



# IECEX Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.: IECEx CES 13.0013X Issue No: 2 Certificate history:  
Status: **Current** Page 1 of 4 Issue No. 2 (2015-01-30)  
Date of Issue: **2015-01-30** Issue No. 1 (2014-06-30)  
Applicant: **Bimed Teknik Aletler Sanayi Ve Ticaret A.Ş.** Issue No. 0 (2013-08-29)  
S.S Bakir Piriñ Sanayi Sitesi Leylak Caddesi no:15  
TR - 34524 Beylikdüzü – Istanbul  
Turkey  
Electrical Apparatus: **Cable glands series KBA. (Orion), KBU. (Crater), KBAT. (Taurus) and  
KBALT. (Orion LT)**  
*Optional accessory:*  
Type of Protection: **Flameproof enclosures 'd'; increased safety 'e'; Dust ignition protection 't'**  
Marking: **Ex d IIC Gb  
Ex e IIC Gb  
Ex tb IIIC Db  
IP 66/68**

Approved for issue on behalf of the IECEx  
Certification Body:

Mirko Balaz

Position:

Head of IECEx CB

Signature:  
(for printed version)

Date:

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:

**CESI**  
**Centro Elettrotecnico**  
**Sperimentale Italiano S.p.A.**  
**Via Rubattino 54**  
**20134 Milano**  
**Italy**



# IECEx Certificate of Conformity

Certificate No: IECEx CES 13.0013X Issue No: 2  
Date of Issue: 2015-01-30 Page 2 of 4  
Manufacturer: **Bimed Teknik Aletler Sanayi Ve Ticaret A.Ş.**  
S.S Bakir Piriñ Sanayi Sitesi Leylak Caddesi no:15  
TR - 34524 Beylikdüzü – Istanbul  
**Turkey**

Additional Manufacturing  
location(s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

#### STANDARDS:

The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

<b>IEC 60079-0 : 2011</b> Edition:6.0	Explosive atmospheres - Part 0: General requirements
<b>IEC 60079-1 : 2007-04</b> Edition:6	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
<b>IEC 60079-31 : 2008</b> Edition:1	Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure "t"
<b>IEC 60079-7 : 2006-07</b> Edition:4	Explosive atmospheres - Part 7: Equipment protection by increased safety "e"

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

#### TEST & ASSESSMENT REPORTS:

*A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in*

#### Test Report:

[IT/CES/ExTR13.0007/00](#)

[IT/CES/ExTR14.0015/00](#)

[IT/CES/ExTR15.0002/00](#)

#### Quality Assessment Report:

[IT/CES/QAR12.0003/02](#)



# IECEx Certificate of Conformity

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## Schedule

### EQUIPMENT:

*Equipment and systems covered by this certificate are as follows:*

The cable glands series **KBU..** (commercial gland family named CRATER), **KBA..** (commercial gland family named ORION), **KBAT..** (commercial gland family named TAURUS) and **KBALT..** (commercial gland family named ORION LT) 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 types **KBA..**, **KBU..**, **KBAT..** and **KBALT..** 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 and are comprised of a male body, inner sealing ring, pressure ring and cap. When the cap is screwed onto the male body, the pressure ring comprises the lower sealing ring onto the outer sheath of the cable and realizes the clamp.

The types **KBA..**, **KBAT..** and **KBALT..** glands are designed for steel wire armour or shielded cables and are comprised of a male body, lower sealing ring, grounding cone, swivel braid retainer, middle body, upper sealing ring and cap.

The cable glands characteristics are further described in the Annexe of this certificate

### CONDITIONS OF CERTIFICATION: YES as shown below:

#### Conditions of Use for types **KBA..(ORION)** and **KBU..(CRATER)** cable glands:

- 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 up to -20°C for cable glands made of galvanized carbon steel.
- The degree of protection IP 66/68 according to the IEC 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.

**Conditions of Use for types **KBAT..(TAURUS)** and types **KBALT..(ORION-LT)** cable glands are further described in the Annexe of this certificate**



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## DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

### Variation 2

#### Variation 2.1

To the certificated cable glands types **KBA..(Orion)** , **KBU..(Crater)** and **KBAT..(Taurus)** the new sizes of cable glands series **KBA..(Orion)** has been added:

#### Variation 2.2

To the certificated cable glands types **KBA..(Orion)** , **KBU..(Crater)** and **KBAT..(Taurus)** the new cable glands type **KBALT..(Orion LT)** has been added, with the following service temperature ranges:

#### Variation 2.3

To the certificated cable glands types **KBA..(Orion)** , **KBU..(Crater)** and **KBAT..(Taurus)** a new flat washer gasket type "green fiber Klingsil" for IP degree of protection has been added, with the following service temperature range limitations:

- from -40°C up to +80°C for all cable gland types .

### Annex:

[IECEx CES 13.0013X Issue 2 ANNEX - Cable glands KB.pdf](#)



## IECEx Certificate of Conformity

# CESI

Prot: B5006671

**Annex to certificate:** IECEx CES 13.0013X Issue No.:2 of 2015-01-30

**Applicant:** Bimed Teknik Aletler Sanayi Ve Ticaret A.S.  
S.S Bakir Piriñ Sanayi Sitesi Leylak Caddesi no:15  
TR - 34524 Beylikdüzü – Istanbul (Turkey)

**Apparatus:** Cable Glands series KBA. (Orion), KBU. (Crater), KBAT. (Taurus) and KBALT. (Orion LT)

### Description of the equipment:

The cable glands series **KBU..** (commercial gland family named CRATER), **KBA..** (commercial gland family named ORION) and **KBAT..** (commercial gland family named TAURUS) and **KBALT..** (commercial gland family named ORION LT) 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 types **KBU..** glands are designed for non-armoured cables and are comprised of a male body, inner sealing ring, pressure ring and cap. When the cap is screwed onto the male body, the pressure ring comprises the lower sealing ring onto the outer sheath of the cable and realizes the clamping. The Standard types **KBA..**, **KBALT..** and the type **KBAT..** cable glands are suitable for steel wire armoured cables. They are comprised of a male body, lower sealing ring, grounding cone, swivel braid retainer, middle body, upper sealing ring and cap. When the middle body is screwed onto the male body the cable wire armour is clamped between the swivel braid retainer and the grounding cone and the lower sealing ring is compressed onto the inner sheath of the cable. Sealing of the cable outer sheath is facilitated by the upper sealing ring which is compressed onto the outer sheath when the cap is screwed onto the middle body. For Universal types **KBAU..** and **KBAULT..** cable glands the armour reduction ring is used. With this additional ring, it can be used for shielded cables. When the armour reduction ring is taken out, then it can be used for armoured cables.

While Offshore types **KBAO..** and **KBAOLT..** cable glands instead of the grounding cone, shielding cone is used and they are used for shielded cables.

The cable glands types **KBA..**, **KBU..**, **KBAT..** and **KBATL..** should be also used for intrinsically safe circuits Ex-i. These cable glands should have a part painted light blue.

The inner sealing rings can be made of Chloroprene with operating temperature range from **-40°C up to +100°C** for types **KBA..** and **KBU..** while with operating temperature range from **-40°C up to +80°C** for types **KBAT..** and **KBALT..** or Silicon rubber with operating temperature range from **-60°C up to +130°C** for types **KBA..** and **KBU..**, with operating temperature range from **-60°C up to +100°C** for type **KBAT..**, while with operating temperature range from **-60°C up to +80°C** for type **KBALT..**

All types of cable glands made of galvanized carbon steel are restricted to the lower temperature range **up to -20°C**, while all types of cable glands supplied with fiber flat washers are restricted to the temperature range from **-40°C up to +80°C**.

The series **KBA..** and **KBU..** cable glands standard threads types are NPT ANSI/ASME B1.20.1 from 3/8" up to 3 1/2" and cylindrical ISO Metric 965/1 and ISO 965/3 from M16x1.5 up to M110x1.5, for series **KBALT..** cable glands standard threads types are cylindrical ISO Metric 965/1 and ISO 965/3 from M20x1.5 up to M32x1.5 and tapered threads type NPT ANSI/ASME B1.20.1 from 3/8" up to 1", while for series **KBAT..** cable glands standard threads types are cylindrical ISO Metric 965/1 and ISO 965/3 from M16x1.5 up to M63x1.5 and tapered threads type NPT ANSI/ASME B1.20.1 from 3/8" up to 2". 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 types **KBU..**, **KBA..**, **KBAT..** and **KBALT..** with cylindrical threads have a sealing edge machined for fitting an O-ring, alternatively it is available a flat washer, 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 following alternative materials can be supplied Nickel-plated Brass, Stainless steel type AISI316; AISI304; AISI303 and Galvanized carbon steel type FE36; FE37 UNI 10233/4.

Prot: B5006671

**Annex to certificate:** IECEx CES 13.0013X Issue No.:2 of 2015-01-30  
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 S.S Bakir Piriñ Sanayi Sitesi Leylak Caddesi no:15  
 TR - 34524 Beylikdüzü – Istanbul (Turkey)

**Apparatus:** Cable Glands series KBA. (Orion), KBU. (Crater), KBAT. (Taurus) and KBALT. (Orion LT)

### Constructional characteristics

Degree of protection (IEC 60529): IP 66 / IP 68 (50 m for 30 min.).

Service temperature range for **KBA and KBU** type:

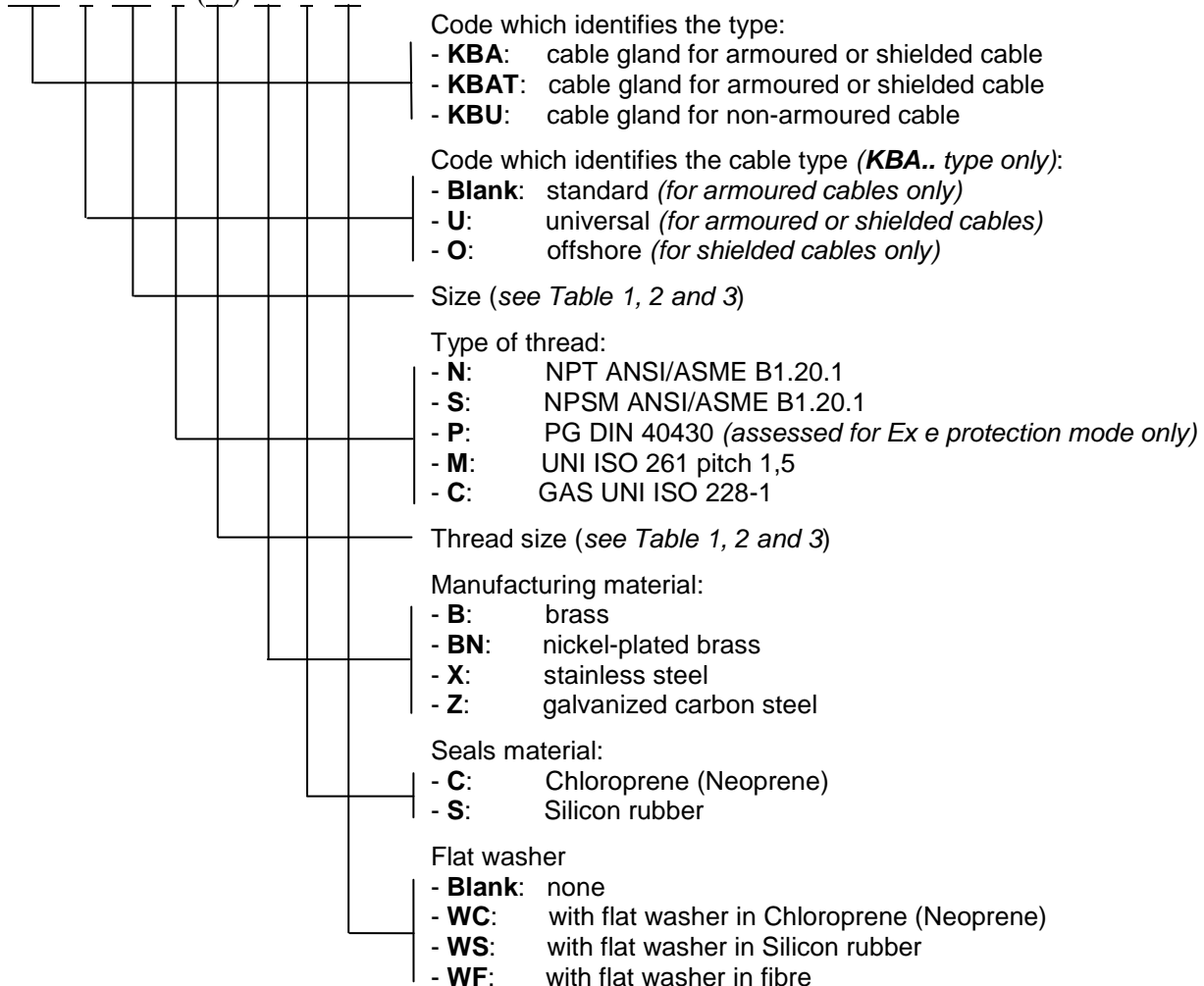
- 40 ÷ + 100 °C for models with sealing rings made of Chloroprene rubber.
- 60 ÷ + 130 °C for models with sealing rings made of Silicon rubber.
- up to -20 °C for models made of Galvanized carbon steel.

Service temperature range for Taurus - **KBAT** type:

- 40 ÷ +80 °C for models with sealing rings made of Chloroprene rubber.
- 60 ÷ +100 °C for models with sealing rings made of Silicon rubber.
- up to -20 °C for models made of Galvanized carbon steel.

### Identification of types **KBA, KBAT and KBU** cable glands:

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**Apparatus:** Cable Glands series KBA. (Orion), KBU. (Crater), KBAT. (Taurus) and KBALT. (Orion LT)

Types and thread sizes of cable glands are listed on the followings Table 1, Table 2 and Table 3

**Table 1:**

KBA.. (Orion)					
Cable glands		Thread size		Cable Dia. ranges (mm)	
Type	Size	NPT	ISO pitch 1,5	Inner sheath	Armour sheath
KBA..	01S..	3/8"	M 16	3-8,5	6-12
KBA..	01..	3/8"	M 16	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..	2XS..	3/4"	M 25	3-8,5	6-12
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..	3XS..	1"	M 32	6-12	8,5-16
KBA..	3S..	1"	M 32	12-20	16-26
KBA..	3..	1"	M 32	15-26	20-33
KBA..	4XS..	1 1/4"	M 40	12-20	16-26
KBA..	4S..	1 1/4"	M 40	15-26	20-33
KBA..	4..	1 1/4"	M 40	20-32	29-41
KBA..	5XS..	1 1/2"	M 50	15-26	20-33
KBA..	5XM..	1 1/2"	M 50	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..	6XS..	2"	M 63	22-35	33-48
KBA..	6XM..	2"	M 63	27-41	36-52
KBA..	6S..	2"	M 63	35-45	43-57
KBA..	6..	2"	M 63	40-52	47-60
KBA..	7XS..	2 1/2"	M 75	35-45	43-57
KBA..	7S..	2 1/2"	M 75	40-52	47-60
KBA..	7..	2 1/2"	M 75	45-60	54-70
KBA..	8XS..	3"	M 90	40-52	47-60
KBA..	8S..	3"	M 90	45-60	54-70
KBA..	8..	3"	M 90	60-72	63-80
KBA..	9S..	3 1/2"	-	45-60	54-70
KBA..	9..	3 1/2"	-	60-72	63-80
KBA..	10S..	-	M 110	45-60	54-70
KBA..	10..	-	M 110	60-72	63-80

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TR - 34524 Beylikdüzü – Istanbul (Turkey)

**Apparatus:** Cable Glands series KBA. (Orion), KBU. (Crater), KBAT. (Taurus) and KBALT. (Orion LT)

**Table 2:**

KBAT.. (Taurus)					
Cable glands		Thread size		Cable Dia. ranges (mm)	
Type	Size	NPT	ISO pitch 1,5	Inner sheath	Armour sheath
KBAT	01L..	3/8"	M 16	6-11	8-15
KBAT	1..	1/2"	M 20	6-11	8-15
KBAT	1L..	1/2"	M 20	10-15,5	13,5-21
KBAT	2S..	3/4"	M 25	6-11	8-15
KBAT	2..	3/4"	M 25	10-15,5	13,5-21
KBAT	2L..	3/4"	M 25	13,5-20,5	18-27
KBAT	3..	1"	M 32	13,5-20,5	18-27
KBAT	3..	1"	M 32	18-27	23-33
KBAT	4..	1 1/4"	M 40	23-33	29-41
KBAT	5..	1 1/2"	M 50	29-41	35-48
KBAT	6..	2"	M 63	35-48	42-56

**Table 3:**

KBU.. (Crater)				
Cable glands		Thread size		Cable Dia. ranges (mm)
Type	Size	NPT	ISO pitch 1,5	
KBU	01..	3/8"	M 16	3-8,5
KBU	01L..	3/8"	M 16	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



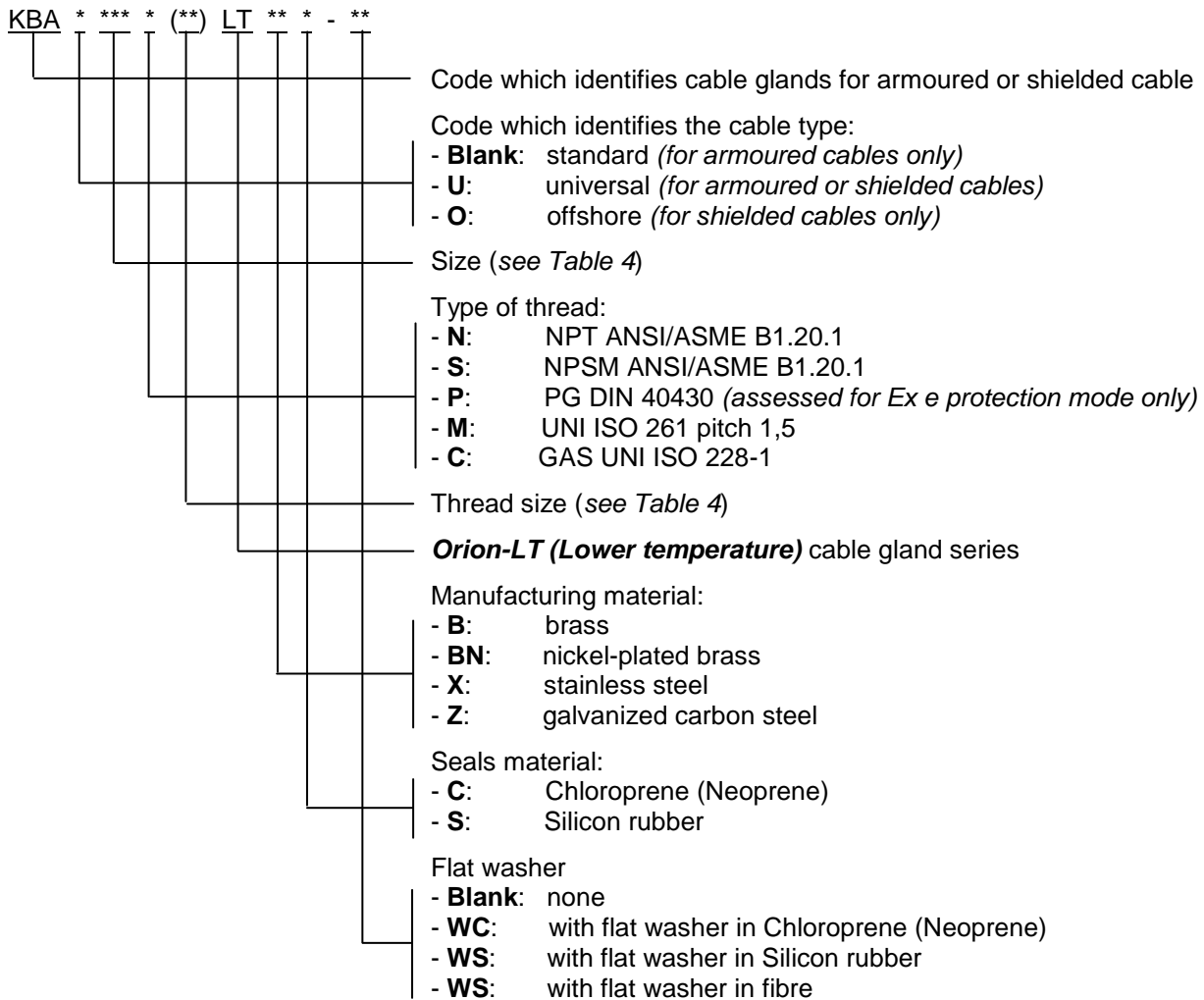
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**Apparatus:** Cable Glands series KBA. (Orion), KBU. (Crater), KBAT. (Taurus) and KBALT. (Orion LT)

**Identification of type KBALT cable gland**



**Table 4:**

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



## IECEX Certificate of Conformity

# CESI

Prot: B5006671

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TR - 34524 Beylikdüzü – Istanbul (Turkey)

**Apparatus:** Cable Glands series KBA. (Orion), KBU. (Crater), KBAT. (Taurus) and KBALT. (Orion LT)

### “Conditions of Use” for Ex Equipment

#### Conditions of Use for types KBAT..(TAURUS) cable glands:

- 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 +80°C for type **KBAT..** cable glands with inner sealing rings made of Chloroprene (Neoprene);
  - -60°C to +100°C for type **KBAT..** cable glands with inner sealing rings made of Silicon rubber;
  - restricted use up to -20°C for type **KBAT..** cable glands made of galvanized carbon steel.
- The type **KBAT-Taurus** cable glands are only suitable for fixed installations. The cables must be effectively clamped to prevent pulling and twisting.
- The degree of protection IP 66/68 according to the IEC 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.

#### Conditions of Use for types KBALT..(ORION-LT) cable glands:

- 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 +80°C for type **KBALT..** cable glands with inner sealing rings made of Chloroprene (Neoprene);
  - -60°C to +80°C for type **KBALT..** cable glands with inner sealing rings made of Silicon rubber;
  - restricted use up to -20°C for type **KBALT..** cable glands made of galvanized carbon steel.
  - restricted use up to -40°C for types **KBALT..** cable glands with fibre flat washers.
- The degree of protection IP 66/68 according to the IEC 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.