



TD-106-1 Rev No. 5	Form No.		PRODUCT STANDARD PULVERISERS HYDERABAD		Product STD NO.	BA 54058
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SCREW/PISTON PUMP WITH COUPLING

1. **DESCRIPTION** : Positive displacement triple screw/piston pump.
2. **APPLICATION** : The screw pump is used for pressurizing the lube oil for feeding to high pressure pumps and for cooling the bearing in ball tube mills. These mills are used in thermal power stations to pulverize the coal.
3. **LUBRICANT USED**: OIL ISO VG 460
 Viscosity at 40°C is 460 cst.
 Viscosity at 25°C is 1500 cst.
4. **OPERATING TEMPERATURE**: Normal operating temperature is 40°C. Maximum temperature for start-up of motor pump is 25°C. Maximum operating temperature is 60°C.
5. **MATERIAL** : The material of the screw / piston shaft is to be hardened and ground steel.
6. **SEALING** : The shaft sealing shall be of external mechanical face seal type.
7. **BEARINGS** : Sealed anti friction bearing external to the pump.
8. **FLEXIBLE COUPLING** : LOVE JOY coupling to suit to screw pump and motor shafts.
 Bibby coupling with split cover (split shall be along shaft axis) for 2 bodied/4 bodied pumps
- MOTOR SHAFT DIMENSION** : Refer IS standard no, IS: 325 for Motor shaft dimensions.
10. **ENVIRONMENT** : Pump is open to dirty and humid atmosphere.

	Revisions: Refer to record of revisions:	Prepared: T.MOHAN RAO	Approved: JGK	Date: 27.4.99
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<div style="display: flex; justify-content: space-between;"> <div style="width: 15%;"> <p style="writing-mode: vertical-rl; transform: rotate(180deg);"> COPYRIGHT AND CONFIDENTIAL The information on this document is the property of BHARAT HEAVY ELECTRICALS LIMITED, It must not be used directly or indirectly in any way detrimental to the interest of the company. </p> </div> <div style="width: 85%;"> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>11. <u>TESTS</u></p> <p>12. <u>TEST CERTIFICATES</u></p> <p>13. <u>GENERAL :</u></p> <p>14. <u>INFORMATION TO BE SUBMITTED BY THE SUPPLIER ALONG WITH THE OFFER:</u></p> </div> <div style="width: 50%;"> <p>: The pump shall be tested for the flow and pressure at vendors works (with the oil ISO VG 460) and test report should accompany the pumps. The pumps shall be tested as per VDMA standard 24284 and the flow values shall be on the positive side of the standard</p> <p>1. The following test certificates should be furnished in triplicate along with the consignment.</p> <p>A. Chemical, Mechanical, MPI, & UT test certificates of Major components.</p> <p>2. The following test certificates are to be submitted to BHEL. Before material dispatches for our comments if any.</p> <p>A) Hydraulic test certificate for pump. B) Pump capacity vs pressure. C) Pump capacity vs KW D) Pump speed vs Torque. E) Pump speed vs Flow</p> <p>The pump should operate silently and vibration free. The noise level should be less than 80 decibels at one meter radius.</p> <p>a) Pump and coupling with dimensional drawing along with pump inlet and outlet flange details.</p> <p>b) Pump & coupling catalogues with O & M instructions manual.</p> <p>c) Spares part list for 3 years of operation with individual component unit price.</p> </div> </div> </div> </div>					

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<div><div><p>Copyright and Confidential</p><p>The information on this document is the property of BHARAT HEAVY ELECTRICALS LIMITED, It must not be used directly or indirectly in any way detrimental to the interest of the company.</p></div><div><div><p>d) Material used for various parts of pump and Coupling.</p><p>e) Pump seal details.</p><p>f) Pump bearing details, arrangement and replacement method.</p><p>g) One placement of order, Vendor should submit 4 sets of GA drawing and Quality plan for out approval before start manufacturing.</p></div><div><p>15. <u>END CONNECTIONS FOR SCREW PUMP:</u></p><p>Inlet flange: The ID & OD of the flange shall be 62mm & 152 mm respectively and with 8 holes \varnothing 18 equispaced on PCD 120.60mm. Flange face projection shall be 2mm and dia 92mm. Flange thickness shall be 18mm.</p><p>Supply shall be with an additional flange of 5 mm thick having alternate tapped holes and assemble between pump flange and counter flange along with gaskets and fastners.</p><p>Outlet flange: The ID of the counter flange shall be suitable for the pipe OD 48.3x5.09 mm. Other dimensions shall be as per pump discharge flange. Counter flange, fasteners and gasket shall be accompanied with the supply.</p><p>16. <u>END CONNECTIONS FOR HIGH PRESSURE PISTON PUMP:</u></p><p>Inlet and outlet size shall be as per table.</p></div></div></div>					


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17. TECHNICAL DATA OTHER THAN SPECIFIED ABOVE:

Sl No	Parameter	Screw pump with love joy coupling	2 Bodied piston pump with grid coupling	4 Bodied piston pump with grid coupling
01	Capacity	76 LPM at 950 rpm, 5 bar pressure and 40° C temp.	1.9 LPM/Body at 950 rpm, 40 bar pressure and 40° C temp.	3.8 LPM/Body at 950 rpm, 40 bar pressure and 40° C temp.
02	Operating pressure	5 bar	5 to 40 bar in normal. 80 bar occasionally.	5 to 40 bar in normal. 80 bar occasionally.
03	Mounting	Vertical	Horizontal	Horizontal
04	Oil temperature	40° C to 65° C	40° C to 65° C	40° C to 65° C
05	Inlet port size	2" Flange	1 1/2" NPT (F)	1 1/2" PT (F)
06	Out let port size	1 1/2" Flange	1 1/2" NPT (F)	1/2" NPT (F)
07	No. of inlets	One	One	One
08	No. of outlets	One	Two	Four
09	Relief - valve (built- in) pressure	7.5 bar	120 bar	120 bar
10	Test pressure	10 bar	180 bar	180 bar
11	Jacket	Not required	Not required	Not required
12	Rotation when viewed from drive end	Clockwise	Clockwise	Clockwise
13	Anti-friction Bearings	External to pump	External to pump	External to pump
14	Liner	CI	CI	CI
15	Mating motor capacity	5.5 KW	3.7 KW	5.5 KW
16	Nature of Duty	Continuous	Continuous	Continuous

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18. **VARIENT TABLE:**

VAR. NO.	ITEM DESCRIPTION	MATL. CODE
01.	SCREW PUMP 76 LPM.	BA9754058016
02.	2 - BODIED PISTON PUMP 1.9LPM /Body	BA9754058024
03.	4 - BODIED PISTON PUMP 3.8 LPM/Body	BA9754058032

19. **MAKE:** ALEKTON / L&T / TUSHACO / IMO / DENCO / HGP.

20. **GUARANTEE:** Pump with coupling shall be guaranteed for 12 months from the date of commissioning or 18 months from the date of dispatch which ever is earlier.

21. **ERECTION AND O&M MANUALS:** 10 Copies - each of Erection and O&M manuals to be supplied with material for our further use.

22. **PAINTING:** Apply Light Grey - 631 paint on outer surfaces.

23. **PACKING:** Assembly of pump and coupling shall be packed in a wooden case wit proper support to protect machined surfaces of flanges and coupling.

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