

VALVE MATERIAL SPECIFICATION

(B015-6-44-0006)

Client : HPCL
Project : VRMP
Location : VIZAG
Job No. : B015

B	18/05/2017	ISSUED FOR BIDS	KPR	AKB	MI
A	25/04/2017	ISSUED FOR BIDS	KPR	AKB	MI
Rev. No	Date	Purpose	Prepared by	Checked by	Approved by

Abbreviations:

VMS : **Valve Material Specifications**

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Client : HPCL	Dept./Sect. : 16/43
Project : VRMP	
Location : VIZAG	

INDEX OF VALVE TAG NOS.

Gate Valve											
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Check Valve											
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Ball Valve											
54301	Rev. 6	54401	Rev. 6								
Butterfly Valve											
56321	Rev. 0										
Piston Valve											
64402	Rev. 0	64422	Rev. 0								

Notes: 1. For VMS General Notes, refer Annexure-I of this document.

2. For VMS Extracts, refer Annexure-II of this document.

Client : HPCL			Dept./Sect. : 16/43	
Project : VRMP				
Location : VIZAG			Tag No: 51001	Sheet No. 1 of 1
GATE VALVE SPECIFICATION			MANUF'S OFFER	
TAG NO. : 51001 PIPING CLASS : A10A, A11A, A1A, A23A, A32A, A3A, A93A, A9A, B1A, B9A, D1A, D9A, RATING : 800 STANDARD : API 602/ ISO 15761 SIZE RANGE : 0.25" TO 1.5" ENDS : SW 3000 TO B-16.11			STANDARD: MFGRS CAT/FIG: RATING: ENDS:	
DESCRIPTION	CONSTRUCTION	MATERIAL	CONSTRUCTION	MATERIAL
BODY	FORGED	ASTM A 105		
BONNET	BOLTED	ASTM A 105		
STEM	RISING	13% CR.STEEL (NO CASTING)		
WEDGE DISC	SOLID	STELLITED		
BODY SEAT RING	RENEWABLE	STELLITED		
STEM PACKING	RENEWABLE WITH VALVE OPEN ON STREAM	CORROSION INHIBITED DIE FORMED FLEXIBLE GRAPHITE WITH BRAIDED ANTI EXTRUSION RINGS		
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- GRAFOIL FILLER		
SPECIAL SERVICE CONDITIONS		MAX TEMP. 427 DEG. C.		
BACK SEAT & SHOULDER	INTEGRAL			
OTHERS	O.S & Y.			
HYDROSTATIC TEST PRESSURE	BODY : 2975 PSIG.	SEAT : 2175 PSIG		
TEST PRESSURE WITH AIR	80 PSIG			

NOTES

- 1 THIS VALVE SPEC SHEET SHALL BE READ IN CONJUNCTION WITH TECHNICAL NOTES FOR VALVES.
- 2 ONLY IN THE CASE OF CATEGORY - II MRs,BIDDER SHALL CLEARLY WRITE ALL/ ANY DEVIATION AGAINST EACH PART/ MATERIAL OF VALVE IN THE SPACE PROVIDED FOR AND WHEREVER BIDDER AGREES WITH EIL'S SPEC BIDDER SHALL INDICATE "AGREED".
- 3 NO CUTTING/ OVERWRITING BY BIDDER ON EIL'S SPEC IS ALLOWED.
- 4 VALVES AS PER API-602 AND TESTING AS PER API-598 ARE ALSO ACCEPTABLE.

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51001

Client : HPCL			Dept./Sect. : 16/43	
Project : VRMP				
Location : VIZAG			Tag No: 51002	Sheet No. 1 of 1
GATE VALVE SPECIFICATION			MANUF'S OFFER	
TAG NO. : 51002 PIPING CLASS : A2A, B2A, D2A, RATING : 800 STANDARD : API 602/ ISO 15761 SIZE RANGE : 0.5" TO 1.5" ENDS : SW 3000 TO B-16.11			STANDARD: MFGRS CAT/FIG: RATING: ENDS:	
DESCRIPTION	CONSTRUCTION	MATERIAL	CONSTRUCTION	MATERIAL
BODY	FORGED	ASTM A 105		
BONNET	BOLTED	ASTM A 105		
STEM	RISING	13% CR.STEEL (NO CASTING)		
WEDGE DISC	SOLID	STELLITED		
BODY SEAT RING	RENEWABLE	STELLITED		
STEM PACKING	RENEWABLE WITH VALVE OPEN ON STREAM	CORROSION INHIBITED DIE FORMED FLEXIBLE GRAPHITE WITH BRAIDED ANTI EXTRUSION RINGS		
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 - GRAFOIL FILLER		
SPECIAL SERVICE CONDITIONS	I.B.R	STEAM/CONDENSATE/BOILER FEED WATER; MAX TEMP. 427 DEG. C.		
BACK SEAT & SHOULDER	INTEGRAL			
OTHERS	O.S & Y.			
HYDROSTATIC TEST PRESSURE	BODY : 2975 PSIG.	SEAT : 2175 PSIG		
TEST PRESSURE WITH AIR	80 PSIG			

NOTES

- THIS VALVE SPEC SHEET SHALL BE READ IN CONJUNCTION WITH TECHNICAL NOTES FOR VALVES.
- ONLY IN THE CASE OF CATEGORY - II MRs,BIDDER SHALL CLEARLY WRITE ALL/ ANY DEVIATION AGAINST EACH PART/ MATERIAL OF VALVE IN THE SPACE PROVIDED FOR AND WHEREVER BIDDER AGREES WITH EIL'S SPEC BIDDER SHALL INDICATE "AGREED".
- NO CUTTING/ OVERWRITING BY BIDDER ON EIL'S SPEC IS ALLOWED.
- TESTING SHALL BE AS PER IBR ALSO.
- ALL VALVES SHALL BE SUPPLIED WITH IBR CERTIFICATE IN FORM-III C.
- ALL VALVES SHALL BE PAINTED RED ON BODY-BONNET JOINT.
- VALVES TO COMPLY WITH DESIGN REQUIREMENTS OF IBR ALSO.
- VALVES AS PER API-602 AND TESTING AS PER API-598 & IBR ARE ALSO ACCEPTABLE.

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51002

Client : HPCL			Dept./Sect. : 16/43	
Project : VRMP				
Location : VIZAG			Tag No: 51045	
			Sheet No. 1 of 1	
GATE VALVE SPECIFICATION			MANUF'S OFFER	
TAG NO. : 51045 RATING : 800 SIZE RANGE : 0.5" TO 1.5"			PIPING CLASS : A1K, A3K, B1K, STANDARD : API 602/ ISO 15761 ENDS : SW 3000 TO B-16.11	
			STANDARD: MFGRS CAT/FIG: RATING: ENDS:	
DESCRIPTION	CONSTRUCTION	MATERIAL	CONSTRUCTION	MATERIAL
BODY	FORGED	ASTM A 182 GR.F304		
BONNET	BOLTED	ASTM A 182 GR.F304		
STEM	RISING	SS 304/ SS 316; (NO CASTING)		
WEDGE DISC	SOLID	STELLITED		
BODY SEAT RING	RENEWABLE	STELLITED		
STEM PACKING	RENEWABLE WITH VALVE OPEN ON STREAM	CORROSION INHIBITED DIE FORMED FLEXIBLE GRAPHITE WITH BRAIDED ANTI EXTRUSION RINGS		
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-GRAFOIL FILLER		
SPECIAL SERVICE CONDITIONS		MAX TEMP 454 DEG.C.		
BACK SEAT & SHOULDER	INTEGRAL			
OTHERS	O.S & Y.			
HYDROSTATIC TEST PRESSURE	BODY : 2900 PSIG	SEAT : 2125 PSIG		
TEST PRESSURE WITH AIR	80 PSIG			

NOTES

- 1 THIS VALVE SPEC SHEET SHALL BE READ IN CONJUNCTION WITH TECHNICAL NOTES FOR VALVES.
- 2 ONLY IN THE CASE OF CATEGORY - II MRs,BIDDER SHALL CLEARLY WRITE ALL/ ANY DEVIATION AGAINST EACH PART/ MATERIAL OF VALVE IN THE SPACE PROVIDED FOR AND WHEREVER BIDDER AGREES WITH EIL'S SPEC BIDDER SHALL INDICATE "AGREED".
- 3 NO CUTTING/ OVERWRITING BY BIDDER ON EIL'S SPEC IS ALLOWED.
- 4 VALVES AS PER API-602 AND TESTING AS PER API-598 ARE ALSO ACCEPTABLE.

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51045

Client : HPCL			Dept./Sect. : 16/43	
Project : VRMP				
Location : VIZAG			Tag No: 51080	Sheet No. 1 of 1
GATE VALVE SPECIFICATION			MANUF'S OFFER	
TAG NO. : 51080 PIPING CLASS : A33Y, A5Y, J2A, RATING : CL.2 STANDARD : IS:778 CL.2 SIZE RANGE : 0.5" TO 1.5" ENDS : SCRF 3000 TO B-1.20.1			STANDARD: MFGRS CAT/FIG: RATING: ENDS:	
DESCRIPTION	CONSTRUCTION	MATERIAL	CONSTRUCTION	MATERIAL
BODY	CAST	IS 318 GR.LTB2 (LEADED TIN BRONZE)		
BONNET	BOLTED/SCREWED	IS 318 GR.LTB2		
STEM	RISING	IS 320 ALLOY HT2 HIGH TENSILE BRASS		
WEDGE DISC	SOLID	IS 318 GR LTB2		
BODY SEAT RING	RENEWABLE	IS 318 GR LTB2		
STEM PACKING	RENEWABLE WITH VALVE OPEN ON STREAM	PTFE		
HAND WHEEL	NON RISING	MALLEABLE IRON/CAST ST/FAB.ST/DUCT. IRON		
BONNET BOLTS		IS 1367 CLAUSE 4.6 & 4 / ASTM A193 GR B7		
BONNET NUTS		IS 1367 CLAUSE 4.6 & 4 / ASTM A194 GR 2H		
BONNET GASKET		RUBBER		
SPECIAL SERVICE CONDITIONS		MAX TEMP 75 DEG.C.		
BACK SEAT & SHOULDER		IS 320 ALLOY HT2		
OTHERS				
HYDROSTATIC TEST PRESSURE	BODY : 348 PSIG	SEAT : 232 PSIG		
TEST PRESSURE WITH AIR				

NOTES

- THIS VALVE SPEC SHEET SHALL BE READ IN CONJUNCTION WITH TECHNICAL NOTES FOR VALVES.
- ONLY IN THE CASE OF CATEGORY - II MRs,BIDDER SHALL CLEARLY WRITE ALL/ ANY DEVIATION AGAINST EACH PART/ MATERIAL OF VALVE IN THE SPACE PROVIDED FOR AND WHEREVER BIDDER AGREES WITH EIL'S SPEC BIDDER SHALL INDICATE "AGREED".
- NO CUTTING/ OVERWRITING BY BIDDER ON EIL'S SPEC IS ALLOWED.
- TESTING SHALL BE AS PER IS:778 CL.2

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51080

Client : HPCL			Dept./Sect. : 16/43	
Project : VRMP				
Location : VIZAG			Tag No: 51301	Sheet No. 1 of 1
GATE VALVE SPECIFICATION			MANUF'S OFFER	
TAG NO. : 51301			STANDARD:	
PIPING CLASS : A10A, A11A, A1A, A32A, A93A, A9A,			MFGRS CAT/FIG:	
RATING : 150			RATING: ENDS:	
STANDARD : API 600/ ISO 10434				
SIZE RANGE : 2.0" TO 42.0"				
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	CORROSION INHIBITED DIE FORMED FLEXIBLE GRAPHITE WITH BRAIDED ANTI EXTRUSION RINGS		
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-GRAFOIL FILLER/CORRUGATED SS 316		
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 371 DEG.C.		
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

- THIS VALVE SPEC SHEET SHALL BE READ IN CONJUNCTION WITH TECHNICAL NOTES FOR VALVES.
- ONLY IN THE CASE OF CATEGORY - II MRs,BIDDER SHALL CLEARLY WRITE ALL/ ANY DEVIATION AGAINST EACH PART/ MATERIAL OF VALVE IN THE SPACE PROVIDED FOR AND WHEREVER BIDDER AGREES WITH EIL'S SPEC BIDDER SHALL INDICATE "AGREED".
- NO CUTTING/ OVERWRITING BY BIDDER ON EIL'S SPEC IS ALLOWED.
- GATE VALVES OF SIZE 26" AND ABOVE SHALL BE IN ACCORDANCE WITH ANSI B-16.34 WITH TESTING AS PER API 598 AND FLANGE ENDS SHALL BE IN ACCORDANCE WITH ASME B16.47 SERIES B.
- 5% VALVE CASTINGS UPTO 24" AND 100% VALVE CASTINGS 26" AND ABOVE SHALL UNDERGO RADIOGRAPHIC EXAMINATION.
- FOR VALVE SIZE UPTO 24", VALVES AS PER API-600 AND TESTING AS PER API-598 ARE ALSO ACCEPTABLE.
- GATE VALVES OF SIZE 26" & ABOVE AS PER BS-1414 ARE ALSO ACCEPTABLE WITH TESTING AS PER BS 6755 (PART-I) AND FLANGE ENDS SHALL BE IN ACCORDANCE WITH ASME B16.47 SERIES B.

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51301

Client : HPCL			Dept./Sect. : 16/43	
Project : VRMP				
Location : VIZAG			Tag No: 51302	Sheet No. 1 of 2
GATE VALVE SPECIFICATION			MANUF'S OFFER	
TAG NO. : 51302 PIPING CLASS : A2A, RATING : 150 STANDARD : API 600/ ISO 10434 SIZE RANGE : 2.0" TO 36.0" ENDS : FLGD TO B-16.5 RF/125AARH			STANDARD: MFGRS CAT/FIG: 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	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	CORROSION INHIBITED DIE FORMED FLEXIBLE GRAPHITE WITH BRAIDED ANTI EXTRUSION RINGS		
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-GRAFOIL FILLER/CORRUGATED SS 316		
REQUIREMENT OF GEAR OPERATOR		REFER TECHNICAL NOTES FOR PURCHASE OF VALVES.		
REQUIREMENT OF RADIOGRAPHY		REFER TECHNICAL NOTES FOR PURCHASE OF VALVES.		
SPECIAL SERVICE CONDITIONS	I.B.R	STEAM/CONDENSATE/BOILER FEED WATER; MAX. TEMP. 371 DEG.C.		
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

- THIS VALVE SPEC SHEET SHALL BE READ IN CONJUNCTION WITH TECHNICAL NOTES FOR VALVES.
- ONLY IN THE CASE OF CATEGORY - II MRs,BIDDER SHALL CLEARLY WRITE ALL/ ANY DEVIATION AGAINST EACH PART/ MATERIAL OF VALVE IN THE SPACE PROVIDED FOR AND WHEREVER BIDDER AGREES WITH EIL'S SPEC BIDDER SHALL INDICATE "AGREED".
- NO CUTTING/ OVERWRITING BY BIDDER ON EIL'S SPEC IS ALLOWED.
- TESTING SHALL BE AS PER IBR ALSO.
- ALL VALVES SHALL BE SUPPLIED WITH IBR CERTIFICATE IN FORM-III C.
- ALL VALVES SHALL BE PAINTED RED ON BODY-BONNET JOINT.
- 5% VALVE CASTINGS UPTO 24" AND 100% VALVE CASTINGS 26" AND ABOVE SHALL UNDERGO RADIOGRAPHIC EXAMINATION.
- GATE VALVES OF SIZE 26" AND ABOVE SHALL BE IN ACCORDANCE WITH ANSI B-16.34 WITH TESTING AS PER API-598 RESPECTIVELY & IBR AND FLANGE ENDS SHALL BE IN ACCORDANCE WITH ASME B16.47 SERIES B.
- VALVES TO COMPLY WITH DESIGN REQUIREMENTS OF IBR ALSO.

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51302

Client : HPCL	Dept./Sect. : 16/43
Project : VRMP	
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NOTES

- 10 FOR VALVE SIZE UPTO 24", VALVES AS PER API-600 AND TESTING AS PER API-598 & IBR ARE ALSO ACCEPTABLE.
- 11 GATE VALVES OF SIZE 26" & ABOVE AS PER BS-1414 ARE ALSO ACCEPTABLE WITH TESTING AS PER BS 6755 (PART-I) & IBR AND FLANGE ENDS SHALL BE IN ACCORDANCE WITH ASME B16.47 SERIES B.

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51302

Client : HPCL			Dept./Sect. : 16/43	
Project : VRMP				
Location : VIZAG			Tag No: 51321	
			Sheet No. 1 of 1	
GATE VALVE SPECIFICATION			MANUF'S OFFER	
TAG NO. : 51321 PIPING CLASS : A3A, RATING : 150 STANDARD : API 600/ ISO 10434 SIZE RANGE : 2.0" TO 24.0" ENDS : FLGD TO B-16.5 RF/125AARH			STANDARD: MFGRS CAT/FIG: 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	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	CORROSION INHIBITED DIE FORMED FLEXIBLE GRAPHITE WITH BRAIDED ANTI EXTRUSION RINGS		
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-GRAFOIL FILLER/CORRUGATED SS 316		
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 ONLY IN THE CASE OF CATEGORY - II MRs,BIDDER SHALL CLEARLY WRITE ALL/ ANY DEVIATION AGAINST EACH PART/ MATERIAL OF VALVE IN THE SPACE PROVIDED FOR AND WHEREVER BIDDER AGREES WITH EIL'S SPEC BIDDER SHALL INDICATE "AGREED".
- 3 NO CUTTING/ OVERWRITING BY BIDDER ON EIL'S SPEC IS ALLOWED.
- 4 RADIOGRAPHY OF VALVE CASTINGS NOT REQUIRED.
- 5 VALVES AS PER API-600 AND TESTING AS PER API-598 ARE ALSO ACCEPTABLE.

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51321

Client : HPCL			Dept./Sect. : 16/43	
Project : VRMP				
Location : VIZAG			Tag No: 51345	Sheet No. 1 of 1
GATE VALVE SPECIFICATION			MANUF'S OFFER	
TAG NO. : 51345			STANDARD:	
PIPING CLASS : A1K, A3K,			MFGRS CAT/FIG:	
RATING : 150			RATING: ENDS:	
STANDARD : API 600/ ISO 10434				
SIZE RANGE : 2.0" TO 24.0"				
ENDS : FLGD TO B-16.5 RF/125AARH				
DESCRIPTION	CONSTRUCTION	MATERIAL	CONSTRUCTION	MATERIAL
BODY	CAST	ASTM A 351 GR CF8		
BONNET	BOLTED	ASTM A 351 GR.CF8		
STEM	RISING	SS 304/ SS 316; (NO CASTING)		
WEDGE DISC	SOLID/FLEXIBLE	SS 304		
BODY SEAT RING	RENEWABLE/NON-RENEWABLE	SS 304		
STEM PACKING	RENEWABLE WITH VALVE OPEN ON STREAM	CORROSION INHIBITED DIE FORMED FLEXIBLE GRAPHITE WITH BRAIDED ANTI EXTRUSION RINGS		
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-GRAFOIL FILLER/CORRUGATED SS316		
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 371 DEG.C.		
BACK SEAT & SHOULDER		SS 304		
OTHERS	O.S & Y.			
HYDROSTATIC TEST PRESSURE	BODY : 425 PSIG	SEAT : 325 PSIG		
TEST PRESSURE WITH AIR	80 PSIG			

NOTES

- THIS VALVE SPEC SHEET SHALL BE READ IN CONJUNCTION WITH TECHNICAL NOTES FOR VALVES.
- ONLY IN THE CASE OF CATEGORY - II MRs,BIDDER SHALL CLEARLY WRITE ALL/ ANY DEVIATION AGAINST EACH PART/ MATERIAL OF VALVE IN THE SPACE PROVIDED FOR AND WHEREVER BIDDER AGREES WITH EIL'S SPEC BIDDER SHALL INDICATE "AGREED".
- NO CUTTING/ OVERWRITING BY BIDDER ON EIL'S SPEC IS ALLOWED.
- 10 % VALVE CASTINGS SHALL UNDERGO RADIOGRAPHIC EXAMINATION.
- ALL CASTINGS SHALL BE SOLUTION HEAT TREATED.
- WELD REPAIRS, IF ANY, SHALL BE CARRIED OUT BEFORE SOLUTION HEAT TREATMENT.
- VALVES AS PER API-600 AND TESTING AS PER API-598 ARE ALSO ACCEPTABLE.

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51345

Client : HPCL			Dept./Sect. : 16/43	
Project : VRMP				
Location : VIZAG			Tag No: 51380	Sheet No. 1 of 1
GATE VALVE SPECIFICATION			MANUF'S OFFER	
TAG NO. : 51380 PIPING CLASS : J2A, RATING : PN1.6 STANDARD : IS:14846 SIZE RANGE : 2.0" TO 6.0" ENDS : FLGD TO B-16.1 FF/125AARH			STANDARD: MFGRS CAT/FIG: RATING: ENDS:	
DESCRIPTION	CONSTRUCTION	MATERIAL	CONSTRUCTION	MATERIAL
BODY	CAST	IS 210 GR.FG 200		
BONNET	BOLTED	IS 210 GR.FG 200		
STEM	NON RISING	HIGH TENSILE BRASS IS:320 GR HT2/ IS-6912 GR. FHTB2		
WEDGE DISC	SOLID/FLEXIBLE	IS 210 GR. FG 200		
BODY SEAT RING	RENEWABLE/NON RENEWABLE	LEADED TIN BRONZE IS:318 GR.LTB2		
STEM PACKING	RENEWABLE WITH VALVE OPEN ON STREAM	PTFE/ RUBBER IS: 638 TYPE B		
HAND WHEEL	NON RISING	MALLEABLE IRON/CAST ST/FAB.ST/DUCT. IRON		
BONNET BOLTS		IS 1363 PT-1 CL. 4.6		
BONNET NUTS		IS 1363 PT-3 CL. 4.0		
BONNET GASKET		BUTYL RUBBER		
REQUIREMENT OF GEAR OPERATOR		REFER TECHNICAL NOTES FOR PURCHASE OF VALVES.		
REQUIREMENT OF RADIOGRAPHY		REFER TECHNICAL NOTES FOR PURCHASE OF VALVES.		
SPECIAL SERVICE CONDITIONS		POTABLE WATER		
BACK SEAT & SHOULDER		IS:320 GR HT2		
OTHERS				
WEDGE FACING RINGS & NUT		LEADED TIN BRONZE IS 318 GR. LTB2/ IS: 320 GR. HT2		
HYDROSTATIC TEST PRESSURE	BODY : 348 PSIG	SEAT : 232 PSIG		
TEST PRESSURE WITH AIR				

NOTES

- THIS VALVE SPEC SHEET SHALL BE READ IN CONJUNCTION WITH TECHNICAL NOTES FOR VALVES.
- ONLY IN THE CASE OF CATEGORY - II MRs,BIDDER SHALL CLEARLY WRITE ALL/ ANY DEVIATION AGAINST EACH PART/ MATERIAL OF VALVE IN THE SPACE PROVIDED FOR AND WHEREVER BIDDER AGREES WITH EIL'S SPEC BIDDER SHALL INDICATE "AGREED".
- NO CUTTING/ OVERWRITING BY BIDDER ON EIL'S SPEC IS ALLOWED.
- TESTING SHALL BE AS PER IS:14846
- FLANGE END SHALL BE FLAT FACE DRILLED TO ANSI B16.1, 125 # .
- RADIOGRAPHY OF VALVE CASTINGS NOT REQUIRED.

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SHEET REV. NO.	2	3	4	5	6
DATE	02/01/1995	14/12/2000	28/05/2001	16/04/2002	30/06/2009

51380

Client : HPCL			Dept./Sect. : 16/43	
Project : VRMP				
Location : VIZAG			Tag No: 51384	Sheet No. 1 of 1
GATE VALVE SPECIFICATION			MANUF'S OFFER	
TAG NO. : 51384 PIPING CLASS : A33Y, A5Y, RATING : 150 STANDARD : API 600/ ISO 10434 SIZE RANGE : 2.0" TO 24.0" ENDS : FLGD TO B-16.5 FF/125AARH			STANDARD: MFGRS CAT/FIG: RATING: ENDS:	
DESCRIPTION	CONSTRUCTION	MATERIAL	CONSTRUCTION	MATERIAL
BODY	CAST	ASTM A 216 GR.WCB		
BONNET	BOLTED	ASTM A 216 GR.WCB		
STEM	RISING	BRONZE (NO CASTING)		
WEDGE DISC	SOLID/FLEXIBLE	BRONZE		
BODY SEAT RING	RENEWABLE/NON RENEWABLE	BRONZE		
STEM PACKING	RENEWABLE WITH VALVE OPEN ON STREAM	CORROSION INHIBITED DIE FORMED FLEXIBLE GRAPHITE WITH BRAIDED ANTI EXTRUSION RINGS		
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-GRAFOIL FILLER/CORRUGATED SS316		
REQUIREMENT OF GEAR OPERATOR		REFER TECHNICAL NOTES FOR PURCHASE OF VALVES.		
SPECIAL SERVICE CONDITIONS		SEA WATER; MAX TEMP 70 DEG.C. MAX.PR. 18.9 KG/CM2G		
BACK SEAT & SHOULDER		BRONZE		
OTHERS	O.S & Y.			
HYDROSTATIC TEST PRESSURE	BODY : 450 PSIG	SEAT : 325 PSIG		
TEST PRESSURE WITH AIR	80 PSIG			

NOTES

- THIS VALVE SPEC SHEET SHALL BE READ IN CONJUNCTION WITH TECHNICAL NOTES FOR VALVES.
- ONLY IN THE CASE OF CATEGORY - II MRs,BIDDER SHALL CLEARLY WRITE ALL/ ANY DEVIATION AGAINST EACH PART/ MATERIAL OF VALVE IN THE SPACE PROVIDED FOR AND WHEREVER BIDDER AGREES WITH EIL'S SPEC BIDDER SHALL INDICATE "AGREED".
- NO CUTTING/ OVERWRITING BY BIDDER ON EIL'S SPEC IS ALLOWED.
- RADIOGRAPHY OF VALVE CASTINGS NOT REQUIRED.
- VALVES AS PER API-600 AND TESTING AS PER API-598 ARE ALSO ACCEPTABLE.
- VALVES FOR SIZES 3" & ABOVE SHALL BE INTERNALLY LINED WITH GLASS FLAKE REINFORCED EPOXY AS PER SPECIFICATION B016-000-79-41-PLS-03.

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SHEET REV. NO.	3	4	5	6	7
DATE	14/12/2000	28/05/2001	06/08/2002	30/06/2009	08/05/2017

51384

Client : HPCL			Dept./Sect. : 16/43	
Project : VRMP				
Location : VIZAG			Tag No: 51401	Sheet No. 1 of 1
GATE VALVE SPECIFICATION			MANUF'S OFFER	
TAG NO. : 51401 PIPING CLASS : B1A, B9A, RATING : 300 STANDARD : API 600/ ISO 10434 SIZE RANGE : 2.0" TO 24.0" ENDS : FLGD TO B-16.5 RF/125AARH			STANDARD: MFGRS CAT/FIG: 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	CORROSION INHIBITED DIE FORMED FLEXIBLE GRAPHITE WITH BRAIDED ANTI EXTRUSION RINGS		
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-GRAFOIL 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

- THIS VALVE SPEC SHEET SHALL BE READ IN CONJUNCTION WITH TECHNICAL NOTES FOR VALVES.
- ONLY IN THE CASE OF CATEGORY - II MRs,BIDDER SHALL CLEARLY WRITE ALL/ ANY DEVIATION AGAINST EACH PART/ MATERIAL OF VALVE IN THE SPACE PROVIDED FOR AND WHEREVER BIDDER AGREES WITH EIL'S SPEC BIDDER SHALL INDICATE "AGREED".
- NO CUTTING/ OVERWRITING BY BIDDER ON EIL'S SPEC IS ALLOWED.
- 10% VALVE CASTINGS UPTO 16" AND 100% VALVE CASTINGS 18" AND ABOVE SHALL UNDERGO RADIOGRAPHIC EXAMINATION.
- VALVES AS PER API-600 AND TESTING AS PER API-598 ARE ALSO ACCEPTABLE.

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SHEET REV. NO.	2	3	4	5
DATE	02/01/1995	14/12/2000	28/05/2001	30/06/2009

51401

Client : HPCL			Dept./Sect. : 16/43	
Project : VRMP				
Location : VIZAG			Tag No: 51402	Sheet No. 1 of 1
GATE VALVE SPECIFICATION			MANUF'S OFFER	
TAG NO. : 51402 PIPING CLASS : B2A, RATING : 300 STANDARD : API 600/ ISO 10434 SIZE RANGE : 2.0" TO 24.0" ENDS : FLGD TO B-16.5 RF/125AARH			STANDARD: MFGRS CAT/FIG: 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	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	CORROSION INHIBITED DIE FORMED FLEXIBLE GRAPHITE WITH BRAIDED ANTI EXTRUSION RINGS		
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-GRAFOIL 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	I.B.R	STEAM/CONDENSATE/BOILER FEED WATER; 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

- THIS VALVE SPEC SHEET SHALL BE READ IN CONJUNCTION WITH TECHNICAL NOTES FOR VALVES.
- ONLY IN THE CASE OF CATEGORY - II MRs,BIDDER SHALL CLEARLY WRITE ALL/ ANY DEVIATION AGAINST EACH PART/ MATERIAL OF VALVE IN THE SPACE PROVIDED FOR AND WHEREVER BIDDER AGREES WITH EIL'S SPEC BIDDER SHALL INDICATE "AGREED".
- NO CUTTING/ OVERWRITING BY BIDDER ON EIL'S SPEC IS ALLOWED.
- TESTING SHALL BE AS PER IBR ALSO.
- ALL VALVES SHALL BE SUPPLIED WITH IBR CERTIFICATE IN FORM-III C.
- ALL VALVES SHALL BE PAINTED RED ON BODY-BONNET JOINT.
- 10% VALVE CASTINGS UPTO 16" AND 100% VALVE CASTINGS 18" AND ABOVE SHALL UNDERGO RADIOGRAPHIC EXAMINATION.
- VALVES TO COMPLY WITH DESIGN REQUIREMENTS OF IBR ALSO.
- VALVES AS PER API-600 AND TESTING AS PER API-598 & IBR ARE ALSO ACCEPTABLE.

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SHEET REV. NO.	2	3	4	5
DATE	02/01/1995	14/12/2000	28/05/2001	30/06/2009

51402

Client : HPCL			Dept./Sect. : 16/43	
Project : VRMP				
Location : VIZAG			Tag No: 51502	Sheet No. 1 of 1
GATE VALVE SPECIFICATION			MANUF'S OFFER	
TAG NO. : 51502 PIPING CLASS : D2A, RATING : 600 STANDARD : API 600/ ISO 10434 SIZE RANGE : 2.0" TO 24.0" ENDS : FLGD TO B-16.5 RF/125AARH			STANDARD: MFGRS CAT/FIG: 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	SOLID/FLEXIBLE	STELLITED		
BODY SEAT RING	RENEWABLE/NON-RENEWABLE	STELLITED		
STEM PACKING	RENEWABLE WITH VALVE OPEN ON STREAM	CORROSION INHIBITED DIE FORMED FLEXIBLE GRAPHITE WITH BRAIDED ANTI EXTRUSION RINGS		
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-GRAFOIL 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	I.B.R	STEAM/CONDENSATE/BOILER FEED WATER; MAX. TEMP. 427 DEG.C.		
BACK SEAT & SHOULDER		13% CR STEEL		
OTHERS	O.S & Y.			
HYDROSTATIC TEST PRESSURE	BODY : 2225 PSIG	SEAT : 1650 PSIG		
TEST PRESSURE WITH AIR	80 PSIG			

NOTES

- THIS VALVE SPEC SHEET SHALL BE READ IN CONJUNCTION WITH TECHNICAL NOTES FOR VALVES.
- ONLY IN THE CASE OF CATEGORY - II MRs,BIDDER SHALL CLEARLY WRITE ALL/ ANY DEVIATION AGAINST EACH PART/ MATERIAL OF VALVE IN THE SPACE PROVIDED FOR AND WHEREVER BIDDER AGREES WITH EIL'S SPEC BIDDER SHALL INDICATE "AGREED".
- NO CUTTING/ OVERWRITING BY BIDDER ON EIL'S SPEC IS ALLOWED.
- TESTING SHALL BE AS PER IBR ALSO.
- ALL VALVES SHALL BE SUPPLIED WITH IBR CERTIFICATE IN FORM-III C.
- ALL VALVES SHALL BE PAINTED RED ON BODY-BONNET JOINT.
- 100% VALVE CASTINGS SHALL UNDERGO RADIOGRAPHIC EXAMINATION.
- VALVES TO COMPLY WITH DESIGN REQUIREMENTS OF IBR ALSO.
- VALVES AS PER API-600 AND TESTING AS PER API-598 & IBR ARE ALSO ACCEPTABLE.

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SHEET REV. NO.	2	3	4	5
DATE	02/01/1995	14/12/2000	28/05/2001	30/06/2009

51502

Client : HPCL			Dept./Sect. : 16/43	
Project : VRMP				
Location : VIZAG			Tag No: 51914 Sheet No. 1 of 1	
GATE VALVE SPECIFICATION			MANUF'S OFFER	
TAG NO. : 51914 PIPING CLASS : J3A, RATING : 800 STANDARD : API 602/ ISO 15761 SIZE RANGE : 0.5" TO 1.5" ENDS : SCRF 3000 TO B-1.20.1			STANDARD: MFGRS CAT/FIG: RATING: ENDS:	
DESCRIPTION	CONSTRUCTION	MATERIAL	CONSTRUCTION	MATERIAL
BODY	FORGED	ASTM A 182 GR.F304		
BONNET	BOLTED	ASTM A 182 GR.F304		
STEM	RISING	SS 304/ SS 316; (NO CASTING)		
WEDGE DISC	SOLID	STELLITED		
BODY SEAT RING	RENEWABLE	STELLITED		
STEM PACKING	RENEWABLE WITH VALVE OPEN ON STREAM	CORROSION INHIBITED DIE FORMED FLEXIBLE GRAPHITE WITH BRAIDED ANTI EXTRUSION RINGS		
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-GRAFOIL FILLER		
SPECIAL SERVICE CONDITIONS		MAX TEMP 75 DEG.C.		
BACK SEAT & SHOULDER	INTEGRAL			
OTHERS	O.S & Y.			
HYDROSTATIC TEST PRESSURE	BODY : 2900 PSIG	SEAT : 2125 PSIG		
TEST PRESSURE WITH AIR	80 PSIG			

NOTES

- 1 THIS VALVE SPEC SHEET SHALL BE READ IN CONJUNCTION WITH TECHNICAL NOTES FOR VALVES.
- 2 ONLY IN THE CASE OF CATEGORY - II MRs,BIDDER SHALL CLEARLY WRITE ALL/ ANY DEVIATION AGAINST EACH PART/ MATERIAL OF VALVE IN THE SPACE PROVIDED FOR AND WHEREVER BIDDER AGREES WITH EIL'S SPEC BIDDER SHALL INDICATE "AGREED".
- 3 NO CUTTING/ OVERWRITING BY BIDDER ON EIL'S SPEC IS ALLOWED.
- 4 VALVES AS PER API-602 AND TESTING AS PER API-598 ARE ALSO ACCEPTABLE.

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SHEET REV. NO.	0	1
DATE	07/04/2017	08/05/2017

51914

Client : HPCL			Dept./Sect. : 16/43	
Project : VRMP				
Location : VIZAG			Tag No: 51924	Sheet No. 1 of 1
GATE VALVE SPECIFICATION			MANUF'S OFFER	
TAG NO. : 51924 PIPING CLASS : J3A,			STANDARD:	
RATING : 150 STANDARD : API 600/ ISO 10434			MFGRS CAT/FIG:	
SIZE RANGE : 2.0" TO 14.0" ENDS : FLGD TO B-16.5 FF/125AARH			RATING: ENDS:	
DESCRIPTION	CONSTRUCTION	MATERIAL	CONSTRUCTION	MATERIAL
BODY	CAST	ASTM A 351 GR CF8		
BONNET	BOLTED	ASTM A 351 GR.CF8		
STEM	RISING	SS 304/ SS 316; (NO CASTING)		
WEDGE DISC	SOLID/FLEXIBLE	SS 304		
BODY SEAT RING	RENEWABLE/NON-RENEWABLE	SS 304		
STEM PACKING	RENEWABLE WITH VALVE OPEN ON STREAM	CORROSION INHIBITED DIE FORMED FLEXIBLE GRAPHITE WITH BRAIDED ANTI EXTRUSION RINGS		
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-GRAFOIL FILLER/CORRUGATED SS316		
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 75 DEG.C.		
BACK SEAT & SHOULDER		SS 304		
OTHERS	O.S & Y.			
HYDROSTATIC TEST PRESSURE	BODY : 425 PSIG	SEAT : 325 PSIG		
TEST PRESSURE WITH AIR	80 PSIG			

NOTES

- THIS VALVE SPEC SHEET SHALL BE READ IN CONJUNCTION WITH TECHNICAL NOTES FOR VALVES.
- ONLY IN THE CASE OF CATEGORY - II MRs,BIDDER SHALL CLEARLY WRITE ALL/ ANY DEVIATION AGAINST EACH PART/ MATERIAL OF VALVE IN THE SPACE PROVIDED FOR AND WHEREVER BIDDER AGREES WITH EIL'S SPEC BIDDER SHALL INDICATE "AGREED".
- NO CUTTING/ OVERWRITING BY BIDDER ON EIL'S SPEC IS ALLOWED.
- 10 % VALVE CASTINGS SHALL UNDERGO RADIOGRAPHIC EXAMINATION.
- ALL CASTINGS SHALL BE SOLUTION HEAT TREATED.
- WELD REPAIRS, IF ANY, SHALL BE CARRIED OUT BEFORE SOLUTION HEAT TREATMENT.
- VALVES AS PER API-600 AND TESTING AS PER API-598 ARE ALSO ACCEPTABLE.

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SHEET REV. NO.	0	1
DATE	07/04/2017	08/05/2017

51924

Client : HPCL			Dept./Sect. : 16/43	
Project : VRMP				
Location : VIZAG			Tag No: 52001 Sheet No. 1 of 1	
GLOBE VALVE SPECIFICATION			MANUF'S OFFER	
TAG NO. : 52001 PIPING CLASS : A10A, A11A, A1A, A23A, A32A, A3A, A93A, A9A, B1A, B9A, D1A, D9A, A9A, B1A, B9A, D1A, D9A, STANDARD : BS EN ISO 15761 RATING : 800 SIZE RANGE : 0.25" TO 1.5" ENDS : SW 3000 TO B-16.11			STANDARD: MFGRS CAT/FIG: RATING: ENDS:	
DESCRIPTION	CONSTRUCTION	MATERIAL	CONSTRUCTION	MATERIAL
BODY	FORGED	ASTM A 105		
BONNET	BOLTED	ASTM A 105		
STEM	RISING	13% CR.STEEL (NO CASTING)		
DISC	LOOSE PLUG TYPE	STELLITED		
BODY SEAT RING	RENEWABLE/NON RENEWABLE	STELLITED		
STEM PACKING	RENEWABLE WITH VALVE OPEN ON STREAM	CORROSION INHIBITED DIE FORMED FLEXIBLE GRAPHITE WITH BRAIDED ANTI EXTRUSION RINGS		
HAND WHEEL	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-GRAFOIL FILLER		
OTHERS	O S & Y			
SPECIAL SERVICE CONDITION		MAX TEMP 427 DEG.C.		
BACK SEAT & SHOULDER	INTEGRAL			
HYDROSTATIC TEST PRESSURE	BODY : 2975 PSIG	SEAT : 2175 PSIG		
TEST PRESSURE WITH AIR	80 PSIG			

NOTES

- THIS VALVE SPEC SHEET SHALL BE READ IN CONJUNCTION WITH TECHNICAL NOTES FOR VALVES.
- ONLY IN THE CASE OF CATEGORY - II MRs, BIDDER SHALL CLEARLY WRITE ALL/ ANY DEVIATION AGAINST EACH PART/ MATERIAL OF VALVE IN THE SPACE PROVIDED FOR AND WHEREVER BIDDER AGREES WITH EIL'S SPEC BIDDER SHALL INDICATE "AGREED".
- NO CUTTING/ OVERWRITING BY BIDDER ON EIL'S SPEC IS ALLOWED.
- VALVES AS PER BS-5352 AND TESTING AS PER BS 6755(PART-I) ARE ALSO ACCEPTABLE.

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SHEET REV. NO.	2	3	4	5
DATE	02/01/1995	14/12/2000	28/05/2001	30/06/2009

52001

Client : HPCL			Dept./Sect. : 16/43	
Project : VRMP				
Location : VIZAG			Tag No: 52002	
			Sheet No. 1 of 1	
GLOBE VALVE SPECIFICATION			MANUF'S OFFER	
TAG NO. : 52002 RATING : 800 SIZE RANGE : 0.5" TO 1.5"			PIPING CLASS : A2A, B2A, D2A, STANDARD : BS EN ISO 15761 ENDS : SW 3000 TO B-16.11	
			STANDARD: MFGRS CAT/FIG: RATING: ENDS:	
DESCRIPTION	CONSTRUCTION	MATERIAL	CONSTRUCTION	MATERIAL
BODY	FORGED	ASTM A 105		
BONNET	BOLTED	ASTM A 105		
STEM	RISING	13% CR.STEEL (NO CASTING)		
DISC	LOOSE PLUG TYPE	STELLITED		
BODY SEAT RING	RENEWABLE/NON RENEWABLE	STELLITED		
STEM PACKING	RENEWABLE WITH VALVE OPEN ON STREAM	CORROSION INHIBITED DIE FORMED FLEXIBLE GRAPHITE WITH BRAIDED ANTI EXTRUSION RINGS		
HAND WHEEL	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 WITH GRAFOIL FILLER		
OTHERS	O S & Y			
SPECIAL SERVICE CONDITION	I.B.R	STEAM/CONDENSATE/BOILER FEED WATER; MAX TEMP. 427 DEG.C.		
BACK SEAT & SHOULDER	INTEGRAL			
HYDROSTATIC TEST PRESSURE	BODY : 2975 PSIG	SEAT : 2175 PSIG		
TEST PRESSURE WITH AIR	80 PSIG			

NOTES

- 1 THIS VALVE SPEC SHEET SHALL BE READ IN CONJUNCTION WITH TECHNICAL NOTES FOR VALVES.
- 2 ONLY IN THE CASE OF CATEGORY - II MRs,BIDDER SHALL CLEARLY WRITE ALL/ ANY DEVIATION AGAINST EACH PART/ MATERIAL OF VALVE IN THE SPACE PROVIDED FOR AND 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 IBR ALSO.
- 5 ALL VALVES SHALL BE SUPPLIED WITH IBR CERTIFICATE IN FORM-III C.
- 6 ALL VALVES SHALL BE PAINTED RED ON BODY-BONNET JOINT.
- 7 VALVES TO COMPLY WITH DESIGN REQUIREMENTS OF IBR ALSO.
- 8 VALVES AS PER BS-5352 AND TESTING AS PER BS 6755(PART-I) & IBR ARE ALSO ACCEPTABLE.

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SHEET REV. NO.	2	3	4	5
DATE	02/01/1995	14/12/2000	28/05/2001	30/06/2009

52002

Client : HPCL			Dept./Sect. : 16/43	
Project : VRMP				
Location : VIZAG			Tag No: 52045	Sheet No. 1 of 1
GLOBE VALVE SPECIFICATION			MANUF'S OFFER	
TAG NO. : 52045 RATING : 800 SIZE RANGE : 0.5" TO 1.5"			PIPING CLASS : A1K, A3K, B1K, STANDARD : BS EN ISO 15761 ENDS : SW 3000 TO B-16.11	
			STANDARD: MFGRS CAT/FIG: RATING: ENDS:	
DESCRIPTION	CONSTRUCTION	MATERIAL	CONSTRUCTION	MATERIAL
BODY	FORGED	ASTM A 182 GR.F304		
BONNET	BOLTED	ASTM A 182 GR.F304		
STEM	RISING	SS 304/ SS 316; (NO CASTING)		
DISC	LOOSE PLUG TYPE	STELLITED		
BODY SEAT RING	RENEWABLE/NON RENEWABLE	STELLITED		
STEM PACKING	RENEWABLE WITH VALVE OPEN ON STREAM	CORROSION INHIBITED DIE FORMED FLEXIBLE GRAPHITE WITH BRAIDED ANTI EXTRUSION RINGS		
HAND WHEEL	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-GRAFOIL FILLER		
OTHERS	O S & Y			
SPECIAL SERVICE CONDITION		MAX TEMP 454 DEG. C.		
BACK SEAT & SHOULDER	INTEGRAL			
HYDROSTATIC TEST PRESSURE	BODY : 2900 PSIG	SEAT : 2125 PSIG		
TEST PRESSURE WITH AIR	80 PSIG			

NOTES

- 1 THIS VALVE SPEC SHEET SHALL BE READ IN CONJUNCTION WITH TECHNICAL NOTES FOR VALVES.
- 2 ONLY IN THE CASE OF CATEGORY - II MRs,BIDDER SHALL CLEARLY WRITE ALL/ ANY DEVIATION AGAINST EACH PART/ MATERIAL OF VALVE IN THE SPACE PROVIDED FOR AND WHEREVER BIDDER AGREES WITH EIL'S SPEC BIDDER SHALL INDICATE "AGREED".
- 3 NO CUTTING/ OVERWRITING BY BIDDER ON EIL'S SPEC IS ALLOWED.
- 4 VALVES AS PER BS-5352 AND TESTING AS PER BS 6755(PART-I) ARE ALSO ACCEPTABLE.

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SHEET REV. NO.	2	3	4	5
DATE	02/01/1995	14/12/2000	28/05/2001	30/06/2009

52045

Client : HPCL			Dept./Sect. : 16/43	
Project : VRMP				
Location : VIZAG			Tag No: 52080	Sheet No. 1 of 1
GLOBE VALVE SPECIFICATION			MANUF'S OFFER	
TAG NO. : 52080 PIPING CLASS : A33Y, A5Y, J2A, RATING : CL.2 STANDARD : IS:778 CL.2 SIZE RANGE : 0.5" TO 1.5" ENDS : SCRF 3000 TO B-1.20.1			STANDARD: MFGRS CAT/FIG: RATING: ENDS:	
DESCRIPTION	CONSTRUCTION	MATERIAL	CONSTRUCTION	MATERIAL
BODY	CAST	IS 318 GR.LTB2 (LEADED TIN BRONZE)		
BONNET	BOLTED/SCREWED	IS 318 GR.LTB2		
STEM	RISING	IS 320 ALLOY HT2 HIGH TENSILE BRASS		
DISC	LOOSE PLUG TYPE	IS 318 GR.LTB2		
BODY SEAT RING	RENEWABLE/NON RENEWABLE	IS 318 GR.LTB2		
STEM PACKING	RENEWABLE WITH VALVE OPEN ON STREAM	PTFE		
HAND WHEEL	RISING	MALLEABLE IRON/CAST ST/FAB.ST/DUCT. IRON		
BONNET BOLTS		IS 1367 CLAUSE 4.6 & 4 / ASTM A 193 GR B7		
BONNET NUTS		IS 1367 CLAUSE 4.6 & 4 / ASTM A 194 GR 2H		
BONNET GASKET		RUBBER		
OTHERS				
SPECIAL SERVICE CONDITION		MAX TEMP 75 DEG CENT.		
BACK SEAT & SHOULDER		IS 320 GR HT2		
HYDROSTATIC TEST PRESSURE	BODY : 348 PSIG	SEAT : 232 PSIG		
TEST PRESSURE WITH AIR				

NOTES

- THIS VALVE SPEC SHEET SHALL BE READ IN CONJUNCTION WITH TECHNICAL NOTES FOR VALVES.
- ONLY IN THE CASE OF CATEGORY - II MRs,BIDDER SHALL CLEARLY WRITE ALL/ ANY DEVIATION AGAINST EACH PART/ MATERIAL OF VALVE IN THE SPACE PROVIDED FOR AND WHEREVER BIDDER AGREES WITH EIL'S SPEC BIDDER SHALL INDICATE "AGREED".
- NO CUTTING/ OVERWRITING BY BIDDER ON EIL'S SPEC IS ALLOWED.
- TESTING SHALL BE AS PER BS EN 12266-1/ IS STD.
- SCREWED ENDS OF VALVES SHALL BE FEMALE TYPE AS PER ANSI B 1.20.1
- VALVE TESTING AS PER BS 6755(PART-I) ARE ALSO ACCEPTABLE.

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SHEET REV. NO.	3	4	5
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52080

Client : HPCL			Dept./Sect. : 16/43	
Project : VRMP				
Location : VIZAG			Tag No: 52301	Sheet No. 1 of 1
GLOBE VALVE SPECIFICATION			MANUF'S OFFER	
TAG NO. : 52301 PIPING CLASS : A10A, A11A, A1A, A93A, A9A, RATING : 150 STANDARD : BS-1873 SIZE RANGE : 2.0" TO 16.0" ENDS : FLGD TO B-16.5 RF/125AARH			STANDARD: MFGRS CAT/FIG: 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)		
DISC	LOOSE PLUG TYPE/BALL TYP	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	CORROSION INHIBITED DIE FORMED FLEXIBLE GRAPHITE WITH BRAIDED ANTI EXTRUSION RINGS		
HAND WHEEL	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-GRAFOIL FILLER/ CORRUGATED SS316		
REQUIREMENT OF GEAR OPERATOR		REFER TECHNICAL NOTES FOR PURCHASE OF VALVES.		
REQUIREMENT OF RADIOGRAPHY		REFER TECHNICAL NOTES FOR PURCHASE OF VALVES.		
OTHERS	O S & Y			
SPECIAL SERVICE CONDITION		MAX TEMP 371 DEG. C.		
BACK SEAT & SHOULDER		13% CR STEEL		
HYDROSTATIC TEST PRESSURE	BODY : 450 PSIG	SEAT : 325 PSIG		
TEST PRESSURE WITH AIR	80 PSIG			

NOTES

- THIS VALVE SPEC SHEET SHALL BE READ IN CONJUNCTION WITH TECHNICAL NOTES FOR VALVES.
- ONLY IN THE CASE OF CATEGORY - II MRs,BIDDER SHALL CLEARLY WRITE ALL/ ANY DEVIATION AGAINST EACH PART/ MATERIAL OF VALVE IN THE SPACE PROVIDED FOR AND WHEREVER BIDDER AGREES WITH EIL'S SPEC BIDDER SHALL INDICATE "AGREED".
- NO CUTTING/ OVERWRITING BY BIDDER ON EIL'S SPEC IS ALLOWED.
- TESTING SHALL BE AS PER BS EN 12266-1.
- 5% VALVE CASTINGS SHALL UNDERGO RADIOGRAPHIC EXAMINATION
- VALVE TESTING AS PER BS 6755 (PART-I) IS ALSO ACCEPTABLE.

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52301

Client : HPCL			Dept./Sect. : 16/43	
Project : VRMP				
Location : VIZAG			Tag No: 52302	Sheet No. 1 of 1
GLOBE VALVE SPECIFICATION			MANUF'S OFFER	
TAG NO. : 52302 PIPING CLASS : A2A, RATING : 150 STANDARD : BS-1873 SIZE RANGE : 2.0" TO 16.0" ENDS : FLGD TO B-16.5 RF/125AARH			STANDARD: MFGRS CAT/FIG: 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)		
DISC	LOOSE PLUG TYPE/BALL TYP	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	CORROSION INHIBITED DIE FORMED FLEXIBLE GRAPHITE WITH BRAIDED ANTI EXTRUSION RINGS		
HAND WHEEL	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-GRAFOIL FILLER/ CORRUGATED SS316		
REQUIREMENT OF GEAR OPERATOR		REFER TECHNICAL NOTES FOR PURCHASE OF VALVES.		
REQUIREMENT OF RADIOGRAPHY		REFER TECHNICAL NOTES FOR PURCHASE OF VALVES.		
OTHERS	O S & Y			
SPECIAL SERVICE CONDITION	I.B.R	STEAM/CONDENSATE/BOILER FEED WATER; MAX TEMP. 371 DEG.C.		
BACK SEAT & SHOULDER		13% CR STEEL		
HYDROSTATIC TEST PRESSURE	BODY : 450 PSIG	SEAT : 325 PSIG		
TEST PRESSURE WITH AIR	80 PSIG			

NOTES

- THIS VALVE SPEC SHEET SHALL BE READ IN CONJUNCTION WITH TECHNICAL NOTES FOR VALVES.
- ONLY IN THE CASE OF CATEGORY - II MRs,BIDDER SHALL CLEARLY WRITE ALL/ ANY DEVIATION AGAINST EACH PART/ MATERIAL OF VALVE IN THE SPACE PROVIDED FOR AND WHEREVER BIDDER AGREES WITH EIL'S SPEC BIDDER SHALL INDICATE "AGREED".
- NO CUTTING/ OVERWRITING BY BIDDER ON EIL'S SPEC IS ALLOWED.
- TESTING SHALL BE AS PER BS EN 12266-1 & IBR.
- ALL VALVES SHALL BE SUPPLIED WITH IBR CERTIFICATE IN FORM-III C.
- ALL VALVES SHALL BE PAINTED RED ON BODY-BONNET JOINT.
- 5% VALVE CASTINGS SHALL UNDERGO RADIOGRAPHIC EXAMINATION.
- VALVES TO COMPLY WITH DESIGN REQUIREMENTS OF IBR ALSO.
- VALVE TESTING AS PER BS 6755 (PART-I) & IBR IS ALSO ACCEPTABLE.

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52302

Client : HPCL			Dept./Sect. : 16/43	
Project : VRMP				
Location : VIZAG			Tag No: 52321	
			Sheet No. 1 of 1	
GLOBE VALVE SPECIFICATION			MANUF'S OFFER	
TAG NO. : 52321 PIPING CLASS : A3A, RATING : 150 STANDARD : BS-1873 SIZE RANGE : 2.0" TO 16.0" ENDS : FLGD TO B-16.5 RF/125AARH			STANDARD: MFGRS CAT/FIG: 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)		
DISC	LOOSE PLUG TYPE/BALL TYP	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	CORROSION INHIBITED DIE FORMED FLEXIBLE GRAPHITE WITH BRAIDED ANTI EXTRUSION RINGS		
HAND WHEEL	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-GRAFOIL FILLER/ CORRUGATED SS316		
REQUIREMENT OF GEAR OPERATOR		REFER TECHNICAL NOTES FOR PURCHASE OF VALVES.		
OTHERS	O S & Y			
SPECIAL SERVICE CONDITION				
BACK SEAT & SHOULDER		13% CR STEEL		
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 ONLY IN THE CASE OF CATEGORY - II MRs,BIDDER SHALL CLEARLY WRITE ALL/ ANY DEVIATION AGAINST EACH PART/ MATERIAL OF VALVE IN THE SPACE PROVIDED FOR AND 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 BS EN 12266-1.
- 5 RADIOGRAPHY OF VALVE CASTINGS NOT REQUIRED.
- 6 VALVE TESTING AS PER BS 6755 (PART-I) IS ALSO ACCEPTABLE.

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52321

Client : HPCL			Dept./Sect. : 16/43	
Project : VRMP				
Location : VIZAG			Tag No: 52345	Sheet No. 1 of 1
GLOBE VALVE SPECIFICATION			MANUF'S OFFER	
TAG NO. : 52345 PIPING CLASS : A1K, A3K, RATING : 150 STANDARD : SIZE RANGE : 2.0" TO 16.0" ENDS : FLGD TO B-16.5 RF/125AARH			STANDARD: MFGRS CAT/FIG: RATING: ENDS:	
DESCRIPTION	CONSTRUCTION	MATERIAL	CONSTRUCTION	MATERIAL
BODY	CAST	ASTM A 351 GR CF8		
BONNET	BOLTED	ASTM A 351 GR.CF8		
STEM	RISING	SS 304/ SS 316; (NO CASTING)		
DISC	LOOSE PLUG TYPE/BALL TYP	SS 304		
BODY SEAT RING	RENEWABLE/NON RENEWABLE	SS 304		
STEM PACKING	RENEWABLE WITH VALVE OPEN ON STREAM	CORROSION INHIBITED DIE FORMED FLEXIBLE GRAPHITE WITH BRAIDED ANTI EXTRUSION RINGS		
HAND WHEEL	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 WITH GRAFOIL FILLER/CORRUGATED SS316		
REQUIREMENT OF GEAR OPERATOR		REFER TECHNICAL NOTES FOR PURCHASE OF VALVES.		
REQUIREMENT OF RADIOGRAPHY		REFER TECHNICAL NOTES FOR PURCHASE OF VALVES.		
OTHERS	O S & Y			
SPECIAL SERVICE CONDITION		MAX TEMP 371 DEG. C.		
BACK SEAT & SHOULDER		SS 304		
HYDROSTATIC TEST PRESSURE	BODY : 425 PSIG	SEAT : 325 PSIG		
TEST PRESSURE WITH AIR	80 PSIG			

NOTES

- THIS VALVE SPEC SHEET SHALL BE READ IN CONJUNCTION WITH TECHNICAL NOTES FOR VALVES.
- ONLY IN THE CASE OF CATEGORY - II MRs,BIDDER SHALL CLEARLY WRITE ALL/ ANY DEVIATION AGAINST EACH PART/ MATERIAL OF VALVE IN THE SPACE PROVIDED FOR AND WHEREVER BIDDER AGREES WITH EIL'S SPEC BIDDER SHALL INDICATE "AGREED".
- NO CUTTING/ OVERWRITING BY BIDDER ON EIL'S SPEC IS ALLOWED.
- TESTING SHALL BE AS PER BS EN 12266-1.
- 10% VALVE CASTINGS SHALL UNDERGO RADIOGRAPHIC EXAMINATION.
- ALL CASTINGS SHALL BE SOLUTION HEAT TREATED.
- WELD REPAIRS, IF ANY, SHALL BE CARRIED OUT BEFORE SOLUTION HEAT TREATMENT.
- VALVE TESTING AS PER BS 6755 (PART-I) IS ALSO ACCEPTABLE.

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52345

Client : HPCL			Dept./Sect. : 16/43	
Project : VRMP				
Location : VIZAG			Tag No: 52384	Sheet No. 1 of 1
GLOBE VALVE SPECIFICATION			MANUF'S OFFER	
TAG NO. : 52384			STANDARD:	
PIPING CLASS : A33Y, A5Y,			MFGRS CAT/FIG:	
RATING : 150			RATING: ENDS:	
STANDARD : BS-1873				
SIZE RANGE : 2.0" TO 16.0"				
ENDS : FLGD TO B-16.5 FF/125AARH				
DESCRIPTION	CONSTRUCTION	MATERIAL	CONSTRUCTION	MATERIAL
BODY	CAST	ASTM A 216 GR.WCB		
BONNET	BOLTED	ASTM A 216 GR.WCB		
STEM	RISING	BRONZE (NO CASTING)		
DISC	LOOSE PLUG TYPE/BALL TYP	BRONZE		
BODY SEAT RING	RENEWABLE/NON RENEWABLE	BRONZE		
STEM PACKING	RENEWABLE WITH VALVE OPEN ON STREAM	CORROSION INHIBITED DIE FORMED FLEXIBLE GRAPHITE WITH BRAIDED ANTI EXTRUSION RINGS		
HAND WHEEL	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-GRAFOIL FILLER/ CORRUGATED SS316		
REQUIREMENT OF GEAR OPERATOR		REFER TECHNICAL NOTES FOR PURCHASE OF VALVES.		
OTHERS	O S & Y			
SPECIAL SERVICE CONDITION		SEA WATER; MAX TEMP 70 DEG. C.; MAX.PR. 18.9 KG/CM2G		
BACK SEAT & SHOULDER		BRONZE		
HYDROSTATIC TEST PRESSURE	BODY : 450 PSIG	SEAT : 325 PSIG		
TEST PRESSURE WITH AIR	80 PSIG			

NOTES

- THIS VALVE SPEC SHEET SHALL BE READ IN CONJUNCTION WITH TECHNICAL NOTES FOR VALVES.
- ONLY IN THE CASE OF CATEGORY - II MRs,BIDDER SHALL CLEARLY WRITE ALL/ ANY DEVIATION AGAINST EACH PART/ MATERIAL OF VALVE IN THE SPACE PROVIDED FOR AND WHEREVER BIDDER AGREES WITH EIL'S SPEC BIDDER SHALL INDICATE "AGREED".
- NO CUTTING/ OVERWRITING BY BIDDER ON EIL'S SPEC IS ALLOWED.
- TESTING SHALL BE AS PER BS EN 12266-1.
- RADIOGRAPHY OF VALVE CASTINGS NOT REQUIRED.
- VALVE TESTING AS PER BS 6755 (PART-I) IS ALSO ACCEPTABLE.
- VALVES FOR SIZES 3" & ABOVE SHALL BE INTERNALLY LINED WITH GLASS FLAKE REINFORCED EPOXY AS PER SPECIFICATION B016-000-79-41-PLS-03.

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SHEET REV. NO.	3	4	5	6	7
DATE	14/12/2000	28/05/2001	06/08/2002	30/06/2009	08/05/2017

52384

Client : HPCL			Dept./Sect. : 16/43	
Project : VRMP				
Location : VIZAG			Tag No: 52401	Sheet No. 1 of 1
GLOBE VALVE SPECIFICATION			MANUF'S OFFER	
TAG NO. : 52401			STANDARD:	
PIPING CLASS : B1A, B9A,			MFGRS CAT/FIG:	
RATING : 300			RATING: ENDS:	
STANDARD : BS-1873				
SIZE RANGE : 2.0" TO 12.0"				
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)		
DISC	LOOSE PLUG TYPE/BALL TYP	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	CORROSION INHIBITED DIE FORMED FLEXIBLE GRAPHITE WITH BRAIDED ANTI EXTRUSION RINGS		
HAND WHEEL	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-GRAFOIL FILLER		
REQUIREMENT OF GEAR OPERATOR		REFER TECHNICAL NOTES FOR PURCHASE OF VALVES.		
REQUIREMENT OF RADIOGRAPHY		REFER TECHNICAL NOTES FOR PURCHASE OF VALVES.		
OTHERS	O S & Y			
SPECIAL SERVICE CONDITION		MAX TEMP 427 DEG.C.		
BACK SEAT & SHOULDER		13% CR STEEL		
HYDROSTATIC TEST PRESSURE	BODY : 1125 PSIG	SEAT : 825 PSIG		
TEST PRESSURE WITH AIR	80 PSIG			

NOTES

- THIS VALVE SPEC SHEET SHALL BE READ IN CONJUNCTION WITH TECHNICAL NOTES FOR VALVES.
- ONLY IN THE CASE OF CATEGORY - II MRs,BIDDER SHALL CLEARLY WRITE ALL/ ANY DEVIATION AGAINST EACH PART/ MATERIAL OF VALVE IN THE SPACE PROVIDED FOR AND WHEREVER BIDDER AGREES WITH EIL'S SPEC BIDDER SHALL INDICATE "AGREED".
- NO CUTTING/ OVERWRITING BY BIDDER ON EIL'S SPEC IS ALLOWED.
- TESTING SHALL BE AS PER BS EN 12266-1.
- 10% VALVE CASTINGS SHALL UNDERGO RADIOGRAPHIC EXAMINATION.
- VALVE TESTING AS PER BS 6755 (PART-I) IS ALSO ACCEPTABLE.

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52401

Client : HPCL			Dept./Sect. : 16/43	
Project : VRMP				
Location : VIZAG			Tag No: 52402	Sheet No. 1 of 1
GLOBE VALVE SPECIFICATION			MANUF'S OFFER	
TAG NO. : 52402			STANDARD:	
PIPING CLASS : B2A,			MFGRS CAT/FIG:	
RATING : 300			RATING: ENDS:	
STANDARD : BS-1873				
SIZE RANGE : 2.0" TO 12.0"				
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)		
DISC	LOOSE PLUG TYPE/BALL TYP	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	CORROSION INHIBITED DIE FORMED FLEXIBLE GRAPHITE WITH BRAIDED ANTI EXTRUSION RINGS		
HAND WHEEL	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-GRAFOIL FILLER		
REQUIREMENT OF GEAR OPERATOR		REFER TECHNICAL NOTES FOR PURCHASE OF VALVES.		
REQUIREMENT OF RADIOGRAPHY		REFER TECHNICAL NOTES FOR PURCHASE OF VALVES.		
OTHERS	O S & Y			
SPECIAL SERVICE CONDITION	I.B.R	STEAM/CONDENSATE/BOILER FEED WATER; MAX. TEMP. 427 DEG.C.		
BACK SEAT & SHOULDER		13% CR STEEL		
HYDROSTATIC TEST PRESSURE	BODY : 1125 PSIG	SEAT : 825 PSIG		
TEST PRESSURE WITH AIR	80 PSIG			

NOTES

- THIS VALVE SPEC SHEET SHALL BE READ IN CONJUNCTION WITH TECHNICAL NOTES FOR VALVES.
- ONLY IN THE CASE OF CATEGORY - II MRs,BIDDER SHALL CLEARLY WRITE ALL/ ANY DEVIATION AGAINST EACH PART/ MATERIAL OF VALVE IN THE SPACE PROVIDED FOR AND WHEREVER BIDDER AGREES WITH EIL'S SPEC BIDDER SHALL INDICATE "AGREED".
- NO CUTTING/ OVERWRITING BY BIDDER ON EIL'S SPEC IS ALLOWED.
- TESTING SHALL BE AS PER BS EN 12266-1 & IBR.
- ALL VALVES SHALL BE SUPPLIED WITH IBR CERTIFICATE IN FORM-III C.
- ALL VALVES SHALL BE PAINTED RED ON BODY-BONNET JOINT.
- 10% VALVE CASTINGS SHALL UNDERGO RADIOGRAPHIC EXAMINATION.
- VALVES TO COMPLY WITH DESIGN REQUIREMENTS OF IBR ALSO.
- VALVE TESTING AS PER BS 6755 (PART-I) & IBR IS ALSO ACCEPTABLE.

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DATE	02/01/1995	14/12/2000	28/05/2001	30/06/2009

52402

Client : HPCL			Dept./Sect. : 16/43	
Project : VRMP				
Location : VIZAG			Tag No: 52502	Sheet No. 1 of 1
GLOBE VALVE SPECIFICATION			MANUF'S OFFER	
TAG NO. : 52502 PIPING CLASS : D2A, RATING : 600 STANDARD : BS-1873 SIZE RANGE : 2.0" TO 12.0" ENDS : FLGD TO B-16.5 RF/125AARH			STANDARD: MFGRS CAT/FIG: 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)		
DISC	LOOSE PLUG TYPE/BALL TYP	STELLITED		
BODY SEAT RING	RENEWABLE/NON- RENEWABLE	STELLITED		
STEM PACKING	RENEWABLE WITH VALVE OPEN ON STREAM	CORROSION INHIBITED DIE FORMED FLEXIBLE GRAPHITE WITH BRAIDED ANTI EXTRUSION RINGS		
HAND WHEEL	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-GRAFOIL FILLER		
REQUIREMENT OF GEAR OPERATOR		REFER TECHNICAL NOTES FOR PURCHASE OF VALVES.		
REQUIREMENT OF RADIOGRAPHY		REFER TECHNICAL NOTES FOR PURCHASE OF VALVES.		
OTHERS	O S & Y			
SPECIAL SERVICE CONDITION	I.B.R	STEAM/CONDENSATE/BOILER FEED WATER; MAX TEMP. 427 DEG.C.		
BACK SEAT & SHOULDER		13% CR STEEL		
HYDROSTATIC TEST PRESSURE	BODY : 2225 PSIG	SEAT : 1650 PSIG		
TEST PRESSURE WITH AIR	80 PSIG			

NOTES

- THIS VALVE SPEC SHEET SHALL BE READ IN CONJUNCTION WITH TECHNICAL NOTES FOR VALVES.
- ONLY IN THE CASE OF CATEGORY - II MRs,BIDDER SHALL CLEARLY WRITE ALL/ ANY DEVIATION AGAINST EACH PART/ MATERIAL OF VALVE IN THE SPACE PROVIDED FOR AND WHEREVER BIDDER AGREES WITH EIL'S SPEC BIDDER SHALL INDICATE "AGREED".
- NO CUTTING/ OVERWRITING BY BIDDER ON EIL'S SPEC IS ALLOWED.
- TESTING SHALL BE AS PER BS EN 12266-1 & IBR.
- ALL VALVES SHALL BE SUPPLIED WITH IBR CERTIFICATE IN FORM-III C.
- ALL VALVES SHALL BE PAINTED RED ON BODY-BONNET JOINT.
- 100% VALVE CASTINGS SHALL UNDERGO RADIOGRAPHIC EXAMINATION.
- VALVES TO COMPLY WITH DESIGN REQUIREMENTS OF IBR ALSO.
- VALVE TESTING AS PER BS 6755 (PART-I) & IBR IS ALSO ACCEPTABLE.

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52502

Client : HPCL			Dept./Sect. : 16/43	
Project : VRMP				
Location : VIZAG			Tag No: 52914	Sheet No. 1 of 1
GLOBE VALVE SPECIFICATION			MANUF'S OFFER	
TAG NO. : 52914 PIPING CLASS : J3A, RATING : 800 STANDARD : BS EN ISO 15761 SIZE RANGE : 0.5" TO 1.5" ENDS : SCRF 3000 TO B-1.20.1			STANDARD: MFGRS CAT/FIG: RATING: ENDS:	
DESCRIPTION	CONSTRUCTION	MATERIAL	CONSTRUCTION	MATERIAL
BODY	FORGED	ASTM A 182 GR.F304		
BONNET	BOLTED	ASTM A 182 GR.F304		
STEM	RISING	SS 304/ SS 316; (NO CASTING)		
DISC	LOOSE PLUG TYPE	STELLITED		
BODY SEAT RING	RENEWABLE/NON RENEWABLE	STELLITED		
STEM PACKING	RENEWABLE WITH VALVE OPEN ON STREAM	CORROSION INHIBITED DIE FORMED FLEXIBLE GRAPHITE WITH BRAIDED ANTI EXTRUSION RINGS		
HAND WHEEL	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-GRAFOIL FILLER		
OTHERS	O S & Y			
SPECIAL SERVICE CONDITION		MAX TEMP 75 DEG. C.		
BACK SEAT & SHOULDER	INTEGRAL			
HYDROSTATIC TEST PRESSURE	BODY : 2900 PSIG	SEAT : 2125 PSIG		
TEST PRESSURE WITH AIR	80 PSIG			

NOTES

- 1 THIS VALVE SPEC SHEET SHALL BE READ IN CONJUNCTION WITH TECHNICAL NOTES FOR VALVES.
- 2 ONLY IN THE CASE OF CATEGORY - II MRs,BIDDER SHALL CLEARLY WRITE ALL/ ANY DEVIATION AGAINST EACH PART/ MATERIAL OF VALVE IN THE SPACE PROVIDED FOR AND WHEREVER BIDDER AGREES WITH EIL'S SPEC BIDDER SHALL INDICATE "AGREED".
- 3 NO CUTTING/ OVERWRITING BY BIDDER ON EIL'S SPEC IS ALLOWED.
- 4 VALVES AS PER BS-5352 AND TESTING AS PER BS 6755(PART-I) ARE ALSO ACCEPTABLE.

SIGNATURE
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SHEET REV. NO.	0	1
DATE	07/04/2017	08/05/2017

52914

Client : HPCL			Dept./Sect. : 16/43	
Project : VRMP				
Location : VIZAG			Tag No: 52924	Sheet No. 1 of 1
GLOBE VALVE SPECIFICATION			MANUF'S OFFER	
TAG NO. : 52924 PIPING CLASS : J3A, RATING : 150 STANDARD : BS-1873 SIZE RANGE : 2.0" TO 14.0" ENDS : FLGD TO B-16.5 FF/125AARH			STANDARD: MFGRS CAT/FIG: RATING: ENDS:	
DESCRIPTION	CONSTRUCTION	MATERIAL	CONSTRUCTION	MATERIAL
BODY	CAST	ASTM A 351 GR CF8		
BONNET	BOLTED	ASTM A 351 GR.CF8		
STEM	RISING	SS 304/ SS 316; (NO CASTING)		
DISC	LOOSE PLUG TYPE/BALL TYP	SS 304		
BODY SEAT RING	RENEWABLE/NON RENEWABLE	SS 304		
STEM PACKING	RENEWABLE WITH VALVE OPEN ON STREAM	CORROSION INHIBITED DIE FORMED FLEXIBLE GRAPHITE WITH BRAIDED ANTI EXTRUSION RINGS		
HAND WHEEL	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 WITH GRAFOIL FILLER/CORRUGATED SS316		
REQUIREMENT OF GEAR OPERATOR		REFER TECHNICAL NOTES FOR PURCHASE OF VALVES.		
REQUIREMENT OF RADIOGRAPHY		REFER TECHNICAL NOTES FOR PURCHASE OF VALVES.		
OTHERS	O S & Y			
SPECIAL SERVICE CONDITION		MAX TEMP 75 DEG. C.		
BACK SEAT & SHOULDER		SS 304		
HYDROSTATIC TEST PRESSURE	BODY : 425 PSIG	SEAT : 325 PSIG		
TEST PRESSURE WITH AIR	80 PSIG			

NOTES

- THIS VALVE SPEC SHEET SHALL BE READ IN CONJUNCTION WITH TECHNICAL NOTES FOR VALVES.
- ONLY IN THE CASE OF CATEGORY - II MRs,BIDDER SHALL CLEARLY WRITE ALL/ ANY DEVIATION AGAINST EACH PART/ MATERIAL OF VALVE IN THE SPACE PROVIDED FOR AND WHEREVER BIDDER AGREES WITH EIL'S SPEC BIDDER SHALL INDICATE "AGREED".
- NO CUTTING/ OVERWRITING BY BIDDER ON EIL'S SPEC IS ALLOWED.
- TESTING SHALL BE AS PER BS EN 12266-1.
- 10% VALVE CASTINGS SHALL UNDERGO RADIOGRAPHIC EXAMINATION.
- ALL CASTINGS SHALL BE SOLUTION HEAT TREATED.
- WELD REPAIRS, IF ANY, SHALL BE CARRIED OUT BEFORE SOLUTION HEAT TREATMENT.
- VALVE TESTING AS PER BS 6755 (PART-I) IS ALSO ACCEPTABLE.

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SHEET REV. NO.	0	1
DATE	07/04/2017	08/05/2017

52924

Client : HPCL			Dept./Sect. : 16/43	
Project : VRMP				
Location : VIZAG			Tag No: 53001	Sheet No. 1 of 1
CHECK VALVE SPECIFICATION			MANUF'S OFFER	
TAG NO. : 53001 PIPING CLASS : A10A, A11A, A1A, A23A, A32A, A3A, A93A, A9A, B1A, B9A, D1A, D9A, RATING : 800 STANDARD : BS EN ISO 15761 SIZE RANGE : 0.25" TO 1.5" ENDS : SW 3000 TO B-16.11			STANDARD: MFGRS CAT/FIG: RATING: ENDS:	
DESCRIPTION	CONSTRUCTION	MATERIAL	CONSTRUCTION	MATERIAL
BODY	FORGED	ASTM A 105		
COVER	BOLTED	ASTM A 105		
DISC/PISTON		STELLITED		
BODY SEAT RING	RENEWABLE/NON RENEWABLE	STELLITED		
DISC HINGE/HINGE PIN				
COVER STUD BOLT		ASTM A193 GR B7		
COVER NUT		ASTM A194 GR 2H		
COVER GASKET		SP WND SS316-GRAFOIL FILLER		
TYPE	LIFT CHECK TYPE			
OTHERS				
SPECIAL SERVICE CONDITIONS		MAX TEMP 427 DEG.C.		
WASHER,NUT,PIN				
HYDROSTATIC TEST PRESSURE	BODY : 2975 PSIG	SEAT : 2175 PSIG		
TEST PRESSURE WITH AIR				

NOTES

- 1 THIS VALVE SPEC SHEET SHALL BE READ IN CONJUNCTION WITH TECHNICAL NOTES FOR VALVES.
- 2 ONLY IN THE CASE OF CATEGORY - II MRs,BIDDER SHALL CLEARLY WRITE ALL/ ANY DEVIATION AGAINST EACH PART/ MATERIAL OF VALVE IN THE SPACE PROVIDED FOR AND WHEREVER BIDDER AGREES WITH EIL'S SPEC BIDDER SHALL INDICATE "AGREED".
- 3 NO CUTTING/ OVERWRITING BY BIDDER ON EIL'S SPEC IS ALLOWED.
- 4 VALVES SHALL BE OF STANDARD BORE DESIGN.
- 5 VALVES AS PER BS-5352 AND TESTING AS PER BS 6755(PART-I) IS ALSO ACCEPTABLE .

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SHEET REV. NO.	2	3	4	5
DATE	02/01/1995	14/12/2000	28/05/2001	30/06/2009

53001

Client : HPCL			Dept./Sect. : 16/43	
Project : VRMP				
Location : VIZAG			Tag No: 53002	Sheet No. 1 of 1
CHECK VALVE SPECIFICATION			MANUF'S OFFER	
TAG NO. : 53002 PIPING CLASS : A2A, B2A, D2A, RATING : 800 STANDARD : BS EN ISO 15761 SIZE RANGE : 0.5" TO 1.5" ENDS : SW 3000 TO B-16.11			STANDARD: MFGRS CAT/FIG: RATING: ENDS:	
DESCRIPTION	CONSTRUCTION	MATERIAL	CONSTRUCTION	MATERIAL
BODY	FORGED	ASTM A 105		
COVER	BOLTED	ASTM A 105		
DISC/PISTON		STELLITED		
BODY SEAT RING	RENEWABLE/NON RENEWABLE	STELLITED		
DISC HINGE/HINGE PIN				
COVER STUD BOLT		ASTM A193 GR B7		
COVER NUT		ASTM A194 GR 2H		
COVER GASKET		SP WND SS316-GRAFOIL FILLER		
TYPE	LIFT CHECK TYPE			
OTHERS				
SPECIAL SERVICE CONDITIONS	I.B.R	STEAM/CONDENSATE/BOILER FEED WATER; MAX. TEMP. 427 DEG.C.		
WASHER,NUT,PIN				
HYDROSTATIC TEST PRESSURE	BODY : 2975 PSIG	SEAT : 2175 PSIG		
TEST PRESSURE WITH AIR				

NOTES

- THIS VALVE SPEC SHEET SHALL BE READ IN CONJUNCTION WITH TECHNICAL NOTES FOR VALVES.
- ONLY IN THE CASE OF CATEGORY - II MRs,BIDDER SHALL CLEARLY WRITE ALL/ ANY DEVIATION AGAINST EACH PART/ MATERIAL OF VALVE IN THE SPACE PROVIDED FOR AND WHEREVER BIDDER AGREES WITH EIL'S SPEC BIDDER SHALL INDICATE "AGREED".
- NO CUTTING/ OVERWRITING BY BIDDER ON EIL'S SPEC IS ALLOWED.
- TESTING SHALL BE AS PER IBR ALSO.
- ALL VALVES SHALL BE SUPPLIED WITH IBR CERTIFICATE IN FORM-III C.
- ALL VALVES SHALL BE PAINTED RED ON BODY-COVER JOINT.
- VALVES SHALL BE OF STANDARD BORE DESIGN.
- VALVES TO COMPLY WITH DESIGN REQUIREMENTS OF IBR ALSO.
- VALVES AS PER BS-5352 AND TESTING AS PER BS 6755(PART-I) & IBR IS ALSO ACCEPTABLE .

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SHEET REV. NO.	2	3	4	5
DATE	02/01/1995	14/12/2000	28/05/2001	30/06/2009

53002

Client : HPCL			Dept./Sect. : 16/43	
Project : VRMP				
Location : VIZAG			Tag No: 53045 Sheet No. 1 of 1	
CHECK VALVE SPECIFICATION			MANUF'S OFFER	
TAG NO. : 53045 PIPING CLASS : A1K, A3K, B1K, RATING : 800 STANDARD : BS EN ISO 15761 SIZE RANGE : 0.5" TO 1.5" ENDS : SW 3000 TO B-16.11			STANDARD: MFGRS CAT/FIG: RATING: ENDS:	
DESCRIPTION	CONSTRUCTION	MATERIAL	CONSTRUCTION	MATERIAL
BODY	FORGED	ASTM A 182 GR.F304		
COVER	BOLTED	ASTM A 182 GR.F304		
DISC/PISTON		STELLITED		
BODY SEAT RING	RENEWABLE/NON-RENEWABLE	STELLITED		
DISC HINGE/HINGE PIN				
COVER STUD BOLT		ASTM A193 GR B7		
COVER NUT		ASTM A194 GR 2H		
COVER GASKET		SP WND SS316-GRAFOIL FILLER		
TYPE	LIFT CHECK TYPE			
OTHERS				
SPECIAL SERVICE CONDITIONS		MAX TEMP 454 DEG. C.		
WASHER,NUT,PIN				
HYDROSTATIC TEST PRESSURE	BODY : 2900 PSIG	SEAT : 2125 PSIG		
TEST PRESSURE WITH AIR				

NOTES

- THIS VALVE SPEC SHEET SHALL BE READ IN CONJUNCTION WITH TECHNICAL NOTES FOR VALVES.
- ONLY IN THE CASE OF CATEGORY - II MRs,BIDDER SHALL CLEARLY WRITE ALL/ ANY DEVIATION AGAINST EACH PART/ MATERIAL OF VALVE IN THE SPACE PROVIDED FOR AND WHEREVER BIDDER AGREES WITH EIL'S SPEC BIDDER SHALL INDICATE "AGREED".
- NO CUTTING/ OVERWRITING BY BIDDER ON EIL'S SPEC IS ALLOWED.
- VALVES SHALL BE OF STANDARD BORE DESIGN.
- VALVES AS PER BS-5352 AND TESTING AS PER BS 6755(PART-I) IS ALSO ACCEPTABLE .

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SHEET REV. NO.	2	3	4	5
DATE	02/01/1995	14/12/2000	28/05/2001	30/06/2009

53045

Client : HPCL			Dept./Sect. : 16/43	
Project : VRMP				
Location : VIZAG			Tag No: 53080	
			Sheet No. 1 of 1	
CHECK VALVE SPECIFICATION			MANUF'S OFFER	
TAG NO. : 53080 PIPING CLASS : A33Y, A5Y, J2A, RATING : CL.2 STANDARD : IS:778 CL.2 SIZE RANGE : 0.5" TO 1.5" ENDS : SCRF 3000 TO B-1.20.1			STANDARD: MFGRS CAT/FIG: RATING: ENDS:	
DESCRIPTION	CONSTRUCTION	MATERIAL	CONSTRUCTION	MATERIAL
BODY	CAST	IS 318 GR.LTB2 (LEADED TIN BRONZE)		
COVER	BOLTED	IS 318 GR.LTB2		
DISC/PISTON		IS 318 GR LTB2		
BODY SEAT RING	RENEWABLE	IS 318 GR LTB2		
DISC HINGE/HINGE PIN				
COVER STUD BOLT		IS 1367 CLAUSE 4.6 & 4 / ASTM A 193 GR B7		
COVER NUT		IS 1367 CLAUSE 4.6 & 4 / ASTM A 194 GR 2H		
COVER GASKET		RUBBER		
TYPE	LIFT CHECK TYPE			
OTHERS				
SPECIAL SERVICE CONDITIONS		MAX TEMP 75 DEG CENT.		
WASHER,NUT,PIN		IS 320 ALLOY HT2		
HYDROSTATIC TEST PRESSURE	BODY : 348 PSIG	SEAT : 232 PSIG		
TEST PRESSURE WITH AIR				

NOTES

- THIS VALVE SPEC SHEET SHALL BE READ IN CONJUNCTION WITH TECHNICAL NOTES FOR VALVES.
- ONLY IN THE CASE OF CATEGORY - II MRs,BIDDER SHALL CLEARLY WRITE ALL/ ANY DEVIATION AGAINST EACH PART/ MATERIAL OF VALVE IN THE SPACE PROVIDED FOR AND WHEREVER BIDDER AGREES WITH EIL'S SPEC BIDDER SHALL INDICATE "AGREED".
- NO CUTTING/ OVERWRITING BY BIDDER ON EIL'S SPEC IS ALLOWED.
- TESTING SHALL BE AS PER BS EN 12266-1 / IS 778 CL2.
- VALVE TESTING AS PER BS 6755 (PART-I) IS ALSO ACCEPTABLE.

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SHEET REV. NO.	3	4	5	6
DATE	14/12/2000	28/05/2001	06/08/2002	30/06/2009

53080

Client : HPCL			Dept./Sect. : 16/43	
Project : VRMP				
Location : VIZAG			Tag No: 53301	Sheet No. 1 of 1
CHECK VALVE SPECIFICATION			MANUF'S OFFER	
TAG NO. : 53301			STANDARD:	
PIPING CLASS : A10A, A11A, A1A, A32A, A93A, A9A,			MFGRS CAT/FIG:	
RATING : 150			RATING: ENDS:	
STANDARD : BS 1868				
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		
COVER	BOLTED	ASTM A 216 GR.WCB		
DISC		FACED WITH 13% CR.STEEL/13% CR.STEEL		
BODY SEAT RING	RENEWABLE/NON RENEWABLE	13% CR STEEL FACING/13% CR STEEL		
HINGE PIN		13% CR STEEL(NO CASTING)		
DISC HINGE		13% CR STEEL/A216 GR WCB/A515 GR 70		
COVER STUD BOLT		ASTM A193 GR B7		
COVER NUT		ASTM A194 GR 2H		
COVER GASKET		SP WND SS316-GRAFOIL FILLER/CORRUGATED SS316		
BY PASSES				
TYPE	SWING CHECK TYPE			
REQUIREMENT OF RADIOGRAPHY		REFER TECHNICAL NOTES FOR PURCHASE OF VALVES.		
OTHERS				
SPECIAL SERVICE CONDITIONS		MAX TEMP 371 DEG. C.		
WASHER,NUT,PIN		13% CR STEEL(NO CASTING)/SS410/SS304		
HYDROSTATIC TEST PRESSURE	BODY : 450 PSIG	SEAT : 325 PSIG		
TEST PRESSURE WITH AIR				

NOTES

- THIS VALVE SPEC SHEET SHALL BE READ IN CONJUNCTION WITH TECHNICAL NOTES FOR VALVES.
- ONLY IN THE CASE OF CATEGORY - II MRs,BIDDER SHALL CLEARLY WRITE ALL/ ANY DEVIATION AGAINST EACH PART/ MATERIAL OF VALVE IN THE SPACE PROVIDED FOR AND WHEREVER BIDDER AGREES WITH EIL'S SPEC BIDDER SHALL INDICATE "AGREED".
- NO CUTTING/ OVERWRITING BY BIDDER ON EIL'S SPEC IS ALLOWED.
- TESTING SHALL BE AS PER BS EN 12266-1.
- 5% VALVE CASTINGS SHALL UNDERGO RADIOGRAPHIC EXAMINATION.
- VALVE TESTING AS PER BS 6755 (PART-I) IS ALSO ACCEPTABLE.

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SHEET REV. NO.	2	3	4	5
DATE	02/01/1995	14/12/2000	28/05/2001	30/06/2009

53301

Client : HPCL			Dept./Sect. : 16/43	
Project : VRMP				
Location : VIZAG			Tag No: 53302	Sheet No. 1 of 1
CHECK VALVE SPECIFICATION			MANUF'S OFFER	
TAG NO. : 53302 PIPING CLASS : A2A, RATING : 150 STANDARD : BS-1868 SIZE RANGE : 2.0" TO 24.0" ENDS : FLGD TO B-16.5 RF/125AARH			STANDARD: MFGRS CAT/FIG: RATING: ENDS:	
DESCRIPTION	CONSTRUCTION	MATERIAL	CONSTRUCTION	MATERIAL
BODY	CAST	ASTM A 216 GR.WCB		
COVER	BOLTED	ASTM A 216 GR.WCB		
DISC		13% CR STEEL FACING/13% CR. STEEL		
BODY SEAT RING	RENEWABLE/NON RENEWABLE	13% CR STEEL FACING/13% CR. STEEL		
HINGE PIN		13% CR STEEL(NO CASTING)		
DISC HINGE		13% CR. STEEL/A216 GR WCB/A515 GR 70		
COVER STUD BOLT		ASTM A193 GR B7		
COVER NUT		ASTM A194 GR 2H		
COVER GASKET		SP WND SS316-GRAFOIL FILLER/CORRUGATED SS316		
BY PASSES				
TYPE	SWING CHECK TYPE			
REQUIREMENT OF RADIOGRAPHY		REFER TECHNICAL NOTES FOR PURCHASE OF VALVES.		
OTHERS				
SPECIAL SERVICE CONDITIONS	I.B.R	STEAM/CONDENSATE/BOILER FEED WATER; MAX TEMP 371 DEG.C.		
WASHER,NUT,PIN		13% CR STEEL(NO CASTING)/SS410/SS304		
HYDROSTATIC TEST PRESSURE	BODY : 450 PSIG	SEAT : 325 PSIG		
TEST PRESSURE WITH AIR				

NOTES

- THIS VALVE SPEC SHEET SHALL BE READ IN CONJUNCTION WITH TECHNICAL NOTES FOR VALVES.
- ONLY IN THE CASE OF CATEGORY - II MRs,BIDDER SHALL CLEARLY WRITE ALL/ ANY DEVIATION AGAINST EACH PART/ MATERIAL OF VALVE IN THE SPACE PROVIDED FOR AND WHEREVER BIDDER AGREES WITH EIL'S SPEC BIDDER SHALL INDICATE "AGREED".
- NO CUTTING/ OVERWRITING BY BIDDER ON EIL'S SPEC IS ALLOWED.
- TESTING SHALL BE AS PER BS EN 12266-1 & IBR
- ALL VALVES SHALL BE SUPPLIED WITH IBR CERTIFICATE IN FORM-III C.
- ALL VALVES SHALL BE PAINTED RED ON BODY-BONNET JOINT.
- 5% VALVE CASTINGS SHALL UNDERGO RADIOGRAPHIC EXAMINATION.
- VALVES TO COMPLY WITH DESIGN REQUIREMENTS OF IBR ALSO.
- VALVE TESTING AS PER BS 6755 (PART-I) & IBR IS ALSO ACCEPTABLE.

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SHEET REV. NO.	2	3	4	5
DATE	02/01/1995	14/12/2000	28/05/2001	30/06/2009

53302

Client : HPCL			Dept./Sect. : 16/43	
Project : VRMP				
Location : VIZAG			Tag No: 53321	Sheet No. 1 of 1
CHECK VALVE SPECIFICATION			MANUF'S OFFER	
TAG NO. : 53321 PIPING CLASS : A3A, RATING : 150 STANDARD : BS 1868 SIZE RANGE : 2.0" TO 24.0" ENDS : FLGD TO B-16.5 RF/125AARH			STANDARD: MFGRS CAT/FIG: RATING: ENDS:	
DESCRIPTION	CONSTRUCTION	MATERIAL	CONSTRUCTION	MATERIAL
BODY	CAST	ASTM A 216 GR.WCB		
COVER	BOLTED	ASTM A 216 GR.WCB		
DISC		FACED WITH 13% CR.STEEL/13% CR.STEEL		
BODY SEAT RING	RENEWABLE/NON RENEWABLE	13% CR STEEL FACING/13% CR STEEL		
HINGE PIN		13% CR STEEL(NO CASTING)		
DISC HINGE		13% CR STEEL/A216 GR WCB/A515 GR 70		
COVER STUD BOLT		ASTM A193 GR B7		
COVER NUT		ASTM A194 GR 2H		
COVER GASKET		SP WND SS316-GRAFOIL FILLER/CORRUGATED SS316		
BY PASSES				
TYPE	SWING CHECK TYPE			
OTHERS				
SPECIAL SERVICE CONDITIONS				
WASHER,NUT,PIN		13% CR STEEL(NO CASTING)/SS410/SS304		
HYDROSTATIC TEST PRESSURE	BODY : 450 PSIG	SEAT : 325 PSIG		
TEST PRESSURE WITH AIR				

NOTES

- THIS VALVE SPEC SHEET SHALL BE READ IN CONJUNCTION WITH TECHNICAL NOTES FOR VALVES.
- ONLY IN THE CASE OF CATEGORY - II MRs,BIDDER SHALL CLEARLY WRITE ALL/ ANY DEVIATION AGAINST EACH PART/ MATERIAL OF VALVE IN THE SPACE PROVIDED FOR AND WHEREVER BIDDER AGREES WITH EIL'S SPEC BIDDER SHALL INDICATE "AGREED".
- NO CUTTING/ OVERWRITING BY BIDDER ON EIL'S SPEC IS ALLOWED.
- TESTING SHALL BE AS PER BS EN 12266-1.
- RADIOGRAPHY OF VALVE CASTINGS NOT REQUIRED.
- VALVE TESTING AS PER BS 6755 (PART-I) IS ALSO ACCEPTABLE.

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SHEET REV. NO.	3	4	5
DATE	14/12/2000	28/05/2001	30/06/2009

53321

Client : HPCL			Dept./Sect. : 16/43	
Project : VRMP				
Location : VIZAG			Tag No: 53345	
			Sheet No. 1 of 1	
CHECK VALVE SPECIFICATION			MANUF'S OFFER	
TAG NO. : 53345 RATING : 150 SIZE RANGE : 2.0" TO 24.0"			PIPING CLASS : A1K, A3K, STANDARD : ENDS : FLGD TO B-16.5 RF/125AARH	
			STANDARD: MFGRS CAT/FIG: RATING: ENDS:	
DESCRIPTION	CONSTRUCTION	MATERIAL	CONSTRUCTION	MATERIAL
BODY	CAST	ASTM A 351 GR CF8		
COVER	BOLTED	ASTM A 351 GR.CF8		
DISC		SS 304		
BODY SEAT RING	RENEWABLE/NON-RENEWABLE	SS 304		
HINGE PIN		SS304/ SS316 (NO CASTING)		
DISC HINGE		SS 304		
COVER STUD BOLT		ASTM A193 GR B7		
COVER NUT		ASTM A194 GR 2H		
COVER GASKET		SP WND SS316-GRAFOIL FILLER		
BY PASSES				
TYPE	SWING CHECK TYPE			
REQUIREMENT OF RADIOGRAPHY		REFER TECHNICAL NOTES FOR PURCHASE OF VALVES.		
OTHERS				
SPECIAL SERVICE CONDITIONS		MAX TEMP 371 DEG. C.		
WASHER,NUT,PIN		SS 304 (NO CASTING)		
HYDROSTATIC TEST PRESSURE	BODY : 425 PSIG	SEAT : 325 PSIG		
TEST PRESSURE WITH AIR				

NOTES

- THIS VALVE SPEC SHEET SHALL BE READ IN CONJUNCTION WITH TECHNICAL NOTES FOR VALVES.
- ONLY IN THE CASE OF CATEGORY - II MRs,BIDDER SHALL CLEARLY WRITE ALL/ ANY DEVIATION AGAINST EACH PART/ MATERIAL OF VALVE IN THE SPACE PROVIDED FOR AND WHEREVER BIDDER AGREES WITH EIL'S SPEC BIDDER SHALL INDICATE "AGREED".
- NO CUTTING/ OVERWRITING BY BIDDER ON EIL'S SPEC IS ALLOWED.
- TESTING SHALL BE AS PER BS EN 12266-1.
- 10% VALVE CASTINGS SHALL UNDERGO RADIOGRAPHIC EXAMINATION.
- ALL CASTINGS SHALL BE SOLUTION HEAT TREATED.
- WELD REPAIRS, IF ANY, SHALL BE CARRIED OUT BEFORE SOLUTION HEAT TREATMENT.
- VALVE TESTING AS PER BS 6755 (PART-I) IS ALSO ACCEPTABLE.

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SHEET REV. NO.	2	3	4	5
DATE	02/01/1995	14/12/2000	28/05/2001	30/06/2009

53345

Client : HPCL			Dept./Sect. : 16/43	
Project : VRMP				
Location : VIZAG			Tag No: 53380	Sheet No. 1 of 1
CHECK VALVE SPECIFICATION			MANUF'S OFFER	
TAG NO. : 53380 PIPING CLASS : J2A, RATING : PN1.6 STANDARD : IS:5312 (PT-1) SIZE RANGE : 2.0" TO 6.0" ENDS : FLGD TO B-16.1 FF/125AARH			STANDARD: MFGRS CAT/FIG: RATING: ENDS:	
DESCRIPTION	CONSTRUCTION	MATERIAL	CONSTRUCTION	MATERIAL
BODY	CAST	IS 210 GR.FG 200		
COVER	BOLTED	IS 210 GR.FG 200		
DISC/PISTON		IS 210 GR.FG 200		
BODY SEAT RING	RENEWABLE	LEADED TIN BRONZE IS 318 GR LTB2		
DISC HINGE		IS:210 GR.FG 200		
HINGE PIN		HIGH TENSILE BRASS IS 320 GR. HTB2		
COVER STUD BOLT		IS 1363 PT-1 CL. 4.6		
COVER NUT		IS 1363 PT-3 CL.4.0		
COVER GASKET		RUBBER		
BY PASSES				
TYPE	SWING CHECK TYPE			
REQUIREMENT OF RADIOGRAPHY		REFER TECHNICAL NOTES FOR PURCHASE OF VALVES.		
OTHERS				
SPECIAL SERVICE CONDITIONS				
DOOR FACES		NATURAL OR SYNTHENIC MOULDED RUBBER		
HYDROSTATIC TEST PRESSURE	BODY : 350 PSIG	SEAT : 250 PSIG		
TEST PRESSURE WITH AIR				

NOTES

- THIS VALVE SPEC SHEET SHALL BE READ IN CONJUNCTION WITH TECHNICAL NOTES FOR VALVES.
- ONLY IN THE CASE OF CATEGORY - II MRs,BIDDER SHALL CLEARLY WRITE ALL/ ANY DEVIATION AGAINST EACH PART/ MATERIAL OF VALVE IN THE SPACE PROVIDED FOR AND WHEREVER BIDDER AGREES WITH EIL'S SPEC BIDDER SHALL INDICATE "AGREED".
- NO CUTTING/ OVERWRITING BY BIDDER ON EIL'S SPEC IS ALLOWED.
- TESTING SHALL BE AS PER BS EN 12266-1.
- FLANGE END SHALL BE FLAT FACE DRILLED TO ANSI B16.1, 125#
- FOR 6" SIZE VALVE RATING SHALL BE PN 1.0
- RADIOGRAPHY OF VALVE CASTINGS NOT REQUIRED.
- VALVE TESTING AS PER BS 6755 (PART-I) IS ALSO ACCEPTABLE.

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SHEET REV. NO.	2	3	4	5
DATE	02/01/1995	14/12/2000	28/05/2001	30/06/2009

53380

Client : HPCL			Dept./Sect. : 16/43	
Project : VRMP				
Location : VIZAG			Tag No: 53384 Sheet No. 1 of 1	
CHECK VALVE SPECIFICATION			MANUF'S OFFER	
TAG NO. : 53384 PIPING CLASS : A33Y, A5Y, RATING : 150 STANDARD : BS 1868 SIZE RANGE : 2.0" TO 24.0" ENDS : FLGD TO B-16.5 FF/125AARH			STANDARD: MFGRS CAT/FIG: RATING: ENDS:	
DESCRIPTION	CONSTRUCTION	MATERIAL	CONSTRUCTION	MATERIAL
BODY	CAST	ASTM A 216 GR.WCB		
COVER	BOLTED	ASTM A 216 GR.WCB		
DISC		BRONZE		
BODY SEAT RING	RENEWABLE/NON RENEWABLE	BRONZE		
HINGE PIN		BRONZE(NO CASTING)		
DISC HINGE		BRONZE		
COVER STUD BOLT		ASTM A193 GR B7		
COVER NUT		ASTM A194 GR 2H		
COVER GASKET		SP WND SS316-GRAFOIL FILLER/CORRUGATED SS316		
BY PASSES				
TYPE	SWING CHECK TYPE			
OTHERS				
SPECIAL SERVICE CONDITIONS		SEA WATER; MAX TEMP 70 DEG. C.; MAX.PR. 18.9 KG/CM2G		
WASHER,NUT,PIN		13% CR STEEL(NO CASTING)		
HYDROSTATIC TEST PRESSURE	BODY : 450 PSIG	SEAT : 325 PSIG		
TEST PRESSURE WITH AIR				

NOTES

- THIS VALVE SPEC SHEET SHALL BE READ IN CONJUNCTION WITH TECHNICAL NOTES FOR VALVES.
- ONLY IN THE CASE OF CATEGORY - II MRs,BIDDER SHALL CLEARLY WRITE ALL/ ANY DEVIATION AGAINST EACH PART/ MATERIAL OF VALVE IN THE SPACE PROVIDED FOR AND WHEREVER BIDDER AGREES WITH EIL'S SPEC BIDDER SHALL INDICATE "AGREED".
- NO CUTTING/ OVERWRITING BY BIDDER ON EIL'S SPEC IS ALLOWED.
- TESTING SHALL BE AS PER BS EN 12266-1.
- RADIOGRAPHY OF VALVE CASTINGS NOT REQUIRED.
- VALVE TESTING AS PER BS 6755 (PART-I) IS ALSO ACCEPTABLE.
- VALVES FOR SIZES 3" & ABOVE SHALL BE INTERNALLY LINED WITH GLASS FLAKE REINFORCED EPOXY AS PER SPECIFICATION B016-000-79-41-PLS-03.

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SHEET REV. NO.	3	4	5	6	7
DATE	14/12/2000	28/05/2001	06/08/2002	30/06/2009	08/05/2017

53384

Client : HPCL			Dept./Sect. : 16/43	
Project : VRMP				
Location : VIZAG			Tag No: 53401	Sheet No. 1 of 1
CHECK VALVE SPECIFICATION			MANUF'S OFFER	
TAG NO. : 53401 PIPING CLASS : B1A, B9A, RATING : 300 STANDARD : SIZE RANGE : 2.0" TO 24.0" ENDS : FLGD TO B-16.5 RF/125AARH			STANDARD: MFGRS CAT/FIG: RATING: ENDS:	
DESCRIPTION	CONSTRUCTION	MATERIAL	CONSTRUCTION	MATERIAL
BODY	CAST	ASTM A 216 GR.WCB		
COVER	BOLTED	ASTM A 216 GR.WCB		
DISC		FACED WITH 13% CR.STEEL/13% CR.STEEL		
BODY SEAT RING	RENEWABLE/NON RENEWABLE	13% CR STEEL FACING/13% CR STEEL		
HINGE PIN		13% CR STEEL(NO CASTING)		
DISC HINGE		13% CR STEEL/A216 GR WCB/A515 GR. 70		
COVER STUD BOLT		ASTM A193 GR B7		
COVER NUT		ASTM A194 GR 2H		
COVER GASKET		SP WND SS316-GRAFOIL FILLER		
BY PASSES				
TYPE	SWING CHECK TYPE			
REQUIREMENT OF RADIOGRAPHY		REFER TECHNICAL NOTES FOR PURCHASE OF VALVES.		
OTHERS				
SPECIAL SERVICE CONDITIONS		MAX TEMP 427 DEG. C.		
WASHER,NUT,PIN		13% CR STEEL(NO CASTING)/ SS 410/SS 304		
HYDROSTATIC TEST PRESSURE	BODY : 1125 PSIG	SEAT : 825 PSIG		
TEST PRESSURE WITH AIR				

NOTES

- THIS VALVE SPEC SHEET SHALL BE READ IN CONJUNCTION WITH TECHNICAL NOTES FOR VALVES.
- ONLY IN THE CASE OF CATEGORY - II MRs,BIDDER SHALL CLEARLY WRITE ALL/ ANY DEVIATION AGAINST EACH PART/ MATERIAL OF VALVE IN THE SPACE PROVIDED FOR AND WHEREVER BIDDER AGREES WITH EIL'S SPEC BIDDER SHALL INDICATE "AGREED".
- NO CUTTING/ OVERWRITING BY BIDDER ON EIL'S SPEC IS ALLOWED.
- TESTING SHALL BE AS PER BS EN 12266-1.
- 10% VALVE CASTINGS UPTO 16" AND 100% VALVE CASTINGS 18" AND ABOVE SHALL UNDERGO RADIOGRAPHIC EXAMINATION.
- VALVE TESTING AS PER BS 6755 (PART-I) IS ALSO ACCEPTABLE.

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SHEET REV. NO.	2	3	4	5
DATE	02/01/1995	14/12/2000	28/05/2001	30/06/2009

53401

Client : HPCL			Dept./Sect. : 16/43	
Project : VRMP				
Location : VIZAG			Tag No: 53402	Sheet No. 1 of 1
CHECK VALVE SPECIFICATION			MANUF'S OFFER	
TAG NO. : 53402 PIPING CLASS : B2A, RATING : 300 STANDARD : BS-1868 SIZE RANGE : 2.0" TO 24.0" ENDS : FLGD TO B-16.5 RF/125AARH			STANDARD: MFGRS CAT/FIG: RATING: ENDS:	
DESCRIPTION	CONSTRUCTION	MATERIAL	CONSTRUCTION	MATERIAL
BODY	CAST	ASTM A 216 GR.WCB		
COVER	BOLTED	ASTM A 216 GR.WCB		
DISC		13% CR STEEL FACING/13% CR. STEEL		
BODY SEAT RING	RENEWABLE/NON RENEWABLE	13% CR STEEL FACING/13% CR. STEEL		
DISC HINGE		13% CR. STEEL/A216 GR WCB/A515 GR 70		
HINGE PIN		13% CR STEEL(NO CASTING)		
COVER STUD BOLT		ASTM A193 GR B7		
COVER NUT		ASTM A194 GR 2H		
COVER GASKET		SP WND SS316-GRAFOIL FILLER		
BY PASSES				
TYPE	SWING CHECK TYPE			
REQUIREMENT OF RADIOGRAPHY		REFER TECHNICAL NOTES FOR PURCHASE OF VALVES.		
OTHERS				
SPECIAL SERVICE CONDITIONS	I.B.R	STEAM/CONDENSATE/BOILER FEED WATER; MAX TEMP. 427 DEG.C.		
WASHER,NUT,PIN		13% CR STEEL(NO CASTING)/SS 410/SS 304		
HYDROSTATIC TEST PRESSURE	BODY : 1125 PSIG	SEAT : 825 PSIG		
TEST PRESSURE WITH AIR				

NOTES

- THIS VALVE SPEC SHEET SHALL BE READ IN CONJUNCTION WITH TECHNICAL NOTES FOR VALVES.
- ONLY IN THE CASE OF CATEGORY - II MRs,BIDDER SHALL CLEARLY WRITE ALL/ ANY DEVIATION AGAINST EACH PART/ MATERIAL OF VALVE IN THE SPACE PROVIDED FOR AND WHEREVER BIDDER AGREES WITH EIL'S SPEC BIDDER SHALL INDICATE "AGREED".
- NO CUTTING/ OVERWRITING BY BIDDER ON EIL'S SPEC IS ALLOWED.
- TESTING SHALL BE AS PER BS EN 12266-1 & IBR
- ALL VALVES SHALL BE SUPPLIED WITH IBR CERTIFICATE IN FORM-III C.
- ALL VALVES SHALL BE PAINTED RED ON BODY-COVER JOINT.
- 10% VALVE CASTINGS UPTO 16" AND 100% VALVE CASTINGS 18" AND ABOVE SHALL UNDERGO RADIOGRAPHIC EXAMINATION.
- VALVES TO COMPLY WITH DESIGN REQUIREMENTS OF IBR ALSO.
- VALVE TESTING AS PER BS 6755 (PART-I) & IBR IS ALSO ACCEPTABLE.

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SHEET REV. NO.	2	3	4	5
DATE	02/01/1995	14/12/2000	28/05/2001	30/06/2009

53402

Client : HPCL			Dept./Sect. : 16/43	
Project : VRMP				
Location : VIZAG			Tag No: 53502	
			Sheet No. 1 of 1	
CHECK VALVE SPECIFICATION			MANUF'S OFFER	
TAG NO. : 53502			STANDARD:	
PIPING CLASS : D2A,			MFGRS CAT/FIG:	
RATING : 600			RATING: ENDS:	
STANDARD : BS-1868				
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		
COVER	BOLTED	ASTM A 216 GR.WCB		
DISC		STELLITED		
BODY SEAT RING	RENEWABLE/NON-RENEWABLE	STELLITED		
HINGE PIN		13% CR STEEL(NO CASTING)		
DISC HINGE		13% CR STEEL/A216 GR WCB		
COVER STUD BOLT		ASTM A193 GR B7		
COVER NUT		ASTM A194 GR 2H		
COVER GASKET		SP WND SS316-GRAFOIL FILLER		
BY PASSES				
TYPE	SWING CHECK TYPE			
REQUIREMENT OF RADIOGRAPHY		REFER TECHNICAL NOTES FOR PURCHASE OF VALVES.		
OTHERS				
SPECIAL SERVICE CONDITIONS	I.B.R	STEAM/CONDENSATE/BOILER FEED WATER; MAX TEMP 427 DEG. C.		
WASHER,NUT,PIN		13% CR STEEL(NO CASTING)		
HYDROSTATIC TEST PRESSURE	BODY : 2225 PSIG	SEAT : 1650 PSIG		
TEST PRESSURE WITH AIR				

NOTES

- THIS VALVE SPEC SHEET SHALL BE READ IN CONJUNCTION WITH TECHNICAL NOTES FOR VALVES.
- ONLY IN THE CASE OF CATEGORY - II MRs,BIDDER SHALL CLEARLY WRITE ALL/ ANY DEVIATION AGAINST EACH PART/ MATERIAL OF VALVE IN THE SPACE PROVIDED FOR AND WHEREVER BIDDER AGREES WITH EIL'S SPEC BIDDER SHALL INDICATE "AGREED".
- NO CUTTING/ OVERWRITING BY BIDDER ON EIL'S SPEC IS ALLOWED.
- TESTING SHALL BE AS PER BS EN 12266-1 & IBR
- ALL VALVES SHALL BE SUPPLIED WITH IBR CERTIFICATE IN FORM-III C.
- ALL VALVES SHALL BE PAINTED RED ON BODY-COVER JOINT.
- 100% VALVE CASTINGS SHALL UNDERGO RADIOGRAPHIC EXAMINATION.
- VALVES TO COMPLY WITH DESIGN REQUIREMENTS OF IBR ALSO.
- VALVE TESTING AS PER BS 6755 (PART-I) & IBR IS ALSO ACCEPTABLE.

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SHEET REV. NO.	2	3	4	5
DATE	02/01/1995	14/12/2000	28/05/2001	30/06/2009

53502

Client : HPCL			Dept./Sect. : 16/43	
Project : VRMP				
Location : VIZAG			Tag No: 53914 Sheet No. 1 of 1	
CHECK VALVE SPECIFICATION			MANUF'S OFFER	
TAG NO. : 53914 PIPING CLASS : J3A, RATING : 800 STANDARD : BS EN ISO 15761 SIZE RANGE : 0.5" TO 1.5" ENDS : SCRF 3000 TO B-1.20.1			STANDARD: MFGRS CAT/FIG: RATING: ENDS:	
DESCRIPTION	CONSTRUCTION	MATERIAL	CONSTRUCTION	MATERIAL
BODY	FORGED	ASTM A 182 GR.F304		
COVER	BOLTED	ASTM A 182 GR.F304		
DISC/PISTON		STELLITED		
BODY SEAT RING	RENEWABLE/NON-RENEWABLE	STELLITED		
DISC HINGE/HINGE PIN				
COVER STUD BOLT		ASTM A193 GR B7		
COVER NUT		ASTM A194 GR 2H		
COVER GASKET		SP WND SS316-GRAFOIL FILLER		
TYPE	LIFT CHECK TYPE			
OTHERS				
SPECIAL SERVICE CONDITIONS		MAX TEMP 75 DEG. C.		
WASHER,NUT,PIN				
HYDROSTATIC TEST PRESSURE	BODY : 2900 PSIG	SEAT : 2125 PSIG		
TEST PRESSURE WITH AIR				

NOTES

- THIS VALVE SPEC SHEET SHALL BE READ IN CONJUNCTION WITH TECHNICAL NOTES FOR VALVES.
- ONLY IN THE CASE OF CATEGORY - II MRs,BIDDER SHALL CLEARLY WRITE ALL/ ANY DEVIATION AGAINST EACH PART/ MATERIAL OF VALVE IN THE SPACE PROVIDED FOR AND WHEREVER BIDDER AGREES WITH EIL'S SPEC BIDDER SHALL INDICATE "AGREED".
- NO CUTTING/ OVERWRITING BY BIDDER ON EIL'S SPEC IS ALLOWED.
- VALVES SHALL BE OF STANDARD BORE DESIGN.
- VALVES AS PER BS-5352 AND TESTING AS PER BS 6755(PART-I) IS ALSO ACCEPTABLE .

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SHEET REV. NO.	0	1
DATE	07/04/2017	08/05/2017

53914

Client : HPCL			Dept./Sect. : 16/43	
Project : VRMP				
Location : VIZAG			Tag No: 53924	Sheet No. 1 of 1
CHECK VALVE SPECIFICATION			MANUF'S OFFER	
TAG NO. : 53924 PIPING CLASS : J3A, RATING : 150 STANDARD : BS-1868 SIZE RANGE : 2.0" TO 14.0" ENDS : FLGD TO B-16.5 FF/125AARH			STANDARD: MFGRS CAT/FIG: RATING: ENDS:	
DESCRIPTION	CONSTRUCTION	MATERIAL	CONSTRUCTION	MATERIAL
BODY	CAST	ASTM A 351 GR CF8		
COVER	BOLTED	ASTM A 351 GR.CF8		
DISC		SS 304		
BODY SEAT RING	RENEWABLE/NON-RENEWABLE	SS 304		
DISC HINGE		SS 304		
HINGE PIN		SS304/ SS316 (NO CASTING)		
COVER STUD BOLT		ASTM A193 GR B7		
COVER NUT		ASTM A194 GR 2H		
COVER GASKET		SP WND SS316-GRAFOIL FILLER		
BY PASSES				
TYPE	SWING CHECK TYPE			
REQUIREMENT OF RADIOGRAPHY		REFER TECHNICAL NOTES FOR PURCHASE OF VALVES.		
OTHERS				
SPECIAL SERVICE CONDITIONS		MAX TEMP 75 DEG. C.		
WASHER,NUT,PIN		SS 304 (NO CASTING)		
HYDROSTATIC TEST PRESSURE	BODY : 425 PSIG	SEAT : 325 PSIG		
TEST PRESSURE WITH AIR				

NOTES

- THIS VALVE SPEC SHEET SHALL BE READ IN CONJUNCTION WITH TECHNICAL NOTES FOR VALVES.
- ONLY IN THE CASE OF CATEGORY - II MRs,BIDDER SHALL CLEARLY WRITE ALL/ ANY DEVIATION AGAINST EACH PART/ MATERIAL OF VALVE IN THE SPACE PROVIDED FOR AND WHEREVER BIDDER AGREES WITH EIL'S SPEC BIDDER SHALL INDICATE "AGREED".
- NO CUTTING/ OVERWRITING BY BIDDER ON EIL'S SPEC IS ALLOWED.
- TESTING SHALL BE AS PER BS EN 12266-1.
- 10% VALVE CASTINGS SHALL UNDERGO RADIOGRAPHIC EXAMINATION.
- ALL CASTINGS SHALL BE SOLUTION HEAT TREATED.
- WELD REPAIRS, IF ANY, SHALL BE CARRIED OUT BEFORE SOLUTION HEAT TREATMENT.
- VALVE TESTING AS PER BS 6755 (PART-I) IS ALSO ACCEPTABLE.

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DATE	07/04/2017	08/05/2017

53924

Client : HPCL			Dept./Sect. : 16/43	
Project : VRMP				
Location : VIZAG			Tag No: 54301	Sheet No. 1 of 2
BALL VALVE SPECIFICATION			MANUF'S OFFER	
TAG NO. : 54301			STANDARD:	
PIPING CLASS : A10A, A11A, A1A, A93A, A9A,			MFGRS CAT/FIG:	
RATING : 150			RATING: ENDS:	
STANDARD : BS EN ISO 17292				
SIZE RANGE : 0.5" TO 16.0"			ENDS : FLGD TO B-16.5 RF/125AARH	
DESCRIPTION	CONSTRUCTION	MATERIAL	CONSTRUCTION	MATERIAL
BODY	FORGD/CAST	ASTM A 105 / A 216GR.WCB		
STEM	ANTI BLOWOUT	13% CR.STEEL/SS316; (NO CASTING)		
BALL	SOLID	13% CR.STEEL/SS304/SS316		
BODY SEAT		RPTFE WITH SECONDARY METAL TO METAL		
GLAND	BOLTED/ RETAINED BY NUT & WASHER	ASTM A105/13% CR STEEL/SS 316/SS 304		
STEM SEAL	RENEWABLE WITH VALVE OPEN ON STREAM	GRAFOIL/PTFE V-RINGS+GRAFOIL		
BODY SEAL		GRAFOIL/PTFE		
BODY STUD		ASTM A193 GR.B7		
BODY NUT		ASTM A194 GR 2H		
OTHERS				
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 204 DEG C.		
SPRING		INCONEL X-750		
HYDROSTATIC TEST PRESSURE	BODY : 450 PSIG	SEAT : 325 PSIG		
TEST PRESSURE WITH AIR	80 PSIG			

NOTES

- THIS VALVE SPEC SHEET SHALL BE READ IN CONJUNCTION WITH TECHNICAL NOTES FOR VALVES.
- ONLY IN THE CASE OF CATEGORY - II MRs,BIDDER SHALL CLEARLY WRITE ALL/ ANY DEVIATION AGAINST EACH PART/ MATERIAL OF VALVE IN THE SPACE PROVIDED FOR AND WHEREVER BIDDER AGREES WITH EIL'S SPEC BIDDER SHALL INDICATE "AGREED".
- NO CUTTING/ OVERWRITING BY BIDDER ON EIL'S SPEC IS ALLOWED.
- VALVES CAN ALSO BE SUPPLIED IN ACCORDANCE WITH API-6D. FOR API 6D VALVES,MIN BODY WALL THICKNESS SHALL BE PER ASME B16.34.
- ALL VALVES SHALL BE FIRE SAFE DESIGN.FIRE SAFE TEST SHALL BE AS PER (API 607 IV EDITION/ (API 607/ ISO 10497))/ (BS 6755(PART II)/ BS EN ISO 10497)/API RP 6FA.
- TESTING SHALL BE AS PER BS EN 12266-1/API 6D.
- FOR TRUNNION MOUNTED BALL,BODY SEAT SHALL BE SPRING LOADED.
- ALL VALVES SHALL BE BIDIRECTIONAL.
- 5 % VALVE CASTINGS SHALL UNDERGO RADIOGRAPHIC EXAMINATION.

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SHEET REV. NO.	2	3	4	5	6
DATE	02/01/1995	14/12/2000	16/10/2001	24/10/2001	30/06/2009

54301

Client : HPCL	Dept./Sect. : 16/43
Project : VRMP	
Location : VIZAG	Sheet No. 2 of 2

NOTES

- 10 BIDDER'S STAMPING ON THE VALVE SPECIFICATION SHEET SHALL BE CONSTRUED TO MEAN BIDDER'S ACCEPTANCE OF SUITABILITY OF VALVE AND VALVE SHEETS FOR SERVICE AND 'SPECIAL SERVICE CONDITIONS' MENTIONED IN THE VALVE SPECIFICATION SHEETS.
- 11 STEM SEAL/BODY SEAL MATERIALS SHALL BE PROVIDED WITH CORROSION INHIBITOR.
- 12 VALVES AS PER BS-5351 AND TESTING AS PER BS 6755 (PART-1) IS ALSO ACCEPTABLE.

SHEET REV. NO.	2	3	4	5	6	54301
DATE	02/01/1995	14/12/2000	16/10/2001	24/10/2001	30/06/2009	

Client : HPCL			Dept./Sect. : 16/43	
Project : VRMP				
Location : VIZAG			Tag No: 54401	Sheet No. 1 of 2
BALL VALVE SPECIFICATION			MANUF'S OFFER	
TAG NO. : 54401			STANDARD:	
PIPING CLASS : B1A, B9A,			MFGRS CAT/FIG:	
RATING : 300			RATING: ENDS:	
STANDARD : BS EN ISO 17292				
SIZE RANGE : 0.5" TO 16.0"			ENDS : FLGD TO B-16.5 RF/125AARH	
DESCRIPTION	CONSTRUCTION	MATERIAL	CONSTRUCTION	MATERIAL
BODY	FORGD/CAST	ASTM A 105 / A 216GR.WCB		
STEM	ANTI BLOWOUT	13% CR.STEEL/SS316; (NO CASTING)		
BALL	SOLID	13% CR.STEEL/SS304/SS316		
BODY SEAT		RPTFE WITH SECONDARY METAL TO METAL		
GLAND	BOLTED/ RETAINED BY NUT & WASHER	ASTM A105/13% CR STEEL/SS 316/SS 304		
STEM SEAL	RENEWABLE WITH VALVE OPEN ON STREAM	GRAFOIL/PTFE V-RINGS + GRAFOIL		
BODY SEAL		GRAFOIL/PTFE		
BODY STUD		ASTM A193 GR.B7		
BODY NUT		ASTM A194 GR 2H		
OTHERS				
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 204 DEG C.		
SPRING		INCONEL X-750		
HYDROSTATIC TEST PRESSURE	BODY : 1125 PSIG	SEAT : 825 PSIG		
TEST PRESSURE WITH AIR	80 PSIG			

NOTES

- THIS VALVE SPEC SHEET SHALL BE READ IN CONJUNCTION WITH TECHNICAL NOTES FOR VALVES.
- ONLY IN THE CASE OF CATEGORY - II MRs,BIDDER SHALL CLEARLY WRITE ALL/ ANY DEVIATION AGAINST EACH PART/ MATERIAL OF VALVE IN THE SPACE PROVIDED FOR AND WHEREVER BIDDER AGREES WITH EIL'S SPEC BIDDER SHALL INDICATE "AGREED".
- NO CUTTING/ OVERWRITING BY BIDDER ON EIL'S SPEC IS ALLOWED.
- VALVES CAN ALSO BE SUPPLIED IN ACCORDANCE WITH API-6D. FOR API 6D VALVES,MIN BODY WALL THICKNESS SHALL BE PER ASME B16.34.
- ALL VALVES SHALL BE FIRE SAFE DESIGN.FIRE SAFE TEST SHALL BE AS PER (API 607 IV EDITION/ (API 607/ ISO 10497)))/(BS 6755(PART II)/ BS EN ISO 10497) /API RP 6FA.
- TESTING SHALL BE AS PER BS EN 12266-1/API 6D.
- FOR TRUNNION MOUNTED BALL,BODY SEAT SHALL BE SPRING LOADED.
- ALL VALVES SHALL BE BIDIRECTIONAL.
- BIDDER'S STAMPING ON THE VALVE SPECIFICATION SHEET SHALL BE CONSTRUED TO MEAN BIDDER'S ACCEPTANCE OF SUITABILITY OF VALVE AND VALVE SHEETS FOR SERVICE AND 'SPECIAL SERVICE CONDITIONS' MENTIONED IN THE VALVE SPECIFICATION SHEETS.

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SHEET REV. NO.	3	4	5	6
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54401

Client : HPCL	Dept./Sect. : 16/43
Project : VRMP	
Location : VIZAG	Sheet No. 2 of 2

NOTES

- 10 10% VALVE CASTINGS SHALL UNDERGO RADIOGRAPHIC EXAMINATION.
- 11 STEM SEAL/BODY SEAL MATERIALS SHALL BE PROVIDED WITH CORROSION INHIBITOR.
- 12 VALVES AS PER BS-5351 AND TESTING AS PER BS 6755 (PART-1) IS ALSO ACCEPTABLE.

SHEET REV. NO.	3	4	5	6
DATE	14/12/2000	16/10/2001	24/10/2001	30/06/2009

54401

Client : HPCL			Dept./Sect. : 16/43	
Project : VRMP				
Location : VIZAG			Tag No: 56321	Sheet No. 1 of 2
BUTTERFLY VALVE SPECIFICATION			MANUF'S OFFER	
TAG NO. : 56321 PIPING CLASS : A3A, RATING : 150 STANDARD : BS EN 593 SIZE RANGE : 3.0" TO 24.0" ENDS : WAFL TO B-16.5 WAF/125AARH			STANDARD: MFGRS CAT/FIG: RATING: ENDS:	
DESCRIPTION	CONSTRUCTION	MATERIAL	CONSTRUCTION	MATERIAL
BODY	CAST	ASTM A 216 GR.WCB		
DISC	CAST(NOTE-17)	ASTM A 216 GR.WCB		
SHAFT	ANTI STATIC.	17-4PH/13%CR ST/SS316 (NO CASTING).		
DISK SEAL/LINER	REPLACEABLE/ NON REPLACEABLE	NITRILE RUBBER/EPDM		
SHAFT BUSHING		LEADED TIN-BRONZE/ PTFE LINED CS/EPDM		
BODY SCREWS/PIN		SS 316		
BODY SEATS		13% CR STEEL/ SS316		
SHAFT SEAL		NITRILE RUBBER/ BUNA N/ EPDM/ VITON		
CLAMPING RINGS(IF REQD.)		ASTM A 515 GR.70/13% CR.STEEL/SS316		
REQUIREMENT OF GEAR OPERATOR		REFER TECHNICAL NOTES FOR PURCHASE OF VALVES.		
SPECIAL SERVICE CONDITIONS		COOLING WATER; MAX TEMP 65 DEG.C. MAX. PRESS. 10.2 KG/CM2G.		
THRUST BEARING		SS316/PTFE		
HYDROSTATIC TEST PRESSURE	BODY : 220 PSIG	SEAT : 160 PSIG		
TEST PRESSURE WITH AIR	80 PSIG			

NOTES

- THIS VALVE SPEC SHEET SHALL BE READ IN CONJUNCTION WITH TECHNICAL NOTES FOR VALVES.
- ONLY IN THE CASE OF CATEGORY - II MRs, BIDDER SHALL CLEARLY WRITE ALL/ ANY DEVIATION AGAINST EACH PART/ MATERIAL OF VALVE IN THE SPACE PROVIDED FOR AND WHEREVER BIDDER AGREES WITH EIL'S SPEC BIDDER SHALL INDICATE "AGREED".
- NO CUTTING/ OVERWRITING BY BIDDER ON EIL'S SPEC IS ALLOWED.
- VALVE CAN ALSO BE SUPPLIED ALSO BE SUPPLIED AS PER API 609, CATEGORY-A.
- VALVE TESTING SHALL BE AS PER BS EN 12266-1/API 598.
- VALVES SHALL BE TIGHT SHUT-OFF TYPE AND BIDIRECTIONAL.
- VALVE SHALL BE LUGGED WAFER TYPE(WAFL) AND VALVE ENDS TO SUIT B16.5 RF/125AARH.
- FACE-TO-FACE DIMENSIONS SHALL BE AS PER BS EN 558-2 (BASIC SERIES 20) FOR BS EN 593 VALVES AND AS PER CATEGORY-A VALVES FOR API 609 VALVES.
- VALVE SHALL BE SUITABLE FOR BOTH "ON-OFF" AS WELL AS "THROTTLING" APPLICATIONS UNDER MAXIMUM DIFFERENTIAL PRESSURE OF 10.2 KG/CM2G
- DISC STRENGTH TEST SHALL BE CONDUCTED AS PER CODE.
- GASKET USED, IF ANY, SHALL BE TO BS 7531 GR. X.
- BOLTINGS FOR TAPPED HOLES IN BODY, IF ANY, SHALL BE SUPPLIED BY VENDOR IN MATERIAL ASTM A 193 GR.B7/A 194 GR.2H
- VALVES SHALL BE PROVIDED WITH POSITION INDICATOR AND LOCKING DEVICE AT ANY POSITION.

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SHEET REV. NO.	0
DATE	08/05/2017

56321

Client : HPCL	Dept./Sect. : 16/43
Project : VRMP	
Location : VIZAG	Sheet No. 2 of 2

NOTES

- 14 CROSS-SECTIONAL DETAIL OF BODY SEAT/SEAL ARRANGEMENT SHALL BE SUBMITTED ALONG WITH THE OFFER.
- 15 VENDOR SHALL SUBMIT VALVE DRAWING FOR APPROVAL.
- 16 VALVE AS WHOLE AND LINER/DISK SEAL IN PARTICULAR SHALL BE CERTIFIED SUITABLE FOR THE SERVICE AND SERVICE CONDITIONS SPECIFIED IN THE DATA SHEET FOR BUTTERFLY VALVES (FORMAT NO. 3-1643-0092).
- 17 FOR LINER MATERIAL OF NITRILE RUBBER/EPDM, DISK MATERIAL SHALL BE SS316/13%CR.STEEL/ASTM A216 GR.WCB(WITH SS316 EDGE)
- 18 DISK SEALS SHALL BE PROVIDED FOR VALVES WITH METALLIC SEATS ONLY.
- 19 SPARK TESTING SHALL BE CARRIED OUT FOR NON REPLACEABLE LINER AS PER IS 4682 PART-I/BS 6374 PART-5.
- 20 BODY AND DISK MATERIAL IN DUCTILE IRON AS PER ASTM A 536 GR.65-45-12/60-40-18 OR DIN GGG40 ARE ALSO ACCEPTABLE.
- 21 RADIOGRAPHY OF VALVE CASTINGS NOT REQUIRED.
- 22 PN10 RATED VALVES AS PER BS EN 593 ARE ALSO ACCEPTABLE.
- 23 VALVES AS PER BS-5155 SHALL ALSO BE ACCEPTABLE WITH TESTING AS PER BS-6755 PART-I AND FACE TO FACE DIMENSIONS AS PER BS 5155 (WAFER SHORT/ WAFER MEDIUM).

SHEET REV. NO.	0
DATE	08/05/2017

56321

Client : HPCL			Dept./Sect. : 16/43	
Project : VRMP				
Location : VIZAG			Tag No: 64402	Sheet No. 1 of 1
PISTON VALVE SPECIFICATION			MANUF'S OFFER	
TAG NO. : 64402			STANDARD:	
PIPING CLASS : A2A, B2A,			MFGRS CAT/FIG:	
RATING : 300			RATING: ENDS:	
STANDARD : MNFSTD				
SIZE RANGE : 0.5" TO 1.0"				
ENDS : SW 3000 TO B-16.11				
DESCRIPTION	CONSTRUCTION	MATERIAL	CONSTRUCTION	MATERIAL
BODY	CAST	ASTM A 216 GR.WCB		
BONNET	BOLTED	ASTM A 216 GR.WCB		
STEM	RISING	ASTM A 276 TP 410		
PISTON		13% CR STEEL/17% CR STEEL/SS304/SS316		
LANTERN BUSH/SPACER		ASTM A 276 TP 410		
UPPER AND LOWER SEALING RINGS	RENEWABLE	SEE NOTE-5 BELOW		
BELLEVILLE WASHER		50 CR V4/ASTM A 240 GR.302		
HAND WHEEL		MALLEABLE IRON/CAST ST/FAB.ST/DUCT. IRON		
BONNET BOLTS		ASTM A193 GR B7		
BONNET NUTS		ASTM A194 GR 2H		
REQUIREMENT OF RADIOGRAPHY		REFER TECHNICAL NOTES FOR PURCHASE OF VALVES		
OTHERS	NON-REGULATING PISTON VALVE			
SPECIAL SERVICE CONDITION	I.B.R.	STEAM/CONDENSATE; MAX. TEMP. 325 DEG.C.(AT 300# CLASS PRESSURE AS PER ASME B16.5)		
HYDROSTATIC TEST PRESSURE	BODY : 1125 PSIG	SEAT : 825 PSIG		
TEST PRESSURE WITH AIR	80 PSIG			

NOTES

- THIS VALVE SPEC SHEET SHALL BE READ IN CONJUNCTION WITH TECHNICAL NOTES FOR VALVES.
- ONLY IN THE CASE OF CATEGORY - II MRs,BIDDER SHALL CLEARLY WRITE ALL/ ANY DEVIATION AGAINST EACH PART/ MATERIAL OF VALVE IN THE SPACE PROVIDED FOR AND WHEREVER BIDDER AGREES WITH EIL'S SPEC BIDDER SHALL INDICATE "AGREED".
- NO CUTTING/ OVERWRITING BY BIDDER ON EIL'S SPEC IS ALLOWED.
- TESTING SHALL BE AS PER IBR & BS 6755 (PART-1) AND LEAKAGE RATE SHALL BE CATEGORY 'A'.
- VENDOR SHALL SPECIFY THE MATERIAL AND CERTIFY THE SUITABILITY OF MATERIAL SELECTED FOR SEALING RINGS AND THE PARTS NOT MENTIONED IN THE SPECIFICATION SHEET FOR (a) THE SERVICE AND PRESSURE-TEMP. CONDITIONS SPECIFIED (b) HIGH TEMP. EXPERIENCED DURING WELDING OF SOCKET WELDED ENDS TO PIPE.
- 10% VALVE CASTINGS SHALL UNDERGO RADIOGRAPHIC EXAMINATION.
- ALL VALVES SHALL BE SUPPLIED WITH IBR CERTIFICATE IN FORM-III C.
- ALL VALVES SHALL BE PAINTED RED ON BODY-BONNET JOINT.
- VALVES TO COMPLY WITH DESIGN REQUIREMENTS OF IBR ALSO.
- FORGED VALVES WITH BODY/BONNET MATERIAL AS PER ASTM A 105 ARE ALSO ACCEPTABLE.
- PN64 RATING VALVES ARE ALSO ACCEPTABLE.

SIGNATURE
&
SEAL
OF MANUFACTURER

SHEET REV. NO.	0
DATE	31/12/2001

64402

Client : HPCL			Dept./Sect. : 16/43	
Project : VRMP				
Location : VIZAG			Tag No: 64422	Sheet No. 1 of 1
PISTON VALVE SPECIFICATION			MANUF'S OFFER	
TAG NO. : 64422			STANDARD:	
PIPING CLASS : A32A,			MFGRS CAT/FIG:	
RATING : 300			RATING: ENDS:	
STANDARD : MNFSTD				
SIZE RANGE : 0.5" TO 1.0"				
ENDS : SW 3000 TO B-16.11				
DESCRIPTION	CONSTRUCTION	MATERIAL	CONSTRUCTION	MATERIAL
BODY	CAST	ASTM A 216 GR.WCB		
BONNET	BOLTED	ASTM A 216 GR.WCB		
STEM	RISING	ASTM A 276 TP 410		
PISTON		13% CR STEEL/17% CR STEEL/SS304/SS316		
LANTERN BUSH/SPACER		ASTM A 276 TP 410		
UPPER AND LOWER SEALING RINGS	RENEWABLE	SEE NOTE-5 BELOW		
BELLEVILLE WASHER		50 CR V4/ASTM A 240 GR.302		
HAND WHEEL		MALLEABLE IRON/CAST ST/FAB.ST/DUCT. IRON		
BONNET BOLTS		ASTM A193 GR B7		
BONNET NUTS		ASTM A194 GR 2H		
REQUIREMENT OF RADIOGRAPHY		REFER TECHNICAL NOTES FOR PURCHASE OF VALVES		
OTHERS	NON-REGULATING PISTON VALVE			
SPECIAL SERVICE CONDITION		STEAM/CONDENSATE; MAX. TEMP. 325 DEG.C.(AT 300# CLASS PRESSURE AS PER ASME B16.5)		
HYDROSTATIC TEST PRESSURE	BODY : 1125 PSIG	SEAT : 825 PSIG		
TEST PRESSURE WITH AIR	80 PSIG			

NOTES

- THIS VALVE SPEC SHEET SHALL BE READ IN CONJUNCTION WITH TECHNICAL NOTES FOR VALVES.
- ONLY IN THE CASE OF CATEGORY - II MRs,BIDDER SHALL CLEARLY WRITE ALL/ ANY DEVIATION AGAINST EACH PART/ MATERIAL OF VALVE IN THE SPACE PROVIDED FOR AND WHEREVER BIDDER AGREES WITH EIL'S SPEC BIDDER SHALL INDICATE "AGREED".
- NO CUTTING/ OVERWRITING BY BIDDER ON EIL'S SPEC IS ALLOWED.
- TESTING SHALL BE AS PER BS 6755 (PART-1) AND LEAKAGE RATE SHALL BE CATEGORY 'A'.
- VENDOR SHALL SPECIFY THE MATERIAL AND CERTIFY THE SUITABILITY OF MATERIAL SELECTED FOR SEALING RINGS AND THE PARTS NOT MENTIONED IN THE SPECIFICATION SHEET FOR (a) THE SERVICE AND PRESSURE-TEMP. CONDITIONS SPECIFIED (b) HIGH TEMP. EXPERIENCED DURING WELDING OF SOCKET WELDED ENDS TO PIPE.
- 10% VALVE CASTINGS SHALL UNDERGO RADIOGRAPHIC EXAMINATION.
- FORGED VALVES WITH BODY/BONNET MATERIAL AS PER ASTM A 105 ARE ALSO ACCEPTABLE.
- PN64 RATING VALVES ARE ALSO ACCEPTABLE.

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SEAL
OF MANUFACTURER

SHEET REV. NO.	0
DATE	31/12/2001

64422

ANNEXURE-I (TO VMS)

JOB SPECIFICATION FOR VALVE MATERIAL GENERAL NOTES

A	12.04.17	ISSUED AS JOB STANDARD	KPR	AKB	MI	
Rev. No	Date	Purpose	Prepared by	Checked by	Approved by	

Abbreviations:

AS	: Alloy Steel
ASME	: American Society of Mechanical Engineers
ASTM	: American Society for Testing & Materials
CS	: Carbon Steel
SS	: Stainless Steel
VMS	: Valve Material Specification

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1.0 SCOPE

This specification covers commonly used valves for process, utility and steam services. Any additional valve specification not covered in this standard specification shall be prepared in consistence with the parameters of this specification

2.0 REFERRED CODES & STANDARDS

- 2.1 Editions and addenda (if any) of referred Codes and Standards shall be as per the 'Job Engineering Design Basis (Piping)"/"Technical Notes for Valves'.
- 2.2 For the sake of brevity, the initials of the society to which the codes are referred to may be omitted in the specification. For example; B16.5 is a code referring to ASME; A351 Gr.CF8 is a standard referring to ASTM.

3.0 VALVE TAG NUMBERS

Valve specification sheet numbering shall comprise of five digits (51001 to 67999).

- 3.1 The first two digits indicate the type of valve:

Digits	Type of Valve
51	Gate
52	Globe
53	Check
54	Ball
55	Plug
56	Butterfly
57	Diaphragm
58	Needle
59	Miscellaneous
60	Angle
61	3-Way Plug
62	Y-Type Globe
63	Angle Stop
64	Piston
65	Y-Stop Check
66	3-Way Ball
67	Rising Stem Ball

- 3.2 Third digit indicates the pressure rating:

- a) Forged Valves:

Digit	Pressure Rating
0	800#
1	1500#
2	2500#

b) Cast Valves:

Digit	Pressure Rating
3	150#
4	300#
5	600#
6	900#
7	1500#
8	2500#
9	(REFER CLAUSE 4.0)

3.3 Last two digits indicate valve metallurgy/service:

Digits	Metallurgy
01 to 25	Carbon Steel
26 to 44	Alloy Steel
45 to 74	Stainless Steel
75 to 89	Miscellaneous trims, Plastic / Lined valves
90 to 99	Job Specific

Within a particular metallurgy group, digits are assigned based on service. Job engineers are authorized to use digits from 90 to 99 only. Digits from 1 to 89 are reserved for standard valve specification sheets, which can be assigned by standard group only.

4.0 Third digit “9” may be used for Job specific VMS sheets in addition to “Job specific” sheets referred under clause 3.3 (Digits 90 to 99). When third digit is “9”, pressure ratings are as indicated below:-

Third Digit	Fourth & Fifth Digit	Rating
9	01-19 (*)	800#
9	20-39 (*)	150#
9	40-59 (*)	300#
9	60-79 (*)	600#
9	80-99 (*)	900#/1500#/2500#

*Metallurgy (CS/AS/SS etc.) may be job specific.

5.0 For other details, refer Technical Notes for Valves (6-44-0052).