



- Steel & Cast Iron Industry Furnaces
- CNG Cylinders Heat Treatment Lines
- Aluminum Industry Furnaces
- Gas Carburizing Lines
- Automotive Industry Furnaces
- Electricity Industry Furnaces

ATBIN INDUSTRIAL GROUP



High Capacity Furnaces



Medium Capacity Furnaces



Industrial Controllers & Meters



Automation & Control Equipments



Field Instruments



Thermocouples & Sensors



Combustion Systems (Krom Schroeder collaboration)



Insulating Materials (Isolite collaboration)

HIGH CAPACITY FURNACES

High Capacity Furnaces

ATBIN INDUSTRIAL GROUP

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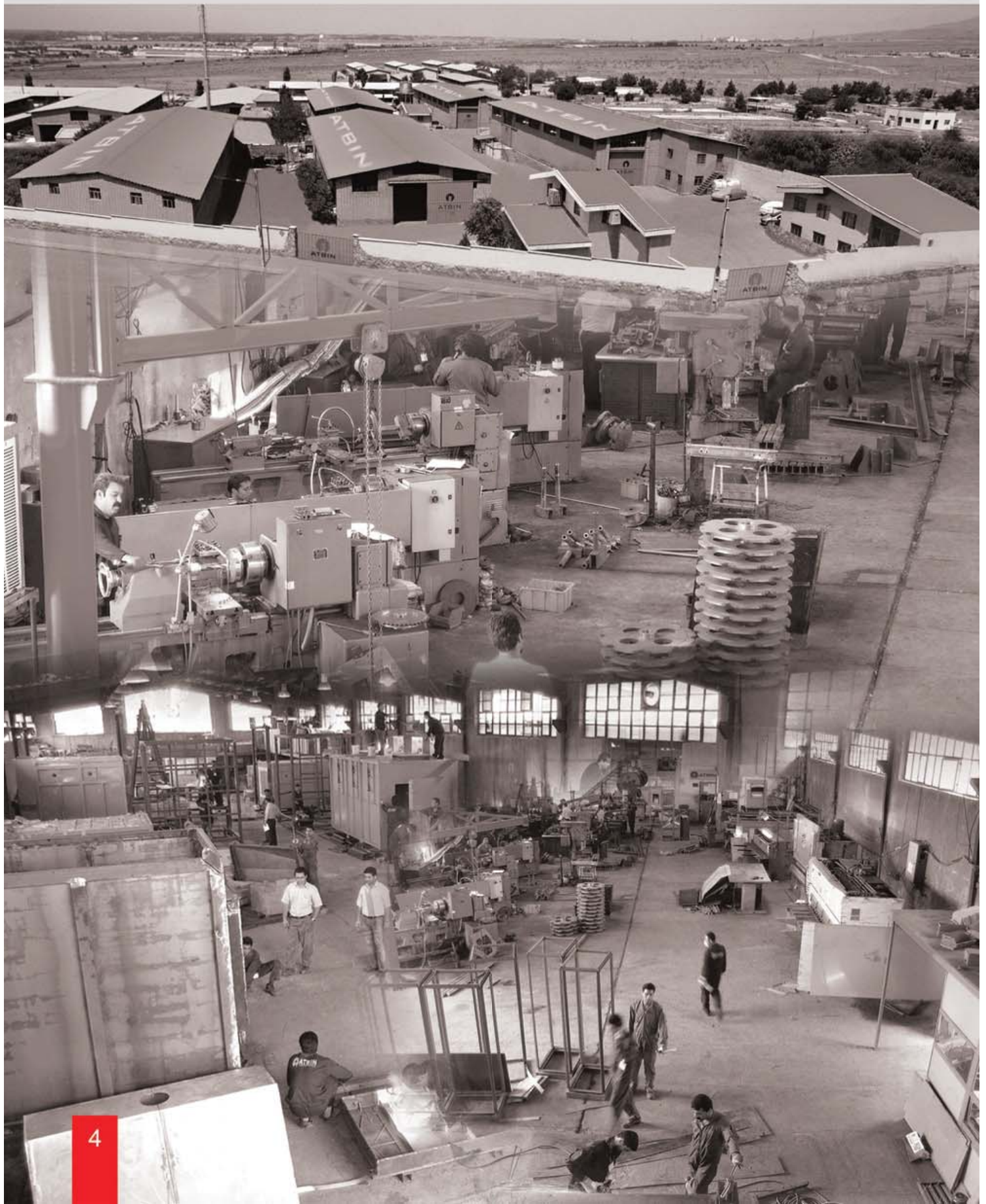


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With over two decades of experience and 500 personnel, ATBIN Industrial Group is one of the pioneers in the region heat treatment industries.

At the time being other than having exports to 17 countries worldwide, thousands of ATBIN furnaces are in operation throughout the region and several heat treatment projects are either in progress or already executed by ATBIN. Higher technology furnaces are produced under licenses of creditable European and Asian companies.







Trade Fairs

ATBIN at Int'l & Domestic Trade Fairs





Trade Fairs

ATBIN at Int'l & Domestic Trade Fairs



ATBIN INDUSTRIAL GROUP

Heat Treatment Lines and Furnaces Group



ATBIN's Exports

ATBIN's Exports



Export to seventeen countries in the world

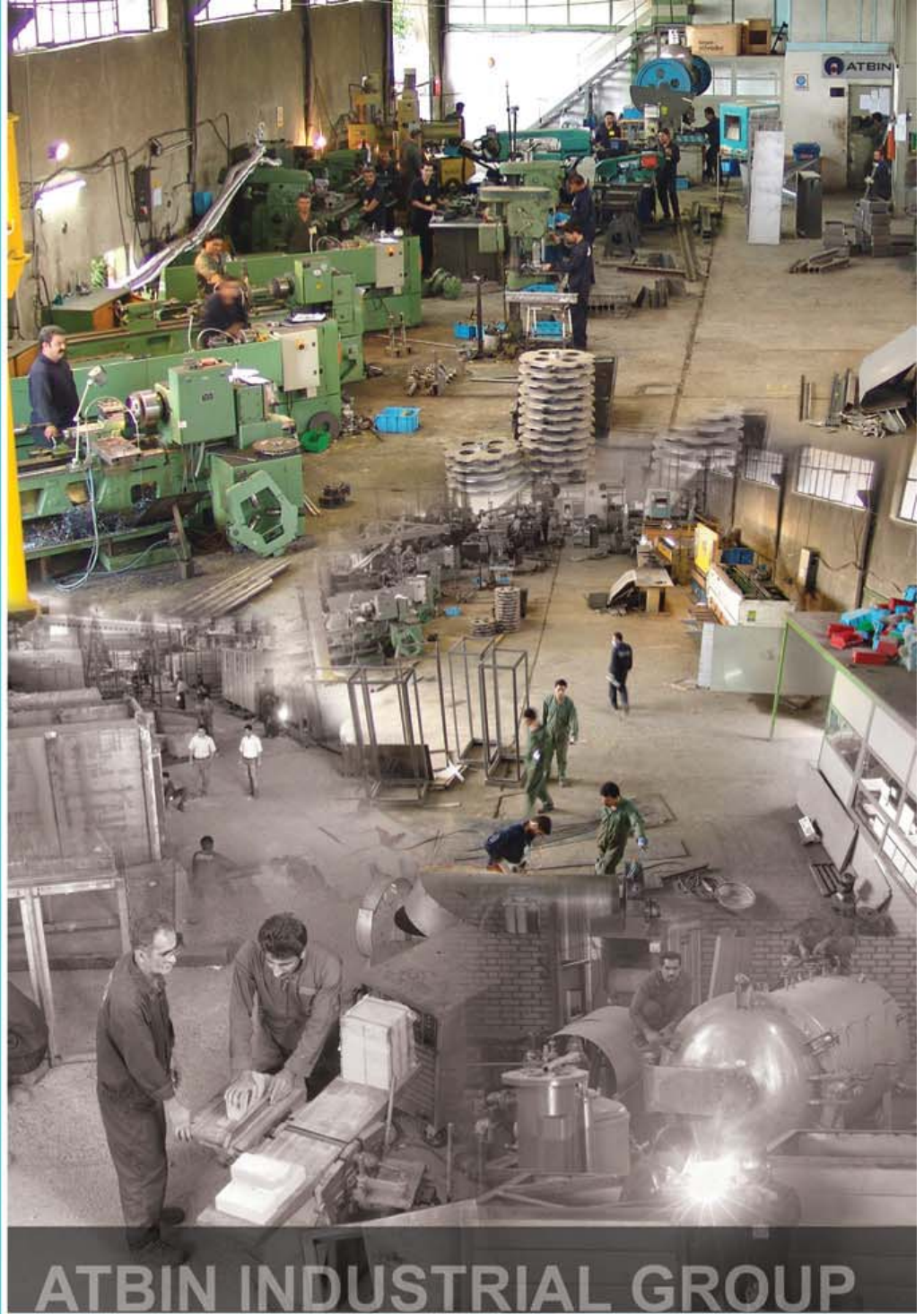


- Having complied with international standards and principles of furnace design and manufacturing, ATBIN now is in the lead of and the only furnace manufacturer in the region exporting to Europe.



ATBIN Industrial Group





ATBIN INDUSTRIAL GROUP

-  *Steel & Cast Iron Industry Furnaces*
-  *CNG Cylinders Heat Treatment Lines*
-  *Aluminum Industry Furnaces*
-  *Gas Carburizing Lines*
-  *Automotive Industry Furnaces*
-  *Electricity Industry Furnaces*
-  *Other Products*



Steel & Cast Iron Industry Furnaces

- Bogie Hearth Heat Treating Furnaces
- Rotary Hearth Heat Treating Furnaces
- Reheating Furnaces:
 - Pusher Type
 - Walking Hearth Type
 - Walking Beam Type
 - Roller Hearth Type
- Preheating and Hardening Walking Beam Furnaces



Heat Treatment Furnaces

- Applications: annealing, normalizing, hardening, tempering and stress relieving of steel and cast iron parts
- Maximum operating temperature of 1250°C
- Electrical/Fuel-fired heating system
- Advanced pulse firing burners control system to reach to the thermal uniformity of $\pm 3^{\circ}\text{C}$
- Different types of burners:
 - Burners with ceramic blocks
 - Burners with SiC tubes and higher velocity
 - Self-recupareator burners with ceramic tubes





- Loading types: bogie hearth / rotary hearth / stationary
- Door types: motoried or hydraulic rising type / hinged type / fixed-to-wagon type
- Bogie movement: manual / motoried with rack & pinion system
- Internal lining made of ceramic fiber modules (Z-block)
- No direct contact of flame with treated parts
- Surface oxidation control system
- Adjustable cooling cycles
- PLC-controlled automation and central monitoring system





Reheating Furnaces

- For reheating of various types of steel section for production of profiles, rods, ...
- Thermal uniformity of $\pm 100^{\circ}\text{C}$
- Fuel-fired heating system
- Maximum temperature of 1250°C
- Movement system: Pusher type, Walking hearth, Walking beam
- Maximum output capacity: 100 ton/hr
- Equipped with recuperator system
- Pressure control system to minimize the oxidation and scale loss
- PLC-controlled automation and central monitoring system





CNG Cylinders Hardening Lines

- Walking Beam Austenitizing Furnace
- Automatic Quenching System
- Continuous Tempering Furnace with Hot Air Circulating System
 - Conveyer
 - Walking Beam
- PLC-controlled Automation & Monitoring System



CNG Cylinders Hardening Line:

- The line is comprised of three main parts:
 - 1- Hardening furnace
 - 2- Automatic quenching tank
 - 3- Tempering furnace
- Capable of charging CNG cylinders in different sizes and weights
- Continuous with adjustable motion pace
- Gas fired heating system
- No direct contact of flame with the surface of treated parts



Hardening Furnace

- Gas fired heating system
- Continuous walking beam type
- Maximum temperature: 1100°C
- With preheating and soaking zones
- Low surface oxidation
- Automatic cylinder charging and discharging tables



Automatic Quenching Tank

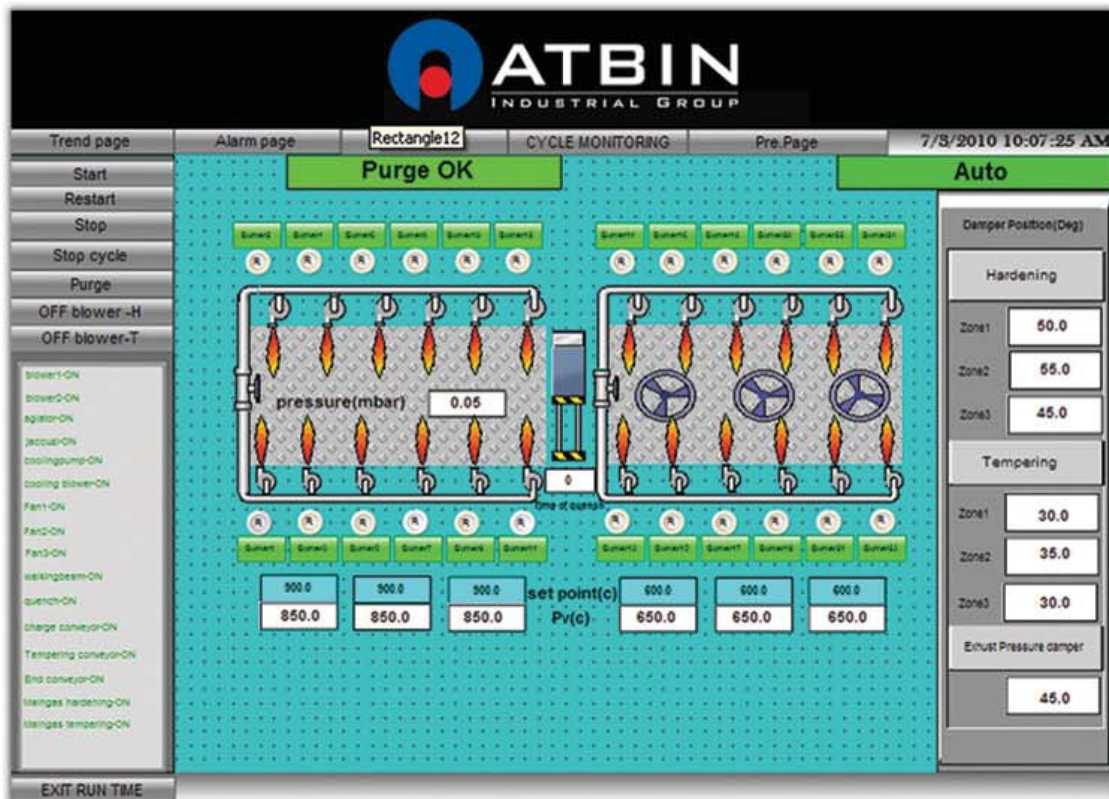
- Automatic immersion and extraction of the cylinders
- Affording various quenching methods
- Equipped with the cooling and heating systems
- Suitable agitation inside the quenching tank



Tempering Furnace

- Gas-fired heating system
- Continuous movement with conveyor or walking beam systems
- Hot air circulation system to reach to the best thermal uniformity
- Maximum operating temperature of 750°C
- Including preheating and soaking zones with excellent thermal uniformity
- No direct flame contact with treated parts





PLC-controlled Automation & Monitoring System:

Capabilities of this system are:

- Temperature control and display of actual and set temperatures graphs in each zone
- Display of burners status
- Display of temperature graphs for each zone (Temperature-Time graph)
- Data recording such as temperature, pressure, ...
- Display of doors status
- Display of system motion performance
- Display of motor fans mode (On/Off)
- Display of PLC operation option (Manual/Automatic)
- Alarming in cases of air pressure drop, gas pressure drop/rise, temperature rise in each zone, burner turn off and PLC malfunction



Aluminum Industry Furnaces

- Aluminum Melting & Holding Furnaces up to 35 Ton
- Aluminum Annealing & Homogenizing Lines
- Aluminum Solution Furnaces According to Aerospace Standards
- Aluminum Ageing Furnaces
- Gas Nitriding Furnaces
- Sheet Preheating Furnaces
- Continuous Aluminum Solution Furnaces
- Aluminum Coils Annealing Furnaces



Aluminum Melting & Holding Furnaces up to 35 Ton

- Gas, gas-oil and dual fired heating system
- Maximum capacity: 35 tons
- Capable of charging different ingots and scraps
- Automatic molten metal flow control
- Lined by 85% alumina content refractory bricks for maximum molten metal purity
- In two stationary and tilting models
- No direct flame contact with charged materials
- Minimum oxidation and scale loss due to pressure control system

Twin Chamber Melting Furnaces

These sort of furnaces are designed with two molten metal chambers. Molten metal circulation in these two chambers can be designed in a way that even tiny and thin scrap pieces can be charged with the lowest possible scale loss.





Aluminum Annealing and Homogenizing Lines

- Double door bogie hearth furnace
- Fuel-fired heating system with radiant tube burners
- No combustion flue gas inside the chamber
- Two loading wagons
- Hot air circulation system
- Mobile cooling system for adjusting the cooling rate
- Loading capacity up to 60 ton of Aluminum billets in different sizes
- Special stands for various types of loading
- PLC-controlled automation and central monitoring system



Ammonia Tight Gas Nitriding Furnaces

- For case hardening of steel parts and extrusion molds under ammonia atmosphere
- PLC-equipped heating cycles control system
- Equipped with emitted gas burn off
- Special standard welded and NDT tested chamber
- Inlet gas preheating
- Pressure control system

Aluminum Solution Furnaces

- For solution heat treating of various types of cast and wrought Aluminum alloys (T4, T6, T7)
- Excellent thermal uniformity according to aerospace standards ($\pm 3^{\circ}\text{C}$)
- Hot air circulation system
- No direct radiation on treated parts
- Electrical/ Fuel-fired heating system
- Adjustable discharging speed between 5-15 seconds
- Equipped with quench tank with adjustable quench temperature
- Automatic charging and discharging system



Aluminum Aging Furnaces

- Electrical/Fuel-fired heating system
- Batch type with hot air circulation system
- Loading on wagon or trolley
- Maximum operating temperature of 400°C
- Excellent thermal uniformity ($\pm 3^{\circ}\text{C}$)
- Capable of constant and long-term working at operating temperature
- Programmable PID temperature control system





Gas Carburizing Lines

- Main Carburizing Furnace
- Preheating Furnace with Hot Air Circulating System
- Tempering Furnace with Hot Air Circulating System
- Endothermic Gas Generator
- Charging and Transportation System
- Washing Machine

Gas Carburizing Lines

Gas Carburizing Lines



ST **SİSTEM TEKNİK** by SİSTEM TEKNİK Collaboration
SANAYİ FIRINLARI A.Ş.

Gas Carburizing Line with 1000 Kg Capacity

Suitable for carburizing, hardening and normalizing treatments under protective atmosphere including:

- Main furnace (Fuel-fired/Electrical)
- Electrical tempering furnace with hot air circulation
- Washing machine
- Charging & transportation system
- Endothermic gas generator





Endothermic Gas Generator

- Maximum temperature: 1100°C
- Dew point of the atmosphere is controlled & measured
- Electrical/Fuel-fired heating system
- Internal chamber made from heat resistant steels
- Capacity 10m³/hr - 40m³/hr

Tempering & Preheating Furnace

- Electrical heating system
- Maximum operating temperature of 650°C
- Loading weight up to 1000 Kg
- Roller hearth loading/unloading system
- Hot air circulation system to reach to the best thermal uniformity



Washing Machine

- Two separated chambers for degreasing treatment by immersing and spraying method
- System for separating oil and grease from degreasing solvent in each chamber
- Electrical heating system
- Motorized rising door
- Automatic level control system of solvent in both chambers



Automotive Industry Furnaces

- Automotive Parts Heat Treating Furnaces
- Core Paint Drying Line
- Stabilizer Bar Hardening Line
- Springs Heat Treatment Furnaces
- Fuel Fired/Electrical Isothermal Annealing Line including:
 - Austenitizing Furnace
 - Fast Cooling
 - Air Circulating Furnace
- Piston Graphitizing Furnaces
- Aluminum Parts Heat Treating Furnaces



Isothermal Annealing Heat Treatment Line (Cycle Annealing)

- Continuous furnace for annealing of automobile gearbox parts
- Gas, gas-oil and dual fired heating system
- Including three main zones:
 - 1- Heating zone up to 1100°C
 - 2- Fast cooling zone
 - 3- Soaking zone at 650°C with hot air circulation system
- Surface oxidation control system
- Walking beam or pusher type movement system
- PLC-controlled automation and central monitoring system





Core Paint Drying Line

- Conveyorized continuous oven with the lowest level of vibration in order to reach to the best foundry core quality
- Gas, gas-oil and dual fired heating system
- Indirect heating system using heat-exchanger
- Hot air circulation system to reach to the best thermal uniformity
- Omitting destructive effects of combustion flue gas
- PLC-controlled automation and central monitoring system to control the performance of and influencing parameters
- Conveyor return systems: Direct and Parallel





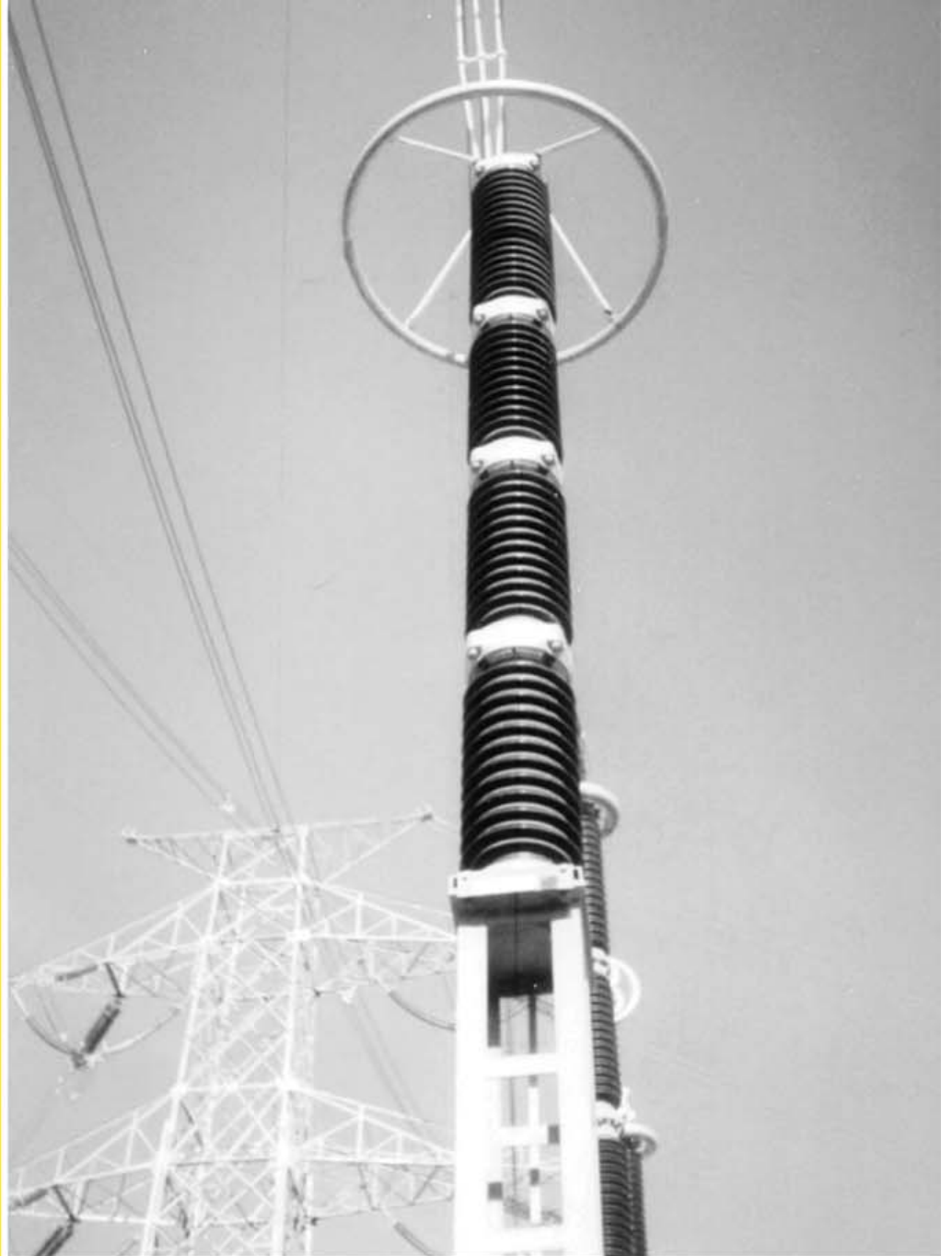
Spring and Stabilizer Bar Tempering Furnaces

- Conveyor or walking beam continuous movement system
- Recording and storing of all heating graphs and cycles
- Heat transfer through hot air circulation system
- Programmable PID temperature control system
- Gas-fired, indirect flame heating system
- With different heating zones and water spray cooling section
- Suitable for various types of springs and stabilizer bars

Leaf Spring Heat Treatment Furnaces

- Continuous movement with conveyor or walking beam systems
- Gas, gas oil and dual fired heating system
- Suitable for various types of leaf springs in different sizes and weights
- Recording and storing of all heating graphs and cycles
- With preheating, soaking and cooling zones
- PLC-controlled automation and central monitoring system





Electricity Industry Furnaces

- Vacuum Driers
- Bell Type Annealing Furnaces
- Drying Ovens
- Varnish Baking Ovens



Vacuum Driers Chambers with 350m³ Capacity

- For drying bobbins, transformer coils and active parts under 10^{-2} mbar vacuum using rotary and diffusion pumps
- Fulfillment of DIN, VDE and VDI standards
- Design temperature: 200°C
- Two separate doors with automatic movement system
- Automatic charging and discharging system
- Hot oil circulation heating system using heat exchangers
- PLC-controlled automation and central monitoring system to control the performance of influencing parameters





Bell Type Furnaces

- For annealing of copper coils & wires
- Sealed internal chambers
- Under protective atmosphere or vacuum
- Special formed metallic retorts for vacuum applications
- Cooling stations can be added to control the cooling rate
- Hydraulic cylinders is utilized for furnace movement
- Suitable design for heavy loadings



Ceramic Mould Preheating Furnaces

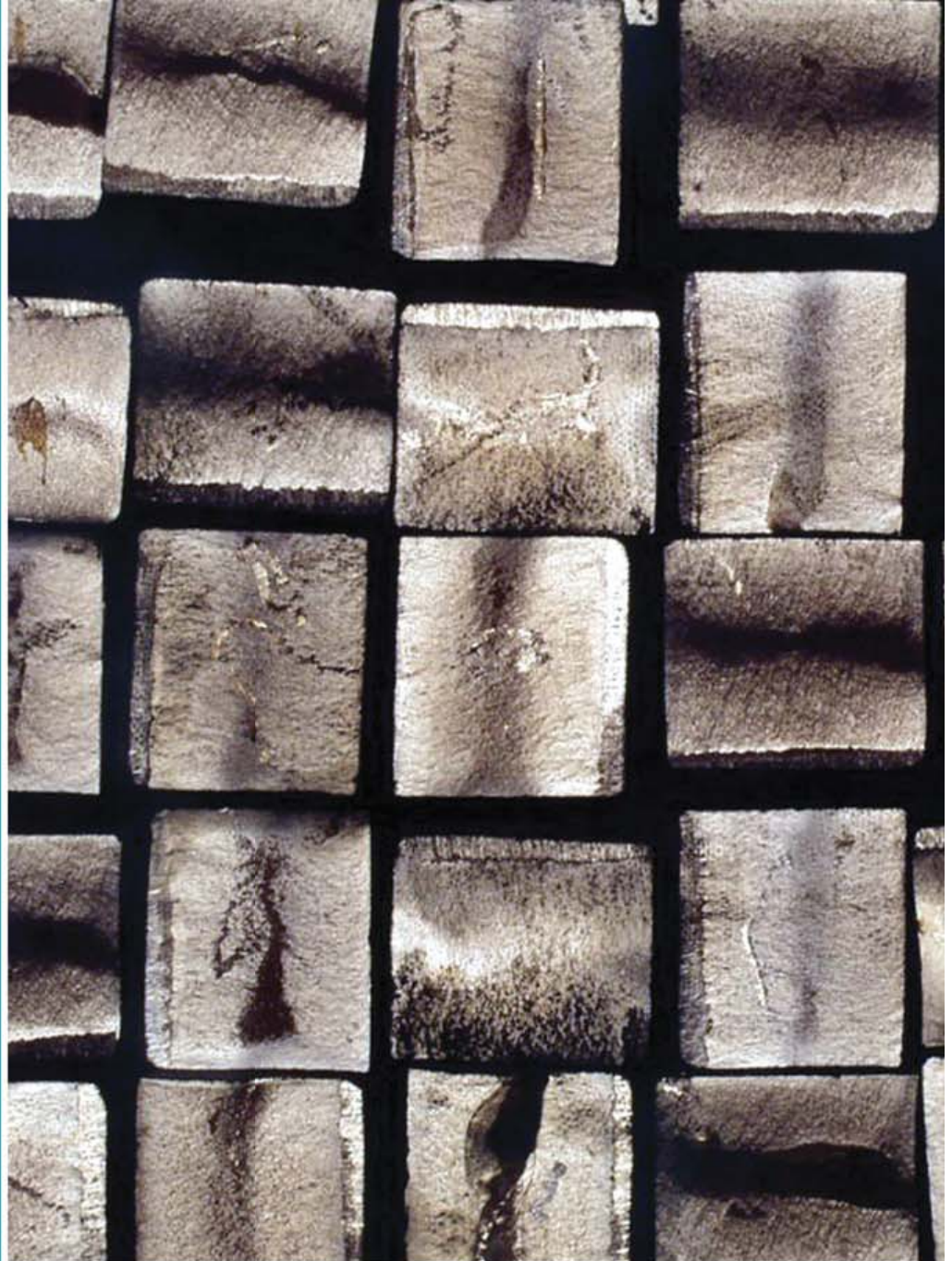
- Gas, gas-oil and dual fired heating system
- Two separate, motorized rising doors
- Capable of working constantly and frequently
- Specially designed flue gas exhausts to reach to the best thermal uniformity
- Internal lining is made of ceramic fibers with constant operating temperature of 1200°C
- Automatic burner control system: High-Low
- Equipped with after burners for de-waxing of ceramic molds for investment casting industries



Drying Ovens

- Drying and varnish baking ovens for electromotors, transformers and rotors
- Maximum operating temperature of 400°C
- Electrical/Fuel-fired heating system
- Hot air circulation system
- Loading by wagon or trolley
- Indirect heating system using heat-exchanger
- Excellent thermal uniformity
- Capable of working under constant and long-term conditions
- Programmable PID temperature control system





Other Products

- Industrial Ovens
- General Industrial Furnaces
- Atmosphere Controlled & Vacuum Furnaces
- High Temperature Atmosphere Controlled Furnaces
- Pressurized Auto Clave



High Temperature & Atmosphere Controlled Furnaces (Oxidation Free)

- Maximum operating temperature up to 1800°C
- Two different loading designs:
 - 1- Front loading
 - 2- Elevator hearth
- Under protective Ar/N₂, reducing or oxidizing atmosphere
- Equipped with special seals for gas inlet and outlet ports, thermocouples and heating elements

High Temperature Gas-fired Furnaces

- Car bell type
- Working temperature up to 1800°C
- Equipped with hydraulic cylinders and wagon
- Automatic inside pressure control
- Suitable for very low heating rates & long heat-up cycles
- Fully PLC-controlled automation and monitoring system



High Temperature Atmosphere Controlled Furnaces

- Low weight and compact design
- Minimum thermal loss
- High grade AL_2O_3 insulation
- $MoSi_2$ heating elements
- Fast heating-up
- Door with parallelogram type movement
- Programmable PID temperature control system
- Over-temperature protection system
- Working temperature: 1600°C / 1750°C / 1800°C
- Atmosphere Options:
 - Argon
 - Nitrogen
 - Oxygen
- Models:
 - Front Loading
 - Elevator Hearth



Electrical or Fuel-fired Industrial Ovens

- For drying, varnish baking, paint & resin drying, metallic parts preheating, electrode baking, paper, filter & plastic dryers
- Hot air circulation system through centrifugal fans
- Equipped with heat-exchanger for indirect heat transfer
- No combustion flue gas inside the operating chamber
- No direct radiation on treated parts
- Special design of the air ducts, number and location of the circulating fans according to the loading method and in an arrangement to reach to the best thermal uniformity



Continuous Ovens with Hot Air Circulation

- Electrical/Fuel-fired heating system
- Conveyorized movement system (chain, mesh belt, ...)
- Completely separate heat-exchanger without direct effects on operating chamber
- Three zones including preheating, heating and cooling
- Adjustable output speed and heating cycles





Electrical Ovens for Glass & Composite Sheets Forming

- Suitable zoning and specific design of circulation paths inside the chamber
- Adjustable blowing speed
- Excellent thermal uniformity for glass sheet forming ($\pm 3^{\circ}\text{C}$) according to related standards & employing uniformity tests
- Capable of adjusting internal humidity
- PID temperature control system with $\pm 1^{\circ}\text{C}$ temperature stability
- Omission of dusts and small particles by installation of suitable filters to maintain clean room conditions





Industrial Heat Treatment Furnaces

- For heat treatment of metallic parts such as annealing, normalizing, hardening, tempering, stress relieving, preheating & firing of ceramics, glassware, porcelain, ...
- Operating temperature up to 1250°C
- Bogie hearth or stationary
- Electrical/Fuel-fired heating system
- Customized-design furnaces

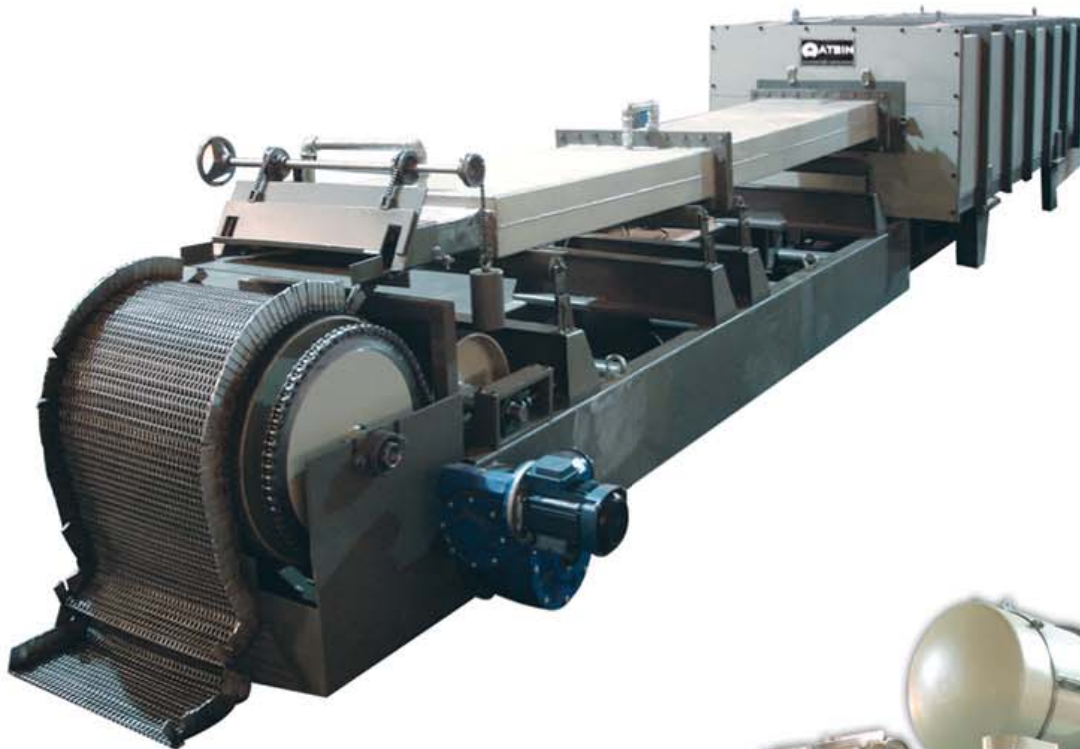


Rotary furnace for powder drying process at pH=14, up to 1000°C including preheating, heating & cooling sections

Teflon Firing Lines

- Continuous gas fired furnaces
- Indirect flame using radiant tubes
- With hot air circulation system
- No direct flame and flue gas contact with surface of treated parts
- With different heating zones and cooling part
- Fine gas collection system providing high firing quality





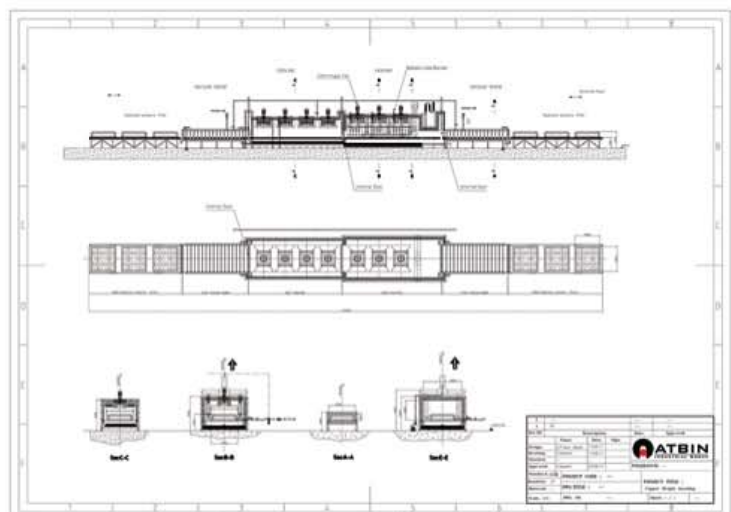
Mesh belt Continuous Furnaces

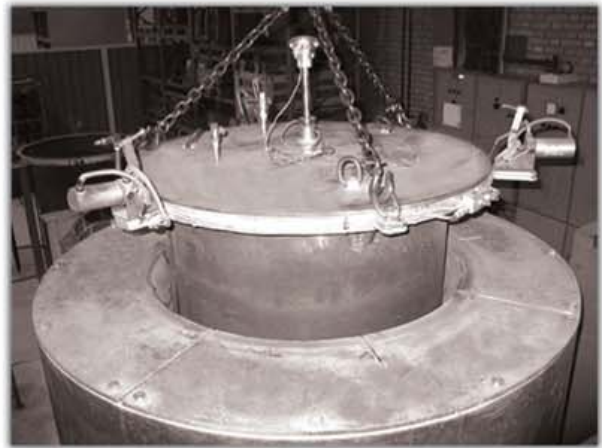
- Maximum operating temperature of 900°C
- Equipped with Endothermic gas generator for protection of the parts surfaces against oxidation
- Preheating, heating and soaking zones
- Heat resistant steel mesh belt
- Equipped with all necessary alarms and safety systems for Endothermic gas
- Both water and oil quench tanks
- Heating and cooling systems for exact adjustment of quench temperature
- Charge and discharge system for quench tank



Roller heart Continuous furnaces

Copper and steel pipes and profiles roller hearth heat treatment lines under protective atmosphere, up to 1000°C equipped with vacuum and cooling sections





Vacuum & Inert Gas Protective Atmosphere Furnaces

- For variety of heat treatment processes under protective atmosphere to omit surface oxidation or parts color change
- In different types: Top-loading, Front-loading, Pit type and Bell type
- Maximum operating temperature of 1250°C under Ar/N₂ protective atmosphere
- Adjustable heating and cooling rate
- Air/Gas blowing cooling stations
- Non destructive tests (NDT) to control the welding quality of the sealed chamber
- The chamber is made of special formed sheets for vacuum applications
- Flow control and pressure adjustment of the inlet gas
- Main applications:
 - Bright annealing of finished parts under reducing atmosphere
 - Hardening of steel parts
 - Ammonia-tight gas nitriding
 - Annealing of copper coils





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