

EL8431800038



PURCHASE SPECIFICATION FOR EDGE HARDENING PREPARATION TANK

ISSUE NO : 06

DOC.NO: SCR-UT-019

REV : 01 JULY 2022

Page 1 of 4

PURPOSE: For preparing Edge Hardening Solution for SCR catalyst.

SCOPE: Scope involves supply of SS316 tank working capacity 500 Litres with Stirrer and heating element of required parameters as detailed below:

ITEM 1 SS TANK – 01 No

Sl. No	Parameter	Requirement of BHEL
1.1	Working Principle	Cylindrical vessel, with top lid half hinged and bolted, 2 inlet valve, controlled inbuilt heating arrangement, temperature sensor, dished end bottom with discharge valve. Vessel to be made of SS 316 material. Vessel is to be mounted on MS legs.
1.2	Model	To be indicated
1.3	Specific gravity of fluid	1.5 Maximum
1.4	Viscosity of fluid	0-50 cPs
1.5	Design Temperature	120°C for the liquid mass to be mixed
1.6	Design Pressure	Atmospheric Pressure
1.7	Total Volume	Max 600 L
1.8	Operating Volume	Maximum 500 liter Minimum 100 Liter (considering water with density 1)
1.9	Shell ID	Bidder to indicate
1.10	Shell Height	Bidder to indicate
1.11	Shell Thickness	Minimum 4 mm
1.12	Top	Flat – Minimum 6 mm thick, with suitable reinforcement to avoid buckling and vibration from the stirring operation.
1.13	Bottom	Dished end – Minimum 4 mm thick
1.14	Material of Construction	Shell -SS 316 Top lid – SS 316 Bottom Dished End – SS 316 Valves – SS 316 Ribs – SS 316 Hinges – SS 316 Support leg – M.S. powder coated Non- wetted parts – M.S. powder coated
1.15	Rib Support	4 No s x 90' apart with suitable dimension
1.16	Bottom Discharge Valve	50 NB – Flush type ball valve – 2 No.
1.17	Inlet Valve	25 NB – Ball Valve – 2 No.
1.19	Level Indicator	Glass window with Level scale
1.18	Other specification	As per applicable standard.
1.19	GA Drawing	Detailed drawing including floor mounting details to be provided along with techno commercial offer.

Copyright and Confidential
The information in this document is the property of Bharat Heavy Electricals Limited. It must not be used directly or indirectly in anyway detrimental to the interest of the company

Issued By

SCR GROUP

Prepared By

RAVINDER KUMAR

Checked By

AVINASH SAHOO

Approved By

PRATAP MUKHERJEE

EL8431800038



PURCHASE SPECIFICATION FOR EDGE HARDENING PREPARATION TANK

ISSUE NO : 06

DOC.NO: SCR-UT-019

REV : 01

JULY 2022

Page 2 of 4

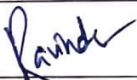


ITEM 2: MIXER 1-SET

SI No	Parameters	Requirement of BHEL
2.1	Model	To be indicated
2.2	Motor Power	To be indicated
2.3	Motor Specification	415 V/ 3 Phase/ 50 Hz/ TEFC/ IP55/ 8 Pole/EFF-2
2.4	Make	Siemens/ NGEF/ Kirloskar/ CGL/ ABB
2.5	Drive	To be indicated
2.6	Impeller details	To be indicated
2.7	Mixer Speed	-60 RPM
2.8	Shaft Material of Construction	SS 316
2.9	Impeller Material of Construction	SS 316
2.10	Shaft dimension	Solid shaft of req. length & diameter
2.11	Tip Speed	Bidder to indicate
2.12	Flow Generated	Bidder to indicate
2.13	Tank Turnover/min	Bidder to indicate
2.14	Shaft Sealing	Gland Packing – Stuffing Box
2.15	Bottom Support	To be indicated
2.17	Coupling	Rigid coupling (GPS type)
2.18	Material of construction for wetted parts	SS 316
2.19	Material of Construction for non-wetted parts	MS powder coated
2.20	Finishing	180 Grit Matt Finish outside and fine finish inside
2.21	Painting (for MS Parts)	As per GPS standard and all MS parts to be powder coated

ITEM 3: ACID TRANSFER PUMP

3.1	Pump	To pump the Phosphoric acid 85 % concentrated into the tank
3.2	Make	Bidder to indicate
3.3	Capacity	0.25 HP , Single/Three phase or any suitable
3.4	MOC	PVDF/PP
3.5	Max. Head	Max. 5 meter
3.6	Flow	Max. 50 LPM
3.7	Type	Seal less Magnetic , Mono block Pump set
3.8	Temperature	Up to 100°C
3.9	Suction & delivery size	12.5 NB each or equivalent

Copyright and Confidential
The information in this document is the property of Bharat Heavy Electricals Limited. It must not be used directly or indirectly in anyway detrimental to the interest of the company

Issued By	Prepared By	Checked By	Approved By
SCR GROUP	 RAVINDER KUMAR	 AVINASH SAHOO	 PRATAP MUKHERJEE

EL8431800038



PURCHASE SPECIFICATION FOR EDGE HARDENING PREPARATION TANK

ISSUE NO : 06

DOC.NO: SCR-UT-019

REV : 01

JULY 2022

Page 3 of 4

ITEM 4: ELECTRICAL PARTS AND CONTROL

4.1	Heater	2 No. s - Maximum temperature 120°C provided at 100 Litres marking and 300 Litres marking with temperature controller and temperature display
4.2	Thermocouple	Ambient to 150°C measuring thermocouple
4.3	Control Panel	<ol style="list-style-type: none"> 1. Mixer ON / OFF switch 2. Power Indication 3. Mixer reverse forward switch 4. Temperature Display and Temperature controller setting 5. Heater ON/OFF Switch 6. Emergency Stop 7. Pump ON/OFF Switch

SUITABILITY FOR OEPRATING CONDITIONS

1	<p>System should work satisfactorily and within the defined parameters under the following operating and environmental conditions with specified accuracies:</p> <ol style="list-style-type: none"> 1. Power supply: Voltage 415 V $\pm 10\%$ 2. Frequency: 50 Hz $\pm 2\%$ <p>Ambient conditions:</p> <ol style="list-style-type: none"> 1. Temperature: 15 to 45 degree Centigrade 2. Relative humidity : Max 80% <p>Elevation of Bangalore: 920 m from mean sea level</p> <p>Vendor to confirm that Tank is suitable for the above condition and details for the same are to be furnished by the vendor</p>
---	--

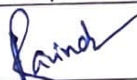

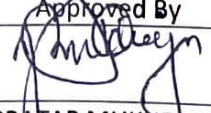
INSTALLATION, COMMISSIONING AND TRAINING

1	The tank will assembled and installed by the supplier and the necessary specialists shall be provided by supplier for installation of the tank offered.
2	Within BHEL, all material handling equipment will be arranged by BHEL
3	After successful installation and commissioning, training shall be provided to operators of BHEL for operation and maintenance.

TESTING

1	Quality Assurance plan (QAP) shall be made and submitted for approval of BHEL. The same shall also duly verified during pre-dispatch inspection by BHEL or authorized inspection agency.
2	Test certificates of third party inspection shall be submitted

Copyright and Confidential
The information in this document is the property of Bharat Heavy Electricals Limited. It must not be used directly or indirectly in anyway detrimental to the interest of the company

Issued By	Prepared By	Checked By	Approved By
SCR GROUP	 RAVINDER KUMAR	 AVINASH SAHOO	 PRATAP MUKHERJEE

EL8431800038



SBD- 560012

PURCHASE SPECIFICATION FOR EDGE HARDENING PREPARATION TANK

ISSUE NO : 06

DOC.NO: SCR-UT-019

REV : 01

JULY 2022

Page 4 of 4

DOCUMENTATION

- | | |
|---|---|
| 1 | 3 sets of hard copies for all the tank related documents, tank file folder, inspection release note & as built drawings of the tank shall be provided. Also, foundation details are to be provided. |
|---|---|

TRANSPORTATION

- | | |
|---|---|
| 1 | Transportation is the scope of the supplier |
|---|---|

WARRANTY

- | | |
|---|--|
| 1 | 12 months from the date of commissioning or 18 months from the date of supply whichever is earlier. |
| 2 | Supplier to indicate replacement parts and consumables for 2 years continuous operation (24 hours/ day basis). During the period of warranty, these spares and consumables are in the scope of supplier. |
| 3 | List of spares and consumables to be provided along with techno-commercial offer. |

QUALIFICATIONS

- | | |
|---|--|
| 1 | Bidder to submit company credentials to prove as OEM registration certificate as a manufacturer or any other document to establish that the Bidder is an OEM. |
| 2 | BHEL reserves the right for independent verification of the reference provided.
Bidder should have manufactured, supplied and successfully commissioned similar tank of rated capacity or more minimum of 3 numbers in the last 3 years.
Bidder to submit a copy of purchase orders, Commissioning/performance certificates for the supply with contact details of the customer. |
| 3 | Offer shall be for new tank and not for any refurbished or used tank |

The information in this document is the property of Bharat Heavy Electricals Limited. It must not be used directly or indirectly in anyway detrimental to the interest of the company

Copyright and Confidential

Issued By

SCR GROUP

Prepared By

RAVINDER KUMAR

Checked By

AVINASH SAHOO

Approved By

PRATAP MUKHERJEE