

## EXTENSION n. 02/15

to EC-Type Examination Certificate CESI 13 ATEX 033X

**Equipment:** Cable glands series KBA..(Orion), KBU..(Crater), KBAT..(Taurus) and KBALT..(Orion-LT)

**Manufacturer:** Bimed Teknik Aletler Sanayi Ve Ticaret A.S.

**Address:** S.S Bakir Pirinç Sanayi Sitesi Leylak Caddesi no:15  
TR - 34524 Beylikdüzü - Istanbul  
(Turkey)

**Admitted variation**

- New sizes to cable glands series KBA..(Orion) have been added.
- New series KBALT.. (Orion-LT) cable glands has been added.
- New fiber flat washer types for IP degree of protection for all cable gland series have been added.
- Updated the identification coding system.

**Equipment identification**

The equipment shall be marked as follows:



II2GD

Ex d IIC Gb and Ex e IIC Gb and  
Ex tb IIIC Db  
IP66/68  
Ta min. max.

Ambient temperature range for **Orion-LT-KBALT**:  
-40 ÷ +80 °C for models with sealing rings made of Chloroprene.  
-60 ÷ +80 °C for models with sealing rings made of Silicon.  
up to -20 °C for models made of Galvanized carbon steel.  
-40 ÷ +80 °C for models supplied with fiber flat washer.

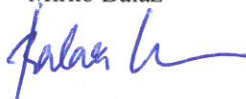
Ambient temperature ranges for **Orion-KBA**, **Crater-KBU** and **Taurus-KBAT** are unchanged with the exception for models supplied with fiber flat washers which are restricted at the ambient temperature range from -40°C up of +80°C.

This extension and annexed descriptive documents must be annexed to the EC-Type Examination Certificate CESI 13 ATEX 033X.

This document may only be reproduced in its entirety and without any change.

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**Prepared**  
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**Approved**

Fiorenzo Bregani

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Page 1/6



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## EXTENSION n. 02/15

to EC-Type Examination Certificate CESI 13 ATEX 033X

### Description of equipment

At the cable glands series **Orion-KBA..** the new sizes listed into the following Table 1 have been added. With these new sizes of cable glands, the standard thread sizes are extended up to 3 1/2" NPT ANSI/ASME B1.20.1 for tapered threads while M110x1.5 ISO Metric 965/1 and ISO 965/3 for cylindrical threads.

Table 1

Cable glands		Thread size		Cable Diameter Range (mm)	
Type	Size	NPT	ISO Pitch 1,5	Inner sheath min-max	Armour sheath min-max
KBA..	2XS	3/4"	M25	3,0-8,5	6,0-12,0
KBA..	3XS	1"	M32	6,0-12,0	8,5-16,0
KBA..	4XS	1 1/4"	M40	12,0-20,0	16,0-26,0
KBA..	5XS	1 1/2"	M50	15,0-26,0	20,0-33,0
KBA..	5XM	1 1/2"	M50	20,0-32,0	29,0-41,0
KBA..	6XS	2"	M63	22,0-35,0	33,0-48,0
KBA..	6XM	2"	M63	27,0-41,0	36,0-52,0
KBA..	7XS	2 1/2"	M75	35,0-45,0	43,0-57,0
KBA..	8XS	3"	M90	40,0-52,0	47,0-60,0
KBA..	9S	3 1/2"	-	45,0-60,0	54,0-70,0
KBA..	9	3 1/2"	-	60,0-72,0	63,0-80,0
KBA..	10S	-	M110	45,0-60,0	54,0-70,0
KBA..	10	-	M110	60,0-72,0	63,0-80,0

At the cable glands series **KBU..** (commercial gland family named CRATER), **KBA..** (commercial gland family named ORION) and **KBAT..** (commercial gland family named TAURUS), the new series of cable gland **KBALT..** (commercial gland family named ORION Lower Temperature) has been added.

New series of cable gland **KBALT..** is 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 cable glands series KBALT.. are designed for steel wire armour or shielded cables.**

The sealing rings for types **KBALT..** cable glands can be made of Chloroprene with operating temperature range from -40°C to +80°C or Silicon rubber with operating temperature range from -60°C to +80°C, with the exception of cable glands made of galvanized carbon steel which are restricted to the lower temperature range of -20°C.

The types **KBALT..** cable glands standard threads types are NPT ANSI/ASME B1.20.1 from 1/2" up to 1" and cylindrical ISO Metric 965/1 and ISO 965/3 from M20x1.5 up to M32x1.5. Alternative available cylindrical threads are GAS UNI ISO 228/1, NPSM ANSI/ASME B1.20.1 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 **KBALT..** with cylindrical thread 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 series **KBALT..** are generally made in Brass (CuZn39Pb3 EN 12164). The alternative materials Nickel-plated brass (CuZn39Pb3 EN 12164), Galvanized carbon steel (type FE36, FE37 UNI 10233/4) or Stainless steel (type AISI316, AISI304 and AISI303) can be supplied on demand.



## EXTENSION n. 02/15

to EC-Type Examination Certificate CESI 13 ATEX 033X

### Identification of type Orion-LT cable glands

KBA \* \*\*\* \* (\*\*) LT \*\* \* - \*\*

Code which identifies the type of cable gland for armoured or shielded cable

Code which identifies the cable type:

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

Size (see Table 2)

Type of thread:

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

Thread size (see Table 2)

**Orion-LT (Lower temperature)** cable gland series

Manufacturing material:

- **B:** brass
- **BN:** nickel-plated brass
- **X:** stainless steel
- **Z:** galvanized carbon steel

Seals material:

- **C:** Chloroprene (Neoprene)
- **S:** Silicon rubber

Flat washer:

- **Blank:** none
- **WC:** with flat washer in Chloroprene (Neoprene)
- **WS:** with flat washer in Silicon rubber
- **WF:** with flat washer in fiber (Ta -40 ÷ +80 °C)

Types, sizes and threads of KBALT..-Orion-LT cable glands are listed on the following Table 2:

Table 2

KBALT.. (Orion-LT)					
Cable glands		Thread size		Cable Dia. ranges (mm)	
Type	Size	NPT	ISO pitch 1,5	Inner sheath min-max	Armour sheath min-max
KBA..LT	1M	1/2"	M 20	8,5-14,5	12-20
KBA..LT	2XM	3/4"	M 25	8,5-14,5	12-20
KBA..LT	2M	3/4"	M 25	8,5-16	12-21
KBA..LT	3XM	1"	M 32	8,5-16	12-21

For all series of cable glands type KBA., KBU., KBAT.. and KBALT.. a fiber flat washer for IP66/68 degree of protection is available. For cable glands supplied with fiber flat washer, the ambient temperature range admitted for installation is from -40°C up to +80°C.

## EXTENSION n. 02/15

to EC-Type Examination Certificate CESI 13 ATEX 033X

### Identification of type Orion, Crater and Taurus cable glands (updated coding system)

KB\* \* \* \* (\*\*) \*\* \* - \*\*

Codes which identify the cable gland type, cable type (KBA only), size and type of thread (unchanged codes, refer to certificate)

Thread size (new codes: example M25, 1", etc.)

Manufacturing material (new codes):

- **B:** brass
- **BN:** nickel-plated brass
- **X:** stainless steel
- **Z:** galvanized carbon steel

Seals material (new codes):

- **C:** Chloroprene (Neoprene)
- **S:** Silicon rubber

Flat washer (new codes):

- **Blank:** none
- **WC:** with flat washer in Chloroprene (Neoprene)
- **WS:** with flat washer in Silicon rubber
- **WF:** with flat washer in fiber (Ta -40 ÷ +80 °C)

### Constructional characteristics

Degree of protection (IEC 60529):

IP 66 / IP 68 (50 m for 30 min.).

Service temperature ranges for **Orion-LT-KBALT**:

- 40 ÷ +80 °C for models with sealing rings made of Chloroprene.
- 60 ÷ +80 °C for models with sealing rings made of Silicon.
- up to -20 °C for models made of Galvanized carbon steel.
- 40 ÷ +80 °C for models supplied with fiber flat washers.

Service temperature ranges for **Orion-KBA**, **Crater-KBU** and **Taurus-KBAT** are unchanged with the exception for models supplied with fiber flat washers which are restricted at the service temperature range from - 40°C up to +80°C.

Other characteristics for **Orion-KBA**, **Crater-KBU** and **Taurus-KBAT** are unchanged.

Report n. EX- B5001801

### Routine tests

None.

## EXTENSION n. 02/15

to EC-Type Examination Certificate CESI 13 ATEX 033X

### Descriptive documents (prot. EX- B5001804)

- Technical note A4-IEC.03 (pg. 7)	rev.00	dated	2014.06.30
- Safety, maintenance and mounting instruction MI-IEC.10 (pg. 12)	rev.01	dated	2014.09.11
- Safety, maintenance and mounting instruction TMI-IEC.10 (pg. 10)	rev.01	dated	2014.09.11
- Declaration of Conformity FACSIMILE no. CE 002 (pg. 1)	rev.1	dated	2014.09.11
- Declaration of Conformity FACSIMILE no. CE T002 (pg. 1)	rev.1	dated	2014.09.11
- Drawing A3-KBALT (M) (1 sheet)	rev.00	dated	2014.09.11
- Drawing A3-KBALT (NPT) (1 sheet)	rev.00	dated	2014.09.11
- Drawing A4-14-IEC.LT08 (1 sheet)	rev.00	dated	2014.09.11
- Drawing A3-14-IEC.61 (1 sheet)	rev.00	dated	2014.09.11
- Drawing A4-14-IEC.65 (1 sheet)	rev.00	dated	2014.09.11
- Drawing A3-14-IEC.62 (1 sheet)	rev.00	dated	2014.09.11
- Drawing A4-14-IEC.56 (1 sheet)	rev.00	dated	2014.09.11
- Drawing A4-14-IEC.LT09 (1 sheet)	rev.00	dated	2014.09.11
- Drawing A3-14-IEC.64 (1 sheet)	rev.00	dated	2014.09.11
- Drawing A3-14-IEC.68 (1 sheet)	rev.00	dated	2014.09.11
- Drawing A4-14-IEC.63 (1 sheet)	rev.00	dated	2014.09.11
- Drawing A4-14-IEC.67 (1 sheet)	rev.00	dated	2014.09.11
- Drawing A4-IEC.06 (1 sheet)	rev.00	dated	2012.06.04
- Drawing A4-IEC.07 (1 sheet)	rev.00	dated	2012.06.04
- Drawing A4-IEC.04 (1 sheet)	rev.01	dated	2014.09.11
- Drawing A3-IEC.03 (1 sheet)	rev.01	dated	2014.09.11
- Drawing A3-IEC.02 (1 sheet)	rev.01	dated	2014.09.11
- Drawing A3-KBAU (M) (1 sheet)	rev.00	dated	2014.09.11
- Drawing A3-KBAU (NPT) (1 sheet)	rev.00	dated	2014.09.11
- Drawing A3-KBAO (M) (1 sheet)	rev.00	dated	2014.09.11
- Drawing A3-KBAO (NPT) (1 sheet)	rev.00	dated	2014.09.11
- Drawing A4-IEC.08 (1 sheet)	rev.01	dated	2014.09.11
- Drawing A4-IEC.09 (1 sheet)	rev.01	dated	2014.09.11
- Drawing A4-IEC.57 (1 sheet)	rev.01	dated	2014.09.11
- Drawing A4-IEC.55 (1 sheet)	rev.01	dated	2014.09.11
- Drawing A4-IEC.56 (1 sheet)	rev.01	dated	2014.09.11
- Drawing A3-IEC.61 (1 sheet)	rev.01	dated	2014.09.11
- Drawing A3-IEC.62 (1 sheet)	rev.01	dated	2014.09.11
- Drawing A4-IEC.63 (1 sheet)	rev.01	dated	2014.09.11
- Drawing A3-IEC.64 (1 sheet)	rev.01	dated	2014.09.11
- Drawing A4-IEC.65 (1 sheet)	rev.01	dated	2014.09.11
- Drawing A4-IEC.68 (1 sheet)	rev.01	dated	2014.09.11
- Drawing A4-IEC.70 (1 sheet)	rev.00	dated	2014.09.11
- Drawing A4-14-IEC.T70 (1 sheet)	rev.00	dated	2014.09.11
- Drawing A4-14-IEC.70 (1 sheet)	rev.00	dated	2014.09.11
- Drawing A4-IEC.67 (1 sheet)	rev.01	dated	2014.09.11
- Drawing A4-14-IEC.10 (1 sheet)	rev.01	dated	2014.09.11
- Properties of sealing rings – Chloroprene (1 sheet)	rev.0	dated	2013.01.18
- Properties of sealing rings – Silicon rubber (1 sheet)	rev.0	dated	2013.01.18

One copy of all documents is kept in CESI files.



## EXTENSION n. 02/15

to EC-Type Examination Certificate CESI 13 ATEX 033X

### Special conditions for safe use (X)

- Special conditions for safe use (X) for Orion-KBA, Crater-KBU and Taurus-KBAT cable glands are unchanged with the exception for models supplied with fiber flat washers which are restricted at the service temperature range from  $-40^{\circ}\text{C}$  up to  $+80^{\circ}\text{C}$ .
- The coupling of the type **KBALT..** 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 type **KBALT..** cable glands shall be mounted at the electrical apparatus in such a way that accidental rotation and loosening will be prevented.
- The type **KBALT..** cable glands shall be installed in such a way that the temperature at the mounting point will remain within the following service temperature ranges:
  - $-40^{\circ}\text{C}$  to  $+80^{\circ}\text{C}$  for type **KBALT..** cable glands with inner sealing rings made of Chloroprene (Neoprene);
  - $-60^{\circ}\text{C}$  to  $+80^{\circ}\text{C}$  for type **KBALT..** cable glands with inner sealing rings made of Silicon rubber;
  - restricted use up to  $-20^{\circ}\text{C}$  for type **KBALT..** cable glands made of galvanized carbon steel;
  - restricted use up to  $-40^{\circ}\text{C}$  for types **KBALT..** cable glands with fiber flat washers.
- The degree of protection IP 66/68 according to the IEC 60529 standard will be guaranteed for the type **KBALT..** 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.

### 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”.