TRANSLATION

1 1st Supplement to the EC-Type Examination Certificate

2 **Equipment or Protective System intended for use in potentially explosive atmospheres Directive 2014/34/EU**

3 Number of Type Examination Certificate Supplement: **BVS 04 ATEX H 042 X N1**

4 Equipment: Bypass level indicators, types NBK -03, -04, -06, -07, -10, -31, -32 and -33

5 Manufacturer: KOBOLD Messring GmbH

6 Address: Nordring 22-24
65719 Hofheim/Taunus, Germany

7 The design and construction of this equipment and any acceptable variation thereto are specified in the appendix to this supplement.

8 The certification body of DEKRA EXAM GmbH, Notified Body No. 0158 according to Article 17 of Directive 2014/34/EU of the European Parliament and the Council, dated 26 February 2014, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II to the Directive.
The examination and test results are recorded in the confidential reports no. BVS PP 1100/019/04 and BVS PP 1100/019/04 N1.

9 The Essential Health and Safety Requirements have been assured by compliance with:

EN ISO 80079-36:2016 **EN ISO 80079-37:2016** **IEC/TS 60079-32-1:2013**

10 If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the appendix to this supplement.

11 This supplement to the EC-Type Examination Certificate relates only to the design, examination and tests of the specified product.
Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this supplement.

12 The marking of the product shall include the certificate reference no (3) and the following:

II 1/2G Ex h IIC T4...T1 Ga/Gb
-20°C ≤ T_a ≤ +80°C

or

II 1/3G Ex h IIC T4...T1 Ga/Gc
-20°C ≤ T_a ≤ +80°C

or

II 1G/2D Ex h IIC/IIIC
T4...T1/T130°C...445°C Ga/Db
-20°C ≤ T_a ≤ +80°C

or

II 1G/3D Ex h IIC/IIIC
T4...T1/T130°C...445°C Ga/Dc
-20°C ≤ T_a ≤ +80°C

DEKRA EXAM GmbH
Bochum, Germany, dated 2018-07-24

signed: Koch
Certifier

signed: Dr Hübner
Approver

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13 **Appendix to**

14 **1st Supplement to the EC-Type Examination Certificate**

BVS 04 ATEX H 042 X

15 **Description of Product**

15.1 **Subject and Type**

Bypass level indicator of types NBK -03, -04, -06, -07, -10, -31, -32 and 33

15.2 **Description**

The bypass level indicators of types NBK -03, -04, -06, -07, 10, -31, -32 and -33 are used for continuous measurement, display and monitoring of liquid levels in tanks, vessels, basins, vats etc. The bypass tube is attached to the side wall of the vessel. According to the law of communicating tubes, the fill level in the bypass tube will equal the fill level in the vessel. Inside the bypass tube a float equipped with embedded circular magnets follows the fill level of the liquid and transfers this level contactless to a display installed outside the tube (roller display).
Overall, the equipment consists of a vertically mounted tube, a float (with a magnet inside) that moves freely inside the tube and a roller display attached to the outside of the tube. The float is lifted by the liquid inside the tube. The magnetic field causes the rollers of the roller display to rotate, indicating the fill level of the vessel. The measuring length can be up to 6500 mm. The tube consists of stainless steel, the float can be made of stainless steel or titanium.
All conductive components of the bypass level indicators are conductively interconnected due to permanent metallic contact. The maximum surface temperature depends on the temperature of the medium for which the bypass level indicators are used. The inside of the bypass level indicators complies with the requirements of equipment category 1 G, their outside complies with the requirements of equipment categories 2 GD or 3 GD.
Optionally, the bypass level indicators can be equipped with electric transmitters, attached on the outside, for remote sensing of the fill level and with electric limit contacts for sensing limit levels. Those are not subject of this EU-type examination.
Additionally, the bypass level indicators are also supposed to comply with the requirements of Directive 2014/68/EU where this applies if they are intended for use in overpressure areas. The test of sufficient pressure resistance is not subject of this EU-type examination; where required, a separate EU-type examination according to Directive 2014/68/EU has to be carried out.

15.3 **Parameters**

Bypass tube

Measuring length:	max. 5.5 m (two-part if above)
Process connection:	DIN flange DN15...DN100
	ANSI flange ½"...6"
Bypass tube:	Ø 60.3 mm, 1.4571 (NBK-03/.../10)
	Ø 71.0 mm, 1.4571 (NBK-31)
	Ø 76.1 mm, 1.4571 (NBK-32/33)
Seal:	NBK-03, -06, -07 flat gasket < 200 °C: PTFE;
	> 200 °C: Klinger SIL®
	NBK-10: reinforced graphite
	NBK-31/32/33: RTJ-seal
Nominal pressure:	maximal PN 320
Viscosity:	maximum 200 mm²/s standard)
	(optional: 460 mm²/s, NBK-03 only)

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Roller display RP (max. length 5500 mm)

Roller material:	POM
Display glass:	PMMA
Carrier frame material:	aluminium, black, anodised
Medium temperature:	-20 °C…120 °C
Ambient temperature:	-20 °C…80 °C
Degrees of protection:	IP 54

Roller display RK (max. length 5500 mm)

Roller material:	ceramic
Display glass:	borosilicate glass
Carrier material:	aluminium, black, anodised
Medium temperature:	-20 °C…400 °C
Ambient temperature:	-20 °C…80 °C
Degrees of protection:	IP 54

15.4 Description of the Supplement

The bypass fill level displays are supplemented by the types NBK -31, -32 and -33. The magnetic roller displays mounted outside the tube of types RK and RP are supplemented by the ball indicating displays of types KP, KM, KF, KG:

Ball indicating display KP (max. length 3800 mm, single-part)

Ball material:	PA
Sight tube:	PMMA
Sealing plug:	aluminium
Seal:	NBR
Ball support rail:	aluminium, black, anodised
Carrier frame:	stainless steel 1.4301
Scale	PVC (stainless steel 1.4301 optional)
Medium temperature:	-20 °C…80 °C
Ambient temperature:	-20 °C…80 °C
Degrees of protection:	IP 66

Ball indicating display KM (max. length 3800 mm, single-part)

Ball material:	PA
Sight tube:	PC
Sealing plug:	aluminium
Seal:	FKM
Ball support rail:	aluminium, black, anodised
Carrier frame:	stainless steel 1.4301
Scale	PVC (stainless steel 1.4301 optional)
Medium temperature:	-60 °C…120 °C
Ambient temperature:	-20 °C…80 °C
Degrees of protection:	IP 66

Ball indicating display KF (max. length 3800 mm, single-part)

Fill liquid:	silicone oil
Ball material:	PA
Sight tube:	PC
Sealing plug:	stainless steel
Seal:	FKM
Ball support rail:	aluminium, black, anodised
Carrier frame:	stainless steel 1.4301
Scale	PVC (stainless steel 1.4301 optional)
Medium temperature:	-104 °C…120 °C
Ambient temperature:	-20 °C…80 °C
Degrees of protection:	IP 66

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Ball indicating display KG (max. length 3000 mm, single-part)

Ball material:	PA
Sight tube:	borosilicate glass
Sealing plug:	stainless steel
Seal:	FKM
Ball support rail:	aluminium, black, anodised
Carrier frame:	stainless steel 1.4301
Scale	stainless steel 1.4301
Medium temperature:	-20 °C...200 °C
Ambient temperature:	-20 °C...80 °C
Degrees of protection:	IP 66

16 Test and Assessment Reports

PP BVS PP 1100/019/04, as of 30.07.2004
PP BVS PP 1100/019/04 N1, as of 24.07.2018

17 Special Conditions for Safe Use

The bypass level indicators have to be integrated into the equipotential bonding by earthing; here, the resistance to earth has to be of a value of $< 10^6$ Ω.

The maximum surface temperature of the bypass level indicators depends on the temperature of the medium for which the bypass level indicators are used.

The ignition temperature of the individual dusts intended for use must be at least 1.5 times the value of the maximum surface temperature of bypass level indicators. The smouldering temperature of the individual dusts intended for use must be at least 75 K above the maximum surface temperature of the bypass level indicators. The dust accumulated shall only reach a layer thickness of 5 mm maximum. Where dust layers of > 5 mm thickness are formed, the safety distance between the minimum ignition temperature of the settled dusts and maximum surface temperature of the equipment must be increased taking e.g. the requirements of EN 60079-14 in its valid edition into account.

The highest medium temperature permitted for the gases, vapours and mists to be used shall not exceed the following:

- at bypass level indicators with EPL Ga: 80 % of the maximum medium temperature according to the temperature class marked;
- at bypass level indicators with EPL Gb and EPL Gc the limit of the temperature class minus 5 K for temperature classes T4 and T3, and minus 10 K at temperature classes T2 and T1.

The bypass level indicators shall not be used with substances that are susceptible to ignition or explosion caused by sparks or friction (e.g. according to class 4.1 ADR); neither shall they be used in hybrid mixtures.

During operation no potential ignition sources (e.g. smouldering or burning particles, smouldering nests or foreign particles) shall enter the bypass level indicators.

If the bypass level indicators are to be used in hazardous areas, any apparatus it is operated in conjunction with have to be suitable for this purpose and supplied according to Directive 2014/34/EU. If the bypass level indicator is assembled with apparatus that have not been subject of this EU-type examination (e.g. the electric limit contacts), a separate risk assessment with regard to additional ignition hazards has to be carried out.

The bypass level indicators shall not be coated by the end user.

Additionally, the bypass level indicators are also supposed to comply with the requirements of Directive 2014/68/EU where this applies if they are intended for use in overpressure areas. The test of sufficient pressure resistance is not subject of this EU-Type Examination Certification; where required, a separate EU-type examination according to Directive 2014/68/EU has to be carried out.

18 Essential Health and Safety Requirements

The Essential Health and Safety Requirements covered by the standards listed under item 9.

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19 Drawings and Documents

The drawings and documents are listed in the test and assessment report.

In the case of arbitration only the German wording shall be valid and binding.

44809 Bochum, Germany, dated 29.08.2018
18EXAM 10375

DEKRA EXAM GmbH

Certifier

Approver

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TRANSLATION

EXAM
BBG Prüf- und Zertifizier GmbH

(1) # EC-Type Examination Certificate

(2) **- Directive 94/9/EC -**
Equipment and protective systems intended for use in potentially explosive atmospheres

(3) ## BVS 04 ATEX H 042

(4) **Equipment:** **Level indicators NBK**

(5) **Manufacturer:** **Kobold Messring GmbH**

(6) **Address:** **Nordring 22**
D – 65719 Hofheim

(7) The design and construction of this equipment and any acceptable variation thereto are specified in the schedule to this type examination certificate.

(8) The certification body of EXAM BBG Prüf- und Zertifizier GmbH certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II to the Directive.
The examination and test results are recorded in the test and assessment report BVS PP 1100/019/04 EG.

(9) The Essential Health and Safety Requirements are assured by compliance with:
DIN EN 1127-1:1997-10, Potentially explosive atmosphere, Explosion protection, Part 1: Basic principles and methodology,
DIN EN 13463-1:2002-04, Non-electrical equipment for use in potentially explosive areas, Part 1: Basic principles and requirements and
DIN EN 13463-1 Correction 1:2003-06, Corrections of DIN EN 13463-1:2002-04

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

(11) This EC-Type Examination Certificate relates only to the design, examination and tests of the specified equipment in accordance to Directive 94/9/EC.
Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

(12) The marking of the equipment shall include the following:

Ex II 1 G / 2 GD respectively **Ex II 1 G / 3 GD**

EXAM BBG Prüf- und Zertifizier GmbH
Bochum, dated 2 August 2004

Signed: Migenda
Certification body

Signed: Dr. Hesener
Special services unit

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(13) Appendix to

(14) # EC-Type Examination Certificate

BVS 04 ATEX H 042

(15) 15.1 Subject and Type

Level indicators NBK Type -03, -04, -06, -07, -10

15.2 Description

The level indicators NBK Type -03, -04, -06, -07, -10 are employed to continually measure, indicate and monitor the level of liquids in containers. They are flanged to the outside of the container to be monitored. The level indicators can also be employed in connection with combustible, non-conductive liquids.

Essentially, the equipment consists of a vertically positioned pipe, of a floater that holds a magnet and that can move freely within the pipe, and of a roll indicator that is attached to the pipe's outside. The floater is lifted by the liquid within the pipe. Due to the magnetic field, the rolls of the roll indicator are turned. Thus, they indicate the container's liquid level. The measuring section can be up to 6500 mm long. The level indicators can also be equipped with limit switches attached to the equipment's outside. They, too, respond to the floater's magnetic field. The pipe is made of stainless steel; the floater can either be made of stainless steel or of titanium. The level indicators can be operated at an excess pressure of up to 100 bar.

The interior of the level indicators NBK Type -03, -04, -06, -07, -10 corresponds to the requirements of Category 1 G. The equipment's outside corresponds to the requirements of Category 2 GD or of Category 3 GD.

(16) Test and Assessment Report

BVS PP 1100/019/04 EG, as of 30 July 2004

(17) Special Conditions for Safe Use

The level indicators NBK Type -03, -04, -06, -07, -10 have to be equipped with a potential equalisation, so that a resistance to earth of $< 10^6\ \Omega$ is guaranteed.

Non-conductive coatings, stickers, etc. of a thickness of > 0,2 mm and of a surface of more than 20 cm^2 may not be applied to the level indicators NBK Type -03, -04, -06, -07, -10.

All electrical devices employed in connection with the level indicators NBK Type -03, -04, -06, -07, -10 have to be, depending on their points of installation, of the same equipment category as the level indicators.

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TRANSLATION

EXAM
BBG Prüf- und Zertifizier GmbH

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

D – 44809 Bochum, 10 August 2004
1100/019/04 BVS-Fr

EXAM Prüf- und Zertifizier GmbH

Certification body

Special services unit

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