



## Induction Heaters for Forging



50 years of experience in induction heating

300 manufactured induction heaters

200 customers in 16 countries

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## Induction Heaters for Forging

Parameters:

- Powers from 10 kW do 5 000 kW
- Frequencies from 50 Hz to 50 000 Hz
- Transistor or thyristor converter
- Built-in or separate converter
- Continual or static heating

What we heat:

- Steel and non-ferrous metals
- Billets of any cross section
- Rods and tubes of any cross section
- Ends of rods and tubes
- Workpieces of any shape and size

Efficiency

Power

Minimal waste

Quick start

Versatility

Temperature uniformity

Automation

Ease of use

Footprint dimensions

Reliability

Service life

Repairability

Safety

Ecology

We deal with all this from the beginning of the heater design. With an emphasis on the individual requirements of a specific application we design the best solution that best meets the customer's needs.

### Single-stage Billet Heaters

- The best price-performance ratio
- Easily replaceable inductor
- Set of inductors for different billet sizes
- Automatic feeding
- Built-in converter
- Hot billet sorter



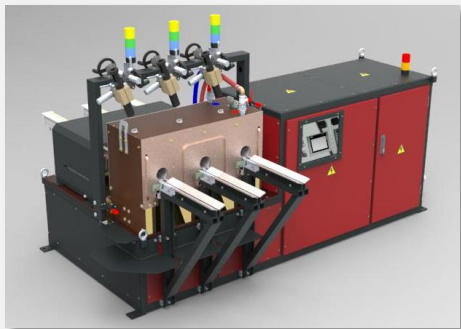
### Multi-stage Billet Heaters

- High versatility
- High efficiency in the entire power range
- Quick inductor exchange system
- Automatic emptying system
- Built-in converters
- Hot billet sorter

### Parallel Billet Heaters

- Extreme high powers
- Large billet diameters
- Minimal heater length
- Hydraulic pusher
- Separate converter





### Rod End Heaters

- Manuel feeding
- Pneumatic ejection of heated rods
- Temperature recording
- Pneumatic inductor clamping
- Small footprint

### Special Workpiece Heaters

- Suitable for automatic production line
- Separate converter
- Electromechanical pusher
- Robotic feeding
- Pneumatic inductor clamping



### Frequency Converters



- Thyristor 200 - 10 000 Hz up to 1 200 kW
- Transistor 6 000 - 50 000 Hz up to 250 kW
- Large power range
- Large frequency range
- Self-diagnosis
- Interchangeable units for easy repair

### Pyrometers

- For temperatures from 700 to 1400 °C
- Aiming distances from 250 to 1500 mm
- Wavelength 0,8 - 1,1  $\mu\text{m}$
- Output voltage 0 - 10 V
- Cooled housing
- Induction interference resistant



## Inductors

We manufacture and repair inductors of all shapes and sizes.

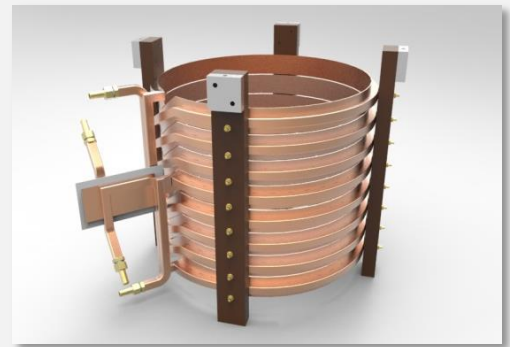


### Inductors for Continual Billet Heating

- Easy exchange and quick connection
- Heavy-duty connectors and quick couplings
- Cooled copper end boards
- Wear-resistant coated skid rails
- Temperature sensors for all cooling circuits
- Coil and refractory optimized for best efficiency

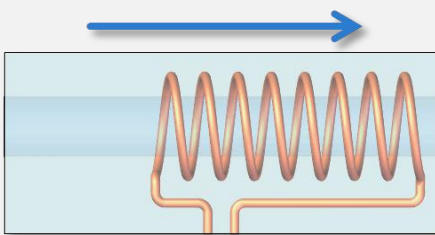
### Repairs of Inductors and Coils

- Production of a new refractory lining
- Production of spare parts
- Repair of leaks
- Insulating coating of the coil
- Flushing and cleaning of cooling circuits
- Pressure and flow test



### Do you run your heater economically?

Using computer simulation we will perform free an analysis of a specific heating process on your billet heater and eventually design an inductor to reduce losses or improve billet temperature uniformity.

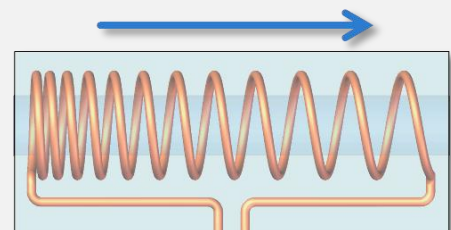


### Short-coil Inductor

- Increases efficiency in low power rate
- Prevents sticking / welding of billets
- Reduces scale formation

### Accelerated-heating Inductor

- Eliminates problems with underheated core
- Enables shorter cycle and higher productivity
- Allows to minimize the length of the heating line



## Automatic feeding



### Vibratory bowl feeders

- Large range of diameters and lengths of billets
- Abrasion resistant steel for long life
- Quiet operation
- Speed regulation according to load
- Side emptying chute
- Camera monitoring of the stock

## Step feeders

- Fastest feeding
- Suitable for very high production rate
- Abrasion-resistant steel steps and hopper
- Low position of the hopper
- Transport of billets to great heights



### Bin tippers

- Loading by a forklift or a crane
- Low platform position for loading by a forklift
- Large rotation angle for safe dumping
- Hydraulic or electromechanical driven
- Standard load capacity up to several tons

## Hot material manipulation

- Chain conveyors
- Hot billet sorters
- Roll and clamp extractors
- Gravity chutes
- Single-purpose manipulators
- Preparation of the billet for taking by a robot

