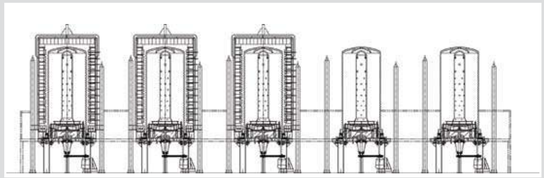
# PRECONS

an established supplier
of quality furnaces

## BELL ANNEALING FURNACE

- India's No.1 supplier of bell furnaces.
- More than 100 installations in use.
- 3 to 30 MT batch capacity.
- Maximum temperature up to 950 ˚C.
- Spheroidisation above 85%
- Vacuum assisted $N_2$ atmosphere with automatic pressure regulation.
- Multi profile programme controller with ratio control system to achieve close temperature uniformity.
- Auto programming facilities to adapt different cycles depending upon diameter – grade combination.
- Provision for data logging.

## Installation diagram for a typical 3 bell-5 base system



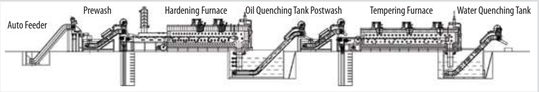
## BAR/FORGED COMPONENTS ANNEALING FURNACE

- From 5 MT onwards.
- Facilitates very low scale annealing.
- Rectangular bell design with stationary or bogie type base.
- Maximum temperature up to 950 ˚C.
- Spheroidisation above 85%.
- Master-slave temperature control to achieve close temperature uniformity.

## CONTINUOUS HARDENING AND TEMPERING PLANT


- Capacity up to 1000 Kg/hr.
- Well suited for through hardening and tempering of fasteners and other cold forged components.
- Auto feeder, prewash, hardening, quenching, post wash, tempering and quenching.
- Methanol-LPG atmosphere.
- Oxyprobe carbon potential system.
- PLC control as option.
- Provision for data logging.

## Installation diagram for a typical hardening, quenching and Tempering line




## COMPOSITE CURING OVEN

- Used for curing carbon composite for aerospace application.
- Box / Bogie type construction.
- Maximum temperature up to 250 ˚C.
- Temperature uniformity within ± 2 ˚C.
- Vacuum system for vacuum bagging.
- PLC control.

## TRANSFORMER CORE ANNEALING FURNACE

- Batch capacity up to 6 MT.
- Specially designed for annealing CRGO silicon core.
- Bogie hearth construction for easy loading / unloading.
- Maximum temperature up to 800 ˚C.
- Nitrogen atmosphere for scale free annealing.
- Designed to minimize gas consumption.

## VERTICAL CYLINDRICAL FURNACE WITH SEALED RETORT

- Batch capacity up to 2 MT.
- Varied applications such as Gas carburising, Gas nitriding, Carbonitriding, Annealing, Normalising, Hardening, etc.,
- Maximum temperature up to 1000 ˚C.
- Temperature uniformity within +/- 5 ˚C
- Leak tight retort and door assembly.
- Powerful fan for gas circulation.
- Programmable ratio controller.
- Vacuum assistance for annealing and normalising.
- Carbon potential control

## SOLUTION TREATMENT / AGEING FURNACE FOR AAAC

- Batch capacity up to 2 MT for solution treatment and 10 MT for ageing.
- Maximum temperature up to 600 ˚C.
- Temperature uniformity within +/- 5 ˚C.
- Bogie hearth construction with single or twin bogie.
- Base tilting arrangement for fast quenching for solution treatment.

## ROLLER HEARTH FURNACE


- Capacity up to 10 MT/hour.
- Ideal for stress relieving and annealing of formed tubular coils / pressure parts of boilers, etc
- Roller hearth construction.
- Maximum temperature up to 800 ˚C.
- LPG/CNG firing.
- Mass flow fuel control for better combustion efficiency.
- Energy efficient recuperator.
- PC-PLC control – auto mode.

## BOGIE HEARTH FURNACE

- Batch capacity up to 300 MT.
- Ideal furnace for varied heat treatment processes such as stress-relieving, annealing, normalizing, tempering etc.,
- Maximum temperature up to 1150 ˚C.
- Oil and gas fired options.
- Mass flow fuel control for better combustion efficiency.
- Unique flat roof construction.
- Energy efficient recuperator.
- PC-PLC control.

Exemplary Performance | Customized Designs | Current With Technology | Cost Effective

## DROP BOTTOM QUENCH FURNACE

- Batch capacity up to 20 MT.
- Well adapted for aluminium solution treatment for aerospace application.
- Maximum temperature up to 650 ˚C.
- Electrically heated.
- Temperature uniformity within ± 2-3˚ C.
- Electromechanical / Electrohydraulic winch for quenching within 15 seconds or Unique hydraulic scissor platform design to facilitate fast quenching within 7 seconds.

## ROTARY TUBE FURNACE

- Capacity up to 750 Kg/hr.
- Varied applications such as :
  - Pre-sintering of ferrites,
  - Calcination, reduction, stabilisation and reoxidation of minerals, ores, etc.,
  - Drying of alumina oxide powder.
- Maximum temperature up to 1000 ˚C.
- Horizontal draw out type furnace for easy maintenance.
- Atmosphere control with mechanical seal design.
- Super kerosene firing option, using monobloc burners.
- Scrubber system as option.

## REHEATING FURNACE

- Batch capacity up to 150 MT.
- Specially designed for reheating of ingots for forging seamless rings, rolls, pipes, etc.,
- Box or Bogie type options.
- Maximum temperature up to 1300 ˚C.
- Oil or gas fired options.
- Mass flow fuel control for better combustion efficiency.
- Unique flat roof construction.
- Energy efficient recuperator.
- PC-PLC control.

## ABOUT US

- Founded in the year 1971, Precision Controls (PRECONS) have close to four decades of experience behind us in the design and manufacture of industrial furnaces for varied and demanding applications. PRECONS furnaces are performing commendably in diverse sectors such as auto/auto ancillaries, heavy & medium engineering, aerospace, nuclear, metal industries such as steel / aluminium and electrical and electronics.

- Equally impressive is our range of applications that include atmospheric / non-atmospheric and continuous / batch types. PRECONS can proudly claim to be the pioneer and market leader in the bell annealing furnace design of domestic origin and has to its credit more than 100 installations in India and abroad. PRECONS has recently developed a 30T bell annealing furnace, the largest ever attempted by an Indian manufacturer.

- Vantageously located in the leading industrial estate of Ambattur in Chennai, PRECONS is operating in a covered shed area of close to 50,000 sq.ft spread over two locations separated by a distance of not more than 2 KMs. Thus it has the benefit of access to skilled vendor base and an efficient supply chain back up.

- PRECONS' major strength is our commitment to customer satisfaction as can be seen from the repeat orders our customers prefer to place on us time and again. We are fortune to have an array of best known names in different industry segments as our clientele.

Over three decades of experience

PRECONS

ISO 9001 BUREAU VERITAS Certification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PRECONS

Industrial Furnaces

| FURNACE / PRODUCT CATAGORIES | | | | INDUSTRY SEGMENT | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Level 1 | Level 2 | Level 3 | Application | Auto / Auto Components | Steel | Aluminium | Heavy & Medium Engg | Aerospace | Nuclear | Electrical/ Electronics | Ceramics |
| Atmospheric | Continuous | Mesh Belt | Hardening & Tempering | ♲ | | | | | | | |
| | | | Sintering | ♲ | | | | | | | |
| | | Multi strand | Annealing | | ♲ ss wire | | | | | | |
| | | | Patenting | ♲ | ♲ | | | | | | |
| | | Rotary Kilns | Oxidation/ Reduction/ Calcination/ Etc of minerals | | | | | | ♲ | | |
| | Batch | Pit | Nitriding | ♲ | | | | | ♲ ss | | |
| | | | Carburizing | ♲ | | | | | | | |
| | | | Carbonitriding | ♲ | | | | | | | |
| | | | Through hardening | ♲ | | | | | | | |
| | | | Annealing/ Bright Annealing | ♲ | | | | | | ♲ | |
| | | | Spheroidised Annealing | | ♲ | | | | | | |
| | | | Spheroidised Annealing | | ♲ | | | | | | |
| | | Bell Type | CRGO Transformer core annealing | | | | | | | ♲ | |
| | | Pusher | Normalising | ♲ | | | | | | | |
| Non – Atmospheric | Continuous | Pusher | Billet heating | | | ♲ | | | | | |
| | | Roller Hearth | Annealing / Normalising | | | | ♲ | | | | |
| | | Rotary Kilns | Oxidation / Reduction / Calcination / etc of minerals | | | | ♲ | | | ♲ | ♲ |
| | Batch | Bogie Hearth | Heat treatment/ Heating | ♲ | ♲ | ♲ | ♲ | | | | |
| | | | Bar Annealing | | ♲ | | | | | | |
| | | Pit | Varied applications | ♲ | ♲ | ♲ | ♲ | ♲ | ♲ | | |
| | | Drop bottom Quench furnace | Solutionising | ♲ | | ♲ | | ♲ | | | |
| | | Kilns | Debindering/ Sintering | | | | | | | ♲ | ♲ |
| Industrial Ovens | Continuous | Mesh belt | Dacro coating | ♲ | | | | | | | |
| | | | Hydrogen de-embrittlement | ♲ | | | | | | | |
| | Batch | Bogie hearth | Composite curing | | | | | ♲ | | | |
| | | | Ageing | | | ♲ | | ♲ | | | |
| | | | Baking / Curing | | | | | | | | ♲ |
| Vacuum chamber | | | Electron beam welding/ simulated Testing | | | | | ♲ | | | |
| Storage systems | | | Spent fuel storage | | | | | | ♲ | | |

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