

BETEX® INDUCTION HEATERS

WHY USE INDUCTION HEATING?

Induction heating is a superior, fast and controlled heating method. It is a safe and environmentally-friendly alternative for traditional heating methods such as ovens, oil baths or blow torches. These methods cause smoke, fumes or oil waste and are hazardous for personal health and safety.

FOR BEARINGS AND OTHER COMPONENTS

BETEX® induction heaters are versatile and can be used for the heating of gear wheels, bushes, couplings, etc. It is common knowledge that a correct mounting method extends bearing life. Even, tension-free heating prevents unnecessary damage and retains original lubrication. Ideal for sealed bearings (2RS-ZZ) and pre-lubricated bearings.

TEMPERATURE OR TIME CONTROLLED HEATING

Digital electronics ensure optimum control during the heating process, automatically regulating the most efficient use of power and ensuring even and rapid heating. No extra steps are necessary. This prevents explosive heating (no discoloration or pitting of material).

DEMAGNETISATION

Fail-safe demagnetisation is essential for bearings and transmission parts. The proven quality of BETEX® induction heaters guarantees maximum demagnetisation (< 2A/cm). This has a major positive effect on the life span of bearings, gears, etc.

ENERGY EFFICIENT

All BETEX® induction heaters are energy efficient in comparison with classic methods. The advantage of the TURBO series over the Standard series is that larger components can be heated in a relatively short time while consuming the same amount of energy.

DEPENDABLE QUALITY

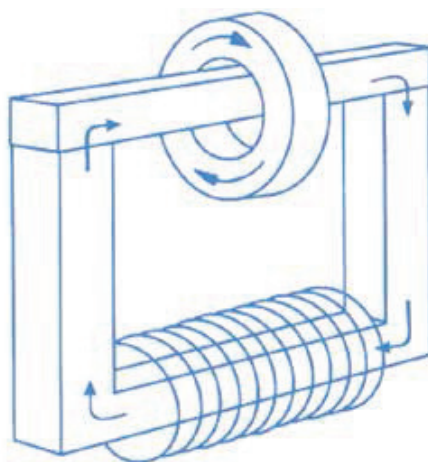
BETEX® induction heaters are proven to be reliable. Their sturdy styling and user-friendly design guarantees sustained, problem-free operation in an industrial environment. Our Standard series heaters are low frequency (50/60Hz). We also make use of the middle frequency (< 20kHz) principle for combined mounting and dismantling applications.

SERVICE & WARRANTY

Our expertise and experience ensure quality, reliability, professional advice and outstanding service. BETEX® induction heaters are supplied with clear instructions and a 3-year warranty on the electronic components.

WORKING PRINCIPLE

The heater works by inducing a (low frequency) current in the part to be heated. This is achieved by incorporating the component as a secondary winding in a transformer. The primary winding is connected to the mains power by means of an electronic control. The magnetic field induces a high current (short circuit current) through the component which consequently becomes hot. The work piece is automatically demagnetized after each heating cycle.



STANDARD or **TURBO**?

TURBO models offer low energy consumption combined with high output as an added advantage.

The maximum **TURBO** effect is achieved with heating in the horizontal position!

Comparison of heating times, Standard and **TURBO** induction heaters

Heating in horizontal position, to 110°C, in minutes

Bearing no. 22322	22332	23148	22348	175296	gearwheel	
Weight kg	18 kg	50 kg	65,5 kg	147 kg	220 kg	300 kg
Bore/OD mm	110/240	160/340	240/400	220/500	350/580	210/600
ELD 3.6 kVA 230V.	30.00	--	--	--	--	--
24 RLDi TURBO 3.6 kVA, 230V	03.47	23.00	--	--	--	--
22 ESDi 3.6 kVA, 230V	07.45	27.20	49.00	--	--	--
24 RSDi TURBO 3.6 kVA, 230V	--	06.03	19.20	47.00	--	--
38 ESD 8 kVA, 400V	02.58	07.10	11.50	31.20	--	--
40 RSD TURBO 8 kVA, 400V	--	02.00	03.58	07.10	26.50	15.00
38 ZFD 12 kVA, 400V	--	10.40	10.38	22.15	39.50	48.45
40 RMD TURBO 12 kVA, 400V	--	--	01.45	02.35	08.40	06.35

Heating times are subject to the relationship between:

- Minimum bore and maximum outside diameter, width, weight
- Required temperature and material type
- Available power



All heaters are supplied with:

- Instruction manual
- Heat resistant gloves 150°C
- Magnetic temperature probe (240°C)
- Vaseline for maintenance

Optional:

- Trolley
- Adapter yokes
- Heat resistant gloves 300°C
- Magnetic temperature probe (350°C (higher on request))



INDUCTION HEATERS

Portable models

Benchtop models

Roll-around models

Heavy-duty models

Middle frequency technology

BETEX CONE HEATER, CH SERIES

For the heating of bearings, enabling easy mounting by means of shrinkage fitting.

Using the correct mounting method extends the bearing's life. Electrical heating is a safe alternative for traditional heating methods such as hammers, oil baths or blow torches. Suitable for the heating of gear wheels, bushes, couplings and other round metal components.

The affordable alternative!

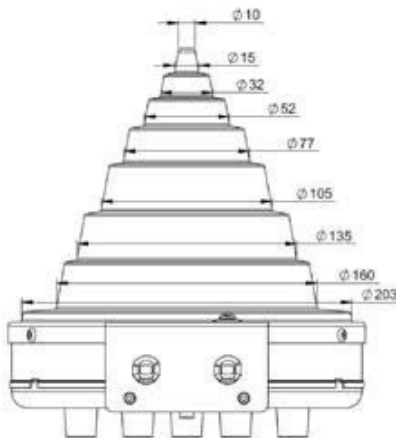
If your budget is limited, then the BETEX Cone Heater is an affordable alternative to other heating systems. Easy to use and suitable for various sizes. In a lightweight aluminium housing. For quick and even heating.

Advantages:

- Easy-to-use, just plug in and switch on
- Light weight, easy to move around
- Reliable & flexible
- Safe & clean operation

Models with thermometer (CHC)

- With preset temperature 120°C / 248°F
- With temperature hold: the unit will keep the bearing at preset temperature.



Standard	diameter Ø
mm	inch
10	0.39
15	0.59
32	1.26
52	2.05
77	3.03
105	4.13
135	5.31
160	6.30
203	7.99

Note: intermediate sizes also fit

Type BETEX Cone Heater	CHU	CHC
Art. No.	360600 - 120V 360610 - 230V	360700 - 120V 360710 - 230V
Power	725W	725W
Voltage/Amp;	120V / 6A 230V / 3.2A	120V / 6A 230V / 3.2A
Frequency Hz	50/60Hz	50/60Hz
Max. weight ± kg	5-7 kg	5-7 kg
Min. ID Ø, mm	10	10
Max. ID Ø, mm	203	203
Max. OD Ø, mm /	305	305
Temperature control in °C and °F	-	120°C / 248°F
Fixed temperature	-	Yes
Heat retention function	-	Yes
Dimensions mm / " LxWxH	365x220x240	365x220x240
Weight heater kg / lbs	2.4 kg	2.6 kg

PORTABLE

BETEX iDuctor 1- handheld induction heater



The ultimate tool for flameless heating

The BETEX iDuctor is a new professional type of induction hand tool. All sorts of metal parts, such as drive components, bearing housings, bolts, nuts, pipes and small surfaces can be heated locally. Thanks to the precise heating the surroundings retain a normal temperature. Stuck parts that are heated will expand and loosen.

This is an ideal solution for stuck nuts and bolts, where often a conventional blow torch or grinder are used. Using an open fire entails some form of risk and may cause pollution. A grinder can spark and cause damage to the area surrounding the part. All in all, workplaces become much safer, cleaner and faster with the iDuctor 1!

As standard the BETEX iDuctor comes in a handy carrying case, a 2-meter long flexible 'wrappable' inductor and a set of heat-resistant gloves (150°C).

Advantages

- Ergonomic design
- Time savings
- Cost savings
- Convenient
- Can be operated with one hand
- No open fire
- Safe to use
- Versatile
- For hard to reach locations
- Maintenance free.

Optional

- Set of 9 inductors, consisting of 8 induction spirals in sizes min/max ID: 18-52 mm (bolt sizes M8- M30) and 1 U-inductor, ID 160 mm; all easy to exchange
- Flexible inductor, 1.1 mtr
- iD-pad for heating flat surfaces to remove coating layers, decals
- Heat resistant gloves up to 300°C

Spirals and flexible inductors




ID-pad

Flexible inductor for heating different kinds of parts



Technical details
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TECHNICAL DETAILS - iDuctor 1, handheld

	
Type BETEX	iDuctor 1
Voltage/Amp/Hz	230V/6A, 50/60Hz
Power	1200W
Thermal protection	yes
Error code	yes
Cooling fan	yes
Microprocessor controlled, automatic power control in case of overload or overheating.	yes
LED lighting	yes



Inductors						
Item	Article number	Conductor thickness mm	Internal diameter mm	Winding mm	Length mm	Temperature insulation
Inductor 1.1 mtr	231202	3.5	-	-	1100	650°C
Inductor 2.0 mtr	231203	3.5	-	-	2000	650°C
ID-pad	231205	3.5	-	-	-	250°C
Inductor Set 9 pcs.	231204	3.5	*	*	*	250°C
Spareparts * Set 9 pcs.						
M30	-	3.5	52	3.5	240	250°C
M24	-	3.5	47	3.5	240	250°C
M20	-	3.5	40	3.5	200	250°C
M16	-	3.5	32	3.5	200	250°C
M12	-	3.5	26	3.5	200	250°C
M10	-	3.5	23	3.5	250	250°C
M10	-	3.5	23	3.5	150	250°C
M08	-	3.5	18	3.5	150	250°C
Ucoil	-	3.5	160	0.5	600	250°C



Portable - lightweight induction heater

BETEX 24 XLDi portable - heating cap. 10 kg



Light weight induction heater for use in workshops and on site.

- Min. ID Ø: 0 mm
- Max. OD Ø: 180 mm
- Max. width: 50 mm
- Automatic demagnetisation
- Shoulder strap
- No yokes necessary
- **Weighs only 7 kg**
- Max. bearing weight: 10 kg
- Max. weight other parts: 7 kg

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AREAS OF APPLICATION:

- Technical services
- MRO organisation
- Service engineers



STANDARD Portable

BETEX 22 ELDi portable - heating cap. 20 kg



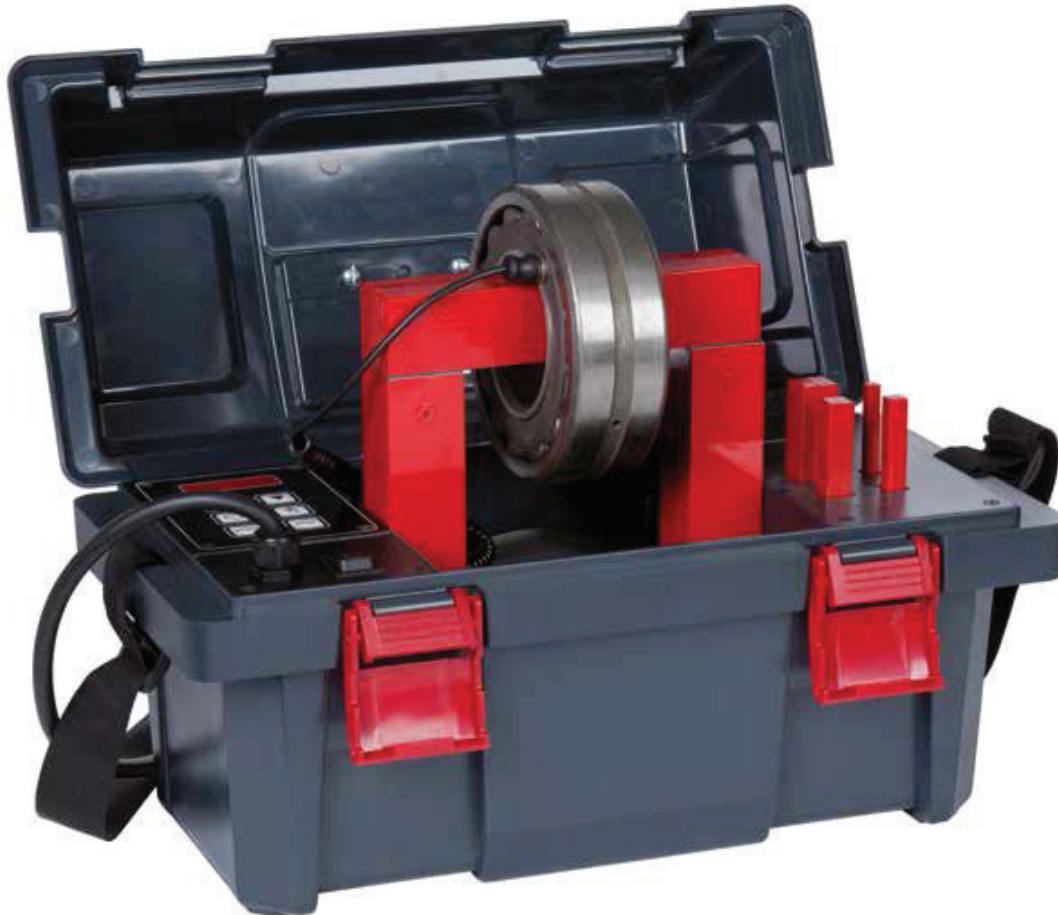
Portable heater for use in the workshop and on site.

- Min. ID Ø: 10 mm
- Max. OD Ø: 240 mm
- Max. width: 120 mm
- Automatic demagnetisation
- Automatic power reduction.
- Including 5 induction yokes
- Shoulder strap
- Max. bearing weight: 20 kg
- Max. weight other parts: 10 kg

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AREAS OF APPLICATION:

- Technical services
- MRO organisation



TURBO Portable

BETEX 24 RLDi **TURBO** - heating cap. 50 kg



Portable heater for use in the workshop and on site.

- Min. ID Ø: 10/100 mm
- Max. OD Ø: 380 mm
- Max. width: 130 mm
- Automatic demagnetisation
- Automatic power reduction.
- Including 5 yokes
- Max. bearing weight: 50 kg
- Max. weight other parts: 30 kg

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AREAS OF APPLICATION:

- Technical services
- MRO organisation

✓ High output,
energy efficient!



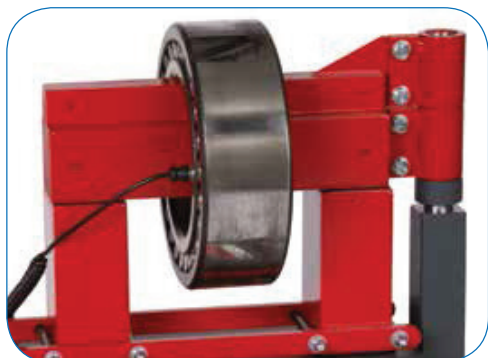
The TURBO effect only works when the component is in a horizontal position

STANDARD Benchtop

BETEX 22 ESDi - heating cap. 65 kg

AREAS OF APPLICATION:

- Chemical industry
- Steel industry
- Paper industry
- Gearbox manufacturers
- Machine construction
- Transport sector
- MRO/OEM sector



Basic bench-top type with swivel arm for use in the workshop.

- Min. ID Ø: 15 mm
- Max. OD Ø: 380 mm
- Max. width: 150 mm
- Automatic demagnetisation
- Automatic power reduction.
- Yokes: set of 3 or 5 sizes
- Max. bearing weight: 65 kg
- Max. weight other parts: 30 kg

Optional:

- Adaptor yokes
- Max. OD Ø: 580 mm

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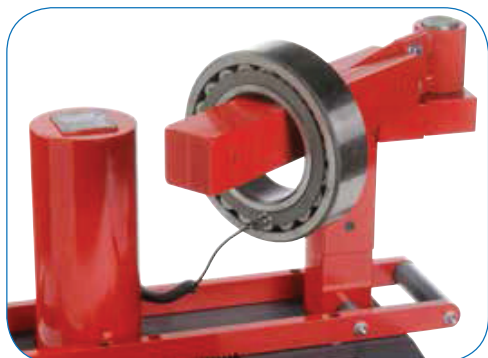


TURBO Benchtop

BETEX 24 RSDi **TURBO** - heating cap. 150 kg

AREAS OF APPLICATION:

- Chemical industry
- Steel industry
- Paper industry
- Gearbox manufacturers
- Machine construction
- Transport sector
- MRO/OEM sector



Basic benchtop type with swivel arm for use in the workshop.

- Min. ID Ø: 15/120 mm
- Max. OD Ø: 520 mm
- Max. width: 200 mm
- Automatic demagnetisation
- Automatic power reduction.
- Yokes: set of 3 or 5 sizes
- Max. bearing weight: 150 kg
- Max. weight other parts: 80 kg

Technical details page 40

✓ High output,
energy efficient!



The TURBO effect only works when the component is in a horizontal position

STANDARD Benchtop

BETEX 38 ESD - heating cap. 150 kg

AREAS OF APPLICATION:

- Chemical industry
- Steel industry
- Paper industry
- Gearbox manufacturers
- Machine construction
- Transport sector
- MRO/OEM sector



Medium size benchtop type with swivel arm for use in the workshop.

- Min. ID Ø: 30 mm
- Max. OD Ø: 500 mm
- Max. width: 200 mm
- Automatic demagnetisation
- Automatic power reduction.
- Yokes: set of 2 or 3 sizes
- Max. bearing weight: 150 kg
- Max. weight other parts: 75 kg

Optional:

- Adaptor yokes
- Max. OD Ø: 720 mm

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TURBO Benchtop

BETEX 40 RSD / 40 RSDm **TURBO** - heating cap. 350 kg

AREAS OF APPLICATION:

- Chemical industry
- Steel industry
- Paper industry
- Gearbox manufacturers
- Machine construction
- Transport sector
- MRO/OEM sector

Medium size benchtop type with swivel arm for use in the workshop.

- Min. ID Ø: 30/160 mm
- Max. OD Ø: 790 mm
- Max. width: 315 mm
- Automatic demagnetisation
- Automatic power reduction.
- Yokes: selection of 5 sizes
- Max. bearing weight: 350 kg
- Max. weight other parts: 250 kg

Technical details page 40

✓ High output,
energy efficient!

Mobile version
40 RSDm **TURBO**



The **TURBO** effect only works when the component is in a horizontal position

STANDARD Mobile

BETEX 38 ZFD - heating cap. 300 kg

AREAS OF APPLICATION:

- Chemical industry
- Steel industry
- Paper industry
- Gearbox manufacturers
- Machine construction
- Transport sector
- MRO/OEM sector

Roll-around heater with swivel arm and convenient folding operating panel. easier to operate.

- Min. ID Ø: 30 mm
- Max. OD Ø: 720 mm
- Max. width: 340 mm
- Automatic demagnetisation
- Automatic power reduction.
- Yokes: selection of 5 sizes
- Max. bearing weight: 300 kg
- Max. weight other parts: 200 kg

Optional:

- Adapter yokes
- Max. OD Ø: 1080 mm

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◀ Folding operating panel from ZFD/RMD/RSD series.

TURBO Mobile

BETEX 40 RMD **TURBO** - heating cap. 600 kg

AREAS OF APPLICATION:

- Chemical industry
- Steel industry
- Paper industry
- Gearbox manufacturers
- Machine construction
- Transport sector
- Railway sector
- MRO/OEM sector

✓ *High output,
energy efficient!*

Roll-around heater with swivel arm and convenient folding operating panel. easier to operate.

- Min. ID Ø: 60/175 mm
- Max. OD Ø: 920 mm
- Max. width: 365 mm
- Automatic demagnetisation
- Automatic power reduction.
- Yokes: selection of 3 sizes
- Max. bearing weight: 600 kg
- Max. weight other parts: 450 kg

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◀ Folding operating panel from ZFD/RMD/RSD series.

The TURBO effect only works when the component is in a horizontal position

STANDARD Heavy duty

BETEX SUPER - heating cap. 600 kg

AREAS OF APPLICATION:

- Chemical industry
- Steel industry
- Paper industry
- Gearbox manufacturers
- Machine construction
- Transport sector
- MRO/OEM sector
- Wind energy
- Energy plants
- Mining industry



Heavy duty heaters.

- Min. ID Ø: 60 mm
- Max. OD Ø: 900/1300 mm
- Max. width: 400/700 mm
- Automatic demagnetisation
- Automatic power reduction.
- Yokes: selection of 5 sizes
- Max. bearing weight: 600 kg
- Max. weight other parts: 350 kg

Optional:

- electric crane
- enlarged width 700 mm: DL700

NB: these technical data are indicative and dependent on the amount of power and type of heater.

Technical details page 41



Heating times are subject to the relationship between:

- Min. bore and max. outside diameter, width, weight.
- Required temperature and material type.
- Available power.

TURBO Heavy duty

BETEX SUPER **TURBO** - heating cap. 1200 kg

AREAS OF APPLICATION:

- Chemical industry
- Steel industry
- Paper industry
- Gearbox manufacturers
- Machine construction
- Transport sector
- MRO/OEM sector
- Wind energy
- Energy plants
- Mining industry

Heavy duty heaters.

- Min. ID Ø: 175/200 mm
- Max. OD Ø: 1700 mm
- Max. width: 750 mm
- Automatic demagnetisation
- Automatic power reduction.
- Including 1 yoke
- Max. bearing weight: 1200 kg
- Max. weight other parts: 900 kg

NB: these technical data are indicative and dependent on the amount of power and type of heater.

Technical details page 41

✓ High output,
energy efficient!



The TURBO effect only works when the component is in a horizontal position

STANDARD Heavy duty

BETEX GIANT - heating cap. 3500 kg

AREAS OF APPLICATION:

- Chemical industry
- Steel industry
- Paper industry
- Gearbox manufacturers
- Machine construction
- Transport sector
- MRO/OEM sector
- Wind energy
- Energy plants
- Mining industry

Heavy duty heaters.

- Min. ID Ø: 85/215 mm
- Max. OD Ø: 1400-2500 mm.
- Max. width: 440-990 mm.
- Automatic demagnetisation
- Automatic power reduction
- Yokes: selection of 5 sizes
- Max. bearing weight: 1500-3500 kg
- Max. weight other parts: 900-2500 kg

Optional:

- electric crane
- enlarged width 700 mm: DL700
- enlarged width 1000 mm: DL1000

NB: these technical data are indicative and dependent on the amount of power and type of heater.

Technical details page 41



Heating times are subject to the relationship between:

- Min. bore and max. outside diameter, width, weight.
- Required temperature and material type.
- Available power.

TURBO Heavy duty

BETEX GIANT **TURBO** - heating cap. 12000 kg

AREAS OF APPLICATION:

- Chemical industry
- Steel industry
- Paper industry
- Gearbox manufacturers
- Machine construction
- Transport sector
- MRO/OEM sector
- Wind energy
- Energy plants
- Mining industry



Heavy duty heaters.

- Min. ID Ø: 115 - 240 mm
- Max. OD Ø: 1400-2500 mm.
- Max. width: 450-1020 mm.
- Automatic demagnetisation
- Automatic power reduction
- Including 1 yoke
- Max. bearing weight: 1500-12000 kg
- Max. weight other parts: < 12000 kg

NB: these technical data are indicative and dependent on the amount of power and type of heater.

Technical details page 41

✓ High output,
energy efficient!



The TURBO effect only works when the component is in a horizontal position



STEEL



**MACHINE
BUILDING**



RAIL/METRO



RAIL/METRO



STEEL



WIND



WIND

Rail transport

Bega has offered many solutions in the area of heating components in the rail transport sector.

The most important advantages for our customers are:

- Time and energy efficient.
- Can be immediately deployed, no pre-heating time needed.
- Controlled heat, no quality loss.
- Fast, safe, clean, stress-free heating.
- Environmentally friendly, no flames, smoke or noise.
- Capacities and types to the client's requirements.

References available on request.

For more information: www.begaspecialtools.com



BETEX GIANT TURBO
For heating wheels for subways,
trams, trains and locomotives.



BETEX 40 RSDm TURBO 8 kVA ▲

Client: manufacturer of drive systems for trains
Component: gearwheel
Weight: 150 kg
Max. temp.: 150°C
Required time: 35 minutes



◀ BETEX GIANT

Client: manufacturer of bogie sets
Component: train wheel
Weight: 330 kg
Max. temp.: 240°C
Required time: 27 minutes
Optional: slide-in induction yoke



BETEX GIANT ▲

Client: supplier of rail components
Component: rail track
Max. temp.: 250°C
Required time: 7 minutes

Wind energy

Bega has been supplying induction heaters for many years for the sustainable manufacture of wind turbines. Here we show some examples of successful projects with manufacturers and suppliers in this sector.

The most important advantages for our customers are:

- Time and energy efficient.
- Can be immediately deployed, no pre-heating time needed.
- Controlled heat, no quality loss.
- Fast, safe, clean, stress-free heating.
- Environmentally friendly, no flames, smoke or noise.
- Capacities and types to the client's requirements.

For more information: www.begaspecialtools.com



BETEX GIANT **TURBO** 48-100 kVA



◀ BETEX GIANT XL

Client: manufacturer of wind turbines
 Component: stainless steel ring
 Weight: 1100 kg
 Temp.: 270°C
 Time: 3 hours

BETEX GIANT ▼

Client: manufacturer of wind turbines
 Component: (main) bearing
 Temp.: 120°C
 Time: 25 min.



Wind energy



BETEX GIANT TURBO

Client: supplier of wind turbine components
Component: bearing housing
Weight: 4300 kg
Temp.: 90°C
Time: 55 min.



Machine tool industry

Our large heaters are very suitable for heavy and large components where safe, rapid and stress-free heating is a priority.

Bega Special Tools designs and produces customised, powerful and sturdy heaters for various industrial environments on request.



BETEX GIGANT DL-700



BETEX GIGANT DL-700
References available on request.

◀ BETEX GIGANT DL-1000

Client: manufacturer of steel sections
Component: section roller
Weight: up to 12000 kg

This company was using blow torches and was looking for an environmental friendly method. Opting for induction heating was obvious and satisfied the client's needs in several ways, also due to the controlled and stress-free heating of the sections.



Specials - custom-made

Bega designs and builds custom-made heaters for serial heating of components such as bearings, gear wheels, bushes, rings and aluminium houses of E-motors.

When fast and accurate heating is imperative, these 'Specials' offer surprising solutions. For example, it is possible to integrate them into fully automated production processes, even with a pick-and-place unit if desired.

A huge advantage is the use of low frequency (50/60Hz), which costs much less than middle or high frequency solutions.

The most important advantages for our customers are:

- Heating times from 30 seconds to temperatures up to < 300°C.
- Energy-saving production method
- Increase in production capacity
- Safe, rapid, simple operation

References available on request.

For more information: www.begaspecialtools.com



Heating bores in housings

For mounting bearings and pins (including in frames and gearboxes).



INDUCTION HEATERS FOR MOUNTING & DISMOUNTING

BETEX MF QUICK-HEATERS - MIDDLE FREQUENCY TECHNOLOGY

For mounting & dismounting of bearings, labyrinth rings, bearing inner rings, bearing rings, bushes, 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 compact and mobile so it's easier for you move around.

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.
- ✓ Automatic demagnetisation



INDUCTION HEATERS FOR MOUNTING & DISMOUNTING

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.



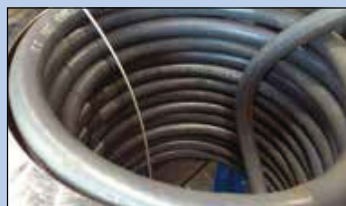
1.



2.

MOUNTING & DISMOUNTING

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



Flexible inductors may be used IN or AROUND a part.



3.



4.

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

INDUCTION HEATERS FOR MOUNTING & DISMOUNTING

BETEX MF QUICK-HEATERS, MIDDLE FREQUENCY TECHNOLOGY - 22 kW, 44 kW

MF Quick-Heaters 3.0

- Compact design with large 7" display
- Heats according to preset 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
- Smart electronics ensure optimal operating frequency
- Adjustable power control
- Advises user on optimal heating (more/fewer windings)
- Dual temperature sensing (monitoring ΔT)
- Option to operate several heaters together



✓ *NEW GENERATION 3.0 !*



22 kW



44 kW

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

INDUCTION HEATERS FOR MOUNTING & DISMOUNTING

BETEX MF QUICK-HEATERS, MIDDLE FREQUENCY TECHNOLOGY - 22 kW, 44 kW



Fixed Inductors are used in serial work.

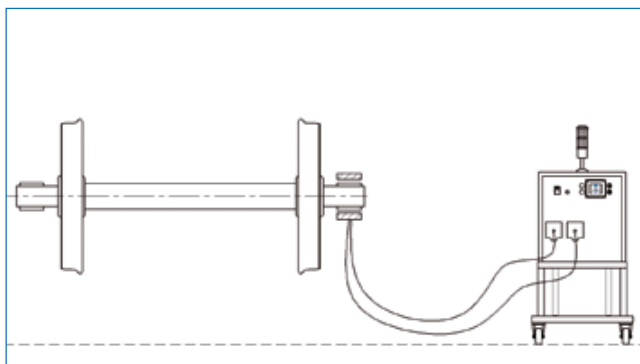
Flexible Inductors have multifunctional applications. Ideal when working with different designs or sizes.



- For mounting, dismounting and preheating
- Controlled heating
- Low connection power (32/63 Amp)
- Generators adjustable from 2.5 - 44 kW
- Easy to use, flexible and mobile
- Suitable for production and maintenance applications
- NO: residual magnetism, fire hazard, excessive noise or polluting fumes



MIDDLE FREQUENCY HEATING METHODS

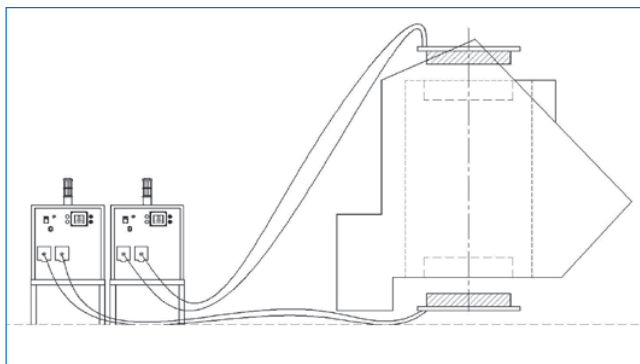


Method 1

- Fixed inductor

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

For bearing rings, pipes and rings.

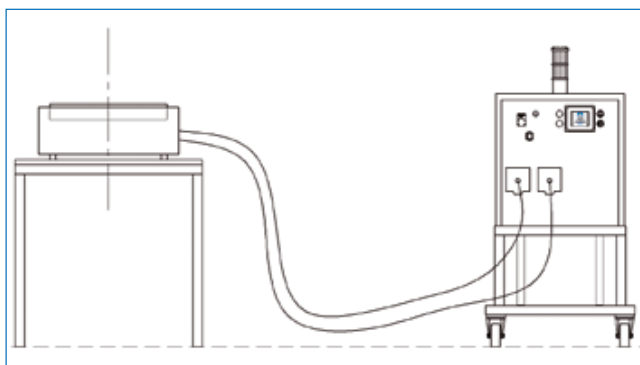


Method 2

- 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.

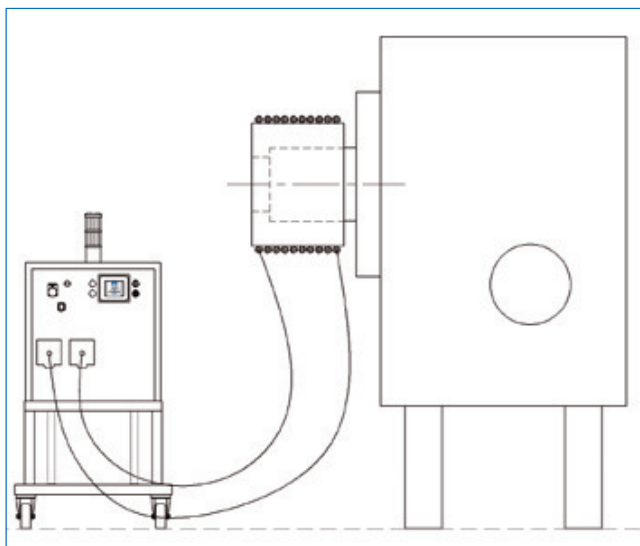
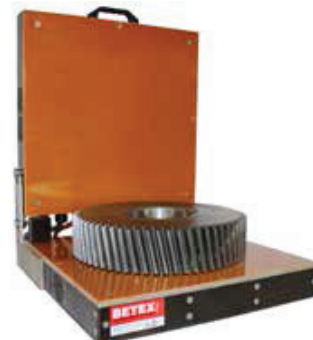


Method 3

- 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
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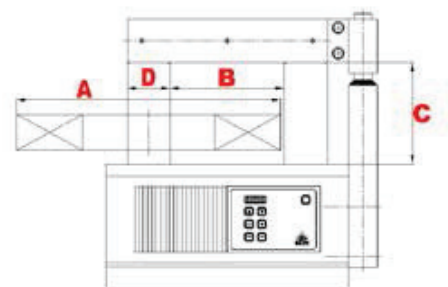
TECHNICAL DETAILS - Portable

				
Type BETEX	24 XLDi Portable	22 ELDi Standard Portable	24 RLDi TURBO Portable	
Facility power: standard	1200W	3.6 kVA	3.6 kVA	
Voltage/Amp*: standard	230V/6A	230V/16A	230V/16A	
Voltage/Amp*: optional	-	120V/15A	120V/15A	
Frequency Hz	50/60Hz	50/60Hz	50/60Hz	
Yokes, standard mm / set 1	-	7,10,14,20,40	7,10,14,20,40	
Yokes, standard mm / set 2	-	in box	in heater	
Swivel arm	-	-	-	
Max. weight ± kg				
- bearings	10	20	50	
- other drive components	7	10	30	
Min. ID Ø: mm: vertical/horizontal	0	10	10/Ø100	
Max. OD Ø: mm	*A	180	240	380
Max. width, mm	*B	-	120	130
Max. width at horizontal heating, mm	*C	50	-	135
Cross section poles mm	*D	-	40	Ø100
Pole height mm	-	130	165	
Temperature control in °C or °F				
- max reach*	150°C	150°C	240°C	
- magnetic probe	yes	yes	yes	
- digital display	yes	yes	yes	
Time control				
- max reach	0-45 min.	0-30 min.	0-45 min.	
- digital display	yes	yes	yes	
Sound signal	yes	yes	yes	
Error code	yes	yes	yes	
Temperature hold	yes	yes	yes	
Automatic power reduction	-	-	yes	
Automatic demagnetization, <2A/cm	yes	yes	yes	
Thermal protection	yes	yes	yes	
Support for horizontal heating	-	-	yes	
Dimensions mm (lxwxh)	460x240x280	460x240x280	600x220x275	
Weight heater kg	7	21	23	
excl. Yokes		(incl. yokes)	(incl. yokes)	
Electric crane for yokes	-	-	-	
Alarm signal	-	-	-	
Mobile	-	-	-	

Heating times are subject to the relationship between:

- Minimum bore and maximum outside diameter, width, weight
- Required temperature and material type
- Available power

TURBO design: high output, very energy efficient!



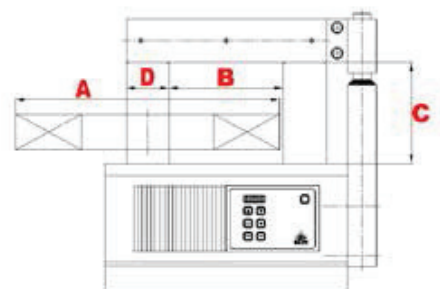
TECHNICAL DETAILS - Workshop models

Type BETEX	22 ESDi	24 RSDi TURBO	38 ESD	40 RSD and RSDm (mobile) TURBO
Facility power: standard	3.6 kVA	3.6 kVA	8 kVA	8 kVA
Voltage/Amp*: standard	230V/16A	230V/16A	2 ~ 400V/20A	2 ~ 400V/20A
Voltage/Amp*: optional	120V/15A	120V/15A	2 ~ 500V/16A	2 ~ 500V/16A
Voltage/Amp*: optional			2 ~ 600V/14A	2 ~ 600V/14A
Frequency Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz
Yokes, standard mm / set 1	14,30,60	14,30,60	30.70	optional
Yokes, standard mm / set 2	10,14,20,30,60	10,14,20,30,60	20,30,70	20,30,40,60,80
Swivel arm	yes	yes	yes	yes
Max. weight ± kg				
- bearings	65	150	150	350
- other drive components	30	80	75	250
Min. ID Ø: mm: vertical/horizontal	15/Ø100	15/Ø120	30/Ø110	30/Ø160
Max. OD Ø: mm	^{*A} 380/580 ^{*1}	520	500/720 ^{*1}	790
Max. width, mm	^{*B} 150	130	200	315
Max. width at	^{*C} 125	230	180	280
horizontal heating, mm				
Cross section poles mm	^{*D} 60	Ø120	70	Ø160
Pole height mm	140	230	210	320
Temperature control in °C or °F				
- max reach*	240°C	240°C*2	240°C*2	240°C*2
- magnetic probe	yes	yes	yes	yes
- digital display	yes	yes	yes	yes
Time control				
- max reach	0-45 min.	0-45 min.	0-60 min.	0-60 min.
- digital display	yes	yes	yes	yes
Sound signal	yes	yes	yes	yes
Error code	yes	yes	yes	yes
Temperature hold	yes	yes	yes	yes
Automatic power reduction	-	yes	yes	yes
Automatic demagnetization, <2A/cm	yes	yes	yes	yes
Thermal protection	yes	yes	yes	yes
Support for horizontal heating	yes	yes	yes	yes
Dimensions mm (lxwxh)	340x290x380	440x370x420	630x365x470	1200x640x1000
Weight heater kg	31	37	53	65/105
excl. Yokes				
Electric crane for yokes	-	-	-	-
Alarm signal	-	-	optional	optional
Mobile	-	-	-	yes (40RSDm)








Heating times are subject to the relationship between:

- Minimum bore and maximum outside diameter, width, weight
- Required temperature and material type
- Available power

TURBO design: high output, very energy efficient!



TECHNICAL DETAILS - Roll around, heavy duty

						
38 ZFD	40 RMD TURBO	SUPER Standard and DL-700	SUPER TURBO	GIANT Standard and DL-700	GIANT Standard DL-700/DL-1000	GIANT XL TURBO
12 kVA 2 ~ 400V/30A 2 ~ 500V/24A 2 ~ 600V/20A 50/60Hz optional 20,30,40,60,80 yes	12 kVA 2 ~ 400V/30A 2 ~ 500V/24A 2 ~ 600V/20A 50/60Hz optional 40,60,80 yes	24 kVA 2 ~ 400V/30A 2 ~ 500V/24A 2 ~ 600V/20A 50/60Hz optional 40,50,60,80,100*3 -	24 kVA 2 ~ 400V/60A 2 ~ 500V/48A 2 ~ 600V/40A 50/60Hz included 1 yoke -	40 kVA 2 ~ 400V/100A 2 ~ 500V/80A 2 ~ 600V/65A 50/60Hz optional 60,80,100,150*3 -	48, 100 kVA 2 ~ 400V/120,250A 2 ~ 500V/100,200A 50/60Hz optional 60,80,100,150,200*3 -	40, 48, 100kVA 2~400V/100,120,250A 2~500V/80,100,200A 50/60Hz included 1 yoke -
300 200 30/Ø130 720/1080 *1 340 290 80 340	600 450 60/Ø175 920 365 305 adj. supports 320 fixed supports Ø175 305	600 350 60/85*3 900/1300*3 400/700*3 390/690*3 100*3 390*3	1200 900 175/Ø200 1700 750 600 Ø200 595	1500/2000*3 900/1500*3 85*3 1400/1700*3 620/700*3 440/730*3 150*3 660/740*3	3000/3500*3 1500/2500*3 85/215*3 1700/2500*3 700/900*3 730/990*3 150/200*3 740/1000*3	1500/12000*3 <12000*3 115/240*3 1400/2500*3 450/1020*3 450/1000*3 200*3 900*3
240°C*2 yes yes	240°C*2 yes yes	240/350°C*2 yes yes	240/350°C*2 yes yes	240/350°C*2 yes yes	240/350°C*2 yes yes	240/350°C*2 yes yes
0-99 min. yes yes yes yes yes yes yes yes yes	0-99 min. yes yes yes yes yes yes yes yes yes	0-99 min. yes yes yes yes yes yes yes yes yes	0-99 min. yes yes yes yes yes yes yes yes yes	0-99 min. yes yes yes yes yes yes yes yes yes	0-99 min. yes yes yes yes yes yes yes yes yes	0-99 min. yes yes yes yes yes yes yes yes yes
1200x640x1000 125	1200x640x1000 205 adj. supports 185 fixed supports	1000x500x1350*3 220/320 kg*3	1600x700x1300 450 kg (incl. yoke)	1750x600x1470*3 660/800 kg*3	2150x900x2210*3 800/1700 kg*3	2350x1000x1875*3 1800 kg*3
-	-	optional	-	optional	optional	optional
optional	optional	optional	optional	optional	optional	optional
yes	yes	optional	optional	optional	optional	optional

*1 With adaptor yokes, only available for the Standard models

*2 On request: 350°C, with heavy duty sensor and extra isolation

*3 Subject to power and execution



On request: other voltage/ amperage/ higher temperature up to 480°C

Reference list available on request

For more information: www.begaspecialtools.com

TURBO: *High output,
energy efficient!*

TECHNICAL DETAILS - Middle frequency



Type BETEX MF Quick-Heater	MF Quick-heater 2.0, 22 kW	MF Quick-heater 2.0, 44 kW
Forced air cooling	yes	yes
Power	22kW	44kW
Frequency reach	10-20 kHz	10-20kHz
Voltage/Amperage	3 ~ 400V/32A	3 ~ 400V/63A
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 thermocouple input	optional	optional
Generator dimensions LxWxH	630 x 553 x 800 mm	640 x 553 x 1.400 mm
Weight	75 kg	130 kg
Trolley dimensions: LxWxH	1.050 x 640 x 980 mm	1.050 x 640 x 980 mm
Weight	60 kg	50 kg
Operation:		
Dimensions display	3,5"	3,5"
Heat curve in display	no	no
Setpoint power	via touchscreen	via touchscreen
Setpoint temperature	via touchscreen	via touchscreen
Setpoint temperature curve	no	no
Setpoint timer	via touchscreen	via touchscreen
Selection operating mode	via touchscreen	via touchscreen
Digital readings temperature	setpoint and actual value on the touchscreen	setpoint and actual value on the touchscreen
Digital readings time	setpoint and actual value on the touchscreen	setpoint and actual value on the 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
Signaling by:		
Ready message	green continuous light	green continuous light
Installation in operational state	green flash light	green flash light
Error message	red continuous light	red continuous light
End of heating cycle	acoustic signal	acoustic signal

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

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



Type BETEX MF Quick-Heater	MF Quick-heater 3.0, 22 kW	MF Quick-heater 3.0, 44 kW
Forced air cooling	yes	yes
Power	22kW	44kW
Frequency reach	10-25 kHz	10-25 kHz
Voltage/Amperage	3 ~ 400V/32A	3 ~ 400V/63A
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 thermocouple input	optional	optional
Generator LxWxH	600 x 300 x 600 mm	600 x 650 x 580 mm
Weight	—	—
Trolley LxWxH	—	—
Weight	—	—
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 the touchscreen	setpoint and actual value on the touchscreen
Digital readings time	setpoint and actual value on the touchscreen	setpoint and actual value on the 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
Signaling by:		
Ready message	optional	optional
Installation in operational state	optional	optional
Error message	optional	optional
End of heating cycle	acoustic signal	acoustic signal

