



**STEEL AND  
ALUMINUM HAVE  
CHANGED.  
HEAT TREATMENT  
INSTALLATIONS  
REQUIRE INCREASING  
HIGH STANDARDS  
IN RESPONSE TO  
A CONSTANTLY  
GROWING DEMAND  
FOR SPECIALIZATION.  
HI-TECH ENGINEERING  
OFFERS HIGHLY  
ENGINEERED  
SOLUTIONS AND  
OF UNMISTAKABLE  
SINGULARITY.**

In an environment called family, engineers, technicians and developers share the sole goal of designing, assembling and starting-up customized lines and machines, immediately ready to go into production after the set-up.

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#### PRIMARY IMPORTANCE INSTALLATIONS

**HI-TECH ENGINEERING'S MISSION IS TO MAKE EVERY INSTALLATION A VITAL ORGAN OF THE INDUSTRY THAT WILL WELCOME IT. WHETHER IT'S THE BEATING HEART, OR THE LUNG THAT BREATHES OR THE THINKING BRAIN, THE IMPORTANT THING IS THAT IT GUARANTEES WELL-BEING AND FULL EFFICIENCY TO A UNIQUE AND UNREPEATABLE ORGANISM.**

WHO

Hi-Tech engineering has its roots back in '60s of the twentieth century, when Pier Angelo Dell'Oca took its first significant steps in the world of heat treatment furnaces. The turning point took place in 1996, when Pier Angelo was joined by his daughter Emanuela and his partner and Technical Director, Maurizio Motetti. The current managerial framework is completed with the entry of Giovanni Menardi, son-in-law of the founder and an element of family continuity, who holds the role of General Manager.

**Turin, a city that represents the historic Italian industrial vocation, has accompanied and continues to accompany all the stages of growth of the company,** now known throughout Europe and in those specific countries of the globe where an important metallurgical production is concentrated.

Production of heat treatment installations, both for steel and for aluminum, provides only customized designs and tailored equipment.

**Words leave room for examples, demonstrations, tests and, finally, results.** Respect for the customer always comes first. Safety of people and places overrides any other type of consideration.

Companies, like people, are made of principles in which they firmly believe, which, translated in business meaning, become factors of recognition and quality in front of customers. **Hi-Tech engineering is no exception, and its key points are the litmus test of the end product:**

- **Reliability:** what is being proposed is what it is, in honesty and transparency.
- **Professionalism:** do every job correctly, always.
- **Support:** more than a service, a real value offered to all customers.
- **Respect:** a social and moral attitude for all.
- **Environment:** maximum attention to global dynamics and concrete actions.

**FROM THE 60S TO TODAY, FROM TURIN TO THE WORLD.**

FEW WORDS,  
MANY FACTS,  
MAXIMUM RESPECT

REAL LIFE,  
REAL VALUES

Pier Angelo Dell'Oca



# HOW

## HI-TECH ENGINEERING DESIGNS, BUILDS AND INSTALLS LINES FOR THE HEAT TREATMENT OF STEEL OR ALUMINUM PARTS.

### THE PRODUCTION

Automation and connectivity are aspects strongly acquired internally, which are shared with the client according to specific needs. The possible use of robotic units is integrated with selected, trusted and specialized partners.

### NEW, EVOLUTIONARY AND REGENERATED INSTALLATIONS

The company's strong point is the construction of new installations, whose origin idea is coming from the customer. The installation takes shape thanks to a detailed design and a production followed step by step. All new installations can be considered "evolutionary", that is, they are designed for any and subsequent extensions or additions, without interrupting, except in the strictly necessary phases, the regularity of the production cycle. Finally, prior a compatibility study, the revamping option has been activated: when there are specific technical conditions, it is possible to regenerate a faulty system, obsolete or not up to the desired or in force standards; this is a solution often suggested also in terms of energy saving, by using self-recuperative burners.

### THE CUSTOMERS

The projects involve the mechanical industries (mostly related to the automotive, wind, nuclear, aerospace or railway sectors) that have in their production steel parts, alloy, light alloy, super alloy and aluminum parts obtained by casting, stamping, forging or various production cycles **requiring specific heat treatment**.

### THE IMPORTANCE OF DIALOGUE

Hardware and software talk to each other so that there is a perfect connection between power and control. From plant engineering to remote management and service programs, all components are developed in-house. Every single design aspect is carried out under the careful eye of the customer, the true and final auditor of the job.



FROM IDEA  
TO ACTION

## "TURNKEY" IS SIMULTANEOUSLY SERVICE AND PHILOSOPHY OF THE COMPANY, TO OFFER A COMPLETE SUPPLY FROM THE DESIGN TO COMMISSIONING AND START-UP



- 1 THE BIRTH OF EACH PROJECT TAKES PLACE IN THE MIND OF THE CLIENT. HI-TECH ENGINEERING GIVES IT FORM AND SUBSTANCE.
- 2 THE TECHNICAL STUDY DEVELOPS THE PRODUCT MECHANICALLY AND ELECTRICALLY. THE MANAGEMENT SOFTWARE IS ALWAYS CREATED BY INTERNAL SOFTWARE DEVELOPERS.
- 3 THE NEXT PHASE TAKES PLACE IN THE TURIN FACTORY, WHERE THE PLANT MANAGER AND THE SITE MANAGERS COORDINATE THE WORKERS SO THAT EACH STEP IS STRICTLY RESPECTED.
- 4 ONCE CARRIED OUT AND PASSED THE COLD OR HOT TESTS, THE MACHINE LEAVES THE FACTORY; THE BULKIEST PARTS ARE DISMANTLED AND REPACKED AT THE CUSTOMER'S PREMISES.
- 5 TRANSPORT, LOGISTICS AND INSURANCE ARE FULLY HANDLED BY THE ADMINISTRATIVE OFFICE OF HI-TECH ENGINEERING.
- 6 ONCE THE MACHINE IS REASSEMBLED AT ITS FINAL DESTINATION, IT IS POSITIONED ON LAYOUT UNDER SUPERVISION, DIRECTION AND COORDINATION OF THE TECHNICIANS DEDICATED TO THE PROJECT.
- 7 TECHNICIANS AND, WHERE APPROPRIATE, MANAGERS APPOINTED BY THE CONTRACTING COMPANY RECEIVE COMPLETE AND EXHAUSTIVE TRAINING.
- 8 START IN PRODUCTION INVOLVES AN INITIAL PERIOD OF PRODUCTION ASSISTANCE.
- 9 AFTER-SALES SERVICE STARTS FROM THE WARRANTY PERIOD AND CONTINUES WITH ORDINARY MAINTENANCE CONTRACTS.





THE “+” IS A DISTINCTIVE SIGN THAT COMES FROM THE PRECISE WILL TO GIVE AND DO WELL. CUSTOMERS, COLLABORATORS, PARTNERS AND PEOPLE WHO, IN GENERAL, INTERTWINE THEIR PATH WITH THAT OF HI-TECH ENGINEERING, HAVE RECOGNIZED SPECIFIC ACTIONS OR BEHAVIOURS OF THE COMPANY AS A REAL ADDED VALUE.

PLUS

GIVING MORE TO DO MORE

- + Highly specialized, family-run, Italian industry.
- + Streamlined procedures, high reactivity in problem solving, dynamism in production.
- + Systems always customized and modular, with the added benefit of being able to take advantage of the experience and the continuous updating of the Hi-Tech engineering team.
- + Assistance always guaranteed in every part of the world, with the possibility to support by local companies, trusted by the customer, already trained during assembly and commissioning.
- + Absolute concentration and dedication on the individual project.
- + Important internal know-how, thanks to simultaneous in-house presence of plant engineering and software design.
- + Production in the factory and worldwide delivery, where the site manager of Hi-Tech engineering remains, unconditionally, until the start on production at the customer's premises.
- + Complete spare parts list with information on the manufacturer of each of them.



YEARS AT CUSTOMER SERVICE



CONTINENTS ACHIEVED



LANGUAGES SPOKEN FLUENTLY BY OUR TEAM

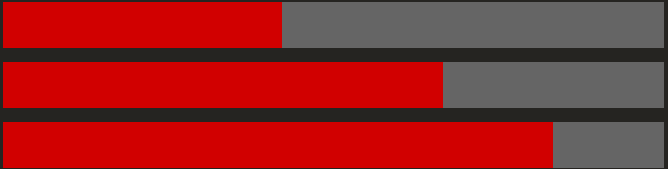


PLANTS DESIGNED AND OPERATED IN THE LAST 10 YEARS



CUSTOMERS IN THE LAST 10 YEARS

I NOSTRI SPAZI



500 SQM OF OFFICE SPACE

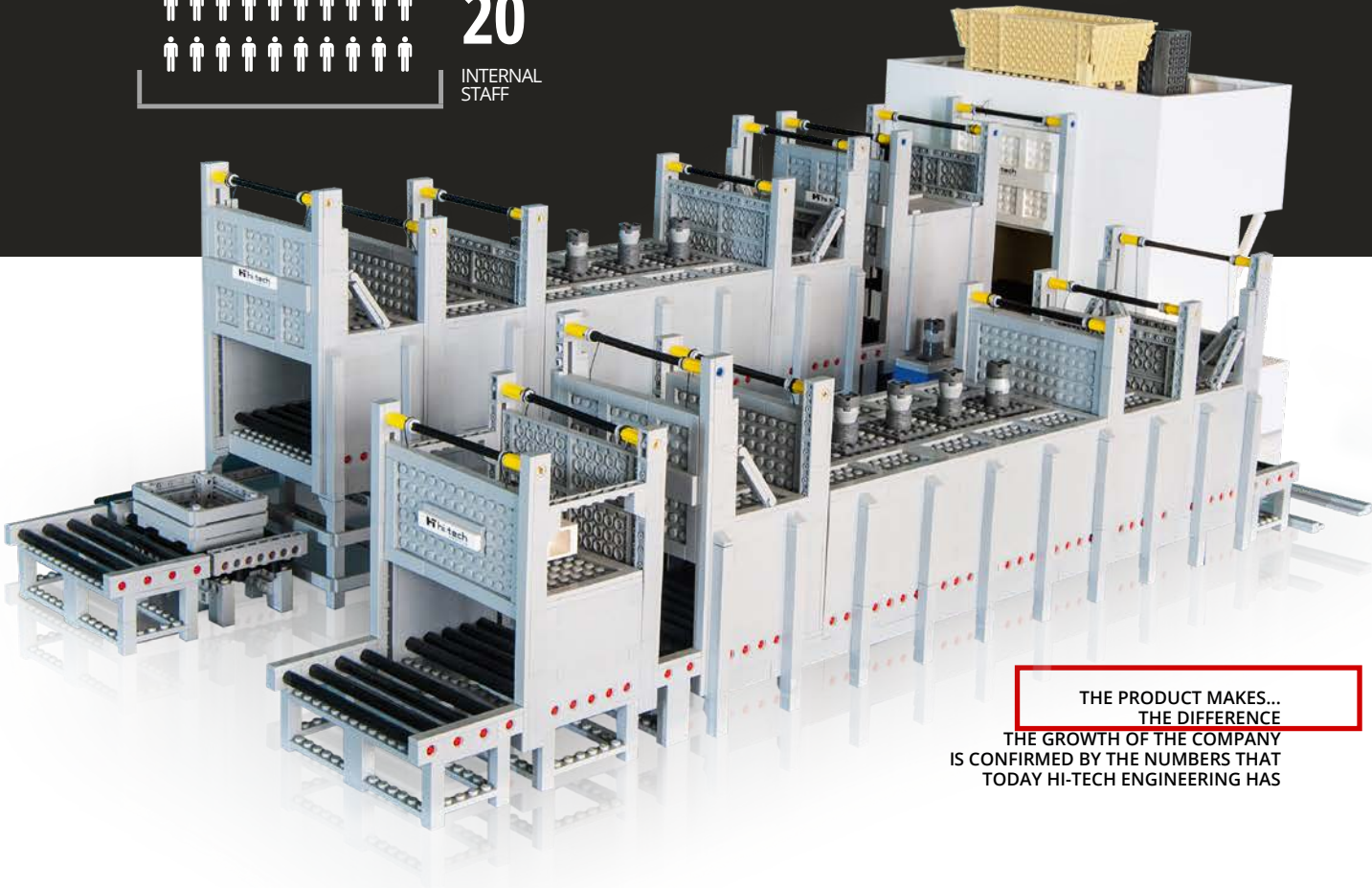
4000 SQM OF FACTORY FOR PRODUCTION

5000 SQM OF OUTDOOR SPACE



20

INTERNAL STAFF



THE PRODUCT MAKES... THE DIFFERENCE  
THE GROWTH OF THE COMPANY IS CONFIRMED BY THE NUMBERS THAT TODAY HI-TECH ENGINEERING HAS

THE STORY  
OF EACH  
WITH THE AIM  
OF GROWING  
TOGETHER.

Hi-Tech engineering is a virtuous meeting of personal experiences, professional paths, acquired skills. In a structure that, we like to emphasize, remains a family dimension, women and men of the team collaborate following goals, paths of growth, opportunities and, why not, some dream.

Technical and administrative offices  
Turin  
Factory  
Turin



Emanuela Dell'Oca

Partner, Chief  
Finance Officer

Maurizio Motetti

Partner, Chief  
Technical Officer

Giovanni Menardi

Chief Operating  
Officer

Clara

Sales

Sergiu

Software  
Designer

Davide

Hardware/Software  
Manager

Gabriel

Site  
Supervisor

Iulian

Factory  
Supervisor

Livio

Site  
Supervisor

Daniel

Site  
Supervisor





INSTALLATIONS  
AND SOLUTIONS  
FOR STEEL PARTS

Installations and heat treatments

- CONTINUOUS INSTALLATIONS WITH PRODUCTIVITY FROM 20 TO OVER 100 T/DAY.
- DISCONTINUOUS INSTALLATIONS (SUCH AS CAR BOTTOM OR BOX TYPE FURNACES) WITH UNIT CHARGES RANGE FROM A MINIMUM OF A FEW HUNDRED KILOGRAMS TO MORE THAN 100 TONS IN THE CASE OF CAR BOTTOM FURNACES AND MORE THAN 50 TONS FOR BATCH LINES.
- VERSATILE AND MODULAR SYSTEMS FOR THE SPECIFIC HEAT TREATMENT OF PARTICULAR STEEL ALLOYS.
- **EXECUTABLE HEAT TREATMENTS:** WATER, OIL, POLYMER QUENCH; TEMPERING; NORMALIZATION; GLOBULAR, ISOTHERMAL, COMPLETE ANNEALING; DIRECT HARDENING; STRESS RELIEF; PRE-FORGE HEATING; CRYOGENIC TREATMENTS AT -120 °C; SPECIFIC TREATMENTS ON REQUEST OF THE CUSTOMER.

Solutions

- CONTINUOUS ROLLER TYPE LINES:** hardening or isothermal annealing furnaces, quenching systems (in oil, water, polymer, air), cooling systems (in air, water or mixed) and loading/unloading, weighing and control stations.
- BATCH LINES WITH BOX TYPE FURNACES:** systems consisting of a combination of several chamber furnaces, quenching equipment, cooling systems, loading and unloading areas, all grouped in a single treatment department, attended by a charging machine for handling the loads.
- CHARGING MACHINES:** single-faced or self-rotating machines for handling the loads inside batch lines.
- QUENCHING EQUIPMENT:** systems for the use of different quenching media such as water, oil, water solution of polymers.
- CAR BOTTOM FURNACES:** furnaces for the treatment of large unit loads or the execution of treatment cycles with very high times.
- FEEDING AND HANDLING MACHINES:** auxiliary devices such as automatic loading and unloading systems, other handling machines, specific cooling chambers, tilting machines, fumes remediation systems.



INSTALLATIONS  
AND SOLUTIONS  
FOR ALUMINIUM

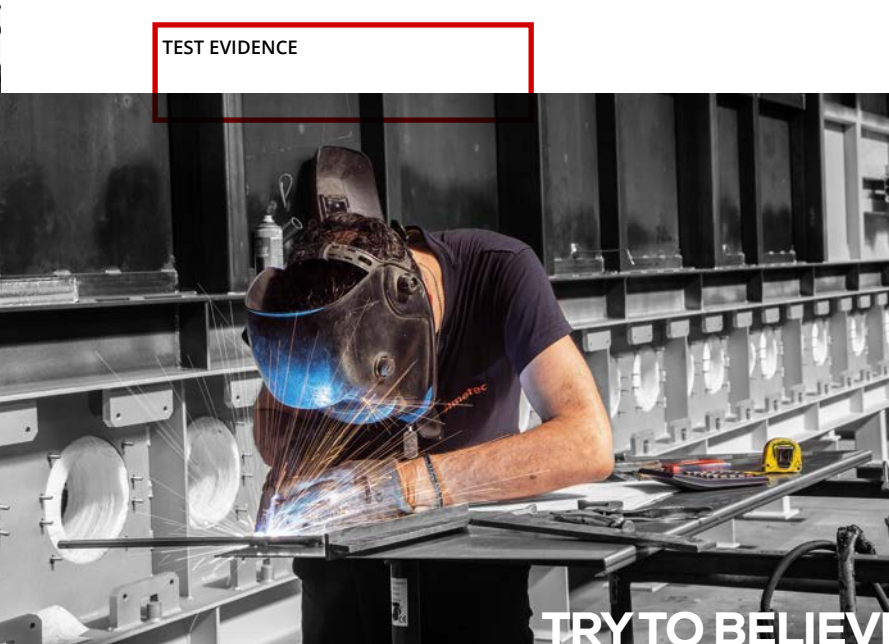
Installations and heat treatments

- INSTALLATIONS FOR THE HEAT TREATMENT OF CYLINDER HEADS, ENGINE BLOCKS AND DIFFERENT AUTOMOTIVE PARTS (AEROSPACE, TRUCK), WITH PRODUCTIVITY FROM 2 TO 120 T/DAY.
- SYSTEMS FOR STRUCTURAL PARTS IN THE AUTOMOTIVE INDUSTRY, WHICH REDUCE THE WEIGHT OF NEW CARS AND THEREFORE THE EMISSIONS INTO THE ENVIRONMENT.
- VERSATILE AND MODULAR SYSTEMS FOR THE HEAT TREATMENT OF PARTICULAR ALUMINIUM ALLOYS.
- THE INSTALLATIONS CAN SIMPLY BE SET UP ON THE GROUND WITHOUT THE NEED FOR CIVIL ENGINEERING.
- **HEAT TREATMENTS THAT CAN BE PERFORMED:** T5 (AGING ONLY) OR T6 (SOLUTION - QUENCHING IN COLD WATER, HOT WATER, AIR - AGEING). SPECIFIC TREATMENTS ON CUSTOMER REQUEST

Solutions

- SOLUTION AND AGEING FURNACES:** continuous, exclusive roller handling, without mechanical parts and internal actuations (such as wheels or chains).
- QUENCHING IN WATER:** double wall quench tanks with hood, complete with roller lift; cooling management with “up&down” sequences and inverter mixing systems.
- AIR QUENCHING:** particularly delicate process that requires strong experience and laboratory testing before project development. The direction of the flow, the regulation through automatic inverters, the extraction of hot air, are critical elements of this process.
- HANDLING:** manual loading/unloading stations and robotic loading/unloading stations with closed-loop recirculation of racks.

# TECH NOLOGY



TRY TO BELIEVE,  
TOUCH AND SEE WITH  
YOUR OWN EYES.  
WORDS ARE NOTHING IF  
NOT FOLLOWED BY ACTION.

## FATE IN THE NAME.

The journey of man is made up of dynamic notions: our knowledge is in continuous evolution, and every information will be to the base of the successive development.  
**Hi-Tech engineering already in the name addresses its mission:**  
to offer solutions of expert engineering for high-tech installations.

### THE PERSONALITY OF AUTOMATION

**Automation is an essential element in every installation.**  
Its complexity varies: it starts from a simple level (complete human control) to an advanced level (almost total automation with the intervention of robotics). It is always the customer who decides what and how much to automate.

### PARAMETERS AND PROCESS CONTROL

The process and control parameters (temperatures, pressures, flow rates and the thousands of parameters that must have evidence) are constantly monitored by the customized interface panel. **Reports, tables, comparisons, tests and data sheets** can be processed and stored in all forms that standards and the customer require.

### A RESEARCH AND DEVELOPMENT HORIZON

Adapting to the new challenges of the market means thinking, analysing and experiment. **The internal department dedicated to R&D** performs tests on strategic components, hardware and software, to increase the potential of heat treatment line and to offer customers the guarantee of the product they will buy.

### DIGITALLY HI-TECH

**Industry 4.0 is the key to access to systems increasingly connected** at machine-machine or machine-man level. The current solutions are being joined by more and more, always able to guarantee the real benefits of digitalization: precision, efficiency, speed, cost-effectiveness.

### THE TEST AS ABSOLUTE GUARANTEE

For this reason, one of the greatest strengths is the execution of specific tests to complete customer reassurance and guarantee:

1. Prior to the project: simulations and feasibility tests shall accompany the preliminary phase. The results offer the data needed to enter the next step.
2. During processing: heat treatment tests. These are hot pre-tests that guarantee the performance required to the machine.
3. After final assembly: process repeatability tests after set-up, so that there is total safety on the actual operation of the machine.

**Almost all the tests performed in all phases are successful.**

In the unlikely event of a non-alignment between request and results, the commitment of Hi-Tech engineering is to analyse the problem, find the solution and repeat the test, which will hardly recur the issue found-out in the first step.



ALWAYS BE THERE  
WHEN YOU NEED TO

## THE COMMISSIONING OF A HI-TECH ENGINEERING LINE IS THE BEGINNING OF A PRODUCTION CYCLE THAT WILL LAST OVER TIME. LIKE EVERY MACHINE, LIKE EVERY SINGLE PIECE.



### THE GUARANTEE IN THE CONTRACT

Every component of the installation, the functionality and the software are guaranteed in accordance with the standards and, above all, by the experience gained in decades of work carried out for a highly demanding customer.

### THE CONTRACT AS A GUARANTEE

At the end of the warranty period, preventive (and sometimes mandatory) maintenance contracts are concluded according to the actual needs of the customer, with transparent conditions and costs.

### REMOTELY, QUICKLY AND RELIABLY

Remote Assistance Service guarantees a “worldwide” intervention within 24 hours through a dedicated VPN. The service is managed by the Site Managers and Technical Assistance Dept. of Hi-Tech engineering, delegated to operate depending on the type of the reported anomaly.

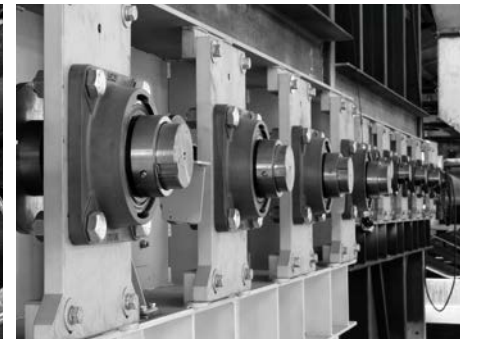
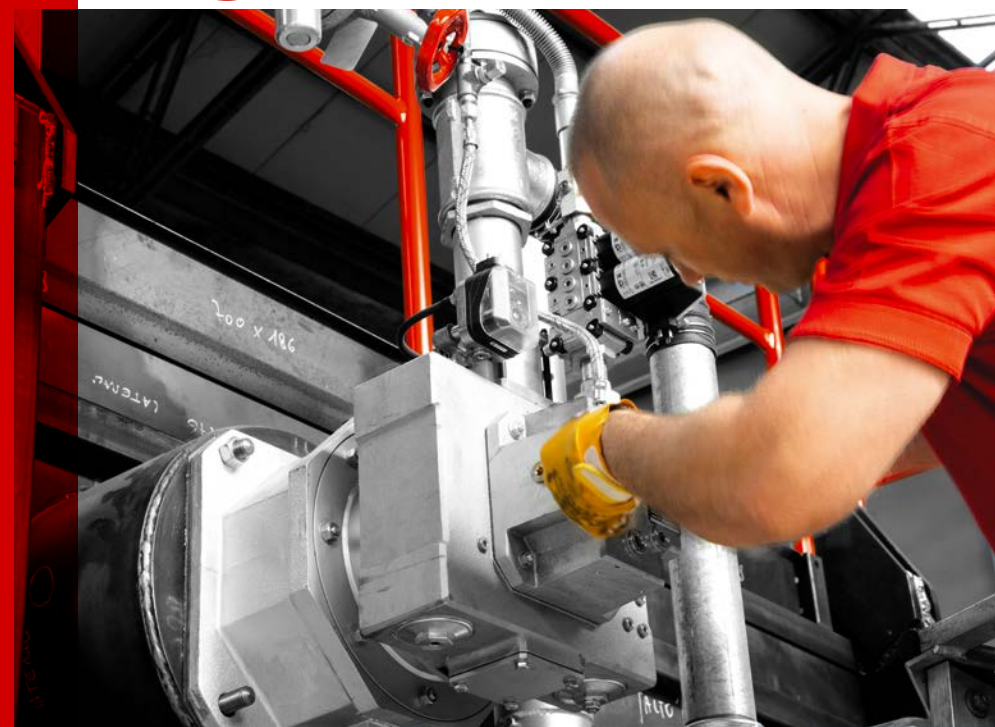
### ON SITE, DIRECTLY AND WITH TRUSTED PROFESSIONALS

The technical support staff of Hi-Tech engineering, when the needs require it, goes to the site in first person. To speed up the intervention, it is customary to work alongside companies and professionals who have a consolidated and previous relationship with the customer. Alternatively, a careful selection of qualified technical partners operating close to the plant is carried out.

# SERVICE

## IN THE NAME OF TRANSPARENCY.

The technical documentation accompanying the installations contains the lists of each component, with all the relevant technical data and contact details of the producer, so that the customer is not forced to contact only the manufacturer of the installation.



### A PRIVILEGED LANE

For the customer it is always possible to order directly a set of spare parts or a single piece, in the safety of particular privileged economic conditions that would otherwise be significantly reduced or not possible.

### THE FORWARD-LOOKING WAREHOUSE

Already during the purchase of the installation, the customer can book his list of spare parts to have a “strategic” warehouse always ready for any eventuality, in order to avoid any production stops or subsequent price increases.





**HI-TECH  
ENGINEERING  
CONSIDERS  
THE QUALITY  
CERTIFICATIONS  
AS A CONSCIOUS  
ELEMENT OF  
A VIRTUOUS  
PROCESS.**

**MUCH MORE  
THAN A PIECE OF PAPER**

**A LAND THAT  
DESERVES  
ATTENTION**

**QUALITY AS  
A CHOICE AND  
WORKING SYSTEM**

We've already learnt at school: for some, the degree is an investment for the future, for others a mere formality to be completed. The complex world of certifications follows the same scheme: there are those who obtain the certifications because they must be done, and there are those who obtain them as a conscious element of a virtuous process. Hi-Tech engineering has firmly adopted the second way for years.

Hi-Tech engineering believes that every phase of an installation life, from project to disposal, must be designed with the utmost attention to the environment. Saving water, gas, electricity and raw materials is part of a high sensitivity choice. The UNI EN ISO 9001:2015 and UNI EN ISO 14001:2015 certifications represent the commitment of the Management to spread environmental policies inside and outside the company.

The ISO 9001:2015 certification defines companies that choose firm and strict quality management systems, established by regulations. In particular, it ensures that any business process, from administration to technical support, is tangible and verifiable. The Bureau Veritas institute certification has validated the path taken with enthusiasm by the entire Hi-Tech engineering team.





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