

SPECIFICATIONS OF SALT BATH FURNACE

- Furnace Description:** Electrically Heated Salt Bath Furnace for Steels
- Salt Bath Temperature:** 1100° C Qty : 01 Unit
- Supply Voltage:** 3 Phase, 400 V, 50 Hz
- Crucible Size:** 450 mm x 600 mm (Diameter x Height)
- Heating Elements:** High Quality *Silicon Carbide* U-Type / Rod Elements for longer life.
- Furnace Construction:** Rugged and welded Steel shell construction with "L" profile frame. Multilayer light weight insulation bricks for very low heat loss. Refractory block support for crucible provided at bottom of chamber.
- Temperature Controller:** Controlled heating and cooling rates through PID Temperature controllers (Japanese Origin) with capacity to program multiple cycles of controlled heating and cooling.
- Crucible Material:** AISI 310H. Press formed from a single piece of Iron-Nickel-Chromium alloy of following composition. A welded flange with hooks may be provided on top of crucible.

Carbon	Chromium	Phosphorus	Silicon	Sulfur	Temperature	Weight
0.04 - 0.10	2.0	0.045	0.030	0.75	24.0 - 26.0	19.0 - 22.0

Sealing of Heating Chamber:

The heating chamber may be isolated from salt fumes by providing a high-temperature refractory fiber rope to seal joints where the Crucible flange rests on the removable retaining ring at the top of the furnace

Temperature Measurement:	<p>K-Type Class-2 Thermocouples Two temperature measurements may be provided as follows.</p> <ol style="list-style-type: none"> 1. Heating Chamber temperature measurement. 2. Salt Bath temperature measurement.
Temperature Uniformity:	Temperature uniformity up to $\pm 2^{\circ}\text{C}$ according to DIN 17052-1 in the salt bath.
Furnace Lid:	An insulating Swing-away Lid of Furnace may be provided with safety limits.
Display Panel:	Display of all process-relevant data on Panel integrated with Furnace Cabinet.
Emergency Drain:	Emergency drain in Furnace chamber in case of crucible failure to protect furnace chamber and heating elements.
Vapours Scrubbing System	Fume hood with salt vapour scrubbing system may be provided along with the furnace.
Documentation:	<p>Following documents be provided in soft and hard form in English language:</p> <ol style="list-style-type: none"> 1. Operating manuals of Furnace. 2. Detailed Structural and Electrical Maintenance manual.
Spares:	<p>Following spares may be quoted:</p> <ol style="list-style-type: none"> 1. Spare Crucibles 2. Heating Elements 3. Refractories 4. Electronic components prone to damage 5. Thermocouples 6. PID Controller 7. Spares of Vapour Scrubbing System

Unit Price of each item of Spares should be mentioned separately.

Inspection and Training:	<p>Pre-Shipment Inspection and Training of Salt Bath Furnace will be carried out by two Buyer's Engineers at Manufacturer's premises for Confirmation of Specifications, Installation, Operation and Maintenance. The furnace will be operated and held at maximum temperature. Composition analysis of Crucible will be carried out for material confirmation.</p>
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