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Schema di certificazione

CESI-ATEX



PRD N. 018B
Membro degli Accordi di Mutuo Riconoscimento EA, IAF e ILAC
Signatory of EA, IAF and ILAC Mutual Recognition Agreements

[1] **EC-TYPE EXAMINATION CERTIFICATE**

[2] **Equipment or Protective System intended for use in potentially explosive atmospheres
Directive 94/9/EC**

[3] **EC-Type Examination Certificate number:
CESI 13 ATEX 033 X**

[4] **Equipment: Cable glands series KBA.. (Orion), KBU.. (Crater)**
[5] **Manufacturer: Bimed Teknik Aletler Sanayi Ve Ticaret A.S.**
[6] **Address: Orkide Cad. No. 15; TR-34520 Beylikdüzü-Büyükçekmece Istanbul (Turkey)**

[7] This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

[8] CESI, notified body n. 0722 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system 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 confidential report n. EX- B3019128.

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0: 2012 EN 60079-1: 2007 EN 60079-7: 2007 EN 60079-31: 2009

[10] If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system 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 or protective system in accordance to the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

[12] The marking of the equipment or protective system shall include the following:

II2GD Ex d IIC Gb and Ex e IIC Gb and Ex tb IIIC Db IP66/68

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Date 15.07.2013 - Translation issued the 15.07.2013

Prepared
Mirko Balaz

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Approved

Fiorenzo Bregani

CESI S.p.A.

Testing & Certification Division
Business Area Certification

Il Responsabile

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[15] **Description of equipment**

The cable glands series **KBU..** (commercial gland family named CRATER) and **KBA..** (commercial gland family named ORION) are suitable for inserting circular cables into Ex d enclosures having threaded entries and Ex e or Ex tb enclosures having either threaded or plane entries. Attachment of the glands to an enclosure is by means of the male threaded portion on the male body. An elastomeric inner sealing ring is used in each gland type to facilitate sealing between the cable and gland body and to clamp the cable to prevent pulling or twisting forces being transmitted to the conductor connections. Ingress protection of IP66/68 (50 m for 30 min.) is maintained when the glands are installed in accordance with the manufacturer's instructions. The cable glands should be also used for intrinsically safe circuits Ex-i. These cable glands should have a part painted light blue.

The types **KBU..** glands are designed for non-armoured cables while the types **KBA..** glands are designed for steel wire armour or shielded cables.

The sealing rings can be made of Chloroprene with operating temperature range from -40°C to +100°C or Silicon rubber with operating temperature range from -60°C to +130°C, with the exception of cable glands made of galvanized carbon steel which are restricted to the lower temperature range of -20°C.

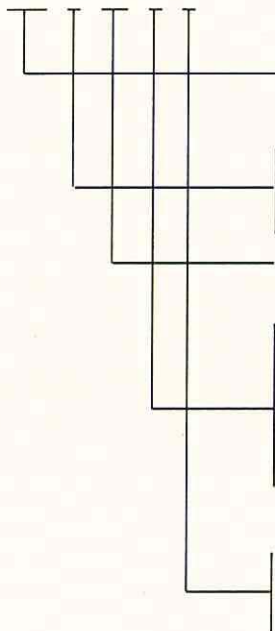
The cable glands standard threads types are NPT ANSI ASME B1.20.1 from 3/8" up to 3" and cylindrical ISO Metric 965/1 and ISO 965/3 from M20x1.5 up to M90X1.5. Alternative available tapered threads are GAS UNI ISO 7/1 while cylindrical threads are GAS UNI ISO 228/1, N.P.S.M. and type PG DIN 40430. Thread type PG DIN 40430 can be used for "Ex e" execution only.

To guarantee the IP 66/68 degree of protection the cable glands series **KBU..** and **KBA..** with cylindrical threads have a sealing edge machined for fitting an elastomeric gasket, while for all other threads the IP 66/68 degree of protection is achieved with sealant put at least on two complete threads engaged of the threaded coupling.

The cable glands are generally made in Brass (CuZn39Pb3 EN 12164). The alternative materials Galvanized carbon steel (type FE36, FE37 UNI 10233/4) or Stainless steel (type AISI316, AISI304 and AISI303) can be supplied on demand.

Identification of cable glands

*** * ** * *



Code which identifies the type:

- **KBA:** cable gland for armoured or shielded cable
- **KBU:** cable gland for non-armoured cable

Code which identifies the cable type (*KBA.. type only*):

- **Blank:** standard (*for armoured cables only*)
- **U:** universal (*for armoured or shielded cables*)
- **O:** offshore (*for shielded cables only*)

Size (*see table 1 and 2*)

Type of thread:

- **N:** NPT ANSI/ASME B1.20.1
- **S:** NPSM
- **P:** PG DIN 40430 (*assessed for Ex e protection mode only*)
- **M:** UNI ISO 261 pitch 1,5
- **C:** GAS UNI ISO 228-1
- **G:** GAS UNI ISO 7-1

Manufacturing material:

- **B:** brass
- **X:** stainless steel
- **Z:** galvanized carbon steel

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Part number and thread types and sizes of cable glands are listed on the followings Table 1 and Table 2:

Table 1:

KBA.. (Orion)				
Cable glands type / size	NPT	ISO pitch 1,5	Cable Dia. ranges (mm)	
			Inner sheath	Armour sheath
KBA 01S..	3/8"	M16	3-8,5	6-12
KBA 01..	3/8"	M16	6-12	8,5-16
KBA 1S..	1/2"	M 20	3-8,5	6-12
KBA 1..	1/2"	M 20	6-12	8,5-16
KBA 1L..	1/2"	M 20	12-14,5	16-20
KBA 2S..	3/4"	M 25	6-12	8,5-16
KBA 2..	3/4"	M 25	12-16	16-21
KBA 2L..	3/4"	M 25	12-20	16-26
KBA 3S..	1"	M 32	12-20	16-26
KBA 3..	1"	M 32	15-26	20-33
KBA 4S..	1 1/4"	M 40	15-26	20-33
KBA 4..	1 1/4"	M 40	20-32	29-41
KBA 5S..	1 1/2"	M 50	22-35	33-48
KBA 5..	1 1/2"	M 50	27-41	36-52
KBA 6S..	2"	M 63	35-45	43-57
KBA 6..	2"	M 63	40-52	47-60
KBA 7S..	2 1/2"	M 75	40-52	47-60
KBA 7..	2 1/2"	M 75	45-60	54-70
KBA 8S..	3"	M 90	45-60	54-70
KBA 8..	3"	M 90	60-72	63-80

Table 2:

KBU.. (Crater)			
Cable glands type / size	NPT	ISO pitch 1,5	Cable Dia. ranges (mm)
KBU 01..	3/8"	M16	3-8,5
KBU 01L..	3/8"	M16	6-12
KBU 1..	1/2"	M 20	6-12
KBU 1L..	1/2"	M 20	12-14,5
KBU 2S..	3/4"	M 25	6-12
KBU 2..	3/4"	M 25	12-16
KBU 2L..	3/4"	M 25	12-20
KBU 3S..	1"	M 32	12-20
KBU 3..	1"	M 32	15-26
KBU 4S..	1 1/4"	M 40	15-26
KBU 4..	1 1/4"	M 40	20-32
KBU 5S..	1 1/2"	M 50	22-35
KBU 5..	1 1/2"	M 50	27-41
KBU 6S..	2"	M 63	35-45
KBU 6..	2"	M 63	40-52
KBU 7S..	2 1/2"	M 75	40-52
KBU 7..	2 1/2"	M 75	45-60
KBU 8S..	3"	M 90	45-60
KBU 8..	3"	M 90	60-72

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Constructional characteristics

- Degree of protection (IEC 60529): IP 66 / IP 68 (50 m for 30 min.).
- Service temperature range: - 40 ÷ + 100 °C for models with sealing rings made of Chloroprene rubber.
- 60 ÷ + 130 °C for models with sealing rings made of Silicon rubber.
up to -20 °C for models made of Galvanized carbon steel.

[16] Report n. EX- B3019128

Routine tests

None.

Descriptive documents (prot. EX- B3019131)

- Technical note A4-IEC.01 (4 pg.)	rev.0	dated	18.01.2013
- Safety, maintenance and mounting instructions MI-IEC.10 (12 pg.)	rev.0	dated	18.01.2013
- Declaration of Conformity CE002 (1 pg.)	rev.0	dated	30.01.2013
- Drawing A3-IEC.02 (1 sheet)	rev.0	dated	04.06.2012
- Drawing A3-IEC.03 (1 sheet)	rev.0	dated	04.06.2012
- Drawing A3-IEC.53 (1 sheet)	rev.0	dated	04.06.2012
- Drawing A3-IEC.54 (1 sheet)	rev.0	dated	04.06.2012
- Drawing A3-IEC.58 (1 sheet)	rev.0	dated	04.06.2012
- Drawing A3-IEC.61 (1 sheet)	rev.0	dated	04.06.2012
- Drawing A3-IEC.62 (1 sheet)	rev.0	dated	04.06.2012
- Drawing A3-IEC.64 (1 sheet)	rev.0	dated	04.06.2012
- Drawing A3-IEC.68 (1 sheet)	rev.0	dated	04.06.2012
- Drawing A4-IEC.04 (1 sheet)	rev.0	dated	04.06.2012
- Drawing A4-IEC.06 (1 sheet)	rev.0	dated	04.06.2012
- Drawing A4-IEC.07 (1 sheet)	rev.0	dated	04.06.2012
- Drawing A4-IEC.08 (1 sheet)	rev.0	dated	04.06.2012
- Drawing A4-IEC.09 (1 sheet)	rev.0	dated	04.06.2012
- Drawing A4-IEC.55 (1 sheet)	rev.0	dated	18.01.2013
- Drawing A4-IEC.56 (1 sheet)	rev.0	dated	18.01.2013
- Drawing A4-IEC.57 (1 sheet)	rev.0	dated	18.01.2013
- Drawing A4-IEC.59 (1 sheet)	rev.0	dated	18.01.2013
- Drawing A4-IEC.60 (1 sheet)	rev.0	dated	18.01.2013
- Drawing A4-IEC.63 (1 sheet)	rev.0	dated	18.01.2013
- Drawing A4-IEC.65 (1 sheet)	rev.0	dated	18.01.2013
- Drawing A4-IEC.67 (1 sheet)	rev.0	dated	18.01.2013
- Drawing A4-IEC.68 (1 sheet)	rev.0	dated	18.01.2013
- Properties of sealing rings – Chloroprene (1 pg.)	rev.0	dated	18.01.2013
- Properties of sealing rings – Silicon rubber (1 pg.)	rev.0	dated	18.01.2013

One copy of all documents is kept in CESI files.

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[17] **Special conditions for safe use**

- The coupling of the cable glands with the enclosures shall be made as indicated by the manufacturer in the documents annexed to this certificate in order to respect the type of protection of the electrical apparatus on which cable glands are mounted.
- The cable glands shall be mounted at the electrical apparatus in such a way that accidental rotation and loosening will be prevented.
- The cable glands shall be installed in such a way that the temperature at the mounting point will remain within the following service temperature ranges:
 - -40°C to +100°C with inner sealing rings made of Chloroprene (Neoprene);
 - -60°C to +130°C with inner sealing rings made of Silicon rubber;
 - Restricted use up to -20°C for cable glands made of galvanized carbon steel.
- The degree of protection IP 66/68 according to the EN 60529 standard will be guaranteed for the cable glands if the holes into which cable glands are mounted are suitably sealed. To this scope the correct positioning of the gaskets (for cylindrical threads) or the application of sealant on the threads (for tapered threads), shall be done as indicated in the manufacturer instruction.

[18] **Essential Health and Safety Requirements**

The Essential Health and Safety Requirements are assured by compliance to the following standards:

- EN 60079-0: 2012 Explosive atmospheres – Part 0: Equipment - General requirements;
- EN 60079-1: 2007 Explosive atmospheres – Part 1: Equipment protection by flameproof enclosure “d”;
- EN 60079-7: 2007 Explosive atmospheres – Part 7: Equipment protection by increased safety “e”;
- EN 60079-31: 2009 Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure “t”.