SCHAEFFLER

Induction heating devices

Heater BASIC

User Manual

Contents

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 non-ionising radiation (e.g. electromagnetic waves)
	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/1FB5

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

The selection wizard in medias can assist in the selection of a suitable heating device: https://www.schaeffler.de/std/1FEA.

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

2 General safety regulations

It describes how the device may be used, who may use the device and what must be observed when working with the device.

2.1 Usage for the intended purpose

Correct usage of the induction heating device is defined as the industrial heating of rolling bearings and other rotationally symmetrical, ferromagnetic workpieces. Sealed and greased rolling bearings may also be heated. In this case, the maximum permissible heating temperatures for the seal and grease must be observed.

2.2 Improper use

Do not operate the heating device in a potentially explosive environment.

Do not operate the heating device outside of closed rooms. Do not operate the heating device without the yoke. Do not remove the yoke during operation.

2.3 Qualified personnel

Operator duties:

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

Qualified personnel must:

- be in possession of the necessary product knowledge, obtained, for example, through training on how to handle 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 Hazards

2.4.1 Electric voltage

Heating devices are electrical devices. Both on the mains side and internally, voltages are generated which can result in death or serious injury.

The device must be connected to a suitable power supply that complies with the specifications on the identification plate. The power cable must be checked for damage prior to every use. The device must always be safely disconnected from the mains before undergoing maintenance or repair work. This is achieved by removing the mains plug from the socket.

2.4.2 Electromagnetic field

The heating device generates an electromagnetic field. During operation, persons must maintain a distance of at least 1 m from the device.

DANGER

Strong electromagnetic field

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

- ▸ Avoid remaining in the hazard area.

DANGER

Strong electromagnetic field

Danger of death due to heated metallic implant.

Risk of burns from carrying metallic parts.

- ▸ Avoid remaining in the hazard area.

Wearers of active physical aids are prohibited from remaining in the immediate vicinity of the device when it is in operation. The electromagnetic field generated may prevent such physical aids from functioning correctly.

2.4.2.1 Implants

Persons with implants must clarify with a doctor whether the implants are ferromagnetic before working with an induction heating device. Electromagnetic fields can be harmful to wearers of passive physical aids such as joint prostheses. Wearers of passive implants are therefore advised against remaining in the immediate vicinity of the induction heating device when it is in operation.

The following list is not exhaustive but is intended to give the user an initial overview of the types of implants that may be hazardous:

- artificial heart valve
- implantable defibrillator (ICD)
- stent
- hip implant
- knee implant
- metal plate
- metal screw
- dental implant and dentures
- cochlear implant
- neurostimulator
- insulin pump
- hand prosthesis
- subcutaneous piercing

2.4.2.2 Metallic objects

Persons with a metallic object must clarify whether it is ferromagnetic before working with an induction heating device. Metallic objects can become hot and lead to burns.

The following list is not exhaustive but is intended to give the user an initial overview of the types of metallic objects that may be hazardous:

- prosthesis
- spectacles
- hearing aid
- earring
- piercing
- brace
- chain
- ring
- armband
- keys
- timepiece
- coin
- ballpoint pen, fountain pen
- belt
- shoes with metal caps or metal springs in the sole

2.4.3 High temperature

The workpiece becomes warm to very hot during heating. Parts of the device may become hot due to contact with the workpiece or as a result of heat radiated by the workpiece.

Always wear heat-resistant protective gloves when handling workpieces in order to avoid injury due to burns.

2.4.4 Trip hazard

Scattered parts and the mains cable can pose a trip hazard to users and cause injury. In order to minimise the risk of trip-related injuries, it must be ensured that the work area is kept tidy at all times. Remove all loose, superfluous objects from the immediate vicinity of the device. Lay the mains connection cable in such a way as to minimise the trip hazard.

2.4.5 Lifting

Some heating devices weigh more than 23 kg and should not be lifted by just one person.

2.4.6 Falling objects

Users must wear safety shoes to prevent foot injuries caused by falling workpieces or machine parts.

2.5 Safety equipment

The following safety arrangements are in place to protect the user and the heating device:

- The device will shut down if the ambient temperature reaches in excess of +70 °C.
- The coil temperature is continuously monitored. The thermal protection system will stop the heating operation before the coil overheats.
- If, when using a temperature mode, a temperature increase of 1 °C is not achieved within a time period specified by the manufacturer, the heating device will switch off. The following error message will appear on the display: [----] (4 flashing dashes).
- Models with a swivel arm are equipped with a positioning cam as a safety device.

2.6 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, heat-resistant to +250 °C (+482 °F)	
Safety shoes	

2.7 Safety regulations

The following safety regulations must be observed when working with the heating device. Further guidelines on hazards and specific operating procedures can be found, for example, in the sections Commissioning ➤19|6 and Operation ➤21|7.

2.7.1 Observe the manual

This manual must be observed at all times.

2.7.2 Transport

The heating device must not be moved directly after heating.

2.7.3 Storage

The heating device must be stored under the following ambient conditions:

- humidity min. 5 %, max. 90 %, non-condensing
- protected against sunlight and UV radiation
- no explosion risk in the environment
- no aggressive chemicals in the environment
- temperature from 0 °C (+32 °F) to +50 °C (+122 °F)

If the heating device is stored under unsuitable ambient conditions, probable consequences will include damage to the electronic unit, corrosion on the contact surfaces of the yokes and on the contact surfaces (poles) of the U-shaped core, and deformation of the plastic housing.

2.7.4 Commissioning

The heating device must not be modified.

Only original accessories and original replacement parts may be used.

The heating device may only be used in well-ventilated rooms.

Once in place, apply the brake to mobile heater designs to prevent any further movement.

Do not feed the mains connection cable through the U-shaped core.

The device may only be operated at the correct supply voltage, see identification plate.

2.7.5 Operation

The heating device may only be operated under the following ambient conditions:

- closed room
- subsurface flat and capable of supporting loads
- humidity min. 5 %, max. 90 %, non-condensing
- no explosion risk in the environment
- no aggressive chemicals in the environment
- temperature from 0 °C (+32 °F) to +50 °C (+122 °F)

A workpiece must not be heated if it exceeds the maximum permissible mass.

A workpiece must not be heated if it falls short of the minimum permissible dimensions or exceeds the maximum permissible dimensions ➤40|13.

A workpiece weighing more than 23 kg must be transported by 2 people or with a suitable lifting tool.

A workpiece weighing more than 46 kg must be transported with a suitable lifting tool.

A workpiece must not be suspended from ropes or chains made from ferromagnetic materials while it is being heated.

During the heating process, the user must maintain a distance of at least 1 m from the heating device.

The U-shaped core and the yoke must not come into contact with metal parts. Objects made from ferromagnetic material must be kept at a distance of at least 1 m from the heating device.

Support, slewing and vertical yokes must not be produced or machined independently.

The heating device may only be switched on if the support, slewing or vertical yoke is correctly positioned.

The support, slewing or vertical yoke must never be removed during the heating process.

The heating device must not be switched off using the main switch while the device is heating a component.

Any smoke or vapour occurring 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.

The heating device must be switched off using the main switch if it is not in use.

2.7.6 Maintenance

The heating device must be disconnected from the power supply before maintenance is carried out. The device is disconnected from the power supply by removing the mains plug.

2.7.7 Disposal

Locally applicable regulations must be observed.

2.7.8 Conversion

The heating device must not be converted.

2.8 Work on electrical devices

Only an electrician is in a position, on the basis of his technical training, knowledge and experience as well as his knowledge of the appropriate regulations, to carry out work on electrical devices correctly and recognise possible hazards.

3 Scope of delivery

The heating device is supplied with the following standard accessories.

- heating device
- 1 yoke or several yokes, depending on the size of the heating device
- 1 temperature sensor
- protective gloves, heat-resistant to +250 °C (+482 °F)
- petrolatum
- test certificate
- user manual

3.1 Damage during transit

1. Check the product immediately upon delivery for any damage during transit.
2. Report any damage during transit promptly as a complaint to the carrier.

3.2 Defects

1. Check the product immediately upon delivery for visible defects.
2. Report any defects promptly as a complaint to the distributor of the product.
3. Damaged products should not be used.

4 Product description

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.

4.1 Function

The induction heating device generates a strong electromagnetic field and can thus be used to heat a ferromagnetic workpiece. A typical application is the heating of a rolling bearing. This manual therefore considers the heating of a rolling bearing.

4.1.1 Functional principle

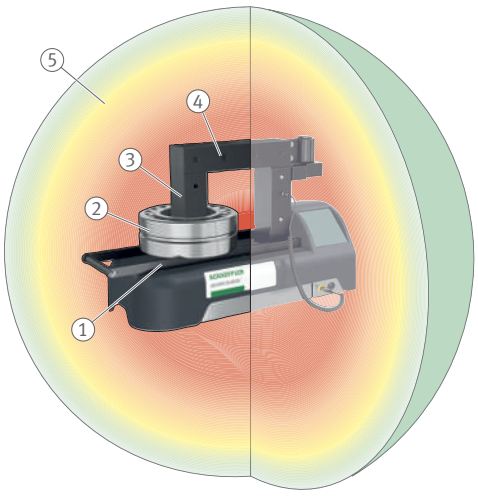
The two poles of the U-shaped core are connected to each other by a yoke. The U-shaped core and yoke then form a magnetic circuit. This magnetic circuit is basically the primary coil. The primary coil generates an electromagnetic alternating field. This electromagnetic field is transmitted via the iron core to the secondary coil, for example a rolling bearing. In the secondary coil, a high induction current at low voltage is induced.

The induction current causes rapid heating of the workpiece. Any parts that are not ferromagnetic, as well as the heating device itself, remain cold.

After the heating operation is stopped, the electromagnetic field is reduced to zero in order to demagnetise the workpiece.

The electromagnetic field is very strong directly at the heating device. The electromagnetic field becomes weaker with increasing distance from the heating device. The electromagnetic field decreases within a distance of 1 m to such an extent that it is below the applicable standard value of 0,5 mT.

1 Function



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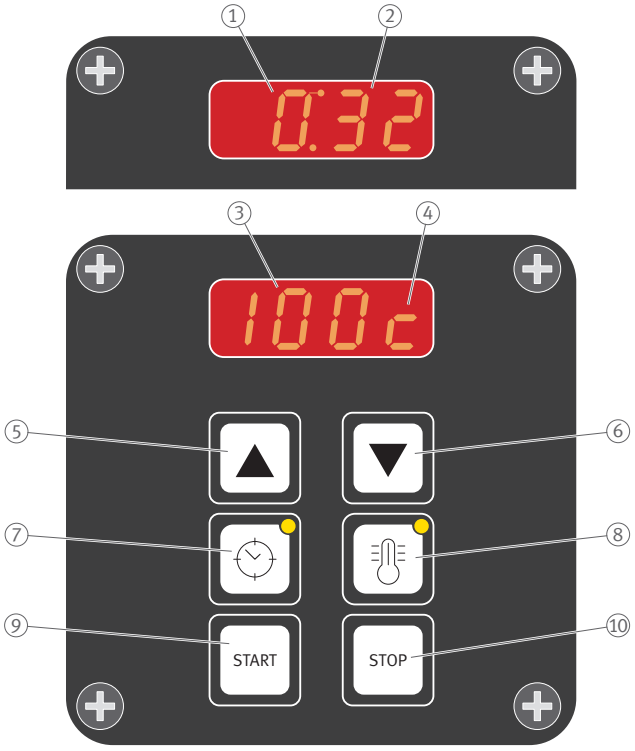
1	Primary coil	2	Secondary coil, in this case a rolling bearing
3	U-shaped iron core	4	Yoke
5	Electromagnetic field		

4.2 Control panel with display

The heating device is adjusted, started and stopped by means of the control panel integrated in the housing.

2 Display and keys



1	Display in time mode	2	Unit min or s
3	Display in temperature mode	4	Unit °C or °F
5	[Arrow up]	6	[Arrow down]
7	[Time]	8	[Temperature]
9	[Start]	10	[Stop]

4 Key functions

Designation	Function	
[Arrow up]	Increase the value	
[Arrow down]	Reduce the value	
[Time]	1:	Select time mode
	2:	Change unit. Press twice to toggle between s and min.
[Temperature]	1:	Select temperature mode
	2:	Change increment Press twice to toggle between increments 1° and 10°
[Start]	Start the heating operation	
[Stop]	Stop the heating operation	

4.3 Temperature sensor

The temperature sensor is included in the scope of delivery and is available to reorder as a replacement part. The temperature sensor must be used in temperature mode. In time mode, a temperature sensor can be used to assist with temperature control. The temperature sensor is a sensitive component of the heating device. Pull on the plug and sensor head only. Never pull on the cable.

The temperature sensor is suitable for a maximum temperature of +240 °C (+464 °F). At temperatures above +240 °C (+464 °F), the connection between the magnet and the temperature sensors is broken. The heating device will switch off if the temperature sensor does not detect an increase in temperature.

3 Temperature sensor

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1	Plug	2	Sensor head
3	Cables		

The temperature sensor is connected by inserting the plug into the socket (housing of the heating device).

NOTICE

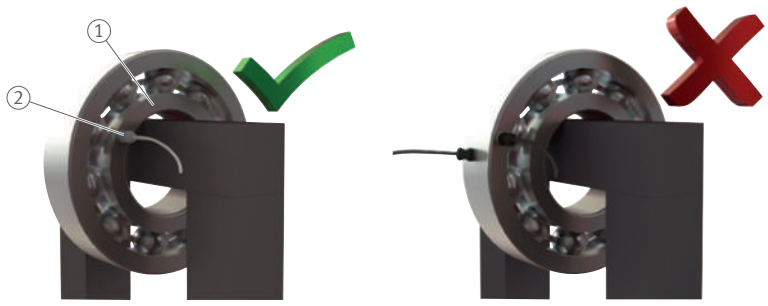
Hot workpiece

Significant heating of the cable leading to melting of the cable sheathing and thus to the destruction of the temperature sensor

- Keep the temperature sensor cable away from the hot workpiece.

Ensure that the temperature sensor and workpiece surface are clean prior to mounting. The temperature sensor should always be attached to the end face of the inner ring, as close as possible to the inside diameter.

4 Attaching the temperature sensor



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1	Inner ring	2	Sensor head of the temperature sensor

After use, attach the temperature sensor to the U-shaped core, as close as possible to the control panel.

5 Transport and storage

5.1 Transport

The safety regulations for transport must be observed.

⚠ WARNING

Heavy product

Risk of herniated disc or back injury.

- Only lift products that weigh less than 23 kg.

Light products weighing up to 23 kg may be carried by 1 person, slightly heavier products weighing up to 46 kg must be carried by 2 people if necessary. For very heavy products weighing in excess of 46 kg, a device with a sufficiently high load-carrying capacity must be used.

5 Transporting the device

Device	1 person	2 people	Device
HEATER20	✓	✓	✓
HEATER50	✓	✓	✓
HEATER100		✓	✓
HEATER150			✓
HEATER200			✓
HEATER400			✓
HEATER600			✓
HEATER800			✓
HEATER1600			✓

✓ possible

5.2 Storage

The safety regulations for storage must be observed.

Some heating devices are delivered in transport packaging. Wherever possible, the heating devices should be stored in the transport packaging in which they were delivered.

6 Commissioning

The heating device is commissioned at the fitting area.

6.1 Hazard area

The hazard area of the heating device can represent a danger of death.

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

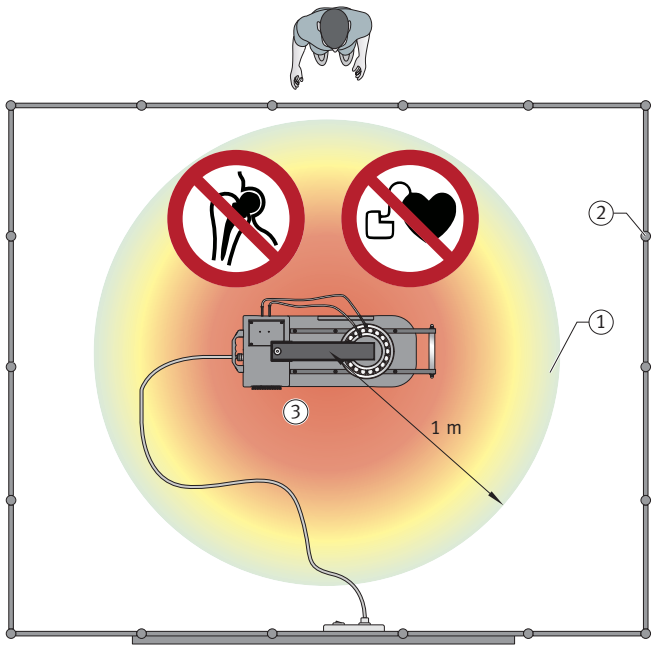
Strong electromagnetic field

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.

5 Hazard area



1	Hazard area, 1 m	2	Barrier
3	Flat work surface capable of supporting load		

6.2 Initial stages

The first stages in commissioning are as follows:

1. Where necessary, remove the heating device from the transport packaging.
2. Check the housing for damage.
3. Check the yoke or yokes for damage.
4. Place the heating device in a suitable mounting area.

A suitable mounting area has the following characteristics:

- flat, horizontal and non-ferromagnetic
- distance from ferromagnetic parts at least 1 m
- capable of supporting the total mass of the heating device and workpiece
- a barrier is installed at a distance of 1 m around the heating device.

6.3 Power supply

Every heating device comes with a connection cable and mains connection plug.

6.3.1 Laying and connecting the mains connection cable

Connecting to the power supply:

1. Check the heating device and the mains connection cable for visible damage.
2. Lay the mains connection cable in such a way as to prevent a trip hazard.

DANGER

Damaged cable sheathing

Danger of death from fatal electric shock. A strong electric field can lead to exposed wires as a result of melted cable sheathing.

- ▸ Avoid contact between the mains connection cable and the component to be heated.

3. Check the power supply requirements, see identification plate.
4. Insert the mains connection plug into a suitable socket.

7 Operation

7.1 General requirements

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.

7.2 Carrying out protective measures

The following protective measures must be carried out prior to operation:

1. Mark and secure the hazard area in accordance with the general safety regulations ➤8|2.
2. Clean the workpiece to be heated to avoid smoke formation.
3. Any smoke or vapour occurring 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.
4. Wear heat-resistant protective gloves effective up to +250 °C.
5. Wear safety shoes.

7.3 Selecting the support yoke, slewing yoke or vertical yoke

If a workpiece has an inside diameter that is smaller than the pole cross-section, a yoke with a smaller cross-section is used.

When using a yoke with a cross-section that is smaller than the pole cross-section of the U-shaped core, the heating device cannot carry out heating at full power. Always select a yoke that fills the inside diameter of the bearing to the greatest possible extent. There is also the option to place 2 support yokes on top of each other ➤27|10. This allows the heating device to heat up more quickly and evenly.

NOTICE

Drops or impacts

Damage to the support yoke, slewing yoke or vertical yoke

- Place the yoke or yokes into storage immediately after use.

7.4 Positioning the workpiece

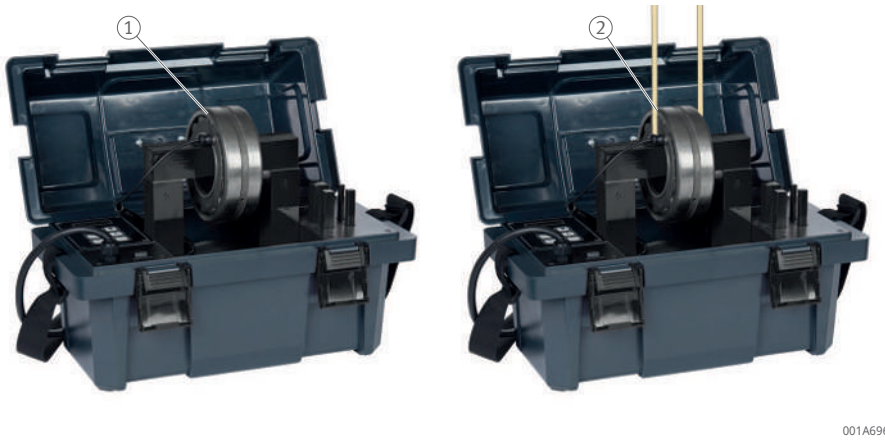
Depending on the heating device used, the workpiece can be laid flat, suspended or freely suspended.

6 Positioning the workpiece

Device	Freely suspended	Suspended	Lying flat
HEATER20	✓	✓	
HEATER50	✓	✓	✓
HEATER100	✓	✓	✓
HEATER150	✓	✓	✓
HEATER200	✓	✓	✓
HEATER400	✓	✓	✓
HEATER600	✓	✓	✓
HEATER800	✓		✓
HEATER1600	✓		✓

✓ possible

6 Positioning options: HEATER20



1	Rolling bearing suspended	2	Rolling bearing freely suspended

7 Positioning options: HEATER50 to HEATER600

1	Rolling bearing freely suspended	2	Rolling bearing suspended
3	Rolling bearing lying flat		

8 Positioning options: HEATER800 and HEATER1600

1	Rolling bearing lying flat	2	Rolling bearing freely suspended
3	Rolling bearing suspended, not permissible		

⚠ WARNING

Impermissible mass or dimensions of the workpiece

Risk of injury due to tilting of heating device and falling workpiece.

- Ensure that the permissible masses and dimensions are observed.

⚠ WARNING

Workpiece will not lie flat due to damaged carrier

Risk of injury due to tilting of heating device and falling workpiece.

- Avoid damaging the carriers.

NOTICE

Slewing yoke will not lie flat on the U-shaped core because the slewing yoke or hinge is damaged.

Damage to the heating device due to strong vibrations or overloading of the electronics

- Avoid damaging the slewing yoke and hinge.

7

Large workpieces can be thermally insulated by wrapping them in insulation material (such as a welding blanket). This keeps the heat in the workpiece and prevents it from cooling as quickly.

7.4.1 Workpiece in a freely suspended position

With all tabletop devices, there is the option to heat the workpiece in a freely suspended position. In such cases, the workpiece is suspended from a temperature-resistant, non-metallic sling. As a result, the heating device is not subjected to the weight of the workpiece.

⚠ CAUTION

Rope or chain subjected to extensive heating

Risk of burns

- Suspend the workpiece from a sling that does not contain metal and is temperature-resistant.

7.4.2 Workpiece lying flat

With all heating devices, there is the option to heat the workpiece while it is lying flat. The only exception is the HEATER20-BASIC.

✓ A workpiece can only be laid flat if the inside diameter of the workpiece is larger than the diagonal of the U-shaped core.

1. For models HEATER800 and HEATER1600, pull and secure the support strips.

⚠ WARNING

Slipping support strips due to the absence of fitted split pins

Risk of injury due to tilting of heating device and falling workpiece.

- Secure the retractable support strips using split pins.

2. Position the workpiece as centrally as possible to the U-shaped core.
3. Ensure that the workpiece does not come into contact with the plastic housing of the heating device.

⚠ WARNING

Workpiece protruding beyond the support strips

Risk of injury due to tilting of heating device and falling workpiece.

- Ensure that the workpiece does not protrude beyond the support strips.

9 Workpiece must not protrude

4. Close the magnetic circuit using the largest yoke available.
5. Lubricate the contact surfaces on the yoke and the contact surfaces (poles) of the U-shaped core sufficiently with petrolatum to ensure optimum contact and avoid vibrations.

7.4.3 Workpiece in a suspended position

With all tabletop devices, there is the option to heat the workpiece while it is suspended from a support yoke or slewing yoke.

⚠ WARNING

Heavy workpiece not positioned centrally on the support yoke

Risk of injury due to tilting of heating device and falling workpiece.

- In the case of heavy workpieces, use a suitable carrying sling.
- In the case of heavy workpieces, use a suitable lifting device.
- Position the workpiece centrally on the slewing yoke.

NOTICE

Overloading of the open slewing yoke

Damage to the heating device

- Subject the open slewing yoke to light load only.
- Support the workpiece.

NOTICE

Overloading of the support yoke or slewing yoke

Damage to the heating device

- Observe the maximum permissible mass of the workpiece.

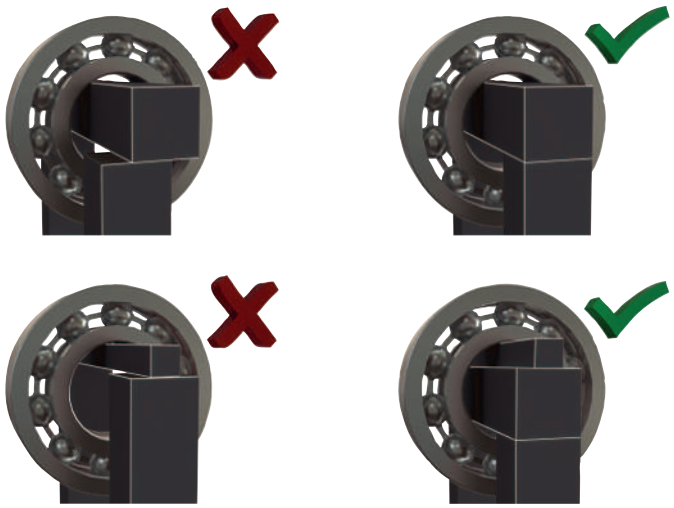
7 Maximum mass of the workpiece, limited by the load carrying capacity of the yoke

Heating device	Support yoke, slewing yoke	Workpiece
		Maximum mass
	mm	kg
HEATER20	7×7×200	1
	10×10×200	2
	14×14×200	3
	20×20×200	5
	40×40×200	20
HEATER50	7×7×200	1
	10×10×200	2
	14×14×200	3
	20×20×200	5
	40×40×200	10
	40×50×200	15
HEATER100	10×10×280	2
	14×14×280	3
	20×20×280	5
	30×30×280	10
	40×40×280	15
	50×50×280	20
	60×60×280	45
HEATER150, HEATER200	10×10×350	2
	14×14×350	3
	20×20×350	10
	30×30×350	15
	40×40×350	25
	50×50×350	40
	60×60×350	45
	70×70×350	50
	70×80×350	60
HEATER400	20×20×500	10
	30×30×500	15
	40×40×500	25
	60×60×500	60
	80×80×500	80
HEATER600	40×40×600	25
	60×60×600	60
	80×80×600	80
	90×90×600	80

✓ When using a support yoke:

1. Position the workpiece centrally on the support yoke.
2. Place the support yoke centrally on the U-shaped core.

10 Suspended from the support yoke or slewing yoke



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✓ When using a slewing yoke:

3. Swivel the slewing yoke open (towards you) until it locks into the positioning cam.
4. Slide the workpiece over the slewing yoke until the workpiece is in the middle.

11 Suspended from the slewing yoke

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5. Swivel the slewing yoke back to the U-shaped core.
6. Ensure that the workpiece does not come into contact with the plastic housing of the heating device.

7.5 Operating modes

The user sets which of the two heating modes the heating device should use.

7.5.1 Temperature mode

The heating temperature is set in temperature mode. The temperature sensor must be used.

The device heats the workpiece as quickly as possible. When the heating temperature is reached, the workpiece is demagnetised. The temperature holding mode is set. If the heating temperature falls below the specified value by 3 °C, the workpiece is heated again. The temperature holding mode can be terminated at any time by pressing the [Stop] key. The temperature holding mode is automatically terminated after 15 min or, in the case of HEATER20-BASIC, after 5 min.

7.5.2 Time mode

The heating time is set in time mode. The temperature sensor can be used to measure the current temperature.

In order to determine the heating time for a workpiece, the workpiece is heated to the required temperature in temperature mode. The time required is noted as the heating time.

The advantage of time mode compared to temperature mode is that the temperature sensor is not necessary. Time mode is therefore particularly suitable in the following situations:

- Batch mounting:
  It must be ensured that the initial temperature present when determining the heating time is also maintained in the case of batch mounting.
- If the temperature sensor is defective:
  In this case, continually check the current temperature using a temperature gauge.
- For workpieces that are too large:
  If the mass exceeds the maximum mass for workpieces lying flat, the workpiece must be heated in a freely suspended position to prevent the heating device from suffering mechanical overload. Since the thermal load is borderline, errors would be reported in temperature mode as the temperature increase is too small.

After the set heating time has elapsed, the heating device automatically starts the process of demagnetising the workpiece. A continuous beep will sound once demagnetisation is complete.

7.6 Temperature mode

The heating temperature is set in temperature mode.

7.6.1 Heating the workpiece

1. Position the workpiece ➤22|7.4. Ensure that the contact surfaces of the yoke lie directly on the contact surfaces (poles) of the U-shaped core and are sufficiently lubricated with petrolatum to ensure optimum contact and avoid vibrations.

NOTICE

Hot workpiece

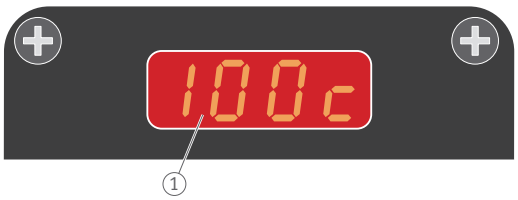
Destruction of the temperature sensor if the cable sheathing melts under excessive heating.

- Keep the temperature sensor cable away from the hot workpiece.

2. Position the temperature sensor on the end face of the inner ring.
3. Switch on the heating device using the main switch.

» The text “test” will appear briefly in the display followed by 100c (+100 °C)

12 Switching on



001A333C

1	Display 100c (+100 °C)

4. Set the required heating temperature using the [Arrow up] and [Arrow down] keys. Press the [Temperature] key twice to toggle between an increment of 1 °C/°F and 10 °C/°F.

⚠ 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.

5. Press the [Start] key.
6. Exit the electromagnetic field.

» The heating operation starts and the device will make a slight humming sound. The current temperature will appear in the display. The heating operation can be stopped at any time by pressing the [Stop] key.

» Once the heating temperature is achieved, the display will flash and a loud beep will sound. The workpiece is then demagnetised. If the temperature falls by 3 °C, the workpiece is heated again. This may be repeated several times. The temperature holding mode runs for 15 min, or 5 min for HEATER20-BASIC. The temperature holding mode can be stopped by pressing the [Stop] key.

» The display will flash while the device is in temperature holding mode. After 15 min, or 5 min for HEATER20-BASIC, the induction heating device will switch off and produce a loud, continuous beep. The workpiece is automatically demagnetised each time the induction heating device stops.

7.6.2 Celsius or Fahrenheit

The induction heating device displays the temperature in °C or °F. The following steps must be taken in order to change the unit.

- Press the [Temperature] key and hold the key down for 10 s.

7.6.3 Defective temperature sensor

If the temperature sensor is defective, time mode can be used. In time mode, the temperature can be monitored with an external thermometer.

7.6.4 Mounting the workpiece

⚠ WARNING

Hot surface

Danger of burns due to contact with hot surfaces.

During induction heating, the workpiece to be heated, the device and other components may be heated by direct or indirect means.

- Wear heat-resistant safety gloves.

1. Remove the temperature sensor from the workpiece and position it on the side of the U-shaped core.
2. When using a support yoke: Lift the support yoke together with the workpiece suspended from it and place on a clean subsurface.
   When using a slewing yoke: Open the slewing yoke up to the positioning cam and slide the workpiece off the slewing yoke.
   When using a vertical yoke: Pull the vertical yoke upwards.
3. Mount the workpiece immediately to prevent it from cooling down.

7.7 Time mode

The heating time is set in time mode.

7.7.1 Heating the workpiece

1. Position the workpiece ➤22|7.4. Ensure that the contact surfaces of the yoke lie directly on the contact surfaces (poles) of the U-shaped core and are sufficiently lubricated with petrolatum to ensure optimum contact and avoid vibrations.

NOTICE

Hot workpiece

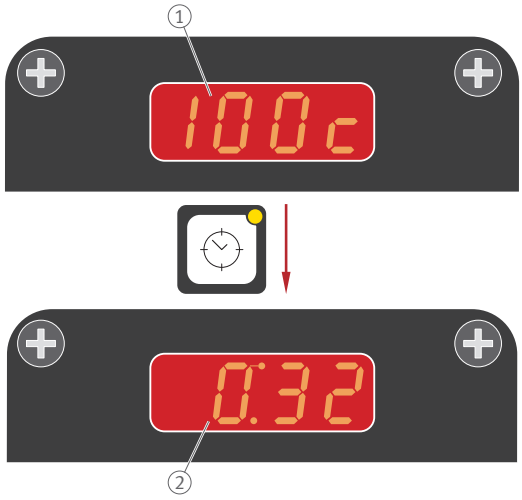
Destruction of the temperature sensor if the cable sheathing melts under excessive heating.

- Keep the temperature sensor cable away from the hot workpiece.

2. Position the temperature sensor on the end face of the inner ring, if the temperature is to be monitored.
3. Switch on the heating device using the main switch.

» The text “test” will appear briefly in the display followed by 100c (+100 °C).

13 Switching from temperature mode to time mode



1	Display 100c (+100 °C)	2	Display 0:32 (32 s)

4. Press the [Time] key.
5. Set the required heating time using the [Arrow up] and [Arrow down] keys. Press the [Time] key twice to toggle between an increment of 1 min and 1 s.

⚠ 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.

6. Press the [Start] key.
7. Exit the electromagnetic field.

» The heating operation starts and the device will make a slight humming sound. The remaining heating time will appear in the display. If the [Temperature] key is pressed during the heating operation, the current temperature will be displayed for 3 s (if a temperature sensor is connected). The remaining heating time will then be displayed again.

» After the warm-up time has elapsed, a reading of 00:00 is displayed, the workpiece is demagnetised and a loud, continuous beep will then sound. The beep can be switched off by pressing the [Stop] key.

7.7.2 Mounting the workpiece

⚠ WARNING

Hot surface

Danger of burns due to contact with hot surfaces.

During induction heating, the workpiece to be heated, the device and other components may be heated by direct or indirect means.

- Wear heat-resistant safety gloves.

1. If a temperature sensor has been used: Remove the temperature sensor from the workpiece and place it on the side of the U-shaped core.
2. When using a support yoke: Lift the support yoke together with the workpiece suspended from it and place on a clean subsurface.
   When using a slewing yoke: Open the slewing yoke up to the positioning cam and slide the workpiece off the slewing yoke.
   When using a vertical yoke: Pull the vertical yoke upwards.
3. Mount the workpiece immediately to prevent it from cooling down.

8 Troubleshooting

⚠ 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.

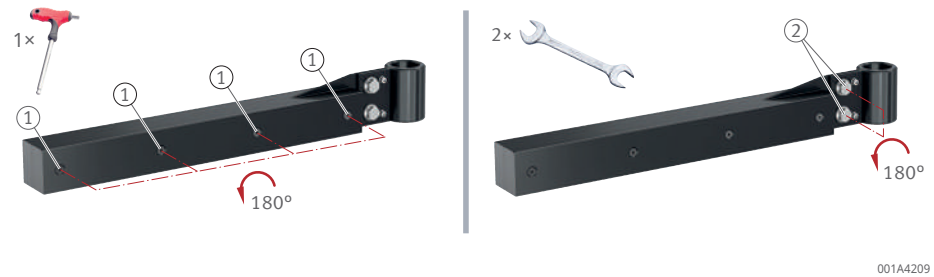
8 Troubleshooting

Fault	Possible cause	Remedy
In temperature mode, [----] is flashing on the display. A loud, interrupted beep sounds.	Sensor head has not been placed on the workpiece	Place the sensor head on a flat, clean surface of the workpiece
	The contact surface of the sensor head is contaminated	Clean the contact surface
	The temperature sensor is incorrectly connected	Connect the temperature sensor correctly, paying attention to the + and – symbols
	Sensor or cable is damaged	Replace the temperature sensor
	The workpiece is too large	Use a more powerful heating device
During heating, the heating device emits strong vibrations	Contact surfaces between the U-shaped core and yoke are contaminated or are not sufficiently lubricated with petrolatum	Terminate the heating cycle, clean the contact surfaces of the yoke and the pole surfaces and lubricate with petrolatum
The heating device emits strong vibrations during heating, even though the contact surfaces have been cleaned and lubricated with petrolatum	Contact surfaces between the U-shaped core and yoke are not flat	Terminate the heating cycle and adjust the slewing yoke

8.1 Adjusting the slewing yoke

1. Remove dirt, burrs, etc. from the slewing yoke and the U-shaped core.
2. Apply a thin layer of petrolatum to all contact surfaces.
3. Fit the slewing yoke.
4. Position the slewing yoke centrally on the U-shaped core.
5. Loosen the hexagon socket screws by half a turn.
6. Loosen the pins by half a turn.

14 Loosening the hexagon socket screws and pins



1	Hexagon socket screw	2	Pin

7. Switch on the device.
8. Press [Start].

› The slewing yoke will now adjust itself.

9. If necessary, tap the slewing yoke gently with a plastic hammer.

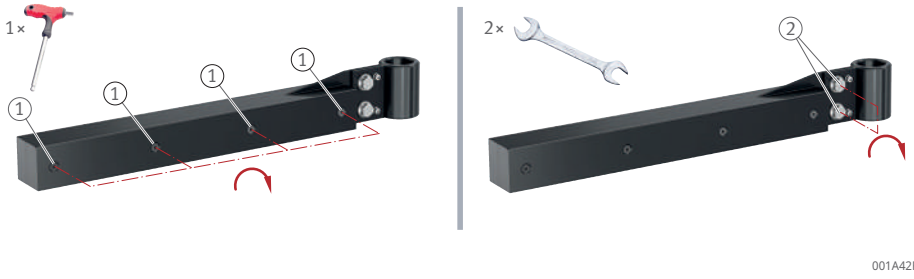
15 Adjustment with the aid of a plastic hammer

1	Plastic hammer		

✓ Once the noise has abated:

10. Tighten all hexagon socket screws and pins by half a turn.

16 Adjusting the slewing yoke



1	Hexagon socket screw	2	Pin

11. Switch off the device.

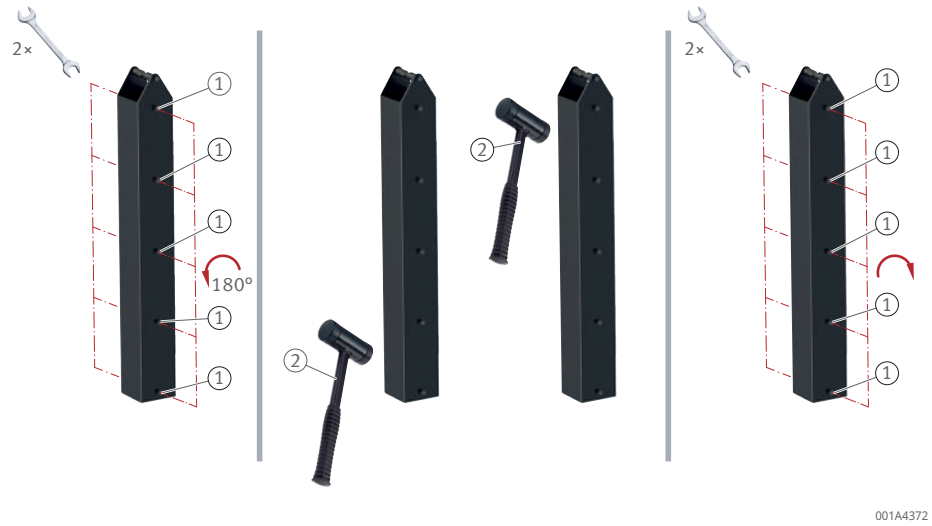
8.2 Adjusting the vertical yoke

1. Remove dirt, burrs, etc. from the vertical yoke and the U-shaped core.
2. Apply a thin layer of petrolatum to all contact surfaces.
3. Position the vertical yoke in front of the U-shaped core.
4. Loosen the screws by half a turn.
5. Switch on the device.
6. Press [Start].

› The vertical yoke will now adjust itself.

7. If necessary, tap the vertical yoke gently with a rubber hammer.
8. Tighten all screws.
9. Switch off the device.

17 Adjusting the vertical yoke



1	Screws	2	Rubber hammer

9 Repair

A repair is essential if the device shows visible signs of damage. If a fault other than strong vibrations occurs, a repair will usually be necessary.

1. Switch off the device
2. Disconnect the device from the power supply
3. Prevent the device from being used further
4. Contact the manufacturer

10 Maintenance

The device may need to undergo maintenance work.

Carrying out protective measures

The following protective measures must be carried out prior to maintenance:

- ✓ The device must be switched off and disconnected from the mains voltage.
- ✓ Ensured that the device cannot be switched on again without authorisation or unintentionally.

1. Wear heat-resistant protective gloves effective up to +250 °C.
2. Wear safety shoes.

9 Maintenance

Assembly	Activity
Heating device	Clean the heating device with a dry cloth. Never use water to clean the heating device.
Contact surfaces (poles) on the U-shaped core	Keep the contact surfaces clean. Lubricate the contact surfaces regularly with petrolatum to improve contact between the U-shaped core and yoke and to prevent corrosion.
Stud	Lubricate the stud regularly with petrolatum.
Yoke (support yoke, slewing yoke or vertical yoke)	Adjust the yoke if strong vibrations occur ➤33|8.1.

11 Decommissioning

The heating device should be decommissioned if it will no longer be used regularly.

Decommissioning:

1. Switch off the heating device using the main switch.
2. Disconnect the heating device from the power supply.
3. Cover the heating device.

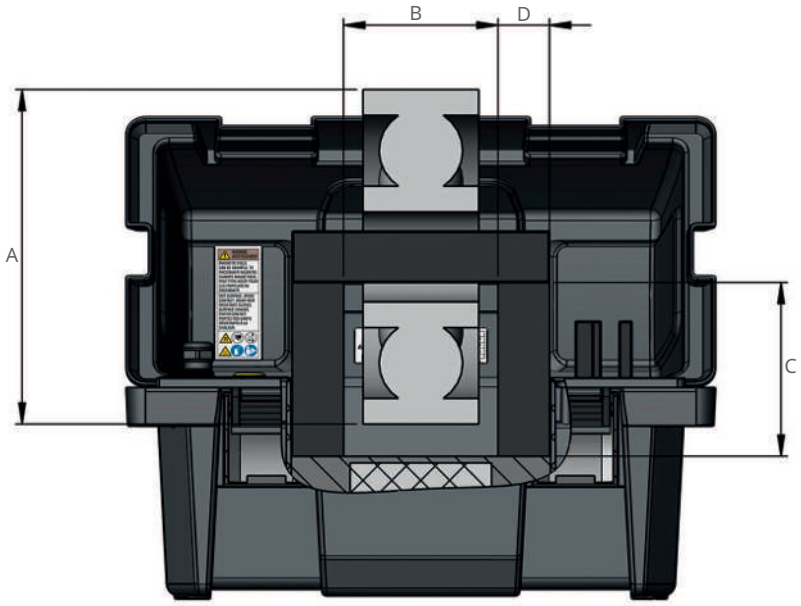
12 Disposal

Disposal must be carried out in accordance with locally applicable regulations.

13 Technical data

Standard accessories are included in the scope of delivery, special accessories can be ordered separately. Dimension-related terms are used in the tables. These terms are explained in the images.

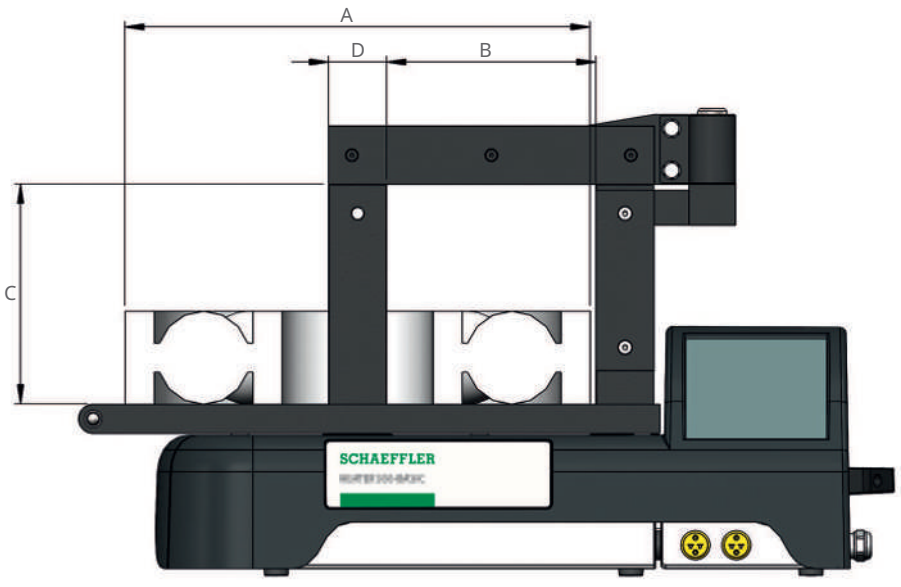
18 Dimensions HEATER20



001A4543

A	Maximum outside diameter of the workpiece	B	Pole distance
C	Pole length	D	Pole cross-section

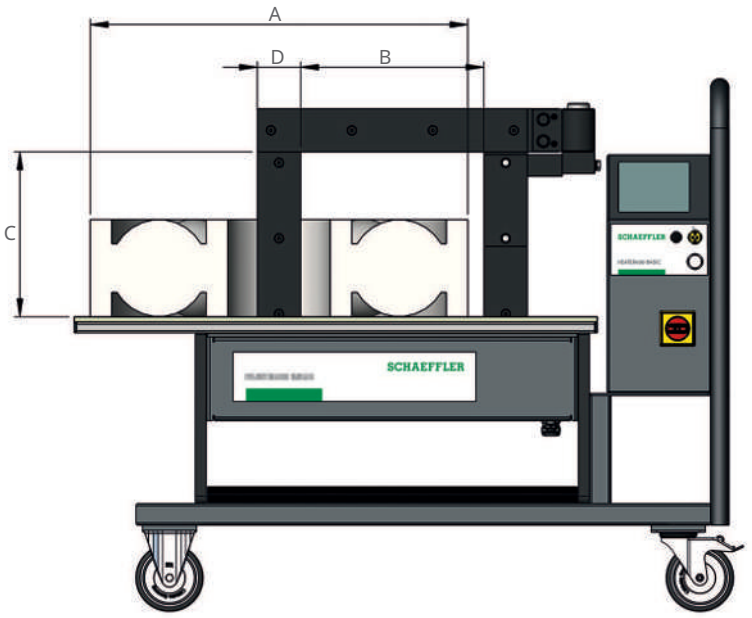
19 Dimensions HEATER50 to HEATER200



001A4584

A	Maximum outside diameter of the workpiece	B	Pole distance
C	Pole length	D	Pole cross-section

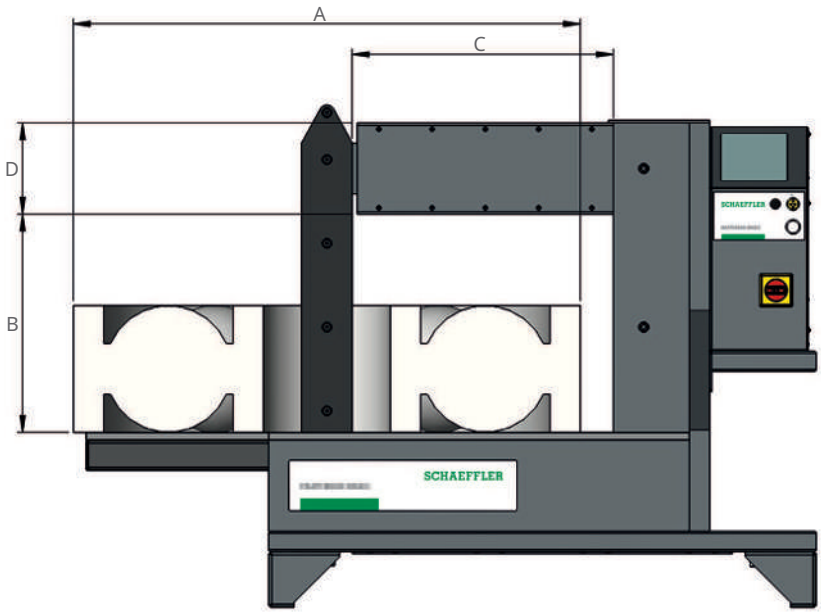
20 Dimensions HEATER400 and HEATER600



001A45E4

A	Maximum outside diameter of the workpiece	B	Pole distance
C	Pole length	D	Pole cross-section

21 Dimensions HEATER800 and HEATER1600



001A4624

A	Maximum outside diameter of the workpiece	B	Pole distance
C	Pole length	D	Pole cross-section

13.1 Maximum mass of the workpiece

The maximum mass of the workpiece refers to the heating of workpieces to +100 °C at the specified voltage supply. In the event of a higher temperature or different voltage supply, please consult your contact at Schaeffler.

10 Maximum mass and necessary power supply for a heating temperature of +100 °C

Heating device	Power supply AC	Workpiece
		Maximum mass
	V	kg
HEATER20	230	20
HEATER50	230	50
HEATER100	230	100
HEATER150	230	150
HEATER200	400	200
HEATER400	400	400
HEATER600	400	600
HEATER800	400	800
HEATER1600	400	1600

13.2 Energy input and heating time

The heating time is determined by the maximum possible energy input into the workpiece and depends on the following factors:

- mass of the workpiece
- geometry of the workpiece
- power supply

The energy input into the workpiece decreases with increasing distance from the yoke or U-shaped core. For workpieces with very large bore diameters, heating may take a very long time, or the desired target temperature may not be reached.

For physical reasons, heating devices with a power supply of AC 120 V have less power than devices with AC 230 V. The energy input is significantly lower and the heating time is extended accordingly.

Please direct any questions to your contact at Schaeffler.

13.3 HEATER20-BASIC

The devices are designed for continuous operation. The heating time is only restricted at maximum heating temperature.

▦11 Heating device

Designation		Value
Dimensions	L×W×H	460 mm×240 mm×280 mm
U-shaped core	Pole distance (B)	120 mm
	Pole length (C)	135 mm
	Pole cross-section (D)	40 mm×40 mm
Mass		21 kg
Heating temperature	max.	+150 °C (+302 °F)
Heating time at max. heating temperature	max.	1,5 h

▦12 Model

Ordering designation	Power supply AC	Current rating	Output power	Certificate
	V	A	kW	
HEATER20-BASIC-230V	230	10	2,3	CE
HEATER20-BASIC-230V-UK	230	10	2,3	UKCA
HEATER20-BASIC-120V-US	120	10	1,2	QPS
HEATER20-BASIC-240V-US	240	5	1,2	QPS

Devices with the suffix “US”: QPS-certified versions for the USA and Canada in accordance with CSA C22.2 NO. 88:19 and UL 499, 14th Ed. (November 7, 2014)

▦13 Workpiece

Designation		Value
Mass	max.	20 kg
Outside diameter (A)	max.	240 mm

▦14 Support yokes

Ordering designation	Dimensions	Mass	Min. bore diameter	Scope of delivery
	mm	kg	mm	
HEATER50.YOKE-10	7×7×200	0,08	10	✓
HEATER50.YOKE-15	10×10×200	0,15	15	✓
HEATER50.YOKE-20	14×14×200	0,32	20	✓
HEATER50.YOKE-30	20×20×200	0,61	30	✓
HEATER50.YOKE-60	40×40×200	2,42	60	✓

✓ included in delivery
o available as an option

13.4 HEATER50-BASIC

The devices are designed for continuous operation. The heating time is only restricted at maximum heating temperature.

15 Heating device

Designation		Value
Dimensions	L×W×H	600 mm×226 mm×272 mm
U-shaped core	Pole distance (B)	120 mm
	Pole length (C)	130 mm
	Pole cross-section (D)	40 mm×50 mm
Mass		21 kg
Heating temperature	max.	+240 °C (+464 °F)
Heating time at max. heating temperature	max.	0,5 h

16 Model

Ordering designation	Power supply AC	Current rating	Output power	Certificate
	V	A	kW	
HEATER50-BASIC-230V	230	13	3	CE
HEATER50-BASIC-230V-UK	230	13	3	UKCA
HEATER50-BASIC-120V-US	120	13	1,5	QPS
HEATER50-BASIC-240V-US	240	13	3,1	QPS

Devices with the suffix "US": QPS-certified versions for the USA and Canada in accordance with CSA C22.2 NO. 88:19 and UL 499, 14th Ed. (November 7, 2014)

17 Workpiece

Designation		Value
Mass	max.	50 kg
Outside diameter (A)	max.	400 mm

18 Support yokes

Ordering designation	Dimensions	Mass	Min. bore diameter	Scope of delivery
	mm	kg	mm	
HEATER50.YOKE-10	7×7×200	0,08	10	✓
HEATER50.YOKE-15	10×10×200	0,15	15	o
HEATER50.YOKE-20	14×14×200	0,32	20	✓
HEATER50.YOKE-30	20×20×200	0,61	30	o
HEATER50.YOKE-60	40×40×200	2,42	60	o
HEATER50.YOKE-65	40×50×200	3,02	65	✓

✓ included in delivery
o available as an option

13.5 HEATER100-BASIC

The devices are designed for continuous operation. The heating time is only restricted at maximum heating temperature.

19 Heating device

Designation		Value
Dimensions	L×W×H	702 mm×256 mm×392 mm
U-shaped core	Pole distance (B)	180 mm
	Pole length (C)	185 mm
	Pole cross-section (D)	50 mm×50 mm
Mass		31 kg
Heating temperature	max.	+240 °C (+464 °F)
Heating time at max. heating temperature	max.	0,5 h

20 Model

Ordering designation	Power supply AC	Current rating	Output power	Certificate
	V	A	kW	
HEATER100-BASIC-230V	230	16	3,7	CE
HEATER100-BASIC-230V-UK	230	13	2,9	UKCA
HEATER100-BASIC-120V-US	120	15	1,8	QPS
HEATER100-BASIC-240V-US	240	16	3,8	QPS

Devices with the suffix “US”: QPS-certified versions for the USA and Canada in accordance with CSA C22.2 NO. 88:19 and UL 499, 14th Ed. (November 7, 2014)

21 Workpiece

Designation		Value
Mass	max.	100 kg
Outside diameter (A)	max.	500 mm

22 Support yokes

Ordering designation	Dimensions	Mass	Min. bore diameter	Scope of delivery
	mm	kg	mm	
HEATER100.YOKE-15	10×10×280	0,21	15	o
HEATER100.YOKE-20	14×14×280	0,4	20	o
HEATER100.YOKE-30	20×20×280	0,84	30	✓

23 Slewing yokes

Ordering designation	Dimensions	Mass	Min. bore diameter	Scope of delivery
	mm	kg	mm	
HEATER100.YOKE-45	30×30×280	2,4	45	o
HEATER100.YOKE-60	40×40×280	3,87	60	o
HEATER100.YOKE-72	50×50×280	5,78	72	✓
HEATER100.YOKE-85	60×60×280	8,09	85	o

✓ included in delivery
o available as an option

13.6 HEATER150-BASIC

The devices are designed for continuous operation. The heating time is only restricted at maximum heating temperature.

24 Heating device

Designation		Value
Dimensions	L×W×H	788 mm×315 mm×456 mm
U-shaped core	Pole distance (B)	210 mm
	Pole length (C)	205 mm
	Pole cross-section (D)	70 mm×80 mm
Mass		52 kg
Heating temperature	max.	+240 °C (+464 °F)
Heating time at max. heating temperature	max.	0,5 h

25 Model

Ordering designation	Power supply AC	Current rating	Output power	Certificate
	V	A	kW	
HEATER150-BASIC-230V	230	16	3,7	CE
HEATER150-BASIC-230V-UK	230	13	2,9	UKCA
HEATER150-BASIC-240V-US	240	16	3,8	QPS

Devices with the suffix “US”: QPS-certified versions for the USA and Canada in accordance with CSA C22.2 NO. 88:19 and UL 499, 14th Ed. (November 7, 2014)

26 Workpiece

Designation		Value
Mass	max.	150 kg
Outside diameter (A)	max.	600 mm

27 Support yokes

Ordering designation	Dimensions	Mass	Min. bore diameter	Scope of delivery
	mm	kg	mm	
HEATER200.YOKE-15	10×10×350	0,27	15	o
HEATER200.YOKE-20	14×14×350	0,51	20	o
HEATER200.YOKE-30	20×20×350	1,06	30	o

28 Slewing yokes

Ordering designation	Dimensions	Mass	Min. bore diameter	Scope of delivery
	mm	kg	mm	
HEATER200.YOKE-45	30×30×350	3,67	45	✓
HEATER200.YOKE-60	40×40×350	5,51	60	o
HEATER200.YOKE-72	50×50×350	7,79	72	o
HEATER200.YOKE-85	60×60×350	10,69	85	o
HEATER200.YOKE-100	70×70×350	14,0	100	o
HEATER200.YOKE-110	70×80×350	15,90	110	✓

✓ included in delivery
o available as an option

13.7 HEATER200-BASIC

The devices are designed for continuous operation. The heating time is only restricted at maximum heating temperature.

▦29 Heating device

Designation		Value
Dimensions	L×W×H	788 mm×315 mm×456 mm
U-shaped core	Pole distance (B)	210 mm
	Pole length (C)	205 mm
	Pole cross-section (D)	70 mm×80 mm
Mass		56 kg
Heating temperature	max.	+240 °C (+464 °F)
Heating time at max. heating temperature	max.	0,5 h

▦30 Model

Ordering designation	Power supply AC	Current rating	Output power	Certificate
	V	A	kW	
HEATER200-BASIC-400V	400	20	8	CE, UKCA
HEATER200-BASIC-450V	450	16	7,2	CE, UKCA
HEATER200-BASIC-500V	500	16	8	CE, UKCA
HEATER200-BASIC-480V-US	480	16	7,7	QPS
HEATER200-BASIC-600V-US	600	14	8,4	QPS

Devices with the suffix “US”: QPS-certified versions for the USA and Canada in accordance with CSA C22.2 NO. 88:19 and UL 499, 14th Ed. (November 7, 2014)

▦31 Workpiece

Designation		Value
Mass	max.	200 kg
Outside diameter (A)	max.	600 mm

▦32 Support yokes

Ordering designation	Dimensions	Mass	Min. bore diameter	Scope of delivery
	mm	kg	mm	
HEATER200.YOKE-15	10×10×350	0,27	15	o
HEATER200.YOKE-20	14×14×350	0,51	20	o
HEATER200.YOKE-30	20×20×350	1,06	30	o

▦33 Slewing yokes

Ordering designation	Dimensions	Mass	Min. bore diameter	Scope of delivery
	mm	kg	mm	
HEATER200.YOKE-45	30×30×350	3,67	45	✓
HEATER200.YOKE-60	40×40×350	5,51	60	o
HEATER200.YOKE-72	50×50×350	7,79	72	o
HEATER200.YOKE-85	60×60×350	10,69	85	o
HEATER200.YOKE-100	70×70×350	14,0	100	o
HEATER200.YOKE-110	70×80×350	15,90	110	✓

✓ included in delivery
o available as an option

13.8 HEATER400-BASIC

The devices are designed for continuous operation. The heating time is only restricted at maximum heating temperature.

34 Heating device

Designation		Value
Dimensions	L×W×H	1214 mm×560 mm×990 mm
U-shaped core	Pole distance (B)	320 mm
	Pole length (C)	305 mm
	Pole cross-section (D)	80 mm×100 mm
Mass		150 kg
Heating temperature	max.	+240 °C (+464 °F)
Heating time at max. heating temperature	max.	0,5 h

35 Model

Ordering designation	Power supply AC	Current rating	Output power	Certificate
	V	A	kW	
HEATER400-BASIC-400V	400	30	12	CE, UKCA
HEATER400-BASIC-450V	450	25	12	CE, UKCA
HEATER400-BASIC-500V	500	24	12	CE, UKCA
HEATER400-BASIC-480V-US	480	24	12	QPS
HEATER400-BASIC-600V-US	600	20	12	QPS

Devices with the suffix “US”: QPS-certified versions for the USA and Canada in accordance with CSA C22.2 NO. 88:19 and UL 499, 14th Ed. (November 7, 2014)

36 Workpiece

Designation		Value
Mass	max.	400 kg
Outside diameter (A)	max.	850 mm

37 Slewing yokes

Ordering designation	Dimensions	Mass	Min. bore diameter	Scope of delivery
	mm	kg	mm	
HEATER400.YOKE-30	20×20×500	3,12	30	o
HEATER400.YOKE-45	30×30×500	4,95	45	o
HEATER400.YOKE-60	40×40×500	7,55	60	o
HEATER400.YOKE-85	60×60×500	14,83	85	o
HEATER400.YOKE-115	80×80×500	25,40	115	✓

✓ included in delivery
o available as an option

13.9 HEATER600-BASIC

The devices are designed for continuous operation. The heating time is only restricted at maximum heating temperature.

38 Heating device

Designation		Value
Dimensions	L×W×H	1344 mm×560 mm×990 mm
U-shaped core	Pole distance (B)	400 mm
	Pole length (C)	315 mm
	Pole cross-section (D)	90 mm×110 mm
Mass		170 kg
Heating temperature	max.	+240 °C (+464 °F)
Heating time at max. heating temperature	max.	0,5 h

39 Model

Ordering designation	Power supply AC	Current rating	Output power	Certificate
	V	A	kW	
HEATER600-BASIC-400V	400	45	18	CE, UKCA
HEATER600-BASIC-450V	450	40	18	CE, UKCA
HEATER600-BASIC-500V	500	36	18	CE, UKCA
HEATER600-BASIC-480V-US	480	36	18	QPS
HEATER600-BASIC-600V-US	600	30	18	QPS

Devices with the suffix “US”: QPS-certified versions for the USA and Canada in accordance with CSA C22.2 NO. 88:19 and UL 499, 14th Ed. (November 7, 2014)

40 Workpiece

Designation		Value
Mass	max.	600 kg
Outside diameter (A)	max.	1050 mm

41 Slewing yokes

Ordering designation	Dimensions	Mass	Min. bore diameter	Scope of delivery
	mm	kg	mm	
HEATER600.YOKE-60	40×40×600	8,57	60	o
HEATER600.YOKE-85	60×60×600	17,43	85	o
HEATER600.YOKE-115	80×80×600	29,10	115	o
HEATER600.YOKE-130	90×90×600	37,90	130	✓

✓ included in delivery
o available as an option

13.10 HEATER800-BASIC

The devices are designed for continuous operation. The heating time is only restricted at maximum heating temperature.

42 Heating device

Designation		Value
Dimensions	L×W×H	1080 mm×650 mm×955 mm
	L×W×H [1)]	1080 mm×650 mm×1025 mm
U-shaped core	Pole distance (B)	430 mm
	Pole length (C)	515 mm
	Pole cross-section (D)	180 mm×180 mm
Mass		250 kg
Heating temperature	max.	+240 °C (+464 °F)
Heating time at max. heating temperature	max.	0,5 h

1) Height including wheels (available as an option)

43 Model

Ordering designation	Power supply AC	Current rating	Output power	Certificate
	V	A	kW	
HEATER800-BASIC-400V	400	60	24	CE, UKCA
HEATER800-BASIC-450V	450	50	24	CE, UKCA
HEATER800-BASIC-500V	500	48	24	CE, UKCA
HEATER800-BASIC-480V-US	480	48	24	QPS
HEATER800-BASIC-600V-US	600	40	24	QPS

Devices with the suffix “US”: QPS-certified versions for the USA and Canada in accordance with CSA C22.2 NO. 88:19 and UL 499, 14th Ed. (November 7, 2014)

44 Workpiece

Designation		Value
Mass	max.	800 kg
Outside diameter (A)	max.	1150 mm

45 Vertical yokes

Ordering designation	Dimensions	Mass	Min. bore diameter	Scope of delivery
	mm	kg	mm	
HEATER800.YOKE-60	40×40×725	9	60	o
HEATER800.YOKE-72	50×50×725	14,5	72	o
HEATER800.YOKE-85	60×60×725	20,3	85	o
HEATER800.YOKE-115	80×80×725	36,10	115	o
HEATER800.YOKE-145	100×100×725	56,4	145	✓

✓ included in delivery
o available as an option

13.11 HEATER1600-BASIC

The devices are designed for continuous operation. The heating time is only restricted at maximum heating temperature.

46 Heating device

Designation		Value
Dimensions	L×W×H	1520 mm×750 mm×1415 mm
	L×W×H [1)]	1520 mm×750 mm×1485 mm
U-shaped core	Pole distance (B)	710 mm
	Pole length (C)	780 mm
	Pole cross-section (D)	230 mm×230 mm
Mass		720 kg
Heating temperature	max.	+240 °C (+464 °F)
Heating time at max. heating temperature	max.	0,5 h

1) Height including wheels (available as an option)

47 Model

Ordering designation	Power supply AC	Current rating	Output power	Certificate
	V	A	kW	
HEATER1600-BASIC-400V	400	100	40	CE, UKCA
HEATER1600-BASIC-450V	450	80	40	CE, UKCA
HEATER1600-BASIC-500V	500	80	40	CE, UKCA
HEATER1600-BASIC-480V-US	480	80	40	QPS
HEATER1600-BASIC-600V-US	600	65	40	QPS

Devices with the suffix “US”: QPS-certified versions for the USA and Canada in accordance with CSA C22.2 NO. 88:19 and UL 499, 14th Ed. (November 7, 2014)

48 Workpiece

Designation		Value
Mass	max.	1600 kg
Outside diameter (A)	max.	1700 mm

49 Vertical yokes

Ordering designation	Dimensions	Mass	Min. bore diameter	Scope of delivery
	mm	kg	mm	
HEATER1600.YOKE-85	60×60×1140	32,5	85	o
HEATER1600.YOKE-115	80×80×1140	56,76	115	o
HEATER1600.YOKE-145	100×100×1140	88,69	145	o
HEATER1600.YOKE-215	150×150×1140	199,56	215	✓

✓ included in delivery
o available as an option

13.12 Cable colours

The connection cables used are determined by the model.

13.12.1 HEATER20 to HEATER150

50 1-phase heating device 120 V/230 V

Colour		Assignment
	Brown	Phase
	Blue	Zero
	Green/yellow	Earth

51 1-phase heating device 120 V/240 V

Colour		Assignment
	Black	Phase
	White	Zero
	Green	Earth

13.12.2 HEATER200 to HEATER1600

52 2-phase heating device 400 V/450 V/500 V

Colour		Assignment
	Brown	Phase
	Black	Phase
	Green/yellow	Earth

53 2-phase heating device 480 V/600 V

Colour		Assignment
	Black	Phase
	Black	Phase
	Green	Earth

13.13 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 heater

Product name/type:

- HEATER50-BASIC-230V
- HEATER100-BASIC-230V
- HEATER150-BASIC-230V
- HEATER200-BASIC-400V
- HEATER200-BASIC-450V
- HEATER200-BASIC-500V
- HEATER400-BASIC-400V
- HEATER400-BASIC-450V
- HEATER400-BASIC-500V
- HEATER600-BASIC-400V
- HEATER600-BASIC-450V
- HEATER600-BASIC-500V
- HEATER800-BASIC-400V
- HEATER800-BASIC-450V
- HEATER800-BASIC-500V
- HEATER1600-BASIC-400V
- HEATER1600-BASIC-450V
- HEATER1600-BASIC-500V

Comply with the requirements of:

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

Applicable harmonized standards:

Electric Safety
- EN 60335-1:2020

EMC Emission
- EN 55011:2016
- EN 61000-3-2:2019 + A1:2021 + A2:2024
- EN 61000-3-3:2013 + A1:2019 + A2:2021

EMC Immunity
- EN 61000-6-1:2019

H. van Essen,
Managing Director
Schaeffler Smart Maintenance Tools BV

Place, Date:
Vaassen, 23-07-2025

CE

UKCA DECLARATION OF CONFORMITY

We hereby declare that the product described below is in conformity with the applicable UK regulations terms of its design and type and in the execution we have brought into circulation. This declaration shall cease to be valid if any modification is made to the product without our agreement.

Product description: Inductive heater

Product name/type:

- HEATER20-BASIC-120V
- HEATER20-BASIC-230V
- HEATER50-BASIC-120V
- HEATER50-BASIC-230V
- HEATER100-BASIC-120V
- HEATER100-BASIC-230V
- HEATER150-BASIC-230V
- HEATER200-BASIC-400V
- HEATER200-BASIC-450V
- HEATER200-BASIC-500V
- HEATER400-BASIC-400V
- HEATER400-BASIC-450V
- HEATER400-BASIC-500V
- HEATER600-BASIC-400V
- HEATER600-BASIC-450V
- HEATER600-BASIC-500V
- HEATER800-BASIC-400V
- HEATER800-BASIC-450V
- HEATER800-BASIC-500V
- HEATER1600-BASIC-400V
- HEATER1600-BASIC-450V
- HEATER1600-BASIC-500V

Comply with the requirements of:

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

Applicable harmonized standards:

Electric Safety
- EN 60335-1:2020

EMC Emission
- EN 55011:2016
- EN 61000-3-2:2019 + A1:2021 + A2:2024
- EN 61000-3-3:2013 + A1:2019 + A2:2021

EMC Immunity
- EN 61000-6-2:2019

H. van Essen,
Managing Director
Schaeffler Smart Maintenance Tools BV

Place, Date:
Vaassen, 01-07-2024

UK CA

14 Accessories

Standard accessories are available to reorder.

Additional accessories are available for the heating devices, e.g.:

- optional wheels
- lifting equipment for vertical yokes

Information on ordering accessories and further information on the heating devices can be found in the following publication:

TPI 282 | Induction heating devices |
https://www.schaeffler.de/std/1FE4

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Germany
www.schaeffler.de/en/services

Technical support:
www.schaeffler.de/en/technical-support

BA 74 / 02 / en-GB / 2025-09