

Application

The new SKF induction heater TIH 070m is suitable for heating bearings with a maximum weight of 80 kg (176 lb) and solid components of a maximum weight of 40 kg (88 lb).

Description

The new TIH 070m is capable of heating a 65,5 kg (144 lb) bearing in just 20 minutes. The induction coil is positioned outside the heater's housing, the same concept as the TIH 210m, which allows the bearing to be placed around the coil. This results in considerable reduction of heating time and energy consumption as well as heating costs when compared to similar heaters.

The total weight of the TIH 070m is 35 kg (77 lb) including three yokes, which are supplied standard with the heater. The yokes can be stored inside the heater's housing reducing the risk of yoke damage or loss. The smaller yoke is for heating smaller bearings at lower power consumption. The coil core cross-section measures 55 x 55 mm (2.2 x 2.2 in). The TIH 070m is equipped with a 4-step power reduction, ranging from 20 to 80%. The TIH 070m is available in two power execution versions; 230V/50Hz and 110V/60Hz.

m20 concept

"m20" 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, e.g. TIH 120 → 120 = 12,0 kVA.



Safety

- Since a magnetic field is generated by the bearing heaters, people wearing a pacemaker should not work with or be within 5 m (16ft) of the heater during operation
- The bearing heaters should not be used in areas where there is a risk of explosion



Functions

Main switch

The heater is fitted with a main switch, which is supposed to be used when the heater is switched off for a longer period.

Start/stop

The START/STOP key is pressed to start and stop the heating cycle with automatic demagnetisation.

Power reduction function

In both the TEMP mode and the TIME mode the power level can be adjusted in steps of 20% for slower heating of sensitive or small work pieces.

The temperature function

The SKF TIH 070m is equipped with temperature heating cycle mode, which is pre-set at 110 °C (230 °F) to prevent bearing over-heating, as well as time heating mode.

The time function

By using the TIME mode, the heating cycle will be monitored by time. The remaining heating time will be displayed during operation.

Thermometer mode

The heater has a special thermometer function allowing temperature measurement while not heating.

Demagnetisation

The work piece is always automatically demagnetised at the end of each heating cycle. This most essential function is only eliminated if the heater is switched off by the main switch or by pulling the plug. When using the heater only for demagnetising, just run the heater on shortest possible heating time.

Safety features

The induction heater is equipped with the following safety features:

- main switch with over current circuit breaker
- automatic current control
- automatic overheating protection
- a probe control function, checking that an increase of 1 is encountered every 15 seconds
- temperature mode pre-set at 110 °C (230 °F), preventing bearing over-heating

Error guiding codes

In case of disturbances in the operation of the heaters, an error code will appear on the display to inform what is wrong and how to solve the problem.

Maintenance

- For ultimate performance and lifetime:
- Protect the yoke supports and the yokes against corrosion, damage and deformation. A perfect contact between the yoke and the yoke support is vital for optimal performance
 - Protect the heater from water and high humidity

Technical data

Designation	TIH 070M
Description	Small to medium size induction heater
Colour	Light grey
Maximum power consumption	

- 230V/50HZ	3,6 kVA
- 110V/60Hz	2,0 kVA
Voltage, V/Hz	230V/50Hz or 110V/60Hz
Maximum recommend bearing weight	80 kg (176 lb)
m ₂₀	65,5 kg (144.4 lb) (bearing 23148)
Temperature control:	
- Range	0 - 250 °C (32 - 482 °F)
- Magnetic probe	Yes, K-type
- Accuracy (electronics)	± 3 C (± 5 F)
Time control:	
- Range	0 - 60 minutes
- Accuracy	± 0,01 sec.
Maximum temperature (approx.)	400 °C (750 °F)
Thermometer mode	Yes
Power reduction	4-step; 20-40-60-80%
Demagnetisation according to SKF norms (automatic)	Yes (<2 A/cm)
Can heat sealed bearings	Yes
Can heat pre-greased bearings	Yes
Error guiding codes	Yes
Thermal overload protection	Yes
Maximum magnetic flux	1,5 T
Control panel	Key board with LED
Operating area (w x h)	145 x 205 mm (5.7 x 8.0 in)
Coil diameter	115 mm (4.5 in)
Dimensions (w x d x h)	420 x 280 x 345 mm (16.5 x 11.0 x 13.6 in)
Total weight, including yokes	35 kg (77 lb)
Standard yokes	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.
Core cross section	55 x 55 mm (2.2 x 2.2 in)
Yoke storage	Yes, internal
Housing material	Aluminium
Warranty period	3 years
Swivel arm	Optional
Cooling fan	No

Replacement parts

Designation	Description
TIH 070-P	Power print 100-240 V, 50-60 Hz
TIH 070-S	Main switch
TIH 070-C230V	Coil 230 V
TIH 070-C110V	Coil 110 V
TIH 070/090-H	Heating pad and sealing
TIH 070/090-SA	Swivel arm
TIH 070/090-Y8	Yoke 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
TIH 070/090-Y6	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-Y4	Yoke 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
TIH 070/090-Y3	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-Y2	Yoke 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.
TIH 070/090-YS	Support yoke set 55 x 55 x 100 (2x) (2.2 x 2.2 x 3.9 in)
TIH 070-CP/110	Control print for TIH 070m/110V
TIH070/090-CP	Control print for TIH 070m/230V
TIH P2	Temperature probe, K type

