



Induction Heating Devices

MF-GENERATOR2.5

User Manual

Contents

1	About the manual.....	6
1.1	Symbols	6
1.2	Signs.....	6
1.3	Availability	7
1.4	Legal guidelines.....	7
1.5	Images	7
1.6	Further information	7
2	General safety regulations	8
2.1	Intended use	8
2.2	Improper use	8
2.3	Qualified personnel.....	8
2.4	Protective equipment	8
2.5	Safety equipment	9
2.6	Hazards.....	9
2.6.1	Danger of death	9
2.6.2	Risk of injury	10
2.6.3	Material damage	11
2.7	Safety regulations.....	11
2.7.1	Transport and storage.....	11
2.7.2	Operation	11
2.7.3	Maintenance and repair	11
2.7.4	Disposal	12
2.7.5	Conversion	12
3	Scope of delivery.....	13
3.1	Check for transport damage	13
3.2	Check for defects	13
4	Product description.....	14
4.1	Functional principle.....	14
4.2	Connections	15
4.3	Inductor	16
4.3.1	Flexible inductors	16
4.3.2	Rigid inductor	16
4.3.3	Cage inductor	17
4.4	Temperature sensors.....	17
4.5	Signal tower	18
4.6	Touchscreen.....	19
4.7	System settings.....	19
4.8	Heating methods.....	22
4.8.1	Temperature mode	23
4.8.2	Time mode	23
4.9	Further functions.....	23
4.9.1	Saving specific programs	23
4.9.2	Delta T function	23

4.9.3	Process information.....	25
5	Transport and storage.....	27
5.1	Transport.....	27
5.2	Storage.....	27
6	Commissioning	28
6.1	First steps	28
6.2	Connecting the power supply.....	28
6.3	Connecting the inductor.....	29
6.3.1	Connecting the inductor recognition	30
6.4	Mounting the inductor on the workpiece	31
6.5	Connecting the temperature sensor	32
6.6	Connecting the equipotential bonding cable	32
6.7	Connecting the signal tower.....	32
7	Operation	33
7.1	General requirements.....	33
7.2	Carrying out protective measures.....	33
7.3	Switching on the generator	34
7.4	Selecting the heating method	34
7.5	Heating the workpiece.....	34
7.5.1	Heating in temperature mode.....	35
7.5.2	Heating in time mode.....	36
7.6	Removing the inductor from the workpiece.....	37
8	Troubleshooting	38
8.1	Resetting the fault.....	39
9	Maintenance	40
9.1	Cleaning the air filter	40
10	Repair	42
11	Decommissioning.....	43
11.1	Disconnecting the inductor from the heating device	43
12	Disposal	44
13	Technical data	45
13.1	Operating conditions	45
13.2	Declaration of Conformity.....	47
14	Accessories.....	49
14.1	Flexible inductors	49
14.2	Inductor feed cable	50
14.3	Temperature sensors.....	51
14.4	Equipotential bonding cable	51
14.5	Magnetic holders.....	52
14.6	Signal tower	52

14.7	Dongle.....	53
14.8	Protective gloves	54
15	Replacement parts	55
15.1	Plugs for inductors and inductor feed cables.....	55
15.2	Sockets for inductor feed cables	56
15.3	Socket for inductor connection on the generator.....	56

1 About the manual

This manual is part of the product and contains important information. Read the manual thoroughly prior to use and follow the instructions precisely.

The original language of the manual is German. All other languages are translations from the original language.

1.1 Symbols

The warning and hazard symbols are defined in accordance with ANSI Z535.6-2011.

1 Warning and hazard symbols

Signs and descriptions

DANGER	In case of non-compliance, death or serious injury will occur.
WARNING	In case of non-compliance, death or serious injury may occur.
CAUTION	In case of non-compliance, minor or moderate injury may occur.
NOTICE	In case of non-compliance, damage or malfunctions in the product or the adjacent construction may occur.

1.2 Signs

The warning, prohibition and mandatory signs are defined in accordance with DIN EN ISO 7010 or DIN 4844-2.

2 Warning, prohibition and mandatory signs

Signs and descriptions

	General warning
	Electrical voltage warning
	Warning of magnetic field
	Warning of hot surface
	Heavy load warning
	Floor-level obstacle warning
	Prohibited for persons with pacemakers or implanted defibrillators
	Prohibited for persons with metallic implants
	Carrying of metallic parts or watches prohibited
	Carrying of magnetic or electronic data carriers prohibited
	Observe the manual

Signs and descriptions

Wear safety gloves



Wear safety shoes



General mandatory sign

1.3 Availability



A current version of this manual can be found at:

<https://www.schaeffler.de/std/2030>

Ensure that this manual is always complete and legible and is available to all persons engaged in transporting, fitting, dismantling, commissioning, operating or maintaining the product.

Keep the manual in a safe place for immediate reference.

1.4 Legal guidelines

The information in this manual reflects the status at the time of publication.

Unauthorised modifications to or improper use of the product are not permitted. Schaeffler accepts no liability in these cases.

1.5 Images

The images in this manual may be schematic representations and may differ from the delivered device.

1.6 Further information

Address any questions on fitting to your local contact at Schaeffler.

2 General safety regulations

2.1 Intended use

The generator MF-GENERATOR may only be used with inductors that are offered by Schaeffler for operation with this generator. An induction unit comprises a generator and an inductor.

The induction system may only be used for the heating of ferromagnetic work-pieces.

2.2 Improper use

Do not operate the device in a potentially explosive environment.

Do not operate the generator with multiple inductors connected in series.

2.3 Qualified personnel

Obligations of the operator:

- Ensure that only qualified and authorised personnel perform the activities described in this manual.
- Ensure that personal protective equipment is used.

Qualified personnel must:

- Ensure adequate product knowledge, e.g. through training on proper handling and use of the product
- be fully familiar with the contents of this manual, particularly all safety instructions
- be aware of any relevant country-specific regulations

2.4 Protective equipment

For certain work on the product, suitable protective equipment must be worn. Personal protective equipment consists of:

3 Required personal protective equipment

Personal protective equipment	Mandatory signs in accordance with DIN EN ISO 7010
Protective gloves	
Safety shoes	
Eye protection	

2.5 Safety equipment

In order to protect the user and the generator from damage, the following safety equipment is present:

- The generator only runs when the inductor is fully connected.
- If the generator overheats, the generator power is automatically reduced or the generator is completely switched off.
- The generator power is automatically reduced if the inductor's power output is too high.
- The generator automatically switches off if no workpiece is present in the inductor.
- The generator switches off automatically if there has been no increase in workpiece temperature within a predefined time period.
- The generator switches off automatically as soon as the ambient temperature rises above +70 °C.

2.6 Hazards

In the operation of induction units, the principle used means that hazards can occur as a result of electromagnetic fields, electrical voltage and hot components.

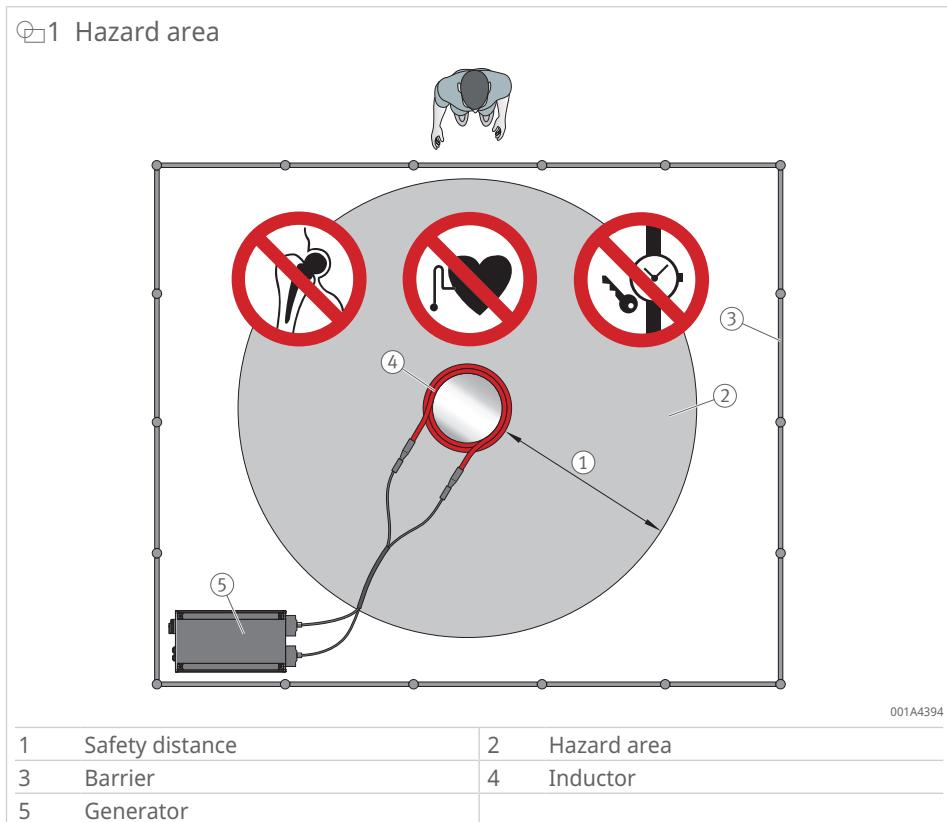
2.6.1 Danger of death

Danger of death due to electromagnetic field

Persons fitted with a pacemaker are at risk of cardiac arrest

Persons fitted with a pacemaker are not permitted to work with induction systems.

1. Secure the hazard area by setting a safety distance of 1 m around the inductor.
2. Mark the hazard area.
3. Avoid remaining in the hazard area during operation.



2.6.2 Risk of injury

Risk of injury due to electromagnetic field

Risk of cardiac arrhythmias and tissue damage from remaining in the hazard area for long periods

1. Minimise time spent in the electromagnetic field.
2. Exit the hazard area immediately after switching on the generator.

Wearers of ferromagnetic objects are at risk of burns

1. Wearers of ferromagnetic objects must not remain in the hazard area.
2. Wearers of ferromagnetic implants must not remain in the hazard area.
3. Mark the hazard area.

Risk of injury from directly or indirectly heated workpieces

Risk of burns

1. Do not place the inductor on or around ferromagnetic objects that are not to be heated.
2. Wear protective gloves resistant up to +300 °C during operation.

Risk of injury due to electric current

Risk of nerve irritation from contact with the inductor during operation

1. Wear protective gloves resistant up to +300 °C during operation.
2. Do not touch the inductor during operation.

Risk of injury from heating contaminated workpieces

Danger from splashes, smoke and vapour formation

1. Clean contaminated workpieces prior to heating.
2. Wear eye protection.
3. Avoid inhaling smoke and vapours. Where necessary, use a suitable extraction system.

Risk of injury due to laid cables

Danger of tripping

1. Lay cables, the inductor, and inductor feed cables securely on the floor.

2.6.3 Material damage

Material damage caused by electromagnetic field

Risk of damage to electronic items

1. Keep electronic items away from the hazard area.

Risk of damage to magnetic and electronic data carriers

1. Keep magnetic and electronic data carriers away from the hazard area.

2.7 Safety regulations

This section summarises the most important safety regulations relating to working with the generator. Further guidelines on hazards and specific operating procedures can be found in the individual chapters of this user manual.

Since the generator is always operated in conjunction with an inductor, there are also some regulations covering work with the inductor. The operating instructions for the inductor used need to be observed.

2.7.1 Transport and storage

In transport, the relevant safety and accident prevention regulations must be observed.

The ambient conditions specified for storage must be observed.

2.7.2 Operation

National regulations relating to work with electromagnetic fields must be observed.

The workplace must be kept clean and organised during the entire operation.

The generator may only be used with inductors offered by Schaeffler for operation with these generators.

2.7.3 Maintenance and repair

The activities described in the maintenance plan are fundamental for the preservation of operational security and must be carried out as stated in the maintenance plan.

Maintenance work and repairs may only be carried out by qualified personnel.

For all maintenance and repair work, the generator must be switched off and disconnected from the mains voltage. It must be ensured that it cannot be switched on again without authorisation or unintentionally, for example by persons who have not been informed of the maintenance work.

2.7.4 Disposal

Observe the locally applicable regulations for disposal.

2.7.5 Conversion

For safety reasons, unauthorised modifications and conversions to the generator are not permitted in any form.

3 Scope of delivery

The product is supplied as a complete set containing the following:

- MF-GENERATOR (1×)
- mains connection cable, 5 m (1×)
- temperature sensor MF-GENERATOR.MPROBE-GREEN (1×)
- temperature sensor MF-GENERATOR.MPROBE-RED (1×)
- protective gloves, heat-resistant up to +300 °C (1 pair)
- dongle for operation with flexible inductors (1×)
- equipotential bonding cable, 6,5 m (1×)
- user manual

For models with 450 V, a mains connection plug is not included in the scope of delivery.

Inductors are not included in the scope of delivery but can be ordered as accessories ►49 | 14.

3.1 Check for transport damage

1. Check the product immediately upon delivery for transport damage.
2. Report any transport damage promptly to the carrier.

3.2 Check for defects

1. Check the product immediately upon delivery for any visible defects.
2. Report any defects promptly to the distributor of the product.
3. Do not put damaged products into operation.

4 Product description

Medium-frequency induction systems are suitable for thermal mounting and dismounting. Even large and heavy workpieces can be heated using the systems.

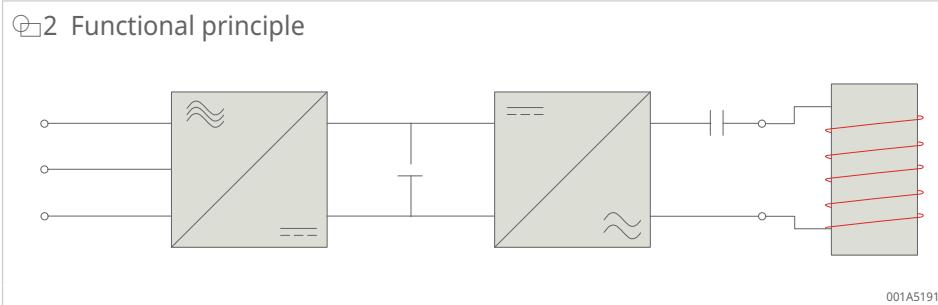
A component can be mounted on a shaft with a tight fit. This is achieved by heating the component and sliding it onto the shaft. Once cooled, the component is mounted. A heating device can be used to heat solid ferromagnetic parts which are of a closed design. Examples include gears, bushings and rolling bearings.

The induction system, comprising a generator and inductor, is designed for the induction heating of ferromagnetic workpieces. Inductors may only be connected to the generator that are specifically offered by Schaeffler for this purpose.

4.1 Functional principle

The generator supplies the connected inductor with an alternating voltage. As a result, an alternating electromagnetic field is created around the inductor. If the ferromagnetic workpiece to be heated is present in this field, an eddy current is induced in the workpiece. Heating of the workpiece is caused by the eddy current and hysteresis losses.

The mains voltage is rectified and smoothed. The direct voltage is converted into an alternating voltage with a frequency of between 10 kHz and 25 kHz by means of an inverter. The power is transmitted magnetically to the workpiece to be heated by a resonance capacitor via an inductor (coil).



As a result of the high frequency, the penetration depth of the magnetic field into the workpiece to be heated is small, leading to heating of the outer layer of the workpiece.

At the end of the heating operation, the residual magnetism in the workpiece is automatically reduced to the level that was present before induction heating.

4.2 Connections

3 Generator front view



4 Description of signals

Colour		Description
Green	Flashing	Heating process in progress
Green	Continuous light	Heating process completed
Red	Continuous light	Malfunction ►38 8

4 Rear of the generator



001C2EA2

1	Terminal for thermal cut-out and inductor recognition	2	Inductor connection
3	Equipotential bonding cable connection	4	Air filter
5	Mains plug		

4.3 Inductor

4.3.1 Flexible inductors

The inductor is the induction coil that is used to transfer the energy to the workpiece to be heated. Flexible inductors are made from a special cable and have a wide variety of uses. Depending on the application, they are positioned in the bore or on the outside diameter of the workpiece.

The flexible inductor designs differ in terms of their dimensions, permissible temperature range and the resulting technical data.

Further information

BA 86 | Flexible inductors |
<https://www.schaeffler.de/std/1FD6>

4.3.2 Rigid inductor

The inductor is the induction coil through which the energy is transferred to the workpiece to be heated. Rigid inductors are application-specific in design and adapted to a particular workpiece type. They are primarily used in series assembly or in cases where a flexible inductor is not suitable, such as for very small components.

Rigid inductors are usually equipped with inductor recognition and a thermal cut-out.

④ 5 Rigid inductor



001C2EF2

4.3.3 Cage inductor

In a cage inductor, a flexible inductor is wound into an auxiliary frame. Cage inductors are application-specific solutions and are specially designed for the respective application.



Contact Schaeffler for a customised design of the induction system for your application.

④ 6 Flexible inductor in auxiliary frame

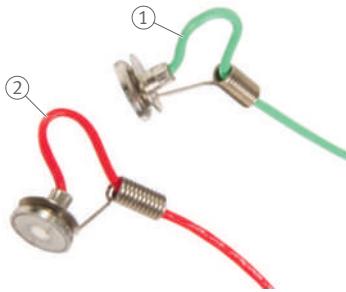


001C15DF

4.4 Temperature sensors

Temperature sensors are available to reorder as replacement parts ►51 | 14.3.

7 Temperature sensors



001A5304

1	MF-GENERATOR.MPROBE-GREEN	2	MF-GENERATOR.MPROBE-RED
---	---------------------------	---	-------------------------

The temperature sensors are technically identical and differ only in colour. The colour coding facilitates the placement of the respective temperature sensor on the workpiece.

5 Temperature sensors

Temperature sensor		Information
T1	Red	This temperature sensor controls the heating process as the main sensor.
T2	Green	This temperature sensor controls the lower temperature threshold.

Appearance of measurement values on the display:

- measured value at T1: A
- measured value at T2: B

Use:

- The temperature sensor is equipped with a magnetic clamp for easy attachment to the workpiece.
- The temperature sensors are used during heating in temperature mode.
- The temperature sensors may be used in time mode to assist with temperature control during heating.
- The temperature sensors are connected to the generator via sensor connections T1 and T2.
- Temperature sensor 1 at sensor connection T1 is the main sensor that controls the heating process.

6 Operating conditions for temperature sensors

Designation	Value
Operating temperature	0 °C ... +350 °C At temperatures > +350 °C, the connection between the magnet and the temperature sensor is interrupted.

4.5 Signal tower

A signal tower is optional and can be ordered as a spare part ►52 | 14.6.

8 Signal tower MF-GENERATOR.LIGHTS



0019F671

7 Description of signals

Colour		Description
Green	Flashing	Heating process in progress
Green	Continuous light	Heating process completed
Red	Continuous light	Malfunction ►38 8

4.6 Touchscreen

During operation, various screens are displayed on the touchscreen complete with different buttons, setting options and operating functions.

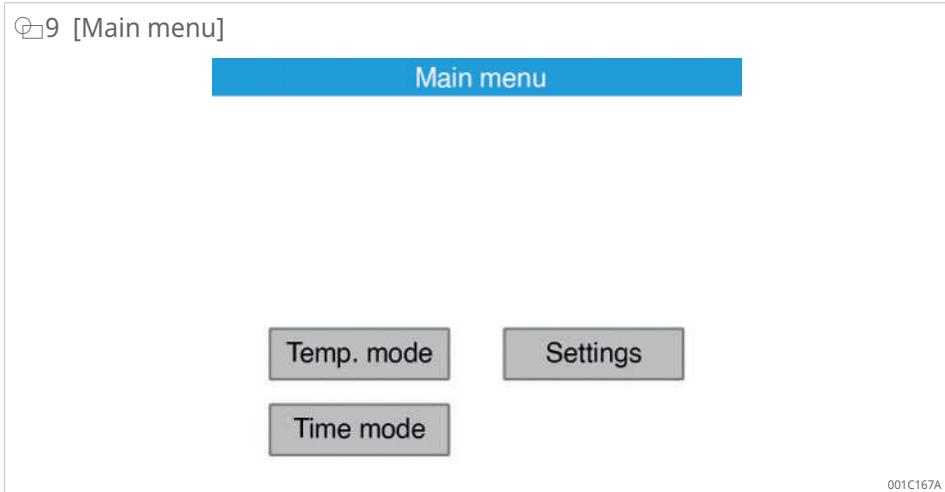
8 Explanation of the buttons

Button	Description of the function
	[Enter] confirms the selected option
	[Back] moves one step back in the setting process switches to the previous page
	[Up] scroll up increases the numerical value
	[Down] scroll down decreases the numerical value

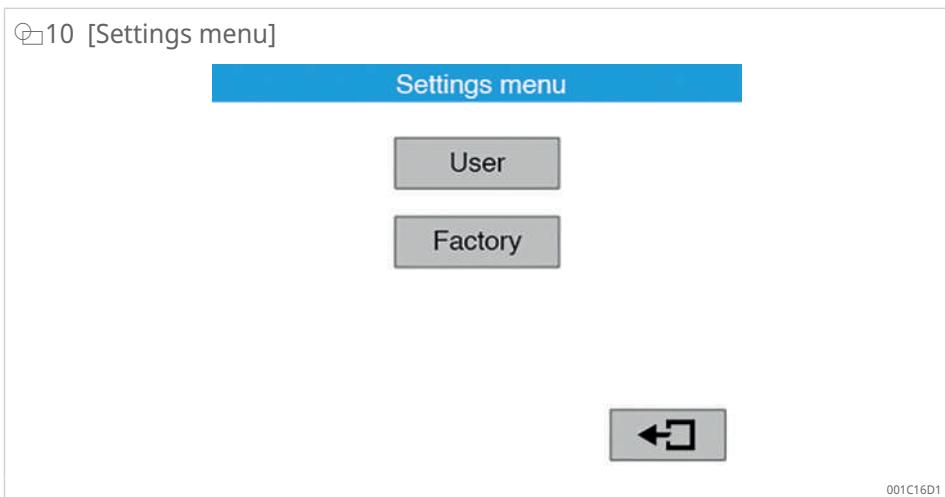
Variables can be set to a desired value at the touch of a button.

4.7 System settings

The generator allows parameters to be set and adjusted according to the requirements of the heating process.



1. Tap [Settings] to access the settings.
» The [Settings menu] window opens.



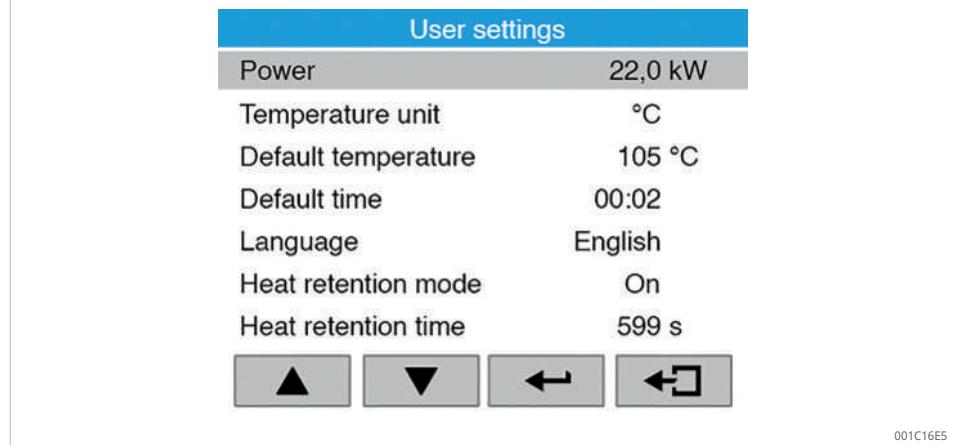
Manufacturer settings

! Manufacturer settings can only be changed by the manufacturer.

User-specific settings

1. Tap [User] to change user-specific settings.
» The [User settings] window opens.

④ 11 [User settings]



001C16E5

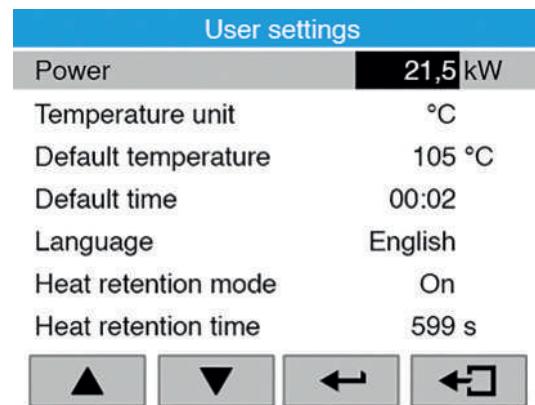
④ 9 Setting options

Field	Setting option
[Power]	Setting of the maximum power
[Temperature unit]	Setting for the unit of temperature measurement: °C or °F
[Default temperature]	Setting of the default temperature for temperature mode
[Default time]	Setting of the default time for time mode
[Language]	Setting of the display language <ul style="list-style-type: none"> • English • German • Dutch
[Heat retention mode]	Switching the temperature hold function on or off The generator holds the workpiece at the set temperature for the set time
[Heat retention time]	Setting of the duration of the temperature holding function when the holding function is enabled
[Heat retention temp.]	Setting of the temperature of the temperature holding function when the holding function is enabled
[Monitor temp. Increase]	Switching temperature increase monitoring on or off The generator checks whether the workpiece is being heated.
[Min. temp. Increase]	Setting of the minimum temperature increase within the preset [Incr. Time period]
[Incr. Time period]	Setting of the time within which the minimum temperature increase must occur
[Program 1]	Saving of settings for a specific inductor ►23 4.9.1
[Program 2]	The inductor is recognised by the generator and uses the stored settings.
[Program 3]	
[Delta T switch on]	The temperature difference between 2 measurement points on a workpiece at which reactivation of heating is permitted after heating was previously switched off due to the limit value for ΔT ►23 4.9.2 being exceeded
[Delta T switch off]	Setting of the temperature difference between 2 measurement points on a workpiece at which the heating process is interrupted
[Auto restart]	Activate or deactivate to automatically restart heating when ΔT has returned to the permissible range below [Delta T switch on].

Changing settings

1. Move the grey bar using the [Up] and [Down] buttons.
2. Move the grey bar to the parameter to be changed.
3. Tap [Enter] to edit the highlighted parameter.
› The selected parameter is shown with a black background.

□12 Changing a parameter setting



001C16F2

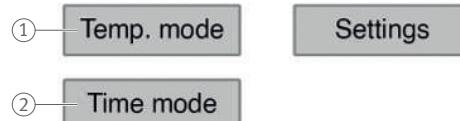
4. Change the parameter using the [Up] and [Down] buttons.
5. Tap [Enter] to save the changed parameter.
› The selected parameter is shown with a grey background.
6. After completion, exit the menu by pressing [Back].

4.8 Heating methods

The device offers various heating methods to suit every application.

□13 Heating methods

Main menu



001C2F12

1	Temperature mode	2	Time mode
---	------------------	---	-----------

█10 Overview of heating methods

Heating method	Button	Function
Temperature mode	[Temp. mode]	Controlled heating to the required temperature
Time mode	[Time mode]	Suitable for volume production: heating in time mode if the time required to reach a specific temperature is known Emergency solution in the event of a defective temperature sensor: heating in time mode and monitoring of the temperature using an external thermometer

4.8.1 Temperature mode

- Setting of the required heating temperature
- Heating of the workpiece to the set temperature
- Monitoring of the workpiece temperature throughout the entire process
- Choice of simple measurement and Delta-T measurement under [Settings]
- Requires the use of 1 or more temperature sensors, which are attached to the workpiece. T1 (temperature sensor 1) is the main sensor and controls the heating process.

4.8.2 Time mode

- Setting of the required heating time
- Heating of the workpiece over the defined time period
- Operating mode available for use if the time required to heat a specific workpiece to a specific temperature is already known
- No temperature sensor required as the temperature is not monitored

4.9 Further functions

4.9.1 Saving specific programs

14 Saving specific programs

User settings	
Heat retention mode	Off
Heat retention time	300 s
Heat retention temp.	3 °C
Monitor temp. increase	On
Program 1	
Program 2	
Program 3	
▲	▼
◀	◀□

001C1702

1. In the [Settings menu], select the program to be changed.
2. Confirm by tapping [Enter].
3. Set the [Power], [Default temperature] and [Default time].
4. Confirm by tapping [Enter].

» The settings are saved in the selected program.

4.9.2 Delta T function

This function is used when the temperatures in a workpiece must not deviate beyond a certain point, in order to avoid stresses in the material.



Enquire with the supplier of the workpiece about the extent of the permitted temperature difference.

This function is used when the temperatures in a workpiece must not deviate beyond a certain point, in order to avoid stresses in the material. Enquire with the supplier of the workpiece about the extent of the permitted temperature difference.

The ΔT control is used when heating bearings, where the temperature difference between the inner ring and outer ring must not be too large.

During heating, the temperatures A (temperature sensor T1) and B (temperature sensor T2). The difference between these two temperatures is calculated on an ongoing basis.

15 Delta-T function settings

User settings	
Temp. rise monitor	Off
Program 1	
Program 2	
Program 3	
Delta T switch on	5 °C
Delta T switch off	30 °C
Auto restart	On
	
	

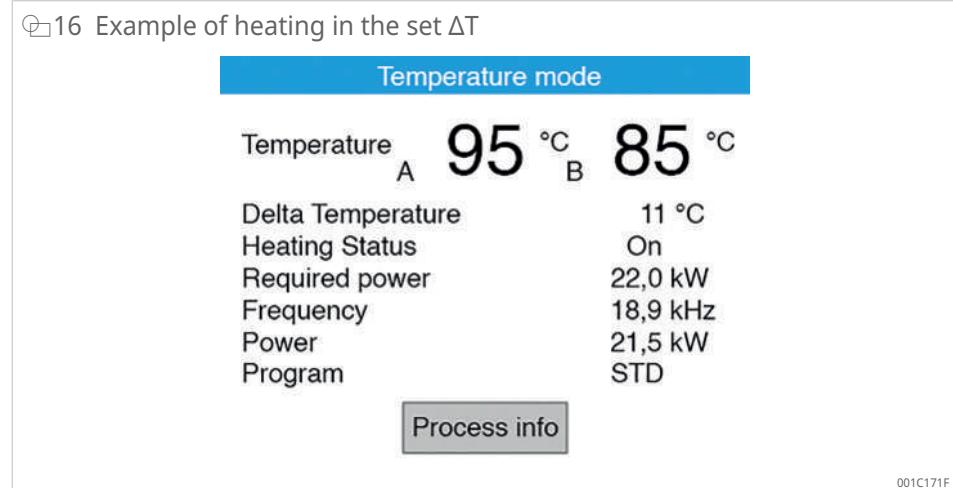
001C1711

- ✓ Both temperature sensors are connected.
- 1. Activate the Delta-T function in the [Settings menu] ►19 | 4.7.
- 2. Activate [Auto restart] to allow heating to restart automatically.
 - › If the measured temperature difference between A and B exceeds the set temperature [Delta T switch off], heating is switched off or paused.
 - 3. If [Auto restart] is not activated, heating must be restarted manually.
 - › If the measured temperature difference between A and B falls below the set temperature [Delta T switch on], heating is started automatically.

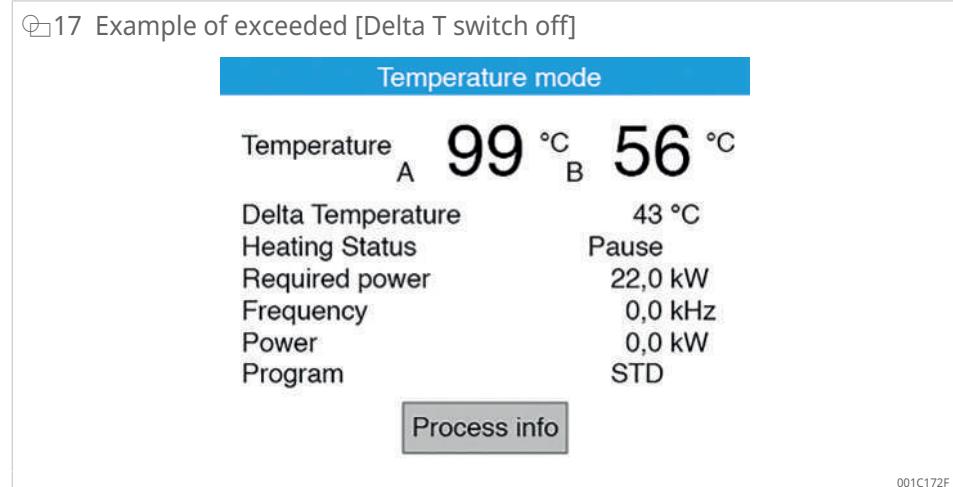
11 Description [Auto restart]

[Auto restart]	Description
Deactivated	Heating will not resume automatically. Heating must be restarted manually.
Activated	Heating will resume automatically if the temperature difference is smaller than the temperature set under [Delta T switch on].

④ 16 Example of heating in the set ΔT



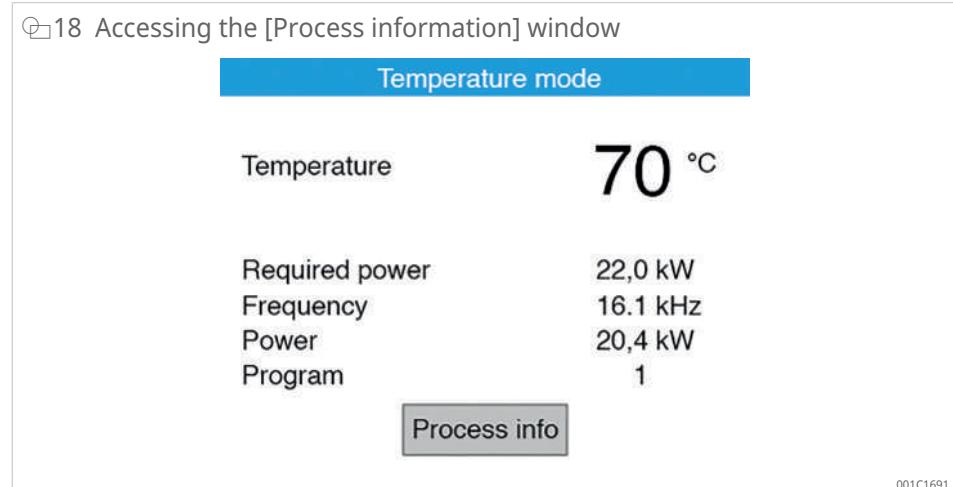
④ 17 Example of exceeded [Delta T switch off]



4.9.3 Process information

Detailed process parameter information can be accessed during the heating process.

④ 18 Accessing the [Process information] window



- ✓ Heating in temperature mode or in time mode
- ▶ Tap [Process info] to access the process information.
- ▶ The [Process information] window opens.

19 [Process information]

Process information	
Required time	00:10
Time remaining	00:05
Actual temperature	69,7 °C
Heating time	00:04
Required power	22,0 kW
Power	22,0 kW
Udc	516,2 V
T cooling unit	29,6 °C
Program	1



001C16C3

12 Description [Process information]

[Process information]	Description
[Required Time]	Preset time for heating in time mode
[Time remaining]	Remaining time for heating in time mode
[Actual temperature]	Current workpiece temperature during heating in temperature mode with temperature sensor attached
[Heating time]	Elapsed time of the heating process
[Required Power]	Preset power
[Power]	Current power
[Udc]	Current generated direct voltage
[T cooling unit]	Current generator temperature
[Program]	Program currently being executed

5 Transport and storage

5.1 Transport

⚠ WARNING



Heavy product

Risk of herniated disc or back injury.

- Only lift without the use of support aids if the product weighs less than 23 kg.
- Use appropriate support aids where necessary.

■ 13 Transport

Variant	m	Transport
kW	kg	
10	46	<ul style="list-style-type: none"> • Use the carrying handle on the top of the device.
22	46	<ul style="list-style-type: none"> • The device must be lifted using 2 people. • Use suitable lifting gear.
44	78	<ul style="list-style-type: none"> • Use the lifting eyes on the top of the device. • Use suitable lifting gear.

5.2 Storage

Wherever possible, the device should be stored in the transport packaging that it was delivered in.

■ 14 Storage conditions

Designation	Value
Ambient temperature	-5 °C ... +55 °C
Humidity	5 % ... 95 %, non-condensing

6 Commissioning

6.1 First steps

1. Remove the device from the transport box or storage box.
2. Check the housing for damage.
3. Place the device in a suitable workplace.
4. Activate the brakes whenever using a rollable transport device.

Characteristics of a suitable workstation:

- The surface is stable, level and non-metallic.
- The device is standing on all four adjustable feet.
- There is a clearance of 20 mm at the rear.
- There is a clearance of 20 mm at the bottom.

6.2 Connecting the power supply

Connection with mains plug

- ✓ The device is equipped with a mains plug.
- ✓ The mains cable and mains plug show no signs of damage.
- ✓ The power supply corresponds to the technical data.

1. Plug the mains cable into the opening provided on the rear of the device.
2. Insert the mains plug into a suitable socket.
3. Lay the connection cable in such a way as to prevent a trip hazard.

Connection without mains plug

- ✓ The device is not equipped with a mains plug.
- ✓ The power supply corresponds to the technical data.
- ✓ Connection to the mains must be performed by qualified personnel.

1. Use a suitable plug.
2. Connect the mains supply via 3 phases and protective earth.
3. Lay the connection cable in such a way as to prevent a trip hazard.

20 Connecting the mains supply via 3 phases and protective earth



6.3 Connecting the inductor

- ✓ Only use inductors that comply with the manufacturer's specifications.
- ✓ Observe the regulations and instructions set down in the corresponding inductor operating manual.
- ✓ The inductor shows no signs of damage.
- ✓ Connect no more than 2 inductor feed cables in series. The maximum total length of the inductor feed cable must not exceed 6 m.
- ✓ The nominal output of the inductor used must match the nominal output of the generator.
- ✓ Wear protective gloves resistant to temperatures up to +300 °C.
- ✓ If an inductor is already connected to the generator, this should be disconnected as necessary.

1. Align the plug with the socket so that the white markings face each other.
2. Insert the plug all the way into the socket, until it stops.

21 Correctly aligned plug



3. Applying axial pressure, press the plug deeper into the socket and turn the plug to the right, until it stops.

22 Plug turned until it stops



001AAAOE

4. Release the plug.
 - » The plug is secured by the bayonet lock.

6.3.1 Connecting the inductor recognition

If an inductor is equipped with inductor recognition and a thermal cut-out, it is connected to the terminal for the thermal cut-out and inductor recognition at the rear of the device.

Rigid inductor with inductor recognition and thermal cut-out

- ✓ The inductor is equipped with inductor recognition.

 1. Remove the cover from the terminal for the thermal cut-out and inductor recognition.
 2. Connect the inductor recognition to the terminal for the thermal cut-out and inductor recognition.
 3. Press the lever on the socket over the plug to lock the connection.
 - » Inductor recognition is connected.

Flexible inductor without inductor recognition and thermal cut-out

- ✓ The inductor is not equipped with inductor recognition.

 1. Remove the cover from the terminal for the thermal cut-out and inductor recognition.
 2. Connect the dongle to the terminal for the thermal cut-out and inductor recognition.
 3. Press the lever on the socket over the plug to lock the connection.
 - » The dongle is connected.

23 Connecting the dongle



6

001C15E1

6.4 Mounting the inductor on the workpiece

- ✓ Wear protective gloves resistant to temperatures up to +300 °C.
- ✓ Inductor is connected to the generator.
- 1. Attach the flexible inductor to the workpiece in accordance with the relevant operating instructions.
- 2. Mount the inductor on one single workpiece only.
- 3. Lay the inductor in such a way as to prevent a trip hazard.
 - » The inductor is ready for operation.

Further information

BA 86 | Flexible inductors |
<https://www.schaeffler.de/std/1FD6>

6.5 Connecting the temperature sensor

- ✓ Use temperature sensors in accordance with the manufacturer's specification.
- ✓ The temperature sensors show no signs of damage.
- ✓ The magnetic surface of the temperature sensors is contaminant-free.
- 1. Connect the plug of temperature sensor T1 (red) to designated connection T1.
- 2. Place temperature sensor T1 as close as possible to the inductor windings on the workpiece.
- 3. Connect the plug of temperature sensor T2 (green) to designated connection T2.
- 4. Place temperature sensor T2 at the point where the temperature in the workpiece is expected to be at its lowest.
- 5. Lay the temperature sensor cables in such a way as to prevent a trip hazard.
 - » The temperature sensors are ready for operation.



When removing the temperature sensor, do not pull it by the cable. Pull on the plug and sensor head only.

6.6 Connecting the equipotential bonding cable

To prevent distortion of the temperature measurement, an equipotential bonding cable is used. The equipotential bonding cable connects the generator to the workpiece to be heated.

- ✓ Only use equipotential bonding cables that comply with the manufacturer's specifications.
- ✓ The equipotential bonding cable shows no signs of damage.
- ✓ The magnetic surface of the equipotential bonding cable and of the workpiece are free from contamination.
- 1. Check whether the high magnetic force may cause damage to the workpiece. The magnetisation introduced by the magnet is $> 2 \text{ A/cm}$.
- 2. Select a location on the workpiece for the magnet of the equipotential bonding cable, as close as possible to the temperature sensor.
- 3. Position the magnet of the equipotential bonding cable on the workpiece.
- 4. Connect the equipotential bonding cable to the designated terminal on the rear of the generator ►16 | ④.
- 5. Lay equipotential bonding cables in such a way as to prevent a trip hazard.
 - » The equipotential bonding cable is ready for operation.



In the case of very small or difficult-to-access workpieces, it may not always be possible to attach the equipotential bonding cable to the workpiece.

6.7 Connecting the signal tower

A signal tower is optional and can be ordered as a spare part ►52 | 14.6.

- If required, connect the signal tower to the designated terminal on the top of the device.

7 Operation

7.1 General requirements

Only start a heating operation if there is a workpiece in the inductor. The workpiece must not be removed from the inductor during the heating process.

A rolling bearing may be heated to a maximum of +120 °C (+248 °F). A precision bearing may be heated to a maximum of +70 °C (+158 °F). Higher temperatures can have a negative effect on the metallurgical structure and lubrication, leading to instability and failure.

The maximum permissible temperatures may be different for lubricated bearings with seals.

Depending on the design, the maximum temperature of the connected inductor must not exceed +180 °C or +300 °C. It is essential to observe the maximum operating time of the connected inductor.

Do not suspend a workpiece from ropes or chains made from ferromagnetic materials while it is being heated. Suspend the workpiece from a sling that does not contain metal and is temperature-resistant.

7.2 Carrying out protective measures

1. Mark and secure the hazard area in accordance with the general safety regulations ►8|2.
2. Ensure that the operating site complies with the operating conditions ►45|13.1.
3. Clean the workpiece to be heated to avoid smoke formation.
4. Any smoke or vapour produced during the heating process must not be inhaled. A suitable extraction system must be installed if smoke or vapour is produced during the heating process.
5. Provide the workpiece with a fixed earth connection. If this is not possible, ensure that the workpiece cannot be touched by persons.
6. Wear protective gloves resistant to temperatures up to +300 °C.
7. Wear safety shoes.
8. Wear eye protection.

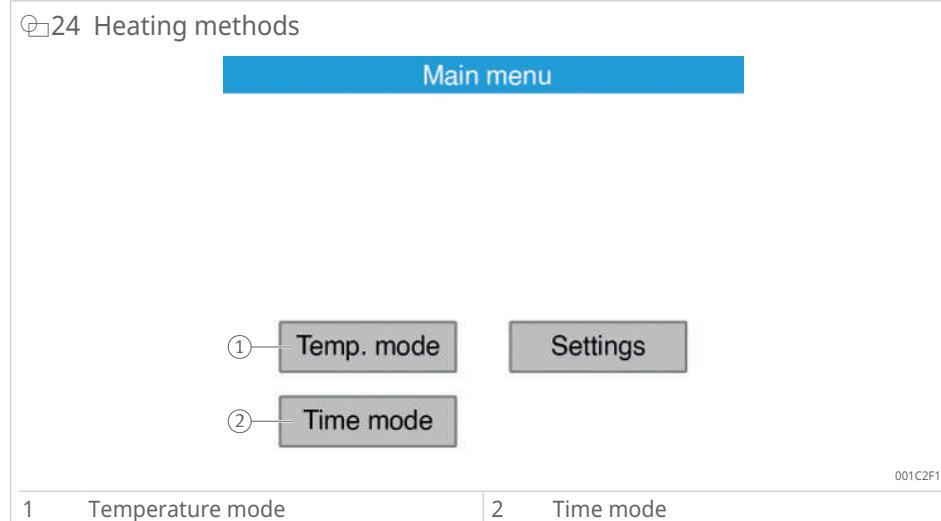
7.3 Switching on the generator

- ✓ The inductor is connected.
- ✓ The required temperature sensors are connected. For a single measurement: T1, for Delta T measurement: T1 and T2.
- ✓ The power supply is connected.
- ✓ The emergency stop switch is not active.

1. Turn the control voltage switch on the rear of the device to position 1.
2. Turn the main switch on the front of the device to position 1.
 - › The device will commence the start-up operation.
 - › The startup operation takes some time to complete, ~20 s.
 - › A loading screen is displayed whilst the startup operation is in progress.
 - › The [Main menu] window appears.

! If no inductor is connected, the red indicator lamp flashes and the error message [No coil detected] appears ►38|8.

7.4 Selecting the heating method



- › Select the desired heating method by tapping the corresponding button.
- › The setting parameters are displayed in the window according to the selection made.

7.5 Heating the workpiece

- › Ensure that all protective measures have been carried out.

DANGER



Strong electromagnetic field

Persons fitted with a pacemaker are at risk of death from cardiac arrest.

- › Erect a barrier.
- › Attach clearly visible warning signs to alert persons fitted with pacemakers to the hazard area.

DANGER**Strong electromagnetic field**

Danger of death due to heated metallic implant.

Risk of burns from carrying metallic parts.

- Erect a barrier.
- Attach clearly visible warning signs to alert persons fitted with implants to the hazard area.
- Attach clearly visible warning signs to alert persons carrying metal parts to the hazard area.

WARNING**Strong electromagnetic field**

Risk of cardiac arrhythmias and tissue damage from spending longer periods in a strong electromagnetic field.

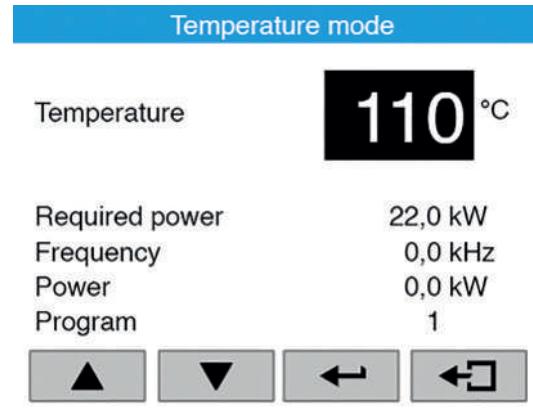
- Minimise the amount of time spent in the electromagnetic field.
- Exit the hazard area immediately after switching on the device.

7

7.5.1 Heating in temperature mode

- ✓ The inductor is connected.
- ✓ The required temperature sensors are connected. For a single measurement: T1, for Delta T measurement: T1 and T2.
- 1. Select [Temp. mode] as the heating mode.
- 2. Tap [Enter] to set the heating target.
- The temperature field is shown with a black background.

④ 25 Setting the target temperature



001C1683

- 3. Use [Up] and [Down] to set the heating target.
- 4. Set [Enter] to confirm the set heating target.
- The target temperature is set.
- 5. Press [Start] to start the heating process.
- The heating process starts.
- The green indicator lamp flashes.
- The green indicator lamp for the signal tower flashes if a signal tower is connected.
- The display shows the current measured workpiece temperature.
- The display shows the key process parameters.

26 Heating in temperature mode

Temperature mode

Temperature

70 °C

Required power	22,0 kW
Frequency	16,1 kHz
Power	20,4 kW
Program	1

Process info

001C1691

6. Press [Process info] to display detailed process information.
 - » Once the workpiece has reached the target temperature, a loud beep will sound.
 - » The green indicator lamp lights up continuously.
 - » The green indicator lamp for the signal tower lights up continuously if a signal tower is connected.
 - » The display shows the current workpiece temperature.
7. To cancel the beep, press [Stop].

! The heating operation can be terminated at any time by pressing [Stop].

7.5.2 Heating in time mode

- ✓ The inductor is connected.
- ✓ The required temperature sensors are connected. For a single measurement: T1, for Delta T measurement: T1 and T2.

1. Select [Time mode] as the heating mode.
2. Tap [Enter] to set the heating target.
 - » The time field is shown with a black background.

27 Setting the target time

Time mode

Time

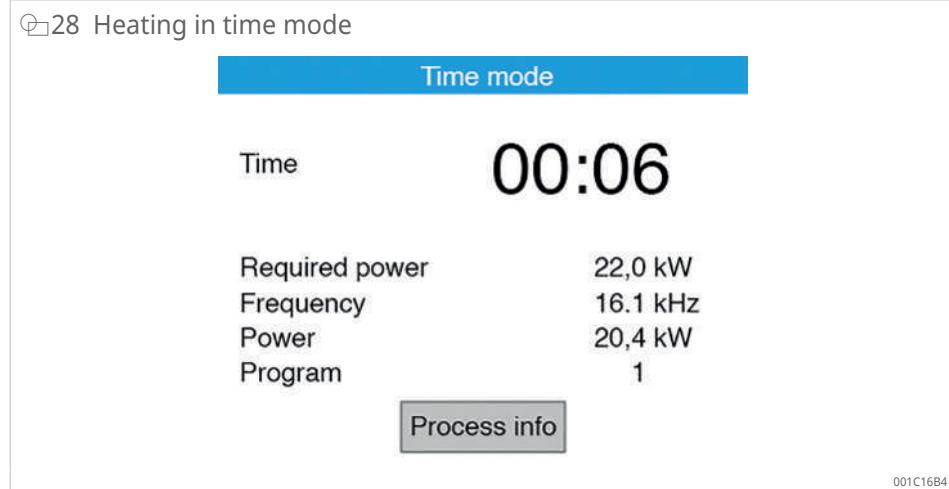
00:12

Required power	22,0 kW
Frequency	0,0 kHz
Power	0,0 kW
Program	1



001C16A2

3. Use [Up] and [Down] to set the heating target.
4. Set [Enter] to confirm the set heating target.
 - › The target time is set.
5. Press [Start] to start the heating process.
 - › The heating process starts.
 - › The green indicator lamp flashes.
 - › The green indicator lamp for the signal tower flashes if a signal tower is connected.
 - › The display shows the remaining time of the heating process.
 - › The display shows the key process parameters.



6. Press [Process info] to display detailed process information.
 - › The generator switches off automatically once the set time has elapsed. A loud beep is emitted.
 - › The green indicator lamp lights up continuously.
 - › The green indicator lamp for the signal tower lights up continuously if a signal tower is connected.
 - › The display shows the current workpiece temperature.
7. To cancel the beep, press [Stop].

! The heating operation can be terminated at any time by pressing [Stop].

7.6 Removing the inductor from the workpiece

Once the heating operation has finished, the inductor can be removed from the workpiece.

✓ Wear protective gloves resistant to temperatures up to +300 °C.

1. Remove all temperature sensors from the heated workpiece.
2. Remove the inductor from the heated workpiece.
 - › The heated workpiece is available for further use.

! Mount or dismount the heated workpiece as quickly as possible, before the workpiece begins to cool.

! When removing the temperature sensor, do not pull it by the cable. Pull on the plug and sensor head only.

8 Troubleshooting

The generator continuously monitors process parameters and other factors that are key to ensuring that the heating process runs as smoothly as possible. The generator emits acoustic and optical signals.

- an error window is displayed on the screen
- an acoustic signal is emitted
- the red indicator lamp on the generator lights up
- the red indicator lamp for the signal tower lights up



The parameter causing the error is displayed in the error window with a red exclamation mark.

15 Error messages

Error message	Possible cause	Remedy
[No communication]	No communication between the chopper and the chopper controller	<ol style="list-style-type: none"> 1. Switch off the device using the main switch 2. Wait a few seconds and switch the device back on 3. If the error persists, contact the manufacturer
[T cooling unit too low]	Ambient temperature is below 0 °C (+32 °F).	<ol style="list-style-type: none"> 1. Switch off the device using the main switch 2. Wait until the ambient temperature has risen above 0 °C (+32 °F) 3. If the temperature is within the limit value and the error still occurs, contact the manufacturer
[Udc too low]	Input voltage too low.	<ol style="list-style-type: none"> 1. Check the mains connection 2. Check the fuses in the mains supply
[No temp increase]	Insufficient temperature increase within the set time	<ol style="list-style-type: none"> 1. Check whether the temperature sensor is attached to the workpiece 2. Check whether the temperature sensor is connected to the generator
[Communication time-out]	Software problem that could not be remedied automatically	<ol style="list-style-type: none"> 1. Switch off the device using the main switch 2. Wait a few seconds and switch the device back on 3. If the error persists, contact the manufacturer
[Upower too low]	Output voltage is below 10 V.	<ol style="list-style-type: none"> 1. Contact the manufacturer
[Current too high]	Occurrence of a peak current.	<ol style="list-style-type: none"> 1. Contact the manufacturer
[No coil detected]	No inductor connected to the generator.	<ol style="list-style-type: none"> 1. Connect the inductor to the generator ►29 6.3
[Coil 1 thermal off]	Inductor has overheated.	<ol style="list-style-type: none"> 1. Allow the inductor to cool until the thermal cut-out resets automatically 2. Reset the fault ►39 8.1
[Coil 2 thermal off]		
[Transformer thermal off 1]	Generator has overheated.	<ol style="list-style-type: none"> 1. Allow the device to cool until the thermal cut-out resets automatically 2. Reset the fault ►39 8.1
[Transformer thermal off 2]		
[Current sensor fault 1]	Fault in the current sensor	<ol style="list-style-type: none"> 1. Switch off the device using the main switch 2. Wait a few seconds and switch the device back on 3. If the error persists, contact the manufacturer
[Current sensor fault 2]		
[Thermocouple 1]	Temperature sensor T1 not connected	<ol style="list-style-type: none"> 1. Connect temperature sensor T1 2. Reset the fault ►39 8.1
[Thermocouple 2]	Temperature sensor T2 not connected	<ol style="list-style-type: none"> 1. Connect temperature sensor T2 2. Reset the fault ►39 8.1
[Slave interlink]	Communication problem between chopper control devices	<ol style="list-style-type: none"> 1. Switch off the device using the main switch 2. Wait a few seconds and switch the device back on 3. If the error persists, contact the manufacturer

8.1 Resetting the fault

1. Move the grey bar using [Up] and [Down].
2. Move the grey bar to the fault to be remedied.
3. Press [Stop] to reset the selected fault.
 - › The selected fault is reset.
4. Exit the menu by pressing [Back].
 - » The fault has been reset.

9 Maintenance

Maintenance work and repairs may only be carried out by qualified personnel.

Regular maintenance of the generator and inductor is a prerequisite for reliable operation of the induction system.



Do not use solvents. These can damage the device or impair its function.

- ✓ The device is switched off and disconnected from the mains voltage.
- ✓ Ensured that the device cannot be switched on again without authorisation or unintentionally.
- 1. Do not open the device until 5 min after disconnecting it from the mains supply.
- 2. Clean the device with a dry cloth.
- 3. Carry out maintenance pursuant to the maintenance schedule.

9

16 Maintenance plan

Activity	Before operation	Monthly
Check the device for visible damage	✓	
Clean the device with a dry cloth	✓	
Check temperature sensors for external damage and contamination of the magnetic head	✓	
Check cables for damage, replace if necessary	✓	
Clean the air filter. The cleaning frequency is determined by the degree of contamination in the surrounding area and the operating time.		✓

9.1 Cleaning the air filter

1. Pull the blue handle forwards to release the lock.
2. Tilt the grille forwards.
- › The air filter can be removed.

29 Removing the air filter



001C15DA

3. Check the air filter for contamination and replace if necessary.
4. Insert the air filter.
5. Tilt the grille back.
6. Lock the grille with the blue handle.

17 Original air filter

Property	Description
Manufacturer	Rittal
Product designation	SK 3322.R700
Dimensions	120 mm×120 mm×12 mm

10 Repair

Repairs may only be carried out by the manufacturer or by the manufacturer's authorised specialist dealer.

Contact your distributor if you feel that the device is not working properly.

11 Decommissioning

If the heating device is no longer used regularly, remove it from service.

- ✓ The device is switched off and disconnected from the mains voltage.
- ✓ Ensured that the device cannot be switched on again without authorisation or unintentionally.
- Disconnect the inductor plug from the generator ►43|11.1.
- » The device is out of operation

Adhere to the ambient conditions stipulated for storage.



When removing the temperature sensor, do not pull it by the cable. Pull on the plug and sensor head only.

11.1 Disconnecting the inductor from the heating device

- ✓ Ensure that the generator is not currently running through a heating process. Observe the status display on the generator. Observe the status display for the signal tower, where present.
- ✓ Ensure that the power output is not carrying current.
- 1. Switch off the device using the main switch.
- 2. Applying axial pressure, press the plug deeper into the socket and turn the plug to the left until the white markings are aligned.
- 3. Remove the plug from the socket.
- » The inductor is disconnected from the generator.

12 Disposal

Observe the locally applicable regulations for disposal.

13 Technical data

18 Available models

Model	P max. kW	Ordering designation						Certification							
		from		up to		from									
		Hz	Hz	kHz	kHz	Hz	Hz								
MF-GENERATOR2.5-10KW-400V	10	097046906-0000-01				CE									
MF-GENERATOR2.5-10KW-450V	10	097112798-0000-01				CE									
MF-GENERATOR2.5-10KW-500V	10	097331120-0000-01				CE									
MF-GENERATOR2.5-10KW-600V	10	097331139-0000-01				CE									
MF-GENERATOR2.5-22KW-400V	22	097331147-0000-01				CE									
MF-GENERATOR2.5-22KW-450V	22	097331155-0000-01				CE									
MF-GENERATOR2.5-22KW-500V	22	097331740-0000-01				CE									
MF-GENERATOR2.5-22KW-600V	22	097331759-0000-01				CE									
MF-GENERATOR2.5-44KW-400V	44	097332925-0000-01				CE									
MF-GENERATOR2.5-44KW-450V	44	097332933-0000-01				CE									
MF-GENERATOR2.5-44KW-500V	44	097332941-0000-01				CE									
MF-GENERATOR2.5-44KW-600V	44	097332950-0000-01				CE									
MF-GENERATOR2.5-10KW-600V-CSA	10	305346792-0000-10				CSA									
MF-GENERATOR2.5-22KW-600V-CSA	22	305346806-0000-10				CSA									
MF-GENERATOR2.5-44KW-600V-CSA	44	305346814-0000-10				CSA									

19 Technical data

Model	P max. kW	U V	I A	f		f _o		Mains connection plug	L mm	B mm	H mm	m kg
				from	up to	from	up to					
				Hz	Hz	kHz	kHz					
MF-GENERATOR2.5-10KW-400V	10	400	16	50	60	10	25	CEE-516P6W	600	300	600	46
MF-GENERATOR2.5-10KW-450V	10	450	14	50	60	10	25	-	600	300	600	46
MF-GENERATOR2.5-10KW-500V	10	500	12	50	60	10	25	CEE-520P7W	600	300	600	46
MF-GENERATOR2.5-10KW-600V	10	600	10	50	60	10	25	CEE-520P5W	600	300	600	46
MF-GENERATOR2.5-22KW-400V	22	400	32	50	60	10	25	CEE-432P6W	600	300	600	46
MF-GENERATOR2.5-22KW-450V	22	450	30	50	60	10	25	-	600	300	600	46
MF-GENERATOR2.5-22KW-500V	22	500	28	50	60	10	25	CEE-530P7W	600	300	600	46
MF-GENERATOR2.5-22KW-600V	22	600	23	50	60	10	25	CEE-530P5W	600	300	600	46
MF-GENERATOR2.5-44KW-400V	44	400	63	50	60	10	25	CEE-463P6W	600	650	580	78
MF-GENERATOR2.5-44KW-450V	44	450	59	50	60	10	25	-	600	650	580	78
MF-GENERATOR2.5-44KW-500V	44	500	55	50	60	10	25	CEE-560P7W	600	650	580	78
MF-GENERATOR2.5-44KW-600V	44	600	45	50	60	10	25	CEE-560P5W	600	650	580	78
MF-GENERATOR2.5-10KW-600V-CSA	10	600	10	50	60	10	25	CEE-520P5W	600	300	600	46
MF-GENERATOR2.5-22KW-600V-CSA	22	600	10	50	60	10	25	CEE-530P5W	600	300	600	46
MF-GENERATOR2.5-44KW-600V-CSA	44	600	10	50	60	10	25	CEE-560P5W	600	650	580	78

B	mm	Width
f	Hz	Frequency
f _o	kHz	Output frequency
H	mm	Height
I	A	Amperage
L	mm	Length
m	kg	Mass
P	kW	Power
U	V	Voltage

13.1 Operating conditions

The product may only be operated under the following ambient conditions.

20 Operating conditions

Designation	Value
Ambient temperature	0 °C ... +40 °C
Humidity	5 % ... 90 %, non-condensing
Operating location	In closed rooms only. No explosion risk in the environment. Clean environment

13.2 Declaration of Conformity

CE Declaration of Conformity

Manufacturer's name: Schaeffler Smart Maintenance Tools BV
 Manufacturer's address: Schorsweg 15, 8171 ME Vaassen, NL
www.schaeffler-smart-maintenance-tools.com

This declaration of conformity is issued under the sole responsibility of the manufacturer.

Brand: Schaeffler

Product description: Inductive generator

Product name/type:

- MF-GENERATOR-2.5-10KW-400V
- MF-GENERATOR-2.5-10KW-450V
- MF-GENERATOR-2.5-10KW-500V
- MF-GENERATOR-2.5-22KW-400V
- MF-GENERATOR-2.5-22KW-450V
- MF-GENERATOR-2.5-22KW-500V
- MF-GENERATOR-2.5-44KW-400V
- MF-GENERATOR-2.5-44KW-450V
- MF-GENERATOR-2.5-44KW-500V

Comply with the requirements of:

- Low Voltage Directive 2014/35/EU
- EMC Directive 2014/30/EU
- RoHS / RoHS 2 / RoHS 3 Directive 2011/65/EU, annex II amended by directive 2015/863/EU

Applicable harmonized standards:

Electric Safety
 • EN 60204-1:2018

EMC Emission
 • EN 55011:2016
 • EN 61000-3-11:2019
 • EN 61000-3-12:2011 + A1:2021

EMC Immunity
 • EN 61000-6-2:2019

13

Any modifications made to the product without consulting us and without our written approval will render this declaration invalid.

H. van Essen
 Managing Director
 Schaeffler Smart Maintenance Tools BV



Place, Date:
 Vaassen, 10-11-2025



UKCA Declaration of Conformity

Manufacturer's name: Schaeffler Smart Maintenance Tools BV
 Manufacturer's address: Schorsweg 15, 8171 ME Vaassen, NL
www.schaeffler-smart-maintenance-tools.com

This declaration of conformity is issued under the sole responsibility of the manufacturer.

Brand: Schaeffler

Product description: Inductive generator

Product name/type:

- MF-GENERATOR-2.5-10KW-400V
- MF-GENERATOR-2.5-10KW-450V
- MF-GENERATOR-2.5-10KW-500V
- MF-GENERATOR-2.5-22KW-400V
- MF-GENERATOR-2.5-22KW-450V
- MF-GENERATOR-2.5-22KW-500V
- MF-GENERATOR-2.5-44KW-400V
- MF-GENERATOR-2.5-44KW-450V
- MF-GENERATOR-2.5-44KW-500V

Comply with the requirements of:

- Electromagnetic Compatibility Regulations 2016 S.I. 2016:1091
- Electrical Equipment (Safety) Regulations 2016 S.I. 2016:1101
- The Restriction of the use of certain Hazardous Substances Regulations 2012 (SI 2012/3032)

Applicable harmonized standards:

Electric Safety

■ EN 60204-1:2018

EMC Emission

■ EN 55011:2016

■ EN 61000-3-11:2019

■ EN 61000-3-12:2011 + A1:2021

EMC Immunity

■ EN 61000-6-2:2019

Any modifications made to the product without consulting us and without our written approval will render this declaration invalid.

H. van Essen
 Managing Director
 Schaeffler Smart Maintenance Tools BV



Place, Date:
 Vaassen, 10-11-2025



14 Accessories

14.1 Flexible inductors

Q30 Flexible inductor MF-INDUCTOR-44KW



0019F6F2

21 Technical data MF-INDUCTOR

Ordering designation	P	t _{max}	L	D	d _{min}	T _{max}		m	Ordering number
	kW	min	m	mm	mm	°C	°F		
MF-INDUCTOR-22KW-10M-D12-180C-SLIM	10, 22	10	10	12	75	+180	+356	3	097557501-0000-01
MF-INDUCTOR-22KW-15M-D12-180C-SLIM	10, 22	10	15	12	75	+180	+356	5	097330582-0000-01
MF-INDUCTOR-22KW-20M-D12-180C-SLIM	10, 22	10	20	12	75	+180	+356	7	097330809-0000-01
MF-INDUCTOR-22KW-25M-D12-180C-SLIM	10, 22	10	25	12	75	+180	+356	9	097330787-0000-01
MF-INDUCTOR-22KW-30M-D12-180C-SLIM	10, 22	10	30	12	75	+180	+356	11	097330574-0000-01
MF-INDUCTOR-22KW-15M-D15-180C	10, 22	–	15	15	100	+180	+356	7	097334618-0000-01
MF-INDUCTOR-22KW-20M-D15-180C	10, 22	–	20	15	100	+180	+356	9	097333999-0000-01
MF-INDUCTOR-22KW-25M-D15-180C	10, 22	–	25	15	100	+180	+356	11	097334529-0000-01
MF-INDUCTOR-22KW-30M-D15-180C	10, 22	–	30	15	100	+180	+356	14	097334006-0000-01
MF-INDUCTOR-22KW-35M-D15-180C	10, 22	–	35	15	100	+180	+356	17	097427500-0000-01
MF-INDUCTOR-22KW-40M-D15-180C	10, 22	–	40	15	100	+180	+356	20	097427497-0000-01
MF-INDUCTOR-22KW-10M-D20-300C	10, 22	–	10	20	120	+300	+572	6	097555398-0000-01
MF-INDUCTOR-22KW-15M-D20-300C	10, 22	–	15	20	120	+300	+572	9	097334626-0000-01
MF-INDUCTOR-22KW-20M-D20-300C	10, 22	–	20	20	120	+300	+572	12	097334634-0000-01
MF-INDUCTOR-22KW-25M-D20-300C	10, 22	–	25	20	120	+300	+572	16	097334537-0000-01
MF-INDUCTOR-22KW-30M-D20-300C	10, 22	–	30	20	120	+300	+572	18	097334545-0000-01
MF-INDUCTOR-44KW-15M-D19-180C	44	–	15	19	140	+180	+356	16	097334812-0000-01
MF-INDUCTOR-44KW-20M-D19-180C	44	–	20	19	140	+180	+356	20	097334642-0000-01
MF-INDUCTOR-44KW-25M-D19-180C	44	–	25	19	140	+180	+356	24	097292168-0000-01
MF-INDUCTOR-44KW-30M-D19-180C	44	–	30	19	140	+180	+356	28	097293512-0000-01
MF-INDUCTOR-44KW-35M-D19-180C	44	–	35	19	140	+180	+356	32	097420344-0000-01
MF-INDUCTOR-44KW-40M-D19-180C	44	–	40	19	140	+180	+356	36	097419966-0000-10
MF-INDUCTOR-44KW-15M-D28-300C	44	–	15	28	220	+300	+572	17	097406775-0000-01
MF-INDUCTOR-44KW-20M-D28-300C	44	–	20	28	220	+300	+572	23	097406783-0000-01
MF-INDUCTOR-44KW-25M-D28-300C	44	–	25	28	220	+300	+572	29	097407054-0000-01
MF-INDUCTOR-44KW-30M-D28-300C	44	–	30	28	220	+300	+572	34	097407062-0000-01

d _{min}	mm	Min. workpiece diameter
D	mm	Outside diameter
L	m	Length
m	kg	Mass
P	kW	Generator output
t _{max}	min	Max. operating period
T _{max}	°C or °F	Max. temperature

14.2 Inductor feed cable

The inductor feed cables MF-GENERATOR.CONNECT-22KW-3M for generators with an output of 10 kW and 22 kW, and MF-GENERATOR.CONNECT-44KW-3M for generators with an output of 44 kW can be used to connect a flexible inductor to the corresponding generators.

The inductor feed cable has two single-pin round plug connectors for connection to the generator and the inductor. The round plug connectors have a bayonet lock to prevent detachment.

31 Inductor feed cable MF-GENERATOR.CONNECT-22KW-3M



0019F641

32 Inductor feed cable with inductor recognition MF-GENERATOR.CONNECT-22KW-3M-IR



001C2F52

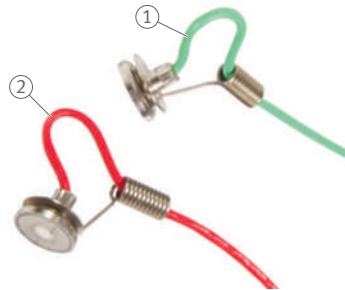
22 Inductor feed cables

Ordering designation	P kW	L m	Inductor detection	Ordering number
MF-GENERATOR.CONNECT-22KW-3M	10, 22	3	-	097335037-0000-01
MF-GENERATOR.CONNECT-44KW-3M	44	3	-	097292885-0000-01
MF-GENERATOR.CONNECT-22KW-3M-IR	10, 22	3	✓	302109706-0000-10
MF-GENERATOR.CONNECT-44KW-3M-IR	44	3	✓	302110160-0000-10

L m
P kW
Length
Generator output

14.3 Temperature sensors

33 Temperature sensors



001A5304

1 MF-GENERATOR.MPROBE-GREEN

2 MF-GENERATOR.MPROBE-RED

23 Temperature sensors

Ordering designation	Colour	L m	T _{max}		Ordering number
			°C	°F	
MF-GENERATOR.MPROBE-GREEN	Green	3,5	+350	+662	097334561-0000-01
MF-GENERATOR.MPROBE-RED	Red	3,5	+350	+662	097335029-0000-01

L m Length
T_{max} °C or °F Max. temperature

14

14.4 Equipotential bonding cable

To prevent distortion of the temperature measurement, an equipotential bonding cable is used. The equipotential bonding cable connects the generator to the workpiece to be heated.

34 Equipotential bonding cable



001C2F22

Before use, check whether the high force of the magnet can cause damage to the workpiece. The magnetisation introduced by the magnet is > 2 A/cm.

■24 Equipotential bonding cable

Ordering designation	P	L	Ordering number
	kW	m	
MF-GENERATOR.CABLE-6.5M-PE	10, 22, 44	6,5	301572690-0000-10

L m Length
P kW Generator output

14.5 Magnetic holders

The magnetic holders for flexible inductors provide a rapid means of attaching a flexible inductor.

■35 Magnetic holders MF-INDUCTOR.MAGNET



0019F601

Before use, check whether the high force of the magnet can cause damage to the workpiece. The magnetisation introduced by the magnet is $> 2 \text{ A/cm}^2$.

! Due to the introduced magnetisation, the magnetic holders may not be placed on rolling bearings that are to be used further.

■25 Magnetic holder

Ordering designation	D	T _{max}		Ordering number
	mm	°C	°F	
MF-INDUCTOR.MAGNET	15 ... 28	+200	+392	097555258-0000-01
MF-INDUCTOR.MAGNET-D12	12	+200	+392	300258089-0000-10

D mm Outside diameter of the flexible inductors
T_{max} °C or °F Max. temperature

14.6 Signal tower

Connection of a signal tower is optional.

④ 36 Signal tower MF-GENERATOR.LIGHTS



0019F671

■ 26 Signal tower

Ordering designation	Ordering number
MF-GENERATOR.LIGHTS	097568864-0000-01

14.7 Dongle

14

If an inductor without inductor recognition and thermal cut-out is used, a dongle must be connected to the device terminal.

④ 37 Dongle



001C15E1

■ 27 Dongle

Ordering designation	Ordering number
MF-GENERATOR.DNG	306233193-0000-10

14.8 Protective gloves

38 Protective gloves, heat-resistant up to 300 °C



001A7813

28 Protective gloves, heat-resistant

Ordering designation	Description	T _{max}		Ordering number
		°C	°F	
GLOVES-300C	protective gloves, heat-resistant	300	572	300966911-0000-10

T_{max} °C or °F Max. temperature

15 Replacement parts

15.1 Plugs for inductors and inductor feed cables

39 Plugs for inductors and inductor feed cables



001C524F

1 MF.SOCKET-M25

2 MF.SOCKET-M32

29 Plugs for inductors and inductor feed cables

Ordering designation	Ordering number	Suitable for inductors and inductor feed cable
MF.SOCKET-M25	305031996-0000-10	MF-INDUCTOR-22KW-10M-D12-180C-SLIM MF-INDUCTOR-22KW-15M-D12-180C-SLIM MF-INDUCTOR-22KW-20M-D12-180C-SLIM MF-INDUCTOR-22KW-25M-D12-180C-SLIM MF-INDUCTOR-22KW-30M-D12-180C-SLIM MF-INDUCTOR-22KW-15M-D15-180C MF-INDUCTOR-22KW-20M-D15-180C MF-INDUCTOR-22KW-25M-D15-180C MF-INDUCTOR-22KW-30M-D15-180C MF-INDUCTOR-22KW-35M-D15-180C MF-INDUCTOR-22KW-40M-D15-180C MF-INDUCTOR-22KW-30M-D20-300C MF-GENERATOR.CONNECT-22KW-3M MF-GENERATOR.CONNECT-22KW-3M-IR Rigid inductors ≤ 22 kW
MF.SOCKET-M32	305032003-0000-10	MF-INDUCTOR-22KW-10M-D20-300C MF-INDUCTOR-22KW-15M-D20-300C MF-INDUCTOR-22KW-20M-D20-300C MF-INDUCTOR-22KW-25M-D20-300C MF-INDUCTOR-44KW-15M-D19-180C MF-INDUCTOR-44KW-20M-D19-180C MF-INDUCTOR-44KW-25M-D19-180C MF-INDUCTOR-44KW-30M-D19-180C MF-INDUCTOR-44KW-35M-D19-180C MF-INDUCTOR-44KW-40M-D19-180C MF-INDUCTOR-44KW-15M-D28-300C MF-INDUCTOR-44KW-20M-D28-300C MF-INDUCTOR-44KW-25M-D28-300C MF-INDUCTOR-44KW-30M-D28-300C MF-GENERATOR.CONNECT-44KW-3M MF-GENERATOR.CONNECT-44KW-3M-IR Rigid inductors 44 kW

15.2 Sockets for inductor feed cables

40 Sockets for inductor feed cables



001C52A0

1 MF.PLUG-M25

2 MF.PLUG-M32

30 Sockets for inductor feed cables

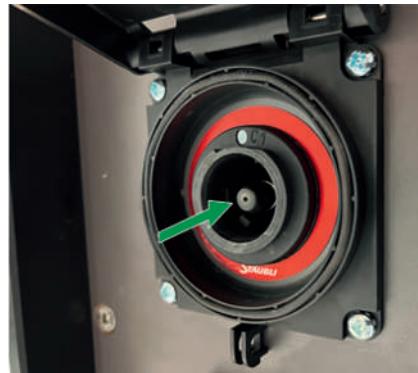
Ordering designation	Ordering number	Suitable for inductor feed cable
MF.PLUG-M25	305032526-0000-10	MF-GENERATOR.CONNECT-22KW-3M
		MF-GENERATOR.CONNECT-22KW-3M-IR
MF.PLUG-M32	305032534-0000-10	MF-GENERATOR.CONNECT-44KW-3M
		MF-GENERATOR.CONNECT-44KW-3M-IR

15

15.3 Socket for inductor connection on the generator

Socket on the generator for connecting inductors and inductor feed cables.

41 Socket for inductor connection on the generator



001C52B0

31 Socket on the generator for connecting inductors and inductor feed cables

Ordering designation	Ordering number	Suitable for generators
MF-GENERATOR.SOCKET	303151021-0000-10	MF-GENERATOR2.5
		MF-GENERATOR3.1

Schaeffler Smart Maintenance Tools B.V.

Schorsweg 15

8171 ME Vaassen

Netherlands

Tel.: +31 578 668 000

www.schaeffler-smart-maintenance-tools.com

info.smt@schaeffler.com

All information has been carefully compiled and checked by us, but we cannot guarantee complete accuracy. We reserve the right to make corrections. Therefore, please always check whether more up-to-date or amended information is available. This publication supersedes all deviating information from older publications. Printing, including excerpts, is only permitted with our approval. © Schaeffler Smart Maintenance Tools B.V. BA 94 / 01 / en-GB / 2025-12