



# Heating a 210 kg bearing now takes as long as a coffee break ...


## SKF TIH Induction Heaters

Heating bearings can be a time and energy-consuming job, not anymore ...

Imagine placing a 210 kg bearing on an induction heater, going for a cup of coffee and when you come back the bearing is heated up and ready to be mounted. SKF makes that possible with its new generation of induction heaters. The new generation of SKF TIH induction heaters includes three different heaters, which all have been designed with efficiency and cost saving in mind. To achieve maximum heating efficiency, the induction coil of the SKF heaters is positioned outside the heater's housing allowing the bearing to be placed around it. This significant innovation results in reducing heating time and power consumption by up to 80%, ultimately saving up to 70% on heating costs. For example, the SKF TIH 210m heats a 210 kg (460 lb) bearing from 20 to 110 °C (68 to 230 °F) in just 20 minutes.

### SKF m<sub>20</sub> concept

"m<sub>20</sub>" represents the weight (kg) of the heaviest SRB 231 bearing which can be heated from 20 to 110 °C (68 to 230 °F) in 20 minutes. This defines the heater's power output instead of its power input: kVA.

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- 4-step power reduction, ranging from 20 to 80%, in combination with smaller yokes allows heating smaller bearings at lower power consumption
  - Thermal overheating protection of the induction coil and electronics
  - Time and temperature modes for heating components other than bearings
  - Automatic demagnetisation
  - Compact design
  - Light weight
  - Supplied standard with extra yokes

Once again SKF sets the standard for induction heating

# Regardless of the size of your bearing, SKF offers you the right heater



**TIH 210m**

## Heating a 210 kg bearing takes just 20 minutes

The SKF TIH 210m is an extremely efficient large induction heater, which is suitable for heating bearings weighing up to 300 kg (660 lb).

- One power supply execution ranging from 400V/50Hz to 460V/60Hz, the SKF TIH 210m detects the power supply and automatically adjusts its voltage accordingly
- Sliding arm facilitates easy placement and removal of the bearing
- Supplied standard with two yokes
- Compact, lightweight design, 75 kg (165 lb) including two yokes
- A fan version, TIH 210F, allowing continuous use is available



**TIH 070m**

**TIH 090m**

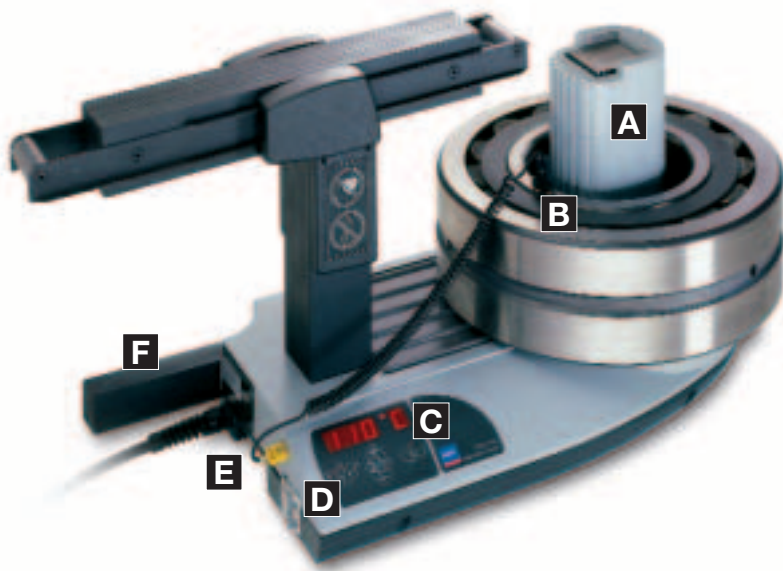
## Heating small to medium size bearings three times faster and twice as cheap

For heating small to medium size bearings, SKF offers the TIH 070m. This small to medium size heater has a high heating capacity of up to 80 kg (176 lb).

- Available in two power executions; 230V/50Hz and 110V/60Hz
- Supplied standard with three yokes
- Compact, lightweight design, 35 kg (77 lb) including three yokes
- Swivel arm is optional
- A fan version, TIH 090m, allowing continuous use is available:
  - One Power supply ranging from 400V/50Hz to 460V/60Hz, the SKF TIH 090m detects the power supply and automatically adjusts its voltage accordingly
  - Swivel arm facilitates easy placement and removal of the bearing
  - Heating capacity up to 120 kg (260 lb)

Optional swivel arm





## Features

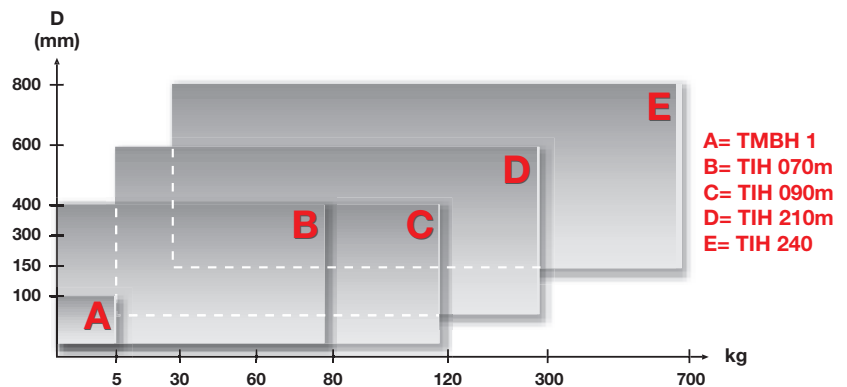
- A Induction coil outside the heater's housing**  
Reduces heating time and energy consumption by 80%.  
Reduces heating cost by 70%
- B Magnetic temperature probe**  
Monitors bearing temperature during heating
- C Operating panel**  
Keyboard with LED. Temperature mode pre-set at 110 °C (230 °F), helps preventing bearing overheating
- D 4-step power reduction**  
Heats smaller bearings just as quickly but at lower power consumption
- E Integrated carrying handles**  
Provide excellent grip when moving the TIH heaters around
- F Internal yoke storage**  
Storage for the extra yokes reduces the risk of yoke damage or loss

The 43,5 kg bearing featured in these photographs was heated to 110 °C (230 °F) using the SKF TIH 210m in just 130 seconds!

## Selection guide

## Diameter / weight capacity SKF induction heaters

There are no totally restrictive guidelines to follow when choosing your SKF bearing heater. It will depend upon the type and geometrical dimensions of the components you want to heat. SKF offers the following helpful general selection guide.



## Ordering details

Designation	Description
729659C	Electric hot plate
TMBH 1	Portable induction heater
TIH 070M/230V	Small to medium size induction heater, 230V/50Hz power execution
TIH 070M/110V	Small to medium size induction heater, 110V/60Hz power execution
TIH 090M	Continuous use small to medium size induction heater equipped with a cooling fan
TIH 070/090-Y6	Optional yoke, 40 x 40 x 275 mm (1.6 x 1.6 x 10.8 in) for heating bearings with bore diameter of 60 mm (2.4 in) and larger
TIH 070/090-Y3	Optional yoke, 20 x 20 x 275 mm (0.8 x 0.8 x 10.8 in) for heating bearings with bore diameter of 30 mm (1.2 in) and larger
TIH 070/090-SA	Optional swivel arm
TIH 210M	Large induction heater
TIH 210F	Continuous use execution of the TIH 210m with a cooling fan
TIH 210-Y80	Optional yoke, 55 x 55 x 420 mm (2.2 x 2.2 x 16.5 in) for heating bearings with bore diameter of 80 mm (3.2 in) and larger
TIH 240	Large induction heater, 400V/50Hz power execution
TIH 240/460V	Large induction heater, 460V/60Hz power execution
TIH T1	Mobile trolley
TMMH 300/500	Bearing Handling Tool, for bearings with outer diameter 300 to 500 mm (12 to 20 in)
TMMH 500/700	Bearing Handling Tool, for bearings with outer diameter 500 to 700 mm (20 to 28 in)
TMBA G11	Heat resistant gloves
TMBA G11H	Heat and oil resistant gloves



Technical data			
Designation	TIH 070M	TIH 090M	TIH 210M
<b>Description</b>	Small to medium size induction heater	Continuous use small to medium size induction heater	Large size induction heater
<b>SKF m<sub>20</sub> performance</b>	60,5 kg (144 lb)	90,5 kg (200 lb)	210 kg (460 lb)
<b>Voltage, V/Hz</b>	230V/50/60Hz or 110V/50/60Hz	Self-adjusting; 400/50 - 460/60	Self-adjusting; 400/50 - 460/60
<b>Work piece</b> - Maximum weight - Maximum bore diameter	80 kg (176 lb) 20 - 400 mm (0.8 - 15.7 in)	120 kg (260 lb) 20 - 400 mm (0.8 - 15.7 in)	300 kg (660 lb) 60 - 600 mm (2.4 - 24 in)
<b>Temperature control</b> - Range - Magnetic probe - Accuracy (electronics)	0 - 250 °C (32 - 482 °F) Yes, K-type ± 3 °C (± 5 °F)	0 - 250 °C (32 - 482 °F) Yes, K-type ± 3 °C (± 5 °F)	0 - 250 °C (32 - 482 °F) Yes, K-type ± 3 °C (± 5 °F)
<b>Time control</b> - Range - Accuracy	0 - 60 minutes ± 0,01 sec.	0 - 60 minutes ± 0,01 sec.	0 - 60 minutes ± 0,01 sec.
<b>Maximum temperature (approx.)</b>	400 °C (750 °F)	400 °C (750 °F)	400 °C (750 °F)
<b>Thermometer mode</b>	Yes	Yes	Yes
<b>Bearing temperature preset</b>	Yes	Yes	Yes
<b>Power reduction</b>	4-step; 20-40-60-80%	4-step; 20-40-60-80%	4-step; 20-40-60-80%
<b>Demagnetisation according to SKF norms (automatic)</b>	Yes (<2 A/cm)	Yes (<2 A/cm)	Yes (<2 A/cm)
<b>Can heat sealed bearings</b>	Yes	Yes	Yes
<b>Can heat pre-greased bearings</b>	Yes	Yes	Yes
<b>Error guiding codes</b>	Yes	Yes	Yes
<b>Thermal overload protection</b>	Yes	Yes	Yes
<b>Maximum magnetic flux</b>	1,5 T	1,5 T	1,5 T
<b>Control panel</b>	Key board with LED	Key board with LED	Key board with LED
<b>Operating area (w x h)</b>	145 x 205 mm (5.7 x 8.0 in)	145 x 205 mm (5.7 x 8.0 in)	250 x 250 mm (9.8 x 9.8 in)
<b>Coil diameter</b>	115 mm (4.5 in)	115 mm (4.5 in)	135 mm (5.3 in)
<b>Dimensions (w x d x h)</b>	420 x 280 x 345 mm (16.5 x 11.0 x 13.6 in)	420 x 280 x 420 mm (16.5 x 11.0 x 16.5 in)	600 x 350 x 420 mm (24 x 13.7 x 16.5 in)
<b>Total weight, including yokes</b>	35 kg (77 lb)	38 kg (84 lb)	75 kg (165 lb)
<b>Maximum power</b>	3,6 / 2,0 kVA	6,4 kVA	10,0 kVA
<b>Number of standard yokes</b>	3	3	2
<b>Standard yokes</b>	55 x 55 x 275 mm (2.2 x 2.2 x 10.8 in), for heating bearings with bore diameter of 80 mm (3.1 in) and larger. 28 x 28 x 275 mm (1.1 x 1.1 x 10.8 in), for heating bearings with bore diameter of 40 mm (1.6 in) and larger. 14 x 14 x 275 mm (0.5 x 0.5 x 10.8 in), for heating bearings with bore diameter of 20 mm (0.8 in) and larger.	55 x 55 x 275 mm (2.2 x 2.2 x 10.8 in), for heating bearings with bore diameter of 80 mm (3.1 in) and larger. 28 x 28 x 275 mm (1.1 x 1.1 x 10.8 in), for heating bearings with bore diameter of 40 mm (1.6 in) and larger. 14 x 14 x 275 mm (0.5 x 0.5 x 10.8 in), for heating bearings with bore diameter of 20 mm (0.8 in) and larger.	70 x 70 x 420 mm (2.8 x 2.8 x 16.5 in), for heating bearings with bore diameter of 100 mm (3.9 in) and larger. 40 x 40 x 420 mm (1.6 x 1.6 x 16.5 in), for heating bearings with bore diameter of 60 mm (2.4 in) and larger.
<b>Core cross section</b>	55 x 55 mm (2.2 x 2.2 in)	55 x 55 mm (2.2 x 2.2 in)	70 x 70 mm (2.8 x 2.8 in)
<b>Yoke storage</b>	Yes, internal	Yes, internal	Yes, internal
<b>Sliding arm</b>	-	-	Yes
<b>Swivel arm</b>	Optional	Yes	-
<b>Cooling fan</b>	No	Standard	Optional
<b>Housing material</b>	Aluminium	Aluminium	Aluminium
<b>Warranty period</b>	3 years	3 years	3 years

## SKF Bearing Handling Tool TMMH series

### Safe grip on handling medium and large size bearings

Handling medium and large size bearings can be a complicated, time consuming and hazardous job. To help ensure safe, easy and damage-free handling of bearings, SKF has developed its Bearing Handling Tool. The SKF Bearing Handling Tool facilitates the handling of both cold and heated bearings. Since it can withstand temperatures up to 160 °C (320 °F), the Bearing Handling Tool can remain around the bearing while it is being heated using an induction heater.



## Electric hot plate 729659 C

### Thermostat controlled small bearings heating

The SKF electric hot plate, 729659 C, is especially designed for heating small bearings. The temperature of the plate can be adjusted at the turn of a knob to provide a temperature range of between 50 and 200 °C (120 and 390 °F).



## SCORPIO induction heater TMBH 1

### Portable induction heater for bearings up to 5 kg

The SKF TMBH 1 is a portable lightweight induction heater for heating bearings with an inner diameter ranging from 20 to 100 mm (0.8 to 4 in) with a maximum corresponding weight of 4 to 5 kg (9 to 11 lb). The heater utilises a patented method of heating based on high frequency induction and provides optimised efficiency. The TMBH 1 is equipped with temperature and time control.



## Large induction heater TIH 240

### Fast and safe heating of large size bearings

The SKF TIH 240 induction heater is designed for the heating of large size bearings up to 700 kg (1,500 lb) and any other large components up to 300 kg (660 lb). This heater can heat a 445 kg (980 lb) bearing in just 10 minutes. It is designed for easy transport using a forklift.



## SKF Gloves TMBA series

### Safe handling of heated and oily bearings

SKF also offers heat and heat & oil resistant gloves for the safe handling of heated and oily bearings. These gloves are made of special fabrics, making them cut resistant and lint free. They have been tested and certified for mechanical and thermal hazards.



## Technical data 729659 C

<b>Designation</b>	<b>729659 C</b> <b>729659 C/110V</b>	
<b>Voltage</b>	729659 C	230V (50/60Hz)
	729659 C/110V	115V (50/60Hz)
<b>Power</b>	1.000 W	
<b>Temperature range</b>	50 - 200 °C (120 - 390 °F)	
<b>Plate dimensions (l x w)</b>	380 x 178 mm (15 x 7 in)	
<b>Height of cover</b>	50 mm (2 in)	
<b>Overall dimensions (l x w x d)</b>	400 x 240 x 130 mm (16 x 10 x 5 in)	
<b>Weight</b>	4,7 kg (10 lb)	
<b>Length of connection cable</b>	2 m (6.6 ft) (earth connection required)	



729659 C

## Technical data TMBH 1

<b>Designation</b>	<b>TMBH 1</b>
<b>Power:</b>	
<b>Voltage</b>	100 - 240 V, 50 - 60 Hz
<b>Power (maximum)</b>	350 Watt
<b>Cosine φ</b>	> 0,95
<b>Component size range:</b>	
- inner diameter	20 - 100 mm (0.8 - 4 in)
- width	< 50 mm (2 in)
- weight	up to approximately 5 kg (11 lb)
<b>Control functions:</b>	
<b>Time control</b>	0 - 60 minutes
<b>Temperature control</b>	0 - 200 °C (32 - 392 °F)
<b>Accuracy temperature control</b>	± 3 °C (6 °F)
<b>Maximum temperature</b>	200 °C (392 °F)
<b>Dimensions:</b>	
<b>Control box</b>	150 x 330 x 105 mm (6 x 13 x 4 in)
<b>Heating clamp</b>	114 x 114 mm (4.5 x 4.5 in)
<b>Operating space heating clamp</b>	52 x 52 mm (2.0 x 2.0 in)
<b>Complete unit in carrying case</b>	370 x 240 x 130 mm (15 x 9 x 5 in)
<b>Length clamp cable</b>	75 cm (30 in)
<b>Length power cable</b>	2 m (80 in)
<b>Length temperature probe cable</b>	100 cm (40 in)
<b>Weight complete unit</b>	4,5 kg (10 lb)



TMBH 1



TIH 240

## Technical data TIH 240

Heater model options <i>Other power supplies available on request</i>	Designation TIH 240 TIH 240/460V	Voltage 400V/50 Hz 460V/60 Hz	Heater model options <i>Other power supplies available on request</i>	Designation TIH 240 TIH 240/460V	Voltage 400V/50 Hz 460V/60 Hz
<b>Power consumption (maximum)</b>	24 kVA		<b>Can heat sealed bearings</b>	•	
<b>Recommended maximum weight</b>	Bearing 700 kg (1,500 lb)		<b>Can heat pre-greased bearings</b>	•	
<b>Other components</b>	300 kg (660 lb)		<b>Error guiding codes</b>	•	
<b>Temperature control</b>			<b>Thermal overload protection</b>	•	
- range	0 - 250 °C (32 - 482 °F)		<b>Power overload protection</b>	•	
- magnetic probe	•		<b>Maximum magnetic flux</b>	1,5 T	
- accuracy (electronics)	± 3 °C (5 °F)		<b>Operating area (w x h)</b>	330 x 355 mm (12.9 x 13.9 in)	
<b>Time control</b>			<b>Dimensions (w x d x h)</b>	750 x 400 x 935 mm (29.4 x 15.7 x 36.8 in)	
- range (min)	0-60		<b>Weight - with yoke</b>	300 kg (660 lb)	
- accuracy	0,01 s		<b>Standard yoke</b>	100 x 100 x 570 mm (4 x 4 x 22.4 in)	
<b>Maximum temperature (approx)</b>	400 °C (750 °F)		<b>Warranty period</b>	3 years	
<b>Thermometer mode</b>	•				
<b>Bearing mode</b>	•				
<b>Power reduction</b>	50%				
<b>Demagnetisation acc. to SKF norms (automatic)</b>	Below 2 A/cm				

In line with our policy of continuous development of our products we reserve the right to alter any part of the above specification without prior notice.

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