

# **Operating Instructions**

of

**Heating Tapes series**

**KM-HT-BS30**

## **General Instruction:**

Heating tapes of the specified types are glass-insulated, flexible heaters. They have been designed for heating up and temperature maintenance of short pipes, laboratory glass ware and similar applications .

The individual heating wire of this series are fixed by a carrier material of glass silk.

They are intended for building up heating installations and heating apparatus in the laboratory, Chemistry and industrial sector according to the specified standards.

Heating tapes of this series can be used for temperatures up to 450 °C at the heating conductor.

## **1. Safety Instructions**

The present product is intended for use in industrial electric heating plants and apparatus. During planning, set-up, inspection, operation and maintenance the requirements of :

- the present Operating instruction
- DIN EN 60519-1 „ Safety instruction in electric heating apparatus “  
Part 1: General requirements ( = IEC 519-1 = VDE 0721 part 911 )
- and the relevant parts of VDE 0100

as well as additional standards, regulations ( e.g. those imposed by the employers liability insurance associations ) and rules have to be observed.

The protective measures against hazardous body currents have to followed according to VDE 410 and part 540 ( ear thing ) in addition to the above standards.

In addition, the following safety notes are to be observed:

**W A R N I N G !**

The heating tape is an electrical equipment.  
It must therefore be operated only by properly trained staff.

Maintenance connection and repair have to be performed by trained  
specialized and qualified staff

**Suspected failure :**

In the unlikely event of a suspected failure, break the heating tape from the electricity supply immediately.

**This is the case if :**

- the installation shows visible damages,
- the installation is not functioning any more ,
- the heating tape has failed due to misuse i.e. over voltage.

**Main Voltage :**

Before the heating tape is connected to the supply voltage, care must be taken to ensure that the heating tape rated voltage matches that of the supply.

**Heating Media :**

The heating tape are not Ex certified, therefore, they must not be used in potentially explosive atmospheres.

The heating tape must not be used to heat explosive media or media developing explosive gases when heated . The heating tape must only be installed outside hazardous locations.

When setting temperature of the control and, if applicable, of the limit, the properties of the medium to be heated have to be observed.

**W A R N I N G !**

During operation, the heating tape can develop temperatures which may lead  
To burning when touched.

Therefore suitable personal protection measures have to be taken.

When switched on, the heating tape must not be touched !  
[ Protection against touch ]

## 2. Installation and Connection advise

The installation must be carried out by a competent electrician !

The heating tape can be mounted alongside or in wrap-around form around the object to be heated. When laying, ensure good surface contact and heat transfer.

The heating tape as wrapped must not overlap. When installing the heating tape, it should not be laid over sharp edges, corners or burrs ( radius < 10 mm ) .

The smallest admissible wrapping diameter of KM-HT-BS30 is 15 mm.

The unheated connection line as well as the connecting sleeve and the end seal have to be laid in such a manner that a temperature of 220 °C is not exceeded at any point, e.g. by laying them outside the heat insulation.

The heating tape is to be protected from mechanical damage, for instance by covering it with a heat insulation and a mechanical sheath. This tape is not moisture proof therefore, they are only suitable for dry environments.

If metallic components coming in contact with the heating tape have to be incorporated in the protection measures of Protection class I ( protective earthing ).  
For details, please refer to VDE 0100.

This heating tape is designed and made for fixed connection with a standard connection box. When connecting the heating tape, the requirements of the standards listed under „ 1. Safety information and advice “ have to be observed.

The heating tape must not be operated without control. A suitable temperature controller has to be used to ensure that the heating conductor temperature does not exceed 450 °C at any point.

If the heating tape operates at a temperature above 300 °C, the glass insulation will lose the flexibility. In this case, it will not be possible to remove the heating tape without causing it damage.

Important is the position of the thermo couple.

Maximum operation temperature of the heating element is 450 °C

In the case of poor heat transfer to the object to be heated, however, the stated values may be clearly lower.

The temperature controller has to be rated in such a manner that an exceeding of the maximum admissible temperatures is also excluded for the feeding material or object respectively. If hazards may occur in the case of malfunction ( caused, for instance, by a failure of the temperature controlling device ), a temperature limiting safety device has to be provided.

## 3. Operation instruction

The installation must be carried out by a competent electrician !

The requisite inspections according to the standards listed under „ 1. Safety information and instructions „ are to be made and documented after the installation of the electrical heating apparatus or equipment is completed.

#### 4. Maintenance and Care

Maintenance and care is performed according to the standards listed under „ 1. Safety information and instructions „ the regulations of the employer's liability insurance associations applicable to the respective way of use, as well as other relevant rules applying to the application.

At least once per year the function of the temperature controlling and temperature limiting safety device has to be checked.

#### 5. Technische Daten

Nominal Voltage	:		refer the specification plate
Main frequency	:		refer the specification plate
Nominal wattage	:		refer the specification plate
Nominal current	:		refer the specification plate
Protection class	:	I	
Protective system	:	IP 20	no protection against ingress of water
Surface temperature heater	:	max. 450 °C	
Dimensions	-		
Order number	:		refer the specification plate
Manufacture Number	:		refer the specification plate
Series type	:		refer the specification plate

### EC Declaration of Conformity

We hereby declare, that the product of

**series KM-HT-BS30**

is in conformity with the following standards or normative documents :

**EN 60519-1; EN 60519-2**

**following the terms of the Directives 2006/95/EC:**

„Electrical equipment designed for use within certain voltage limits“

**EN 61000-6-2; EN 61000-6-3**

**following the terms of the Directives 2004/108/EC:**

„Electromagnetic compatibility“

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