

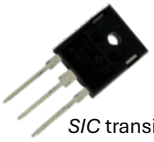
ISR GROUP

GP*H* – SiC Parallel type

INDUCTION GENERATOR for Heat treatment

30 Years of Expertise in Static Induction Heating Generators

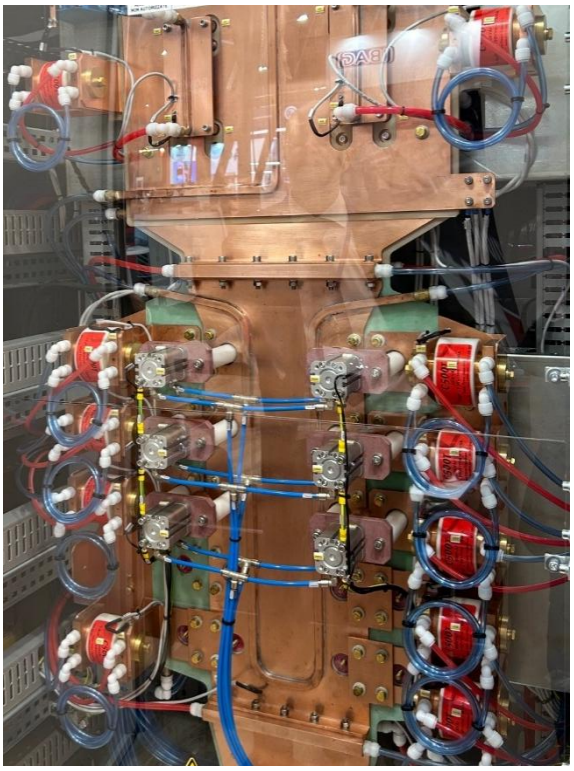
For nearly 30 years, our engineers have designed static induction heating generators, establishing us as a leading European specialist.
Based in Europe, we serve high-tech industries such as **Automotive, Aerospace, Defense, and top industries**.
We use the latest power semiconductors and optimise electronics, resonant circuits, and transistor types **(IGBT, Fast IGBT, or SiC**) for each application.



SIC transistor

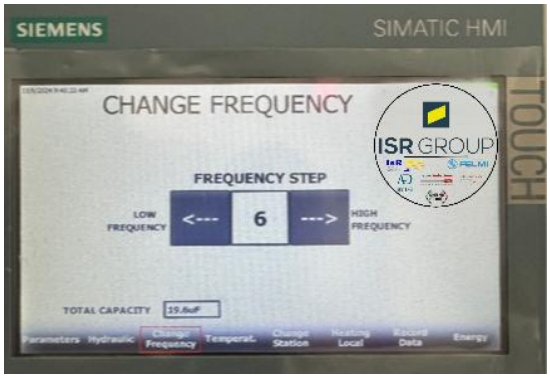


Programmable Operating Frequency



Our generators **adapt automatically across the full power range** and feature **standard full frequency programming**, enabling precise control of heat penetration.

Full Frequency programming is a standard across our entire converter ranges !



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A Control System Designed for Performance and Maintenance

All our generators come standard with **2 control displays** for ease of use and full technical oversight.



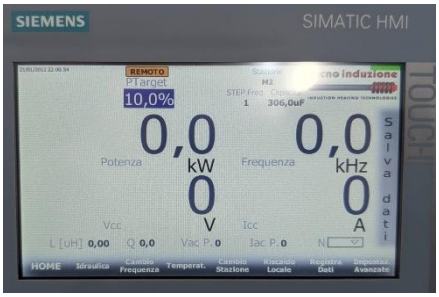
The main **colour touchscreen**, integrated with a Siemens PLC, allows intuitive operation, diagnostics, machine communication, and secure remote support.

The second in-house display, located on the main control board, **assists technicians** during maintenance for faster troubleshooting.

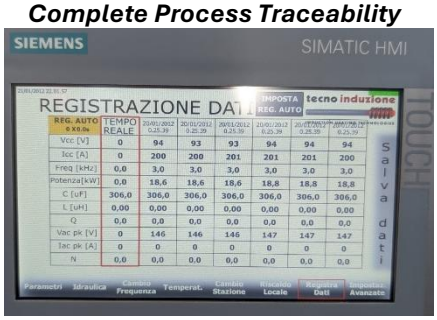
Together, the ultra-fast microcontroller and advanced electronics enable precise control and compatibility with **any transistor technology at any frequency**.

Advanced HMI Screen Example

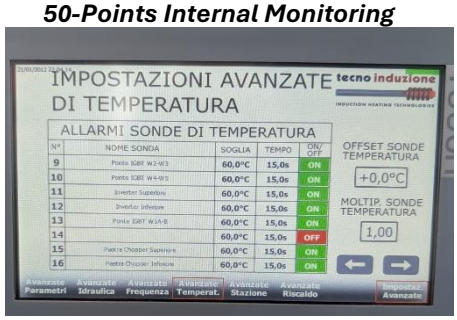
Main screen



Complete Process Traceability



50-Points Internal Monitoring



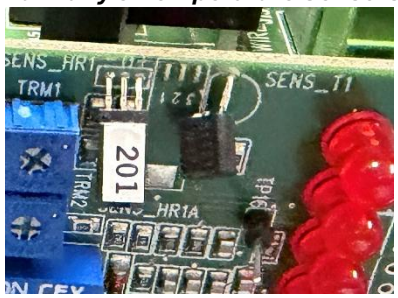
Advanced Technology for Maximum Productivity

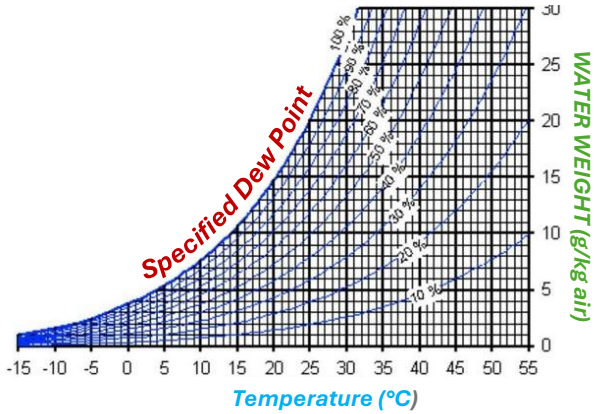
Our engineers have taken electronic monitoring to an exceptional level, ensuring **stable, safe, and continuous production**.



- Generators feature **real-time environmental and thermal monitoring**, including humidity, cooling water, and multiple key components, allowing potential issues to be detected before they affect production.
- Power contacts are **silver-coated** to reduce overheating and prevent electrical arcing, while tropicalized electronics ensure reliable operation even in **high-humidity environments**.
- The dew point is calculated in real time to alert the operator in case of condensation risk and potential internal short circuits.

Integrated
Humidity & Temperature Sensors





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GPH (Parallel SiC) – High Frequency and High Efficiency

The introduction of silicon carbide (SiC) transistors has enabled **a new generation of high and very high frequency generators**, delivering levels of **robustness and efficiency** previously unattainable.

We offer this technology up to **300 kHz** for applications requiring high thermal precision, typically on small to medium-sized components.

Compared to conventional silicon devices, SiC technology offers significant advantages:

- Up to 10 times higher overvoltage resistance
- Approximately three times higher thermal conductivity
- Faster switching speed
- Reduced losses and optimized efficiency

These characteristics make silicon carbide a major technological advancement over traditional IGBT solutions for demanding high-frequency applications.
Thanks to their extremely compact format, SiC transistors enable the design of more compact generators with improved thermal performance and extended service life, while achieving outstanding energy efficiency.
This technology opens new opportunities in induction heat treatment by combining precision, compactness and industrial efficiency.

Efficiency 97%

GPH (SiC)	30	50	80	100	120
LOAD					
Power (kW)	30	50	80	100	120
Power range adjustment (%)	1-100				
Frequence range (kHz)*	100-300				
Rated MF voltage (V)	700				
Cos Φ	0,85-0,95				
POWER SUPPLY SPECIFICATION					
Main voltage (V)	400+/- 10% 3ph+ Protective Earth				
Main frequency (Hz)	50/60				
Power Supply (kVA)	38	63	100	125	150
CABINET					
Protection level	IP54				
Length (mm)	1000				
Depth (mm)	1000				
Height (mm)	2400				
Weight (kg)	800	800	1000		
COOLING					
water quality	Demineralized water, max. conductivity 100 µS/cm				
Pressure (bar)	04 - 05				
MAX Inlet water temperature (°C)	27				
Min Inlet Water temperature (°C)	20				
ΔT heating (°C)	0,9	1,4	1,4	1,7	2
Water flowrate (l/min)	15		25		

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Choose ISR Group Generators – choose reliability.

- Robustness and production tools that are always available.
- Flawless manufacturing quality.
- Assurance of uninterrupted production.
- Technical support from Europe and Asia, whether for process development, production tooling, or on-site service.

Our electronics take you further – powering your production with precision and confidence.

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