

**Hi-tech**  
engineering

## OUR CORE BUSINESS

INDUSTRIAL FURNACES FOR THE HEAT TREATMENT  
OF STEELS AND LIGHT ALLOYS

CHARGING MACHINES FOR FURNACES

SUBORDINATING ACCESSORIES FOR THE HEAT TREATMENT  
(QUENCH TANKS, TILTING DEVICES AND OTHER)

COMPLETE TURNKEY INSTALLATIONS  
FOR THE HEAT TREATMENT

MANAGEMENT SYSTEMS ATTENDING  
THE HEAT TREATMENT  
PROCESS CONTROL

POSSIBLE HEAT TREATMENTS WITH OUR EQUIPMENT:  
FOR STEEL:

- AUSTENITIZING WITH OIL - WATER - POLYMER - AIR QUENCHING,
- TEMPERING,
- NORMALIZING,
- ANNEALING,
- STRESS-RELIEVING.

FOR ALUMINIUM:

SOLUTIONING,  
AIR - WATER - POLYMER QUENCHING,  
AGING, FINAL COOLING.

## BRIEF DESCRIPTION OF OUR MAIN APPLICATIONS

### WHAT MAKES OUR COMPANY UNIQUE?

### WHICH IS OUR SUCCESS GOAL?

Complete customized solutions and realizations for any need of the customer, for no matter which type of piece and range of productivity.

Our core business includes: the study of the feasibility, the design and project, the construction, tests and start-up, aftersales technical assistance. Ready-to-use.

Continuous lines with roller type furnaces; batch type lines with fix chambers attended by one side or rotating charging machines; boogie-hearth type furnaces.

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## PHILOSOPHY

**YOUR INSTALLATION  
IS STUDIED IN EVERY DETAIL  
TOGETHER WITH YOU  
CUSTOMIZED ON THE BASIS  
OF YOUR REQUIREMENTS.  
EACH TYPE OF FURNACE  
IS COMPLETELY DESIGNED  
AND BUILT IN OUR TURIN  
PLANT ACCURATELY  
HOT TESTED BEFORE SHIPMENT**

**SENT IN YOUR LOCATION,  
WHEREVER IT IS  
WHERE THE FEEDING  
CONNECTIONS ARE DONE  
AND THE OPERATIONAL  
FUNCTIONS ARE OPTIMIZED.  
YOUR INSTALLATION  
WILL BE SOON  
“READY TO USE”.**

## OUR CUSTOMERS

AUSTRIA  
BELGIUM  
CHINA  
CZECH REPUBLIC  
FRANCE  
HUNGARY  
INDIA  
ITALY  
MEXICO  
POLAND  
SOUTH AFRICA  
USA

THOSE CLIENTS WHO HAVE IN THEIR PRODUCTION STANDARD:

- Pieces obtained by casting
- Forged pieces (hot or cold)
- Mechanical industries "First fitting"
- Spare parts and all those production cycles that require specific heat treatment cycles, also to third parties.

## OUR GOALS

**"Turnkey supply"**: the great versatility and flexibility of Hi-Tech engineering allowed us to enlarge and complete this our main philosophy: Follow-up of our Client through all the phases of the project; from the study to the after-sales services.

Hot-testing before delivery: all the lines designed and built by Hi-Tech engineering, are pre-assembled and very often hot tested, in the presence of the Customer's technicians, in our Turin factory.

The installations are then disassembled and shipped to their final destination where, once on site, they are quickly reassembled and delivered ready for use.

## MANAGEMENT SYSTEM ARCHITECTURE

Supervision on PC with charge tracking - the system is able to know where the charge is in each moment of the heat treating process.

Automatic report containing all process data.

**Dialogue and interface with the internal management system of our Customer for more complete information.**

## SIZING OF OUR INSTALLATIONS

Hi-Tech engineering builds **continuous installations** with a productivity from 2-3 to 100÷120 tons/day, in the light alloys field, and from 20-30, till 200 tons/day and more, in the field of steels.

In the case of **"discontinuous" machines** (car bottom furnaces, box type furnaces), they are capable of unit charges of several hundred kilograms up to more than 100 tons for the car bottom furnaces and 50 tons for the batch type furnaces.

### CONTINUOUS INSTALLATIONS

LIGHT ALLOYS FIELD  
PRODUCTIVITY FROM  
TONS/DAY

**120**

STEELS  
PRODUCTIVITY FROM  
TONS/DAY

**200**

### DISCONTINUOUS MACHINES

CAR BOTTOM FURNACES  
UNIT CHARGES  
UP TO TONS

**100**

BOX TYPE FURNACES  
UNIT CHARGES  
UP TO TONS

**50**

## TECHNICAL ASSISTANCE AFTER SALES

**R. A. S. (Remote Assistance Service)**: through an internet connection with our offices, allows to carry out controls and updates of the management system of the installation.

**V. S. S. (Video Surveillance System)**: with such system, unique in its specific application, Hi-Tech engineering runs a visual continuous monitoring of the installation in real time, thanks to matching of mobile camcorder and Internet.

The research and the solution, in cooperation with the technicians of the customer, of any faults occurring during the production, are taking place in a fast and effective way, with real economic advantages.



T5 heat treatment for aluminium engine blocks V6.



Heat treatment of aluminium parts for the automotive industry.



T6 heat treatment and thermal sand removal for aluminium engine heads.

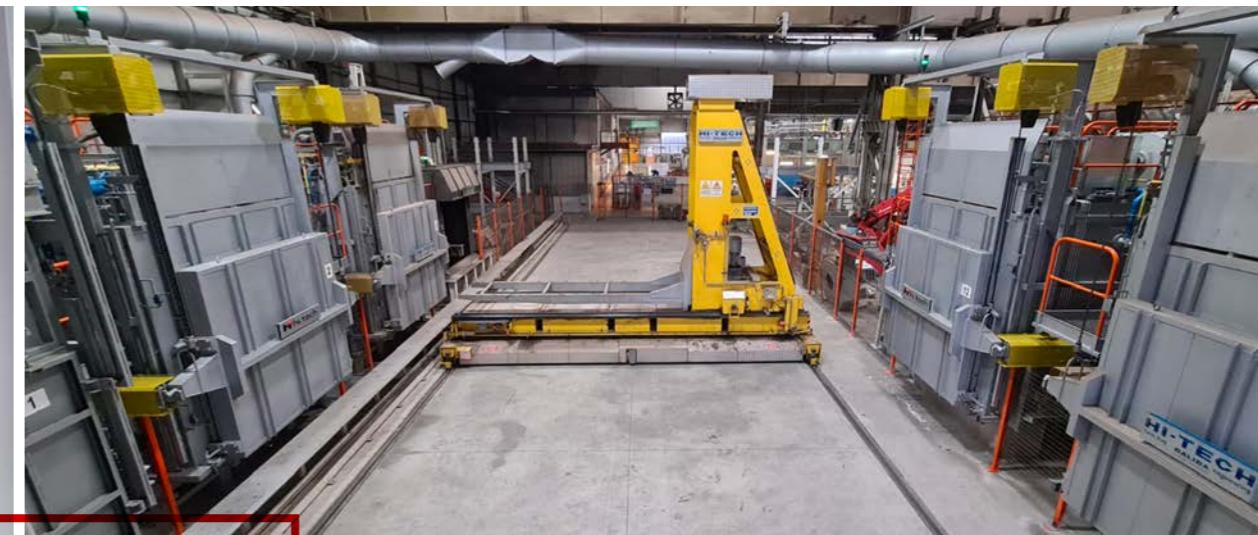


Heat treatment line for automotive parts with air quench and water quench.

Heat treatment line for different cylinder heads, with air quench and water quench.



Heat treatment for engine blocks and cylinder heads.





Globular annealing  
heat treatment  
of rings for bearings.



Car bottom furnace  
for the heat treatment  
of different parts,  
globular annealing and  
isothermal annealing.



Car bottom furnace  
for rings with fiber  
hearth insulation.



Car bottom  
furnace.



Rings for energy  
and aerospace industry.



Heat treatment  
of large size forged rings  
(batch type line  
for 8 meters diam. rings).



Different parts for fittings.



Parts for automotive industry.

Versatile furnace  
for rings and wheels.



Batch furnace for  
aerospace parts.



Modular  
versatile line.



Versatile  
batch furnace  
for modular line.



Box type  
forging furnace  
for aluminium.

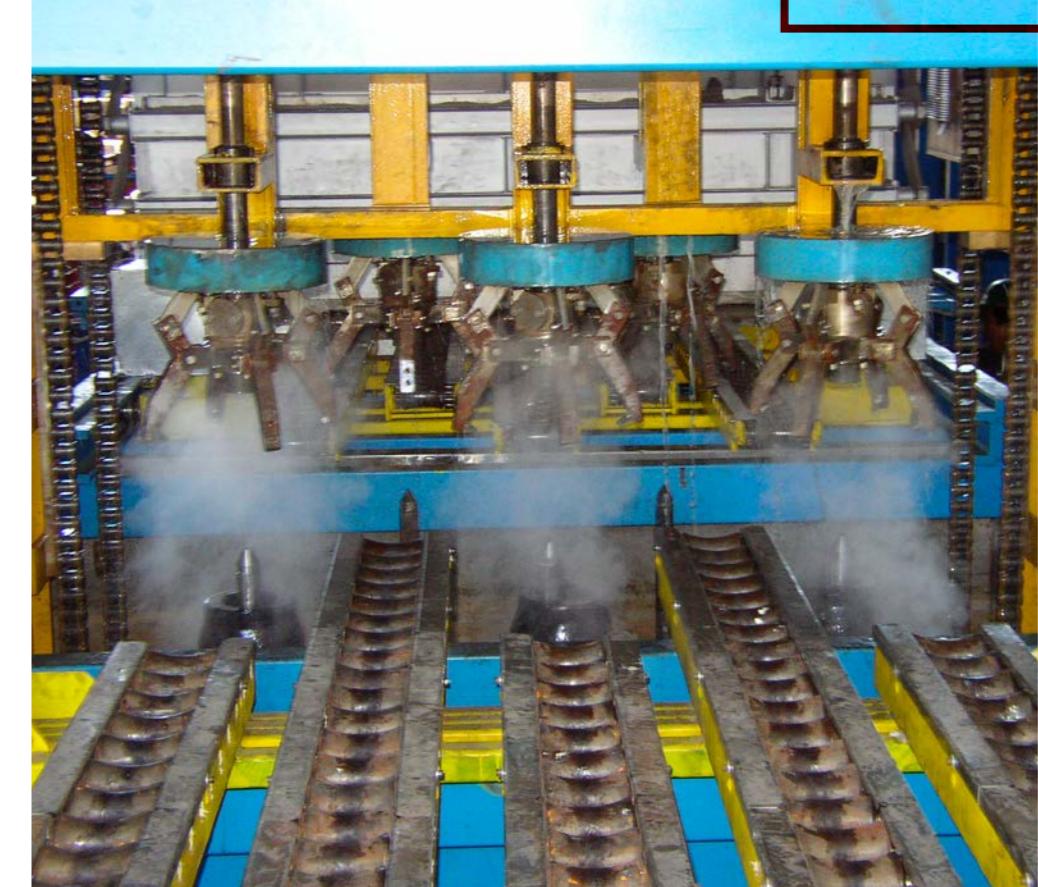
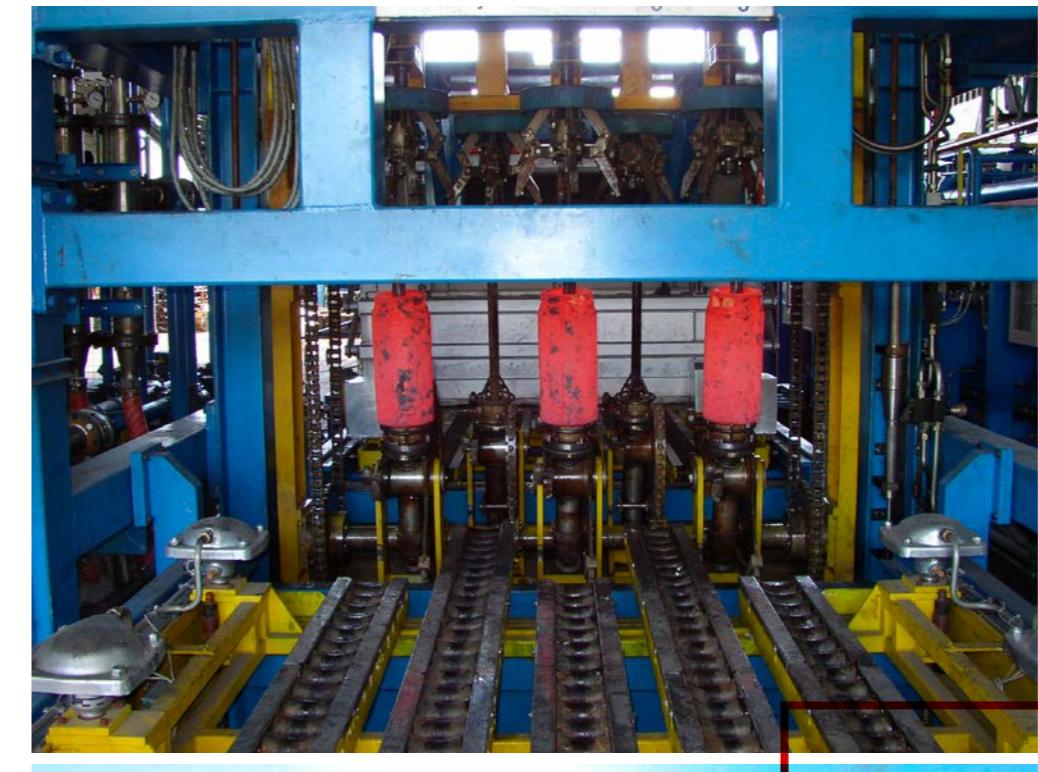


Batch type lines  
with box type furnaces  
and charging machine.



Versatile line with  
oil quench for  
automotive parts,  
agricultural and  
undercarriage  
products.

Water-Polymer quench  
of rings and wheels.



Water-Polymer quench  
of tool joints.



Direct quench after forging  
parts for undercarriage.



Quenching  
of valves.



Water quench installation  
for Oil & Gas parts.



System for individual forced  
quenching of tool joints.

Belt type furnace  
for isothermal annealing.



Belt type continuous line  
for isothermal annealing after forging.

Continuous lines  
with roller type  
for automotive parts.



Continuous lines  
with roller type furnaces for plates.



Continuous lines with roller type  
furnaces for up to 7.5 meters bars.



Continuous lines with  
roller type furnaces.



Tunnel type  
installation for bars.



Continuous lines with  
roller type furnaces.



Continuous line  
for quenching for  
Oil & Gas parts.



Polyvalent roller type line  
for automotive parts.



Tunnel type line for heat treatment  
of different parts inside baskets.

Revamping of modular line  
with new isothermal cell.



Accessories attending HT line:  
tilting devices.



Inter-operational  
shuttle.





Forced cooling chamber.



Rotating platforms.



Shuttles and transfer roller tables.



Laboratory furnaces.



Tilting device  
for continuous  
roller type furnace.





Transfer shuttle.



Implementation with blasting machines.



Conveyor for cooling of connecting rods.



Racks  
for steel parts.





Racks for aluminium parts.





Transport  
to Czech Republic.



Transport  
to Belgium.



Transport  
in Italy.



Transport  
to South Africa.



Transport  
to Mexico.



Transport  
in Italy.



Transport  
to France.

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