

PVUNL
PATRATU AUXILIARY BOILER
TECHNICAL SPECIFICATION FOR BOILER FEED WATER PUMP
ENCLOSURE -2

GENERAL DATA SHEET

- | | | | |
|------|---|---|--|
| 1. | Project | : | PATRATU AUXILIARY BOILER |
| 2. | Customer | : | PVUNL |
| 3. | No.of Pumps | : | 2 Nos. (1 working + 1 standby)
Each pump shall be of 100% capacity |
| 4. | Type | : | Single Suction, Multi stage, Horizontal,
Centrifugal, motor driven, Ring section type |
| 5. | Location | : | Out door |
| 6. | Duty | : | Continuous, 100% duty |
| 7. | Fluid handled | : | Feed Water |
| 8. | a) Design flow capacity of one Pump | : | REFER PUMP DESIGN DATA |
| | b) Normal flow capacity of one pump | : | REFER PUMP DESIGN DATA |
| | b) Min. flow capacity of one pump | : | To be furnished by bidder |
| 9. | (i) <u>Pressure values</u> | | |
| | a) Pump suction working pressure | : | 1.9* Kg/cm ² (a) |
| | b) Pump discharge working pressure | : | REFER PUMP DESIGN DATA |
| | (ii) <u>Connecting pipe sizes</u> | | |
| | a) Pipe size at pump suction | : | OD 168.3x7.11 mm |
| | b) Pipe size at pump discharge | : | OD 114.3x6.02 mm |
| | c) Flanged Eccentric reducer/expander at both suction and discharge sizes to match the pump terminals with the connecting pipe sizes as indicated above are in pump vendor scope. | | |
| | d) Counter flanges along with fixing nut, bolt & Non-asbestos Gaskets as applicable are in pump vendor scope | | |
| | e) DPT shall be provided across each suction strainer along with root valves (24 V DC, 2 wire with HART Protocol, SMART type) | | |
| 10. | Specific gravity of feed water | : | 0.956 |
| 11. | Temperature | : | 105° C |
| 12. | NPSH available | : | 7 M* of water column |
| 13.0 | <u>Material of construction</u> | | |
| 13.1 | Casing | : | ASTM A216WCB |
| 13.2 | Impeller | : | ASTM A743 CA6NM |
| 13.3 | Shaft | : | AISI 410 |
| 13.4 | Wearing ring | : | ASTM A743 CA6NM |
| 13.5 | Base plate | : | MS fabricated |
| 14.0 | Nozzle orientation | : | Top suction/top discharge |

* Suction strainer drop is not considered while arriving at Feed Pump Suction pressure, NPSH available.

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PUMP DATA SHEET (To be filled and submitted by bidder)

- | | | |
|------|---|---|
| 1.0 | Model and type | : |
| 2.0 | Quantity | : |
| 3.0 | Capacity | : |
| 4.0 | Total head | : |
| 5.0 | Suction pressure | : |
| 6.0 | Pump shut off head at cold | : |
| | Pump shut off head at hot | : |
| 7.0 | NPSH (pump) required | : |
| 8.0 | Fluid handled and
Concentration | : |
| 9.0 | Operating temperature | : |
| 10.0 | Specific gravity of the fluid | : |
| 11.0 | Nominal speed | : |
| | (Pump speed and motor speed
shall be specified separately
in the datasheet) | |
| 12.0 | Nominal power | : |
| 13.0 | Pump input power with
Liquid at rated rpm | : |
| 14.0 | Pump efficiency | : |
| | (Mechanical and volumetric
Efficiency shall be specified
separately in the datasheet) | |
| 15.0 | Motor rating | : |
| 15.1 | GD ² value | : |
| 15.2 | PUMP MINIMUM FLOW | : |
| 15.3 | Noise level | : |
| 15.4 | Vibration level as per IS12075 | : |
| 16.0 | <u>Pump construction</u> | |
| | a. Casing | : |
| | b. No. of stages | : |
| | c. Packing | : |

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- d. Type of coupling :
- e. Suction flange size, rating :
- f. Discharge flange size and rating :
- g. Flange standard :
- h. Cooling water requirement :
- i. Pump bearing type, position (Driven/Nondriven) :
- j. Bearing lubrication :
- k. Impeller diameter :
- 17.0 Material of construction
 - a. Casing :
 - b. Impeller :
 - c. Stuffing box cover :
 - d. Shaft sleeve :
 - e. Shaft :
 - f. Wearing rings :
 - g. Base plate :
- 18.0 Hydro test pressure of pump and testing standard :
- 19.0 Weight schedule
 - a. Base pump :
 - b. Motor :
 - c. Base plate :
 - d. Pump motor assembly mounted on base plate along with coupling, strainer etc. :
- 20.0 Companion flange suction/discharge
 - a. Size :
 - b. Type :

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- c. Rating :
- d. Standard :
- e. Flange material :
- f. Bolt material :
- g. Nut/gasket material :
- 21.0 Cooling water requirements : BHEL will provide the cooling water tap off of size NB40.
Suitable matching piece to be provided by Vendor.
- 22.0 Sealing data :
- 23.0 Coupling data :
- 24.0 Instrumentation data :
- 25.0 Strainer data :
- 26.0 Lube oil system data :
- 27.0 Warm up arrangement :
requirement
- 28.0 Allowable forces and :
moments at pump nozzles
- 29.0 Civil work data :

Note: Necessary drawings, catalogues, leaflets shall be submitted along with the filled up Annexure-B.