



# Weldac<sup>®</sup>

High-output solid-state welders



# Welcome to the Weldac



Weldac is EFD Induction's family of high-output, solid-state tube and pipe welders based on rugged, reliable IGBT transistor inverters. A complete system, Weldac consists of a diode rectifier, IGBT inverter modules, output section, busbar and operator control system.

Weldac is available in two basic designs: one-cabinet for low-power welders; two-cabinet for high-power welders. Weldac is a proven solution for welding stainless steel, aluminum, low-carbon and high-strength steel.

Modular design with independent full-bridge IGBT inverters makes Weldac compact, saving valuable floor space and simplifying in-line integration and retrofitting. Weldac can be fitted with induction coils or contact welding heads.

The Weldac range builds upon our unrivaled process and applications knowledge. And our decades of international experience in solving the toughest welding challenges. All Weldac solutions are backed by EFD Induction's worldwide service and support program.

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## THREE KEY BENEFITS

### **More uptime**

EFD Induction's patented switching pattern lets Weldac use rugged IGBT transistors. These transistors are virtually short-circuit proof, considerably boosting Weldac's reliability.

### **More output**

Continuous electronic load matching secures full power output across a wide range of tube sizes, ensuring maximum welding speed for each size. No operator action is needed, simply change the coil size.

### **Lower costs**

Weldac's efficiency from input at the rectifier to output at the coil is 85-87%. Cooling water consumption is low, with no need for expensive de-ionized water. Weldac eliminates the need for costly reactive power compensation capacitors by using diode rectifiers that result in a high, constant power factor (0.95) at all power levels.

# A solid-state revolution

Weldac features EFD Induction's patented IGBT driver technology. This innovation lets reliable IGBT transistors operate at frequencies up to 350kHz. The result is that the practically short-circuit proof IGBT transistors can now be used for small- and large-diameter welding.

Robust IGBT transistors make Weldac more reliable than other solid-state welders. IGBT transistors also offer superior energy-efficiency and reliability.

Using IGBT transistors has also helped make the new Weldac welders smaller than their predecessors. The reduced footprint makes Weldac easier to install and maintain than larger welders. And our flexible busbar solution means we can customize the busbar to your specific requirements.

Weldac is extremely easy to operate, with a minimum of manual settings. Operation is via an easy-to-use control panel. The control system, which has a bus interface, can be fully adapted—good news, if you want to integrate Weldac into your line and its own control system.



One-cabinet welder 300 kW



Two-cabinet welder 1800 kW

### Available options

- One- or three-axes positioning tables
- Plate-type heat exchanger
- Field bus communication
- Quality Monitoring System (QMS)
- Temperature monitoring / control systems
- Contact welding head
- Input auto transformer
- Tacho generator
- Impeders and coils



### Power savings

Weldac features a diode rectifier with a constant power factor of 0.95 at all power levels. There is no reactive power cost, and no need for compensating capacitors.



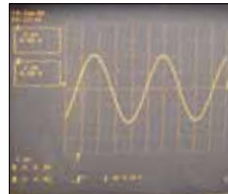
### Rugged IGBT transistors

Our patented driver technology lets Weldac use standard reliable IGBT transistors for better uptime and output.



### Full output power

Weldac's automatic load matching ensures full output power across a wide range of tube sizes. There are no 'unsafe' operating areas. When a different-sized coil is fitted, Weldac automatically matches to the best setting.



### Clean weld bead

Weldac's low ripple results in a clean weld bead—making it ideal for stainless steel and aluminum welding.



### Short circuit resistant

IGBT transistors, together with an advanced switching pattern and intermediate transformer design, make Weldac short-circuit resistant.



### Advanced MMI

Weldac features the latest in Man/Machine Interface (MMI) control panels. Moreover, Weldac can operate with most currently available major bus interfaces.



### On-site upgrades

Weldac's modular design means you can easily change from contact to induction welding—and upgrade to required power. It is also possible to upgrade power in order to handle future production increases.



## DO MORE WITH LESS

Less power consumption, a smaller footprint and easier operation are three hallmarks of the latest generation of Weldac systems. These features, coupled with the reliability of IGBT transistors, translate into:

- Lower running costs as a result of low power consumption
- Fewer unscheduled stops
- Increased throughput
- Longer coil lifetimes/reduced coil consumption
- Minimal scrap/re-working
- Minimal operator intervention, resulting in fewer operator errors



## WELDAC AT WORK

The Weldac is suitable for tube dimensions from OD 3/8" to OD 26" (10 mm – 660 mm).

Weldac can be fitted with various induction coils or contact heads. We have developed a contact head with quick-lifting contacts and pneumatic cylinders that maintain constant pressure on the contact tip.



# A family for every need

Weldac is one of five product families from EFD Induction. Together, these product families let you perform virtually any heating task. And in the unlikely event they don't meet your specific needs, we can sit down with you and devise your own customized heating solution.

EFD Induction also develops, commercializes and supplies mechanical handling equipment, coils and software control systems. We also offer a comprehensive, worldwide service program. To learn more about us—and how we can help your business—please contact your nearest EFD Induction representative.



## **Sinac**

Universal heat generators



## **Minac**

Mobile heat generators



## **Weldac**

High-output solid-state welders



## **HardLine**

Industrial heat treatment systems



## **HeatLine**

Industrial heat processing systems