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

Certificate No.: IECEx CES 13.0013X

Issue No: 4

Status: **Current**

Page 1 of 4

Date of Issue: **2019-07-31**

Certificate history:
Issue No. 4 (2019-07-31)
Issue No. 3 (2017-11-22)
Issue No. 2 (2015-01-30)
Issue No. 1 (2014-06-30)
Issue No. 0 (2013-08-29)

Applicant: **Bimed Teknik Aletler Sanayi Ve Ticaret A.Ş.**
S.S Bakir Pirinç Sanayi Sitesi Leylak Caddesi no:16
TR - 34524 Beylikdüzü – Istanbul
Turkey

Equipment: **Cable glands, series KBA** (Orion), KBA**-LSK (Orion Lead Sheathed), KBU** (Crater), MKBU** (M-Crater), KBAT** (Taurus) and KBA**LT* (Orion LT)**

Optional accessory:

Type of Protection: **Flameproof enclosures 'd'; increased safety 'e'; Dust ignition protection 't'**

Marking:

Ex db I Mb and Ex eb I Mb (KBA and KBA**LT Standard, KBA-LSK, MKBU)

Ex db IIC Gb and Ex eb IIC Gb (All types)

Ex tb IIIC Db

IP66/68

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.

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: 4
Date of Issue:	**2019-07-31**	Page 2 of 4
Manufacturer:	**Bimed Teknik Aletler Sanayi Ve Ticaret A.Ş.** S.S Bakir Pirinç Sanayi Sitesi Leylak Caddesi no:16 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 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:

IEC 60079-0 : 2011 Edition:6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-1 : 2014-06 Edition:7.0	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
IEC 60079-31 : 2013 Edition:2	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
IEC 60079-7 : 2015 Edition:5.0	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
IT/CES/ExTR15.0002/01 IT/CES/ExTR15.0002/02

Quality Assessment Report:

IT/CES/QAR12.0003/05

IECEx Certificate of Conformity

Certificate No: IECEx CES 13.0013X Issue No: 4

Date of Issue: **2019-07-31**

Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The cable glands series KBU** (commercial gland family named CRATER), MKBU** (commercial gland family named M-CRATER), KBA** (commercial gland family named ORION), KBA**-LSK (commercial gland family named ORION LEAD SHEATHED), KBAT** (commercial gland family named TAURUS) and KBA**LT** (commercial gland family named ORION LT) are suitable for inserting circular cables into Ex db enclosures having threaded entries and Ex eb 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 characteristics are further described in the Annexe of this certificate.

SPECIFIC CONDITIONS OF USE: YES as shown below:

- 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 KBA**, KBA**-LSK, KBA**LT** and MKBU** cable glands types have to be protected from hydraulic fluids, oils and greases when applied for Group I (mines) applications.
- The KBA** (Standard) and KBA**-LSK cable glands types from M20x1.5 up to M90x1.5 sizes and KBA**LT** (Standard) cable glands types all sizes only are admitted for Group I applications.
- The KBA**-LSK cable glands types M20x1.5 sizes with clamping range Ø3.0÷8.5 are admitted for Group II applications only.
- The MKBU** cable glands types M16x1.5 sizes are not admitted for Group I applications.
- The KBA** and KBA**-LSK cable glands types made of Aluminium alloy are not admitted for Group I applications and are available from M25x1.5 up to M75x1.5 sizes only.
- The KBAT** cable glands type are only suitable for fixed installations. The cables must be effectively clamped to prevent pulling and twisting.
- The cable glands shall be installed in such a way that the temperature at the mounting point will remain within the service temperature ranges accordingly to the marking.
- 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.

IECEx Certificate of Conformity

Certificate No:	IECEx CES 13.0013X	Issue No: 4
Date of Issue:	**2019-07-31**	Page 4 of 4

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

Variation 4.1.

To the certificated cable glands types KBA**(Orion), KBU**(Crater), MKBU**(M-Crater), KBAT**(Taurus) and KBA**LT**(Orion LT), new KBA**-LSK (Orion Lead Sheathed) type has been added.

Annex:

IECEx CES 13.0013X Issue 4 ANNEX- Cable glands KBA-LSK BIMED.pdf

IECEx Certificate of Conformity

Prot: B9015787

Annex to certificate: **IECEx CES 13.0013X Issue No.:4 of 2019-07-31**

Applicant: **Bimed Teknik Aletler Sanayi Ve Ticaret A.S.**
S.S Bakir Pirinç Sanayi Sitesi Leylak Caddesi no:16
TR - 34524 Beylikdüzü – Istanbul (Turkey)

Apparatus: **Cable Glands KBA** (Orion), KBA**-LSK (Orion Lead Sheathed), KBU** (Crater), MKBU** (M-Crater), KBAT** (Taurus) and KBA**LT* (Orion LT) series**

Description of the equipment:

The cable glands series **KBU**** (commercial gland family named CRATER), **MKBU**** (commercial gland family named M-CRATER), **KBA**** (commercial gland family named ORION), **KBA**-LSK** (commercial gland family named ORION LEAD SHEATHED), **KBAT**** (commercial gland family named TAURUS) and **KBA**LT**** (commercial gland family named ORION LT) are suitable for inserting circular cables into Ex db enclosures having threaded entries and Ex eb 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**** and **MKBU**** 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**, **KBA**LT**** and the type **KBAT**** cable glands are suitable for steel wire armoured cables, while the type **KBA**-LSK** is suitable for lead sheathed armoured cables only.

They are comprised of a male body, lower sealing ring, grounding cone, swivel braid retainer, middle body, upper sealing ring and cap. For type **KBA**-LSK** only are used a further contact spring and a metal washer to grounding the lead sheath. 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 **KBAU**LT**** cable glands the armour reduction ring is used. With this additional ring, they can be used for shielded cables. When the armour reduction ring is taken out, then they can be used for armoured cables. While Offshore types **KBAO**** and **KBAO**LT**** cable glands instead of the grounding cone, shielding cone is used and they are used for shielded cables.

The cable glands **KBA**** Standard type and **KBA**-LSK** (from M20x1.5 up to M90x1.5 sizes and with the exclusion of Aluminium alloy), **KBA**LT**** Standard type (from M20x1.5 up to M130x2 sizes) and **MKBU**** type (M16x1.5 sizes excluded) only are for Group I (mines) executions. While all the cable glands types **KBA****, **KBA**-LSK**, **KBU****, **KBAT**** and **KBA**TL**** are for Group IIC and Group IIIC. The cable glands should be also used for intrinsically safe circuits Ex i and should have a part painted in light blue.

The **KBA**** cable glands series standard threads types are NPT ANSI/ASME B1.20.1 from 1/4" up to 3"½ and cylindrical ISO Metric 965/1 and ISO 965/3 from M12x1.5 up to M110x1.5.

The **KBA**-LSK** cable glands series standard threads types are NPT ANSI/ASME B1.20.1 from 1/2" up to 3" and cylindrical ISO Metric 965/1 and ISO 965/3 from M20x1.5 up to M90x1.5.

The **KBU**** and **MKBU**** cable glands series 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 M16x1.5 up to M90x1.5.

For **KBA**LT**** cable glands series standard threads types are cylindrical ISO Metric 965/1 and ISO 965/3 from M20x1.5 up to M130x2 and tapered threads type NPT ANSI/ASME B1.20.1 from 1/2" up to 5", while for **KBAO**LT**** cable glands series 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 1/2" up to 1".

For **KBAT**** cable glands series 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 ISO 228/1, NPSM ANSI/ASME B1.20.1 and type PG DIN 40430. Thread type PG DIN 40430 can be used for "Ex eb" execution only.

To guarantee the IP 66/68 degree of protection the cable glands types **KBU****, **MKBU****, **KBA****, **KBA**-LSK**, **KBAT**** and **KBA**LT**** 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.

In addition, the cable glands can be supplied with an anti-tearing nut, only if specifically required by the purchaser.

The cable glands are generally made in Brass (CuZn39Pb3 EN 12164). The following alternative materials can be supplied on demand: Nickel-plated Brass (CuZn39Pb3 EN 12164), Stainless steel (AISI316, AISI304, AISI303), Galvanized carbon steel (FE36, FE37 UNI 10233/4), Aluminium alloy (EN AW-6026 EN 573-3 for KBA.. type and sizes from M25x1.5 up to M75x1.5 only).

Constructional characteristics

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

Service temperature range for **KBA*, KBA*-LSK, 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.

Service temperature range for **MKBU*** type:

- 40 ÷ + 80 °C for models with sealing rings made of Chloroprene rubber.
- 60 ÷ + 80 °C for models with sealing rings made of Silicon rubber.

Service temperature range for **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.

Service temperature range for **KBA**LT*** type:

- 40 ÷ + 80 °C for models with sealing rings made of Chloroprene rubber.
- 60 ÷ + 80 °C for models with sealing rings made of Silicon rubber.

KBA, KBA*-LSK** models made of Aluminium alloy: up to + 80 °C.

Types for **Group I** (mines) execution: up to + 80 °C.

Models supplied with Fiber flat washer: - 50 ÷ + 80 °C for all types.

Models made of Galvanized carbon steel: limited to - 20 °C.

Annex to certificate: **IECEx CES 13.0013X Issue No.:4 of 2019-07-31**
Applicant: **Bimed Teknik Aletler Sanayi Ve Ticaret A.S.**
S.S Bakir Pirinç Sanayi Sitesi Leylak Caddesi no:16
TR - 34524 Beylikdüzü – Istanbul (Turkey)
Apparatus: **Cable Glands KBA** (Orion), KBA**-LSK (Orion Lead Sheathed), KBU** (Crater), MKBU** (M-Crater), KBAT** (Taurus) and KBA**LT* (Orion LT) series**

The cable gland types, installation Group, manufacturer materials and ambient temperature ranges are reported in the table below:

Type	Exec.	Materials	Seals	Ambient Temp.
KBA** KBA*-LSK	Group I	Brass, Nickel plated brass, Stainless steel	Chloroprene	-40°C ÷ +80°C
			Silicon	-60°C ÷ +80°C
		Galvanised steel	*All seals*	-20°C ÷ +80°C
	Group IIC Group IIIC	Brass, Nickel plated brass, Stainless steel	Chloroprene	-40°C ÷ +100°C
			Silicon	-60°C ÷ +130°C
		Aluminium alloy	Chloroprene	-40°C ÷ +80°C
			Silicon	-60°C ÷ +80°C
		Galvanised steel	Chloroprene	-20°C ÷ +100°C
			Silicon	-20°C ÷ +130°C
KBU**	Group IIC Group IIIC	Brass, Nickel plated brass, Stainless steel	Chloroprene	-40°C ÷ +80°C
			Silicon	-60°C ÷ +80°C
		Galvanised steel	All seals	-20°C ÷ +80°C
MKBU**	Group I Group IIC Group IIIC	Brass, Nickel plated brass, Stainless steel	Chloroprene	-40°C ÷ +80°C
			Silicon	-60°C ÷ +80°C
		Galvanised steel	*All seals*	-20°C ÷ +80°C
KBA**LT**	Group I Group IIC Group IIIC	Brass, Nickel plated brass, Stainless steel	Chloroprene	-40°C ÷ +80°C
			Silicon	-60°C ÷ +80°C
		Galvanised steel	*All seals*	-20°C ÷ +80°C
KBAT**	Group IIC Group IIIC	Brass, Nickel plated brass, Stainless steel	Chloroprene	-40°C ÷ +80°C
			Silicon	-60°C ÷ +100°C
		Galvanised steel	Chloroprene	-20°C ÷ +80°C
			Silicon	-20°C ÷ +100°C
Restricted use to the ambient temperature range of **-50°C÷+80°C** for all types whit fiber flat washers.				

Annex to certificate: **IECEx CES 13.0013X Issue No.:4 of 2019-07-31**
Applicant: **Bimed Teknik Aletler Sanayi Ve Ticaret A.S.**
S.S Bakir Pirinç Sanayi Sitesi Leylak Caddesi no:16
TR - 34524 Beylikdüzü – Istanbul (Turkey)
Apparatus: **Cable Glands KBA** (Orion), KBA**-LSK (Orion Lead Sheathed), KBU** (Crater), MKBU** (M-Crater), KBAT** (Taurus) and KBA**LT* (Orion LT) series**

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

******** ***** ******* ***** **(**)** ****** ***** **-** ******

Code that identifies the type:
- **KBA**: cable gland for armoured or shielded cable
- **KBAT**: cable gland for armoured or shielded cable
- **MKBU**: cable gland for non-armoured cable
- **KBU**: cable gland for non-armoured cable

Code that 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, 2, 3 and 4*)

Type of thread:
- **N**: NPT ANSI/ASME B1.20.1
- **S**: NPSM ANSI/ASME B1.20.1
- **P**: PG DIN 40430 *(assessed for Ex eb protection mode only)*
- **M**: ISO 261 pitch 1.5
- **C**: GAS ISO 228-1

Thread size (*see Table 1, 2, 3 and 4*)

Manufacturing material:
- **A**: Aluminium alloy *(**KBA*** type and M25 up to M75 sizes only)*
- **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

Prot: B9015787

Annex to certificate: **IECEx CES 13.0013X Issue No.:4 of 2019-07-31**

Applicant: **Bimed Teknik Aletler Sanayi Ve Ticaret A.S.**
S.S Bakir Pirinç Sanayi Sitesi Leylak Caddesi no:16
TR - 34524 Beylikdüzü – Istanbul (Turkey)

Apparatus: **Cable Glands KBA** (Orion), KBA**-LSK (Orion Lead Sheathed), KBU** (Crater), MKBU** (M-Crater), KBAT** (Taurus) and KBA**LT* (Orion LT) series**

Types and thread sizes of cable glands are listed on the followings Table 1, Table 2, Table 3 and Table 4.

Table 1:

KBA.. (Orion)					
Cable glands		**Thread size**		**Cable Dia. ranges** (mm)	
Type	**Size**	**NPT**	**ISO pitch 1,5**	**Inner sheath**	**Armour sheath**
KBA	0S..	1/4”	M 12	2-4	3-5.5
KBA	SL..	1/4”	M 12	3-7.5	6-12
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	8.5-14.5	12-20
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	8.5-16	12-21
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 ¼”	M 40	12-20	16-26
KBA	4S..	1 ¼”	M 40	15-26	20-33
KBA	4..	1 ¼”	M 40	20-32	29-41
KBA	5XS..	1 ½”	M 50	15-26	20-33
KBA	5X..	1 ½”	M 50	20-32	29-41
KBA	5S..	1 ½”	M 50	22-35	33-48
KBA	5..	1 ½”	M 50	27-41	36-52
KBA	6XS..	2”	M 63	22-35	33-48
KBA	6X..	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	6L..	2”	M 63	45-56	54-70
KBA	7XS..	2 ½”	M 75	35-45	43-57
KBA	7S..	2 ½”	M 75	40-52	47-60
KBA	7..	2 ½”	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 ½”	-	45-60	54-70
KBA	9..	3 ½”	-	60-72	63-80
KBA	10S..	-	M 110	45-60	54-70
KBA	10..	-	M 110	60-72	63-80

Note: Aluminium alloy available from M25x1.5 (1/2”NPT) up to M75x1.5 (2”½NPT) sizes only.

Annex to certificate: **IECEx CES 13.0013X Issue No.:4 of 2019-07-31**
Applicant: **Bimed Teknik Aletler Sanayi Ve Ticaret A.S.**
S.S Bakir Pirinç Sanayi Sitesi Leylak Caddesi no:16
TR - 34524 Beylikdüzü – Istanbul (Turkey)
Apparatus: **Cable Glands KBA** (Orion), KBA**-LSK (Orion Lead Sheathed), KBU** (Crater), MKBU** (M-Crater), KBAT** (Taurus) and KBA**LT* (Orion LT) series**

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 ¼”	M 40	23-33	29-41
KBAT	5..	1 ½”	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 ¼”	M 40	15-26
KBU	4..	1 ¼”	M 40	20-32
KBU	5S..	1 ½”	M 50	22-35
KBU	5..	1 ½”	M 50	27-41
KBU	6S..	2”	M 63	35-45
KBU	6..	2”	M 63	40-52
KBU	7S..	2 ½”	M 75	40-52
KBU	7..	2 ½”	M 75	45-60
KBU	8S..	3“	M 90	45-60
KBU	8..	3“	M 90	60-72

Annex to certificate: **IECEx CES 13.0013X Issue No.:4 of 2019-07-31**
Applicant: **Bimed Teknik Aletler Sanayi Ve Ticaret A.S.**
S.S Bakir Pirinç Sanayi Sitesi Leylak Caddesi no:16
TR - 34524 Beylikdüzü – Istanbul (Turkey)
Apparatus: **Cable Glands KBA** (Orion), KBA**-LSK (Orion Lead Sheathed), KBU** (Crater), MKBU** (M-Crater), KBAT** (Taurus) and KBA**LT* (Orion LT) series**

Table 4:

MKBU.. (M-Crater)				
Cable glands		Thread size		
Type	Size	NPT	ISO pitch 1,5	Cable Dia. ranges (mm)
MKBU	01M2..	3/8”	M 16	3-8.5
MKBU	01LM1..	3/8”	M 16	6-9
MKBU	01LM2..	3/8”	M 16	9-12
MKBU	1M1..	1/2”	M 20	6-9
MKBU	1M2..	1/2”	M 20	9-12
MKBU	1LM1..	1/2”	M 20	8.5-11.5
MKBU	1LM2..	1/2”	M 20	11.5-14.5
MKBU	2SM1..	3/4”	M 25	6-9
MKBU	2SM2..	3/4”	M 25	9-12
MKBU	2M1..	3/4”	M 25	8.5-12.5
MKBU	2M2..	3/4”	M 25	12.5-16
MKBU	2LM1..	3/4”	M 25	12-16
MKBU	2LM2..	3/4”	M 25	16-20
MKBU	3SM1..	1”	M 32	12-16
MKBU	3SM2..	1”	M 32	16-20
MKBU	3M1..	1”	M 32	15-20
MKBU	3M2..	1”	M 32	20-26
MKBU	4SM1..	1 ¼”	M 40	15-20
MKBU	4SM2..	1 ¼”	M 40	20-26
MKBU	4M1..	1 ¼”	M 40	20-26
MKBU	4M2..	1 ¼”	M 40	26-32
MKBU	5SM1..	1 ½”	M 50	22-28
MKBU	5SM2..	1 ½”	M 50	28-35
MKBU	5M1..	1 ½”	M 50	27-35
MKBU	5M2..	1 ½”	M 50	34-41
MKBU	6SM1..	2”	M 63	35-40
MKBU	6SM2..	2”	M 63	40-45
MKBU	6M1..	2”	M 63	40-46
MKBU	6M2..	2”	M 63	46-52
MKBU	7SM1..	2 ½”	M 75	40-46
MKBU	7SM2..	2 ½”	M 75	46-52
MKBU	7M1..	2 ½”	M 75	45-52
MKBU	7M2..	2 ½”	M 75	52-60
MKBU	8SM1..	3“	M 90	45-52
MKBU	8SM2..	3“	M 90	52-60
MKBU	8M1..	3“	M 90	60-66
MKBU	8M2..	3“	M 90	66-72

Prot: B9015787

Annex to certificate: **IECEx CES 13.0013X Issue No.:4 of 2019-07-31**
Applicant: **Bimed Teknik Aletler Sanayi Ve Ticaret A.S.**
S.S Bakir Pirinç Sanayi Sitesi Leylak Caddesi no:16
TR - 34524 Beylikdüzü – Istanbul (Turkey)
Apparatus: **Cable Glands KBA** (Orion), KBA**-LSK (Orion Lead Sheathed), KBU** (Crater), MKBU** (M-Crater), KBAT** (Taurus) and KBA**LT* (Orion LT) series**

Identification of cable glands **KBA**-LSK** type:

KBA * * (**) ** * - LSK - ****

- Size (*see Table 5*)
- Type of thread:
  - **N**: NPT ANSI/ASME B1.20.1
  - **S**: NPSM ANSI/ASME B1.20.1
  - **P**: PG DIN 40430 *(assessed for Ex eb protection mode only)*
  - **M**: ISO 261 pitch 1.5
  - **C**: GAS ISO 228-1
- Thread size (*see Table 5)*
- Manufacturing material:
  - **A**: Aluminium alloy *(M25 up to M75 sizes only)*
  - **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

Annex to certificate: **IECEx CES 13.0013X Issue No.:4 of 2019-07-31**
Applicant: **Bimed Teknik Aletler Sanayi Ve Ticaret A.S.**
S.S Bakir Pirinç Sanayi Sitesi Leylak Caddesi no:16
TR - 34524 Beylikdüzü – Istanbul (Turkey)
Apparatus: **Cable Glands KBA** (Orion), KBA**-LSK (Orion Lead Sheathed), KBU** (Crater), MKBU** (M-Crater), KBAT** (Taurus) and KBA**LT* (Orion LT) series**

Table 5:

KBA**-LSK (Orion Lead Sheathed)					
Cable glands		**Thread size**		**Cable Dia. ranges** (mm)	
Type	**Size**	**NPT**	**ISO pitch 1.5**	**Inner sheath**	**Armour sheath**
KBA-LSK	1S..	1/2”	M 20	3-8	6-12
KBA-LSK	1..	1/2”	M 20	6-11.5	8.5-16
KBA-LSK	1L..	1/2”	M 20	8.5-14	12-20
KBA-LSK	2XS..	3/4”	M 25	3-8	6-12
KBA-LSK	2S..	3/4”	M 25	6-11.5	8.5-16
KBA-LSK	2..	3/4”	M 25	8.5-15	12-21
KBA-LSK	2L..	3/4”	M 25	12-19	16-26
KBA-LSK	3XS..	1”	M 32	6-11.5	8.5-16
KBA-LSK	3S..	1”	M 32	12-19	16-26
KBA-LSK	3..	1”	M 32	15-25	20-33
KBA-LSK	4XS..	1 ¼”	M 40	12-19	16-26
KBA-LSK	4S..	1 ¼”	M 40	15-25	20-33
KBA-LSK	4..	1 ¼”	M 40	20-31	29-41
KBA-LSK	5XS..	1 ½”	M 50	15-25	20-33
KBA-LSK	5X..	1 ½”	M 50	20-31	29-41
KBA-LSK	5S..	1 ½”	M 50	22-34	33-48
KBA-LSK	5..	1 ½”	M 50	27-40	36-52
KBA-LSK	6XS..	2”	M 63	22-34	33-48
KBA-LSK	6X..	2”	M 63	27-40	36-52
KBA-LSK	6S..	2”	M 63	35-44	43-57
KBA-LSK	6..	2”	M 63	40-50	47-60
KBA-LSK	6L..	2”	M 63	45-56	54-70
KBA-LSK	7XS..	2 ½”	M 75	35-44	43-57
KBA-LSK	7S..	2 ½”	M 75	40-50	47-60
KBA-LSK	7..	2 ½”	M 75	45-58	54-70
KBA-LSK	8XS..	3“	M 90	40-50	47-60
KBA-LSK	8S..	3“	M 90	45-68	54-70
KBA-LSK	8..	3“	M 90	60-70	63-80

Note: Aluminium alloy available from M25x1.5 (1/2”NPT) up to M75x1.5 (2”½NPT) sizes only.

Annex to certificate: **IECEx CES 13.0013X Issue No.:4 of 2019-07-31**
Applicant: **Bimed Teknik Aletler Sanayi Ve Ticaret A.S.**
S.S Bakir Pirinç Sanayi Sitesi Leylak Caddesi no:16
TR - 34524 Beylikdüzü – Istanbul (Turkey)
Apparatus: **Cable Glands KBA** (Orion), KBA**-LSK (Orion Lead Sheathed), KBU** (Crater), MKBU** (M-Crater), KBAT** (Taurus) and KBA**LT* (Orion LT) series**

Identification of type KBALT cable gland

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

- Code which identifies cable glands 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 5 and 6*)
- Type of thread:
  - **N**: NPT ANSI/ASME B1.20.1
  - **S**: NPSM ANSI/ASME B1.20.1
  - **P**: PG DIN 40430 *(assessed for Ex eb protection mode only)*
  - **M**: UNI ISO 261 pitch 1,5 (pitch 2.0 for sizes M90 up to M130)
  - **C**: GAS UNI ISO 228-1
- Thread size (*see Table 5 and 6*)
- ***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
  - **WS**: with flat washer in Fiber

Table 5:

KBA..LT.. and **KBAU..LT.. (Orion LT)**						
Cable glands		**Thread size**			**Cable Dia. ranges** (mm)	
Type	**Size**	**NPT**	**ISO pitch 1.5**	**ISO pitch 2.0**	**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
KBA**LT	9	3“ ½	-	M 90	70-82	78-90
KBA**LT	10S	4“	-	M 100	80-92	88-100
KBA**LT	10	4“	-	M 110	90-101	98-110
KBA**LT	11S	5“	-	M 130	100-115	109-123

Annex to certificate: **IECEx CES 13.0013X Issue No.:4 of 2019-07-31**

Applicant: **Bimed Teknik Aletler Sanayi Ve Ticaret A.S.**
S.S Bakir Pirinç Sanayi Sitesi Leylak Caddesi no:16
TR - 34524 Beylikdüzü – Istanbul (Turkey)

Apparatus: **Cable Glands KBA** (Orion), KBA**-LSK (Orion Lead Sheathed), KBU** (Crater), MKBU** (M-Crater), KBAT** (Taurus) and KBA**LT* (Orion LT) series**

Table 6:

KBAO..LT.. (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