



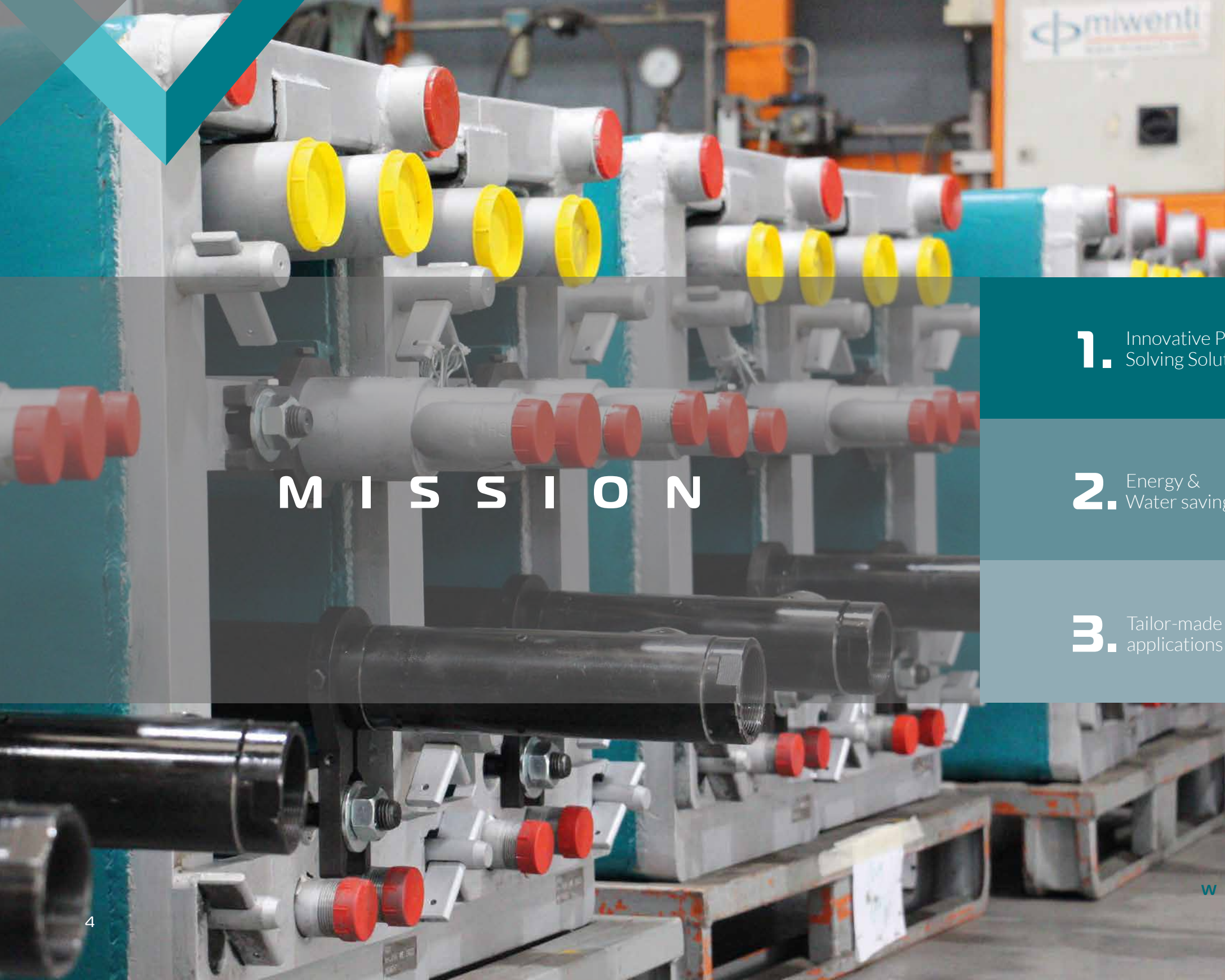
www.miwenti.com



Our strength lies in a 360-degrees service, end-to-end, which starts from the very first point of contact with the customer to the actual evaluation and data collection. Our target is to understand the true needs of our customers in order to offer them a tailor-made solution. Miwenti supervises the entire process directly and does not outsource anything to external companies. As a result, we always have under control the development and the security of our processes. As soon as we make sure that perfect functioning and efficiency are achieved we take care about delivery, step by step installation and after-sale support.

The company name, Miwenti, comes from Chinese and literally means “no problem” and it fully represents our ethos. Our workstyle follows a 100% tailor-made approach which focuses on highly customized solutions for our customers. Our challenge is to offer tangible answers developing ideas and solutions to any specific issue.





MISSION

1. Innovative Problem Solving Solution

2. Energy & Water saving

3. Tailor-made applications

4. High Reliability

5. Turnkey Installations & Assistance

6. Team-work with customer

7. Maintenance Cost Reduction

8. Quality

9. 100% Internal Process

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Miwenti invests lots of energies in R& D because we strongly believe in continuous progress and inventions. For this reason we keep filing patents of our products.

PATENTS

COMPONENTS	PATENT TITLE
TEKNOBOX	Injection system for metallurgical furnaces
TEKNOBLOCK	Cooling apparatus for metallurgical furnaces
SLAG DOOR	Bench for metallurgiagl furnaces
MITO	Refined process for metallurgical furnaces and related appartus
GEKO	Cooling bench device for for slag door of metal-lurgical furnace
WOLF	Cooled electrode for electric arc furnace

COMPONENTS

COMPONENTS	PATENT TITLE
SKUDO	Panel for the cover structure of metallurgical furnace

PATENT APPLICATIONS

COMPONENTS	PATENT TITLE
MAZINGA	Method of realization of ingot mold and welding machine for ingot mold
	Tool for friction stir welding, method of welding and welding machine for sheets
SMARTBOX	Box assembly for eaf burner with secondary cooling circuit



TEAM

Miwenti is very sensitive to undiscriminating in hiring people as we believe in the potential of each single person beyond nationality, political opinion, sex, age, religion , etc. We are inclined to work in team supporting the open dialogue and confrontation.

50 **Nr. of employees**

38y **Average age of workers**

25% **Women's quota**

4 **Different religions**

10 **Different nationalities**



OUR DEPARTMENTS

FOUNDRY

Our copper foundry is 100% eco-friendly. We use 100% of recycled sand for our molds. We use only induction melting furnaces and electrical energy furnace for drying the brackets. The entire casting process as well as the degassing operation is automatic and certified as Industry 4.0 so it can be monitored from remote. As starting material we use copper plates recovered from waste material and processed to obtain grade A quality.

WELDING

Friction welding machine. Patented process for copper cold welding trough friction. This type of friction is very innovative because keeps unchanged the mechanical properties of the material as it does not get heated. We also make traditional welding and are specialized in the welding of copper and steel, as well as other different materials / alloys.

MECHANICAL WORKS

Miweni has an internal mechanical shop very flexible and independent, our main tools machines are:

- Nr. 01 Boring Machine – 5 Axis
 - Nr. 04 Lathes with different sizes:
 - Graziano Ø2000 – L 6000 mm
 - Giana Ø1200-L 7000 mm
 - Beta Ø550-L 2000 mm
 - GR400 Ø350-L 600 mm
 - Nr. 01 Milling machine Afrodite for deep drilling – 11 Axis
- and many other tools and instruments for all the machining of our componentsThe entire casting process as well as the degassing operation is automatic and certified as Industry 4.0 so it can be monitored from remote. As starting material we use copper plates recovered from waste material and processed to obtain grade A quality.

WAREHOUSE / PACKING

All incoming materials undergo a strict test before they are registered in our warehouse.

Components manufactured are pressure tested and packed in the most suitable way according to the final destination.

OUR POLICY

MIWENTI comes from long terms experience in the siderurgic field with following targets:

- Development of new products
- Development of new process strategies
- Development of new maintenance procedures
- Development of new resources management



Italia

CERTIFICATION



MIWENTI cares about the FUTURE of the EARTH

SUSTAINABILITY

Miwenti cares about the future of the Earth.

One of our goals is to become a Zero impact company in year 2025 and reach a “closed circle” process.

The raw material of our melting shop are the copper plates recovered from industrial process to obtain **grade A** quality.

The sand used for the molds is 100% recycled.

The entire process is energetically very efficient, 50 % of our utilities comes from the clean energy produced by a last generation 500 Kwp photovoltaic equipment.

We can reach the consumption of **700 kwh per produced Ton.**

All our furnaces: casting furnaces and drying furnace are all induction, fed by electrical energy.



S E R V I C E S



R.O.I.
calculation



Full Analysis
of energy
consumptions



Find the Optimal
Solution for each
Customer



Complete
Technical Support



Preventive
maintenance



Final Equipment
Inspection



Start-Up



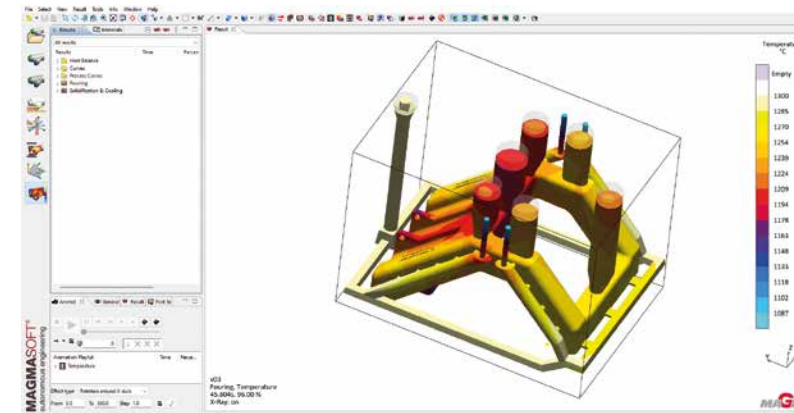
Dedicated
Training
for operators



Maintenance
service
for all our
equipments



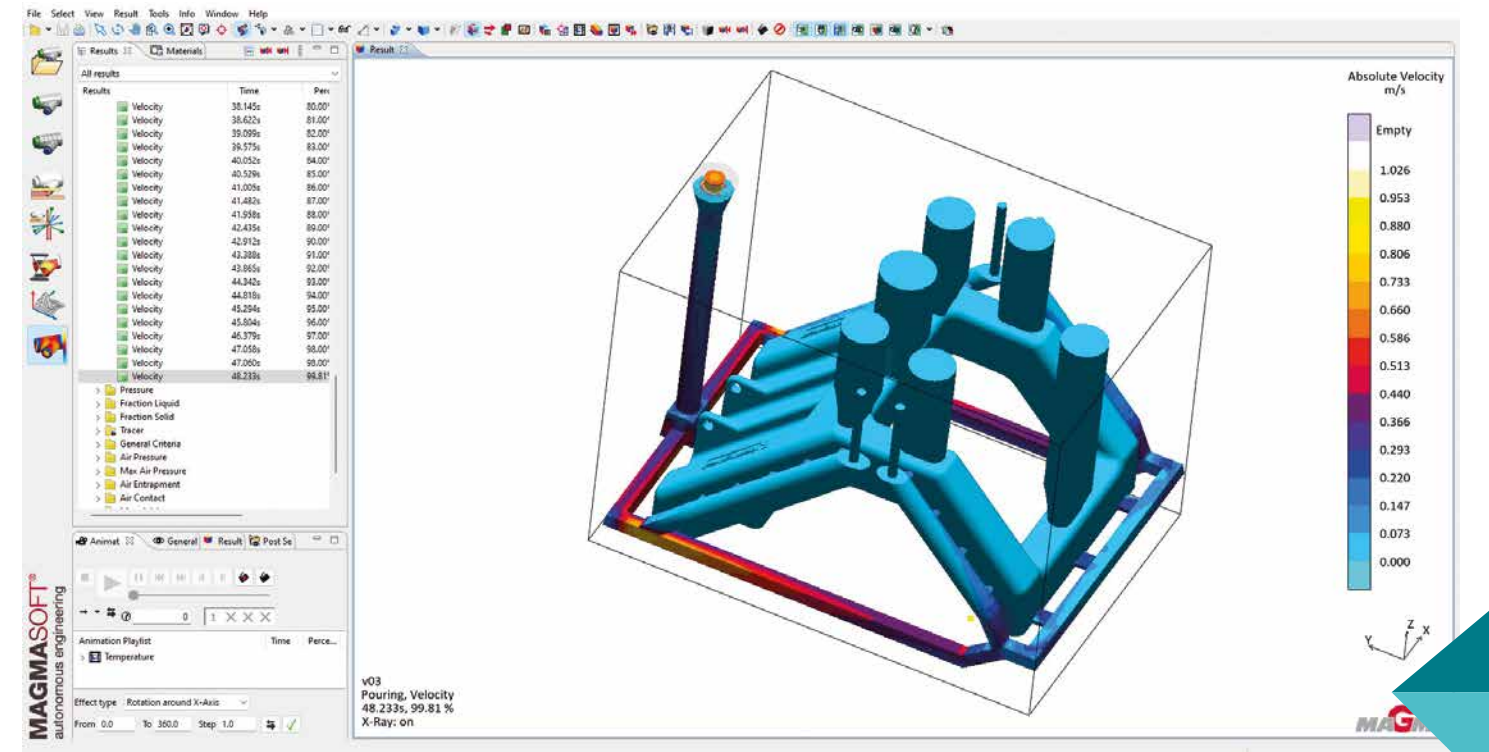
INSTRUMENTS & SOFTWARE SYSTEM FOR OUR R&D DEPT



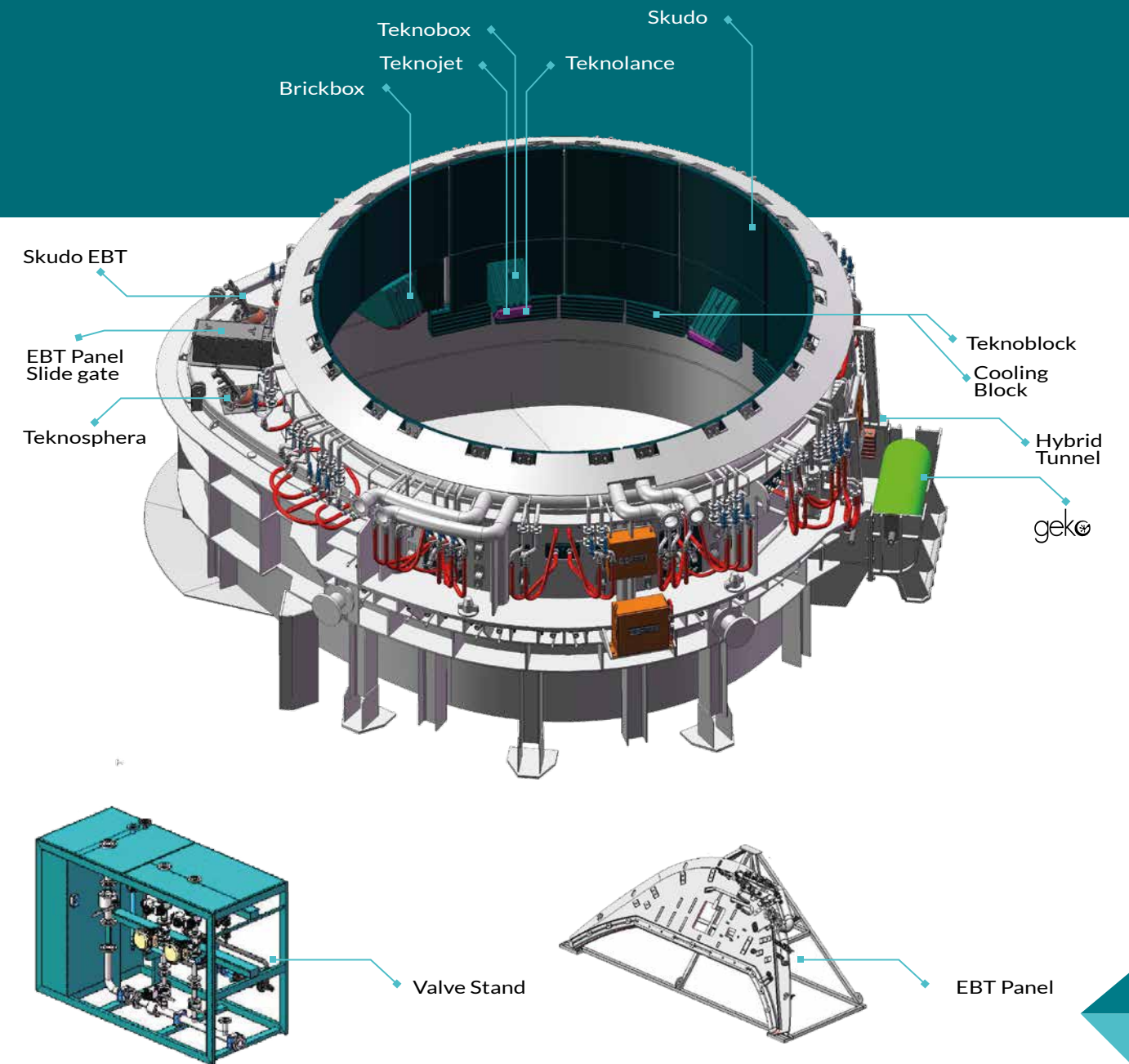
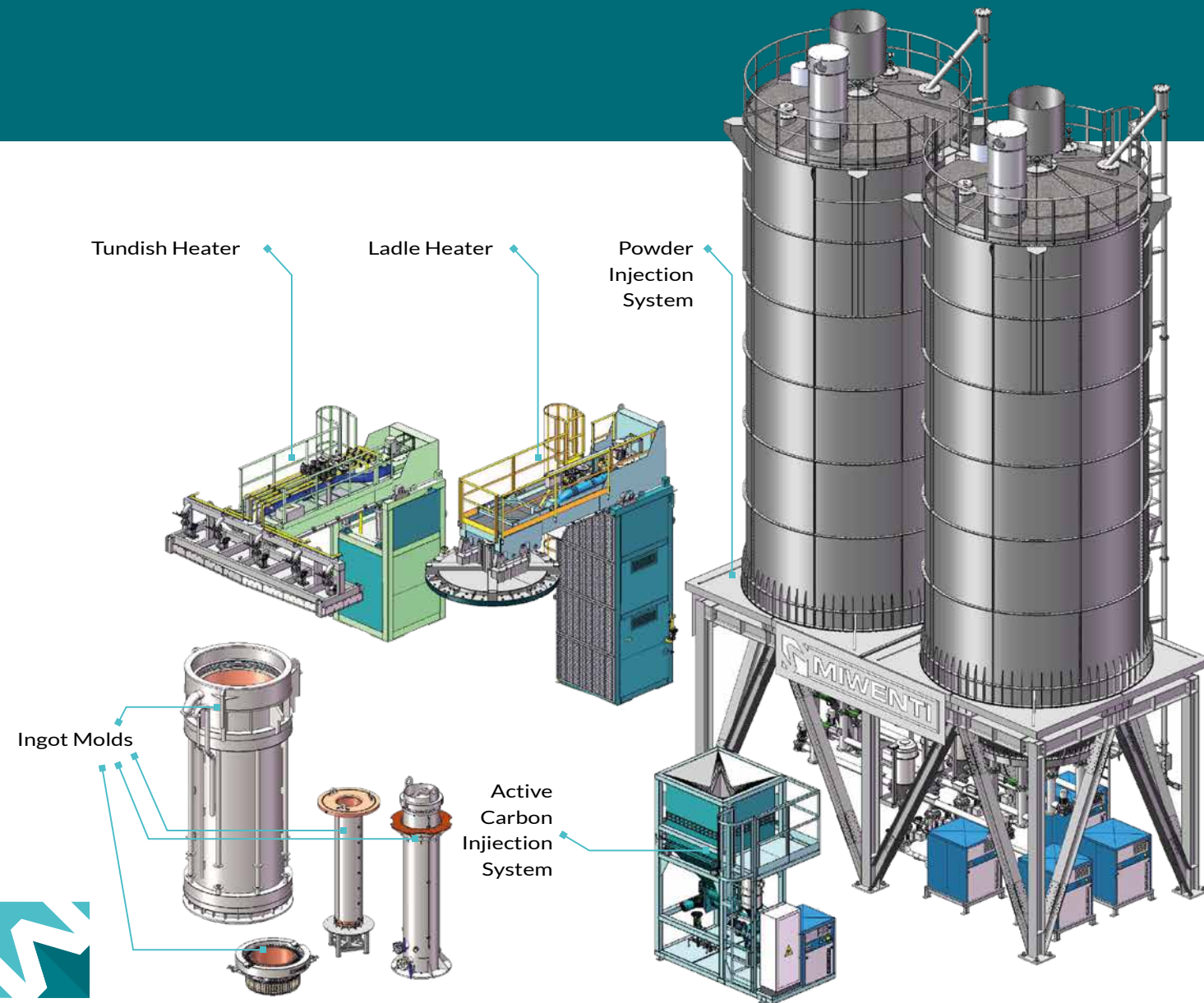
Precisions Instruments for the macro-graphic controls. Specific analysis of the material;granulometryandporositycheck.

SPECIFIC CASTING PROCESS SIMULATION SOFTWARE.

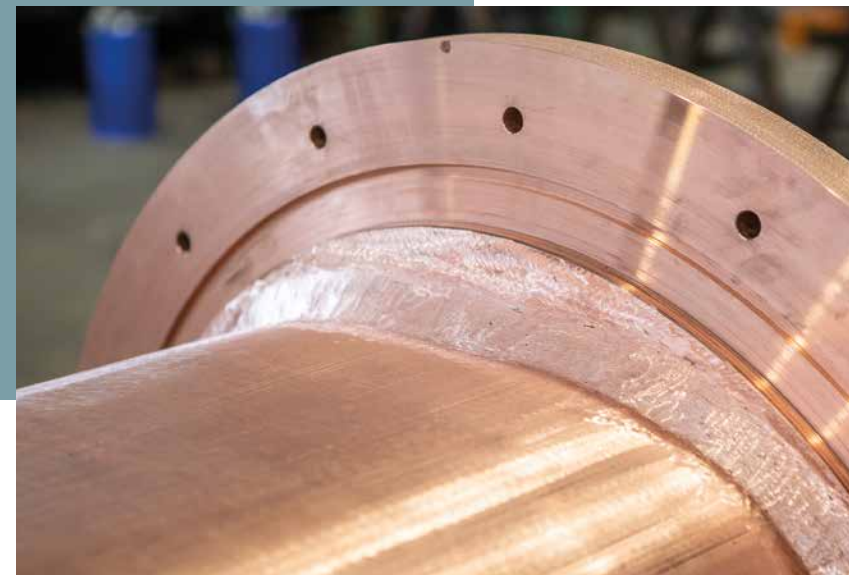
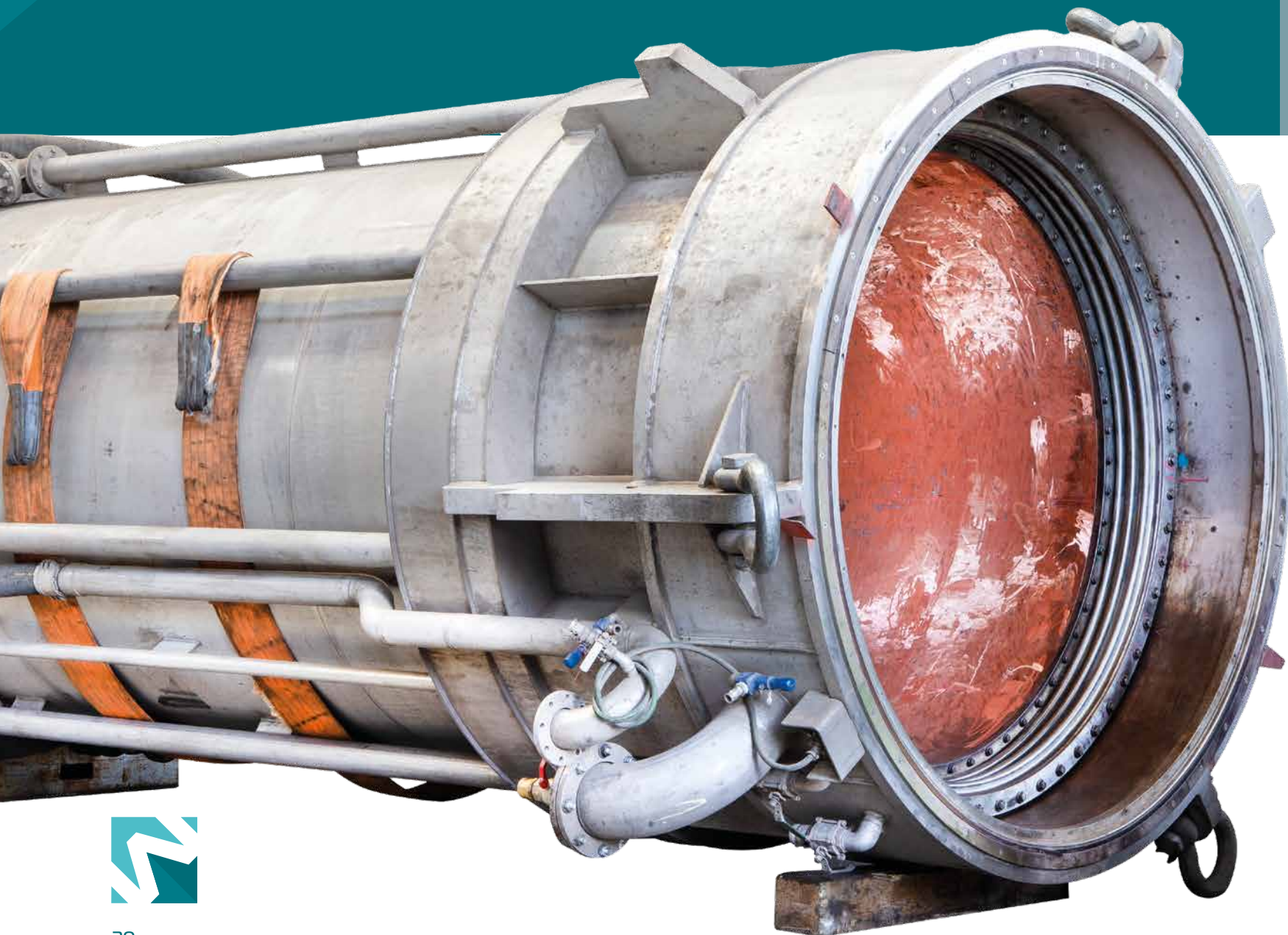
Part of our R&D system, it allows the autonomous optimization utilizing the methodology of virtual Design of Experiments. It helps us identify optimal process conditions and empowers quality management for assuring to our customers components with top performances.



OUR COMPONENTS



INGOT MOLDS



We manufacture longlife ingot mold round and square section

Ø 250 ÷ 2700 mm,
max length 6700 mm,
thickness 20÷50 mm.

Our patented process through friction welding gives the benefit of no preheating before welding and no losing of mechanical properties.

The finished components are subject to dimensional controls, helium test, welding radiography.



INGOT MOLDS MAINTENANCE

Plus of our services is the ingot mold programmed maintenance. After an agreed nr. of heats we make a preliminary check and together with customer decide when to schedule a programmed maintenance to make the ingot mold more reliable. This operation reduces drastically the possibility of ingot blocking or deforming which would cause a big loss for the Customer production.



BILLETS & SLABS —



We can cast our own and tailor-made billet and ingots with the composition and dimension suitable for the manufacturing of our products.

This gives us flexibility in terms of delivery terms and costs as we are not depending on the market for the raw materials such as copper ingots and sheets.

This also gives us guarantee on the type of material used for our application.

BILLETS & SLABS

SKUDO



The **SKUDO** is a new solution for the EAF wall, which eliminates the risks caused by the water leakage. The **SKUDO** is 100% monolithic casted copper seamless component with internal canals of rectangular cross-section in which the water circulates.



SKUDO

TEKNOBOX



The **TEKNOBOX** has been designed to contain and protect the injection lance in the EAF. It is 100% monolithic casted copper component without welding with internal canals of rectangular cross-section in which the water circulates.

The cooling element is composed of two parts:

- > **TEKNOBOX**, element installed on the furnace;
- > **TEKNOPANEL**, interchangeable front panel.



TEKNOPANEL



The **TEKNOPANEL** is the interchangeable front panel of the **TEKNOBOX**, it is 100% monolithic casted copper component and it is designed to make the maintenance easier.

SKATEPANEL



The **SKATEPANEL** is the interchangeable front panel of the **MODULAR BOX**, it is 100% monolithic casted copper component and it is designed to make the maintenance easier and safe because it is replaceable from the outside of EAF.

MODULAR BOX



The **MODULAR BOX** has been designed to contain and protect the injection lances in the EAF. It is 100% monolithic casted copper component without welding with internal canals of rectangular cross-section in which the water circulates and it is completely separable in two parts to reduce the maintenance costs.



SMARTBOX



The **SMARTBOX** is the last evolution of the **TEKNOBOX** and **MODULAR BOX**.

It is designed as a monolithic piece but with two different cooling circuits. This allows to have a better and strategic cooling on the area which is more exposed to heat and erosion. In this way the cooling action is concentrated more where it is more necessary. Besides that the piece can finish the heat campaign without need of furnace stoppage in case of any leakage.

TEKNOJET 2 LINES



The **TEKNOJET** is a burner-injector with variable and coherent supersonic jet for combustible gases and oxygen to speed the fusion phase of the scrap and to inject oxygen into the liquid steel.

This **TEKNOJET** can be used in the following phases:

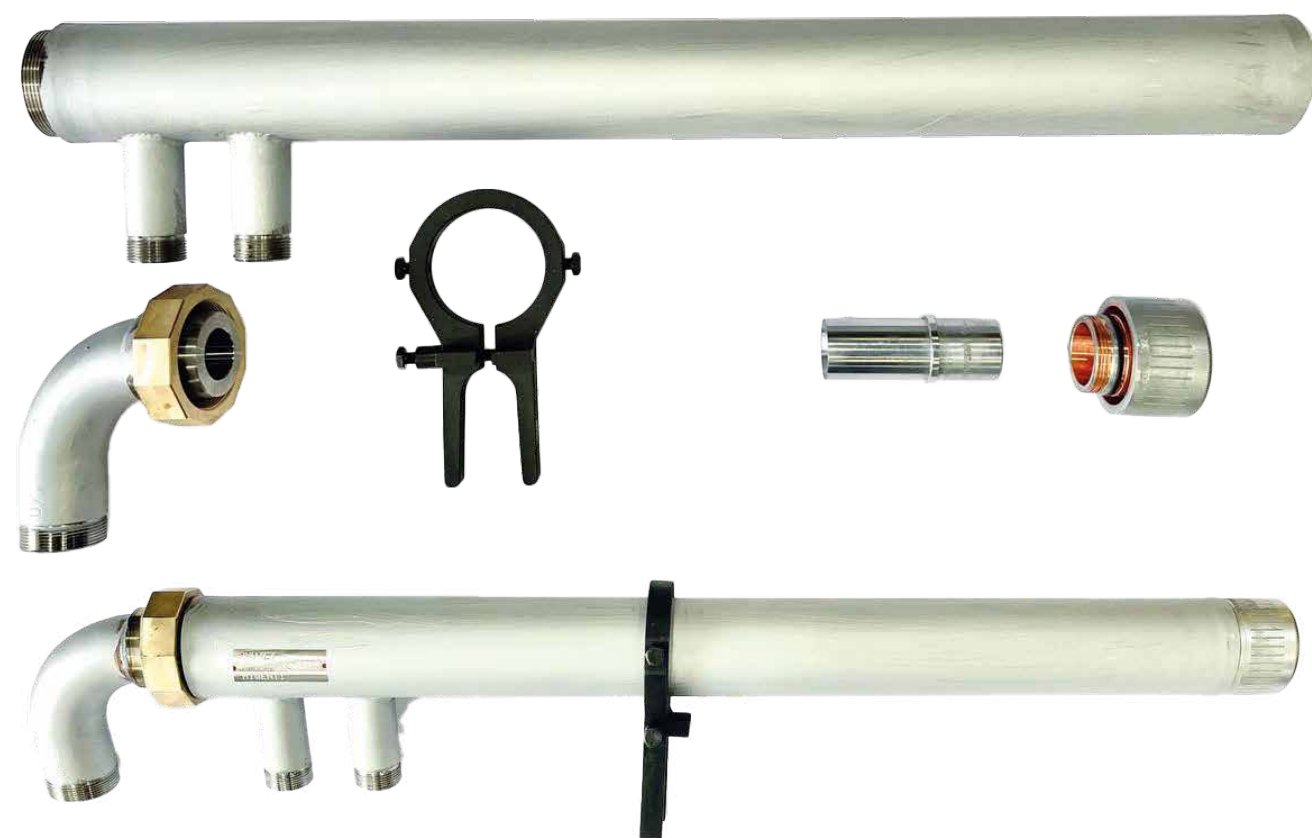
- > Scrap preheating as HOT FIRE;
- > Scrap cutting as SOFT LANCE;
- > Decarburization as SUPERSONIC LANCE.



TEKNOJET 3 LINES



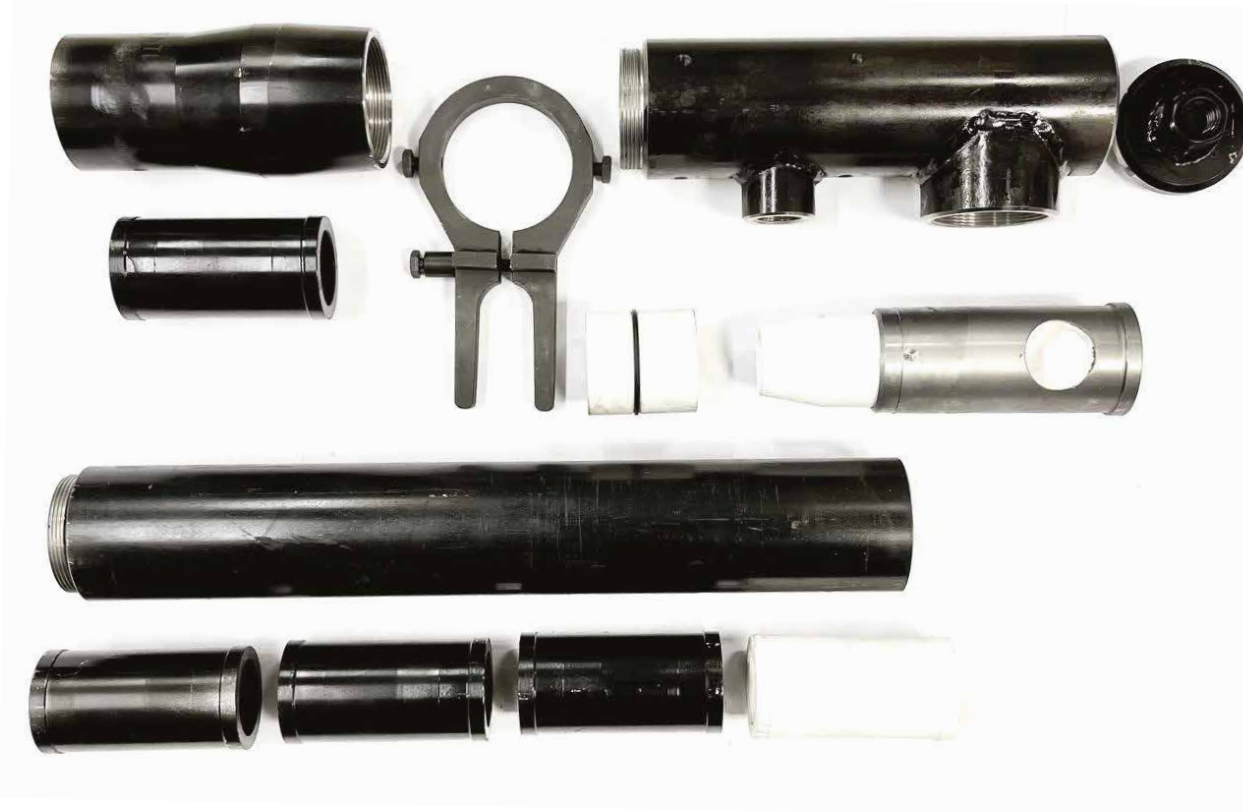
OXYJET



The **OXYJET** is an injector with variable and coherent supersonic jet for oxygen designed to optimize the oxygen injection phase into the liquid steel.

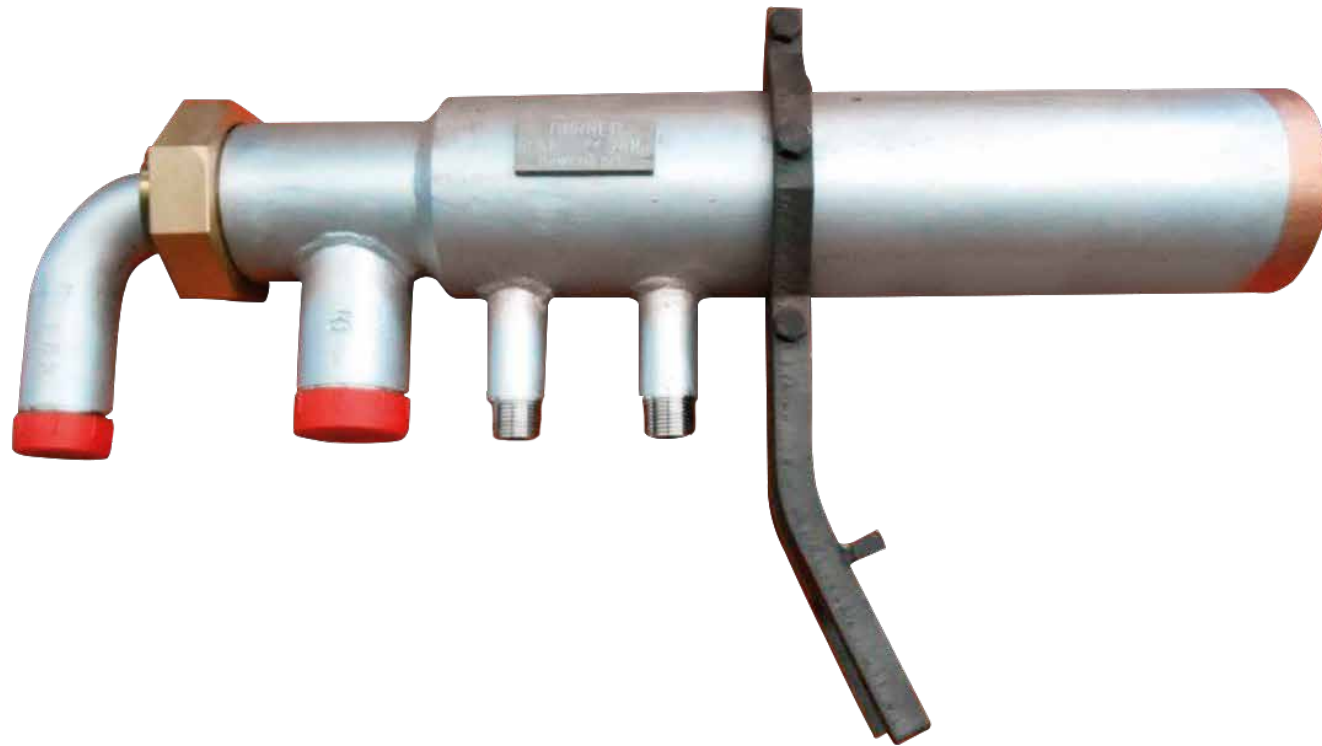


TEKNOLANCE



The **TEKNOLANCE** is a lance designed for the injection of lime, carbon and other powders at high speed into the liquid steel more than 150 m/s. The TEKNOLANCE has been developed to the decarburization.

BURNER



This is a **BURNER** for combustible gas and oxygen engineered to speed up the scrap melting phase.



BURNER BOX



Fixed burner



Rotating burner

The **BURNER BOX** has been designed to contain and protect the burner in the EAF. It is 100% monolithic casted copper component without welding with internal canals of rectangular cross-section in which the water circulates.

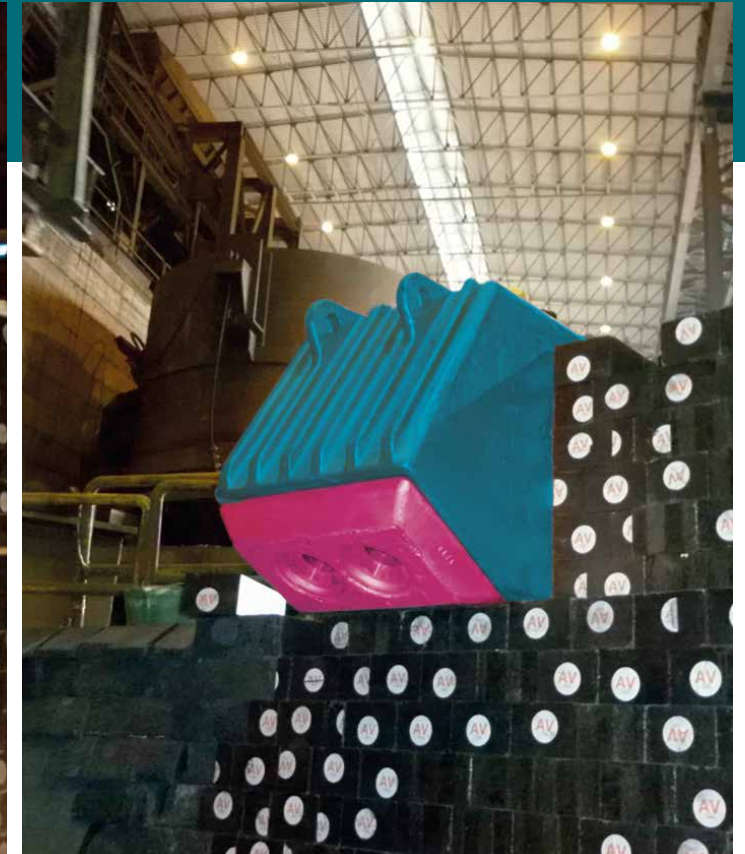
TEKNOSPHERA



The **TEKNOSPHERA** has been designed to contain and protect the lance with the possibility to change the inclination in the EBT zone. The **TEKNOSPHERA** is made up of 100% copper fusion with internal canals in which the water circulates.



BRICKBOX



The **BRICKBOX** has been designed to contain and protect the injection lance in the EAF. It is specifically engineered to be installed in the EBT area of the EAF. It is 100% monolithic casted copper component without welding with internal canals of rectangular cross-section in which the water circulates.

The cooling element is composed of two parts:

- > **BRICKBOX**, element installed on the furnace;
- > **TEKNOPANEL**, interchangeable front panel.

TEKNOBLOCK & TEKNOBLOCKDOOR



The **TEKNOBLOCK** has been designed to replace the refractory bricks, where the wear is more frequent. The **TEKNOBLOCK** is 100% monolithic casted copper component with internal canals in which the water circulates. In case of a water leakage, the water does not enter into the furnace but in the safety chamber and from here it is drained away through communication holes placed at the back. It can be shaped depending on the position where it will be installed.



COOLING BLOCK



The **COOLING BLOCK** has been designed to cool the refractory from the external in order to increase its operative life. The **COOLING BLOCK** is 100% monolithic casted copper component with internal canals in which the water circulates. It can be shaped depending on the position where it will be installed.



The **GEKO** is a new solution studied to replace the traditional graphite electrodes, fixed in the slag bank.

This component has the advantage of being safe and reliable, noticeably decreases the management costs, as well as facilitates and reduces the maintenance.

We have installed more than 100 Geko all around the world with great satisfaction from Customer's side.



Dimensionally, the GEKO is similar to the existing graphite electrodes, in fact it can be installed on the same support.



SKUDO EBT



The **SKUDO EBT** is a new solution for the EAF EBT. It makes the maintenance easier. The SKUDO EBT is 100% monolithic casted copper component fusion with internal canals of rectangular cross- section in which the water circulates.

EBT PANEL SLIDE GATE



The **EBT PANEL SLIDE GATE** is a cooled component designed to automatize the opening, before, and closing after, the filling EBT tapping hole.

EBT HOLE CHARGING MACHINE



The **EBT HOLE CHARGING MACHINE** is a new system to close the EBT hole in a safety way, with a reduction of the time and cost. From the furnace cabin, the operator can observe on a display the closing of the EBT hole by a camera installed on board. Total procedure time is 30 sec.

VALVE STAND



Our **VALVE STAND** for oxygen, natural gas, hydrogen, nitrogen or other gases or liquids are certified according to international regulations. It can regulate flow from 20 to 5.000 Nm³/h for each line.



VALVE STAND MAINTENANCE SERVICE

We are offering to our Customers an on-site ordinary maintenance every three months to check the status of our valve stands, clean and suggest in case of needed components revision to prevent any explosion, fire or accident and to guarantee a long-life and better performance of the equipment.

VALVE STAND

FLAME BACK DETECTOR



The **FLAME BACK DETECTOR**, is a new solution devised to detect sudden increases in temperature caused by backfire, which develops in the feed pipes of the burners/injectors.



The principle of intervention is based on a PT100, that is indirectly hit by a rise in temperature, which modifies the value of the resistance. This resistance difference is elaborated by PLC, which generates an alarm signal. The detect time is 2 sec.

FLAME BACK DETECTOR



ANTI-BACKFIRE NON RETURN VALVE



Is a device that guarantees and increases security of the oxygen and LPG/natural gas regulation valve stand in the melting plants for steel production.

The materials used in the valve are suitable for oxygen, fuel and inert gas passage.

The blocking safety system valve is activated by a thermo-sensor, it works when the detonator reaches the setting temperature to bursts, and stops the flame passage by pre charged spring that pushes the closing shutter.



The response times are significantly reduced, (about 2 seconds) compared to main competitors on market that use a mechanical stop brazed with tin and longer intervention time.

The pressure drop is 0,1 bar.

ANTI-BACKFIRE NON RETURN VALVE

POWDER INJECTION SYSTEM



Our system feeds the biroch or injects directly into the EAF through the **TEKNOLANCE**.

It can feed material from 10 to 200 kg/min. They have capacity up to 500 m3. The maximum distance is 200 m.

The system is able to **mix** different materials in different percentages depending on necessities.



POWDER INJECTION SYSTEM MAINTENANCE SERVICE

We are offering to our Customers an on-site ordinary maintenance every three months to check the status of the equipment, clean and suggest in case of needed components revision to keep the system working always at the best capacity and guarantee long-life and good performance components.

POWDER INJECTION SYSTEM

ACTIVE CARBON INJECTION SYSTEM



The **INJECTION OF POWDERS** for pollution dust reducing into the evacuation chimney has become one important focus for green ecofriendly companies.

We can build the system for the injection and help your company in the ecosustainability direction.



ACTIVE CARBON INJECTION SYSTEM

POWER CONDUCTIVE ARM



We realize all components, such as busbar, bimetallic arm etc, according to Customer request developing also new solutions according to the state of the art technology.

FORGED CONTACT PLATE



Are realized from top quality Cu- Hcp electrolytic copper, forged, mechanical worked, water sealing welded, and finished to satisfy the more restrictive pressure and dimensional controls.

VERTICAL & HORIZONTAL LADLE HEATERS



The **VERTICAL LADLE HEATER** consists of a base fixed to the ground, over which rotates an arm that supports the ladle heater with the burner in the center.

The **HORIZONTAL LADLE HEATER** consists of a frame that moves on the rails and allows to cover up to 2 heating stations.



LADLE HEATERS MAINTENANCE

Plus of our services is the heater programmed maintenance. According to Customer necessity we can offer a scheduled intervention where we check all the machine and can suggest the replacement of wear components or purchasing of strategic spare parts or other actions. This operation reduces the possibility of machine stops due to components breakdown or wear which could cause a stop in the production activities.

The burner can be fed with any gas i.e. Coke Gas, LPG, Natural Gas, Hydrogen, O2 and Hot Air. The surface of the ladle heaterThe surface of the ladle heater exposed to thermal radiation is made up of 40% copper fusion in the external circular crown, where the component is more worn, and 40% ecological fiber-ceramic. We obtain a natural gas reduction of 40%.



TUNDISH HEATER



The **TUNDISH HEATER** consists of a base fixed to the ground, over which rotates an arm that supports the cover with arranged on the width of the burners. The surface of the cover exposed to thermal radiation is made up of ecological fiber- ceramic, suitable for a temperature up to 1100 ° C. The combustion unit is



composed of burners with high speed in order to reach the bottom of the tundish and going back through the tundish sides, insuring a good thermal exchange.

TUNDISH HEATER

WHERE WE WORK

ALBANIA

ARGENTINA

BANGLADESH

BARHEIN

BULGARIA

BELGIUM

**CZECH
REPUBLIC**

EGYPT

FRANCE

GERMANY

GREECE

INDIA

IRAN

ISRAEL

ITALY

LUXEMBOURG

MEXICO

MOROCCO

POLAND

**RUSSIAN
FEDERATION**

SAUDI ARABIA

SERBIA

SOUTH AFRICA

SPAIN

**SULTANATE
OF OMAN**

SWEDEN

SWITZERLAND

TAIWAN

TURKEY

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