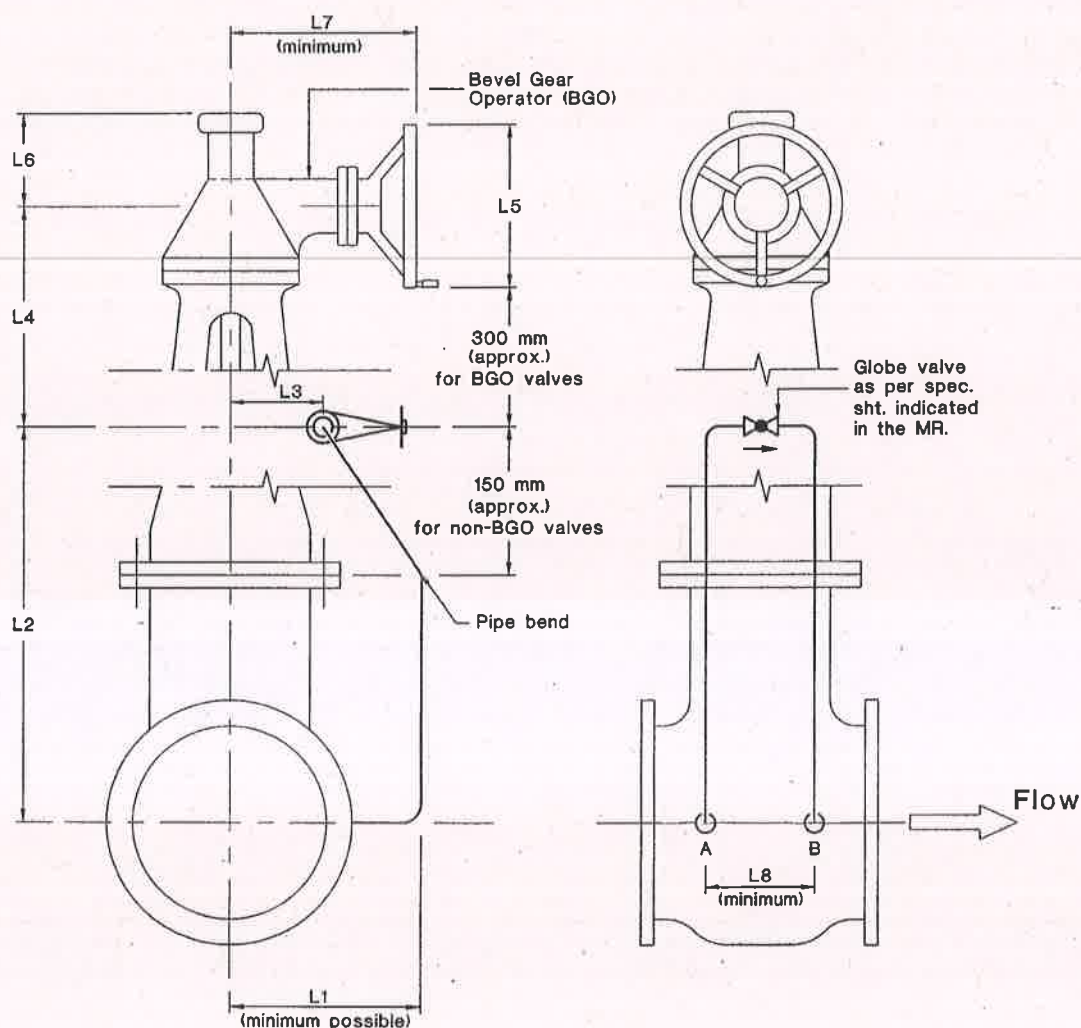


BYPASS PIPING ARRANGEMENT



NOTES :

1. The orientation & location of handwheel of bevel gear operator & the bypass arrangement shall be strictly as per this sketch.
2. The bypass connection ends shall be socket welded upto 600# and butt welded for 900# and above rating.
3. The bypass arrangement shall be properly clamped to & supported by the body of the main valve.
4. Basic design of bypass shall be to MSS-SP-45.
5. Material of bypass pipe & 90° elbows shall be same or equivalent to the body material as indicated in Specification No. 6-44-0052-A2.
6. This sketch is applicable for both BGO & NON-BGO Valves.
7. Vendor shall furnish dimensions L1 to L8.

SPECIFICATIONS FOR BYPASS PIPING, FITTINGS AND VALVES

Class (Main Valve Sht.no.)	Pipe	Fittings	Bypass Valve Sht.no.
A1A(51301), A3A(51321), A9A(51301), A10A(51301), A11A(51301), A33A(51301), B1A(51401), B9A(51401), D1A(51501), D9A (51501)	ASTM A106 Gr.B (SMLS) 0.5"-0.75" : S160 1.0"-1.5" : XS	ASTM A105 0.5"-0.75" : SW 6000# 1.0"-1.5" : SW 3000#	52001
A6A(51301), B6A(51401)	ASTM A106 Gr.B (SMLS) 0.5"-0.5" : XXS 0.75"-1.5" : S160	ASTM A105 0.5"-0.5" : SW 9000# 0.75"-1.5" : SW 6000#	52001
A13A(51301), B13A(51401)	ASTM A106 Gr.B (SMLS) 0.5"-1.5" : XXS	ASTM A105 0.5"-1.5" : SW 9000#	52001
A2A(51302), B2A(51402), D2A (51502)	ASTM A106 Gr.B (SMLS)- IBR 0.5"-0.75" : S160 1.0"-1.5" : XS	ASTM A105 - IBR 0.5"-0.75" : SW 6000# 1.0"-1.5" : SW 3000#	52002
A4A (51303), B4A (51403), D4A (51503)	ASTM A333 Gr.6 (SMLS)- LT 0.5"-0.75" : S160 1.0"-1.5" : XS	ASTM A350Gr.LF2-LT 0.5"-0.75" : SW 6000# 1.0"-1.5" : SW 3000#	52003
A5A (51304), B5A (51404), D5A (51504)	ASTM A106 Gr.B (SMLS) - H2 0.5"-0.75" : S160 1.0"-1.5" : XS	ASTM A105 - H2 0.5"-0.75" : SW 6000# 1.0"-1.5" : SW 3000#	52004
A7A (51307)	ASTM A106 Gr.B (SMLS) 0.5"-0.75" : S160 1.0"-1.5" : XS	ASTM A105 0.5"-0.75" : SW 6000# 1.0"-1.5" : SW 3000#	52007
A16A (51311), B16A (51411), D16A (51511)	ASTM A106 Gr.B (SMLS) - NACE 0.5"-0.5" : XXS 0.75"-1.5" : S160	ASTM A105 - NACE 0.5"-0.5" : SW 9000# 0.75"-1.5" : SW 6000#	52011
A19A (51313), B19A (51413), D19A (51513)	ASTM A106 Gr.B (SMLS) 0.5"-0.75" : S160 1.0"-1.5" : XS	ASTM A105 0.5"-0.75" : SW 6000# 1.0"-1.5" : SW 3000#	52013
E1A (51601), F1A (51701)	ASTM A106 Gr.B (SMLS) 0.5"-1.5" : S160	ASTM A234 Gr.WPB/ ASTM A105 0.5"-1.5" : BW, S160	52101
E2A (51602), F2A (51702)	ASTM A106 Gr.B (SMLS) - IBR 0.5"-1.5" : S160	ASTM A234 Gr.WPB/ ASTM A105 - IBR 0.5"-1.5" : BW, S160	52102
E5A (51604), F5A (51704)	ASTM A106 Gr.B (SMLS) - H2 0.5"-1.5" : S160	ASTM A234 Gr.WPB/ ASTM A105 - H2 0.5"-1.5" : BW, S160	52104
E9A (51605), F9A (51705)	ASTM A106 Gr.B (SMLS) 0.5"-1.5" : SCH XXS	ASTM A234 Gr.WPB/ ASTM A105 0.5"-1.5" : BW, SCH XXS	52105
E19A (51613), F19A (51713)	ASTM A106 Gr.B (SMLS) 0.5"-1.5" : SCH XXS	ASTM A234 Gr.WPB/ ASTM A105 0.5"-1.5" : BW, SCH XXS	52113

Client : Engineers India Ltd.			Dept./Sect. : 16/43	
Project : Std. Specification				
Location : New Delhi			Tag No: 51321	Sheet No. 1 of 1
GATE VALVE SPECIFICATION			MANUF'S OFFER	
TAG NO. : 51321		PIPING CLASS : A33A, A3A		STANDARD: MFGRS CAT/FIG: RATING: ENDS:
RATING : 150		STANDARD : API-600		
SIZE RANGE : 2.0" TO 24.0"		ENDS : FLGD TO B-16.5 RF/125AARH		
DESCRIPTION	CONSTRUCTION	MATERIAL	CONSTRUCTION	MATERIAL
BODY	CAST	ASTM A 216 GR. WCB		
BONNET	BOLTED	ASTM A 216 GR. WCB		
STEM	RISING	13% CR. STEEL (NO CASTING)		
WEDGE DISC	SOLID/FLEXIBLE	13% CR STEEL FACING/13% CR. STEEL		
BODY SEAT RING	RENEWABLE/NON RENEWABLE	13% CR STEEL FACING/13% CR. STEEL		
STEM PACKING	RENEWABLE WITH VALVE OPEN ON STREAM	GRAPHITED ASBESTOS WITH SACRIFICIAL CORR. INHIB. & INCONEL WIRE REINFORCEMENT		
HAND WHEEL	NON RISING	MALLEABLE IRON/CAST ST/FAB. ST/DUCT. IRON		
BONNET BOLTS		ASTM A193 GR B7		
BONNET NUTS		ASTM A194 GR 2H		
BONNET GASKET		SP WND SS316-CA FILLER/CORRUGATED SOFT IRON		
REQUIREMENT OF GEAR OPERATOR		REFER TECHNICAL NOTES FOR PURCHASE OF VALVES.		
SPECIAL SERVICE CONDITIONS				
BACK SEAT & SHOULDER		13% CR STEEL		
OTHERS	O.S & Y.			
HYDROSTATIC TEST PRESSURE	BODY : 450 PSIG	SEAT : 325 PSIG		
TEST PRESSURE WITH AIR	80 PSIG			

NOTES

- 1 THIS VALVE SPEC SHEET SHALL BE READ IN CONJUNCTION WITH TECHNICAL NOTES FOR VALVES.
- 2 BIDDER SHALL CLEARLY WRITE ALL/ ANY DEVIATION AGAINST EACH PART/ MATERIAL OF VALVE IN THE SPACE PROVIDED FOR. WHEREVER BIDDER AGREES WITH EIL'S SPEC BIDDER SHALL INDICATE "AGREED".
- 3 NO CUTTING/ OVERWRITING BY BIDDER ON EIL'S SPEC IS ALLOWED.
- 4 TESTING SHALL BE AS PER API 598.
- 5 RADIOGRAPHY OF VALVE CASTINGS NOT REQUIRED.

SIGNATURE
&
SEAL
OF MANUFACTURER

SHEET REV. NO.	3	4
DATE	14/12/2000	28/05/2001

51321

Client : Engineers India Ltd.			Dept./Sect. : 16/43	
Project : Std. Specification				
Location : New Delhi			Tag No: 51401	Sheet No. 1 of 1
GATE VALVE SPECIFICATION			MANUF'S OFFER	
TAG NO. : 51401		PIPING CLASS : B13A, B1A, B32A, B6A, B9A		STANDARD:
RATING : 300		STANDARD : API-600		MFGRS CAT/FIG:
SIZE RANGE : 2.0" TO 24.0"		ENDS : FLGD TO B-16.5 RF/125AARH		RATING: ENDS:
DESCRIPTION	CONSTRUCTION	MATERIAL	CONSTRUCTION	MATERIAL
BODY	CAST	ASTM A 216 GR.WCB		
BONNET	BOLTED	ASTM A 216 GR.WCB		
STEM	RISING	13% CR.STEEL (NO CASTING)		
WEDGE DISC	FLEXIBLE/SOLID	13% CR STEEL FACING/13% CR. STEEL		
BODY SEAT RING	RENEWABLE/NON RENEWABLE	13% CR STEEL FACING/13% CR. STEEL		
STEM PACKING	RENEWABLE WITH VALVE OPEN ON STREAM	GRAPHITED ASBESTOS WITH SACRIFICIAL CORR. INHIB & INCONEL WIRE REINFORCEMENT.		
HAND WHEEL	NON RISING	MALLEABLE IRON/CAST ST/FAB ST/DUCT. IRON		
BONNET BOLTS		ASTM A193 GR B7		
BONNET NUTS		ASTM A194 GR 2H		
BONNET GASKET		SP WND SS316-CA FILLER		
REQUIREMENT OF GEAR OPERATOR		REFER TECHNICAL NOTES FOR PURCHASE OF VALVES.		
REQUIREMENT OF RADIOGRAPHY		REFER TECHNICAL NOTES FOR PURCHASE OF VALVES.		
SPECIAL SERVICE CONDITIONS		MAX TEMP 427 DEG.C.		
BACK SEAT & SHOULDER		13% CR STEEL		
OTHERS	O.S & Y.			
HYDROSTATIC TEST PRESSURE	BODY : 1125 PSIG	SEAT : 825 PSIG		
TEST PRESSURE WITH AIR	80 PSIG			

NOTES

- 1 THIS VALVE SPEC SHEET SHALL BE READ IN CONJUNCTION WITH TECHNICAL NOTES FOR VALVES.
- 2 BIDDER SHALL CLEARLY WRITE ALL/ ANY DEVIATION AGAINST EACH PART/ MATERIAL OF VALVE IN THE SPACE PROVIDED FOR. WHEREVER BIDDER AGREES WITH EIL'S SPEC BIDDER SHALL INDICATE "AGREED".
- 3 NO CUTTING/ OVERWRITING BY BIDDER ON EIL'S SPEC IS ALLOWED.
- 4 TESTING SHALL BE AS PER API 598.
- 5 10% VALVE CASTINGS UPTO 16" AND 100% VALVE CASTINGS 18" AND ABOVE SHALL UNDERGO RADIOGRAPHIC EXAMINATION.



SHEET REV. NO.	2	3	4
DATE	02/01/1995	14/12/2000	28/05/2001

51401