HEAT TREATMENT FURNACE

Applications:

- Annealing
- Normalising
- Hardening
- Solution Treatment Heating
- Forge Heating
- Tempering
- Aluminum Solutionising
- Stress Relieving
- Ductile Iron Full Annealing.

Auto cycle control

- Ramp, Soak, Cool ..... 8 Steps Profile
- 10, 20 Profile Memory
- Multi Input Multi Output (MIMO)
- PID Controlling Action.
- Micro processor based programable controller.
- one burner, one thermocouple forms one pair as zone, thus multi zone control
- Digital display for time tempreature graph online with USB pendrive for data storage, Wired lan PC connectivity for real time graph printing

Firing

- High Velocity Short Flame Burner
- Direct On/Off pulse firing effect.
- Smokeless perfect combustion

The furnaces are calibrated for uniformity as per API 6A Standard (The Temperature Difference Between Highest & Lowest Points at Stabilised Conditions should not be more than 13ºC.)

Mechanization

- Trolley - movement by geared motor with brake.

GATHA Enterprises
3, Snehdeep Apts, Chintamaninagar, Sahakarnagar No. 2, Pune 411009 INDIA
Tel: 91-20-24227847 Mobile: 91-99 700 65875 Fax: 91-20-24215087
Email: gatha@vsnl.net, gathaent@dataone.in, gathaent@gmail.com
- Door - movement by geared motor with brake, counter weighed.
- Door Lock Unlock - innovative, pneumatically operated instant latching unlatching for perfect sealing.

**Construction:**

- Strong rigid construction
- Heat resistant grade Cl castings at door and frame, bogie and furnace interface eliminates warpage.
- Railway rails for load bearing under temperature.
- Double sealing minimising heat losses.

**Insulation:**

- High temperature high density ceramic fibre modular lining.
- Self supporting U-fold door lining.

**Recuperator:**

- All fuel fired furnaces are equipped with recuperator to recover the heat from flue gases by preheating combustion air. By thumb rule a rise of 150 degree C in combustion air 7.5% heat is recovered.

**PLC control:**

- Large furnaces handle high value materials, it is essential to install PLC for operation to avoid manual errors.
- PLC checks each & every operation prior to loading of materials called booting to ensure air/gas/power etc. are within the specifications & all the sensors are in working condition.
- PLC monitors each & every operation during auto cycle for supply conditions, flue temperatures burner operations any deviation is automatically notified audio visually & through SCADA.
- PLC keeps event history for the record.

**Control Panel:**

- Aesthetically powder coated control panel.
- Electrical switch gears for drives, burners.
- Status indication and control.
- Burner sequence controller and flame failure device.
- Programmable startup, burner, temperature controlling system.

**Calibrations:**

- Thermal survey as per API 6A Standard.
- All measuring instruments calibrated to national traceability.

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