

Application

SKF bearing heaters are all designed to heat bearings prior to mounting them with a shrink fit. The TIH 025 is recommended for bearings with a weight up to approximately 30 kg (70 lb). The heater can also be used for heating any other machinery component made of metal and forming a closed electrical loop such as bushings, labyrinth rings, shrink rings, belt pulleys, gears, etc. At the end of each heating cycle, the workpieces are automatically demagnetised. The apparatus can also be used only for demagnetising. The maximum temperature which can be reached is approximately 400 °C (750 °F) but depends on the weight, geometry and material of the workpiece.

Description

SKF bearing heaters use the principle of electrical induction to generate heat. It is basically done by putting the bearing as the secondary coil on a type of transformer. The primary coil, with a large number of windings, is then connected to high voltage, causing a low current to pass through the coil. This will create a magnetic field flowing through the mutual iron core, inducing low voltage and a very high current in the bearing. The electrical resistance of the bearing will thus cause it to heat rapidly.

TIH 025 consists of a housing, three top yokes and a yoke tray. Maximum power consumption is 3,5 kVA. In order to provide highest possible efficiency a special power limitation device has been built in. The TIH 025 is provided with a main switch and the heating cycle can be monitored by means of a timer (0 - 15 minutes).



Safety

- Since a magnetic field is generated by the bearing heaters, people wearing a pacemaker should not work with or be in the immediate vicinity of the apparatus
- The bearing heater should not be used in areas where there is a risk of explosion



Functions

Main switch

Both heaters are fitted with a main circuit breaker for improved safety. This switch is supposed to be used when the heaters are switched off for a long period.

Start/stop

On the TIH 025 the start / stop will be controlled by the mechanical timer. A separate signal lamp will burn while the heater is in operation.

Overheating protection

The TIH 025 is equipped with automatic overheating protection. Once this function is activated, you need to wait until the heater cools down before you can operate it again.

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 by the position of the mechanical timer.

Demagnetisation

The workpiece 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 the run the heater on shortest possible heating time.

Maintenance

It is recommended that the yoke supports and the yokes be protected against corrosion, damage and deformation. A perfect contact between the yoke and the yoke support is vital for optimum function. The heaters should also be protected from water and very high humidity.

Technical data

Designation***

Voltage

Power consumption* (maximum)

230V
115V

TIH 025

230V/50/60Hz
115V/50/60Hz
100V/50/60Hz
3,5 kVA
2,2 kVA

Recommended maximum bearing weight*	100V	3,0 kVA 30 kg 70 lb
Temperature control		-
Range		-
Magnetic probe		-
Accuracy (electronics)		-
Time control		yes
Range (min)		0-15
Accuracy		10 s
Maximum temperature* (approximately)		400 °C / 750 °F
Thermometer mode		-
Power reduction		PLD**
Demagnetisation acc. to SKF norms (automatic)		yes
Can heat sealed bearings		yes
Can heat pre-greased bearings		yes
Error guiding codes		-
Thermal overload protection		yes
Maximum magnetic flux		1,4 T
Operating area (w x h)		130 x 95 mm (5.1 x 3.7 in)
Dimensions (w x d x h)		290 x 255 x 225 mm (11.4 x 10.0 x 8.9 in)
Weight		
Heater body		19 kg (42 lb)
With yokes		27 kg (60 lb)
Standard yokes		
		14 x 14 x 240 mm (0.6 x 0.6 x 9.4 in)
		30 x 30 x 240 mm (1.2 x 1.2 x 9.4 in)
		55 x 55 x 240 mm (2.2 x 2.2 x 9.4 in)
Optional yokes		
TIH 025/030-12		10 x 10 x 240 mm (0.4 x 0.4 x 9.4 in)
TIH 025/030-10		20 x 20 x 240 mm (0.8 x 0.8 x 9.4 in)
TIH 025/030-11		45 x 45 x 240 mm (1.8 x 1.8 x 9.4 in)
Support yokes set		
TIH 025/030-6		55 x 55 x 100 mm (2.2 x 2.2 x 3.9 in)
Yoke tray		yes
Housing material		Glass-fiber reinforced polyester
Warranty period		3 years
* Depends on operating voltage and workpiece material/geometry		
** Power Limitation Device		
*** Indicate voltage when ordering (designations TIH 025 is the 230V/50/60Hz version)		

Replacement parts

Designation	Description
TIH 025-0	Empty body complete
TIH 025-0A	Cover set complete
TIH 025-1	Print plate 230V complete
TIH 025-1/110V	Print plate 115V complete
TIH 025-2	Timer complete
TIH 025-3	Pilot lamp 230V
TIH 025-3/110V	Pilot lamp 115V
TIH 025/030-1A	Triac 230V
TIH 025/030-1B	Triac 115/100V
TIH 025/030-2	Main switch
TIH 025/030-3	Yoke 14 x 14 x 240 mm (0.6 x 0.6 x 9.4 in)
TIH 025/030-4	Yoke 30 x 30 x 240 mm (1.2 x 1.2 x 9.4 in)
TIH 025/030-5	Yoke 55 x 55 x 240 mm (2.2 x 2.2 x 9.4 in)
TIH 025/030-6	Support yoke set 55 x 55 x 100 mm (2.2 x 2.2 x 3.9 in)
TIH 025/030-7	Overheating protection complete
TIH 025/030-8	Yoke tray
TIH 025/030-9	Rubber mat
TIH 025/030-10	Optional yoke 20 x 20 x 240 mm (0.8 x 0.8 x 9.4 in)
TIH 025/030-11	Optional yoke 45 x 45 x 240 mm (1.8 x 1.8 x 9.4 in)
TIH 025/030-12	Optional yoke 10 x 10 x 240 mm (0.4 x 0.4 x 9.4 in)