

**-FIRE PROTECTION SYSTEM STANDARISATION-**

**TECHNICAL DATASHEET FOR GM HYDRANT VALVE**

Date:	Sheet	Rev:	Document No.:
18.05.06	1 of 2	0 1	PG/ENG/FPS-STD/DS-08

**HYDRANT VALVE**

Make : Power grid approved make

Type : Oblique type single headed

Specification : As per IS 5290 Latest revision.

**Material**

Body : Gunmetal

Trim : Leaded tin bronze as per IS:318 Gr.2

Hand wheel : Cast Iron as per IS 210 FG200

Size : 63mm

Inlet : 75mm flanged. Drilling to ANSI B 16.5 #150 FF

Operation : With handwheel – Clockwise to close

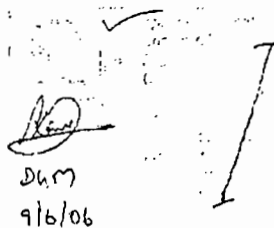
Quantity : As per approved drg.

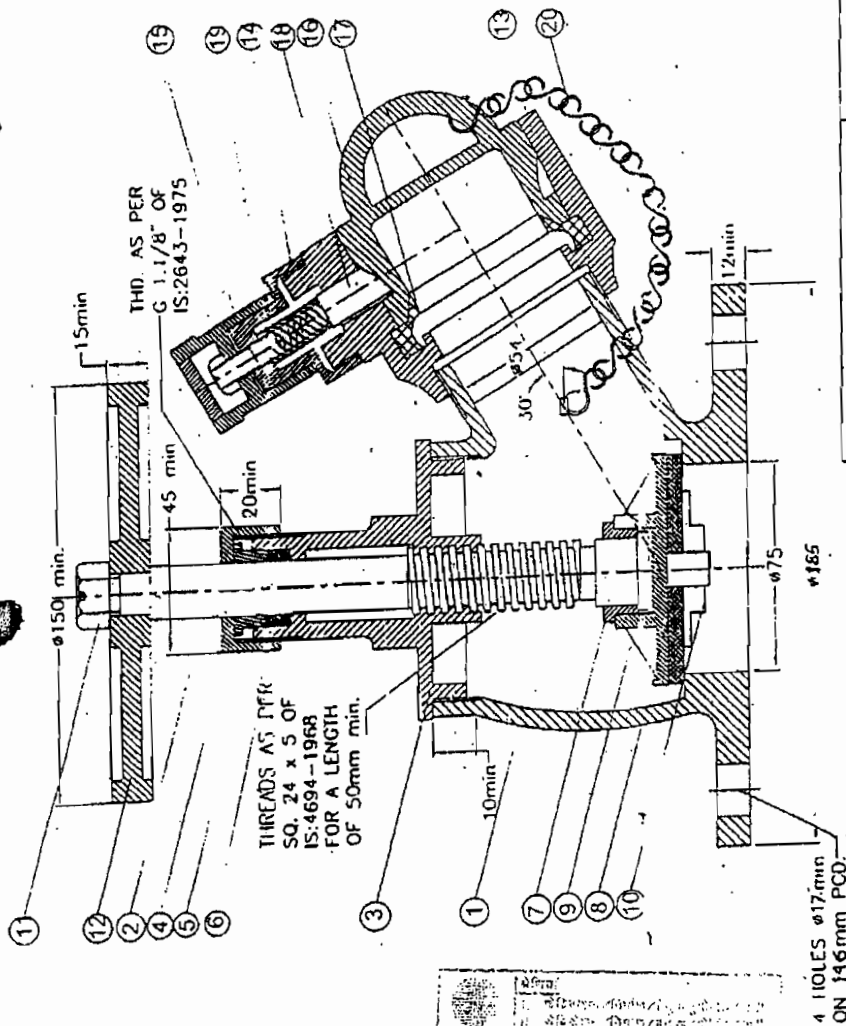
Test Pressure (Body) : 21kg/cm<sup>2</sup>

Approval : ISI marked

Cap and Chain : Leaded tin bronze as per IS:318 Gr.2

Spring : Phosphor Bronze as per IS: 7608

  
DHM  
9/6/06




NO.	DESCRIPTION	MATERIAL
20	CHAIN	GALVANIZED
19	SPRING	IS:7008
18	CAM TOOTH	GM IS:318,LTB 2
17	RUBBER RING	RUBBER IS:937
16	BLANK CAP	PVC
15	UPPER LUG	GM IS:318,LTB 2
14	LOWER LUG	GM IS:318,LTB 2
13	FEMALE OUTLET	GM IS:318,LTB 2
12	HAND WHEEL	CI:IS:210
11	HEX NUT	M.S
10	SEAT CHECK NUT	GM IS:318,LTB 2
9	STOP VALVE	GM IS:318,LTB 2
8	SEAT WASHER	RUBBER IS:937
7	CHECK NUT (SPINDLE)	GM IS:318,LTB 2
6	GLAND NUT	GM IS:318,LTB 2
5	PACKING	ASB:STOSE ROPE
4	GLAND BUSH	GM IS:318,LTB 2
3	BONNET	GM IS:318,LTB 2
2	SPINDLE	BRASS IS:319
1	BODY	GM IS:318,LTB 2

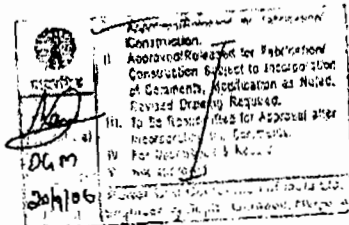
## PART LIST

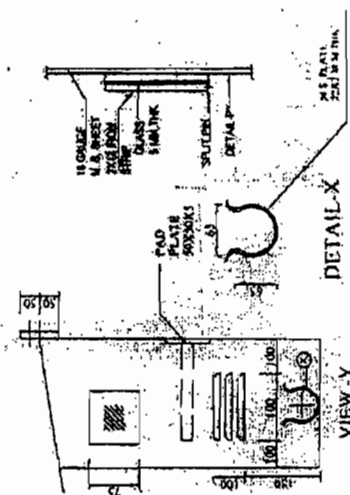
TOL. WHERE NOT SPECIFIED $\pm 0.5$ mm.	ALL DIM. ARE IN M.M.	DRAWN BY: M.R. GAJJAR	CHECKED BY: M.M. SHAH	SCALE
TITLE: 63mm OBLIQUE TYPE LANDING VAL		DRG. NO. SBJ/GM/25/HY/104-05		SPE. IN: 0
Shah Bhogilal Jethalal & Bros.		DATE: 01.04.2004		REV. 0
SINCE 1933 WE MANUFACTURE GATE VALVES, BUTTERFLY VALVES, ETC.		NOTE: DUE TO OUR POLICY OF CONTINUOUS IMPROVEMENT SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE		TYP

## HYDRAULIC TEST:

SEAT TIGHTNESS : 14KGF/CM<sup>2</sup>. (FOR 2.5 MINUTES)  
 BODY : 21KGF/CM<sup>2</sup>. (FOR 2.5 MINUTES)  
 FLOW TEST : 900 LPM MIN @ 7KGF/CM<sup>2</sup>.

 <b>POWER GRID CORPORATION OF INDIA LIMITED.</b>		
PG/ENG/FPS-STD/DS-09	FIRE PROTECTION SYSTEM STANDARDISATION	REV. : 0
<b>DATA SHEET FOR HOSE BOX.</b>		
1.0.0	Make	POWERGRID approved make
1.1.0	Number offered	As per approved drawing/ LOA
1.2.0	Material of construction.	Fabricated from 16SWG CRC sheet to IS:2062 with 3mm glass in front.
1.2.0	Painting	
1.2.1	Inside	Primer: 2 coats of red oxide primer. Finish: 2 coats of white synthetic enamel paint.
1.2.2	Outside	Primer: 2 coats of red oxide primer. Finish: 2 coats of Fire Red synthetic enamel paint.
1.3.0	Marking	"FIRE HOSE" in 150mm size letter on glass.
1.4.0	Items to be kept in the Box	2 nos. of 63mm x 15m/7.5m hoses with couplings attached, 1 no. nozzle fitted to a branch pipe, 1 Spanner, 2 spare Glasses for key box break glass.
3.1.0	Locking arrangement	Built in lock with 2 keys, 1 key to be kept in the key box.

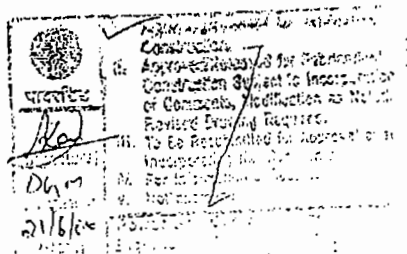




POWER GRID CORPORATION OF INDIA LIMITED.		
	FIRE PROTECTION SYSTEM STANDARDISATION	PG/ENG/FPS-
		STD/DS-10
		Sh. 1 of 2
		REV. : 0

#### DATA SHEET FOR BRANCH PIPE & NOZZLE, HOSE AND COUPLINGS

1.0	<b>BRANCH PIPES &amp; NOZZLES</b>	
1.1	Code / Standard	Code / Standard
1.2	Working pressure	3.5 to 7.0 Kg/cm <sup>2</sup> (g)
1.3	Hydrostatic Test Pressure	21 Kg/cm <sup>2</sup> (for 2.5 minutes)
1.4	Size	
1.4.1	Branch pipe	63 mm male instantaneous inlet.
1.4.2	Nozzle	20mm
1.5	Material	
1.5.1	Branch pipe & Nozzle	IS:318, LTB-2
1.5.2	Washer	Rubber to IS:937 Type-B
1.6	Finishing/Painting	Each branch pipe & nozzle shall be polished. Burrs and sharp edges shall be removed.
1.7	Marking	1. IS mark with serial No. 2. Manufacture's Name or Trademark 3. Year of manufacture 4. Size
1.8	TAC/ BIS Approval	Yes
2.0	<b>HOSE PIPE</b>	
2.1	Type	RRL woven jacket / Unlined flax canvas
2.2	Code / Standard	IS:4927/ IS:636, Type A
2.3	Nominal Size	63mm
2.4	Length	15m OR 7.5 m
2.5	Working pressure	14kg/cm <sup>2</sup>
2.6	Hydrostatic test pressure.	22kg/cm <sup>2</sup>
2.7	Burst pressure.	38kg/cm <sup>2</sup>
2.8	End connection	Pair of male & female coupling



# POWER GRID CORPORATION OF INDIA LIMITED.







## FIRE PROTECTION SYSTEM STANDARDISATION

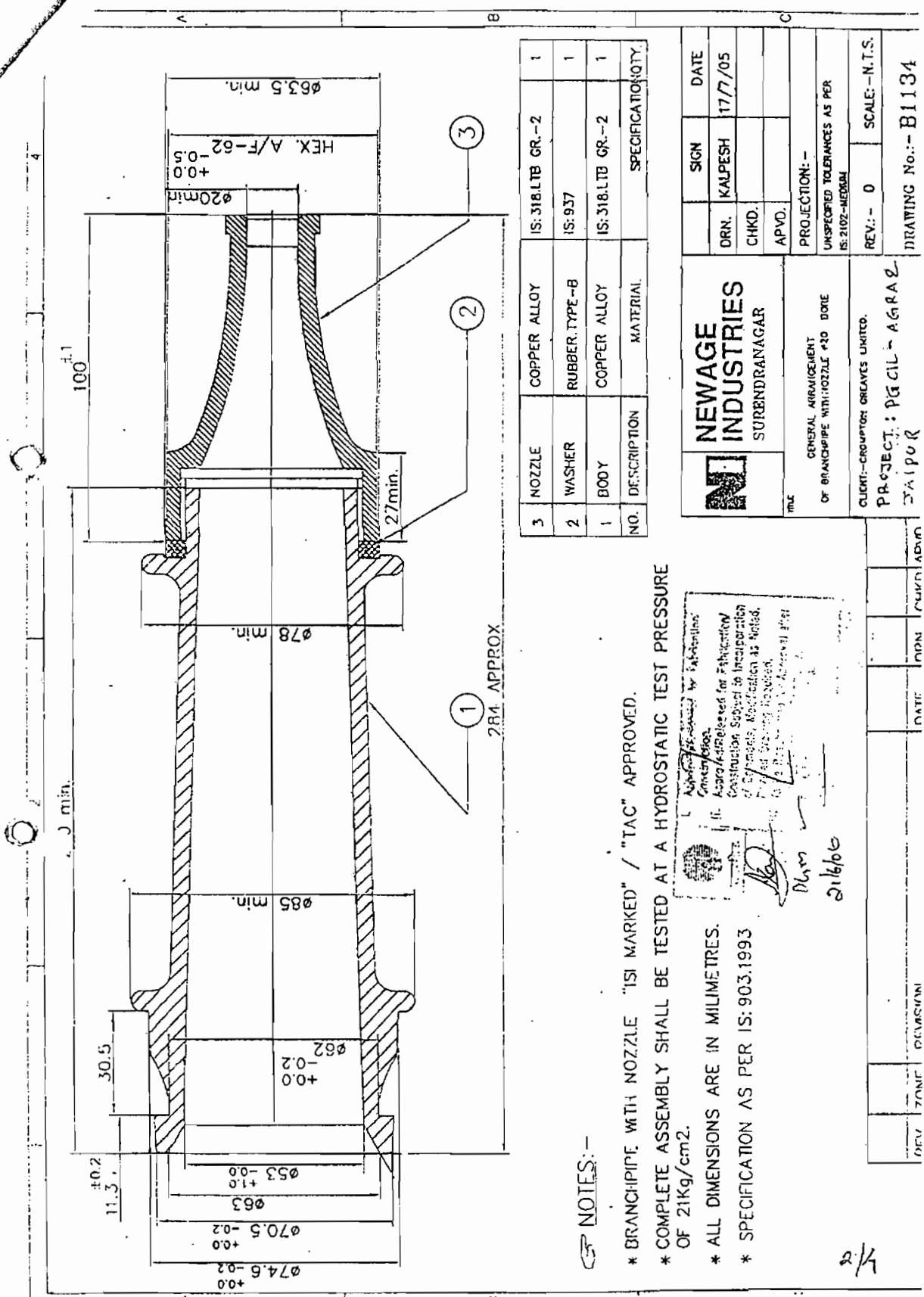
PG/ENG/FPS-  
STD/DS-10  
Sh. 2 of 2  
REV. : 0.

### DATA SHEET FOR BRANCH PIPE & NOZZLE, HOSE AND COUPLINGS

2.9	Marking	Each hose shall be clearly and permanently marked 1. Brand Name 2. Size and length 3. ISI mark, TAC & MMD approval 4. Manufacturers' name or trade mark 5. Month & Year of manufacturing.
2.10	ISI marked	Yes
2.11	TAC marked	Yes
3.0	<u>Hose Coupling.</u>	
3.1	Specification	IS: 903.
3.2	Material of construction	
3.2.1	Spring	Phosphor bronze to IS:7608
3.2.2	Washer	Rubber to IS:937, Type-A
3.3	Size	63mm x 63mm
3.4	Hydrostatic test pressure	21kg/cm <sup>2</sup> for 2.5 minutes.
3.5	Finishing	Couplings shall be polished burrs and sharp edges shall be removed.
3.6	Marking.	Each coupling shall be clearly and permanently marked 1. Size 2. ISI marking with sl.no. 3. Manufacturers' name or trade mark 4. Month & Year of manufacturing.
3.7	BIS & TAC approval	Yes
3.8	Couplings binded to the hose pipe with copper wire.	

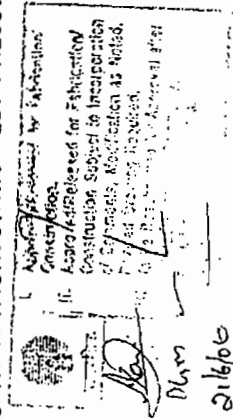
  
 Dharmendra  
 21/6/00

Approved by:   
 Construction Section  
 Approved by:   
 Construction Section  
 Approved by:   
 Construction Section



# NOTES:-

- \* BRANCHPIPE WITH NOZZLE "ISI MARKED" / "TAC" APPROVED.
- \* COMPLETE ASSEMBLY SHALL BE TESTED AT A HYDROSTATIC TEST PRESSURE OF 21Kg/cm<sup>2</sup>.
- \* ALL DIMENSIONS ARE IN MILLIMETRES.
- \* SPECIFICATION AS PER IS: 903.1993



NO.	DESCRIPTION	MATERIAL	SPECIFICATION	QTY.
3	NOZZLE	COPPER ALLOY	IS: 318.LTB GR.-2	1
2	WASHER	RUBBER TYPE-B	IS: 937	1
1	BODY	COPPER ALLOY	IS: 318.LTB GR.-2	1

<b>NEWAGE INDUSTRIES</b> SURENDRANAGAR		DRN. KALPESH	DATE 17/7/05
GENERAL ARRANGEMENT OF BRANCHPIPE WITH NOZZLE 420 DORE		CHKD.	
PROJECT: PG CIL - AGRA 2 CHAIPOUR		APVD.	
CLIENT: ORIENTAL GREAVES LIMITED.		PROJECTION: -	
UNSPECIFIED TOLERANCES AS PER IS: 2102-MEDIUM		SCALE: - N.T.S.	
REV: - 0		DRAWING No.: - B1134	



1

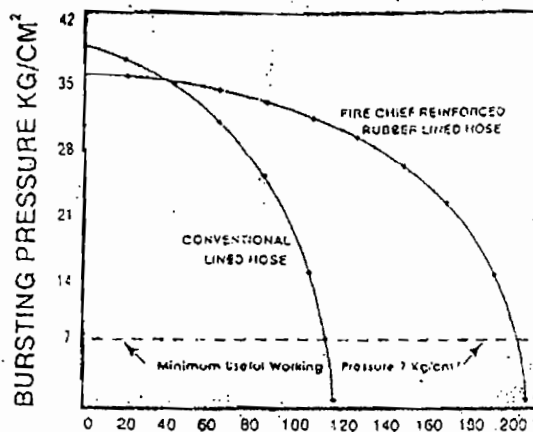
- \* ALL DIMENSIONS ARE IN MILLIMETERS.

REV.	ZONE	REVISION
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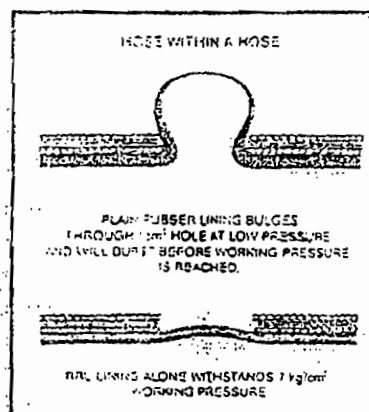
# FIRE CHIEF

On completion of 110 cycles of the abrasion testing machine, the jacket of hose with plain rubber lining is worn out and fails at 7 kg/cm<sup>2</sup>.  
RRL holds on and carries this pressure for a further 90 cycles.



AMOUNT OF WEAR  
(STROKES OF ABRASION MACHINE)

Rubber lined hose worn out at a little over 100 strokes of the abrasion machine, fails at 7 kg/cm<sup>2</sup> whereas RRL hose carries this pressure for a further 90 strokes of the abrasion machine.



At the one square centimeter cut opening in the jacket, the rubber lined fabric lining is supported by the jacket, and is able to withstand 7 kg/cm<sup>2</sup> working pressure.

SPECIFICATION				
Diameter : mm.	38	50	63	70
Burst Pressure : kg/cm <sup>2</sup>	40	40	40	40
Proof Pressure : kg/cm <sup>2</sup>	22	22	22	22
Kink Pressure : kg/cm <sup>2</sup>	22	22	22	22
Working Pressure : kg/cm <sup>2</sup>	14	14	14	14
30m Length Coil dia : cm	45	45	45	45
Mass per meter : gm.	275	350	425	530
Abrasion-Resistance : Cycles	200	200	200	200
Heat Resistance : Seconds	8	8	8	8


Length : 36 mtr. (Max.)

APPROVED  
BY  
DIRECTORATE  
GENERAL  
OF  
SHIPPING

10/11  
2/16/11

4/4

→ MASS. Ahmedabad  
Signe

POWER GRID CORPORATION OF INDIA LIMITED.		
	FIRE PROTECTION SYSTEM STANDARDISATION	PG/ENG/FPS- STD/DS-12A
		REV. : 1
DATA SHEET FOR GATE VALVE-RISING SPINDLE		
1.0	Make	Kalpana Valves.
2.0	Type	Rising spindle
3.0	Size & Number	As per approved drawings.
4.0	Material of construction	
4.1	Body	Cast iron to IS 210 FG200
4.2	Hand wheel	Cast iron to IS 210 FG200
4.3	Stem	SS-410
4.4	Trim	Bronze to IS 318 Gr.LTB 2
5.0	End connection	Flanged
6.0	Standard	BS 5150
7.0	Rating	PN 1.6
8.0	Hydrostatic test pressure	
8.1	Body	24 kg/cm <sup>2</sup>
8.2	Seat	16 kg/cm <sup>2</sup>
9.0	Accessories	Position indicator, Draining arrangement of valve seat and Locking facility.

Approved/Revised for Fabrication  
Construction Subject to incorporation  
of Comments, Modification as noted.  
If any Drawing Required.  
To Be Resubmitted for Approval after  
Incorporation of Comments.  
For use, refer to the drawing.  
Date: 21/7/06

S. NO.	NAMES	PARTS	MATERIALS & SPECN.
1	BODY		CAST IRON IS:210 FC-200
2	BODY GASKET RING		UPONCEL TO IS:310 LTB-II
3	WEDGE		CAST IRON IS:210 FC-200
4	WEDGE FACING RING		BRONZE TO IS:310 LTB-II
5	GASKET		RUNNER IS:40B
6	COVER		CAST IRON IS:210 FC-200
7	PACKING		JUTE & HEMP
8	GLAND		CAST IRON IS:210 FC-200
9	STEM		S.S. AISI-410
10	HAND WHEEL		CAST IRON IS:210 FC-200
11	BOILER & NUTS		CARBON STEEL IS:1003 CL.-A/4
12	DRAIN PLUG		MILD STEEL
13	INDICATOR SCALE		M.S.
14	INDICATOR RING		C.M.
15	LOCKING ALBERT		STEEL
16	BLACK SEAT BUSH		C.M.

#### NOTES

- DESIGN CODE : DSS150 PH-10.
- FLANGE DRILLING DIMENSIONS AS PER IS: 1538 (PART- IV & V)
- STANDARD TOLERANCE ARE APPLICABLE.
- HYDRAULIC TEST PRESSURE :

RATING	BODY	SEAT
PN : 10	24 Kg/cm <sup>2</sup>	16 Kg/cm <sup>2</sup>

Cast Iron  
Approved for Fabrication  
Confirmation Subject to Inspection  
at the time of Manufacture as per the  
modified design & spec.

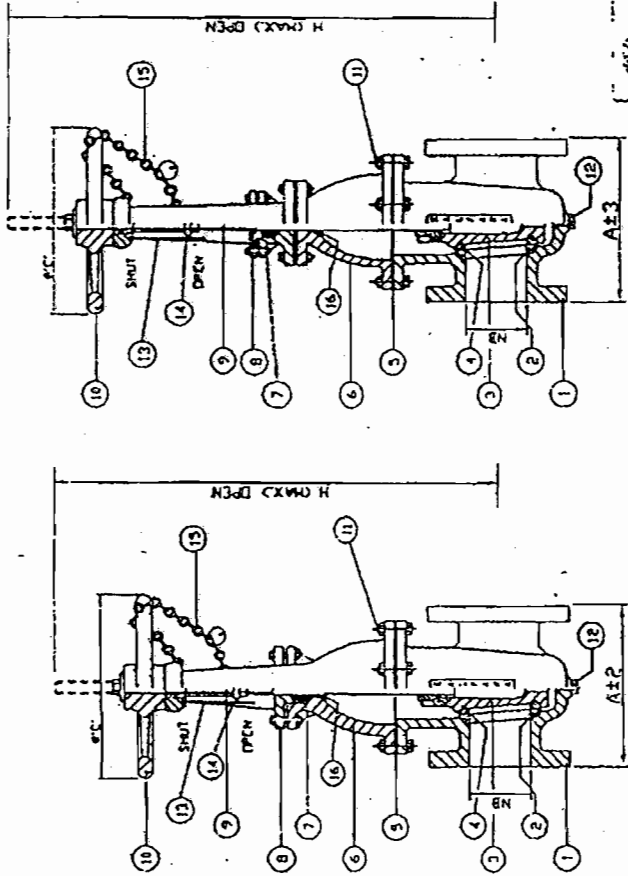
FOR INFORMATION : CROMPTON GREAVES LIMITED.

FOR APPROVAL : RAIGARH.

KALPANA VALVES MFG. CO. (P) LTD.  
ICHAPUR H.T. ROAD, SASTHIBAGAN,  
MUMBAI - 400044.

TITLE: CAST IRON SLUICE VALVE  
( RISING SPINDLE )

DATE: 07-07-2006	SCALE: N.T.S.	DRG. NO.:
DESIGN: S. BISWAS.	CHKD:	KVMC/CG/GV/06/102
DRWING: L.PANJA	APPD:	REV - 00
		DATE:




SIZE UP TO 150MM

ABOVE SIZE-150MM

N.B	A	H- MAX	ØC±5	O.D.	FLANGE THICK.	P.C.D.	NO. OF HOLES.	DIA. OF HOLES.	STEM DIA.	QTY.
300	355	1675	400	445	27.5	400	12	23	36	07
250	330	1440	400	395	26	350	12	23	36	03
150	267	950	320	285	23	240	8	23	27	13
100	229	720	320	220	22	180	8	19	27	06
60	203	610	225	200	21	160	4	19	22	03

PG/ENG/FPS-STD/DS-15		FIRE PROTECTION SYSTEM STANDARDISATION			REV. : 0	
DATA SHEET FOR PIPING						
1.0.0		PIPING				
1.1.0		Make			POWERGRID Approved make	
1.2.0		Complete piping, fittings, counter-flanges and all other accessories furnished			Yes	
1.3.0-A		OVER GROUND PIPES NORMALLY FULL OF WATER (M.S.)				
	Sr. No.	Size NB	OD Max. x Thickness. (mm)	Specification	Estimated Length (M)	
	1	50	60.8 x 3.6	IS:1239 Part-1 (Med.)	As per approved drawing	
	2	80	89.5 x 4.0	- do -		
	3	100	115.0 x 4.5	- do -		
	4	150	166.5 x 4.8	- do -		
	5	200	219.1 x 5.0	IS:3589 ERW Gr.410		
	6	250	273.0 x 5.0	- do -		
	7	300	323.9 x 5.0	- do -		
1.3.0-B		BURIED PIPES (M.S.)				
	Sr. No.	Size NB	OD Max. x Thickness. (mm)	Specification	Estimated Length (M)	
	1	50	60.8 x 3.6	IS:1239 Part-1 (Med.)	As per approved drawing	
	2	80	89.5 x 4.0	- do -		
	3	100	115.0 x 4.5	- do -		
	4	150	166.5 x 4.8	- do -		
	5	200	219.1 x 5.0	IS:3589 Gr.410		
	6	250	273.0 x 5.0	- do -		
	7	300	323.9 x 5.0	- do -		
1.3.0-C		OVER GROUND PIPES NORMALLY EMPTY, BUT PERIODIC CHARGE OF WATER & DETECTION LINE OF HWW SYSTEM (M.S. GALVANISED)				
	Sr. No.	Size NB	OD Max. x Thickness. (mm)	Specification	Estimated Length (M)	
	1	25	34.2 x 3.2	IS:1239 Part 1 (Med.)	As per approved drawing	
	2	32	42.9 x 3.2	- do -		
	3	40	48.8 x 3.2	- do -		
	4	50	60.8 x 3.6	- do -		
	5	65	76.6 x 3.6	- do -		
	6	80	89.5 x 4.0	- do -		
	7	100	115.0 x 4.5	- do -		
	8	150	166.5 x 4.8	- do -		

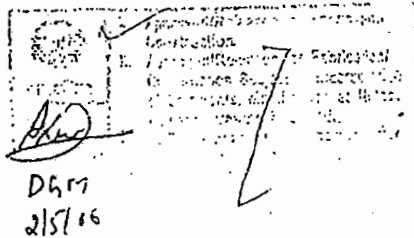
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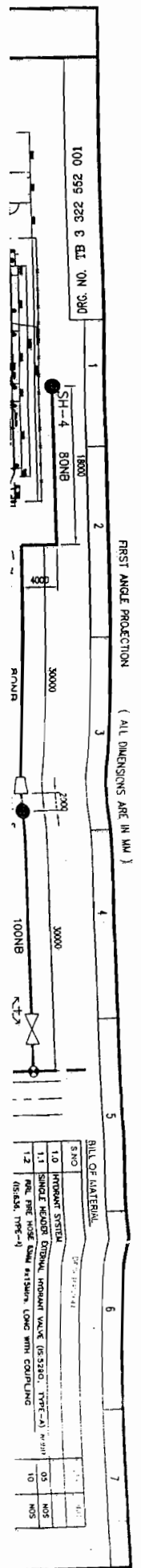
  
 D. M.  
 26/06

FIRST ANGLE PROJECTION  
 (ALL DIMENSIONS ARE IN MM)  
 BILL OF MATERIAL  
 1  
 2  
 3  
 4  
 5  
 6  
 7

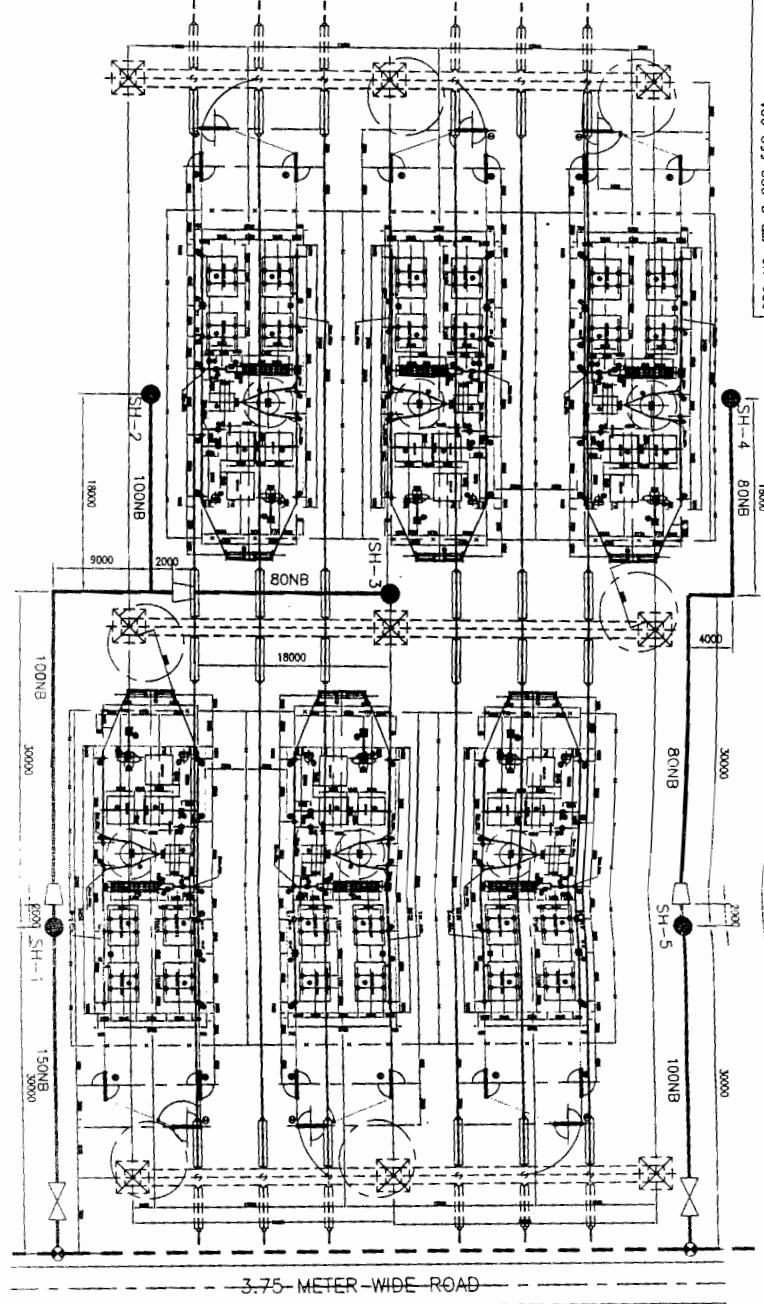
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1.3.0- D		PYLON PIPING (M.S.)				
Sr. No.	Size NB	OD Thickness. (mm)	Max. x Specification	Estimated Length (M)		
1	65	76.0 x 3.2	IS:1239 Part - 1 (Light) - do -	As per approved drawing		
2	80	88.7 x 3.2				
1.4.0	Type of protective coating / painting applied on the out- side of pipe		One coat of Red Lead Primer + 2 Coats of Synthetic Enamel for A/G Pipes & PYPKOTE Or Equivalent tape type protection, of min.4 mm thock, As per IS:10221 for underground Pipes.			
1.5.0	All Bolts, Nuts, Gaskets, Bends, Unions, Packings, Supports, Anchoring materials etc as required for complete erection & commissioning of the above pipes and fittings furnished?		Yes			
1.6.0	Certification		ISI marked.			

  
 DGM  
 2/5/16

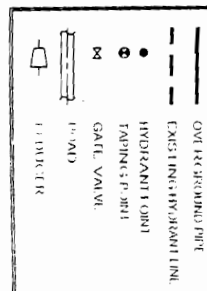


DRG. NO. TB 3 322 552 001



S/N	ITEM	QTY	UNIT	PRICE	TOTAL
1.0	HOISTING SYSTEM				
1.1	SHOUL HOOPER CRIBBLE HOISTING VALVE (S5 3210, TYPE-A)	05	NOS		
1.2	REL. PRE. HOSE END M15150 LONG WITH COUPLING (S5 655, TYPE-1)	10	NOS		
1.3	BRANCH PIPE 1/4" NOZZLE (LET TRY)	05	NOS		
1.4	M5 FABRICATED GASS PUMPED HOSE CONNECT	05	NOS		
1.5	ASBCE GROUND 4.5 FEET (S5 PER S5 1210 PART 1, M10 GRK S5 3509 9 Terminals)				
1.5A	150 NB	35	M/RS		
1.5B	100 NB	95	M/RS		
1.5C	80 NB	80	M/RS		
1.6	C QUOTE VALVE (S5 16445, PM 1.6)				
1.6A	150 NB	2	NOS		
1.7	ROC PISTONAL	50	NOS		

LEGEND:-



1. THIS SYSTEM IS DESIGNED BASED ON LIGHT HOLOMAG OCCUPANCIES' CLASSIFICATION AS DESCRIBED IN NATIONAL FIRE PROTECTION ASSOCIATION (NFPA, USA) GUIDELINES.

3. DISTANCE BETWEEN FITTINGS SHALL BE 12 INCHES.
4. MAJOR MODIFICATION SHALL BE DONE DURING ERECTION TO SUIT SITE CONDITION.
5. ALL FITTINGS FOR 1500N SHALL BE AS PER IS - 1259 PART B.
6. PIPES SHALL BE 100% UNDERNITROGEN PROTECTED AND THAT UNDERNITROGENED PIPES SHALL BE PAINTED WITH TWO COATS OF RED OXIDE-EPoxy PAINT BY TWO COATS OF 1250G/MT. 90%.
7. SPACING SHALL BE TAPPED OFF FROM EXISTING JOINTS IN THE TAP.
8. WELDED BENTON PENETRANT SHALL BE 5MM FOR 1500N PART A.
9. 35MM FROM BENT PIPE

REFERENCE DRAWING NO.	DESCRIPTION
NOA No. C-33020-SIG2-1/NOA-1/304 & C-33020-SIG2-1/NOA-11 DATED 24.03.2009	
NAME OF	POWERGRID CORPORATION OF INDIA LIMITED
40% FIXED SERIES COMPENSATION PROJECT FOR 400KV MATHA-RAIPUR	
TR 1 322 316 031	PLAN AND SECTIONAL ELEVATION FOR 400KV WARDHA-RAMPUR D/C LINE

CUSTOMER: D/C LINE AT 400KV HARDY S/S  
(PROJECT FOR WESTERN REGION SYSTEM STRENGTHENING SCHEME)

BHARAT HEAVY ELECTRICALS LTD  
 TRANSMISSION PROJECTS DIVISION  
 FIRE WATER PIPING LAYOUT

[illegible][illegible]