

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 temprature 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 13°C.)

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 CI 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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