

SiCWeld Family Silicon Carbide Welding Generator

A strategic collaboration agreement between
Termomacchine & **SiCtech Induction**
committed to customer needs...



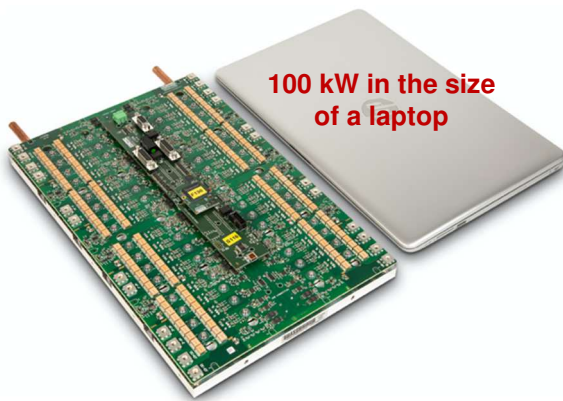
...by offering innovative welder technology &
excellent worldwide service



The SiCWeld Core Technology

SiCWeld family corresponds to a range of generators for tube welding applications covering power levels from up to 1.600 kW and frequencies up to 400 kHz. These type of power supplies is specifically designed for tube welding by induction or as well as for tube welding by contact. SiCWeld Family are manufactured and commercialized worldwide according a cooperation agreement between TERMOMACCHINE (Italy) and SiCtech INDUCTION (Spain) joining the expertise and competences of both companies for serving customers needs with a disruptive technology and excellent worldwide service.

SiCWeld generators are based on SiCtech core inverter technology that pushes the technological boundaries to the limits offering the most disruptive and advanced technology in the field of induction welders by using the ultimate power electronics technologies as Silicon Carbide (SiC) MOS Transistors, advanced DC link using antiferroelectric capacitors, ultrafast high isolation circuitry and advanced transistor driving circuits and fully digital controller all integrated in a PCB, allowing inverter efficiencies up to 99% @ 400 kHz and consequently very small and compact chillers

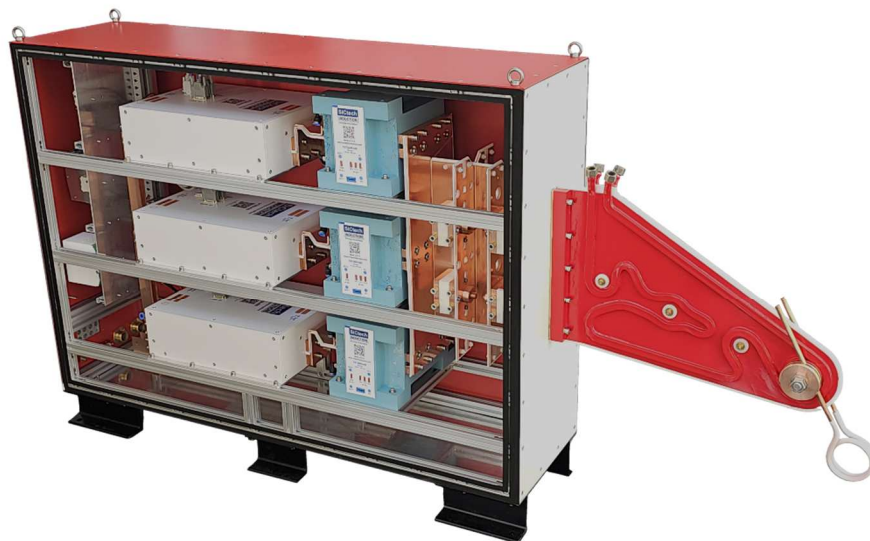


SiCtech Core Technology



SiCtech 100 kW / 400 kHz HF Power Module

SiCWeld Power Inverter has a modular construction based on the 100 kW / 400 kHz SiC power module integrating all the needed features required in a welding process and providing to the main PLC, via CANBus, all the information for the user in any interaction with the welder as the starting up, the resonant frequency selection by autotuning, the matching of the load, information on the status and working conditions of the generator at any time etc. Capacitor bank is designed to allowing welding processes with one or two turns welding inductors, according the tube to be welded.



300 kW / 400 kHz Welding Inverter

The SiCWeld Family Features



SiCWeld, family, with power up to 1.600 kW, includes two cabinets, one cabinet comprising the **Front-end Cabinet** with safety components braker, fuses, rectifier, internal water cooling system ... and the **inverter Cabinet** comprising the HF power modules, transformers, capacitor bank, internal water cooling system with flowmeters, output busbars and the welding inductor.

SiCWeld generators include a Siemens PLC with communication via industrial buses like Profinet, Modbus, Ethernet etc.

THE MAIN ADVANTAGES OF SiCWelder FAMILY

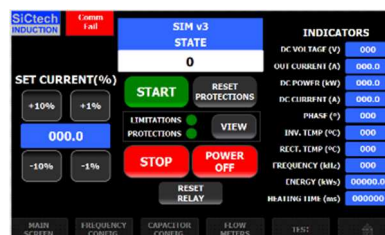
- ⇒ Extraordinary wide frequency range up to 400 kHz
- ⇒ Power up to 1.600 kW
- ⇒ Extremely high efficiency inclusive at frequencies as high as 400 kHz.
- ⇒ Extremely low size and weight.
- ⇒ Very high robustness due to the use of SiC MOS Transistors.
- ⇒ Ridiculously low water consumption, allowing very small and compact chillers
- ⇒ Modular construction
- ⇒ A highly interactive and comprehensible HMI based on Siemens PLC 1200, guides the user in any interaction with the generator.

After Sales Services

For a faster technical assistance, TERMOMACCHINE and SiCtech has signed long-term agreements with strategic partners for local technical assistance in the field. Our team of service engineers and commissioning technicians can count on operators well skilled and qualified, supported by senior engineer with wide experience.

We are able to offer:

- ⇒ Machine installation
- ⇒ Setting at work & commissioning
- ⇒ Technical support during warranty period
- ⇒ Machine Operators Training
- ⇒ Technical intervention
- ⇒ Preventive & programmed Maintenance
- ⇒ Upgrade & retrofit



KEY FIGURES OF SICWELD FAMILY

- ⇒ SiC Technology
- ⇒ Up to 1.600 kW / 100-400 kHz
- ⇒ Modular Architecture
- ⇒ Fully digital controller prepared for its integration in a Industry 4.0 Network
- ⇒ Extremely high efficiency, higher than 98% @ 400 kHz
- ⇒ Very small & weight
- ⇒ Very Low water needs
- ⇒ Energy monitoring.

The SiCWeld Technical Specs

SiCWeld Family								
Power ⁽¹⁾	100 kW	200 kW	300 kW	400 kW	500 kW	600 kW	700 kW	800 kW
HF Output Frequency Range	250-400 kHz							
Inverter Efficiency	98,9 % @ 250 kHz 98,4 % @ 400 kHz							
Mains Voltage ⁽²⁾	400-480 VAC ± 10 % (Three-Phase)							
Mains Frequency Range	50 & 60 Hz							
Cos (φ)	> 0,99							
Output Circuits	Series LC							
Inductor Short Circuit Protec.	Yes							
Controller	Fully Digital Controller							
Power Regulation Range ⁽³⁾	2...100 %							
Power Setting Time ⁽⁴⁾	1 ms							
Front-end Cabinet Dimensions, WxDxH (mm)	600 x 600 x 1.800							
Front-end Cabinet Weight (kg)	165	170	170	175	185	190	200	200
HF Inverter Dimensions w(370) x d(1.350) x h (mm)	550	810	1.100	1.350	1.600	1.870	2.140	2.400
HF Inverter Weight (kg)	110	200	300	340	480	580	670	760
Water Max. Temperature	35 °C							
Environmental Temperature	+5 °C to +40 °C							
Maximum Humidity	90 %							
User Interface	Siemens HMI KTP700							
Standard Fieldbus	ModBus TCP/IP							
Optional Fieldbuses	Profinet, DeviceNet, ...							
Optional External Control Unit	The Unit Comprises: External Start/stop, External Power Control, External Emergency Stop							

NOTE: ⁽¹⁾ For Higher Power, please contact us
⁽²⁾ For 480 VAC contact with SiCtech
⁽³⁾ At Nominal Load
⁽⁴⁾ At Adaptive Mode

Subject to changes

