

INDUCTION HEATERS

Mounting & dismounting

BETEX MF QUICK-HEATERS - MIDDLE FREQUENCY TECHNOLOGY

For mounting & dismounting of bearings, labyrinth rings, bearing inner rings, bearing rings, sleeves, couplings, gears ...

Middle frequency induction heating is a safe and cost effective heating method, which improves the quality of installation or maintenance. This method is fast, simple and energy efficient, compared to conventional methods. Middle frequency technology makes it easier and quicker to transfer effective energy in the work piece. The MF Quick-Heater is a compact model.

This system is also clean and operates very quietly. The MF Quick-Heater saves you time as it can be deployed very rapidly (fewer actions) and heats faster than conventional methods. Energy use is much lower thanks to its more efficient electricity consumption. Each heater is customised to your needs and supplied with required size(s) of inductors.



BENEFITS OF BETEX MIDDLE FREQUENCY INDUCTION HEATERS

- ✓ **Economic:** One device for mounting and dismounting.
- ✓ **Choice between two standard generators:** 22 or 44 kW. Low connection power (32/63 Amp).
- ✓ **Choice** between fixed and/or flexible inductors.
- ✓ **Safe:** Temperature-controlled heating: overheating is not possible because demand is constantly monitored and adjusted if necessary. When the preset temperature is reached, the device will switch off automatically.
- ✓ **Energy efficient operation:** Short heating times and process optimization.
- ✓ **Clean and environment friendly:** No oil, gas, no pre-heating necessary (lower CO2 emissions).
- ✓ **Flexible operation:** Compact and easy to transport on site.
- ✓ **Versatile:** The inductors can be placed both in and around the component. You can also place a component on a flat surface (table model) or work with flexible inductors. The inductors are supplied in various diameters, fixed or flexible according to your requirements.
- ✓ **Smart Inductor recognition:** When a fixed inductor is connected to the generator for a second time, the correct settings are selected automatically. Simply press the START button to get the job done.
- ✓ **Air-cooled:** No need for unreliable water cooling.

INDUCTION HEATERS

Mounting & dismantling

BETEX MF QUICK-HEATERS - MIDDLE FREQUENCY TECHNOLOGY

✓ The smart, eco-friendly way of heating

Middle frequency induction heating is a superior, fast and controlled heating method. It prevents unnecessary damage to parts and reduces wear and tear.

1. Steel industry

Couplings were removed using a 22 kW generator and a flexible inductor. In 3 minutes temperature of 100°C was reached. The old method lasted 2 hours so time saving was tremendous. The new method also caused improvement in working conditions: cleaner and quieter!

2. Rail/Metro industry

Easy disassembly of inner rings, NU-NJ bearings, labyrinth rings. Perfectly even heating results in a safe, fast and clean job.

3. Machine building, gear & drive systems

Flexible inductors are used to heat the bore of this large cable pulley so the bearing can be installed properly.

4. Paper/printing industry

This printing company could not dismantle bearing sleeves in-house – not without serious damage to part and paper roll – so the job was outsourced. This was not very efficient as it involved transport back and forward, costs for getting the job done etc. The customer can now do the job on location with their own MF Quick-Heater and is rapidly earning back the investment.



1.



2.

MOUNTING & DISMOUNTING

- Bearings
- Labyrinth rings
- Bearing inner rings
- Bearing rings
- Bearing housings
- Rollers
- Pipes
- Train wheels / rims
- Sleeves
- Couplings



3.



Flexible inductors may be used IN or AROUND a part.



4.

Find more application examples on www.begaspecialtools.com/industries

INDUCTION HEATERS

Mounting & dismantling

BETEX MF QUICK-HEATER 2.5

- Compact design with digital 3.5" display
- Middle frequency technology
- Choice between 2 generators: 22 or 44 kW
- Smart electronics ensure optimal operating frequency
- Adjustable power control
- Dual temperature sensing (monitoring ΔT)
- Choice between fixed or flexible inductors

✓ *New Generation
2.5!*



22 kW



44 kW

Technical specifications on pag 40–41

- For mounting, dismantling and preheating
- Suitable for steel, cast iron, stainless steel and titanium
- Controlled heating by temperature or time
- Low connection power (32/63 Amp)
- Generators adjustable from 2.5 - 44 kW
- Easy to use, flexible and compact
- Suitable for production and maintenance applications
- NO: residual magnetism, fire hazard, excessive noise or polluting fumes



Fixed Inductors are used in serial work.
Flexible Inductors have multifunctional applications. Ideal when working with different designs or sizes.

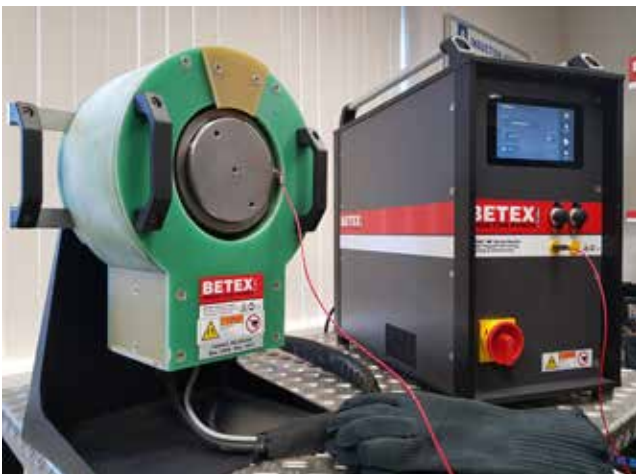
INDUCTION HEATERS

Mounting & dismounting

BETEX MF QUICK-HEATER 3.0

- Compact design with digital 7" display
- Middle frequency technology
- Choice between 2 generators: 22 or 44 kW
- Smart electronics ensure optimal operating frequency
- Adjustable power control
- Dual temperature sensing (monitoring ΔT)
- Choice between fixed or flexible inductors
- ✓ Heats according top reset temperature/time curve
- ✓ Shows temperature development in chart form
- ✓ Option of logging the heating cycle
- ✓ USB connection for software upgrading
- ✓ Login option for remote servicing

✓ *New Generation
3.0!*



Testing

For special applications, we carry out tests in advance with components that you make available to us. And we supply custom jobs where needed.

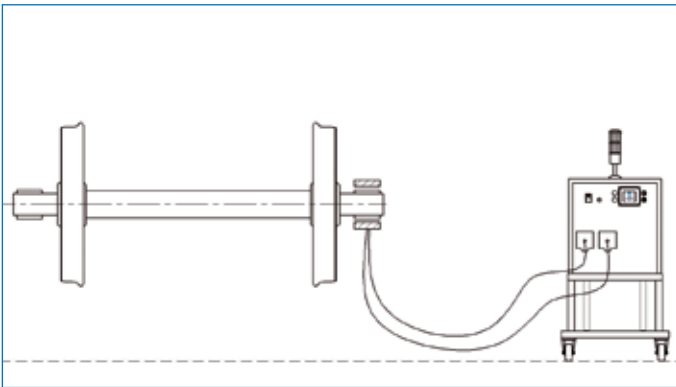
For standard applications, we have a large database with examples of different applications. But we also use simulation programs.

We supply optimal solutions to you so you can enjoy major savings. Measurable savings are realised not just by avoiding any damage to the job in the first place, but also by making it possible to reuse those components!



Request our product questionnaire for sound advice and quotations

MIDDLE FREQUENCY HEATING METHODS

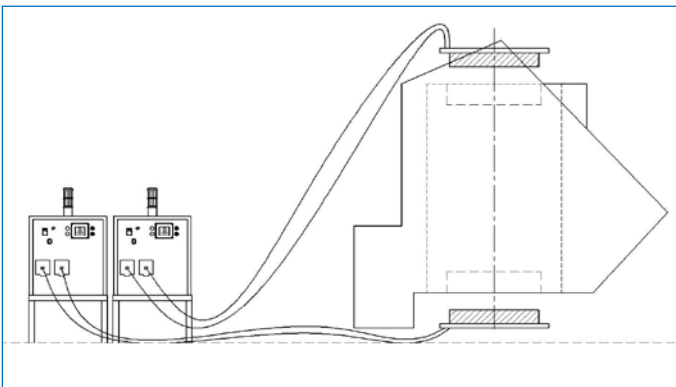


Method 1

- Fixed inductor

Heating with fixed inductor around the component. Energy input from outside to inside.

For bearing rings, pipes and rings.

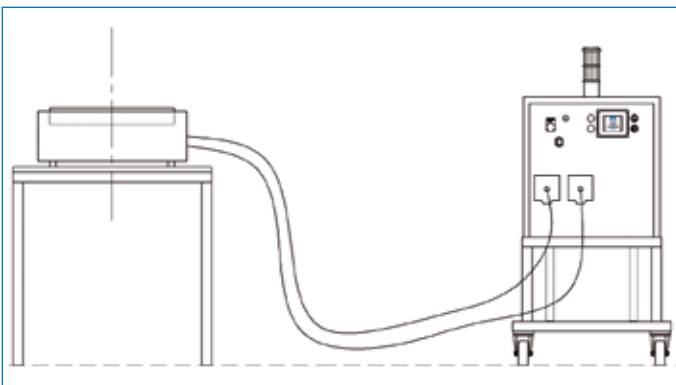


Method 2

- Fixed inductor

Heating with fixed inductor in the component. Energy input is outwards.

For example, bored holes for gearboxes or bearing bores in housings/frames.

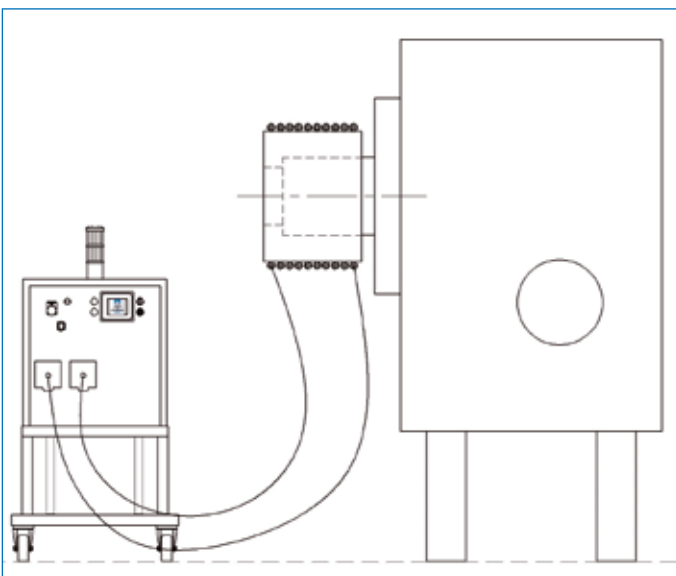


Method 3

- Table inductor

The part is lying flat on an inductor table and is heated in a very short time to the required temperature.

This method is suitable for light products that require serial heating.



Method 4

- Flexible inductor

The flexible inductor is wrapped around a component, for example, a gear coupling which was removed smoothly, with no damage to the shaft.

Suitable for non-cylindrical shapes or extreme dimensions.

*Technical details
page 40-41*





WIND



MRO



POWER PLANTS



MACHINE BUILDING



PAPER/PRINTING



MACHINE BUILDING

TECHNICAL DETAILS - Middle frequency 2.5



Type BETEX	MF Quick-heater 2.5, 22 kW	MF Quick-heater 2.5, 44 kW
Forced air cooling	yes	yes
Power	22kW	44kW
Frequency reach	10-25 kHz	10-25kHz
Voltage/Amperage	3 ~ 400V-32A	3 ~ 400V-63A
Voltage/Amperage	3 ~ 450V-30A	3 ~ 450V-59A
Voltage/Amperage	3 ~ 500V-28A	3 ~ 500V-55A
Voltage/Amperage	3 ~ 600V-23A	3 ~ 600V-45A
Frequency	50/60Hz	50/60Hz
Temperature measurement	for type K thermocouple	for type K thermocouple
Accuracy	± 3,5°C	± 3,5°C
Inductor recognition	yes	yes
Temperature sensor	yes, for max 300°C	yes, for max 300°C
Extra thermo couple input	yes	yes
Dimensions generator LxWxH	600 x 300 x 600 mm	600 x 650 x 580 mm
Weight generator	46 kg	78 kg
Trolley	option	option
Operation:		
Dimensions display	3.5"	3.5"
Heat curve in display	yes	yes
Setpoint power	via touchscreen	via touchscreen
Setpoint temperature	via touchscreen	via touchscreen
Setpoint temperature curve	yes	yes
Setpoint timer	via touchscreen	via touchscreen
Selection operating mode	via touchscreen	via touchscreen
Digital readings temperature	setpoint and actual value on touchscreen	setpoint and actual value on touchscreen
Digital readings time	setpoint and actual value on touchscreen	setpoint and actual value on touchscreen
Digital readings power	actual value on the touchscreen	actual value on the touchscreen
Digital readings frequency	actual value on the touchscreen	actual value on the touchscreen
USB connection	no	no
Network connection	no	no
Heating log	no	no
Signaling by:		
Installation in operational state	green flashing light	green flashing light
Error message	red continuous light/acoustic signal	red continuous light/acoustic signal
End of heating cycle	green continuous light/acoustic signal	green continuous light/acoustic signal

Min. winding diameter flexible inductors 22kW		
Type m / °C	Diameter cable	Min. winding diameter
15/20/25/30 m/180°C	Ø 12 mm	ca. 75 mm
15/20/25/30 m/180°C	Ø 15 mm	ca. 100 mm
15/20/25/30 m/300°C	Ø 20 mm	ca. 120 mm

Min. winding diameter flexible inductors 44kW		
Type m / °C	Diameter cable	Min. winding diameter
15/20/25/30 m/180°C	Ø 19 mm	ca. 140 mm
15/20/25/30 m/300°C	Ø 28 mm	ca. 220 mm

TECHNICAL DETAILS - Middle frequency 3.0



Type BETEX	MF Quick-heater 3.0, 22 kW	MF Quick-heater 3.0, 44 kW
Forced air cooling	yes	yes
Power	22kW	44kW
Frequency reach	10-25kHz	10-25 kHz
Voltage/Amperage	3 ~ 400V-32A	3 ~ 400V-63A
Voltage/Amperage	3 ~ 450V-30A	3 ~ 450V-59A
Voltage/Amperage	3 ~ 500V-28A	3 ~ 500V-55A
Voltage/Amperage	3 ~ 600V-23A	3 ~ 600V-45A
Frequency	50/60Hz	50/60Hz
Temperature measurement	for type K thermocouple	for type K thermocouple
Accuracy	± 3,5°C	± 3,5°C
Inductor recognition	yes	yes
Temperature sensor	yes, for max 300°C	yes, for max 300°C
Extra thermo couple input	yes	yes
Dimensions generator LxWxH	600 x 300 x 600 mm	600 x 650 x 580 mm
Weight generator	46 kg	78 kg
Trolley	option	option
Operation:		
Dimensions display	7"	7"
Heat curve in display	yes	yes
Setpoint power	via touchscreen	via touchscreen
Setpoint temperature	via touchscreen	via touchscreen
Setpoint temperature curve	yes	yes
Setpoint timer	via touchscreen	via touchscreen
Selection operating mode	via touchscreen	via touchscreen
Digital readings temperature	setpoint and actual value on touchscreen	setpoint and actual value on touchscreen
Digital readings time	setpoint and actual value on touchscreen	setpoint and actual value on touchscreen
Digital readings power	actual value on the touchscreen	actual value on the touchscreen
Digital readings frequency	actual value on the touchscreen	actual value on the touchscreen
USB connection	yes	yes
Network connection	yes	yes
Heating log	yes	yes
Signalling by:		
Installation in operational state	light option	light option
Error message	acoustic signal / light option	acoustic signal / light option
End of heating cycle	acoustic signal	acoustic signal

