

# Induction heaters and tools



**simatool** **simatherm**

 **SWISS MADE**



## Table of contents

|                                                          |    |
|----------------------------------------------------------|----|
| Advantages: Installation and removal of rolling bearings | 3  |
| simatherm induction heaters                              | 4  |
| simatherm applications                                   | 7  |
| simatherm technical data                                 | 8  |
| simatool tools                                           | 10 |
| simatool applications                                    | 15 |

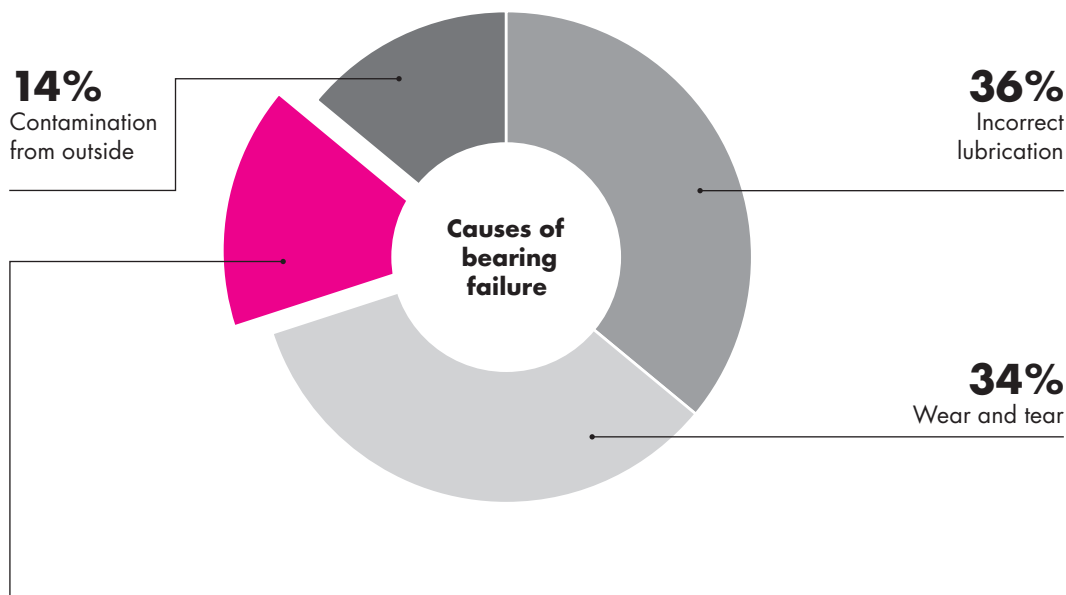
## Developed to impress professionals: Induction heaters and specialized tools for the perfect handling of rolling bearings

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.**

# 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.



## 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 subsurface 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.

16%

## 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 demagnetization
- 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 induction heaters

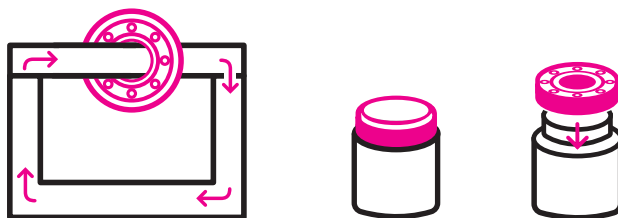


## simatherm – perfect solutions for the clean, efficient installation of rolling bearings

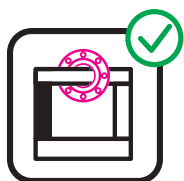
With simatherm induction heaters, rolling bearings and other ring-shaped metal parts can be heated in a highly efficient manner. They allow a quick and clean installation and replace conventional heating methods such as heating plates, hot oil baths, open flames and ovens. During the heating process, only the workpiece is heated while the device itself remains cool. simatherm induction heaters can be used for workpieces weighing up to 300 kg (661 lb).

### Heating with induction

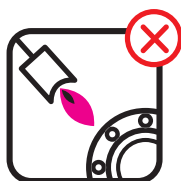
The heating of rolling bearings and ring-shaped metal parts by induction has proved to be an excellent method for installing these parts with both speed and care. An alternating electro-magnetic field induces a high current directly in the workpiece and raises this precisely to the prescribed installation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



simatherm induction heaters



simatherm



Open flames



Oil baths



Ovens

### Where induction heaters are used

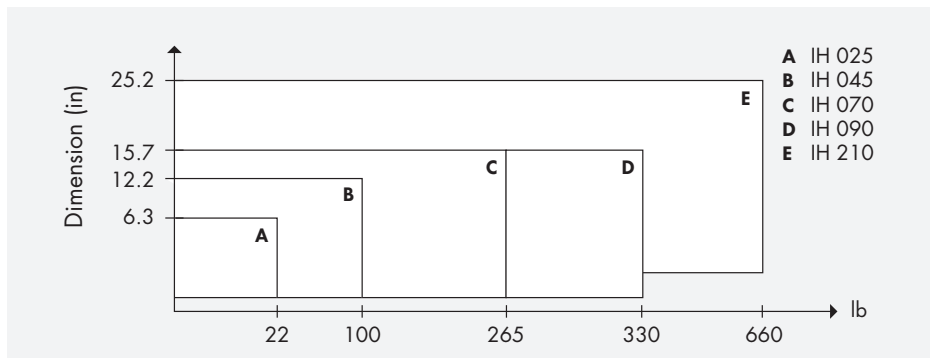
- Vehicle industry
- Gear box manufacture
- Manufacture of electric motors
- Manufacture of pumps
- General engineering
- Maintenance and repair workshops

### 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:





## READY TO LIFT OFF TO THE NEW GENERATION



Explore the next level of induction heating

### Induction Heater **IH 045**

World's first controllable induction heater with an app

For heating the most common roller bearings

- For rolling bearings weighing up to 45 kg (99 lb)
- For workpieces with an inner diameter of 20 to 310 mm (0.8 x 12.2 in.)
- Also included: 3 yokes, 1 temperature probe, 1 pair of protective gloves
- Available for voltages of 100–120 and 230 V



### Induction Heater **IH 125**

Precision heating – with swivel arm and smart app control

Heating device for mid-sized bearings with smart app-controlled precision

- For rolling bearings 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 120 to 480 V
- Fan cooling for continuous operation
- Swivel arm available as an option



Get the app  
«simatec world of maintenance»



## Induction Heater **IH 210**

The most powerful table-top heater

For heating large workpieces

- For rolling bearings weighing up to 300 kg (661 lb)
- For workpieces with an inner diameter of 60 to 640 mm (2.4 to 25.2 in)
- Also included: 2 yokes, 1 temperature probe, 1 pair of protective gloves
- Available for voltages of 200, 400–480 and 575 V
- Extremely simple operation thanks to the sliding yoke



## 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 (22 lb)
- For workpieces with a minimum inner diameter of 20 mm (0.8 in) up to a maximum outer diameter of 160 mm (6.3 in)
- 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



## 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 (11 lb);  
HPL for workpieces weighing up to 10 kg (22 lb)
- Plate surface (WxD) for HPS: 380x180 mm (15x7.1 in);  
for HPL: 380x380 mm (15x15 in)
- Also included: 1 pair of protective gloves
- Available for voltages of 100–115 and 230 V
- Control range from 50 to 200 °C (122 to 392 °F)



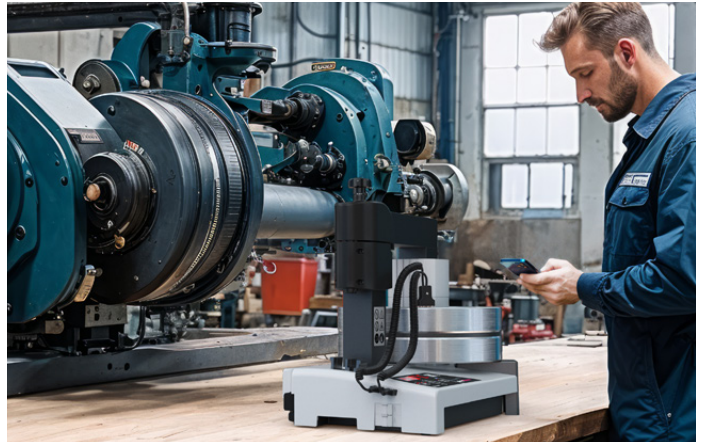
You can find a detailed data sheet for each simatherm induction heater under [www.simatec-usa.com/en/simatherm](http://www.simatec-usa.com/en/simatherm)



## simatherm applications



Two mechanics use an iPad to monitor the heating process of a bearing that has been placed precisely over the swivelling arm of the simatherm IH 125 induction heating device.



Thanks to the two temperature probes and his smartphone, the maintenance professional monitors the precise heating process of a large bearing on the IH 125.



The simatherm IH 045 is operated via the APP simatec WoM. The spherical roller bearing is heated with the two-sensor mode, to avoid mechanical stresses in the bearing.



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)<br>HPS 200/110 V (Art. 110-18020) |  | HPL 200/230 V (Art. 110-18030)<br>HPL 200/110 V (Art. 110-18040) | IH 025 / 230 V (Art. 110-11010)<br>IH 025 / 120 V (Art. 110-11030)                       |
| <b>Voltage</b>                                          | 220–240 V<br>100–120 V                                           |  |                                                                  | 220–240 V<br>110–120 V                                                                   |
| <b>Frequency</b>                                        | 50–60 Hz                                                         |  |                                                                  | 50–60 Hz                                                                                 |
| <b>max. Amperage</b>                                    | 5 A<br>10 A                                                      |  | 10 A<br>20 A                                                     | 6.5 A<br>10 A                                                                            |
| <b>Power</b>                                            | 1000 W<br>1000 W                                                 |  | 2000 W<br>2000 W                                                 | 1.5 kVA<br>1.2 kVA                                                                       |
| <b>Max. weight of rolling bearing<br/>Bore diameter</b> | 5 kg (11 lb)                                                     |  | 10 kg (22 lb)                                                    | 10 kg (22 lb)<br>from 20 mm (0.8 in) inner diameter to<br>160 mm (6.3 in) outer diameter |
| <b>Temperature range</b>                                | 50–200 °C (122–392°F)                                            |  |                                                                  | 20–180 °C (68–356°F)                                                                     |
| <b>Magnetic probe</b>                                   |                                                                  |  |                                                                  | Yes, type K                                                                              |
| <b>Accuracy (electronic)</b>                            | ± 5 °C (9 °F)                                                    |  |                                                                  | ± 3 °C (5.4 °F)                                                                          |
| <b>Range of time control</b>                            | –                                                                |  |                                                                  | 0–10 minutes                                                                             |
| <b>Time setting in steps</b>                            | –                                                                |  |                                                                  | 0.1 minutes                                                                              |
| <b>Variable power level</b>                             | –                                                                |  |                                                                  | 8 levels: 10–20–30–40–50–60–80–100%                                                      |
| <b>Automatic demagnetization</b>                        | –                                                                |  |                                                                  | Yes                                                                                      |
| <b>Residual magnetism</b>                               | –                                                                |  |                                                                  | < 2 A/cm                                                                                 |
| <b>Coil diameter</b>                                    | –                                                                |  |                                                                  | –                                                                                        |
| <b>Size of operating area (WxH)</b>                     | 380x180 mm (15 x 7.1 in)                                         |  | 380x380 mm (15x15in)                                             | –                                                                                        |
| <b>Dimensions (LxWxH)</b>                               | 390x190x150 mm<br>(15.4x7.5x5.9 in)                              |  | 390x390x170 mm<br>(15.4x7.5x5.9 in)                              | 340x250x64 mm (13.4x9.8x2.5 in)<br>(over the cone 121 mm (4.8 in))                       |
| <b>Overall weight</b>                                   | 6 kg (13.2 lb)                                                   |  | 10 kg (22 lb)                                                    | 3.5 kg (7.7 lb)                                                                          |
| <b>Number of standard yokes</b>                         | –                                                                |  |                                                                  | –                                                                                        |
| <b>Standard yokes</b>                                   | –                                                                |  |                                                                  | –                                                                                        |
| <b>Core cross section</b>                               | –                                                                |  |                                                                  | –                                                                                        |
| <b>Movable yoke</b>                                     | –                                                                |  |                                                                  | –                                                                                        |
| <b>Cooling fan</b>                                      | –                                                                |  |                                                                  | Yes                                                                                      |



| IH 045                                                                                                                                                                                                            | IH 125                                                                                                                                                                                                               | IH 210                                                                                                                                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| Induction heater for small to medium                                                                                                                                                                              | Induction heater for medium-sized workpieces                                                                                                                                                                         | Induction heater for large workpieces                                                                                                      |
| IH 045/230 V (Art. 110-12040)<br>IH 045/120 V (Art. 110-12050)                                                                                                                                                    | IH 125/400 V (Art. 110-17010)<br>IH 125/230 V (Art. 110-17040)<br>IH 125/120 V (Art. 110-17052)<br>*With swivel arm:<br>IH 125/400 V S (Art. 110-17015)<br>IH 125/230 V S (Art. 110-17045)                           | IH 210/400 V (Art. 110-15010)<br>IH 210/575 V (Art. 110-15030)<br>IH 210/200 V (Art. 110-15020)                                            |
| 220–240 V<br>110–120 V                                                                                                                                                                                            | 380–480 V<br>220–240 V<br>110–120 V                                                                                                                                                                                  | 400–480 V<br>575 V<br>200–230 V                                                                                                            |
| 50–60 Hz                                                                                                                                                                                                          | 50–60 Hz                                                                                                                                                                                                             | 50–60 Hz                                                                                                                                   |
| 9 A<br>15 A                                                                                                                                                                                                       | 16 A<br>16 A                                                                                                                                                                                                         | 25 A<br>18 A<br>40 A                                                                                                                       |
| 2.1 kVA<br>1.8 kVA                                                                                                                                                                                                | 6.4 kVA<br>3.7 kVA<br>2.4 kVA                                                                                                                                                                                        | 10 kVA<br>10.4 kVA<br>8 kVA                                                                                                                |
| 45 kg (100 lb)<br>20–310 mm (0.8–12.2 in)                                                                                                                                                                         | 150 kg (330 lb)<br>20–400 mm (0.8–15.8 in)                                                                                                                                                                           | 300 kg (661 lb)<br>60–640 mm (2.4–25.2 in)                                                                                                 |
| 20–180 °C (68–356 °F)<br>Yes, type K<br>± 3 °C (5.4 °F)                                                                                                                                                           | 20–250 °C (68–482 °F)<br>Yes, type K<br>± 3 °C (5.4 °F)                                                                                                                                                              | 20–250 °C (68–482 °F)<br>Yes, type K<br>± 3 °C (5.4 °F)                                                                                    |
| 0–60 minutes<br>0.1 minutes                                                                                                                                                                                       | 0–60 minutes<br>0.1 minutes                                                                                                                                                                                          | 0–60 minutes<br>0.1 minutes                                                                                                                |
| 8 levels: 10–20–30–40–50–60–80–100%                                                                                                                                                                               | 8 levels: 10–20–30–40–50–60–80–100%                                                                                                                                                                                  | 5 levels: 20–40–60–80–100%                                                                                                                 |
| Yes<br>< 2 A/cm                                                                                                                                                                                                   | Yes<br>< 2 A/cm                                                                                                                                                                                                      | Yes<br>< 2 A/cm                                                                                                                            |
| 89 mm (3.5 in)                                                                                                                                                                                                    | 115 mm (4.6 in)                                                                                                                                                                                                      | 135 mm (5.3 in)                                                                                                                            |
| 114×160 mm (4.5×6.3 in)                                                                                                                                                                                           | 142,5×201 mm (5.6×7.9 in)                                                                                                                                                                                            | 250×250 mm (9.8×9.8 in)<br>Optional (Art. 110-15040): 250×375 mm (9.8×14.8 in)                                                             |
| 320×267×293 mm (12.6×10.5×11.5 in)                                                                                                                                                                                | 425×300×355 mm (16.7×11.8×14 in)                                                                                                                                                                                     | 600×350×420 mm (25.6×13.8×16.5 in)                                                                                                         |
| 17 kg (37.5 lb)                                                                                                                                                                                                   | 35 kg (77 lb)                                                                                                                                                                                                        | 75 kg (165.3 lb)                                                                                                                           |
| 3                                                                                                                                                                                                                 | 3                                                                                                                                                                                                                    | 2                                                                                                                                          |
| 1.7×1.7×8.6 in for bearings with a bore diameter of at least 2.4 in<br>1.1×1.1×8.6 in for bearings with a bore diameter of at least 1.6 in<br>0.5×0.5×8.6 in for bearings with a bore diameter of at least 0.8 in | 2.5×2.5×10.8 in for bearings with a bore diameter of at least 3.1 in<br>1.1×1.1×10.8 in for bearings with a bore diameter of at least 1.6 in<br>0.5×0.5×10.8 in for bearings with a bore diameter of at least 0.8 in | 2.8×2.8×16.5 in for bearings with a bore diameter of at least 4 in<br>1.6×1.6×16.5 in for bearings with a bore diameter of at least 2.4 in |
| 42,5×42,5 mm (1.7×1.7 in)                                                                                                                                                                                         | 55×55 mm (2.2×2.2 in)                                                                                                                                                                                                | 70×70 mm (2.8×2.8 in)                                                                                                                      |
| -                                                                                                                                                                                                                 | Optional (swivel arm), Art. 190-13020<br>*S-Heaters with swivel arm                                                                                                                                                  | Sliding yoke                                                                                                                               |
| Yes                                                                                                                                                                                                               | 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-usa.com/en/simatool](http://www.simatec-usa.com/en/simatool)

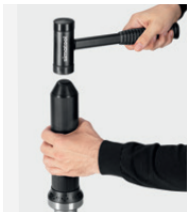


## Fitting Tool **FT 33**

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 (0.4–2.0 in)
- 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

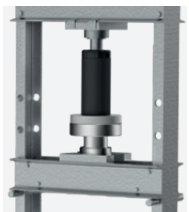


## Fitting Tool **FT-P**

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 (11'023 lb).

- For bearings and components with an inner diameter of more than 50 mm (2.2 in)
- For seals with an inner diameter of up to 60 mm (2.4 in)
- The tool can be used on presses with a maximum press-in force of 5 tons (11'023 lb)
- The set contains 1 impact tube, 6 impact rings and 1 adapter ring
- Ideal complement to the proven Fitting Tool FT 33

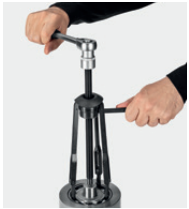


## Ball Bearing Puller **BP 61**

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 (0.4–3.9 in)
- 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 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 (1.2–6.3 in)
- 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



## 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

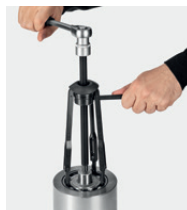


## Twin Puller TP 150

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 (0.4–3.9 in)
- 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

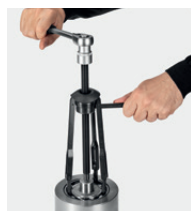


## Maintenance Kit **MK 10-30**

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 (0.4–1.2 in)
- 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

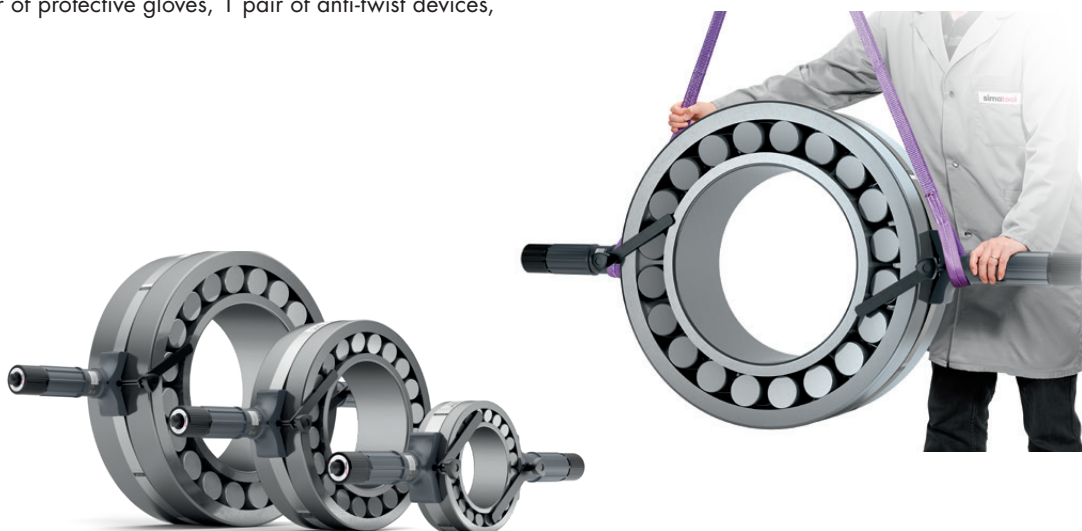


## Bearing Handling Tool **BHT**

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 (7.9x15.7 in), 150 kg (330 lb);  
BHT 300–500 for outer diameters measuring from 300–500 mm (11.8–19.7 in), 500 kg (1'102 lb);  
BHT 500–700 for outer diameters measuring from 500–700 mm 19.7–27.6 in), 500 kg (1'102 lb)
- The set includes 1 hoist, 1 pair of protective gloves, 1 pair of anti-twist devices, 2 hoisting slings



## 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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