



An ISO 9001
Company

Bharat Heavy Electricals Limited

(High Pressure Boiler Plant)

Tiruchirappalli – 620014, TAMIL NADU, INDIA

MATERIALS MANAGEMENT / CAPITAL EQUIPMENT

ENQUIRY

Phone: +91 431 257 79 38
Fax : +91 431 252 07 19
Email : tvenkat@bheltry.co.in
Web : www.bhel.com

	Enquiry Number:	Enquiry Date:	Due date for submission of quotation:
	2620800083	22.08.2008	24.09.2008

You are requested to quote the Enquiry number date and due date in all your correspondences. This is only a request for quotation and not an order

Item	Description	Quantity	Delivery (Item required at BHEL on)
10	Portable Grinding and Lapping Machine – SV SRV as per the technical specification & commercial conditions applicable (to be downloaded from web site www.bhel.com or http://tenders.gov.in)	02 Nos.	30.06.2009

BHEL commercial terms & conditions with Price Bid and Bank Guarantee formats can be downloaded from BHEL web site <http://www.bhel.com> or from the Government tender website <http://tenders.gov.in> (public sector units > Bharat Heavy Electricals Limited page) under Enquiry reference “2620800083”.

Tenders should reach us before 14:00 hours on the due date
Tenders will be opened at 14:30 hours on the due date
Tenders would be opened in presence of the tenderers who have submitted their offers and who may like to be present

Yours faithfully,
For BHARAT HEAVY ELECTRICALS LIMITED

Manager / MM / Capital Equipment

PART A
PORTABLE GRINDING & LAPPING MACHINE – SV & SRV

SECTION – I : QUALIFYING CRITERIA

The BIDDER has to compulsorily meet the following requirements to get qualified for considering the technical offer for the PORTABLE GRINDING & LAPPING MACHINE

S. No.	REQUIREMENTS	VENDOR's RESPONSE
1	<p>Only those vendors (OEMs), who have supplied and commissioned at least ONE special purpose grinding Or lapping machine in the past ten years (from the date of opening of Tender) and such machine is presently working satisfactorily for more than one year after commissioning (from the date of opening of Tender) should quote.</p> <p>However, if such machine had already been supplied to BHEL, then that machine should be presently working satisfactorily for more than six months after its commissioning and acceptance (from the date of opening of Tender).</p>	
The vendor should submit following information where similar machine has been supplied for qualification of their offer.		
1.1	Name and postal address of the customer or company where similar machine is installed.	
1.2	Name and designation of the contact person of the customer.	
1.3	Phone, FAX no and email address of the contact person of the customer.	
1.4	Month and Year of commissioning of the machine.	
1.5	Application for which the machine is supplied	
1.6	Performance certificate from the customer regarding satisfactory performance of machine supplied to them.	
2.0	BHEL reserves the right to verify the information provided by vendor. In case the information provided by vendor is found to be false/ incorrect, the offer shall be rejected.	

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SECTION – II

The BIDDER / VENDOR is requested to provide the following information:

S. No.	REQUIREMENTS	VENDOR's RESPONSE
3.0	The BIDDER/VENDOR to furnish Reference List of Customers, with full address, details of contact person, portable grinding / lapping machines have been supplied in the past.	
4.0	Details of portable grinding / lapping machines supplied to other BHEL units, if any. (Year of commissioning, application of machine, size of grinding / lapping disc)	
5.0	Details on SERVICE-AFTER-SALES Set-Up in India including the Address of Agents / Service Centers in South India.	
6.0	Any Additional Data to supplement the manufacturing capability of the BIDDER for the subject equipment.	

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SECTION – III

The BIDDER to note:

S. No.	PARTICULARS	VENDOR'S RESPONSE
7.0	The BIDDER / VENDOR shall submit the offer in TWO PARTS. 1. Technical Offer [with PART A & PART B], Commercial Offer & 2. Price Bid.	
8.0	The Technical Offer shall contain a comparative statement of Technical Specifications demanded by BHEL and Offer Details submitted by the Bidder , against each clause. A just 'CONFIRMED' or 'COMPLIED' or 'YES' or 'NO-DEVIATION' or similar words in the technical comparative statement may lead to disqualification of the Technical Offer.	
9.0	The Technical Offer shall be supported by product Catalogues & Data Sheets and also technical details of Bought-Out-Items with copies of Product Catalogue to the extent possible.	
10.0	The Commercial Offer (given with the Technical Offer) shall contain the Scope of Supply and the Un-Priced Part of the Price-Bid, for confirmation.	
11.0	For obtaining the performance certificate from the customer, a suggestive format is provided in SECTION – IV	

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SECTION – IV

The performance certificate should be produced **on Customer's Letter Head.**

PERFORMANCE CERTIFICATE

1. Supplier of the machine	
2. Make & Model of the M/C	
3. Month & Year of Commissioning	
4. Application for which M/C is used	
5. Performance of the Machine (Strike off whichever is not applicable)	Best in the market / Satisfactory / Good / Average / Not Satisfactory
6. Any Other remarks	
<div>Date: Signature & Seal of the Authority Issuing the Performance Certificate</div>	

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PART- B**TECHNICAL SPECIFICATION FOR PORTABLE LAPPING AND GRINDING MACHINE – SV & SRV****Qty : 2 Nos. for Bldg. 5**

Clause	PARTICULARS AND BHEL SPECIFICATION		Vendor's Offer
1.0	PURPOSE: 1. The machine is intended for Grinding and Lapping the Discs of Safety and Safety relief Valves. Grinding and Lapping the seat portion of body assemblies of Safety and Safety relief Valves. 2. Grinding / Lapping surface dia range 10 to 200 mm. Please refer Annexure – I for component details. 3. After lapping, the surface finish shall be 0.2 micron (Ra).		
2.0	CONFIGURATION OF MACHINE: The machine shall be portable grinding & lapping machine with eccentric movement especially for the grinding of sealing surfaces in safety valves and safety relief valves. The machine shall have accessories for lapping. It shall have provision for holding and clamping the discs as well as valve bodies on a suitable base with quick clamping arrangement. Vendor shall briefly explain the configuration of the machine and its accessories.		
2.1	SPECIFICATION:		
2.1.1	Lapping surface range (max / min) - Dia 10 to 200 mm	Vendor to specify	
2.1.2	Maximum submerging depth - 350 mm.	Vendor to specify	
2.1.3	Clamping range of 3 Jaw chuck for the range of holding diameters of components indicated in annexure 1	Vendor to specify	
2.1.4	Grinding spindle speed -with Electric drive	Vendor to specify	
2.1.8	Spindle drive motor power - AC Continuous Rating - Min. 750 W	Vendor to specify	
2.1.9	Operating voltage of electric motors: - 230 V, 50 Hz	Vendor to confirm	

Clause	PARTICULARS AND BHEL SPECIFICATION		Vendor's Offer
3.0	ACCESSORIES - GRINDING		
3.1	GRINDING DISCS Suitable Grinding discs to cover the range of diameters as per annexure-I (SI No 1 to 29)	Vendor to specify	
3.2	Grinding consumables for one year operation	Vendor to specify and confirm.	
4.0	ACCESSORIES - LAPPING		
4.1	Range of lapping discs – Each 2 pieces (to cover the entire range of sizes as per annexure – I	Vendor to specify	
4.2	Lapping paste for 1 year operation	Vendor to confirm	
5.0	OPERATION AND CONTROL SYSTEM:		
5.1	CONTROL PANEL:		
5.1.1	The operation of the machine shall be by a operating panel with push buttons, which allows a adjustable and independent regulation of Speed of grinding / lapping spindle.	Vendor to specify	
6.0	ELECTRICAL SYSTEM:		
6.1	AC 230 V, 50 Hz Single phase power Supply will be provided by BHEL .All other electrical connections from this point shall be the responsibility of vendor.	Vendor to confirm	
6.2	Tropicalisation: All electrical / electronic equipment shall be tropicalized	Vendor to confirm	
6.3	Motors shall conform to IEC or Indian Standards.	Vendor to confirm	
7.0	SAFETY ARRANGEMENTS: The machine shall have safety features with regard to operation and maintenance so that it does not cause injury to the operator and damage to the the job	Vendor to confirm	
8.0	ENVIRONMENTAL PERFORMANCE OF THE MACHINE:		
8.1	Maximum noise level shall not exceed 85 dB (A), 1 M away from the machine.	Vendor to confirm	

Clause	PARTICULARS AND BHEL SPECIFICATION	Vendor's Offer
9.0	SPARES:	
9.1	The vendor to recommend the list of mechanical, electrical and electronic spares required for the machine with unit price of each item required for 2 years of trouble free operation of the machine	Vendor to confirm
10.0	DOCUMENTATION: Following documents (Hard copies) in English language should be supplied along with the machine	Vendor to confirm
10.1	Three sets of Operating manuals of Machine.	
10.2	Three sets of Detailed Maintenance manual of machine with all drawings of machine assemblies/sub-assemblies/parts.	
10.3	Bearings: Make, Specification and Bearing number for all bearings used in the machine.	
10.4	Specification of the abrasive recommended for grinding	
10.5	Specification of the lapping compound recommended for lapping	
11.0	AMBIENT CONDITIONS:	
11.1	The machine and all accessories shall work trouble free and efficiently under following operating conditions. AC Single phase Power Supply: 230 V, 50 Hz. Ambient Temperature = 45 °C max. , Relative Humidity = 85% max.	Vendor to confirm
12.0	Machine Acceptance	
12.1	Machine acceptance at vendor's works prior to despatch	
12.1.1	The machine shall be offered for inspection at vendor's works prior to dispatch	Vendor to confirm
12.2	Machine acceptance at BHEL	
12.2.1	Vendor to demonstrate the features of the machine and its accessories	Vendor to confirm
12.2.2	Prove-out of BHEL components	Vendor to confirm
13.0	COMMISSIONING OF MACHINE AT BHEL	
13.1	The vendor shall commission the machine at BHEL	Vendor to confirm

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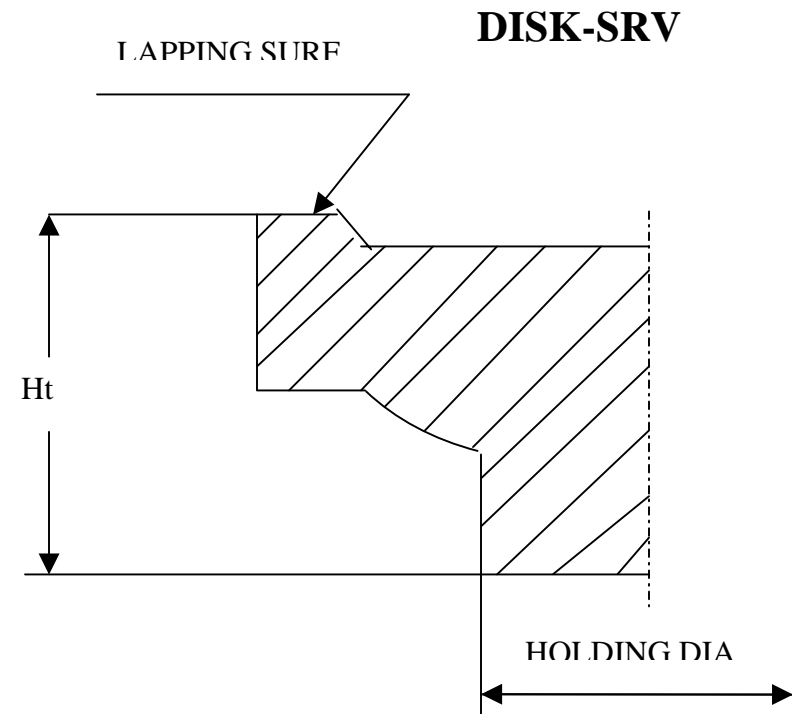
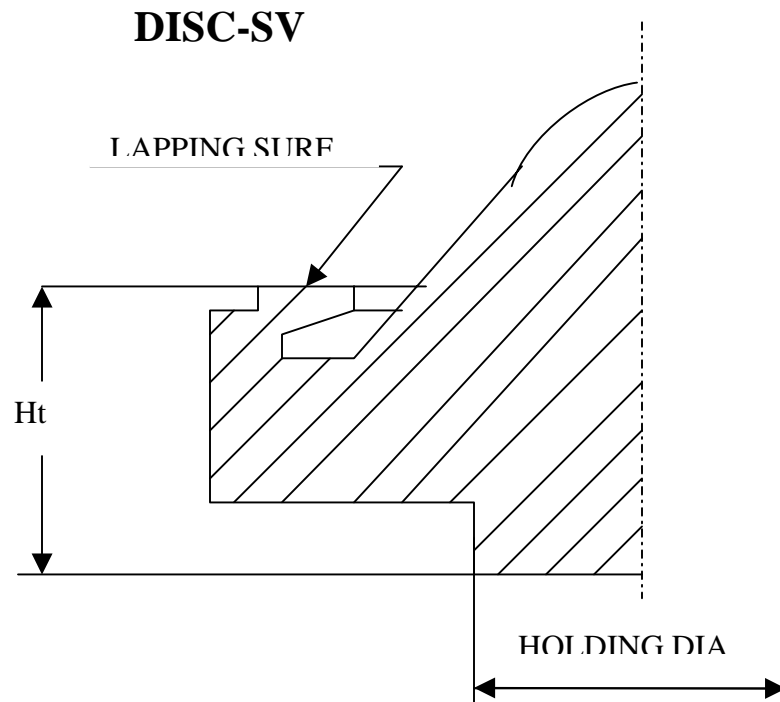
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Clause	PARTICULARS AND BHEL SPECIFICATION		Vendor's Offer
13.2	Commissioning shall include trials and prove-out of BHEL components	Vendor to confirm	
13.3	All tools and tackles needed for commissioning shall be arranged by the vendor	Vendor to confirm	
13.4	The vendor shall also arrange any commissioning spares required for commissioning and prove out of the machine.	Vendor to confirm	
14.0	PROVEOUT OF BHEL COMPONENTS:		
14.1	List of prove out components is in Annexure-2. At the time of trials the actual components offered may vary, but the overall configuration of the job will not change.	Vendor to confirm	
14.2	Vendor shall supply grinding, lapping tools, consumables for the prove-out components.	Vendor to confirm	
14.3	Lapping and achieving the specified surface finish of Ra 0.2 micron shall be the responsibility of the vendor	Vendor to confirm	
15.0	TRAINING AT BHEL		
15.1	The vendor shall train BHEL personnel for the operation and maintenance of the machine for a period of 5 working days, after commissioning	Vendor to confirm	
15.2	Demonstration of all features of the machine & accessories.	Vendor to confirm	
16.0	PACKAGING:		
16.1	Sea worthy & rigid packing for all items of complete machine, all Accessories and other supplied items to avoid any damage/loss in transit. When machine is despatched in containers, all small loose items shall be suitably packed in boxes	Vendor to confirm	
17.0	GUARANTEE:		
17.1	The machine with all its systems and sub-systems shall be guaranteed for a period of 12 months from the date of acceptance of the machine at BHEL works..		

Annexure- I

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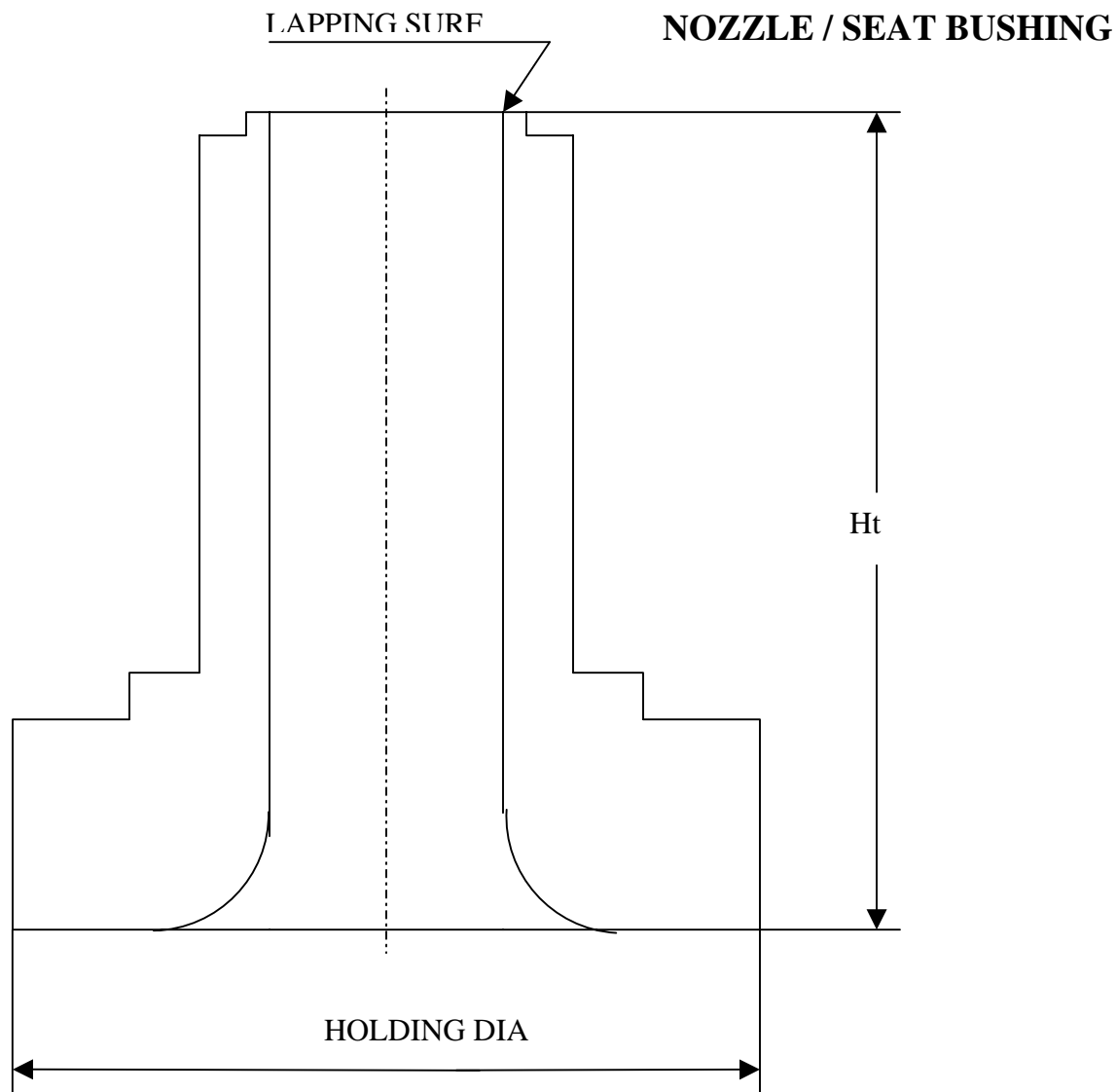
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Annexure- I

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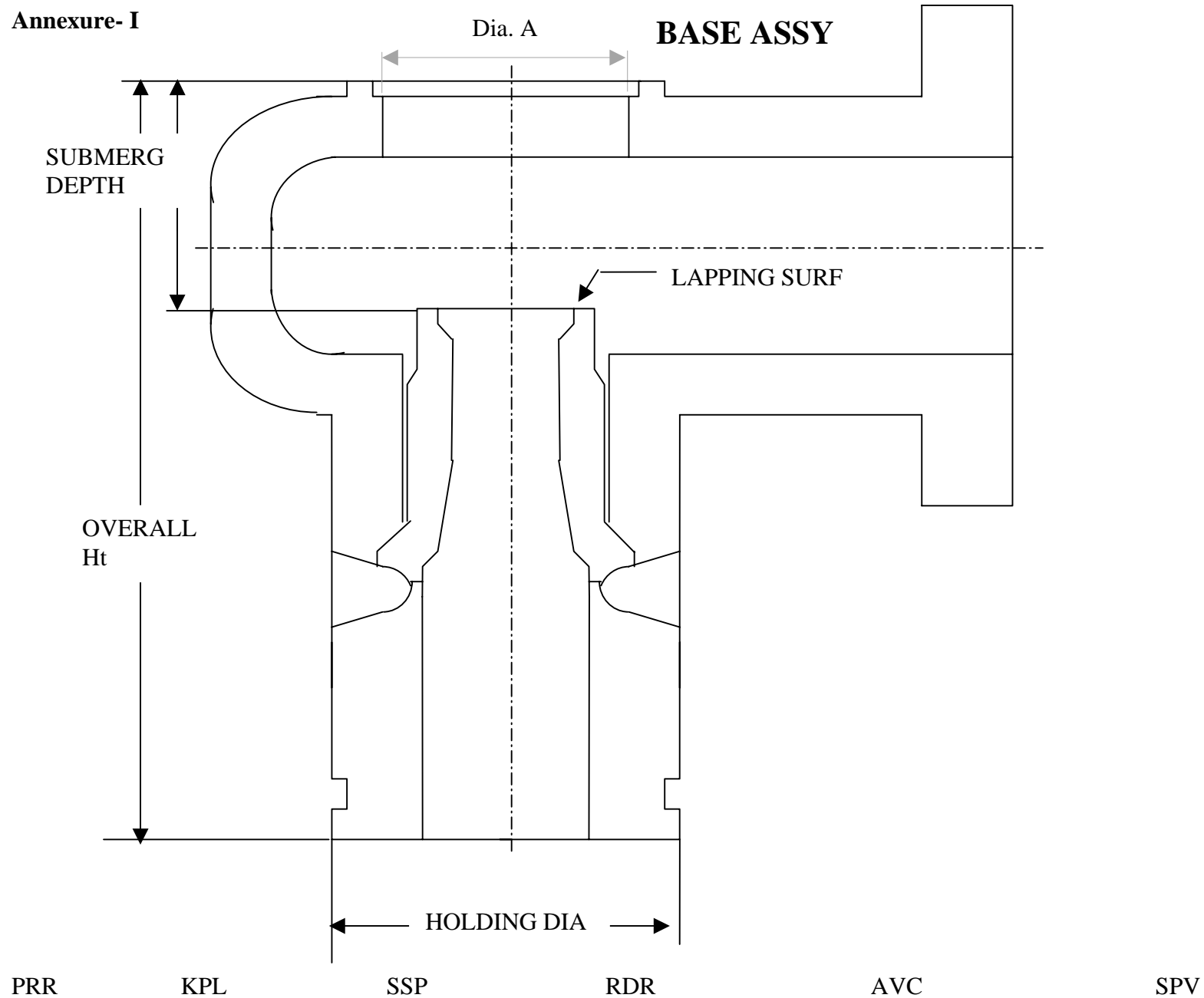
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Annexure- I

Annexure- I

SL No	DESCRIPTION	DRG NO	HOLDING DIAMETER	LAPPING SURF - OD	LAPPING SURF - ID	Ht
1	DISC-SV	3V7000 10006	47.065	59.31	54.48	29.72
2	DISC-SV	3V7001 10027	47.47	74.165	68.225	29.01
3	DISC-SV	3V7005 10039	47.47	67.995	62.61	30.28
4	DISK-SRV	3V0000 13056	9.4	24.59	19.1	13.21
5	DISK-SRV	3V0000 13069	9.4	40.157	35.7	19.41
6	DISK-SRV	3V0000 13070	9.4	47.24	42.1	21.72
7	DISK-SRV	3V9008 13099	13.97	57.88	52.4	25.65
8	DISK-SRV	3V0000 13113	13.97	64.69	59.1	25.65
9	DISK-SRV	3V9011 13123	15.49	85.57	79	31.52
10	DISK-SRV	3V9012 13127	21.72	111.23	104	36.45
11	DISK-SRV	3V9852 14092	12.88	12	10.41	12.7
12	DISK-SRV	3V0000 13728	12.88	12	11	12.7

SL No	DESCRIPTION	DRG NO	HOLDING DIAMETER	LAPPING SURF - OD	LAPPING SURF - ID	Ht
13	NOZZLE-SRV	3V9001 13058	50.8	24.25	21.08	108
14	NOZZLE-SRV	3V9001 13075	92.1	39.27	36.42	133.4
15	NOZZLE-SRV	3V9456 11082	263.9	160.86	153.34	222.2
16	NOZZLE-SRV	3V9801 14331	55	12.85	9.96	79.4
17	NOZZLE-SRV	3V9852 13793	47.7	12.85	9.96	82.6
18	NOZZLE-SRV	3V9852 13734	47.7	12.85	9.96	82.6
19	SEAT BUSNG-SV	3V7000 10002	98.57	59.565	53.895	156.4
20	SEAT BUSNG-SV	3V7001 10021	106.5	74.42	67.36	156.4
21	SEAT BUSNG-SV	3V7005 10036	106.5	68.245	61.725	156.4

Annexure- I

	DESCRIPTION	DRG NO	HOLDING DIAMETER	Dia. A	LAPPING SURF - OD	LAPPING SURF - ID	SUBMERG DEPTH	OVERALL Ht
22	BASE ASY-SV	1V7000 10005	152.4	130.2	59.565	53.895	138.1	Max 585 mm Min 320 mm
23	BASE ASY-SV	1V7001 10007	165.1	163.5	74.42	67.36	138.1	
24	BASE ASY-SV	1V7005 10008	165.1	163.5	68.245	61.725	138.1	
25	BASE ASY-SV	1V7020 10042	127	128.6	59.565	53.900	117.5	
26	BASE ASY-SV	1V7045 10163	101.6	101.6	37.335	33.680	71.4	
27	BASE ASY-SV	1V7075 10483	222.2	285.8	140.335	127.255	134.9	
28	BASE ASY-SV	1V7080 10250	114.3	101.6	45.085	40.435	90.5	
29	BASE ASY-SV	1V7081 10246	222.2	285.8	140.335	127.255	185.7	

ANNEXURE – II**COMPONENTS FOR PROVE – OUT AT BHEL – TIRUCHY**

	DESCRIPTION	DRG NO	HOLDING DIAMETER	Dia. A	LAPPING SURF - OD	LAPPING SURF - ID	SUBMERG DEPTH
01	BASE ASY-SV	1V7012 10039	222.2	285.8	140.335	127.255	134.90
02	BASE ASY-SV	1V7040 10151	172.0	163.5	74.420	67.360	138.10
03	BASE ASY-SV	1V7045 10163	101.6	101.6	37.335	33.680	71.4

	DESCRIPTION	DRG NO	HOLDING DIAMETER	LAPPING SURF - OD	LAPPING SURF - ID	Ht.
04	DISC	3V7008 10052	69.875	149.045	136.650	51.665
05	DISC	3V7116 11080	28.60	37.080	34.120	15.950
06	DISC	3V7001 11027	47.470	74.165	68.225	29.01