



CERTIFICATE NUMBER	21-2145366-PDA
EFFECTIVE DATE	20-Jul-2021
EXPIRY DATE	19-Jul-2026
ABS TECHNICAL OFFICE	Houston ESD - Piping

## CERTIFICATE OF Product Design Assessment

This is to certify that a representative of this Bureau did, at the request of

### **KSR KUEBLER NIVEAU-MESSTECHNIK GMBH**

located at

**HEINRICH-KUEBLER-PLATZ 1, 69439 ZWINGENBERG, Germany**

assess design plans and data for the below listed product. This assessment is a representation by the Bureau as to the degree of compliance the design exhibits with applicable sections of the Rules. This assessment does not waive unit certification or classification procedures required by ABS Rules for products to be installed in ABS classed vessels or facilities. This certificate, by itself, does not reflect that the product is Type Approved. The scope and limitations of this assessment are detailed on the pages attached to this certificate.

**Product:** Level Indicator, KSR - Float Operated Bypass Liquid Level In...

**Model:** BNA, BNA...C

**Endorsements:**

**Tier:** 2 - PDA Issued

This Product Design Assessment (PDA) Certificate remains valid until 19/Jul/2026 or until the Rules and/or Standards used in the assessment are revised or until there is a design modification warranting design reassessment (whichever occurs first).

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

American Bureau Of Shipping

Yongjin Lee, Engineer/Consultant

NOTE: This certificate evidences compliance with one or more of the Rules, Guides, standards or other criteria of ABS or a statutory, industrial or manufacturer's standards. It is issued solely for the use of ABS, its committees, its clients or other authorized entities. Any significant changes to the aforementioned product without approval from ABS will result in this certificate becoming null and void. This certificate is governed by ABS Rules 1-1-A3/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010)

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**Tier: 2 - PDA Issued**

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**Product:** Level Indicator, KSR - Float Operated Bypass Liquid Level Indicator

**Model:** BNA, BNA...C

**Endorsements:**

**Intended Service:**

Liquid Level Gauging.

**Description:**

Float operated liquid level indicator consisting of a bypass tube (40 to 114 mm diam.) made of stainless steel with a cylinder type float made of stainless steel or titanium. Direct magnetic roller display, Aluminum or stainless steel case with plastic or stainless steel rollers

Optional additional magnetic switch (BGU) or sensor (MG) for analog output signals.

Certified safe type BNA-Ex, II 1 G c T1...T6 or II 1/2G c T1...T6 - for magnetic roller indicator fitting

IBExU20ATEX1066X.

Certified safe type magnetic switch BGU...I : II 2G Ex ib IIC T6...T1 Gb (IBExU18ATEX1108X), BGU...D: II 2G Ex db IIC T6... T1 Gb (IBExU19ATEX1075X)

Certified safe type sensor (built in component) model MG may be applied as an individual instrument on bypass pipes or as a position sensor: II 2 G Ex ia IIC T6...T1 Gb or II 2 G Ex ib IIC T6...T1 Gb, II 2 D Ex ib IIIC T80 °C... T230 °C Db (KEMA 01 ATEX 1052X)

**Rating:**

Max. Working Pressure: 400 bar; Max. Working Temperature: 300°C; Degree of Protection: IP65.

For process temperatures above 200°C the magnetic roller indicator type with stainless steel rollers shall be used.

Maximum Ambient temperature for magnetic switch (BGU unit) 150°C;

Power to cut of the magnetic switch (BGU unit) for "i" intrinsically safety version): Ui: 36V max IS circuit; Ii: 100mA;

Power to cut of the magnetic switch (BGU unit) for "d" flameproof version: Ui: 230V AC/DC, Ii: 2A (reed switch).

**Service Restriction:**

1. Unit certification is not required for this product.
2. If you or your purchaser requests an ABS Certificate for compliance with a specification of standard; the specification or standard, including inspection standards and tolerances, you must clearly define the conformity criteria.
3. If the tank level indicators are installed at tank locations where they are subject to a static head of liquid they are to be fitted with valves or arranged to be such that they may be removed without emptying the tank.
4. For passenger vessels the level indicators are not to be installed on oil tanks where they require tank wall penetration below tank top.
5. Each magnetic switch unit (BGU) of "d" flameproof version made of stainless steel must be successfully tested at 3.5 bar for at least 10 seconds without exceeding 1 minute. The unit should not be subjected to mechanical impacts of frictions.

**Comments:**

1. The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.
2. Each particular installation is to be approved in conjunction with the relevant system, tank arrangement and hazardous zone.
3. ATEX certified equipment is not to be installed in hazardous areas on U.S vessels unless it can be prove to have been tested to the applicable IEC 60079 series standards by an independent laboratory accepted by the U.S coast Guard. USCG notice 01-12 (February 7, 2012).

**Notes/Drawing/Documentation:**

Drawing No. 2\_DoC\_BNA...C\_UTN...C\_Ex\_IBEXU\_20ATEX1066X, declaration of conformity, Revision: -, Pages: -

Drawing No. 1\_Amtlicher Ausdruck\_HRB 732820, Commercial Register, Revision: -, Pages: -

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Drawing No. 2\_ATEX\_BNA\_IBExU20ATEX1066 X\_en, ATEX Certificate, Revision: -, Pages: -  
Drawing No. 3\_DS\_BMD\_KSR, datasheet DS\_BMD\_KSR magnetic roller display MRF(BMD\_F..), Revision: -, Pages: -  
Drawing No. 4\_1243\_01\_BGU\_Ex\_i\_1108\_01\_ATEX-DoC, declaration of conformity BGU Exi, Revision: -, Pages: -  
Drawing No. 4\_1244\_01\_BGU\_Ex\_d\_1075\_ATEX-DoC, declaration of conformity BGU Exd, Revision: -, Pages: -  
Drawing No. 4\_389\_IBExU18ATEX1108X\_BGU\_i, Certificate IBExU18ATEX1108X for BGU (intrinsically safe), Revision: -, Pages: -  
Drawing No. 4\_390\_IBExU19ATEX1075X\_BGU\_d, IBExU19ATEX1075X for BGU (flame-proof enclosure), Revision: -, Pages: -  
Drawing No. 5\_1105\_03\_NMG125\_MG\_ATEX Ex i EMV, declaration of conformity MG, Revision: -, Pages: -  
Drawing No. 5\_17\_FLR\_BLR\_KEMA 01ATEX1052X-Iss4\_e, MG Certificate KEMA 01ATEX1052X-Iss4, Revision: -, Pages: -  
Drawing No. 6\_1180\_03\_DoC\_BNA\_UTN\_BZG, declaration of conformity BNA, BNA...C, Revision: -, Pages: -  
Drawing No. 6\_Z-IS-AN1-MAN-20-06-2641998-22112433, EU Type examination certificate Modul B Z-IS-AN1-MAN-20-06-2641998-22112433, Revision: -, Pages: -  
Drawing No. 6\_Z-IS-AN1-MAN-20-06-2641998-22112533, EU Type examination certificate Modul B Z-IS-AN1-MAN-20-06-2641998-22112533 a, Revision: -, Pages: -  
Drawing No. 6\_Z-IS-AN1-MAN-20-06-2641998-22112630, EU Type examination certificate Modul B Z-IS-AN1-MAN-20-06-2641998-22112630, Revision: -, Pages: -  
Drawing No. Table of contents change ABS PDA 16-HG152, Table of contents, Revision: -, Pages: -

**Terms of Validity:**

This Product Design Assessment (PDA) Certificate remains valid until 19/Jul/2026 or until the Rules and/or Standards used in the assessment are revised or until there is a design modification warranting design reassessment (whichever occurs first).

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**STANDARDS**

**ABS Rules:**

The Rules for Conditions of Classification, 2021 Marine Vessel Rules 1-1-4/7.7, 1-1-A3,1-1-A4, which covers the following:  
2021 Rules for Building and Classing Marine Vessel Rules: 4-6-2/9.11.3, 4-6-4/13.5.6(b)/15.3.4(b), 4-8-3/1.7/1.11.1/1.17, 4-9-8/7/13

**National:**

NA

**International:**

NA

**Government:**

NA

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**EUMED:**

NA

**OTHERS:**

NA