

SAFETY, MAINTENANCE AND MOUNTING INSTRUCTIONS

CESI 17 ATEX 007X IECEx CES 17.0029X / CML 22 UKEX1185X GLANDS TYPES



KBCTA

Barrier Glands For Armoured Cables



KBCTN

Barrier Glands For Non-Armoured Cables



Rev. 05

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1 MARKINGS, APPLICABLE STANDARDS AND TEMPERATURES

MARKINGS

KBCTA	GROUP I	CC 0722	Ta -40°C to +100°C CESI 17 ATEX 007X IECEx CES 17.0029X
	GROUP II	CC 0722	Ta -60°C +100°C IP66/68 CESI 17 ATEX 007X IECEx CES 17.0029X
KBCTN	GROUP I	CC 0722	Ta -40°C to +100°C CESI 17 ATEX 007X IECEx CES 17.0029X
	GROUP II	CC 0722	Ta -60°C +100°C IP66/68 CESI 17 ATEX 007X IECEx CES 17.0029X

APPLICABLE STANDARDS

DIRECTIVE 2014/34/EU	SI 2016 No. 1107(amended by SI 2019 No.694)	
EN IEC 60079-0:2018	IEC 60079-0:2017 Ed.7.0	IEC 60529:1989
EN IEC 60079-7:2015+A1:2018	IEC 60079-1:2014-06 Ed.7.0	EN 60529:1991
EN 60079-1:2014	IEC 60079-7:2017 Ed.5.1	
EN 60079-31:2014	IEC 60079-31:2013 Ed.2	

OPERATING & INSTALLATION TEMPERATURES

The service and ambient temperature range of use is from -60°C up to +100°C for Barrier glands KBCTA and KBCTN.

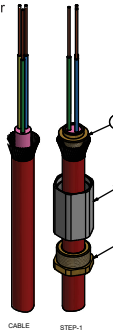
2 EPOXY COMPOUND PREPARATION

When handling this material, the gloves supplied must be worn. The epoxy compound is supplied in the form of a two part package. These should be mixed into the ratio of 1:1 until both colours have blended into one, without any streaks. Rolling and folding is the most satisfactory method of obtaining an even blend. Once mixed, the compound must be used within 15 minutes. After this time it will begin to stiffen. The compound should be kept at an ambient temperature of no less than 20°C prior to using. At lower temperatures it becomes difficult to mix. Should any compound come into contact with the skin it should be cleaned off with skin cleaner and not allowed to dry on the skin. Only compound for immediate terminations should be mixed. The mixing and installation of the compound at an ambient temperature below 4°C is not recommended due to extended curing periods.

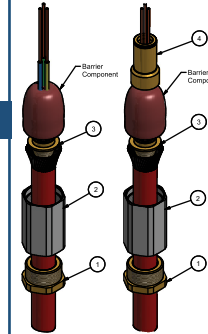
3 MOUNTING INSTRUCTION KBCTA

STEP 1

1-Cut cable cores in a length that it will be minimum the length of lower body of the gland plus the assembly point of the gland through the enclosure.
2-The stripped part of the armours (bare armours) must not be longer than the distance between the lower surface of the sealing gasket and the upper surface of the grounding cone when gland is assembled.
3-Then put through the cable first the cap, upper body and swivel braid ring. If a SWB cable is to be used put armour reduction through as well.



STEP 2

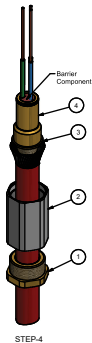


4-In one hand hold the cable with the cores and the isolation surrounding the cores, with the other hand hold the other end point of the cable and bend 45° degrees and twist the cable from the armour point. With this step, the armours will open like an umbrella.
5-Assemble barrier grounding cone, under the opened armour.
6-Starting from the common isolation point, separate the remaining cable cores from one another and roll every core with the barrier epoxy compound with an amount that could fill the pot.
7-Bring all the epoxy compound rolled cable cores together, remold them to a diameter which could fit inside the pot.

4 MOUNTING INSTRUCTION KBCTA

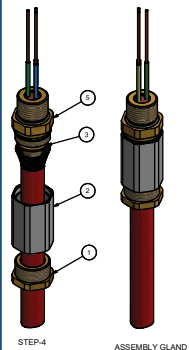
STEP 3

8-Assemble the pot on top of the prepared cable harness.
9-Push from both sides so that the overflow mixture will fill in the gaps inside the pot.
10-Fit the barrier grounding cone on the pot. If the barrier epoxy compound still overflows, then clean the overflow material.
11-Fit lower body on the pot and start assembling the gland.
12-Assemble barrier grounding cone on the lower body. Distribute the armours equally on the lateral surface of the cone in order not to let them overlap.



STEP 4

Attention
Do not move the cable cores minimum for 4 hours. Assemble the barrier gland afterwards.

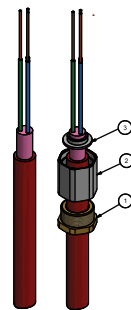


13-When shielded cables are used; fit the armour reduction ring on the barrier grounding cone. When armour cables are used; armour reduction is not used.
14-Tighten lower body, upper body and cap with a sufficient torque value.
15-Disassemble all the parts of the gland.
16-Clean carefully all the barrier epoxy compound smudged around pot and barrier grounding cone, inside upper and lower body.
17-When the barrier epoxy compound is hardened, the pot and the grounding cone will not be separated from each other, but all the other parts will be assembled/disassembled.

5 MOUNTING INSTRUCTION KBCTN

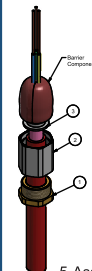
STEP 1

1-Cut cable cores in a length that it will be minimum the length of lower body of the gland plus the assembly point of the gland through the enclosure.
2-Fit the cap, upper body and pressurizing bushing on the cable outer sheath.



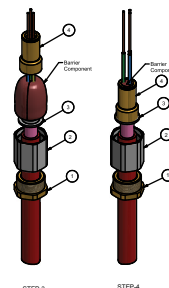
STEP 2

3-Starting from the common isolation point, separate the remaining cable cores from one another and roll every core with the barrier epoxy compound with an amount that could fill the pot.
4-Bring all the epoxy compound rolled cable cores together, remold them to a diameter which could fit inside the pot.



STEP 3 AND STEP 4

5-Assemble the pot on top of the prepared cable harness.
6-Push from both sides so that the overflow mixture will fill in the gaps inside the pot.
7-Fit the pressurizing bushing on the pot. If the barrier epoxy compound still overflows, then clean the overflow material.



6 MOUNTING INSTRUCTION KBCTN

STEP 5

8-Fit lower body on the pot and start assembling the gland.
9-Tighten lower body, upper body and cap with a sufficient torque value.
10-Disassemble all the parts of the gland.
11-Clean carefully all the barrier epoxy compound smudged around pot and pressurizing bushing, inside upper and lower body.



12-When the barrier epoxy compound is hardened, the pot and the pressurizing bushing will not be separated from each other, but all the other parts will be assembled/disassembled.



Attention
Do not move the cable cores minimum for 4 hours. Assemble the barrier gland afterwards.

7 IP PROTECTION for NON-THREADED HOLES

Recommended Hole Diameters For Non Threaded enclosure applications in relation with the used thread types are shown below.
-For non-threaded enclosure applications, min. 3 threads should be engaged with the lock nut.
-For non-threaded enclosures it is recommended to use O-Ring or flat washer between the gland body and enclosure. During the assembly it is recommended to rotate the locknut. The assembly is shown below.
-For flat washers silicon rubber is recommended.

Metric Threads	
Outer Thread Size	Hole Diameter Ø min - max mm
M20 x 1,5	20,0 - 20,2
M25 x 1,5	25,0 - 25,2
M32 x 1,5	32,0 - 32,3
M40 x 1,5	40,0 - 40,3
M50 x 1,5	50,0 - 50,3
M63 x 1,5	63,0 - 63,3
M75 x 1,5	75,0 - 75,3

8 IP PROTECTION for THREADED HOLES

Ingress Protection: In order to guarantee the specified IP66/68 rating, sealant agent shall be applied on at least two full threads before fitting the gland to the box. In any case you must pay attention to guarantee the metallic continuity.

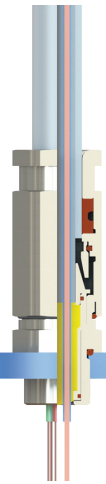
IP Protection for Cylindrical Threaded Joints

Ex d Execution:

- Assemble the gland with o-ring or flat washer through the threaded hole.
- The wall has to be thick enough to engage at least 5 full threads.
- The minimum engaged thread depth must be at least 8 mm.

Ex e & Ex fb Execution:

- Assemble the gland with o-ring or flat washer through the threaded hole.
- You have to respect the minimum wall thickness of 1,5 mm.



Enclosure Wall Thickness

9 IP PROTECTION for THREADED HOLES

Ingress Protection: In order to guarantee the specified IP66/68 rating, sealant agent shall be applied on at least two full threads before fitting the gland to the box. In any case you must pay attention to guarantee the metallic continuity.

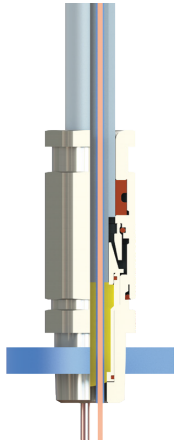
IP Protection for Tapered Threaded Joints

Ex d Execution:

- The wall has to be thick enough to engage at least 5 full threads.

Ex e & Ex fb Execution:

- For Ex eb applications please refer to NPT ANSI B1.20.1 standard.



Enclosure Wall Thickness

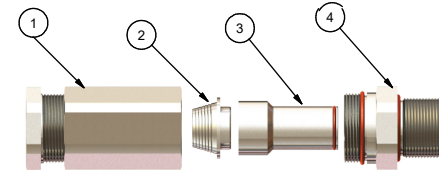
NPT"	Minimum Engaged Thread Depth mm	inch
1/2	9,070	0,357
3/4	9,070	0,357
1	11,045	0,434
1 1/4	11,045	0,434
1 1/2	11,045	0,434
2	11,045	0,434
2 1/2	15,875	0,625
3	15,875	0,625

10 SAFETY INSTRUCTION

- Qualified personnel in compliance with the national laws shall carry out the maintenance in accordance with EN/IEC 60079-17 and installation in accordance with EN/IEC 60079-14.
- Changes to products are not allowed.
- Only Bimed spare parts must be used.
- The maintenance operations must be carried out only after the engine has been cut off from mains or from the related electrical appliance.
- The following instructions must be strictly followed in order to get a correct installation.
- The national safety rules and accident prevention regulations, must be strictly respected.
- The clamping of the cables must be realised outside of enclosure by appropriate torque values to guarantee the mechanical characteristics.
- The cable glands can be used with Ex i circuits.
- The cable glands are only suitable for fixed installations. Cables shall be effectively clamped to prevent pulling or twisting.
- The cable gland installation shall be done according to safety manufacturer instructions to maintain degree of protection.
- Cable gland installation shall be done taking into account the temperature range declared for cable glands in relation to protection mode execution, versus the ambient temperature proper of installation.
- The certificate does not indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed in the first page of the manual.
- The certificate does not cover hazards coming from environmental conditions different from those clearly and precisely indicated in clause 1 of EN 60079-0.
- Service temperature of the gland is related to the material of the sealing ring but can additionally be limited by the material of the flat washer/o-ring/accessories.

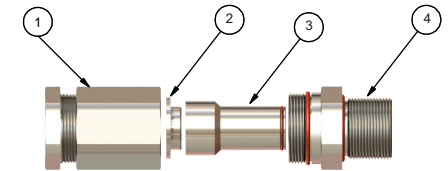
11 PRODUCTS PARTS

KBCTA



- 1- Cap, seal and upper body, swivel braid ring and o-ring
- 2- Grounding cone
- 3- Pot and o-ring
- 4- Lower body and o-ring

KBCTN



- 1- Cap, seal and upper body
- 2- Barrier pressure ring
- 3- Pot and o-ring
- 4- Lower body and o-ring

12 KBCTA SIZE TABLES

Thread Type METRIC acc. to ISO 965-3					
Outer Thread Size (Male)	Clamping Range	Part Number	Upper Body	Cap	Needed Barrier Compound Mixture Per Pcs. (gr)
			Tightening Torque [Nm]	Tightening Torque [Nm]	
M20x1.5	3.0 - 8.5	KBCTA1XSM	60	30	7
	6.0 - 13.0	KBCTA1ISM	60	25	7
	8.0 - 15.0	KBCTA1IM	60	25	7
M25x1.5	13.5 - 21.0	KBCTA1TSM	60	35	9
	8.0 - 15.0	KBCTA2SM	60	25	7
	13.5 - 21.0	KBCTA2M	65	35	9
M32x1.5	18.0 - 27.0	KBCTA2LM	65	30	20
	18.0 - 27.0	KBCTA3M	70	30	20
	23.0 - 33.0	KBCTA3LM	70	55	31
M40x1.5	23.0 - 33.0	KBCTA3SM	80	65	60
	29.0 - 40.0	KBCTA4M	80	65	60
	29.0 - 40.0	KBCTA5SM	90	75	60
M50x1.5	35.0 - 48.0	KBCTA5M	90	75	90
	35.0 - 48.0	KBCTA6SM	110	85	90
	42.0 - 56.0	KBCTA6M	110	85	193
M75x1.5	42.0 - 56.0	KBCTA7SM	120	150	193
	54.0 - 70.0	KBCTA7M	120	150	337
	54.0 - 70.0	KBCTA8M	120	150	337

Thread Type NPT acc. to ANSI ASME B1.20.1					
Outer Thread Size (Male)	Clamping Range	Part Number	Upper Body	Cap	Needed Barrier Compound Mixture Per Pcs. (gr)
			Tightening Torque [Nm]	Tightening Torque [Nm]	
NPT 1/2"	3.0 - 8.5	KBCTN1XSN	60	30	7
	6.0 - 13.0	KBCTN1SN	60	25	7
	8.0 - 15.0	KBCTN1LN	60	25	7
NPT 3/4"	13.5 - 21.0	KBCTN1H	60	35	9
	8.0 - 15.0	KBCTN2SN	60	25	7
	13.5 - 21.0	KBCTN2N	65	35	9
NPT 1"	18.0 - 27.0	KBCTN2LN	65	30	20
	18.0 - 27.0	KBCTN3M	70	30	20
	23.0 - 33.0	KBCTN3LN	70	55	31
NPT 1 1/4"	23.0 - 33.0	KBCTN4SN	80	65	60
	29.0 - 40.0	KBCTA4N	80	65	60
	29.0 - 40.0	KBCTA5N	90	75	90
NPT 2"	35.0 - 48.0	KBCTA6N	110	85	193
	42.0 - 56.0	KBCTA7N	110	150	337
	54.0 - 70.0	KBCTA8N	120	150	337

13 KBCTN SIZE TABLES

Thread Type METRIC acc. to ISO 965-3					
Outer Thread Size (Male)	Clamping Range	Part Number	Upper Body	Cap	Needed Barrier Compound Mixture Per Pcs. (gr)
			Tightening Torque [Nm]	Tightening Torque [Nm]	
M20x1.5	3.0 - 8.5	KBCTN1XSM	60	30	7
	6.0 - 13.0	KBCTN1ISM	60	25	7
	8.0 - 15.0	KBCTN1IM	60	25	7
M25x1.5	13.5 - 21.0	KBCTN1TSM	60	35	9
	8.0 - 15.0	KBCTN2SM	60	25	7
	13.5 - 21.0	KBCTN2M	65	35	9
M32x1.5	18.0 - 27.0	KBCTN2LM	65	30	20
	18.0 - 27.0	KBCTN3M	70	30	20
	23.0 - 33.0	KBCTN3LM	70	55	31
M40x1.5	23.0 - 33.0	KBCTN4SM	80	65	60
	29.0 - 40.0	KBCTN4M	80	65	60
	29.0 - 40.0	KBCTN5SM	90	75	60
M50x1.5	35.0 - 48.0	KBCTN5M	90	75	90
	35.0 - 48.0	KBCTN6SM	110	85	90
	42.0 - 56.0	KBCTN6M	110	85	193
M75x1.5	42.0 - 56.0	KBCTN7SM	120	150	193
	54.0 - 70.0	KBCTN7M	120	150	337
	54.0 - 70.0	KBCTN8M	120	150	337

Thread Type NPT acc. to ANSI ASME B1.20.1					
Outer Thread Size (Male)	Clamping Range	Part Number	Upper Body	Cap	Needed Barrier Compound Mixture Per Pcs. (gr)
			Tightening Torque [Nm]	Tightening Torque [Nm]	
NPT 1/2"	3.0 - 8.5	KBCTN1XSN	60	30	7
	6.0 - 13.0	KBCTN1SN	60	25	7
	8.0 - 15.0	KBCTN1LN	60	25	7
NPT 3/4"	13.5 - 21.0	KBCTN1H	60	35	9
	8.0 - 15.0	KBCTN2SN	60	25	7
	13.5 - 21.0	KBCTN2N	65	35	9
NPT 1"	18.0 - 27.0	KBCTN2LN	65	30	20
	18.0 - 27.0	KBCTN3M	70	30	20
	23.0 - 33.0	KBCTN3LN	70	55	31
NPT 1 1/4"	23.0 - 33.0	KBCTN4SN	80	65	60
	29.0 - 40.0	KBCTN4N	80	65	60
	29.0 - 40.0	KBCTN5N	90	75	90
NPT 2"	35.0 - 48.0	KBCTN6N	110	85	193
	42.0 - 56.0	KBCTN7N	110	150	337
	54.0 - 70.0	KBCTN8N	120	150	337

14 EU DECLARATION OF CONFORMITY



EU DECLARATION OF CONFORMITY

bimed

Bimed Teknik Aletler San. ve Tic. A.Ş.
Özər Sənayə Bölgəsi, Dəlikkəyri Mh. Yürüşmə Məhəmməd Hülm Cđ. No:281 Arnavutköy - İstanbul-TÜRKİYƏ Tel: +90 212 8757376 Fax: +90 212 8750823

declares that the products designed to be placed on the market for use in the explosive atmospheres described below are in conformity with the listed EU Directive and harmonized standards:

Barrier Gland Types: KBCTA, KBCTN
Certificate Number: CESI 17 ATEX 007X
Protection Type: Ⓢ I M2, Ex db I Mb, Ex eb I Mb, Ex db IIC Dc IP66/68

Barrier Gland Types: KBCTA, KBCTN, KBCTNLS
Certificate Number: CESI 17 ATEX 007X
Protection Type: Ⓢ II 2 GD, Ex db IIC Gb, Ex eb IIC Gb, Ex db IIC Dc IP66/68

EU Directive: ATEX 2014/34/EU
The harmonized standards applied: EN IEC 60079-0:2018
EN 60079-1:2014
EN IEC 60079-7:2015+A1:2018
EN 60079-31:2014

Notified body CESI 0722

Istanbul, 02.10.2025

General Manager
Yakup Günelhal
TEKNIK ALETLER SAN. VE TİC. A.Ş.

14 UK DECLARATION OF CONFORMITY



UK DECLARATION OF CONFORMITY

bimed

Bimed Teknik Aletler San. ve Tic. A.Ş.
Özər Sənayə Bölgəsi, Dəlikkəyri Mh. Yürüşmə Məhəmməd Hülm Cđ. No:281 Arnavutköy - İstanbul-TÜRKİYƏ Tel: +90 212 8757376 Fax: +90 212 8750823

declares that the products designed to be placed on the market for use in the explosive atmospheres described below are in conformity with the listed UK Directive and designated standards:

Barrier Gland Types: KBCTA, KBCTN, KBCTNLS
Certificate Number: CML22 UKEX11815X
Protection Type: Ⓢ I M2 / II 2 GD, Ex db I Mb, Ex eb I Mb, Ex db IIC Gb, Ex eb IIC Gb, Ex db IIC Dc IP66/68

UK Directive: SI 2016/36: 1107 (amended by SI 2019/356: 495)
The designated standards applied: EN IEC 60079-0:2018
EN 60079-1:2014
EN IEC 60079-7:2015+A1:2018
EN 60079-31:2014

Approved body CML2503

Istanbul, 02.10.2025

General Manager
Yakup Günelhal
TEKNIK ALETLER SAN. VE TİC. A.Ş.