



**EFD**<sup>®</sup>  
INDUCTION

Digital to the core  
The New Generation Minac<sup>®</sup>



# DIGITAL TO THE CORE

EFD Induction has always been at the forefront of technological development and with the new fully digital control system, we set you up for the future.

#### Future-proof

The fully digital control system provides a solid foundation to build on. Easy-to-install software upgrades ensure that your induction equipment will always have the latest state-of-the-art technology.

#### Enhanced reliability

Your induction equipment will have extended life through our unique, advanced machine audits and troubleshooting. Enhanced diagnostics will protect you against unexpected costs.

#### Increased productivity

Better use of your machine data will increase your productivity. You will have unmatched control and efficiency, reduced maintenance requirements and shorter service response time.



## PREPARED FOR INDUSTRY 4.0 THE INDUSTRIAL INTERNET OF THINGS

With easy updates to new features, your equipment is prepared for developments within:

- Advanced analytics and predictive maintenance
- Interconnectivity
- Condition monitoring and alarming
- Automation and real-time data
- Machine learning
- Remote service and augmented reality

## The Internet of Things: Explore the possibilities

The future is interconnected, bringing with it possibilities of access to real-time data, remote service and new ways to perform diagnostics and troubleshooting.

#### Interconnectivity

The extension of connectivity into industrial equipment allows devices to communicate over the Internet and be remotely monitored and controlled.

to retrieve vast amounts of information enables us to identify potential risks and prevent faults. We can also make reliable forecasts about the future behaviour of your equipment, which for you, means increased reliability, productivity and quality.

#### Automation and real-time data

In a world where the industry pace is increasing, you may need to access information quickly. Data automation and the ability to collect data in real-time can be critical to the success of your project. Now, EFD Induction service engineers can exploit real-time visualization of your data to optimize processes and find out how your equipment actually performs in situ.

#### Condition monitoring and alarming

Should anything occur, condition monitoring and alarming ensure that your service personnel are immediately notified when thresholds are exceeded or systems go into fault mode, enabling fast and targeted interventions. Comprehensive diagnostics ensures shorter service response time and you will have reduced outages and downtimes as well as reduced maintenance requirements.

#### Machine learning

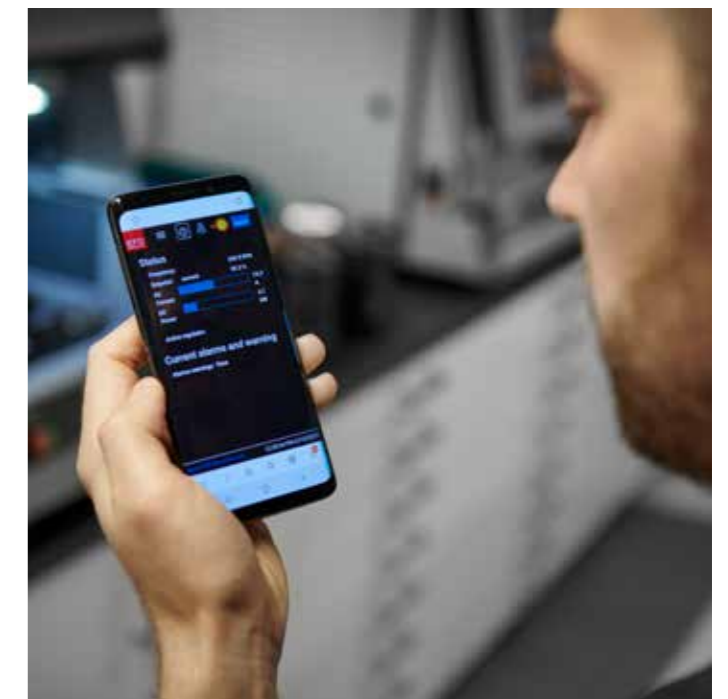
Your equipment will have systems that can learn from the data, identify patterns and make decisions.

#### Remote service and augmented reality

The need for costly and time-consuming visits to your site will be reduced as experts have remote access to your equipment. Using augmented reality, they are able to blend interactive digital elements into your real-world environment, enhancing computer-generated information.

#### Advanced analytics and predictive maintenance

EFD Induction offer unique, comprehensive diagnostics, advanced machine audits and troubleshooting. The ability



**EFD INDUCTION OFFER UNIQUE,  
COMPREHENSIVE DIAGNOSTICS,  
ADVANCED MACHINE AUDITS  
AND TROUBLESHOOTING.**

# Mobile, flexible and easy to use

The Minac's mobility and ease of use make it a versatile system—an all-in-one-solution, ideal for jobs as diverse as brazing, curing, shrink-fitting, hardening, straightening, etc.

**COMPLETE RANGE:**

Minacs are available with maximum intermittent output power of 10-220 kW (6-140 kW continuous) and a frequency range of 10-100 kHz.

Higher-frequency Minacs—which combine high frequencies with small coils—are ideal for heating small, delicate and complex workpieces.

**Handheld transformer (HHT)**

HHTs feature precise power control and are as easy to operate as a regular electric drill.

**10-inch capacitive colour touch screen**

- latest technology in man-machine interface
- multi-language control panel
- side-by-side visualisation of twin outputs
- easy access to all system functions
- quick set-up
- full control of the induction parameters for your heating processes

**Range of coils**

Minac systems can be fitted with a practically limitless range of coil designs.

**Twin power outputs** - Many models come in a Twin version

**MINAC SERIES  
TECHNICAL DATA**

Model	6/10	6/10 Twin	12/18	12/18 Twin	18/25	18/25 Twin	25/40	25/40 Twin	50/80	50/80 Twin	70/110	70/110 Twin	140/220
Max. output power	10 kW	2x10 kW	18 kW	2x18 kW	25 kW	2x25 kW	40 kW	2x40 kW	80 kW	2x80 kW	110 kW	2x110 kW	220 kW
Continuous output power	6 kW	2x6 kW	12 kW	2x12 kW	18 kW	2x18 kW	25 kW	2x25 kW	50 kW	2x50 kW	70 kW	2x70 kW	140 kW
Supply voltage	400-480 V	400-480 V	400-480 V	400-480 V	400-480 V	400-480 V	400-480 V	400-480 V	400-480 V	400-480 V	400-480 V	400-480 V	400-480 V
Recommended fuse	16 Amp	32 Amp	32 Amp	63 Amp	63 Amp	63 Amp	63 Amp	100 Amp	100 Amp	200 Amp	200 Amp	250 Amp	250 Amp
Coolant SM (SH)*	4 l/min (4)	8 l/min	6 l/min (14)	11 l/min	7 l/min (14)	13 l/min	14 l/min(19)	24 l/min	21 l/min	2x25 /min	25 l/min	2x25 l/min	50 l/min
Weight SM (SH)*	50 kg (50)	74 kg	52 kg (75)	76 kg	54 kg (77)	78 kg	60 kg (80)	86 kg	80 kg	290 kg	240 kg	290 kg	290 kg

\*SM = medium-frequency models, SH = high-frequency models

Subject to modification

## Ease of use is one of the Minac's key benefits



### Mobile

You can move your Minac around a workshop or factory floor. It can easily be loaded into a car and transported to work sites.

### Flexible

The Minac can be fitted with a practically limitless range of coil designs and coil fixtures, flexible cables, closed or separate cooling systems, specially designed heating cables, etc.

### Ready to use

All that has to be done upon delivery is:

- 1) attach a coil
- 2) connect supply voltage
- 3) connect cooling water

In models with closed cooling systems, only the supply voltage needs connecting.

### Easy to operate

The operating panel with its 10-inch capacitive colour touch screen and latest technology in man-machine interface, is the most user-friendly on the market. The multi-language control panel provides access to all system functions, and any information you need can be quickly and easily displayed.

Setup is quick, and an improved heating sequence editor gives you full control of the induction parameters for your heating processes.

Handheld transformers (HHT) feature precise power control and are as easy to operate as a regular electric drill. Flexible, water-cooled cables connecting the HHT to the converter allow easy access to workpieces.

### Twin power outputs

Many models come in a Twin version, featuring two independent power outputs that can operate simultaneously. The large touch screen enables side-by-side visualisation of outputs.

### Robot compatible

A Minac can be adapted to any robot, allowing quick, no-fuss integration into automated production lines. The HHT can easily be mounted on a robot arm.

### Maximum output power

With the Minac's maximum power feature you can, for limited periods of time, operate with an output power far in excess of the continuous output power.

## Multipurpose pistol handgrip

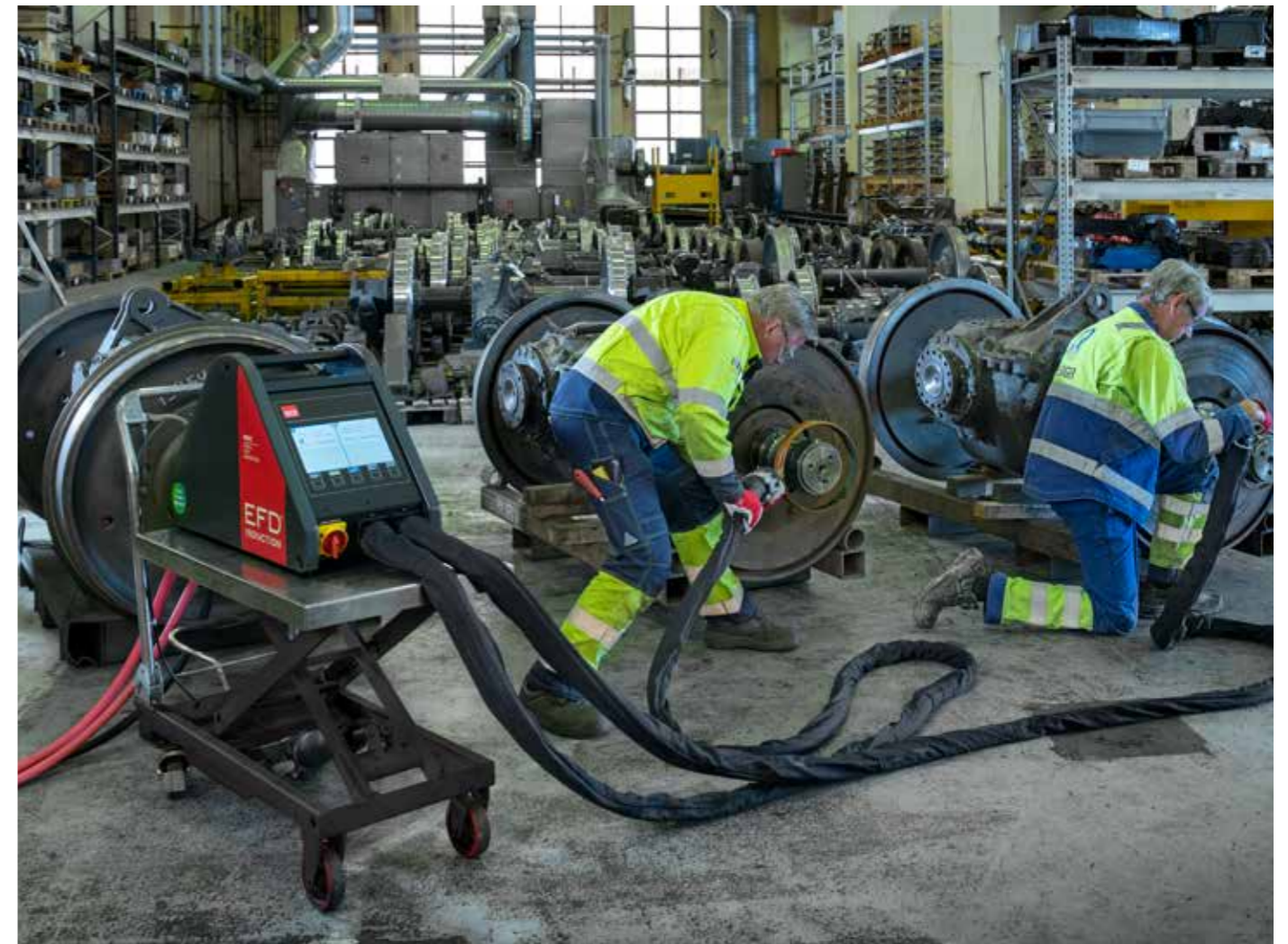


The handgrip supports three different sizes of HHTs. Easy trigger operation allows the operator to scroll through the various menus and select different modes.

A small, easy-to-read LCD screen on the side of the grip, provides the operator with on/off status, temperature and heat cycle duration, a menu choice and fault codes.

The handgrip records and stores four different heating cycles of up to 99,9 seconds each. The cycles can be repeated with virtually zero deviations.

The thermocouple, which can be conveniently plugged into the bottom of the handle, monitors and controls workpiece temperature.



*TWIN POWER OUTPUTS: Many models come in a Twin version, featuring two independent power outputs that can operate simultaneously. The large touch screen enables side-by-side visualisation of both outputs.*

# Versatile systems for various heating jobs



Minacs are versatile induction systems for the heating of practically any electrically conductive material. They are ideal for jobs as diverse as brazing, shrink-fitting, hardening, curing, straightening, and many more. They can be fitted with various coils and coil fixtures, single or twin output, flexible cables, closed or separate cooling systems, specially designed heating cables, etc. We equip the Minac to fit your need.

**Visit our website to learn more about EFD Induction and our solutions that are boosting productivity for companies around the world.**

[www.efd-induction.com](http://www.efd-induction.com)



PUTTING THE SMARTER  
HEAT TO SMARTER USE