

# Induction heaters and tools



**simatool** **simatherm**

 SWISS MADE



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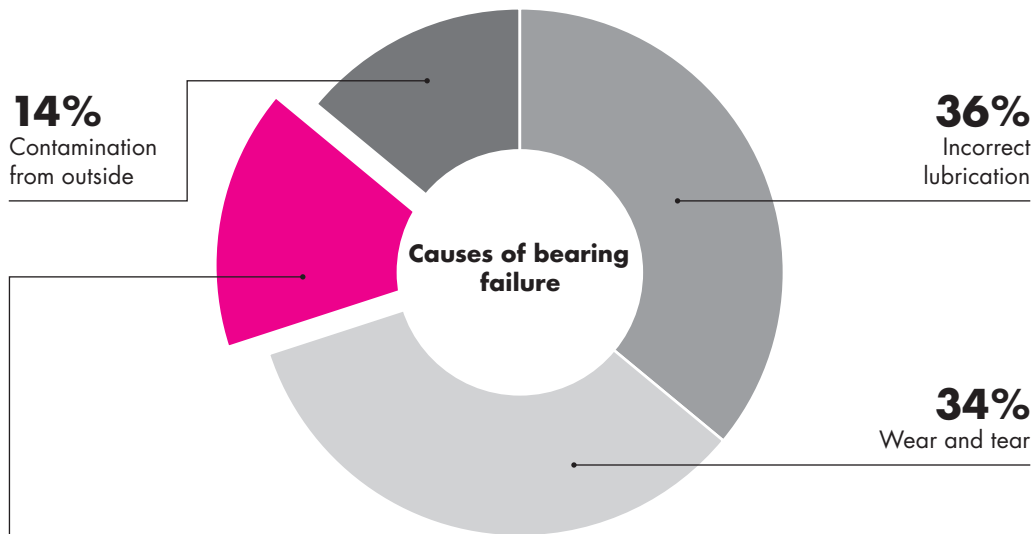
## Developed to impress professionals: Induction heaters and specialised tools for the perfect handling of rolling bearings

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.**

# Prevent premature bearing failure

Over 60% of premature bearing failures are preventable. simatec supplies unique hardware solutions for the careful installation and removal and automatic lubrication.



# 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



**simatherm induction heaters**

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



**simatool tools**

Consistent, professional assembly and removal of bearings and radial seals without specialised 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 induction heaters

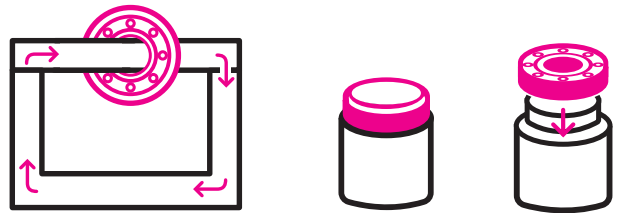


## simatherm – perfect solutions for the clean, efficient installation of rolling bearings

With simatherm induction heaters, rolling bearings and other ring-shaped metal parts can be heated in a highly efficient manner. They allow a quick and 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 300 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

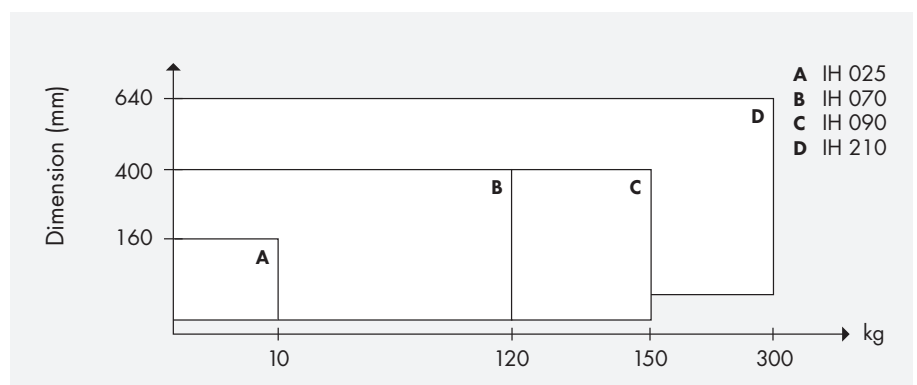
- Vehicle industry
- Gear box manufacture
- Manufacture of electric motors
- Manufacture of pumps
- General engineering
- Maintenance and repair workshops

### Typical applications

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

### Selection table for simatherm induction heaters

The selection of the appropriate simatherm heating device depends essentially on the dimensions and weight of the workpieces:





## Hot Plate **HPS** (small) und **HPL** (large)

Electrical heating plate with temperature control

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 (WxD) for HPS: 380x180 mm; for HPL: 380x380 mm
- Also included: 1 pair of protective gloves
- Available for voltages of 100–115 and 230 V
- Control range from 50 to 200 °C



## Induction Heater **IH 025 VOLCANO**

The lightweight portable device with excellent performance

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



## Induction Heater **IH 070**

The popular all-round heater for flexible use

For heating small and medium-sized workpieces

- For rolling bearings weighing up to 120 kg
- For workpieces with an 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



## Induction Heater IH 090

The compact heater for serial production

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

- For rolling bearings weighing up to 150 kg
- For workpieces with an 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, 400–480 and 500–575 V
- Fan cooling for continuous operation



## Induction Heater IH 210

The most powerful table-top heater

Suitable for heating large workpieces

- For rolling bearings weighing up to 300 kg
- For workpieces with an inner diameter of 60 to 640 mm
- Also included: 2 yokes, 1 temperature probe, 1 pair of protective gloves
- Available for voltages of 200, 400–480 and 500–575 V
- Extremely simple operation thanks to the sliding yoke



You can find a detailed data sheet for each simatherm induction heater under [www.simatec.com/en/simatherm](http://www.simatec.com/en/simatherm)





## simatherm applications



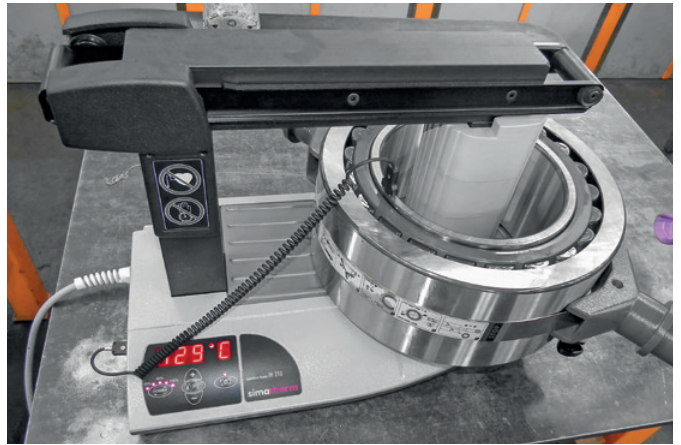
The simatherm induction heaters VOLCANO IH 025 and IH 070 with two differently sized workpieces: the model IH 070 (in the front) heats a gearwheel sleeve to the specified installation temperature.



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



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



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 position 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 portable VOLCANO IH 025 is used for the installation of gear shafts. For this purpose, a tapered roller bearing is heated to the desired temperature using the temperature monitoring system.

## Technical data



Type	Hot Plate HPS	Hot Plate HPL	IH 025
<b>Description</b>	Heaters for small workpieces		Induction heater for small workpieces
<b>Designation</b>	HPS 200/230 V (Art. 110-18010) HPS 200/110 V (Art. 110-18020)	HPL 200/230 V (Art. 110-18030) HPL 200/110 V (Art. 110-18040)	IH 025/230 V (Art. 110-11010) IH 025/115 V (Art. 110-11030) IH 025/100 V (Art. 110-11020)
<b>Voltage</b>	220–240 V 100–120 V		220–240 V 110–120 V 100 V
<b>Frequency</b>	50–60 Hz 50–60 Hz		50–60 Hz 50–60 Hz 50–60 Hz
<b>max. Amperage</b>	5 A 10 A	10 A 20 A	6 A 10,5 A 10,5 A
<b>Power</b>	1000 W 1000 W	2000 W 2000 W	1,5 kVA 1,15 kVA 1,0 kVA
<b>Max. weight of rolling bearing Bore diameter</b>	5 kg	10 kg	10 kg from 20 mm inner diameter to 160 mm outer diameter
<b>Temperature range Magnetic probe Accuracy (electronic)</b>	50–200 °C ± 5 °C		20–180 °C Yes, type K ± 3 °C
<b>Range of time control Time setting in steps</b>	– –		0–10 minutes 0,1 minutes
<b>Variable power level</b>	–		8 levels: 10–20–30–40–50– 60–80–100%
<b>Automatic demagnetisation Residual magnetism</b>	– –		Yes < 2 A/cm
<b>Coil diameter</b>	–		–
<b>Size of operating area (WxH)</b>	380x180 mm	380x380 mm	–
<b>Dimensions (LxWxH)</b>	390x190x150 mm	390x390x170 mm	340x250x64 mm (over the cone 121 mm)
<b>Overall weight</b>	6 kg	10 kg	3,5 kg
<b>Number of standard yokes</b>	–		–
<b>Standard yokes</b>	–		–
<b>Core cross section</b>	–		–
<b>Movable yoke</b>	–		–
<b>Cooling fan</b>	–		Yes





<b>IH 070</b>	<b>IH 090</b>	<b>IH 210</b>
Induction heater for small to medium workpieces	Induction heater with cooling fan for continuous operation with small to medium workpieces	Induction heater for large workpieces
IH 070/230 V (Art. 110-13010) IH 070/115 V (Art. 110-13020) IH 070/100 V (Art. 110-13030)	IH 090/400 V (Art. 110-14010) IH 090/575 V (Art. 110-14040) IH 090/200 V (Art. 110-14020)	IH 210/400 V (Art. 110-15010) IH 210/575 V (Art. 110-15030) IH 210/200 V (Art. 110-15020)
220–240 V 110–120 V 100 V	400–480 V 575 V 200 V	400–480 V 575 V 200–240 V
50–60 Hz 50–60 Hz 50–60 Hz	50–60 Hz 50–60 Hz 50–60 Hz	50–60 Hz 50–60 Hz 50–60 Hz
16 A 20 A 15 A	16 A 16 A 25 A	25 A 18 A 40 A
3,7 kVA 2,2–2,4 kVA 1,5 kVA	6,4–7,4 kVA 9,2 kVA 5 kVA	10–11,5 kVA 10,4 kVA 8–9,2 kVA
120 kg 20–400 mm	150 kg 20–400 mm	300 kg 60–640 mm
20–250 °C Yes, type K ±3 °C	20–250 °C Yes, type K ±3 °C	20–250 °C Yes, type K ±3 °C
0–60 minutes 0,1 minutes	0–60 minutes 0,1 minutes	0–60 minutes 0,1 minutes
5 levels: 20–40–60–80–100%	5 levels: 20–40–60–80–100%	5 levels: 20–40–60–80–100%
Yes < 2 A/cm	Yes < 2 A/cm	Yes < 2 A/cm
115 mm	115 mm	135 mm
145×205 mm	145×205 mm Optional: 145×410 mm (Art. 110-14030)	250×250 mm Optional: 250×375 mm (Art. 110-15040)
420×280×345 mm	420×280×420 mm	600×350×420 mm
35 kg	38 kg	75 kg
3	3	2
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	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
55×55 mm	55×55 mm	70×70 mm
Optional (swivel arm), Art. 190-13020	Swivel arm	Swivel arm
–	Yes	Optional (Art. 110-15050)

**simatool tools**



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

With simatool tools, rolling bearings and 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
- Gear box manufacture
- Manufacture of electric motors
- Manufacture of pumps etc.
- General engineering



Find more information about our tools  
at [www.simatec.com/en/simatool](http://www.simatec.com/en/simatool)



## Fitting Tool FT 33

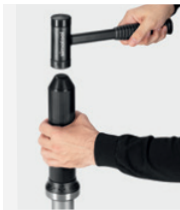
An installation tool that has proven itself thousands of times

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
- Can also be used for presses in combination with the Fitting Tool FT-P



Fitting Tool FT 33



## Fitting Tool FT-P

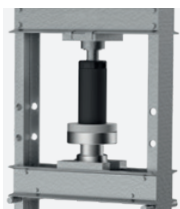
Tool for pressing bearings in or on by means of a press

When used in combination with the mechanical press, the simatool FT-P Fitting Tool ensures the correct installation of components up to a maximum press-in force of 5 tons.

- For bearings and components with an inner diameter of more than 50 mm
- For seals with an inner diameter of up to 60 mm
- The tool can be used on presses with a maximum press-in force of 5 tons
- The set contains 1 impact tube, 6 impact rings and 1 adapter ring
- Ideal complement to the proven Fitting Tool FT 33



Fitting Tool FT-P





# Ball Bearing Puller BP 61

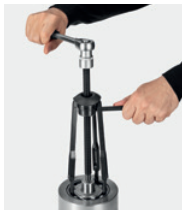
The internal extractor for demanding users

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



# Ball Bearing Puller BP 160

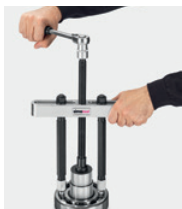
Professional removal kit for tough jobs

The simatool BP 160 dismantling tool enables the dismantling of deep groove ball bearings from the shaft and from the housing.

- For bearing inner diameters of 30–160 mm
- The set contains 6 sets of ball adapters, 1 spindle, 1 crossbeam, 2 pull rods, 2 extensions and 1 spindle attachment
- The BP 160 dismantling tool is the ideal complement to the BP 61 Bearing Puller



Ball Bearing Puller BP 160





## Seal Puller SP 50

The unique solution for challenging tasks

The simatool 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, 2 wrenches



Seal Puller  
SP 50

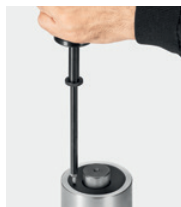
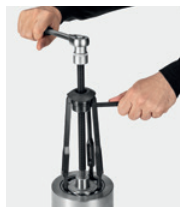
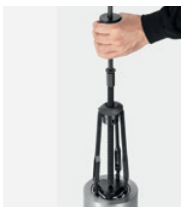


## Twin Puller TP 150

The compact and professional tool for all removal situations

The simatool 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, 2 wrenches
- Compact toolset includes a selection table in a handy case
- Ideal complement to the time-tested simatool Fitting Tool FT 33



## Maintenance Kit MK 10-30

The universal tool kit for installation and removal

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



## Bearing Handling Tool BHT

The specialist for the reliable handling of medium to large bearings

The simatool BHT is the ideal solution for lifting, turning, rotating, transporting and installing medium-sized and large bearings.

- BHT 200-400 for outer diameters measuring from 200-400 mm (150 kg);  
BHT 300-500 for outer diameters measuring from 300-500 mm (500 kg);  
BHT 500-700 for outer diameters measuring from 500-700 mm (500 kg)
- The set includes 1 hoist, 1 pair of protective gloves, 1 pair of anti-twist devices, 2 hoisting slings



Bearing Handling  
Tool BHT





## simatool applications



The Twin Puller TP 150 does it: a tightly seated bearing of an electric motor 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 damaging the housing or shaft.



With the aid of extensions, the BP 160 dismounting tool kit also makes it possible to dismount hard-to-reach bearings easily and professionally.



The FT-P is the ideal solution for installations with greater forces, as the tool can be used on a press. High-quality aluminum rings that do not deform even with press-in forces of 5 tons.



The Fitting Tool FT 33 ensures that the mounting force is evenly distributed across the inner and outer rings of the bearing and therefore 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.

# 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**



### 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**



### 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**



simatec



**simatec**

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