PRODUCT OVERVIEW

Induction heaters and tools

SWISS MADE

simatherm® smart mounting

simatool® smart tools

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Developed to impress professionals: Induction heaters and specialized tools for the perfect handling of rolling bearings

Many processes can literally grind to a halt if bearings are not properly installed and lubricated. If it is necessary to replace worn-out bearings and seals, the job must be done efficiently and professionally from the start.

simatherm induction heaters and simatool quality tools guarantee total success with rolling bearings.

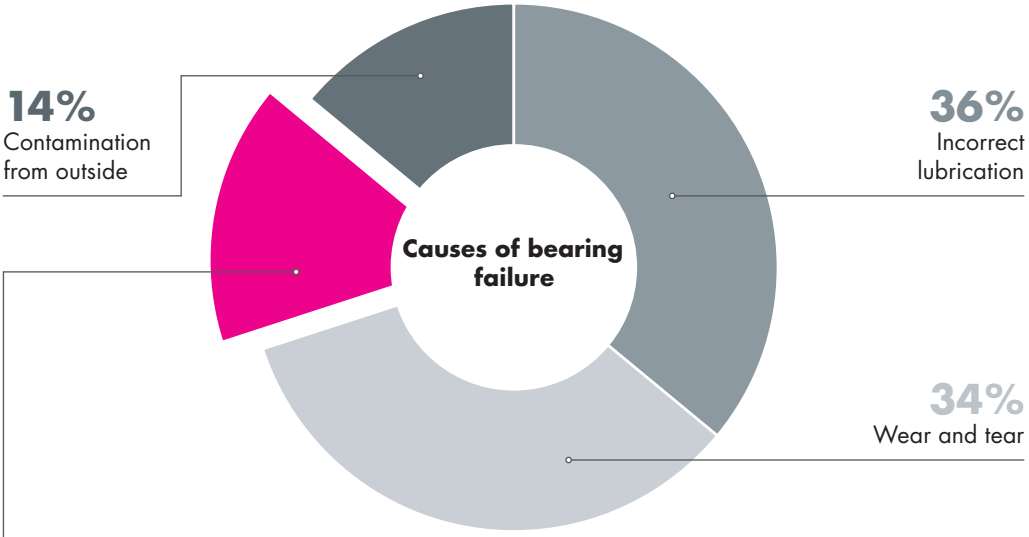
Tom Maintain

Because my bearings are worth it!

«A quick bearing replacement? Quick yes, but also correct. Wherever I am, I can always rely on simatherm and simatool to get the job done properly.»

Prevent premature bearing failure

Over 60% of premature bearing failures are preventable. simatec supplies unique hardware solutions for the careful installation/removal, automatic lubrication, and contamination protection of rolling bearings.



16%

Improper installation
Over 16% of premature bearing failures are caused by improper installation. The lack of proper tooling and know-how often leads to new bearings being subjected to high levels of stress and sub-surface damage. This makes premature bearing failure inevitable. In order to prevent this, the correct procedure should be employed using professional, specialist tools throughout the installation process. Only in this way will the new bearings reach their expected service life.

The proper installation and removal of rolling bearings

The best way to avoid unwanted stresses when assembling interference-fit parts is to heat the outer part just enough to produce a temporary clearance. simatherm induction heaters allow this to be done precisely, evenly, quickly and efficiently. Other methods of heating are slower, less controlled and can cause more harm than good to bearings.

Advantages
- Precise, even, quick heating
- There is no risk of damage (from excessive mechanical stress, open flames, dirty oil baths, excessively hot ovens and plates)
- Automatic demagnetisation
- User friendly
- Increased operational safety
- Selectable power reduction for heating up smaller parts

Consistent, professional assembly and removal of bearings and radial seals without specialized tooling is simply impossible. A comprehensive selection of high quality, proven tools enables these operations to be performed quickly and safely every time.

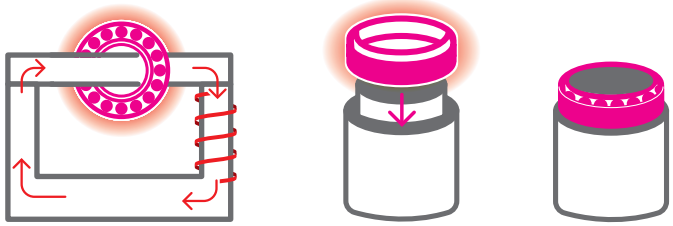
Advantages
- Reduction of costs through proper installation and removal
- Longer service life of the components
- No damage to adjacent components when defective parts are removed
- High-quality, specially developed tool sets
- Practical, in a robust plastic carrying case with shaped insert
- Quick instruction guide affixed directly onto case for convenience

simatherm – perfect solutions for the clean, efficient installation of rolling bearings

With simatherm induction heaters, rolling bearings and other ring-shaped metal parts can be heated in a highly efficient manner. They allow quick, clean installation and replace conventional heating methods such as heating plates, hot oil baths, open flames and ovens. During the heating process, only the workpiece is heated while the device itself remains cool. simatherm induction heaters can be used for workpieces weighing up to 1200 kg.

Heating with induction

The heating of rolling bearings and ring-shaped metal parts by induction has proved to be an excellent method for installing these parts with both speed and care. An alternating electro-magnetic field induces a high current directly in the workpiece and raises this precisely to the prescribed installation temperature in a controlled manner.



simatherm induction heaters

simatherm

Open flames

Oil baths

Ovens

Where induction heaters are used

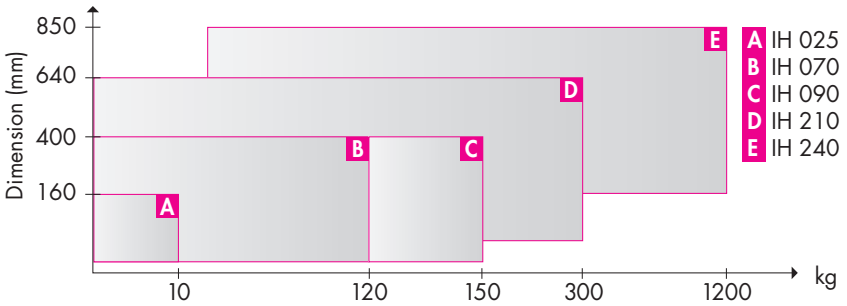
- Vehicle industry, cars and trucks
- Gear box manufacture
- Manufacture of electric motors
- Manufacturer of pumps
- General engineering
- Maintenance and repair workshops

Typical applications

- Bearings
- Gearwheels
- Sprockets
- Compression rings
- Labyrinth rings
- Sleeves
- Joints

Selection table for simatherm induction heaters

When choosing the simatherm heater to suit your needs, everything essentially depends on the dimensions and weight of the workpieces:



The lightweight portable device with excellent performance

Induction Heater IH 025 VOLCANO

The portable induction heater for heating small ferritic workpieces

- For workpieces weighing up to 10 kg
- For workpieces with a minimum inner diameter of 20 mm up to a maximum outer diameter of 160 mm
- Also included: 1 temperature probe, 1 pair of protective gloves, 1 carrying case
- Available for voltages of 100, 115 and 230 V
- PTC (predictive temperature control) for automatic temperature monitoring

VOLCANO
Video

The popular all-round heater for flexible use

Induction Heater IH 070

For heating small and medium-sized workpieces

- For rolling bearings weighing up to 120 kg
- For workpieces with inner diameter of 20 to 400 mm
- Also included: 3 yokes, 1 temperature probe, 1 pair of protective gloves
- Available for voltages of 100, 115 and 230 V
- Swivel arm available as an option

The compact heater for serial production

Induction Heater IH 090

Induction heater with fan cooling for small to medium-sized workpieces

- For rolling bearings weighing up to 150 kg
- For workpieces with inner diameter of 20 to 400 mm
- Also included: 3 yokes, 1 swivel arm, 1 temperature probe, 1 pair of protective gloves
- Available for voltages of 200, 400–460 and 500–575 V
- Fan cooling for continuous operation

The most powerful table-top heater

Induction Heater IH 210

Suitable for heating large workpieces

- For rolling bearings weighing up to 300 kg
- For workpieces with inner diameter of 60 to 640 mm
- Also included: 2 yokes, 1 temperature probe, 1 pair of protective gloves
- Available for voltages of 200, 400–460 and 500–575 V
- Extremely simple operation thanks to the sliding yoke

Maximum performance for all challenging work

Induction Heater IH 240-L

Fast and safe heating of very large workpieces

- For rolling bearings weighing up to 1200 kg
- For workpieces with inner diameter of 142 to 1000 mm
- Also included: 1 yoke, 1 temperature probe, 1 pair of protective gloves
- Available for voltages of 400, 460 and 575 V
- Extremely simple operation thanks to the sliding yoke
- Support legs can be adjusted according to the size of the workpiece

Electrical heating plate with temperature control

Hot Plate HPS (small) and HPL (large)

Specially designed for heating multiple small components

- HPS for workpieces weighing up to 5 kg; HPL for workpieces weighing up to 10 kg
- Plate surface (W x D) for HPS: 380 x 180 mm; for HPL: 380 x 380 mm
- Also included: 1 pair of protective gloves
- Available for voltages of 100–115 and 230 V
- Control range from 50 to 200 °C

TOM's TIPP

You can find a detailed data sheet for each simatherm induction heater under www.simatec.com/simatherm/en

Technical data

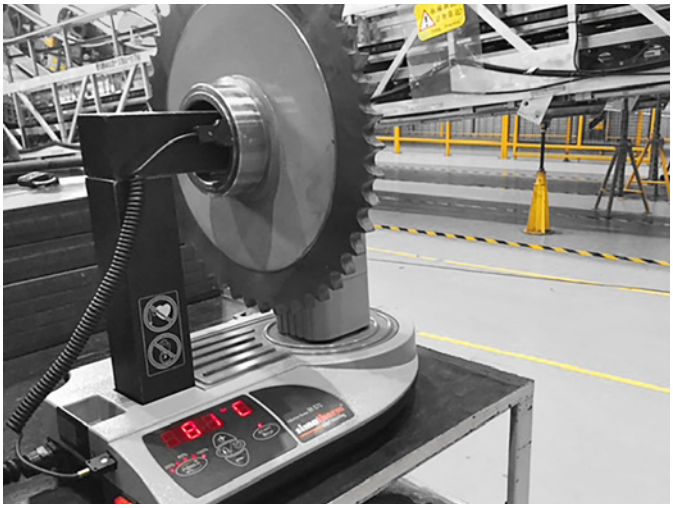



Type	Hot Plate HPS	Hot Plate HPL	IH 025	IH 070
Description	Heaters for small workpieces		Induction heater for small workpieces	Induction heater for small to medium workpieces
Designation	HPS 200/230 V (Art. 110.1801) HPS 200/110 V (Art. 110.1802)	HPL 200/230 V (Art. 110.1803) HPL 200/110 V (Art. 110.1804)	IH 025/230 V (Art. 110.1101) IH 025/115 V (Art. 110.1103) IH 025/100 V (Art. 110.1102)	IH 070/230 V (Art. 110.1301) IH 070/115 V (Art. 110.1302) IH 070/100 V (Art. 110.1303)
Voltage	220–240 V 100–120 V		220–240 V 110–120 V 100 V	220–240 V 110–120 V 100 V
Frequency	50–60 Hz 50–60 Hz		50–60 Hz 50–60 Hz 50–60 Hz	50–60 Hz 50–60 Hz 50–60 Hz
max. Amperage	5 A 10 A	10 A 20 A	6 A 10.5 A 10.5 A	16 A 20 A 15 A
Power	1000 W 1000 W	2000 W 2000 W	1.5 kVA 1.15 kVA 1.0 kVA	3.7 kVA 2.2–2.4 kVA 1.5 kVA
Max. weight of rolling bearing Bore diameter	5 kg	10 kg	10 kg from 20 mm inner diameter to 160 mm outer diameter	120 kg 20–400 mm
Temperature range Magnetic probe Accuracy (electronic)	50–200 °C ± 5 °C		20–180 °C Yes, type K ± 3 °C	20–250 °C Yes, type K ± 3 °C
Range of time control Time setting in steps	– –		0–10 minutes 0.1 minutes	0–60 minutes 0.1 minutes
Maximum temperature (approx.)	200 °C		180 °C	400 °C
Variable power level	–		5 levels: 20–40–60–80–100%	5 levels: 20–40–60–80–100%
Automatic demagnetisation Residual magnetism	– –		Yes < 2 A/cm	Yes < 2 A/cm
Coil diameter	–		–	115 mm
Size of operating area (W x H)	380 x 180 mm	380 x 380 mm	–	145 x 205 mm
Dimensions (L x W x H)	390 x 190 x 150 mm	390 x 390 x 170 mm	340 x 250 x 64 mm (over the cone 121 mm)	420 x 280 x 345 mm
Overall weight	6 kg	10 kg	3.5 kg	35 kg
Number of standard yokes	–		–	3
Standard yokes	–		–	55 x 55 x 275 mm for bearings with a bore diameter of at least 78 mm 28 x 28 x 275 mm for bearings with a bore diameter of at least 40 mm 14 x 14 x 275 mm for bearings with a bore diameter of at least 20 mm
Core cross section	–		–	55 x 55 mm
Movable yoke	–		–	Optional (swivel arm), Art. 190.1302
Cooling fan	–		Yes	–

IH 090	IH 210	IH 240-L
Induction heater with cooling fan for continuous operation with small to medium workpieces	Induction heater for large workpieces	Induction heater for large and very large workpieces
IH 090/400 V (Art. 110.1401) IH 090/575 V (Art. 110.1404) IH 090/200 V (Art. 110.1402)	IH 210/400 V (Art. 110.1501) IH 210/575 V (Art. 110.1503) IH 210/200 V (Art. 110.1502)	IH 240/400 V (Art. 110.1611) IH 240/460 V (Art. 110.1612)
400–480 V 575 V 200 V	400–480 V 575 V 200–230 V	400–440 V 440–480 V
50–60 Hz 50–60 Hz 50–60 Hz	50–60 Hz 50–60 Hz 50–60 Hz	50 Hz 60 Hz
16 A 16 A 25 A	25 A 18 A 40 A	60 A 52 A
6.4–7.4 kVA 9.2 kVA 5 kVA	10–11.5 kVA 10.4 kVA 8–9.2 kVA	24 kVA 24 kVA 24 kVA
150 kg 20–400 mm	300 kg 60–640 mm	1200 kg 142–1000 mm
20–250 °C Yes, type K ± 3 °C	20–250 °C Yes, type K ± 3 °C	20–250 °C Yes, type J ± 3 °C
0–60 minutes 0.1 minutes	0–60 minutes 0.1 minutes	0–60 minutes 0.1 minutes
400 °C	400 °C	400 °C
5 levels: 20–40–60–80–100%	5 levels: 20–40–60–80–100%	Yes: 50%
Yes < 2 A/cm	Yes < 2 A/cm	Yes < 2 A/cm
115 mm	135 mm	186 mm
145 × 205 mm Optional: 145 × 410 mm (Art. 110.1403)	250 × 250 mm Optional: 250 × 376 mm (Art. 110.1504)	460 × 505 mm
420 × 280 × 420 mm	650 × 350 × 420 mm	755 × 400 × 1120 mm
38 kg	75 kg	320 kg
3	2	1
55 × 55 × 275 mm for bearings with a bore diameter of at least 78 mm 28 × 28 × 275 mm for bearings with a bore diameter of at least 40 mm 14 × 14 × 275 mm for bearings with a bore diameter of at least 20 mm	70 × 70 × 420 mm for bearings with a bore diameter of at least 100 mm 40 × 40 × 420 mm for bearings with a bore diameter of at least 60 mm	100 × 100 × 700 mm for bearings with a bore diameter of at least 142 mm
55 × 55 mm	70 × 70 mm	100 × 100 mm
Swivel arm	Sliding yoke	Sliding yoke
Yes	Optional (Art. 110.1505)	–

simatherm applications

The simatherm induction heaters VOLCANO IH 025 and IH 070 with two differently sized workpieces: the model IH 070 (at the front) heats a gearwheel sleeve to the specified installation temperature.

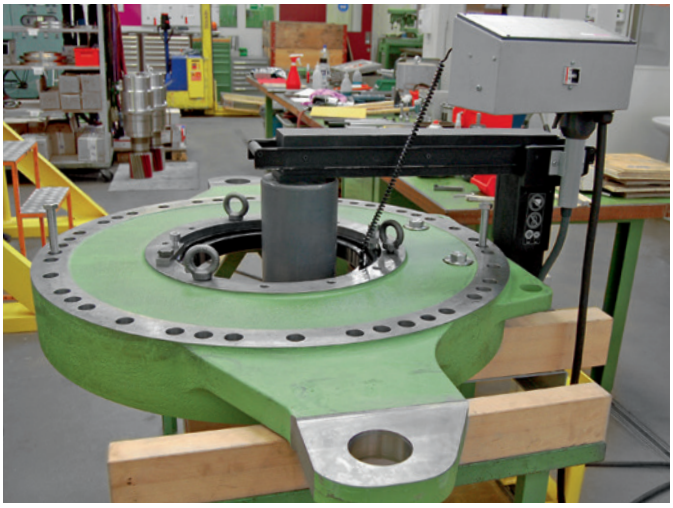


The induction heater IH 070 is the ideal choice for heating the return sprocket for the step chain of an escalator.

The very portable VOLCANO IH 025 weighs only 3.5 kg but can easily heat parts weighing up to 10 kg to 110 °C.

The roller bearing placed around the coil of an IH 210 heater is heated by induction. A simatool Bearing Handling Tool is in place to simplify positioning the bearing on the shaft, once the specified mounting temperature is reached.

Working on a train wheel-set, the high-performance induction heater IH 210 heats a massive bearing housing to allow a bearing to be inserted.



The largest and most efficient simatherm induction heater IH 240 is used here to heat the gearbox flange of a wind turbine.

simatool – quality tools for the installation and removal of bearings and seals

With simatool tools, rolling bearings and radial shaft seals can be installed and removed quickly and safely. The well proven tools have an ergonomic design. They allow all types of work to be carried out in a much quicker, safer and more controlled manner.

All tools are made from premium materials and are manufactured to a superior standard. Furthermore, the toolsets come in robust plastic cases for convenience and portability.

Areas of application of special tools

- Vehicle industry, cars and trucks
- Gear box manufacture
- Manufacture of electric motors
- Manufacturer of pumps etc.
- General engineering

TOM MAINTAIN

TOM's TIPP

You can find an application video for each simatool on
www.simatec.com/simatool-video/en

An installation tool that has proven itself thousands of times

Fitting Tool FT 33

The simatool FT 33 is the fast, precise and reliable tool for the installation of bearings and seals.

- For shaft diameters measuring from 10–50 mm
- The kit includes 33 impact rings, 3 impact sleeves, 1 non-rebound hammer
- Compact toolset includes a selection table in a handy case

Fitting Tool FT 33
Video

The internal extractor for demanding users

Ball Bearing Puller BP 61

The bearing extractor enables the removal of deep groove ball bearings. The shaft does not have to be removed – a significant advantage.

- For shaft diameters measuring from 10–100 mm
- The kit includes 2 spindles, 6 sets of puller arms, 1 counter bracket
- Compact toolset includes a selection table in a handy case

Ball Bearing Puller BP 61
Video

The unique solution for challenging tasks

Seal Puller SP 50

The Seal Puller SP 50 toolset can be used to remove radial shaft seals with extreme ease.

- The kit includes 1 sliding hammer, 2 extensions, 50 tapping screws

Seal Puller SP 50
Video

The compact and professional tool for all removal situations

Twin Puller TP 150

The simatool Twin Puller TP 150 can be used to professionally remove deep groove ball bearings and radial shaft seals, regardless of the installation position.

- For shaft diameters measuring from 10–100 mm
- The kit includes 1 sliding hammer, 2 spindles, 6 sets of puller arms, 9 support rings, 1 extension, 50 tapping screws, 1 counter bracket
- Compact toolset includes a selection table in a handy case
- Ideal complement to the time-tested simatool Fitting Tool FT 33

The universal tool kit for installation and removal

Maintenance Kit MK 10–30

The simatool MK 10–30 combi-kit allows you to rapidly, precisely and reliably install and remove bearings.

- For shaft diameters measuring from 10–30 mm
- The kit includes 21 impact rings, 2 impact sleeves, 1 non-rebound hammer, 1 sliding hammer, 2 spindles, 5 sets of puller arms, 7 support rings, 1 counter bracket
- Compact toolset includes a selection table in a handy case

Maintenance Kit MK 10–30
Video

The specialist for the reliable handling of medium to large bearings

Bearing Handling Tool BHT

The simatool BHT, with its maximum handling force of 500 kg, is the ideal solution for lifting, turning, rotating, transporting and installing medium-sized and large bearings.

- BHT 300–500 for outer diameters measuring from 300–500 mm; BHT 500–700 for outer diameters measuring from 500–700 mm
- The set includes 1 hoist, 1 pair of protective gloves, 1 pair of anti-twist devices, 2 hoisting slings

TOM's TIPP

You can find a detailled data sheet for each simatool tool on www.simatec.com/simatool-en

simatool applications

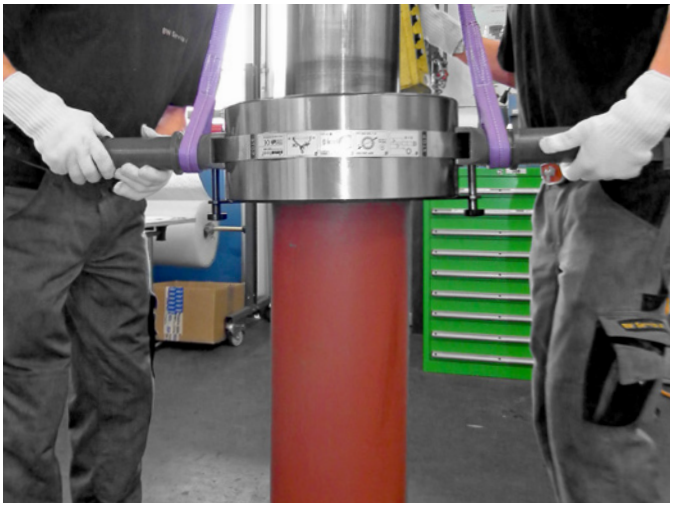
The Twin Puller TP 150 does it: a tightly seated bearing of an electric motor rotor is removed without risking damage to the housing or the shaft.

Knowhow: using a Seal Puller SP 50 to remove a radial seal from a gearbox without damage to the housing or shaft.

The Bearing Puller BP 61 enables ball bearings to be removed from shafts with ease and full control.

The Maintenance Kit MK 10–30 makes removing a ball bearing from an electric motor end cap straightforward.

The Fitting Tool FT 33 ensures that the mounting force is evenly distributed across the inner and outer rings of the bearing and does not stress the rolling elements.



The Bearing Handling Tool BHT allows the heavy, pre-heated roller bearing to be safely lifted and accurately positioned on a turbine shaft.

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simatec
smart technologies

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simatec – innovative solutions that deliver outstanding customer benefits

simatec is an international, Swiss family enterprise. Since its founding in 1983, this motivated team has been developing, manufacturing and marketing innovative products for the maintenance of rolling bearings under the brand names of simalube, simatherm and simatool.

The direct customer benefits are always at the forefront. Using newly developed technologies, simatec simplifies complex processes and reduces routine maintenance for tens of thousands of machines around the globe.

Selected trading partners sell simatec maintenance products around the world. They provide professional service and individual, expert advice.

Maintenance products by simatec – industrial technology

Lubricators

The simalube lubricator provides automatic lubrication over a period of one month to a year and can be adjusted in an infinitely variable manner. simalube supplies every lubricating point with the ideal amount of lubricant – be it oil or grease – so that subsequent manual lubrication is no longer needed and maintenance costs are reduced in the long term.

simalube®
smart lubrication

Induction Heaters

simatherm induction heaters heat circular metal parts, such as roller bearings, in a very short amount of time, so they can be installed quickly and efficiently. The inductive heating of metallic workpieces makes sense from both an economical and ecological perspective. simatec is the world's leading manufacturer of these types of heaters.

simatherm®
smart mounting

Tools

The simatool toolkits enable the fast installation and removal of roller bearings and seals. They are used all over the world in machine and maintenance workshops within all industries.

simatool®
smart tools