

# HeatLine®

Industrial heat processing systems



# High-output HeatLine



HeatLine is EFD Induction's family of systems for melting and forging applications. A comprehensive range, HeatLine systems feature serial and parallel-compensated induction power sources for a wide range of output powers and frequencies.

HeatLine's serial technology is mainly built around robust, high-uptime IGBT transistors. Our parallel technology features thyristor and IGBT components. Each HeatLine converter offers automatic load matching, a single microprocessor-based control board and integrated capacitors.

Other special HeatLine systems include silicon melting, vacuum melting, glass melting, graphite coating and spring wire rolling.



Above, a steel billet being heated in an EFD Induction forging station.

Below, molten brass in a graphite crucible.

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## THREE KEY BENEFITS

### Lower costs

The EFD Induction converters at the heart of HeatLine systems deliver higher efficiency rates than alternative induction sources and heating technologies. Small footprints, easy operation and proven reliability boost uptime and throughput.

### Assured quality

HeatLine's converters, coils and control software help ensure perfect heating results time after time. Direct heating of workpieces and loads eliminates over-heating. Ramp-up times are quick. Temperature regimes are

accurate and easily reproduced. In melting applications, advanced software controls energy levels. HeatLine solutions deliver quick, precise and repeatable heat—together with process automation and control.

### Better work environment

With HeatLine solutions manual settings and operator interventions are minimized. Ambient heat increases are low, as are dust and noise levels. A cleaner, more comfortable working environment helps boost operator productivity.

# All the tools you need

## FOR FORGING

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### Induction billet heaters (CHC)

CHC systems are continuous feed units for heating round or square section billets prior to stamping or warm forming. All CHCs come with inductors, converters, capacitor banks, billet loaders, feeding and sorting devices, closed-loop cooling circuits, and heating control and monitoring software.

Each CHC features fully automatic coil changes, variable billet throughput speed and automatic load matching. CHCs are available with either IGBT or thyristor technologies, and come in compact, single cabinet or separated, dual cabinet models.



### Horizontal partial heaters (CBB)

CBB horizontal heaters treat each part in a dedicated head. A special CBB feature is the ergonomic design that ensures operators are always in the best possible position to focus on the actual forging.

Applications include bar end and partial heating, as well as heating of shaped parts and special profiles. CBBs are particularly well suited for bolt manufacturing, and come with automatic loading, unloading and heating processes. CBBs can feature various numbers of heads to match specific tasks.



### Vertical partial heaters (CHV)

Available as wheel-mounted or stationary units, our CHVs are perfect for short series forging with manual loading/unloading. When equipped with a robot, a CHV can also handle long series forging of handle bars, billets and preformed components.

CHVs can be fitted with any number of coils, and are available in IGBT and thyristor versions.



## FOR MELTING

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### Single-axis tilt-pour furnaces (FIB)

The FIB melts ferrous and non-ferrous metals (copper and aluminium alloys). Several models are available to suit all capacity needs. The FIB is available with easy-to-change prefabricated crucibles or rammed linings.

### Dual-axis tilt-pour furnaces (DAB)

Available with rammed and fritted linings or prefabricated crucibles, the DAB offers extremely precise pouring streams in moulds on automatic lines and in investment casting. Low-loss lamination packs and lids with protective inert gas are available as options.

### Moving coil melting furnaces (FIM)

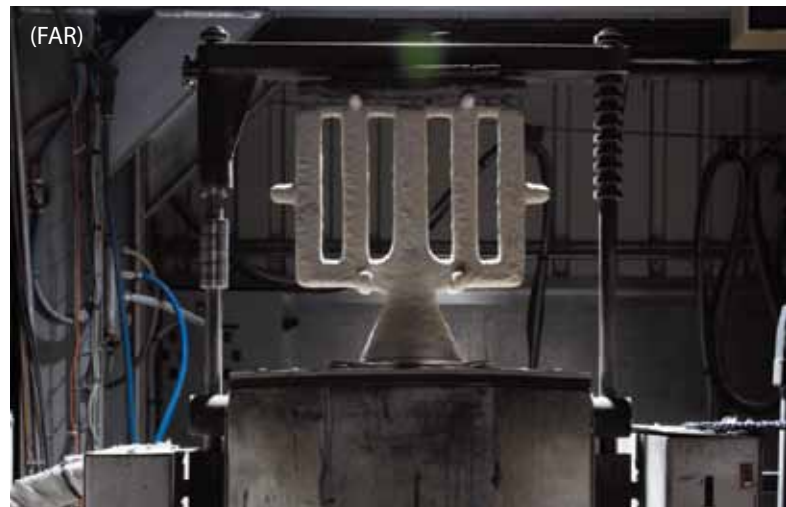
Our FIM furnaces are ideal for melting copper, gold, bronze and aluminium alloys. FIM's prefabricated (clay graphite) crucible remains static during the full melting cycle. Instead, the coil moves around the crucible without touching it. Dedicated crucibles—which also act as pouring ladles—eliminate inter-alloy contamination.

### Roll-over melting furnaces (FAR)

Our FAR furnaces offer 180° roll-over tilting and extremely quick mould filling—making them perfect for investment casting applications. High-power converters ensure short melt times, and eliminate oxidation. Ergonomic features include pneumatic mould clamping and a hydraulic roll-over system.

### Laboratory melting furnaces (LAB)

The LAB range is specially designed for laboratory and research applications. LAB furnaces come with rammed linings or prefabricated crucibles, and are ideal for: precious metals melting/refining, art moulding, investment casting, quick melting for qualifying alloys, sample castings for spectro analyses, dental/medical alloys, nuclear material melting.



## THE PARTS. THE PEOPLE. THE PRESENCE.

Choosing HeatLine gives you more than advanced, proven melting and forging equipment. It also gives you access to the skills, experience and services of EFD Induction—resources that ensure you get the most out of your HeatLine solution.

Here, for example, are two crucial advantages:

- Advanced testing. We have accredited labs and test centers around the world. Wherever you are, you're close to our metallurgists and mechanical/electrical/electronic engineers. These experts, together with tools such as computer simulation, ensure you get a solution that's just right for your needs.
- Spares, services and training. We have manufacturing plants, parts distribution systems and representatives in Asia, Europe and the Americas. This lets us offer customized preventive maintenance programs that safeguard machine uptime. And as Europe's no.1 and the world's no.2 induction heating company, we of course offer training programs to help ensure maximum productivity.



## HEATLINE AT WORK

HeatLine furnaces and heaters are used for everything from high-volume forging to specialist melting applications. Automatic coil changeovers and load matching make HeatLine particularly productive for forging. While accurate pouring, short melt times and easy crucible changes are hallmarks of HeatLine furnaces.



# A family for every need

HeatLine is one of five product families from EFD Induction. Together, these product families let you perform virtually any industrial 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 induction 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 EFD Induction—and how we can help your business—please contact your nearest EFD Induction office.



**Sinac®**  
Universal heat generators



**HeatLine®**  
Industrial heat processing systems



**Weldac®**  
High-output solid-state welders



**Minac®**  
Mobile heat generators



**HardLine®**  
Industrial heat treatment systems