



## 1 Use

The HCM radiators are produced in compliance with Directive 94/9/EC and approved for direct heating by flange mounting and/or for room heating by natural convection in hazardous zones 1 and 2 for all G/D explosion groups in the temperature classes T3 and T4. A thermostat integrated in the connection cable is available as a special version.

## 2 Explosion protection

EC Type Examination Certificate:

PTB 03 ATEX 1221 X

Ex marking:

- ⊕ II 2G Ex d IIC and dm IIC respectively T4, T3
- ⊕ II 2D Ex tD and tDmD resp. A21 IP 65 T 135 °C, T 200 °C

## 3 Technical data

Rated voltage	AC/DC 120 to 250 V
Permissible operating voltage	max. AC/DC 265 V
Rated current (in compliance with VDE 0298)	max. 10 A
Ambient temperature	-50 °C to +60 °C
Max. permissible operating temperature range with rating	-50 °C to +180 °C
Operating temperature range with heater with thermostat (for Type 27-2.... -.. 1. ....)	-50 °C to +80 °C

Conformity to standards

- EN 60079-0: 2006    EN 61241-1: 2004
- EN 60079-1: 2004    EN 61241-18: 2004
- EN 60079-18: 2004    EN 55014-1: 2006
- EN 61241-0: 2006    EN 60529: 1991+A1: 2000

## 4 Installation

During unpacking and transport, take care not to bend or place weights on the connection cable.

When installing, comply with DIN IEC 60364 (VDE 0100).

To ensure effective convection, the radiator should be installed in a vertical installation position (fins vertical) or horizontal installation position (fins upward). This allows the radiator to transfer its heat to the surrounding air in the best possible way.

## 5 Special conditions

- Care must be taken that the absolute heat transfer coefficient of the surrounding enclosure is not less than 0.5 Ω/K
- The operating temperatures must be observed.
- The connection cable must be firmly laid with mechanical protection up to the entry into the terminal box provided by the customer while complying with the permissible bending radius of 5 x external diameter.
- If connected in a hazardous area, it must be connected through an enclosure that meets the requirements of the types of protection specified in EN 60079-0 Section 1.
- When installing, the max. permissible temperatures of the neighbouring components must be observed and any required minimum spacing must be adhered to.
- For type 27-2...-7.....1., the thermostat integrated in the connection cable must be fitted into an enclosure that conforms to the requirements of 60079-18 section 7.1.
- There is the optional possibility of using external thermostats that have a separate EC Type Examination Certificate.

## 6 Connection

The radiator may be connected and secured only by a specialist complying with the specifications on the type label: To protect against short-circuits and for cable protection, circuit breakers with type B characteristic up to 16 A can be used. Additional equipotential bonding in accordance with EN 60079-0 is required.

The terminal block provided for this has the earthing sign. A residual current device with a rated level preferably of 30 mA but not exceeding 300 mA must be installed.

## 7 Commissioning

When the radiator has been installed in accordance with the guidelines given under points 3 and 4 and it has been ensured that effective convection is not obstructed at any time by inadmissible covers, the radiator may be switched on.

## 8 Maintenance

Thanks to its self-limiting design, the radiator does not require maintenance work.

The intervals for the performance and safety tests can be freely selected in accordance with the owner/managing operator's applicable regulations. Repairs may be done only by the manufacturer.

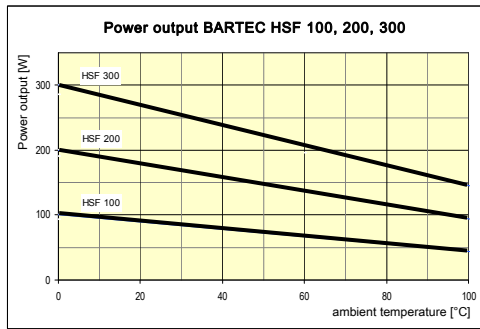
## 9 Safety Instructions

When mounted in an exposed position, the rib ends and hot surfaces present risks of injuries:

- Max. 160 °C for T3 radiators
- Max. 100 °C for T4 radiators

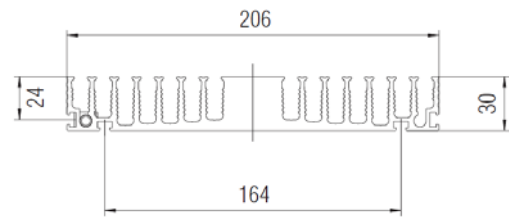


## 10 Heating power output



The power output of the self-limiting HSF radiator depends on the respective ambient temperature. The diagram shows the heating power output as a function of the air temperature in the enclosure. (the power output was calculated under laboratory conditions)  
A slightly deviating heating power output can emerge as a result of ambient influences/installation conditions.

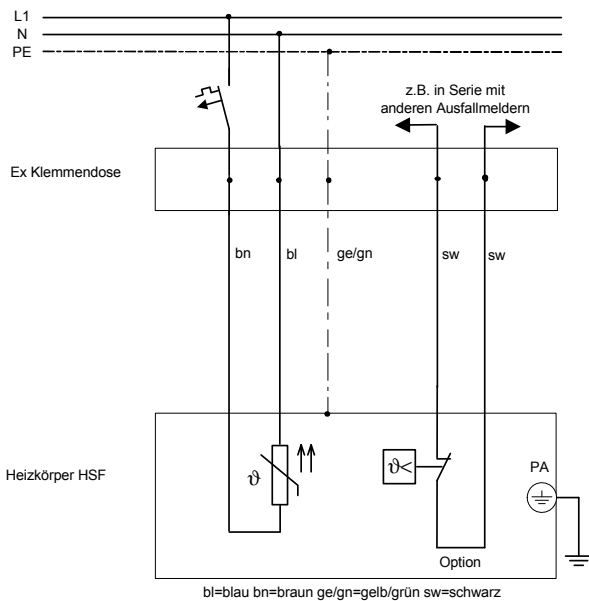
## Dimensions (mm)



## Length x Width x Height (mm)

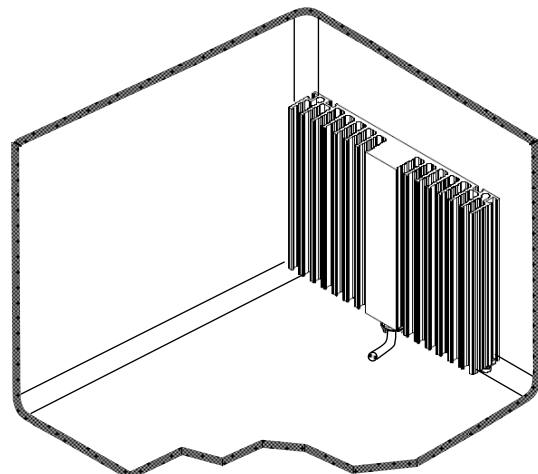
HSF 50	105 x 206 x 30
HSF 100	105 x 206 x 30
HSF 120	225 x 206 x 30
HSF 200	225 x 206 x 30
HSF 300	325 x 206 x 30

## 11 Wiring diagram



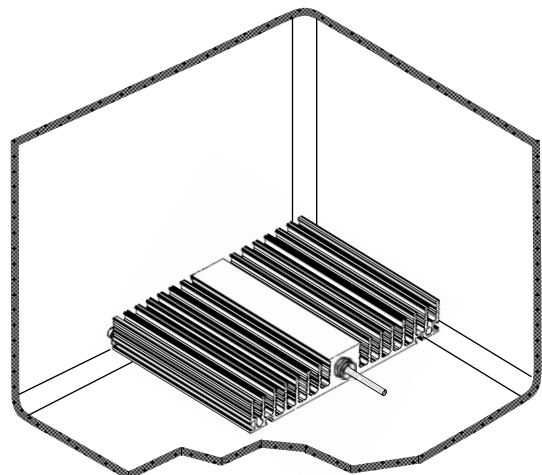
## Installation positions

### Vertical (fins vertical)



The necessary fastening elements (screws, distance sleeves etc.) are included in the scope of supply for the radiator.

### Horizontal (fins on top)



## 12 Service address

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21-2A00-7D0001-07/10-BEH-292856

Erklärung der Konformität  
Declaration of Conformity  
Attestation de conformité

N° 21-2000-7C0001

**BARTEC**  
BARTEC GmbH  
Max-Eyth-Straße 16  
97980 Bad Mergentheim  
Germany



Wir

We

Nous

## **BARTEC** GmbH,

erklären in alleiniger Verantwortung, dass das Produkt

declare under our sole responsibility that the product

attestons sous notre seule responsabilité que le produit

**Heizkörper  
HSF**

**Heater plate  
HSF**

**Plaque chauffante  
HSF**

**Typ 27-2\*\*\*-7\*\*\*/\*\*\*\***

auf das sich diese Erklärung bezieht den Anforderungen der folgenden **Richtlinien (RL)** entspricht

to which this declaration relates is in accordance with the provision of the following **directives (D)**

se référant à cette attestation correspond aux dispositions des **directives (D)** suivantes

**ATEX-Richtlinie  
94/9/EG**

**ATEX-Directive  
94/9/EC**

**ATEX-Directive  
94/9/CE**

**EMV-Richtlinie  
2004/108/EG**

**EMC-Directive  
2004/108/EC**

**CEM-Directive  
2004/108/CE**

**RoHS  
2002/95/EG  
WEEE**

**RoHS  
2002/95/EC  
WEEE**

**RoHS  
2002/95/CE  
WEEE**

**2002/96/EG**  
und mit folgenden Normen oder normativen Dokumenten übereinstimmt

and is in conformity with the following standards or other normative documents

et est conforme aux normes ou documents normatifs ci-dessous

**EN 60079-0:2006  
EN 61241-0:2006  
EN 55014-1:2006**

**EN 60079-1:2004  
EN 61241-1:2004  
EN 60529:1991+A1:2000**

**EN 60079-18:2004  
EN 61241-18:2004**

**Kennzeichnung**

**Marking**

**Marquage**

**II 2 G Ex d IIC bzw. dm IIC T4, T3**

**II 2 D Ex tD bzw. tDmD A21 IP65 T135°C, T200°C**

**Verfahren der EG-Baumusterprüfung**

**Procedure of EC-Type Examination**

**Procédure d'examen CE de type**

**PTB 03 ATEX 1221 X**

**CE 0044**

Bad Mergentheim, den 24.11.2009

Dr. Anjou Appelt  
Geschäftsleitung / General Manager