.4	20.5	30.0	44.5
9.0	3.2	4.9	8.1	10.0	14.6	22.6	32.3	48.5
10.0	3.7	5.5	9.3	11.6	16.7	26.0	37.0	55.5
12.0	4.4	6.6	11.0	13.9	20.0	31.0	44.0	66.5
15.0	5.4	8.0	13.5	16.9	24.4	37.9	54.2	81.3
17.57	6.3	9.5	15.9	19.9	28.7	44.7	63.9	95.9

INFORMATION REQUIRED WHILE ENQUIRING/ORDERING

- Size
- Item Code No.
- Fluid to be handled
- Set pressure
- Working temperature
- Maximum allowable over pressure
- Discharge capacity
- End connections: if required other than standard
- Whether flanges of flanged valves are required drilled or undrilled.
- Scope of inspection if it is to be carried out at our works before despatch

NOTE : ITEMS CAN BE SUPPLIED WITH CERTIFICATE OF MANUFACTURE AND TEST ON FORM III C AS PER REGULATION 269 OF IBR

MULTIPLYING FACTORS

Inlet temperature °C	Multiplier	Name of Gas	Multiplier
25	0.98	Natural Gas Sp. Gravity 0.60	1.142
40	0.96	Nitrogen	1.016
60	0.93	Oxygen	0.944
80	0.90	Carbon Dioxide	0.790
100	0.87	Butane	0.623
120	0.85	Ethane	0.870
160	0.81	Methane	1.190
180	0.80	Propane	0.716
220	0.76	Ethylene	0.900

Note :The above data is subject to change without notice due to our continuing programme of product improvements.

CAT. NO. BM:10-13:96

**LEADER VALVES LTD. IND. AREA,
JALANDHAR - 144 004 (INDIA)**



BRONZE SPRING LOADED RELIEF VALVES

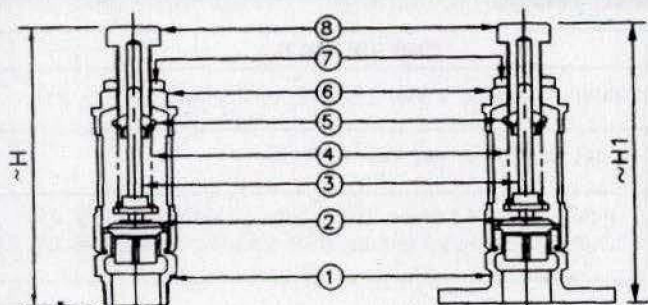


Fig. No. BM014 OPEN DISCHARGE Fig. No. BM015

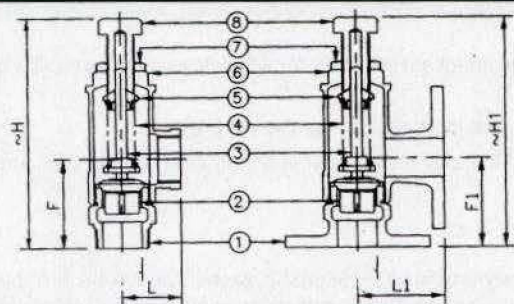


Fig. No. BM016

Fig. No. BM017



BM014/BM015



BM016/BM017

STANDARD MATERIAL COMBINATION

P.NO.	QTY.	DESCRIPTION	MATERIALS	SPECIFICATIONS
1	1	Body	Bronze	BS 14000 LG 2C
2	1	Disc	Bronze	BS 1400 LG 2C
3	1	Stem	Brass Rod	CZ 114 of BS 2872 or 2874
4	1	Spring	Carbon Steel	IBR Clause 307
5	1	Spring Disc	Bronze	BS 1400 LG 2C
6	1	Spring Chamber	Bronze	BS 1400 LG 2C
7	1	Locking Nut	Bronze	BS 1400 LG 2C
8	1	Adjusting Screw	Bronze	BS 1400 LG 2C

DIMENSIONAL DATA

NPS	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
H	140	153	178	195	222	246	375	464
H1	197	197	197	200	216	251	375	464
Product Code Nos.	BM014AD BM015AD	BM014AF BM015AF	BM014AG BM015AG	BM014AH BM015AH	BM014AI BM015AI	BM014AJ BM015AJ	BM014AK BM015AK	BM014AL BM015AL
H	140	153	178	195	222	246	375	464
L	35	41	45	51	57	70	81	95
F	56	66	70	79	94	100	116	130
Product Code Nos.	BM016AD	BM016AF	BM016AG	BM016AH	BM016AI	BM016AJ	BM016AK	BM016AL
H1	197	197	197	200	216	251	375	464
L1	72	72	72	82	84	100	114	124
F1	62	62	75	82	87	103	116	130
Product Code Nos.	BM017AD	BM017AF	BM017AG	BM017AH	BM017AI	BM017AJ	BM017AK	BM017AL

TEST PRESSURES

MAX. WORKING PRESSURE	SHELL TEST (HYDROSTATIC)	MAX. SET PRESSURE (WATER OR AIR)
150 psi (10.35 bar) Water or Air	300 psig (20.7 bar)	150 psi (10.35 bar)

Note : The above data is subject to change without notice due to our continuing programme of product improvements.

CAT. NO. BM:14-17:96

LEADER VALVES LTD. IND. AREA,
JALANDHAR - 144 004 (INDIA)



BRONZE SPRING LOADED RELIEF VALVES

PRODUCT CODE NOS.

PRODUCT	CODE NO.	END DETAILS
Bronze spring loaded Relief Valve, Open Discharge, Threaded Inlet	BM014	Inlet:- screwed male BSP Taper Threads to BS 21
Bronze spring laded Relief Valve, Open Discharge, Flanged Inlet	BM015	Inlet flange as per BS 10 Table F
Bronze spring loaded Relief Valve, Angle Pattern, Enclosed Discharge, Threaded Ends	BM016	Inlet:- Screwed male BSP Taper Threads to BS 21 Outlet :- Screwed female BSP Parallel Threads to BS 21
Bronze spring loaded Relief Valve, Angle Pattern. Enclosed Discharge, Flanged Ends	BM017	Flanges as per BS 10 Table F

APPLICATION

Relief valves are meant for use on Liquid service (i.e. for incompressible fluids). The maximum set pressure for which these valves can be supplied is 150 psig (10.34 bar). Recommended maximum working temperature is 435°F (225°C)

These valves start opening at the set pressure & open in direct proportion to the increase in pressure over the set pressure.

They required above 20% over pressure to open wide. As the pressure drop, they start to close and shut at approximately the set pressure.

INSTALLATION

Relief valves should always be installed as near as possible to the vessels they protect. They should be set atleast 20 percent above the normal working pressure. Before installing relief valves, all particles of scale or dirt should be carefully removed from the pipe connection. When relief valves are installed on pipe lines, the valve should be one size smaller than the pipeline. When relief valves are installed where they are subject to back pressure on the outlet side, they should be fitted with a pressure tight cap over the adjusting screw in order to prevent leakage. If this is the requirement, it should be clearly stated in the enquiry or order.

All valves should be installed with their spindles in vertical upright position.

TABLE 1 RELIEVING CAPACITIES
LIQUID RELIEF VALVES AT 25% OVER PRESSURE

SIZE	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
Set Pressure kg/cm ² g	CAPACITY IN KILOGRAMS PER HOUR OF WATER							
1.0	417	938	1669	2607	3755	6676	10431	18776
2.0	590	1327	2360	3688	5310	9441	14752	21243
3.0	708	1593	2832	4425	6372	11329	17702	25491
4.0	834	1877	3338	5215	7510	13352	20862	30042
5.0	933	2097	3731	5829	8396	14927	23324	41984
6.0	1021	2297	4088	6385	9197	16352	25550	45991
7.0	1103	2481	4415	6897	9934	17663	27597	49676
8.0	1179	2653	4720	7373	10620	18882	29503	53106
9.0	1251	2814	5007	7821	11265	20028	31293	56328
10.54	1353	3045	5418	8463	12190	21673	33864	60956

To obtain the discharge capacities at 20% over-pressure multiply the discharge capacity at 25% over-pressure by 0.97

INFORMATION REQUIRED WHILE ENQUIRING/ORDERING

1. Size
2. Item Code No.
3. Fluid to be handled
4. Set pressure
5. Working temperature
6. Maximum allowable over pressure
7. Discharge capacity
8. End connections: if required other than standard
9. Whether flanges of flanged valves are required drilled or undrilled.
10. Scope of inspection if it is to be carried out at our works before despatch

Note :The above data is subject to change without notice due to our continuing programme of product improvements.

CAT. NO. BM:14-17:96

LEADER VALVES LTD. IND. AREA,
JALANDHAR - 144 004 (INDIA)



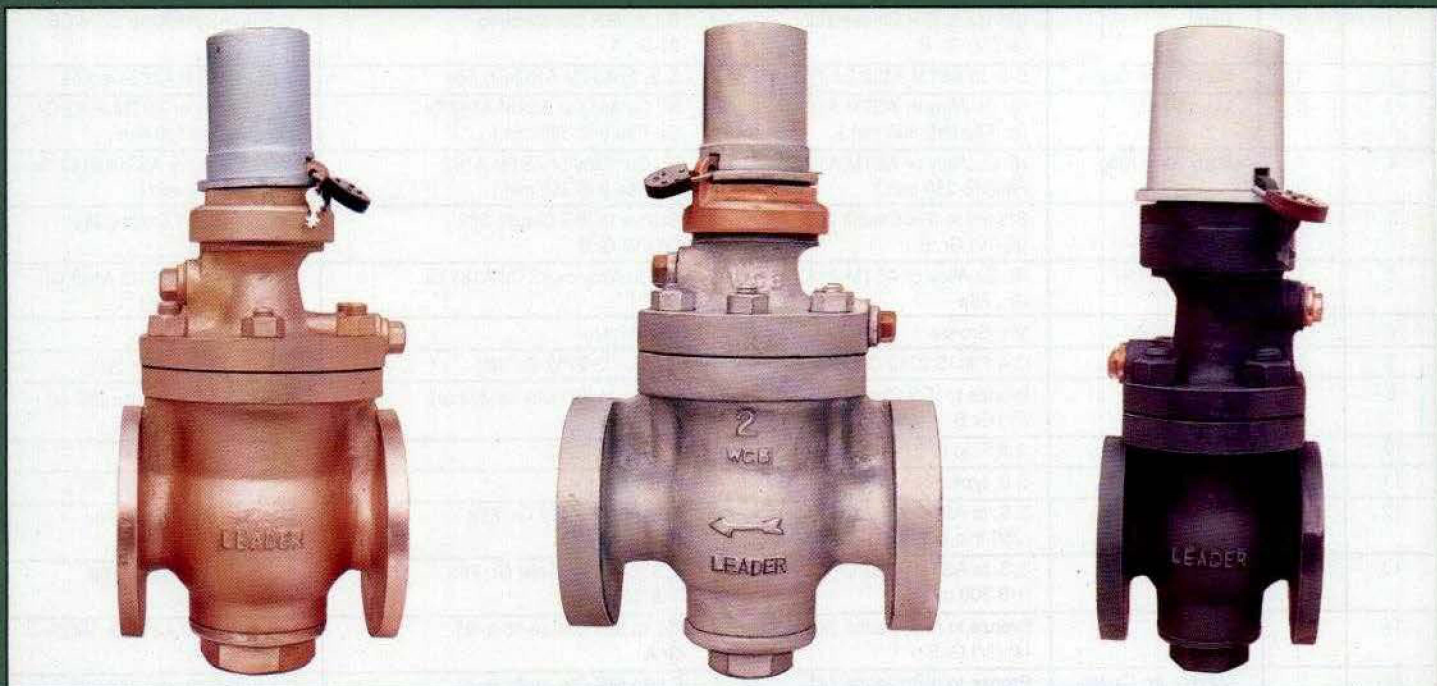
PILOT OPERATED PRESSURE REDUCING VALVES

SPECIFICATIONS

Pilot Operated - R type pressure reducing valves, Renewable Seats, Flanged Ends

CERTIFICATE

Items can be supplied with Director of Boiler (Punjab) test certificate in form III-C as per Indian boiler regulations.

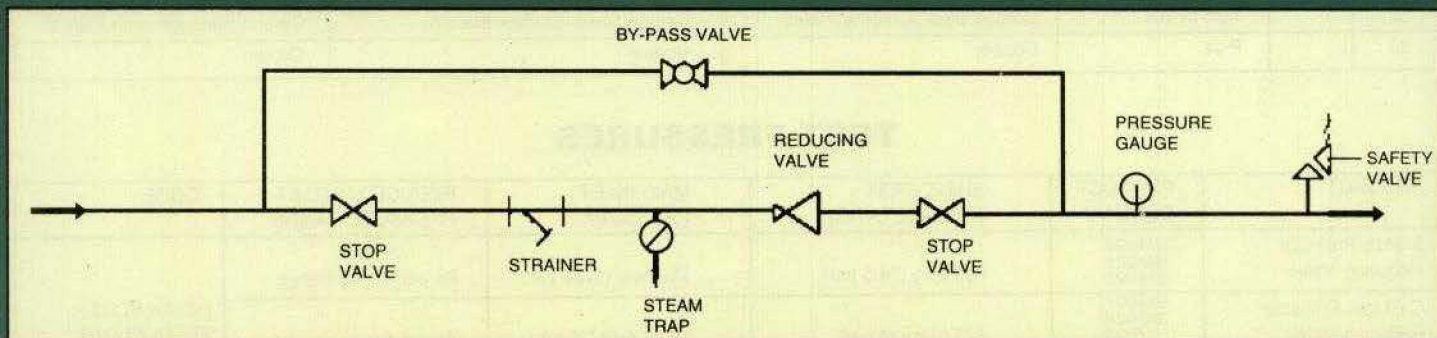


WORKING :

"Leader" Pilot-operated pressure reducing valve is of simple design incorporating unit pilot valve. The main valve is opened by high pressure acting on the large piston directly above it. The pilot valve, working in conjunction with the diaphragm, actuated by any unbalanced effect of the adjusting spring and low pressure beneath it, controls necessary pressure to the piston. Thus, the pilot valve extremely sensitive to the secondary pressure, opens and closes the main valve in a proportionate degree to maintain the desired constant low pressure.

INSTRUCTIONS FOR FIXING :

- The valves should be installed in a horizontal pipe line.
- Stop valves, preferably, parallel slide type, should be installed both at inlet and outlet of the reducing valve.
- A strainer and steam trap must be installed on high pressure side just before the reducing valve.
- A safety valve able to discharge full capacity of the reducing valve and a pressure gauge should be installed on the low pressure side.
- Avoid subjecting the reducing valve to excessive strain due to expansion and contraction of the pipe line.
- Blow out all scale and jointing material from the pipeline before fixing the reducing valve.
- By-pass connection with a manual throttling valve must be installed.
- The inlet and outlet piping should be properly sized; the outlet pipe is generally bigger than the inlet pipe, the reason being that steam at low pressure occupies more volume.
- The installation should be done as per sketch shown.



Note : The above data is subject to change without notice due to our continuing programme of product improvements.

CAT. NO. BM24-32:96

LEADER VALVES LTD. IND. AREA,
JALANDHAR - 144 004 (INDIA)



PILOT OPERATED PRESSURE REDUCING VALVES

STANDARD MATERIAL COMBINATION

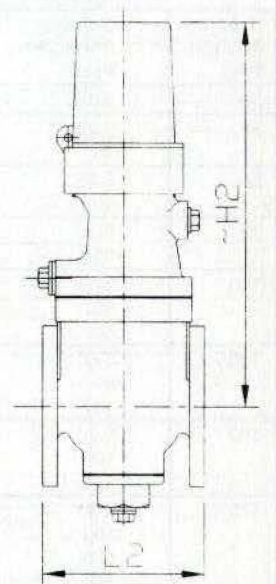
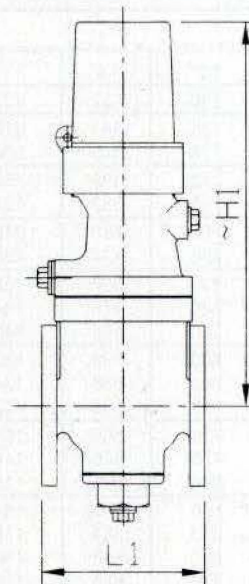
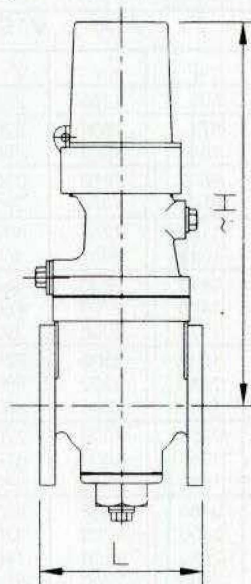
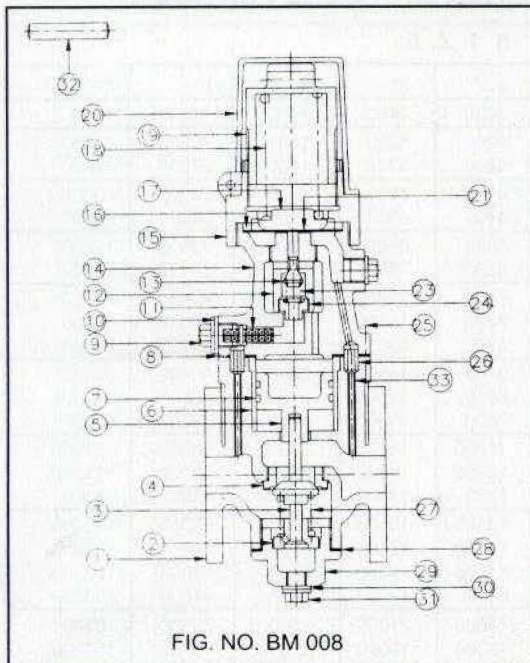
P.NO.	QTY.	DESCRIPTION	BRONZE	CAST IRON	CAST STEEL
1	1	Body	Bronze to IBR Clause 282 (a) (IV) Gr. B	C.I. to IBR Clause 86 to 93 Gr. A	C.S. to ASTM A216 Gr. WCB
2	1	Main Valve Guide	S.S. to ASTM A182 Gr. F6a	S.S. to ASTM A182 Gr. F6a	S.S. to ASTM A182 Gr. F6a
3	1	Main Valve	Ni, Cu Alloy or ASTM A182 Gr. F6a (HB 300 min.)	Ni, Cu Alloy or ASTM A182 Gr. F6a (HB 300 min.)	Ni, Cu Alloy or ASTM A182 Gr. F6a (HB 300 min.)
4	1	Body Seat Ring	Ni, Cu Alloy or ASTM A182 Gr. F6a (HB 250 min.)	Ni, Cu Alloy or ASTM A182 Gr. F6a (HB 250 min.)	Ni, Cu Alloy or ASTM A182 Gr. F6a (HB 250 min.)
5	1	Piston	Bronze to IBR Clause 282 (a) (IV) Gr. B	Bronze to IBR Clause 282 (a) (IV) Gr. B	Bronze to IBR Clause 282 (a) (IV) Gr. B
6	1	Cylinder Liner	Ni, Cu Alloy or ASTM A182 Gr. F6a	Ni, Cu Alloy or ASTM A182 Gr. F6a	Ni, Cu Alloy or ASTM A182 Gr. F6a (HB 250 Min.)
7	1	Piston Ring	Mn. Bronze	Mn. Bronze	Mn. Bronze
8	1	Gasket	C.A.F. to IS 2712 Gr. W/1	C.A.F. - IS 2712 Gr. W/1	C.A.F. - IS 2712 Gr. W/1
9	1	Plug	Bronze to IBR Clause 282 (a) (IV) Gr. B	Bronze to IBR Clause 282 (a) (IV) Gr. B	Bronze to IBR Clause 282 (a) (IV) Gr. B
10	1	Gasket	C.A.F. to IS 2712	C.A.F. - IS 2712	C.A.F. IS 2712
11	1	Strainer	S.S. type 304	S.S. type 304	S.S. type 304
12	1	Relay Valve Chamber	S.S. to ASTM A182 Gr. F6a (250 min.)	S.S. ASTM A182 Gr. F6a (250 min.)	S.S. ASTM A182 Gr. F6a (250 min.)
13	1	Relay Valve	S.S. to ASTM A182 Gr. F6a (HB 300 min.)	S.S. to ASTM A182 Gr. F6a (HB 300 min.)	S.S. ASTM A182 Gr. F6a (HB 300 min.)
14	1	Bonnet	Bronze to IBR Clause 282 (a) (IV) Gr. B	C.I. to IBR Clause 86 to 93 Gr. A	C.S. to ASTM A216 Gr. WCB
15	1	Diaphragm Cover	Bronze to IBR Clause 282 (a) (IV) Gr. B	C.I. to IBR Clause 86 to 93 Gr. A	C.I. to IBR Clause 86 to 93 Gr. A
16	1	Diaphragm top Ring	Bronze to IBR Clause 282 (a) (IV) Gr. B	Bronze to IBR Clause 282 (a) (IV) Gr. B	Bronze to IBR Clause 282 (a) (IV) Gr. B
17	1	Lower Spring Disc	Bronze to IBR Clause 282 (a) (IV) Gr. B	Bronze to IBR Clause 282 (a) (IV) Gr. B	Bronze to IBR Clause 282 (a) (IV) Gr. B
18		Spring	Carbon Steel to IBR Clause 307	Carbon Steel to IBR Clause 307	Carbon Steel to IBR Clause 307
19	1	Adjusting Screw	Bronze to IBR Clause 282 (a) (IV) Gr. B	Bronze to IBR Clause 282 (a) (IV) Gr. B	Bronze to IBR Clause 282 (a) (IV) Gr. B
20		Adjusting Cap	Aluminium	Aluminium	Aluminium
21		Diaphragm	S.S. to type 304	S.S. to Type 304	S.S. to Type 304
23		Plot Valve Spring	S.S. to BS 2056 EN 58A	S.S. to BS 2056 EN 58A	S.S. to BS 2056 EN 58A
24		Spring Holder	S.S. to ASTM A182 Gr. F6a	S.S. to ASTM A182 Gr. F6a	S.S. to ASTM A182 Gr. F6a
25		Studs & Nuts	Carbon steel to BS 916	Carbon Steel to BS 916	Carbon Steel to BS 916
26		Port Nipple	S.S. to ASTM A182 Gr. F6a	S.S. to ASTM A182 Gr. F6a	S.S. to ASTM A182 Gr. F6a
27		Main Valve Spring	S.S. to BS 2056-53 en 58	S.S. to BS 2056 EN58A	S.S. to BS 2056 EN58A
28		Gasket	C.A.F. to IS 2712	C.A.F. to IS 2712	C.A.F. to IS 2712
29		Bottom Cover	Bronze to IBR Clause 282 (a) (IV) Gr. B	C.S. to ASTM A216 Gr. WCB	C.S. to ASTM A216 Gr. WCB
30		Gasket	C.A.F. to IS 2712 Gr. W/1	C.A.F. to IS 2712 Gr. W/1	C.A.F. to IS 2712 Gr. W/1
31		Drain Plug	Bronze to IBR Clause 282 (a) (IV) Gr. B	Bronze to IBR Clause 282 (a) (IV) Gr. B	Bronze to IBR Clause 282 (a) (IV) Gr. B
32		Tommy Bar	Carbon Steel (Chrome Plated)	Carbon Steel (Chrome Plated)	Carbon Steel (Chrome Plated)
33		Pipe	Copper	Copper	Copper

TEST PRESSURES

PRODUCT	PRODUCT CODE NO.	SHELL TEST (HYDROSTATIC)	MAX. INLET PRESSURE	REDUCED/OUTLET PRESSURE RANGE	CODE
Bronze Pressure Reducing Valve	BM024 BM025 BM026	500 psig (34.5 bar)	250 psig (17.24 bar)	As per Spring Range	INDIAN BOILER REGULATIONS
Cast Iron Pressure Reducing Valve	BM027 BM028 BM029	377 psig (26 bar)	188.6 psig (13 bar)	As per Spring Range	
Cast Steel Pressure Reducing Valve	BM030 BM031 BM032	500 psig (34.5 bar)	250 psig (17.24 bar)	As per Spring Range	



PILOT OPERATED PRESSURE REDUCING VALVES



PRODUCT CODE NO.

ITEM	CODE NO.	END DETAILS
Bronze Pressure Reducing Valve a) Outlet Pressure Range 5/60 psig (STEAM) b) Outlet Pressure Range 20/80 psig (STEAM) c) Outlet Pressure Range 40/125 psig (STEAM)	BM024 BM025 BM026	Flanged ends as per BS 10 table - H
Cast Iron Pressure Reducing Valve a) Outlet Pressure Range 5/60 psig (STEAM) b) Outlet Pressure Range 20/80 psig (STEAM) c) Outlet Pressure Range 40/125 psig (STEAM)	BM027 BM028 BM029	Flanged ends as per BS 10 table - F
Cast Steel Pressure Reducing Valve a) Outlet Pressure Range 5/60 psig (STEAM) b) Outlet Pressure Range 20/80 psig (STEAM) c) Outlet Pressure Range 40/125 psig (STEAM)	BM030 BM031 BM032	Flanged ends as per BS 10 table - J

DIMENSIONAL DATA

NPS	15	20	25	32	40	50	65	80	100	125	150	200
L	127	121	121	146	143	191	245	318	381	-	-	-
H	215	285	285	285	312	340	423	486	510	-	-	-
Product	BM024AD	BM024AF	BM024AG	BM024AH	BM024AI	BM024AJ	BM024AK	BM024L	BM024AN	BM024AO	BM024AP	BM024AR
Code	BM025AD	BM025AF	BM025AG	BM025AH	BM025AI	BM025AJ	BM025AK	BM025AL	BM025AN	BM025AD	BM025AP	BM025AR
No.	BM026AD	BM026AF	BM026AG	BM026AH	BM026AI	BM026AJ	BM026AK	BM026AL	BM026AN	BM026AD	BM026AP	BM026AR
L1	-	-	124	156	150	203	254	324	388	400	438	-
H1	-	-	285	285	312	340	423	486	510	880	965	-
Product	BM027AD	BM027AF	BM027AG	BM027AH	BM027AI	BM027AJ	BM027AK	BM027AL	BM027AN	BM027AO	BM027AP	BM027AR
Code	BM028AD	BM028AF	BM028AG	BM028AH	BM028AI	BM028AJ	BM028AK	BM028AL	BM028AN	BM028AD	BM028AP	BM028AR
No.	BM029AD	BM029AF	BM029AG	BM029AH	BM029AI	BM029AJ	BM029AK	BM029AL	BM029AN	BM029AD	BM029AP	BM029AR
L2	-	-	197	-	229	254	254	330	388	-	445	575
H2	-	-	285	-	312	340	423	486	510	-	965	965
Product	BM030AD	BM030AF	BM030AG	BM030AH	BM030AI	BM030AJ	BM030AK	BM030AL	BM030AN	BM030AO	BM030AP	BM030AR
Code	BM031AD	BM031AF	BM031AG	BM031AH	BM031AI	BM031AJ	BM031AK	BM031AL	BM031AN	BM031AD	BM031AP	BM031AR
No.	BM032AD	BM032AF	BM032AG	BM032AH	BM032AI	BM032AJ	BM032AK	BM032AL	BM032AN	BM032AD	BM032AP	BM032AR



PILOT OPERATED PRESSURE REDUCING VALVES

SATURATED STEAM CAPACITIES OF PRESSURE REDUCING VALVES - POUND PER HOUR

Inlet Pressure Psig.	Outlet Pressure Psig.	VALVE SIZE										
		1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	6"	8"
30	2-10	130	232	432	596	1160	2030	3000	4400	7700	17600	3400
50	5-20	184	344	616	872	1600	2900	4200	6200	10810	26200	48000
	30	178	320	568	768	1500	2600	4000	5700	10000	38500	44000
60	5-25	215	392	704	960	1850	3300	4800	7000	12000	29000	60000
	40	195	352	624	880	1650	2900	4400	6300	11000	24000	52000
75	5-30	260	480	840	1160	2200	4000	5900	8500	15000	33600	70000
	50	236	424	760	1040	2000	3600	5300	7700	13000	29000	63000
100	5-50	330	600	1080	1440	2800	5000	7400	11000	18500	42000	87000
	60	320	576	1040	1400	2700	4800	7200	10500	18000	40000	85000
	80	260	464	840	1120	2000	3900	5700	8300	14000	31000	67000
125	5-60	400	736	1320	1800	3500	6200	9100	13500	23000	49400	99000
	80	380	688	1240	1680	3300	5800	8500	12500	21500	48000	97000
	100	310	560	1024	1360	2700	4800	7000	10500	17500	39700	80000
150	5-70	486	880	1584	2080	4000	7200	11000	15500	27000	60000	122000
	100	450	800	1440	1960	3800	6700	10000	14500	25000	52000	115000
	125	350	608	1120	1520	2900	5200	7700	11000	19000	43000	91000
175	5-90	560	1000	1840	2480	4800	8500	12500	18000	31000	65000	140000
	100	540	984	1760	2400	4700	8200	12500	17500	30000	64000	135000
	125	480	880	1560	2080	4200	7400	11000	15800	27000	58000	123000
	150	370	680	1200	1680	3200	5700	8400	12000	21000	44000	95000
200	100	600	1120	2000	2800	5200	9500	14000	21000	35000	75500	162000
	125	590	1080	1920	2640	5000	9000	13000	19000	33000	75000	150000
	150	540	984	1760	2400	4700	8200	12000	17500	30000	64000	135000
	175	410	720	1280	1760	3400	6000	9000	13000	23000	49100	110000
225	5-120	680	1200	2200	3040	5800	10500	15000	22000	38000	82000	170000
	150	660	1160	2080	2880	5500	9800	14500	21000	37000	76000	160000
	175	570	1040	1840	2480	4800	8600	13000	18500	32000	66000	140000
	200	430	760	1360	1880	3600	6400	9500	14000	24000	52000	112000
250	5-130	770	1440	2480	3360	6700	11800	17000	25000	43000	92000	200000
	150	764	1360	2400	3280	6400	11500	16500	24500	42000	90000	190000
	175	710	1280	2240	3040	6000	10500	15700	23000	39000	83000	180000
	200	610	1100	1960	2720	5100	9200	13500	20000	34000	77800	160000
	225	450	800	1440	1960	3800	6700	10000	14500	25000	59800	110000

For superheated steam correct figures in table as follows :

With 500 F superheat multiply by 0.92

100°F " " " 0.85

150°F " " " 0.80

200°F " " " 0.75

300°F " " " 0.65

Capacities for pressure regulators at pressures higher than 250 psig available on request.

INFORMATION REQUIRED WHILE ENQUIRING / ORDERING

- Fluid to be handled.
- Inlet pressure and temperature. Give variations (if any).
- Reduced pressure required-range (if any)
- Quantity of fluid to pass; maximum, normal and minimum.
- Whether demand is constant or variable.
- Size of pipes installed or proposed to be installed at inlet and outlet.

DRY SATURATED STEAM CAPACITIES OF PIPES - POUNDS PER HOUR

Bore of pipe	Area sq. in.	Pressure in Pounds per square inch gauge																		
		5	10	15	20	30	40	50	60	70	80	90	100	120	140	160	180	200	225	250
3/8"	0.11	13	17	20	23	30	35	42	47	54	60	65	71	83	95	105	117	129	143	157
1/2"	0.20	24	31	36	42	54	60	75	86	97	108	118	129	150	171	192	212	234	259	285
3/4"	0.44	53	68	80	93	118	141	166	189	214	238	266	294	330	376	423	468	515	582	627
1"	0.78	94	121	143	165	210	250	293	336	378	420	462	505	585	666	750	830	915	1014	1113
1 1/4"	1.23	148	190	224	260	328	394	463	550	600	665	730	795	925	1050	1180	1300	1440	1588	1736
1 1/2"	1.77	212	273	322	375	473	568	665	760	860	955	1047	1140	1330	1510	1700	1880	2070	2297	2525
2"	3.14	378	485	570	665	840	1000	1180	1350	1525	1700	1890	2080	2360	2680	3000	3220	3680	4078	4477
2 1/2"	5.00	600	770	910	1060	1335	1600	1880	2150	2420	2700	2960	3220	3750	4300	4800	5300	5850	6487	7125
3"	7.00	840	1008	1274	1480	1870	2240	2640	3000	3400	3780	4140	4500	5250	6000	6700	7425	8200	9087	9975
4"	12.50	1500	1925	2280	2650	3340	4000	4700	5375	6050	6750	7425	8100	9400	10700	12000	13250	14650	16237	17825
5"	19.60	2350	3018	3560	4150	5230	6275	7380	8430	9500	10600	11675	12750	14700	16750	18800	20400	23000	25500	28000
6"	28.00	3360	4300	5100	5950	7500	9000	10500	12000	13600	15100	16550	18000	21000	24000	26800	29750	32800	36350	39000
7"	38.00	4560	5850	6900	8060	10100	12200	14300	16400	18500	20300	22400	24500	28500	32500	36500	40500	44500	49375	54250
8"	50.00	6000	7700	9100	10600	13350	16000	18800	21500	24200	27000	29600	32200	37500	42800	48000	53000	58500	64875	71250
9"	63.00	7560	9700	11500	13400	16800	20100	23700	27000	30600	34000	37250	40500	47250	54000	60500	67000	74000	82000	90000
10"	78.00	9400	12100	14300	16600	20800	25000	29300	33600	37800	42000	46000	50000	58500	66600	75000	82750	91500	101375	111250
12"	113.00	13550	17400	20600	24000	30000	36200	42500	48500	55000	61000	67000	73000	85000	97000	108500	120000	132500	146875	161250
14"	153.00	18360	23600	27800	33600	41000	49000	57500	66000	74250	83000	91500	100000	115000	-	-	-	-	-	-
16"	201.00	24120	31000	36500	44500	53750	65000	75500	86500	97500	109000	119500	130000	153000	-	-	-	-	-	-

This table gives as a guide quantity of dry saturated steam in lb. pr hour that the pipe will pass at different pressure (gauge) based on a steam speed of 100 feet per second.

Note : The above data is subject to change without notice due to our continuing programme of product improvements.

CAT. NO. BM24-32:96

LEADER VALVES LTD. IND. AREA,
JALANDHAR - 144 004 (INDIA)



BRONZE HORIZONTAL LIFT CHECK VALVES

SPECIFICATIONS

SCREWED IN COVER, RENEWABLE SEAT & DISC,
SCREWED FEMALE BSP TAPER THREADS TO BS21.
OTHER FORMS OF THREADS CAN BE PROVIDED ON
REQUEST.

CERTIFICATE

ITEMS CAN BE SUPPLIED WITH CERTIFICATE OF
MANUFACTURE AND TEST ON FORM III-C AS PER
REGULATION 269 OF IBR.

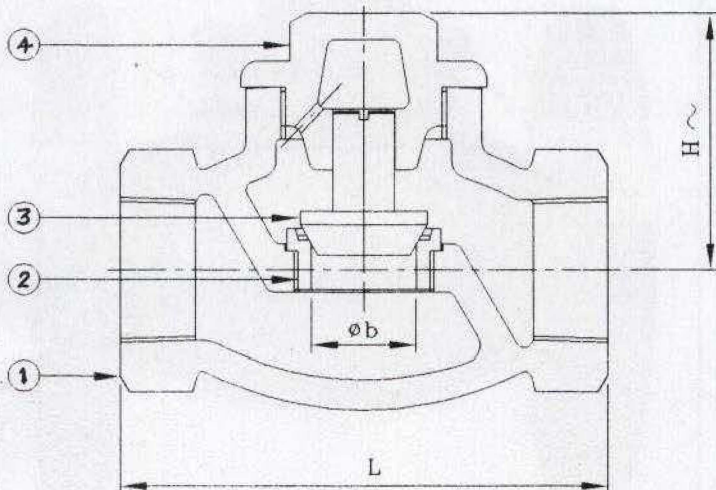


FIG NO : BM 033



STANDARD MATERIAL COMBINATION

P. NO.	QTY	DESCRIPTION	MATERIALS	SPECIFICATIONS
1	1	BODY	BRONZE	IBR CLAUSE 282 (a) (iv) Gr. B
2	1	BODY SEAT RING	13% Cr STEEL(HB 250 Min.)	ASTM A182 Gr. F6a or its Eq.
3	1	DISC	13% Cr STEEL (HB 300 Min.)	ASTM A182 Gr. F6a or its Eq.
4	1	COVER	BRONZE	IBR CLAUSE 282 (a) (iv) Gr. B

DIMENSIONAL DATA

NPS	1/2	3/4	1	1 1/4	1 1/2	2
L	83	95	111	133	150	178
b	12	19	24	32	36.5	50
H	55	55	59	65	82	93
ITEM CODE NOS.	BM 033 AD	BM 033 AF	BM 033 AG	BM 033 AH	BM 033 AI	BM 033 AJ

END DETAILS	MAXIMUM WORKING PRESSURES	TEST PRESSURES			
		SHELL TEST (HYDROSTATIC)	SEAT TEST		CODE
			(HYDROSTATIC)	(STEAM)	
THREADED AS PER BS - 21	250 psig (17.24 bar) AT 435°F (225°C)	500 psig	500 psig	250 psig	INDIAN BOILER REGULATIONS

NOTE : The above data is subject to change without notice due to our continuing programme of product improvements.

Cat. No. : BM : 33-34 : 96

LEADER VALVES LTD. IND. AREA,
JALANDHAR -144004 (INDIA)

AN ISO 9001 : 94 COMPANY



BRONZE HORIZONTAL LIFT CHECK VALVES

SPECIFICATIONS

SCREWED IN COVER, RENEWABLE SEAT & DISC, FLANGED ENDS AS PER BS 10 TABLE H

CERTIFICATE

ITEMS CAN BE SUPPLIED WITH CERTIFICATE OF MANUFACTURE AND TEST ON FORM III-C AS PER REGULATION 269 OF IBR.

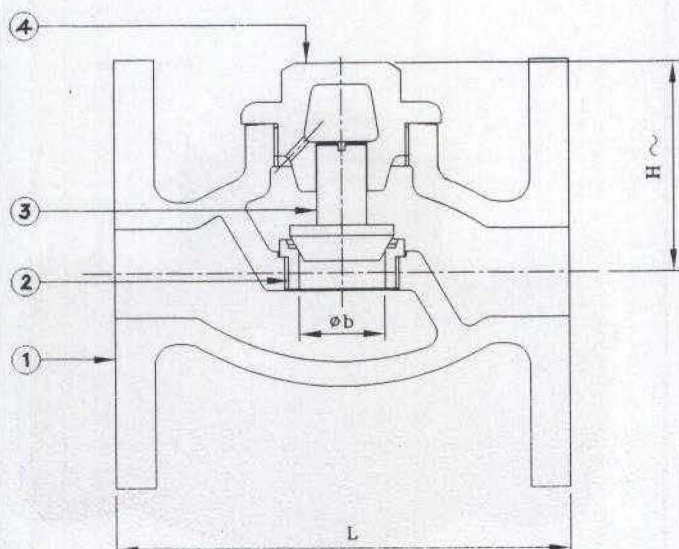


FIG NO : BM 034



STANDARD MATERIAL COMBINATION

P. NO.	QTY	DESCRIPTION	MATERIALS	SPECIFICATIONS
1	1	BODY	BRONZE	IBR CLAUSE 282 (a) (iv) Gr. B
2	1	BODY SEAT RING	13% Cr STEEL (HB 250 Min.)	ASTM A182 Gr. F6a or Its Eq.
3	1	DISC	13% Cr STEEL (HB 300 Min.)	ASTM A182 Gr. F6a or its Eq.
4	1	COVER	BRONZE	IBR CLAUSE 282 (a) (iv) Gr. B

DIMENSIONAL DATA

DN	15	20	25	32	40	50
NPS	1/2	3/4	1	1 1/4	1 1/2	2
L	102	115	127	140	153	179
b	12.0	19	24	32	36.5	50
H	55	55	59	65	82	93
ITEM CODE NOS.	BM 034 AD	BM 034 AF	BM 034 AG	BM 034 AH	BM 034 AI	BM 034 AJ

END DETAILS	MAXIMUM WORKING PRESSURES	TEST PRESSURES			
		SHELL TEST (HYDROSTATIC)	SEAT TEST		CODE
			(HYDROSTATIC)	(STEAM)	
FLANGED ENDS AS PER BS 10 TABLE H	250 psig (17.24 bar) AT 435°F (225°C)	500 psig	500 psig	250 psig	INDIAN BOILER REGULATIONS

NOTE : The above data is subject to change without notice due to our continuing programme of product improvements.

Cat. No. : BM : 33-34 : 96

LEADER VALVES LTD. IND. AREA,
JALANDHAR -144004 (INDIA)

AN ISO 9001 : 94 COMPANY



CAST STEEL STOP AND NON RETURN VALVES

SPECIFICATIONS

Straight Pattern, Cross head & Pillar type, Renewable seat, Flanges as per BS 10 Table - J FF

CERTIFICATE

Item can be supplied with certificate of manufacture and test on form III C as per regulation 269 of IBR

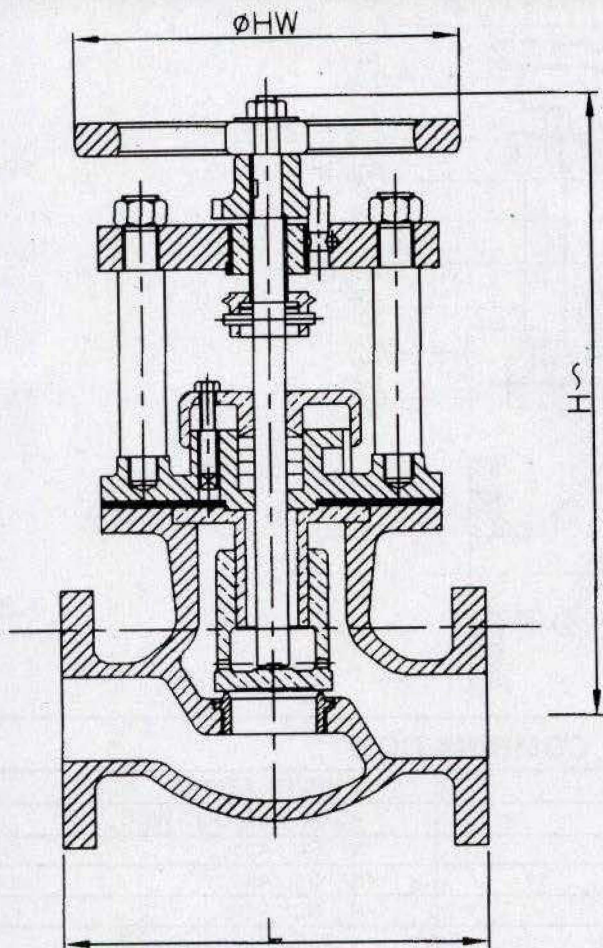
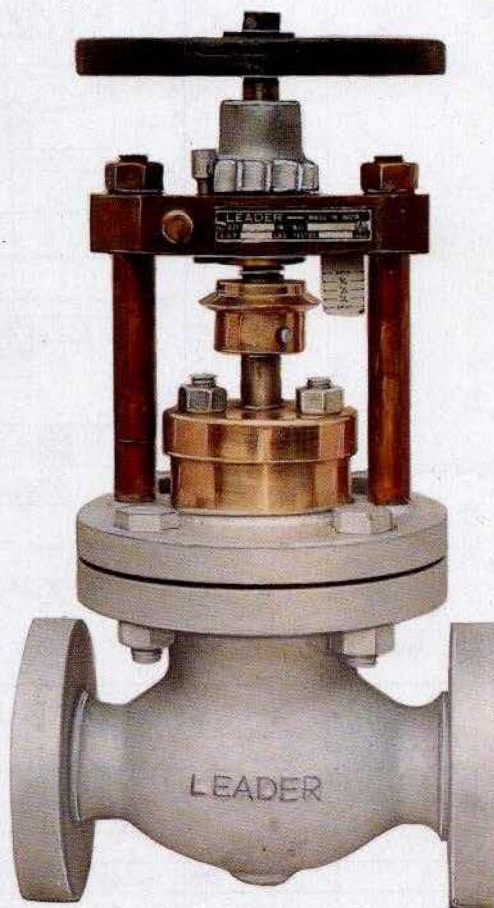


Fig. No. BM038



BM038

DIMENSIONAL DATA

DN	40	50	65	80	100	125	150	200
NPS	1½"	2"	2½"	3"	4"	5"	6"	8"
L	229	254	279.5	324	356	432	508	610
H	365	420	460	495	540	630	765	890
ØHW	178	229	229	279	330	381	470	508
PRODUCT CODE NO.	BM038AI	BM038AJ	BM038AK	BM038AL	BM038AN	BM038AO	BM038AP	BM038AR

TEST PRESSURES

MAX. WORKING PRESSURE	SHELL TEST (HYDROSTATIC)	SEAT TEST		CODE
		(HYDROSTATIC)	(STEAM)	
350 psig (24.1 bar) at 800°F (427°C)	700 psig (48.3 bar)	700 psig (48.3 bar)	250 psig (17.24 bar)	INDIAN BOILER REGULATIONS

Note : The above data is subject to change without notice due to our continuing programme of product improvements.

CAT. NO. : BM38-96

LEADER VALVES LTD. IND. AREA,
JALANDHAR - 144 004 (INDIA)



CAST STEEL STOP AND NON RETURN VALVES

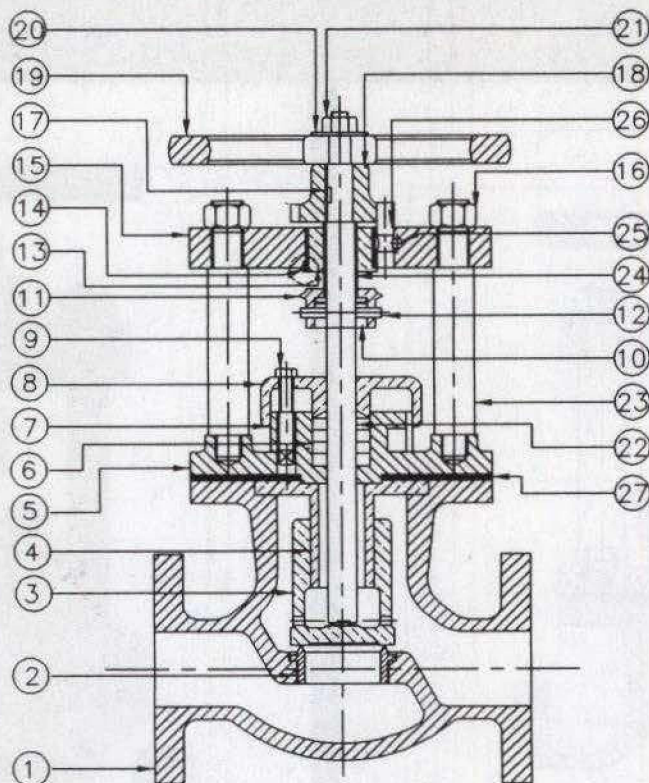


Fig. No. BM038

STANDARD MATERIAL COMBINATION

P.NO.	QTY.	DESCRIPTION	MATERIAL	SPECIFICATIONS
1	1	Body	Cast Steel	ASTM A216 Gr. WCB
2	1	Body Seat Ring	Lumina	Ni, Cu. Alloy
3	1	Valve Disc	Lumina	Ni, Cu. Alloy
4	1	Valve Disc Guide	Lumina	Ni, Cu. Alloy
5	1	Bonnet	Cast Steel	ASTM A216 Gr. WCB
6	1	Gland Packing	Graphited Asbestos	-
7	1	Guide Ring	Bronze	IBR Clause 282(a) (iv) Gr. B
8	1	Gland	Bronze	IBR Clause 282(a) (iv) Gr. B
9	1	T-Head Bolts & Nuts	Carbon Steel	BS 916
10	1	Lock Nut	Bronze	IBR Clause 282(a) (iv) Gr. B
11	1	Stem Joint Ring	Bronze	IBR Clause 282(a) (iv) Gr. B
12	1	Solid Tapered Pin	Carbon Steel	-
13	1	Cross Head Bush	Bronze	IBR Clause 282(a) (iv) Gr. B
14	1	Locking Screw	Steel	-
15	1	Cross Head	Carbon Steel	-
16	2	Pillar Nuts	Carbon Steel	BS 916
17	1	Parallel Key	Carbon Steel	-
18	1	Locking Guard	Cast Iron	IBR Clause 86 to 93 Gr. A
19	1	Handwheel	Cast Iron	IS 210 Gr. FG200
20	1	Washer	Carbon Steel	-
21	1	Nut for Handwheel	Carbon Steel	BS 916
22	1	Lower Stem	Stainless steel	ASTM A182 Gr.F6a
23	2	Pillar	Carbon steel	-
24	1	Upper Stem	Stainless steel	ASTM A182 Gr.F6a
25	1	Locking PIN	Carbon Steel	-
26	2	PIN	Carbon Steel	-
27	1	Gasket	C.A.F.	IS 2712 Gr.W/1

Note :The above data is subject to change without notice due to our continuing programme of product improvements.

CAT. NO. : BM38-96

LEADER VALVES LTD. IND. AREA,
JALANDHAR - 144 004 (INDIA)



BRONZE ACCESSIBLE FEED CHECK VALVES

SPECIFICATIONS

Accessible feed check valve with renewable seat & disc, flanges as per BS 10 Table H.

CERTIFICATE

Items can be supplied with certificate of manufacture and test on form III C as per regulation 269 of IBR

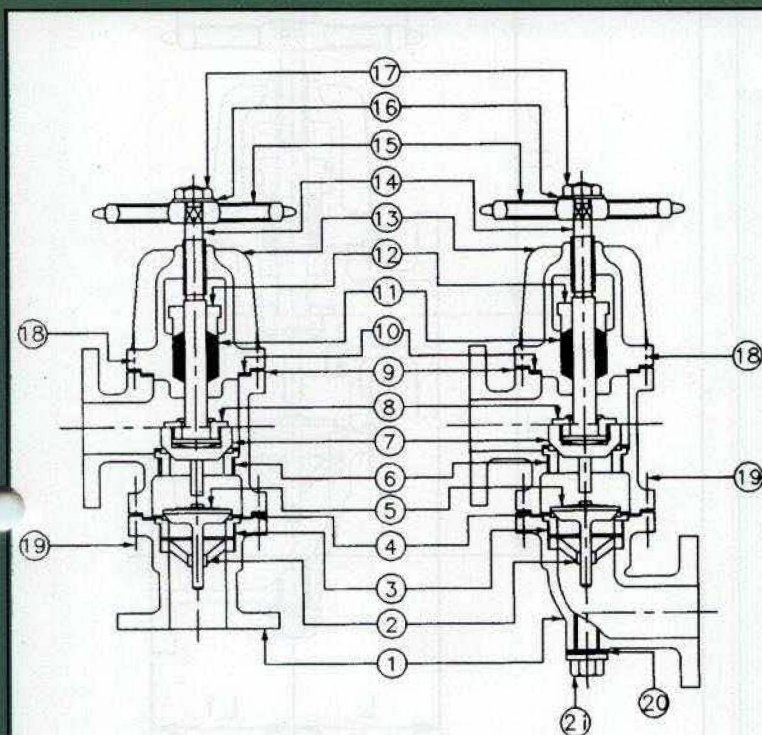
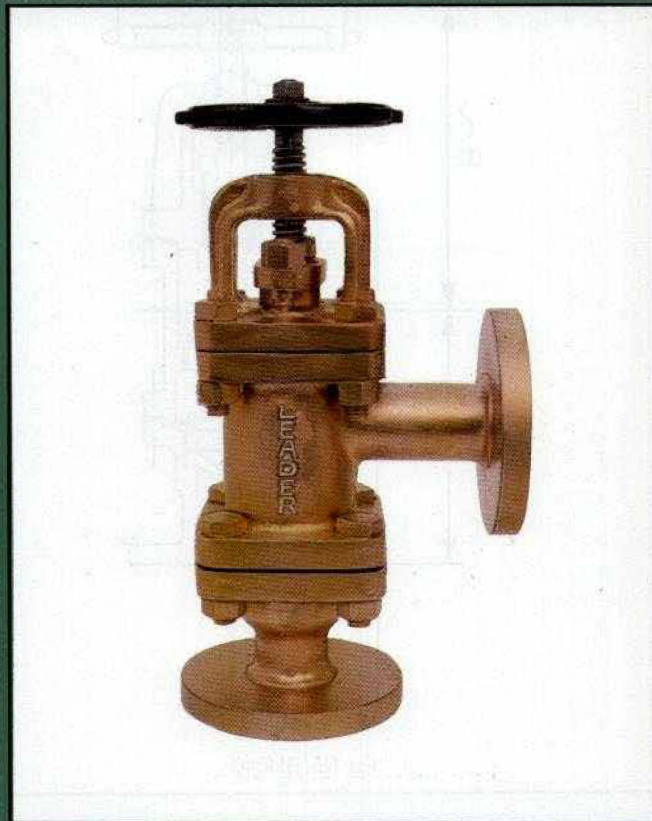


Fig. No. BM040

Fig. No. BM041



STANDARD MATERIAL COMBINATION

P.NO.	QTY.	DESCRIPTION	MATERIAL	SPECIFICATIONS
1	1	Valve Inlet End	Bronze	IBR Clause 282(a) (iv) Gr.B
2	1	Check Valve Guide	Bronze	IBR Clause 282(a) (iv) Gr. B
3	1	Check Valve Seat Ring	Lumina	Ni, Cu. Alloy
4	1	Gasket	C.A.F.	IS 2712 Gr. W1
5	1	Check Valve Disc	Lumina	Ni, Cu. Alloy
6	1	Body Seat Ring	Lumina	Ni, Cu. Alloy
7	1	Valve Disc	Lumina	Ni, Cu. Alloy
8	1	Stem Nut	Bronze	IBR Clause 282(a) (iv) Gr. B
9	1	Body	Bronze	IBR Clause 282(a) (iv) Gr. B
10	1	Gasket	C.A.F.	IS 2712 Gr. W1
11	--	Gland Packing	Graphited Asbestos	-
12	1	Gland	Bronze	IBR Clause 282(a) (iv) Gr. B
13	1	Bonnet	Bronze	IBR Clause 282(a) (iv) Gr. B
14	1	Stem	13% Cr. Stainless Steel	ASTM A182 Gr. F6a or ITS Eq.
15	1	Handwheel	Cast Iron	IS 210 Gr. FG 200
16	1	Washer	Carbon Steel	--
17	1	Nut for Handwheel	Carbon Steel	BS 916
18	To Suit	Bolts & Nuts	Carbon Steel	BS 916
19	To Suit	Bolts & Nuts	Carbon Steel	BS 916
20	1	Gasket	C.A.F.	IS 2712 Gr. W1
21	1	Drain Plug	Bronze	IBR Clause 282(a) (iv) Gr. B

Note : The above data is subject to change without notice due to our continuing programme of product improvements.

CAT. NO. : BM40-41-96

LEADER VALVES LTD. IND. AREA,
JALANDHAR - 144 004 (INDIA)



BRONZE ACCESSIBLE FEED CHECK VALVES

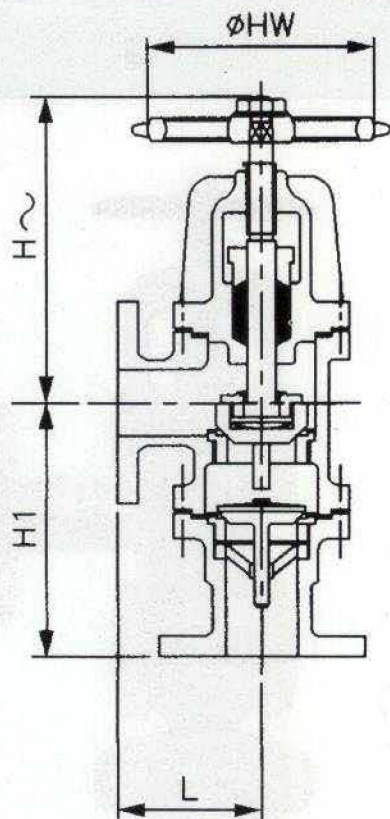


Fig. No. BM040

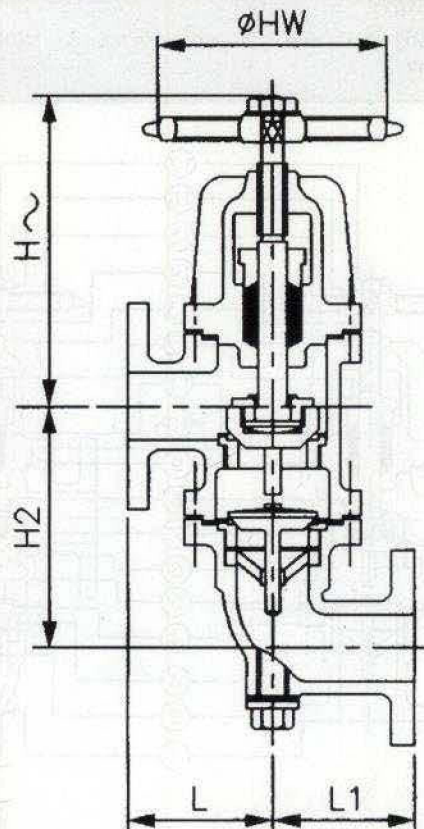


Fig. No. BM041

PRODUCT CODE NOS.

PRODUCT	CODE NO.	END DETAILS
Bronze Accessible Feed Check Valve Angle Pattern, Straight Inlet.	BM040	Flanged Ends to BS 10 Table H.
Bronze Accessible Feed Check Valve Angle Pattern, Curved Inlet.	BM041	Flanged Ends to BS 10 Table H.

DIMENSIONAL DATA

DN	20	25	32	40	50	65	80
NPS	3/4	1	1 1/4	1 1/2	2	2 1/2	3
L	70	117.5	117.5	107	108	127	140
L1	70	117.5	89	107	108	127	140
H	165	168	222	232	265	275	300
H1	122	154	162	162	178	216	232
H2	131	154	159	168	178	213	238
HW	90	102	121	127	152	203	229
PRODUCT CODE NO.	BM040AF	BM040AG	BM040AH	BM040AI	BM040AJ	BM040AK	BM040AL
	BM041AF	BM041AG	BM041AH	BM041AI	BM041AJ	BM041AK	BM041AL

TEST PRESSURES

PRODUCT CODE NO.	MAX. WORKING PRESSURE	SHELL TEST (HYDROSTATIC)	SEAT TEST		CODE
			(HYDROSTATIC)	(STEAM)	
BM040 & BM041	250 psig (17.24 bar) at 435°F (225°C)	500 psig	500 psig	250 psig	INDIAN BOILER REGULATIONS

Note :The above data is subject to change without notice due to our continuing programme of product improvements.

CAT. NO. : BM40-41-96

LEADER VALVES LTD. IND. AREA,
JALANDHAR - 144 004 (INDIA)