



**BUILT
AROUND
YOUR
PROCESS.**

ABOUT US

Founded in 1972 in Brescia, Italy, IECl is a global leader in High Pressure Die Casting.

With a skilled team of 50 professionals, we provide top-quality solutions to a worldwide clientele – 80% international and 20% domestic.

Since 2013, our turnover has grown by an impressive 160%, reflecting our consistent growth and strong market presence.

Innovation, precision, and customer satisfaction guide everything we do, making us a trusted partner across the globe.



OUR GROWTH IN NUMBERS

50
PROFESSIONALS

spread across four companies,
including engineers, R&D, QA,
sales, & manufacturing.

80%
GLOBAL REACH

of total market distribution

+160%
TURNOVER GROWTH

GAGR
2013 – 2025

+245%
SALES GROWTH 2013-2023

TCU leading the way,
with Quenching Tanks
& Pioneer on the rise

SYSTEM SIMPLIFICATION HIGHLIGHTS

80%

EQUIPMENT
REDUCTION

90%

FEWER
CONNECTIONS

85%

COMPONENTS
REDUCTION

INTEGRATED COOLING & PROCESS OPTIMIZATION

TURN KEY SUPPLY

GICO®, HYPERCOOLING®,
POWERFRAME®, Supervisor, full
plant design & build.
Optionals: tanks, pressurization.

OPTIMIZED HYDRAULICS

Reduced pressure drops via
pump calibration and flow
calculations.

FASTER CYCLES

SAFER CRITICAL ZONES

Conformal cooling reduces
breakage risk.

LOCAL SUPPORT

IECI service around
the world.



PRODUCT RANGE

TEMPERATURE CONTROL WATER vs OIL

 **WATER**

OIL 

Max temperature 200°C

TEMPERATURE

Max temperature 350°C

Highest heating transfer capacity

PERFORMANCE

Highest performance in pre-heating

No disposal costs

DISPOSAL

High disposal costs

Compatibility with multi-channel

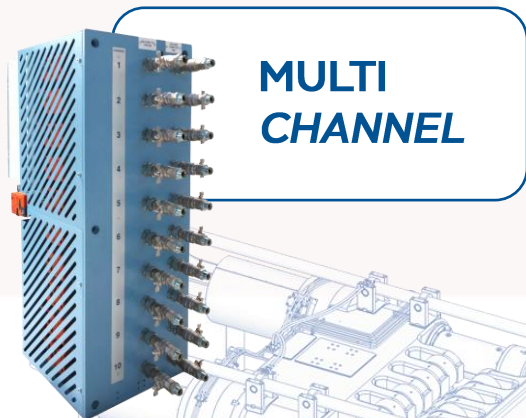
COMPATIBILITY

Not compatible with multi-channel system

No tanks, no manual filling

AUTOMATION

Air purge and vacuum recovery oil system



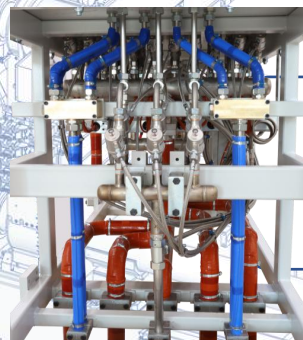
**MULTI
CHANNEL**



**MEGA & GIGA
CASTING**



**JET & DIE
COOLING**



**CONNECTION
PLANTS**



**TCUs
SHOT SLEEVES
PLUNGERS**



**QUENCHING
TANKS**



**WATER
TCU**



**OIL
TCU**

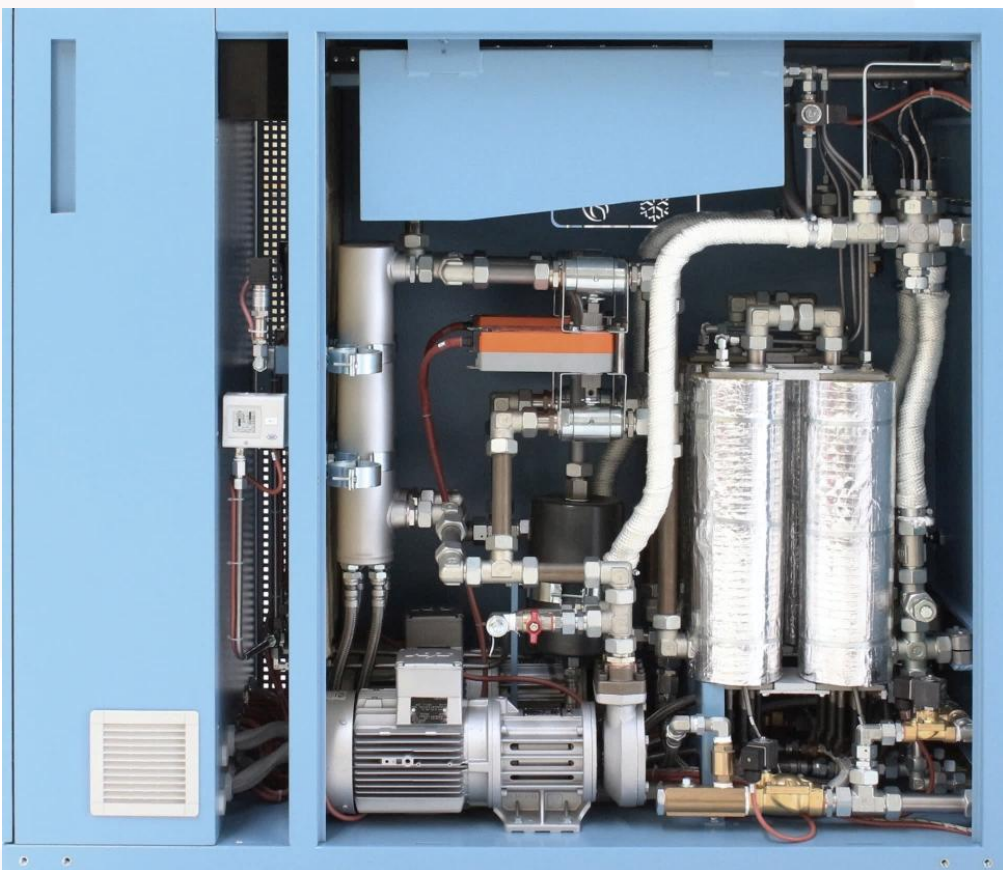
PF-ZH

Thermal system with 1 or 2 fully independent ways up to 200 °C, featuring PID digital control of temperature and pressure.

Stainless steel hydraulic circuit, independent controlled pressurization, dedicated pumps, and advanced anti-scale cooling system.

Equipped with electric heaters up to 24 kW, automatic preheating/cooling, weekly scheduling, housed in an IP65 electrical cabinet.





PFN

This unit allows safe high-temperature operation using diathermic oil. It features leak-free magnetic drive pumps, sealed immersed, and PID temperature control.

An adaptive inverter system (IECI Patent) automatically optimizes flow and temperature, while the integrated software monitors all operating parameters, ensuring high efficiency, reliability, and long service life.



IECI

PF-ZH SLEEVE VERSION

The PFZH – Sleeve Version regulates sleeve temperature via pressurized water in dedicated channels.

The modular design ensures easy maintenance. External heating elements prevent direct fluid contact, and increased pressurization avoids vaporization.

An additional expansion vessel guarantees proper water volume for circulation, while the 3-way proportional cooling system with heat exchanger provides high cooling performance and precise temperature control.



HEATING FLUID	Pressurized water
FLOW TEMPERATURE	max 200°C
CIRCUITS	1 or 2
HEATING CAPACITY	24 kW
COOLING CAPACITY	18 or 24 kW
PUMP	100 l/m, 8 bar
DIMENSIONS	500x1550x1550 cm

ALL DATA CAN BE CUSTOMIZED

PFN 330 2Z SLEEVE VERSION

HEATING FLUID	Diathermic Oil
FLOW TEMPERATURE	max 330°C
CIRCUITS	2
HEATING CAPACITY	24 kW
COOLING CAPACITY	190 kW
PUMP	100 l/m, 8 bar
TOTAL POWER ABSORPTION	47,6 kW
TOTAL CURRENT ABSORPTION	69A
DIMENSIONS	1400x600x1250 (h)



CUSTOMIZABLE

One or two zones

Water and oil

Sleeve + plunger

PLUNGER PAD

Boosting pump system with adaptive inverter and real-time monitoring of temperature difference (supply/return) to automatically adjust flow according to thermal load.

KEY BENEFITS

- Extended pump lifetime
- Optimized energy consumption
- Pressure or flow control selectable
- External chiller connector option
- Multi-protocol communication



MULTIPAD

FLOW TEMPERATURE	COOLING (possibility of inserting heating up to 90°)
HEATING CAPACITY	CUSTOMIZED
COOLING CAPACITY	DIRECT COOLING SYSTEM WITH CONTROLLED MIXING
PUMP WORKING PRESSURE	480 at 7 bar
MAX. PRESSURE	13 bar



**ALL DATA CAN BE
CUSTOMIZED**

JET-PAD M1

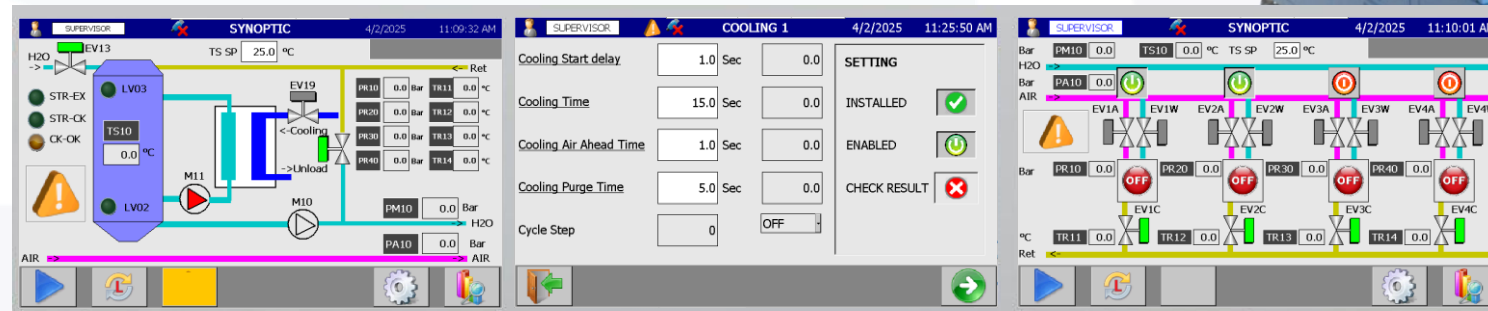
JET-PAD M4

N. Independent zones	1	4
Delivery pressure	Adjustable up to 16 bar	Adjustable up to 40 bar
Max. delivery flow rate	16 l/m	65 l/m
Max. delivery temperature	60 °C	60 °C
User interface	4.3" touchscreen	7" touchscreen
Delivery pressure control	Included	Included
Broken-pin-test	Included	Included
Flow rate and volume measurement	Optional	Optional
Communication on fieldbus	Optional	Optional



JET PAD COOLING

WATER AND AIR FORCE
CORE COOLING



IECI

FLOW TEMPERATURE	max 160°C
HEATING CAPACITY	144 kW
COOLING CAPACITY	600 kW
PUMP WORKING PRESSURE	480 l/m at 6 bar (700 l/m - 11 bar)
WORKING PRESSURE	14-16 bar
DISTRIBUTION	Up to 40 circuits
TOTAL POWER ABSORPTION	164 kW
TOTAL CURRENT ABSORPTION	236 A
DIMENSIONS	1350x1750x1650 (h)



GIGATH[®]RMO

**ALL DATA CAN BE
CUSTOMIZED**



PED CERTIFICATION
up to II category



LPI
on every weld



WPS
to ensure quality
and high standard
parameters

**ALL DATA CAN BE
CUSTOMIZED**

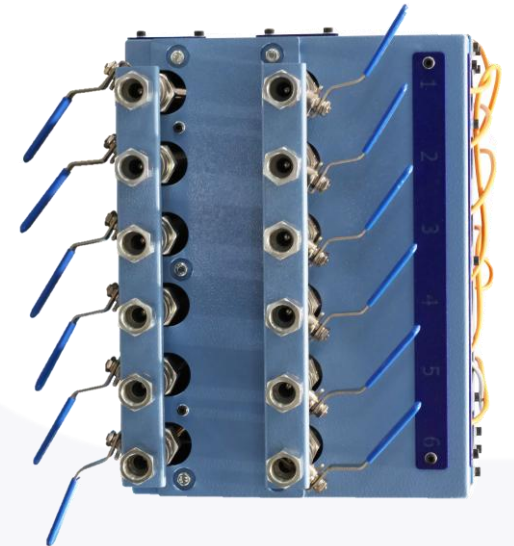


HEATING FLUID	Pressurized water
FLOW TEMPERATURE	max 160°C
HEATING CAPACITY	54 kW
COOLING CAPACITY	300 kW
WORKING PRESSURE	280 l/m at 8 bar (400 l/m - 11 bar)
DISTRIBUTION	Typically 10 circuits
TOTAL POWER ABSORPTION	61,7 kW
TOTAL CURRENT ABSORPTION	105 A
DIMENSIONS	1400x600x1250 (h)



PIONEER SYSTEM

Multi-channel management



REGULATED PROPORTIONAL CONSTANT FLOW

- ✓ Controlling options: opening %, flow, thermal power, return temperature
- ✓ Pressurized circuit + continuous = no evaporation
- ✓ Minimized thermal shocks
- ✗ Slow, not reactive on cycle time
- ✗ Controlling range limited

REGULATED ON/OFF PULSE FLOW

- ✓ Controlling options: time or thermal energy
- ✓ Fast, reactive, synchronized with DMC
- ✓ Simpler hardware
- ✓ Easier leakage management
- ✗ Standing water
- ✗ Possible thermal shocks

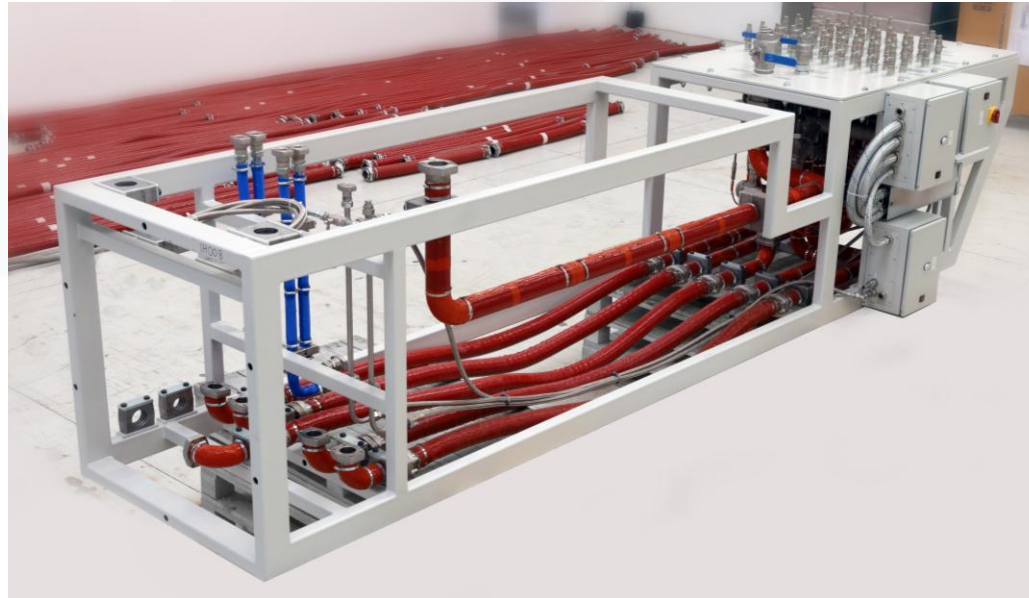
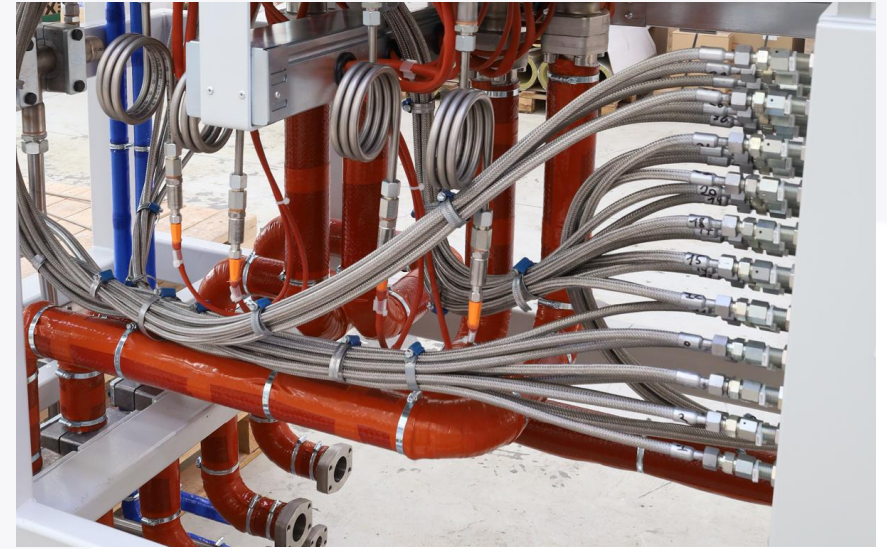
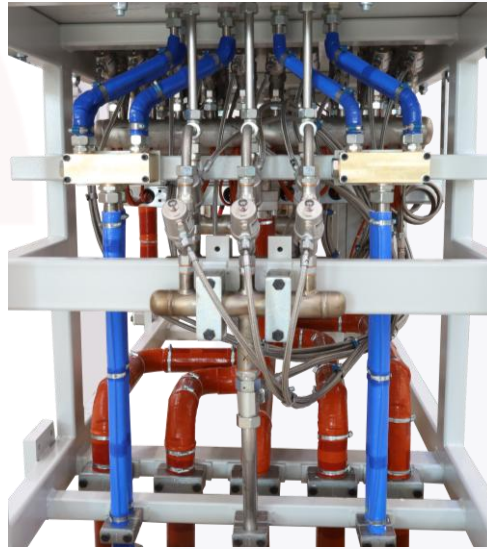
IECI TCU + PIONEER

Controlled temperature and pressure, and multi-channel management

- ✓ Flexible on complex projects
- ✓ Simpler connecting plant
- ✓ Pre-heating & Cooling
- ✓ Stable, repeatable: all parameters under control
- ✓ Forced pressurized circuit, no evaporation
- ✓ Energy saving

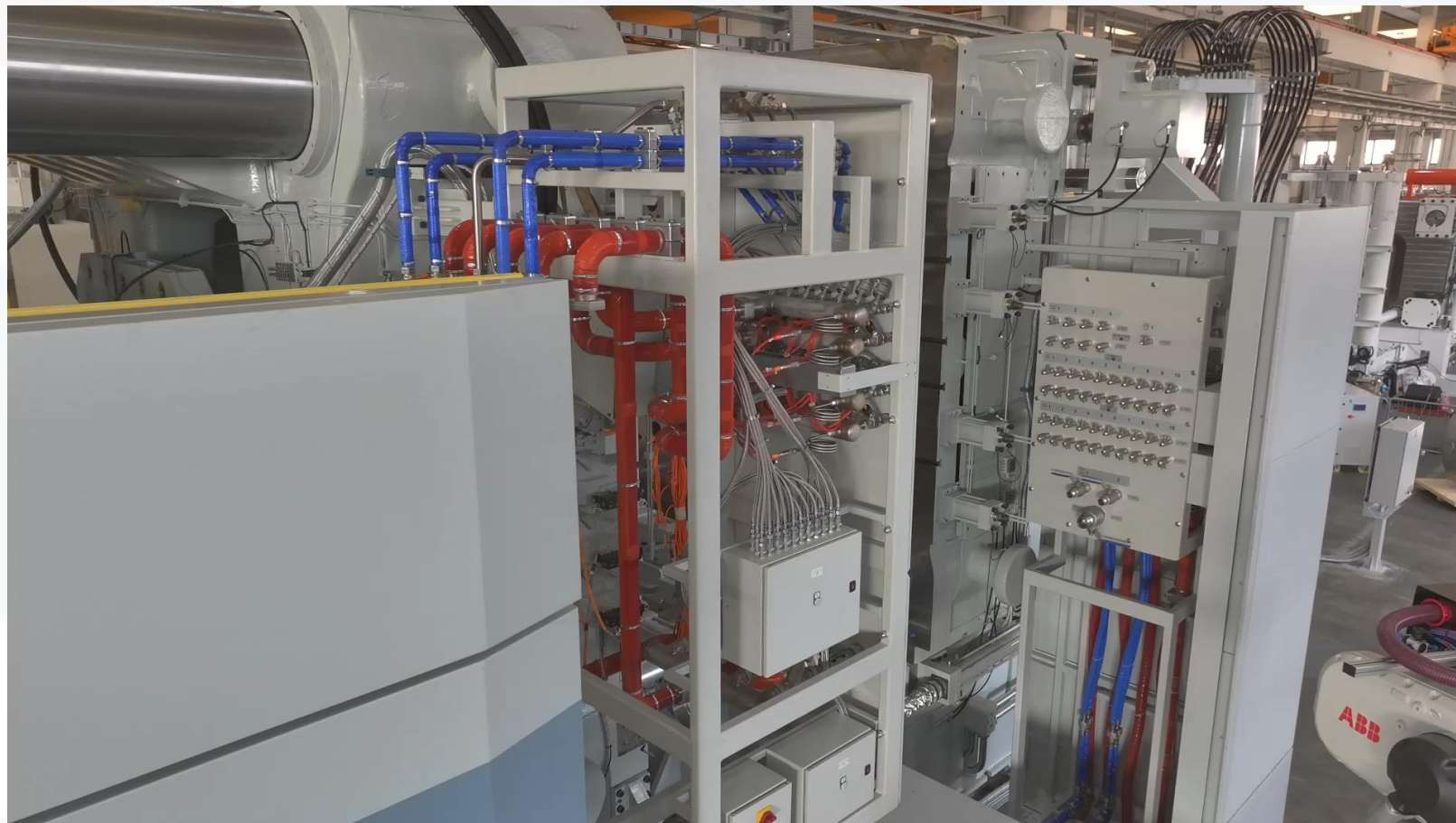


CONNECTION PLANTS



CONNECTION PLANTS

Play the video →



STANDARD

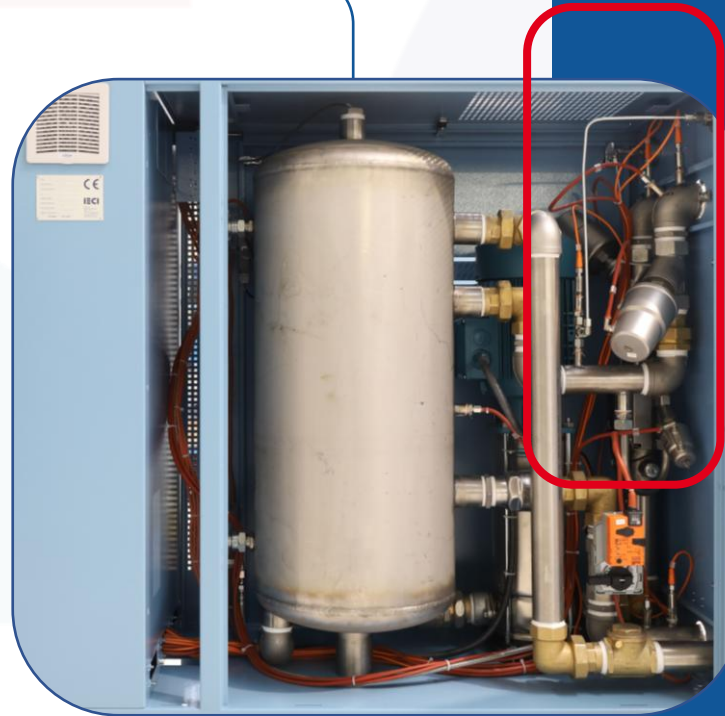
System pressure is monitored to detect leaks, with rapid drops (≈ 3 bar/s) triggering immediate stop + small leakage detection warning (slow to react).

ENHANCED

Pressure drops with flow stop.
Fast detection of leaks with high accuracy.

JET COOLING SYSTEM

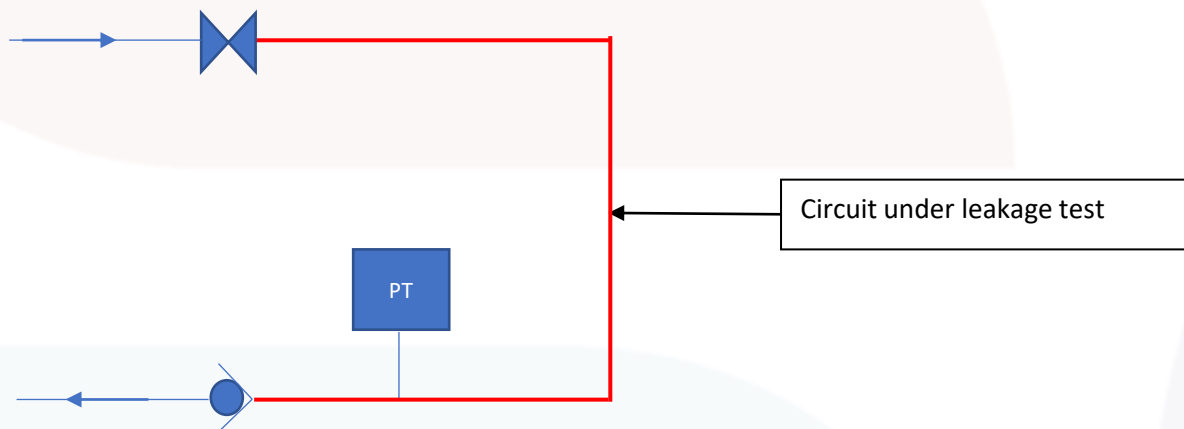
Broken-pin test every cycle



LEAKAGE TEST

DIFFERENT LEVELS
OF ACCURACY





PFZH 22 180 **ieci** Logged OUT 10 42 23/03/2021

LEAKAGE TEST

Enable Leakage Test ☒ ☐

Duration Leakage Test **10.0** s **10.0** s

Max Pressure Drop **1.45** psi **1.45** psi

Initial Pressure 104.40 psi 0.00 psi

Final Pressure 104.40 psi 0.00 psi

Actual Pressure Drop 0.00 psi 0.00 psi

Leakage Test Status **Passed** None

Icons: Power, Refresh, Mute, Home, Tools, Bar Chart, Stop, Refresh

ENHANCED LEAKAGE TEST

- Enhanced leakage tests isolate the circuit and measure pressure drop over a set time, generating alarms if thresholds are exceeded.
- Tests can cover the entire manifold or single channels, balancing accuracy and system complexity.
- The system distinguishes leaks from temperature-induced pressure changes by tracking the rate of pressure decrease.



QUENCHING TANK

FUNCTION

Designed for cooling and hardening of castings before they are cut or prepared for all sequent operations.

PERFORMANCE

The system maintain a correct temperature inside the tank, through the control by the electronic instrument on the control panel, in order to obtain an optimal cooling for proper shearing.



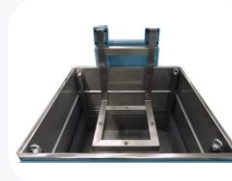
HEATING FLUID	Water, closed loop
FLOW TEMPERATURE	Multiple options
PUMP	Multiple options
DIMENSIONS	Customizable

STAINLESS STEEL TANK

COOLING GROUP

REMOTE CONTROL PANEL

QUENCHING TANK AVAILABLE OPTIONAL FEATURES



Pneumatic and automatic lift



Self-cleaning filter

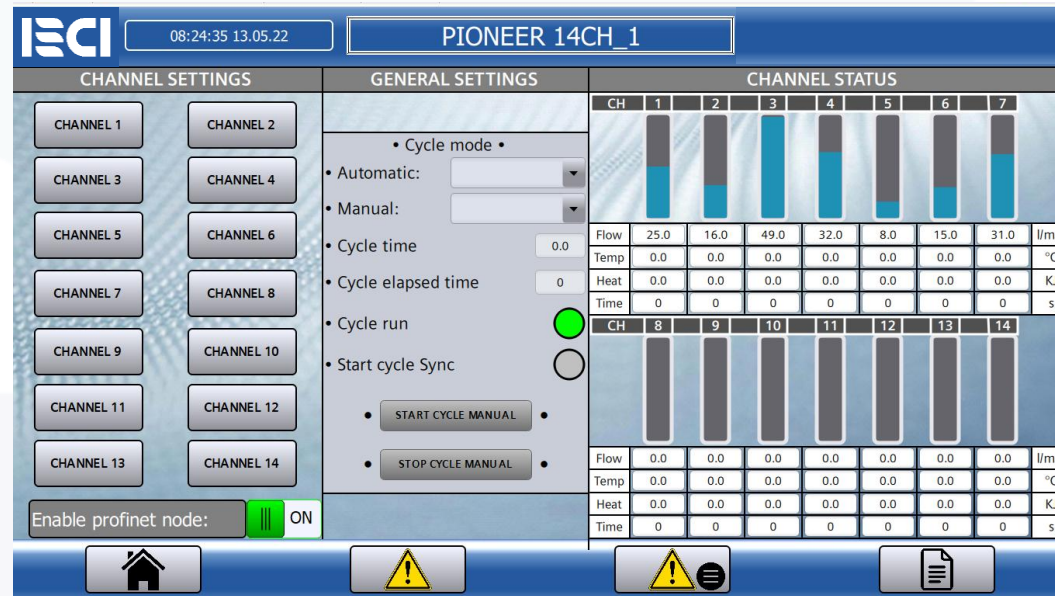
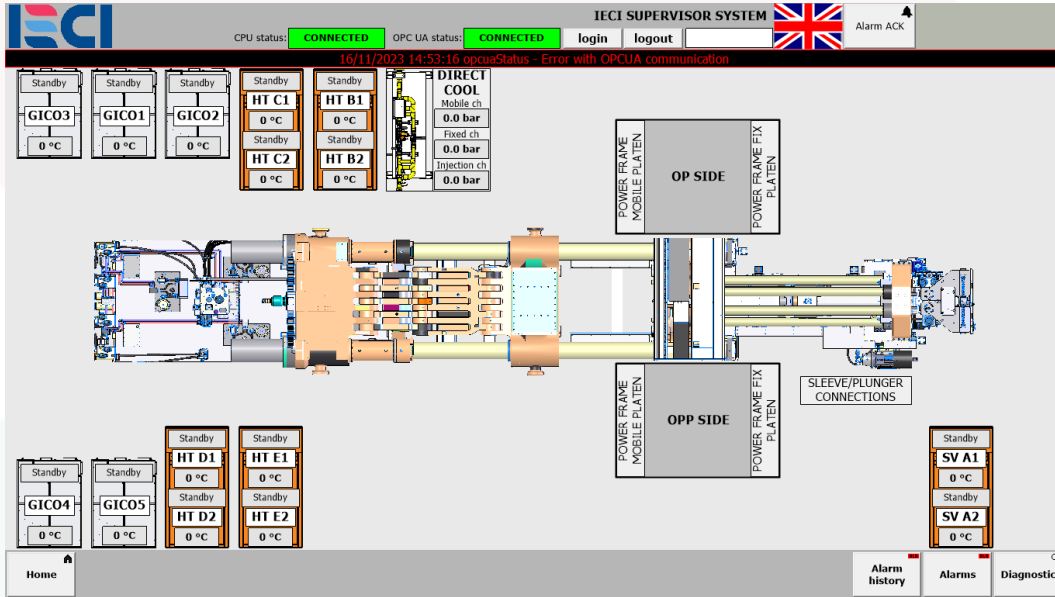


Oil/mist separator



Openable basket

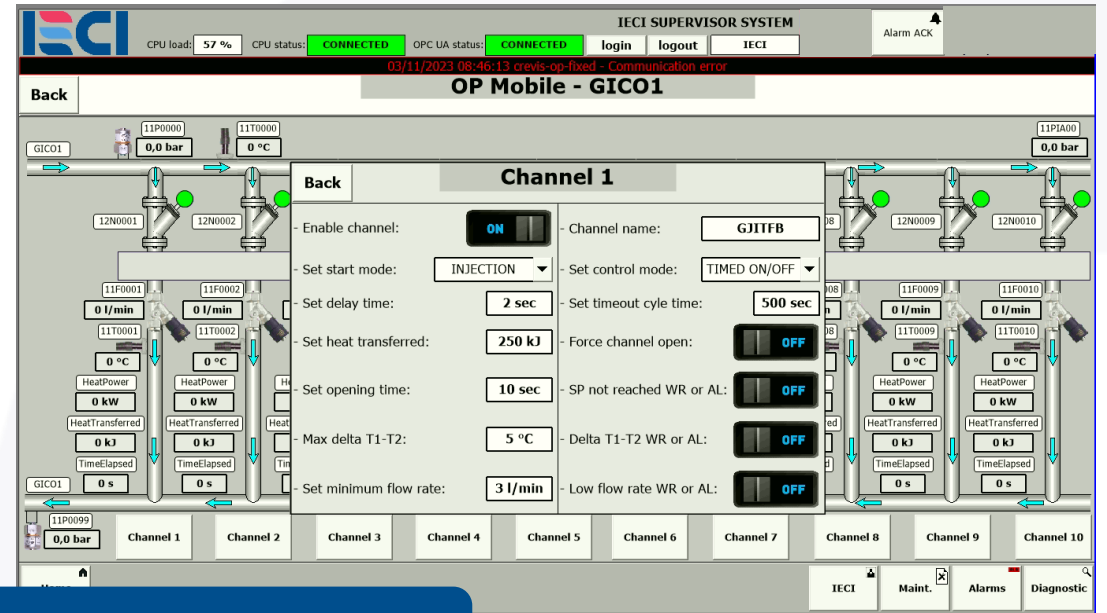
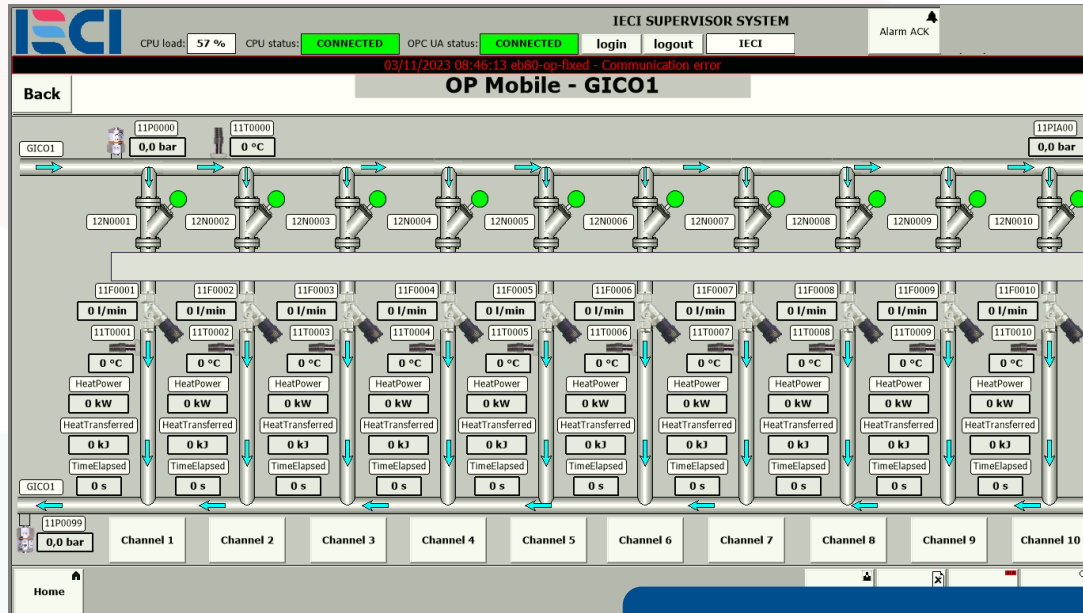




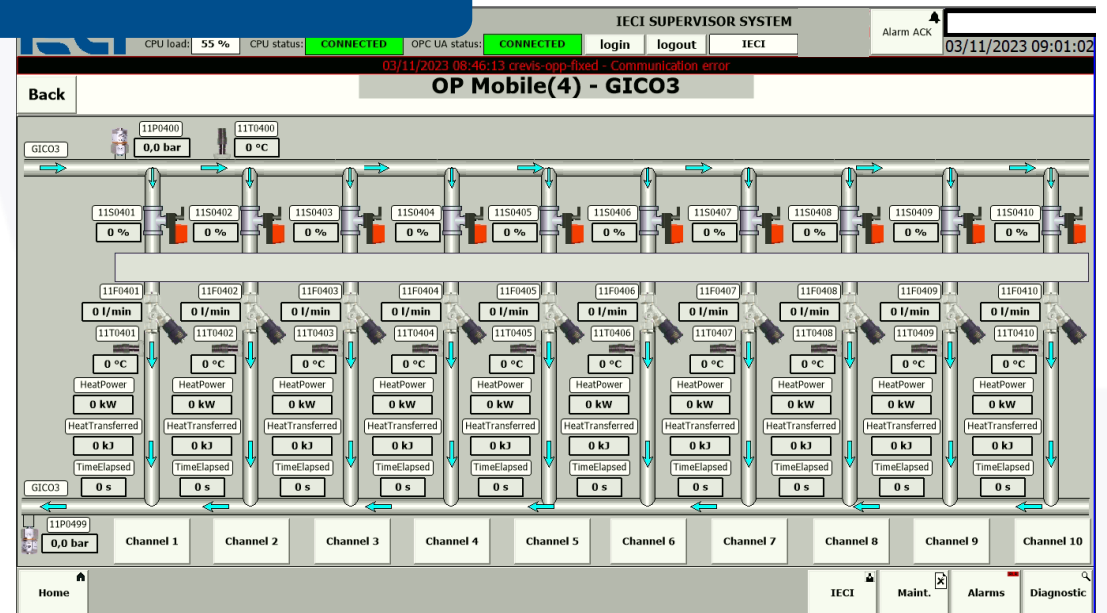
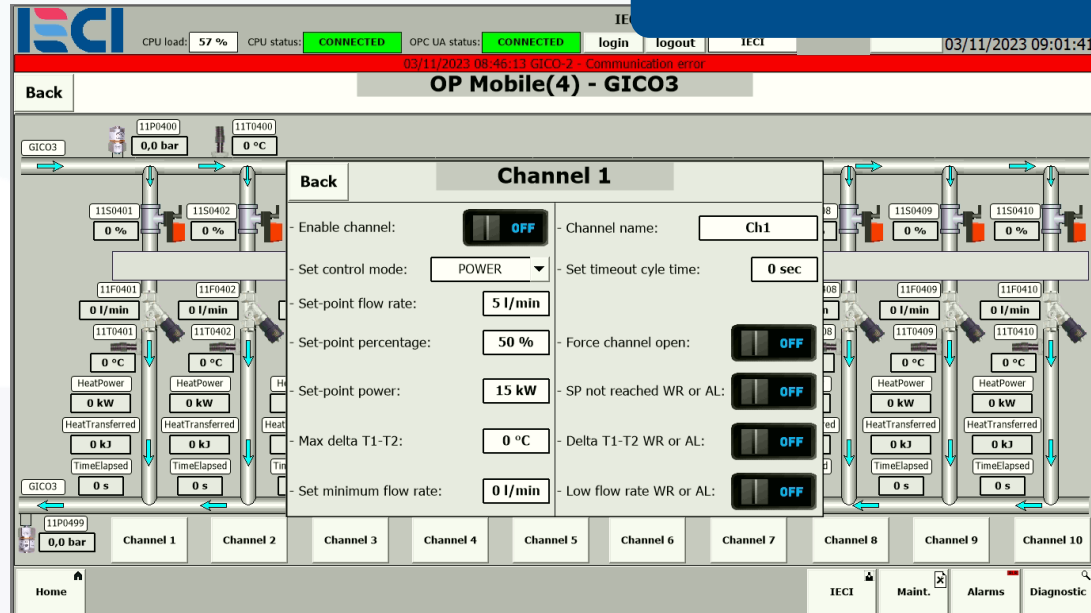
SUPERVISOR



- Integrates all IECI temperature control devices
- Custom on DCM layout
 - POWERFRAME visualization
- Full integration with DCM panel
- Full integration with cell controller
 - Remote control
- Profinet, OPC UA, etc.

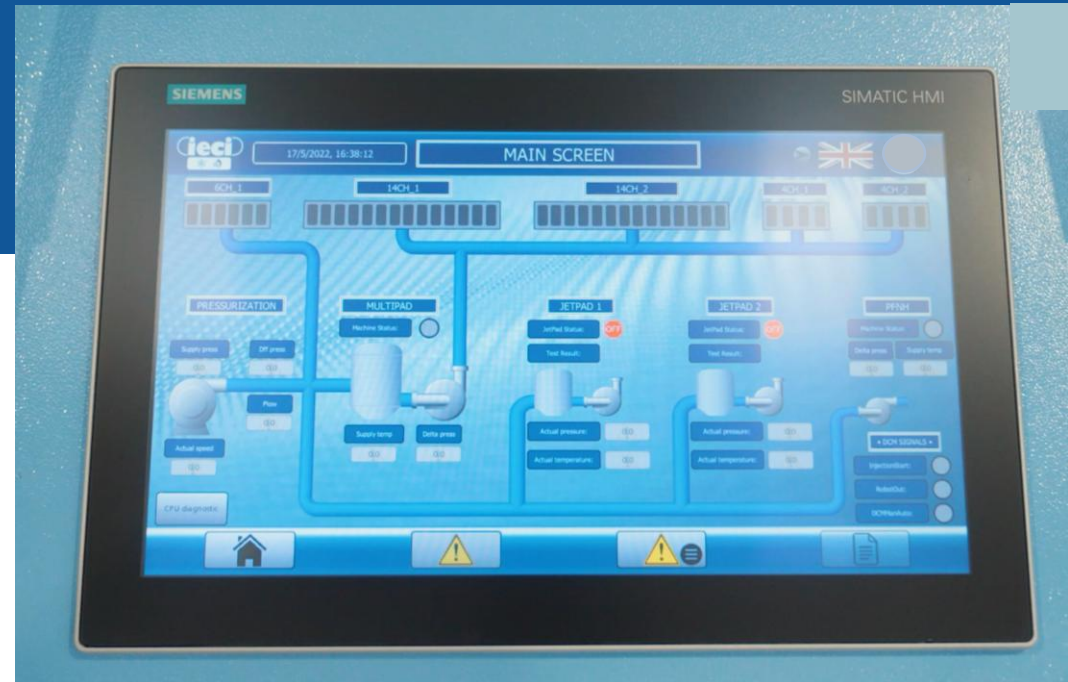
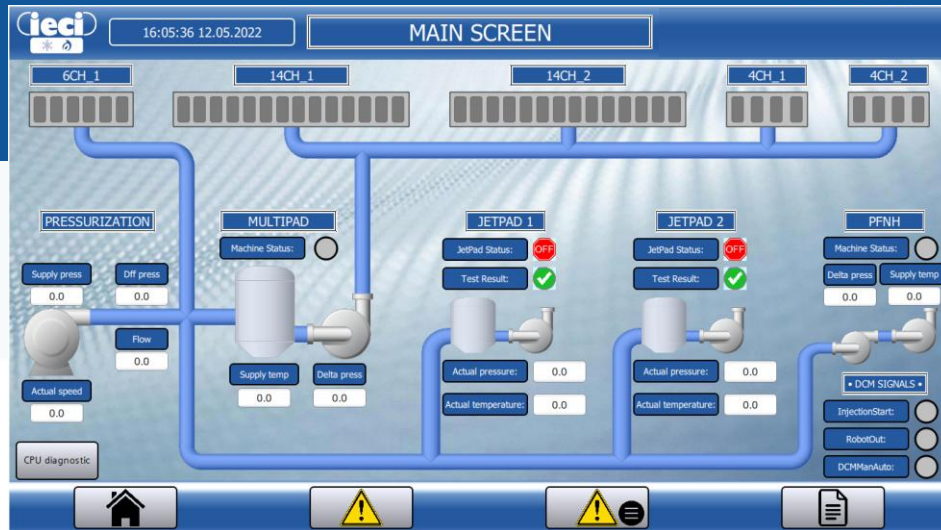


AVAILABLE IN MULTIPLE LANGUAGES



SUPERVISOR SYSTEM

Play the video →



ATLANT[®] PROJECT

**REMOTE CONTROL
AND MONITORING**
via internet or on local network

DATA & STATISTICS (B.I.)
management

FIELD BUS
communication



Welcome to Atlante

Email or username

email or username

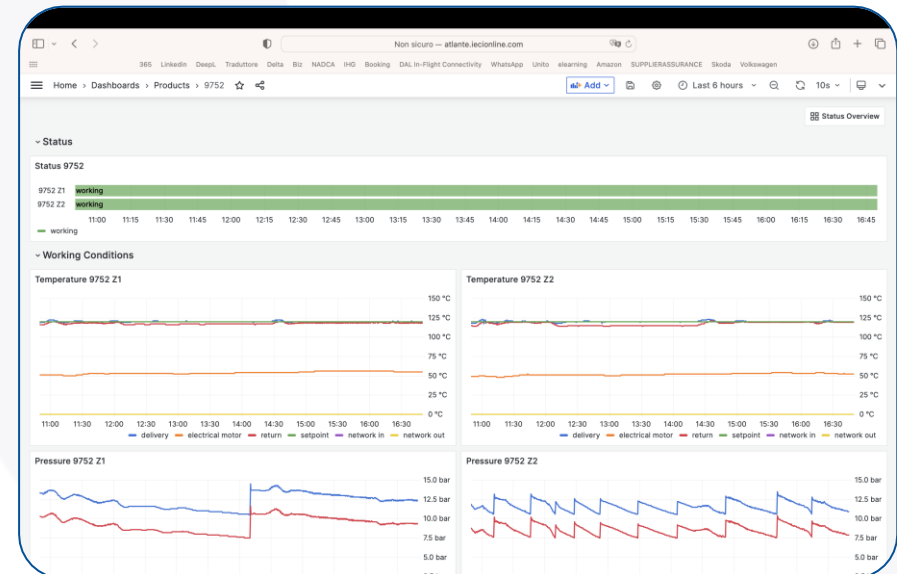
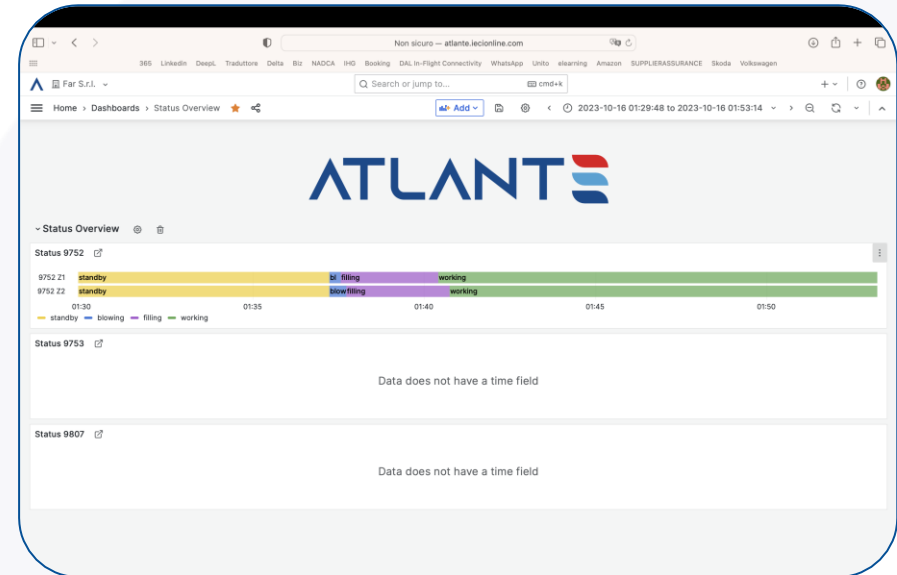
Password

password

Log in

[Forgot your password?](#)


POWERED BY IECI





TEMPERATURE CONTROL UNITS

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