



**Operating Instructions  
for  
Dual-Magnet Float Switch**

**Model: NGS**



We don't accept warranty and liability claims neither upon this publication nor in case of improper treatment of the described products.

The document may contain technical inaccuracies and typographical errors. The content will be revised on a regular basis. These changes will be implemented in later versions. The described products can be improved and changed at any time without prior notice.

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### **Manufactured and sold by:**

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Edition: November 2016 (Revision 1)

## 2. Note

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### 2.1 General

Before unpacking and commissioning the device, the operating instructions and the “General Safety Instructions” document must be read and followed carefully. The general safety instructions, the operating instructions, the data sheet as well as approvals and further information can be downloaded via the QR code on the device or under the respective product on [www.kobold.com](http://www.kobold.com).

Due to technical changes, the device documentation available online may not always correspond to the product version you have purchased. If you need an instruction manual that corresponds to the purchased product version, you can request it from us free of charge by email ([info.de@kobold.com](mailto:info.de@kobold.com)) in PDF format, specifying the relevant invoice number and serial number. If you wish, the operating instructions can also be sent to you by post in paper form.

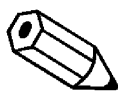
Operating instructions, data sheet, approvals and further information via the QR code on the device or via [www.kobold.com](http://www.kobold.com)

The devices are only to be used, maintained and serviced by persons familiar with these operating instructions and in accordance with local regulations applying to Health & Safety and prevention of accidents.

When used in machines, the device should be used only when the entire machine fulfils the EU machinery directive.

### 2.2 Hazard warnings

The following instructions are intended to ensure your personal safety and to prevent damage to the product described or connected devices. Safety instructions and warnings to prevent danger to the life and health of users or maintenance personnel, or to prevent damage to property, are highlighted in this documentation using the symbols defined here. *The symbols and terms used have the following meaning in the documentation itself:*



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**Note**

Is important information about the product, the handling of the product or the respective part of the documentation to which particular attention should be drawn.

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**Warning!**

Indicates that death, serious injury or significant property damage can occur if proper precautions are not taken!

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**Caution!**

Means that minor personal injury or property damage may occur if appropriate precautions are not taken!

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## 3. Instrument Inspection

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All Instruments are inspected before shipping and sent out in perfect condition. Should damage to a device be visible, we recommend a thorough inspection of the delivery packaging. In case of damage, please inform your parcel service / forwarding agent immediately, since they are responsible for damages during transit.

**Scope of delivery:**

The standard delivery includes:

- Dual-Magnet Float Switchmodel: NGS

## 4. Regulation Use

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Any use of the Dual-Magnet Float Switches, model: NGS, which exceeds the manufacturer's specification, may invalidate its warranty. Therefore, any resulting damage is not the responsibility of the manufacturer. The user assumes all risk for such usage.

## 5. Operating Principle

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As the level rises and falls, the inclination of the float is changed causing a permanent magnet in the float to be deflected. This repels a rotatable opposing magnet. This forced snap-action-contact effect operates a microswitch with a plunger. Even very small changes in level can be switched in this way.

## 6. ATEX-Marking

The marking in ATEX for the Dual-Magnet Float Switch is as follows:

⊕ II 1/2 G Ex d e mb IIC T6...T2 Ga/Gb

## 7. Indications for the Safe EX-use

- Ambient and medium temperature

Temperature class	Ambient temperature	Max. medium temperature
T6	-20 °C ... +60 °C	+80 °C
T5	-20 °C ... +70 °C	+95 °C
T4	-20 °C ... +80 °C	+130 °C
T3	-20 °C ... +80 °C	+200 °C
T2	-20 °C ... +80 °C	+250 °C

Except:

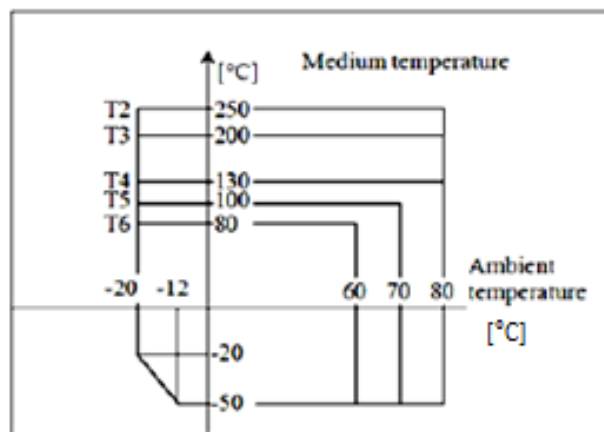
NGS-51\*

$T_{\text{medium}}$ : 0 °C...+100 °C

NGS-61\*

$T_{\text{medium}}$ : 0 °C...+200 °C

The applicable medium temperature range limited by next diagram:



- For

\_\_\_Ex (with integrated cable) a suitable junctionbox shall be used.

installation of  
version NGS-4

- The NGS float switch shall be connected to the local EP circuit.
- The NGS float switch has to be provided in series with a 'T' marked 2.5 A circuit breaker as a short-circuit protection
- For  $T_{\text{amb}} > 60$  °C, a suitable cable shall be used.

# Model

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## Electrical parameters

For connection to an electrical circuit with following maximum values:

UN = 250 V	AC12	2.5 A
UN = 220 V	DC13	0.3 A

Cable: Cable diameter depends on the mounted cable gland,  
Max. 5x2,5mm<sup>2</sup> cross section

Electric safety: Class I

Ingress protection:  
See technical details

## 8. Installation

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The float switch is to be installed in such a way that the float is able to move entirely free without touching the walls, the vessels top, or base. Avoid installation in turbulent positions: such as inlet valves and agitators.

Please also protect from suspended and ferrite particles that could gather around the float and disturb the switching process. When installing float switches in separate housings, suitable valves should be provided since dirty particles must be drained out from time to time.

For purposes of installation and maintenance, the switch should be installed in an easily accessible position.

The float switch must be installed with a connecting flange. A seal is enclosed separately. (Gasket Klingersil C 4500).

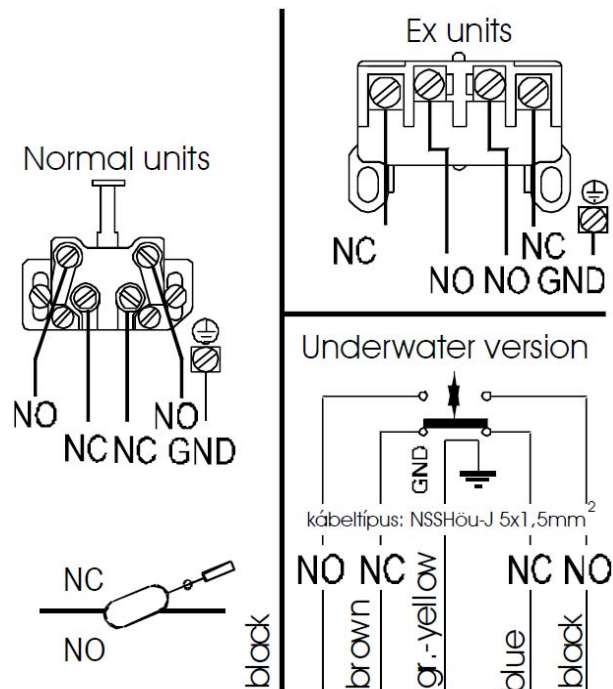
For corrosive media, the customer should install an appropriate seal compatible with the medium being used.

For vertical type NGS-23, the balance of the arms with differential length is provided by the shifting of counter weight to the proper point. Hysteresis of switching points can be adjusted on the vertical stick with fitting rings.

## 9. Electrical Connection



**Attention! Make sure that the voltage values of your system correspond with the voltage values of the measuring unit.**



## 10. Maintenance

The measuring unit requires no regular maintenance. Sometimes cleaning of adhered materials is necessary. Repairs should only be carried out by the manufacturer.

## 11. Technical Information

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Operating instructions, data sheet, approvals and further information via the QR code on the device or via [www.kobold.com](http://www.kobold.com)

## 12. Order Codes

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Operating instructions, data sheet, approvals and further information via the QR code on the device or via [www.kobold.com](http://www.kobold.com)

## 13. Dimensions

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Operating instructions, data sheet, approvals and further information via the QR code on the device or via [www.kobold.com](http://www.kobold.com)

## 14. Disposal

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See "General Safety Instructions" - via the QR code on the device or via [www.kobold.com](http://www.kobold.com)



## 15. EU Declaration of Conformance

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We, KOBOLD Messring GmbH, Nordring 22-24, 65719 Hofheim, Germany, declare under our sole responsibility that the product:

**Dual-Magnet Float Switches      Model: NGS-... (without ATEX)**

to which this declaration relates is in conformity with the following EU directives stated below:

**2014/30/EU**    EMC Directive  
**2011/65/EU**    RoHS  
**2015/863/EU**    Delegated Directive (RoHS III)

Furthermore, for equipment with supply voltages >50 VAC/75 VDC:

**2014/35/EU**    LVD

Also, the following standards are fulfilled:

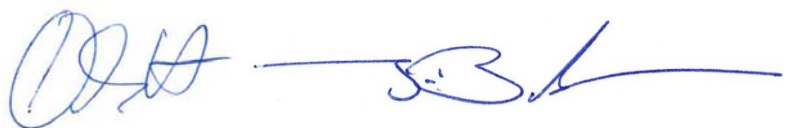
**EN 61010-1:2010 + A1:2019 + A1:2019/AC:2019**    Safety requirements for electrical equipment for measurement, control and laboratory use - Part 1: General requirements

**EN 61326-1:2013**    Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 1: General requirements

**EN 61326-2-3:2013**    Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 2-3: Particular requirements - Test configuration, operational conditions and performance criteria for transducers with integrated or remote signal conditioning

**EN 50581:2012**    Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances

Hofheim, 13 Feb. 2024



H. Volz  
General Manager

J. Burke  
Compliance Manager

## 16. EU ATEX Declaration of Conformance

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We, Kobold Messring GmbH, Nordring 22-24, 65719 Hofheim, Germany, hereby declare under our sole responsibility and with the aim of traceability that the product

Product type: **Dual-Magnet Float Switches**  
Model: **NGS-... (with ATEX)**

EU type examination certificate: **BKI16ATEX0034 X**

Complies with all relevant requirements of the following directive(s):

**2014/34/EU** Equipment and Protective systems intended for use in potentially Explosive Atmospheres

The following harmonized standards were applied for conformity assessment:

**EN 61010-1:2010 + A1:2019 + A1:2019/AC:2019** Safety requirements for electrical equipment for measurement, control and laboratory use - Part 1: General requirements

**EN 61326-1:2013** Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 1: General requirements

**EN 50581:2012** Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances

**EN 60079-0:2018** Explosive atmospheres - Part 0: Equipment - General requirements

**EN 60079-1:2015** Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"

**EN 60079-7:2016** Explosive atmospheres - Part 7: Equipment protection by increased safety "e"

**EN 60079-18:2015** Explosive atmospheres - Part 18: Equipment protection by encapsulation "m"

**EN 60079-26:2015** Explosive atmospheres - Part 26: Equipment with Equipment Protection Level (EPL) Ga

The above-mentioned product complies with Directive 2014/34/EU. New editions may have already replaced one or more of the standards mentioned in the EU type examination certificates. Kobold Messring declares that the product mentioned in this declaration of conformity either meets the requirements of the new editions or is not affected by the changes.

The notified body DEKRA Testing and Certification GmbH, identification number: 0158, was activated, in accordance with Article 17 of Directive 2014/34/EU, to monitor quality assurance related to the production process.

Certificate: BVS 24 ATEX ZQS/E110

Hofheim, 21 Jan. 2025








H. Volz  
General Manager



J. Burke  
Compliance Manager

## 17. ATEX Certificate

 	
(1)	<p><i>EU-Típus Vizsgálati Tanúsítvány</i>  <i>EU-Type Examination Certificate</i></p>
(2)	<p>A potenciálisan robbanásveszélyes környezetben történő alkalmazásra szánt berendezések, védelmi rendszerek          2014/34/EU Direktíva /          Equipment or Protective Systems Intended for use          in Potentially Explosive Atmospheres          Directive 2014/34/EU</p>
(3)	<p>EU-Típus Vizsgálati Tanúsítvány száma /          EU-Type Examination Certificate          Number: <b>BKI16ATEX0034 X</b></p>
(4)	<p>A gyártmány / Product:  <b>Mágneses billenőúszós szintkapcsoló család /          Magnetic dumping float level switch family</b></p> <p>Típusa / Type:  <b>NGS-****Ex</b></p>
(5)	<p>Gyártó / Manufacturer:  <b>KOBOLD Messring GmbH</b></p>
(6)	<p>Cím / Address:  <b>Nordring 22-24,          65719, Hofheim am Taunus          Germany</b></p>
(7)	<p>A gyártmány és annak változatai a jelen tanúsítvány vonatkozó pontjában vannak feltüntetve. /          This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.</p>
(8)	<p>A ExVÁ Robbanásbiztos Berendezések Vizsgáló Állomása Kft., 1418 sz. kijelölt testület, a 2014. február 26-i Európai Parlament és Tanács 2014/34/EU Direktívájának 17. cikkelye szerint tanúsítja, hogy a gyártmány megfelel az Alapvető Egészségügyi és Biztonsági Követelményeknek a Direktíva II. számú Mellékletében a potenciálisan robbanásveszélyes térben alkalmazásra szánt gyártmányok tervezése és gyártása szerint. /          ExVÁ Testing Station for Explosion Proof Equipment Company Limited, notified body number 1418 in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.</p>
	<p>A vizsgálat eredményeit az alábbi nyilvántartási számú bizalmas vizsgálati dokumentáció tartalmazza: /          The examination and test results are recorded in confidential report No.: <b>R-060-16</b></p>
	<p>Ez a tanúsítvány csak a maga egészében és változatlan formában használható fel, mellékleteivel együtt. /          This certificate may only be reproduced in its entirety and without any changes, schedule included.</p>
	<p>Lapszám / Page: 1/5</p>
	



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EU-Type Examination Certificate

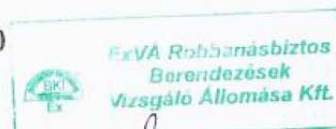
- (9) Az alapvető egészségügyi és biztonsági követelményeknek való megfelelést a következők biztosítják: / Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
- EN 60079-0:2012 (=MSZ EN 60079-0:2013)**
  - EN 60079-0:2012 / A11:2013 (=MSZ EN 60079-0:2013 / A11:2014)**
  - EN 60079-1:2014 (=MSZ EN 60079-1:2015)**
  - EN 60079-7:2007 (=MSZ EN 60079-7:2007)**
  - EN 60079-18:2015 (=MSZ EN 60079-18:2015)**
  - EN 60079-26:2015 (=MSZ EN 60079-26:2015)**
- kivéve a 18. pontban felsorolt követelményekre vonatkozóan.  
except in respect of those requirements listed at item 18 of the Schedule.
- (10) A tanúsítvány száma után álló „X” jel azt mutatja, hogy a gyártmány speciális feltételek megtartása mellett felel meg a jelen tanúsítvány vonatkozó pontjában feltüntetett biztonságos alkalmazás feltételeinek. / If the sign „X” is placed after the certificate number, it indicates that the product is subject to Specific Conditions of Use specified in the schedule to this certificate.
- (11) Jelen EU-TÍPUS VIZSGÁLATI TANÚSÍTVÁNY csak a megjelölt gyártmány tervezésére és kivitelezésére vonatkozik. A jelen Direktíva további követelményei vonatkoznak a gyártmány gyártási folyamatára és szállítására. Ezek nem tartoznak e tanúsítvány alá / This EU-TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. Further requirements of this Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.
- (12) A gyártmány jele a következő / The marking of the product shall include the following:



**II 1/2 G Ex d e mb IIC T6...T2 Ga/Gb**

( T<sub>körny</sub> = táblázat szerint / T<sub>amb</sub> = according to table )

**ExVÁ Robbanásbiztos Berendezések  
Vizsgáló Állomása Kft.**  
ExVÁ Testing Station for Explosion Proof  
Equipment Ltd.  
Hungary, 1037 Budapest, Mikoviny u. 2-4.  
Tel.: 36 1 250 1720  
E-mail: bkiex@bki.hu

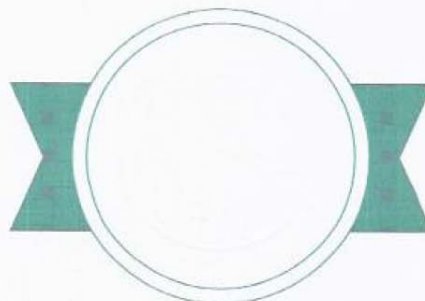


*Müllner János*

**Müllner János**

Ügyvezető igazgató / Managing director

Budapest, 2016. december / December 1.



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## (13) Melléklet / Schedule

### (14) EU-TÍPUSVIZSGÁLATI TANÚSÍTVÁNY szám / EU-TYPE EXAMINATION CERTIFICATE N<sup>o</sup> BKI16ATEX0034 X

#### (15) Gyártmány leírása / Description of Product

A NGS-\*\*\*\*Ex típusú mágneses úszós szintkapcsoló kapcsolója nyomásálló tokozás „d” és légmentes lezárás kiöntéssel „mb” védelmi módú, a tokozása fokozott biztonság „e” védelmi móddal készített közvetlen kábelbevezetésű gyártmány.

A szintváltás hatására elmozduló mágnes egy mikrokapcsolót működtet.

A csatlakozó kábel gumigyűrűvel tömített kábelbevezetőn lép be a fejrészben lévő csatlakozótérbe. A vezetékerek a mikrokapcsoló testébe ágyazott kapcsokra csavaros rögzítéssel csatlakoztathatók.

A fejrészt menetes illeszkedésű fedél zárja le. /

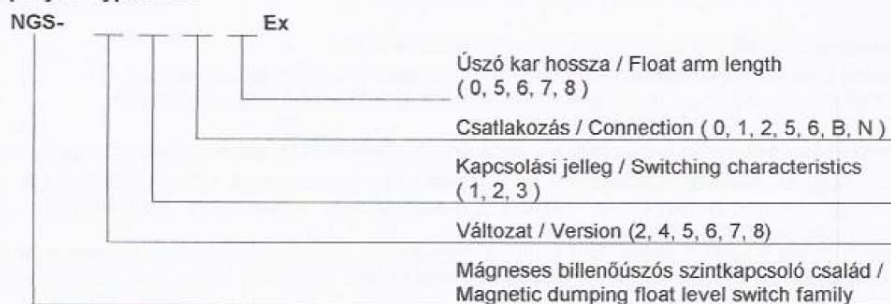
The switch of NGS-\*\*\*\*Ex level switch type made covers products of the protection type flameproof enclosure „d”, and encapsulation „mb” – the enclosure has increased safety „e” with direct cable entry.

The magnet, moving off as the result of level change, operates a microswitch.

The connecting cable enters the connecting area in the head part through a cable entry sealed by means of a rubber ring. The wires can be connected onto the terminals of microswitch, embedded into the insulator body, by screwed fixing.

The head part is closed by a threaded cover.

#### 15.1 Típusjel / Type mark



#### 15.2 Műszaki adatok / Technical data

##### Villamos adatok / Electrical data

Beépített kapcsoló kapcsolási jellemzői: /  
Parameters of built-in switch : 250 VAC / 2,5 A / AC12  
220 VDC / 0,3 A / DC 13

##### Védettség / Ingress protection:

NGS-2\*, NGS-51\*, NGS-61\* típusváltozatok esetén /  
In case of types NGS-2\*, NGS-51\*, NGS-61\*:

IP 65

NGS-4\*, NGS-7\*, NGS-8\* típusváltozatok esetén /  
In case of types NGS-4\*, NGS-7\*, NGS-8\*:

IP 68

##### Érintésvédelem / Electric shock protection:

I. év. osztály MSZ 171/1-84 /  
I. e.s. class according to MSZ 171/1-84

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**15.3 Hőmérsékleti határadatok / Data of temperature limit**  
**Környezeti és közeghőmérséklet / Ambient and medium temperature**

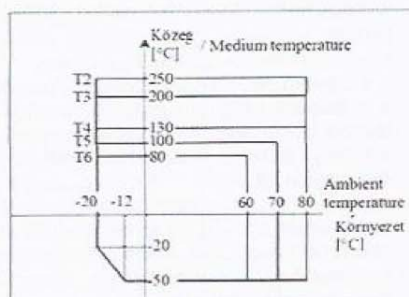
Hőmérsékleti osztály / Temperature class	Környezeti hőmérséklet tartomány / Ambient temperature range	Közeghőmérséklet tartomány / Medium temperature range
T6	-20°C...+60°C	-50°C...+80°C
T5	-20°C...+70°C	-50°C...+95°C
T4	-20°C...+80°C	-50°C...+130°C
T3	-20°C...+80°C	-50°C...+200°C
T2	-20°C...+80°C	-50°C...+250°C

kivéve / except:

NGS-51\*  
NGS-61\*

$T_{\text{közeg/medium}}: 0^{\circ}\text{C} \dots +100^{\circ}\text{C}$   
 $T_{\text{közeg/medium}}: 0^{\circ}\text{C} \dots +200^{\circ}\text{C}$

Az alkalmazható közeghőmérséklet tartomány az alábbi ábra szerint korlátozódik /  
The applicable medium temperature range limited by next diagram:



**(16) Jegyzőkönyv / Report N°**

R-060-16ATEX Értékelő Jelentés / ATEX Assessment Report

2016.12.01.

**(17) Biztonságos üzemeltetés feltételei / Special conditions of Use**

A kapcsoló áramkörét a kapcsolási paramétereknek megfelelő biztosítóval kell védeni. /  
The circuit of the switch must be protected by fuse suitable for the switching parameters.

**(18) Alapvető egészségügyi és biztonsági követelmények / Essential Health and Safety Requirements**

Amellett, hogy az alapvető egészségügyi és biztonsági követelményeknek való megfelelést a 9. pontban felsorolt szabványok biztosítják, a következő megfontolások vonatkoznak a gyártmányra, melyek megfelelősége jegyzőkönyvben bizonyított./  
In addition to the Essential Health and Safety Requirements (EHSRs) covered by the standards listed at item 9, the following are considered relevant to this product, and conformity is demonstrated in the report:

Záradék / Clause	Tárgy / Subject
N/A	N/A

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EU-Típus Vizsgálati Tanúsítvány/  
EU-Type Examination Certificate

**(19) Rajzok és dokumentációk / Drawings and Documents**

Szám / Number	Lap / Sheet	Kiadás / Issue	Dátum / Date	Leírás / Description
NGS K04/1116 (sheet 16)	1	-	2016.11.23.	EU-Megfelelőségi Nyilatkozat / EU-Declaration of Conformity
NGS-2100 Ex.	1	0	2016.11.03.	Adattábla / Ex data plate
NGS K04/1116	16	1	2016 November	Használati utasítás / Operating instructions
303.004	1	2	2016.11.30	rendelési jelölés / cross reference codes
-	1	-	2016.07.13	Jóváhagyó levél / Letter of Consent

**Müllner János**  
Ügyvezető igazgató /  
Managing director



**Molnár Edit**  
Tanúsító Szervezet Vezető /  
Head of Certification Body

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