



# CERTIFICATE OF CONFORMITY

CERTIFICATE No.: HMT21.4151X



KOBOLD Group

1 Equipment intended for use in potentially explosive atmospheres  
Directive 2014/34/EU

2 Certificate N°: **HMT21.4151X** **Issue 2**

3 Manufacturer: Heinrichs Messtechnik GmbH

4 Address: Robert-Perthel-Str. 9  
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Germany

5 Products: **TSK** Paddle Flow-Meter

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6 In accordance to Annex VIII of the Directive 2014/34/EU, *Module A: Internal Production Control*, Heinrichs Messtechnik GmbH ensures in sole responsibility that the products concerned in this certificate of conformity satisfy the requirements of this Directive. The internal production assessment procedure performed for the above mentioned products fulfils the obligations laid down in points 2, 3 and 4 of Annex VIII and are compliant to the Essential Health and Safety Requirements relating to the design and construction of product intended for use in potentially explosive atmospheres.

7 The technical documentation has been submitted for 10 year depository to the EU notified body;  
DEKRA Testing and Certification GmbH (Notified Body number 0158)

8 The 'X' suffix after the certificate number indicates that the equipment is subject to conditions of safe use. These are specified in section 14

9 Compliance with the Essential Health and Safety Requirements has been demonstrated through compliance with the following documents:

**EN 1127-1:2019**

**EN 80079-36:2016**

**EN 80079-37:2016**

10 The equipment marking shall include the following:

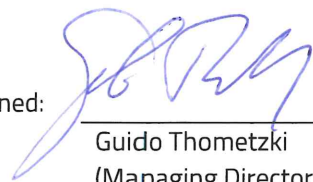



**II 2G Ex h IIC T2...T6 Gb**

**II 2d Ex h IIIC T85°C/T300°C Db**

Heinrichs Messtechnik GmbH  
Cologne 10.01.2022

Signed:

  
Guido Thometzki  
(Managing Director)

  
Joseph Burke  
(Explosion Protection Representative)

## 11 Description

### 11.1 Product descriptions

The TSK is suitable for the flow-measurement of fluids or gases in pipe systems.

The TSK possess a paddle positioned in the flow stream. A medium flowing with sufficient speed forces the paddle to pivot around its pivot point until a state of equilibrium is established between the force of the flowing medium and the counteracting paddle surface together with its spring force. The angular position of the paddle in the measuring chamber serves as a measure for the flow.

The meters momentary flow rate is transferred to the indicating unit via a magnetic follower system and indicated on an individual scale mounted into the indicating enclosure.

### 11.2 Model Code:

TSK- A BBBB CC D E F G H I J K L M XXX

**A:** Wetted Parts

**B:** Process Connections

**C:** Measuring range

**D:** Flow Direction

**E:** Temperature Class

**F:** Sealing material

V = Viton

F = FEP

S = Stainless Steel

**G:** Particle penetration protection

0 = None

1 = Viton

2 = FEP

**H:** Certificates

**I:** Indicating Unit

**J:** Type of scale and print

**K:** Electrical equipment

0 = None

1,2,3 or 4 = Inductive switch SJ 3,5N

6,7,8,9,I or K = ES transmitter

C or D = Micro Switch

E or F = SB 3,5-E2

G = NCB2-12GM40-ZO

**L:** Accessories

**M:** Design

**X:** Up to 6 further non-Ex relevant positions

#### Restrictions:

$T_{Process} = \max. 150 \text{ }^{\circ}\text{C}$

$T_{Process} = \max. 200 \text{ }^{\circ}\text{C}$

$T_{Process} = \max. 300 \text{ }^{\circ}\text{C}$

#### Restrictions:

None

$T_{Process} = \max. 150 \text{ }^{\circ}\text{C}$

$T_{Process} = \max. 200 \text{ }^{\circ}\text{C}$

#### Restrictions:

$T_{amb} = -40 \dots 80 \text{ }^{\circ}\text{C}$

$T_{amb} = -40 \dots 65 \text{ }^{\circ}\text{C}$

$T_{amb} = -40 \dots 70 \text{ }^{\circ}\text{C}$

$T_{amb} = -40 \dots 65 \text{ }^{\circ}\text{C}$

$T_{amb} = -40 \dots 65 \text{ }^{\circ}\text{C}$

$T_{amb} = -25 \dots 70 \text{ }^{\circ}\text{C}$

### 11.3 Certificate history and evaluation reports

Issue N°.	Date	Associated Reports	Notes
0	27.10.2003	Tech-Doks_03-02X	Original document submission according to DIN EN 13463-1:2002
	11.11.2013	Tech-Doks_03-02X	Extension of retention period for a further 10 years
1	30.09.2016	Tech-Doks_03-02X	Supplement to the existing submission upon introduction of a new indicating unit enclosure. The ATEX relevant assessment was not affected by the modification.
2	10.01.2022	EE0088-3001X	Renewal of the submission according to the 2014/34/EU directive including a complete new assessment according to the actual standards

### 11.4 Temperatures

The equipment's temperature class, surface temperature and equipment protection levels are dependent upon the ambient and process temperatures as follows:

Ambient Temperature	Indicating unit arm extension	Process Temperature	Temperature class Gas	Temperature Class Dust
-40 ... 80 °C	No	-40 ... 85 °C	T6	85 °C
-40 ... 80 °C	No	-40 ... 100 °C	T5	100 °C
-40 ... 80 °C	No	-40 ... 135 °C	T4	135 °C
-40 ... 80 °C	Yes*	-40 ... 200 °C	T3	200 °C
-40 ... 80 °C	Yes*	-40 ... 300 °C**	T2	300 °C

\* = By process temperatures  $\geq 200$  °C the indicating unit receives an extended sensor connection arm.

\*\* = For meter process temperatures  $> 200$  °C, the installation of electrical supplementary equipment is not permissible.

With the addition of electrical equipment, a further restriction of the maximum ambient and process temperature may be required. Refer to the EU Type Approval of the relevant electrical component and the meter operating manual for further information for the determination of the prevailing temperature class.



**12 Specific Conditions of Use**

- 12.1 The flow meters temperature Class, assigned maximum surface temperature and maximum ambient temperature are dependent on the maximum process temperature applied by the end-user as well as any installed supplementary electrical equipment.  
When the maximum process temperature is determined by the end-user, the temperature class, assigned maximum surface temperature and maximum ambient temperature shall be determined by the end-user depending on the prevailing process temperature and installed electrical equipment.
- 12.2 By the measurement of non-conductive medium, the earthing of the equipment is essential to ensure a build-up of static electricity within the meter is suppressed.
- 12.3 When installed and operated in potentially explosive dust environments, the device must be cleaned regularly in order to avoid deposits exceeding 5 mm. Clean with a damp cloth.
- 12.4 To prevent the paddle from hammering against the tube or its resting point when the medium flow is ramped-up or shut-down, it is to be ensured that a maximum flow rate of 15 m/s is not exceeded. Solenoid valves are to be avoided.