

SAFETY, MAINTENANCE AND MOUNTING INSTRUCTIONS

CESI 13 ATEX 033X IECEx CES 13.0013X /CML 22 UKEX1183X GLANDS TYPES



**KBA (U,O) (ORION)
KBA..LT (U,O)(ORION LT)**



**KBU (CRATER)
MKBU (M-CRATER)**



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MARKINGS

BMD KBA..	GROUP I	CE 0722	I M2 Ex db I Mb Ex eb I Mb IP66/68 Ta -40°C to +100°C CESI 13 ATEX 033X IECEx CES 13.0013X	
			Group II	Group III
BMD KBA..LT.	GROUP II	CE 0722	II 2GD Ex db IIC Gb Ex eb IIC Gb Ex Ib IIIC Db Ta -60°C +130°C IP66/68 CESI 13 ATEX 033X IECExCES 13.0013X	
			GROUP II	CE 0722
BMD KBU..	GROUP II	CE 0722		
			M KBU...	GROUP I

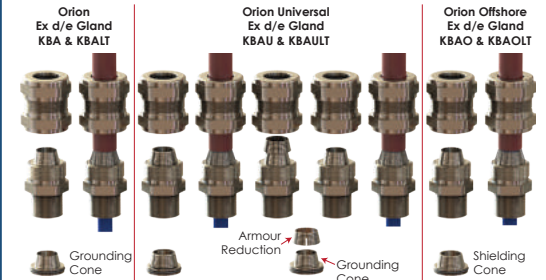
APPLICABLE STANDARDS

DIRECTIVE 2014/34/EU	SI 2016 No. 1107(amended by SI 2019 No.696)	
EN IEC 60079-0:2018	IEC 60079-0:2017 Ed.7.0	IEC 60529:1989
EN IEC 60079-7:2015+A1:2018	IEC 60079-7:2014-06 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	

Types	Sizes		Group		Body Material		Temperature1	
	from	to	Group I	Group II	Brass Galvanized Steel	Aluminium	Chloroprene	Silicone2
KBA	M12	M110	NO	YES	YES	NO	-40°C to +100°C	-60°C to +130°C
	M20	M90	YES	NO	YES	NO	-40°C to +80°C	-60°C to +80°C
	M25	M75	NO	YES	NO	YES	-40°C to +80°C	-60°C to +80°C
KBAO	M12	M110	NO	YES	YES	NO	-40°C to +100°C	-60°C to +130°C
	M20	M90	NO	YES	NO	YES	-40°C to +80°C	-60°C to +80°C
	M25	M75	NO	YES	NO	YES	-40°C to +80°C	-60°C to +80°C
KBAU	M12	M110	NO	YES	YES	NO	-40°C to +100°C	-60°C to +130°C
	M20	M90	NO	YES	NO	YES	-40°C to +80°C	-60°C to +80°C
KBU	M16	M90	NO	YES	YES	NO	-40°C to +100°C	-60°C to +130°C
	M20	M90	YES	YES	YES	NO	-40°C to +80°C	-60°C to +80°C
MKBU	M16	M90	NO	YES	YES	NO	-40°C to +80°C	-60°C to +80°C
	M20	M90	NO	YES	YES	NO	-40°C to +80°C	-60°C to +80°C
KBAULT	M20	M32	NO	YES	YES	NO	-40°C to +80°C	-60°C to +80°C
	M20	M30	NO	YES	YES	NO	-40°C to +80°C	-60°C to +80°C

1. Cable glands made of galvanized steel can be used up to -20°C.
2. Min. temperature is limited by -50°C when the gland is used with fiber washer.

PRODUCTS PARTS



Rev. 06

3 Mounting Instruction KBA

Step 1 Choose the optimal cable according to clamping ranges submitted in the certificate and prepare the cable for installation. All Sub-Parts required for installation are shown respectively above.

Step 2 Separate lower body and upper body from each other so that ensure the grounding cone is visible in the lower body. Mount the lower body to the appropriate opening on enclosure and tighten with sufficient torque value. Use locknut to tighten if the enclosure is non-threaded.

Step 3 Insert the cable to the inside of upper body and then mount with lower body as shown. Ensure that Armours of the cable remains above the grounding cone.

Step 4 Tighten the upper body with sufficient torque value. For torque values please refer the tables "Sizes and torque of cable glands". Visually check if armour is securely clamped. If not, repeat the clamping process.

4 Mounting Instruction KBU and MKBU

Step 1 Choose the optimal cable according to clamping ranges submitted in the certificate and prepare the cable for installation. All Sub-Parts required for installation are shown respectively above.

Step 2 Mount the cable gland to the appropriate opening on the enclosure. Tighten the gland with sufficient torque value or use locknut to tighten if the enclosure is non-threaded.

Step 3 Insert the cable to the inside of cable gland. Adjust the free length of the cable inside the enclosure and tighten the gland cap with sufficient torque.

5 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 enclosures it is recommended to use flat washer, between the gland body and enclosure.
-The recommended wall thickness is 1,5 mm for non threaded enclosures.
-In case of enclosure wall thickness is equal or lower than 1,5 mm, Bimed flat washer should be used. O-ring can stay in the channel if it is necessary. During the assembly it is recommended to rotate the locknut. If the assembly needs to be done by rotating the gland, then oring should be preferred.

Metric Threads		G Threads (GAS UNI ISO 228/1)		PG Threads	
Thread	Hole Diameter (min. - max. mm)	Thread	Hole Diameter (min. - max. mm)	Thread	Hole Diameter (min. - max. mm)
M8x1.25	8.0-8.2	G 1/4"	13.2-13.4	PG 7	12.5-12.7
M12x1.5	12.0-12.2	G 3/8"	16.6-16.8	PG 9	15.2-15.4
M16x1.5	16.0-16.2	G 1/2"	21.0-21.2	PG 11	18.6-18.8
M20x1.5	20.0-20.2	G 3/4"	26.4-26.6	PG 13.5	20.4-20.6
M25x1.5	25.0-25.2	G 1"	33.3-33.6	PG 16	22.5-22.7
M32x1.5	32.0-32.3	G 1 1/4"	41.9-42.2	PG 21	28.3-28.5
M40x1.5	40.0-40.3	G 1 1/2"	47.8-48.1	PG 29	37.0-37.3
M50x1.5	50.0-50.3	G 2"	59.6-59.9	PG 36	47.0-47.3
M63x1.5	63.0-63.3	G 2 1/2"	75.2-75.5	PG 42	54.0-54.3
M75x1.5	75.0-75.3	G 3"	87.9-88.2	PG 48	59.3-59.6
M90x1.5	90.0-90.3	G 4"	113.1-113.4		
M100x1.5	100.0-100.3	G 5"	138.5-138.8		
M110x1.5	110.0-110.3				
M115x2.0	115.0-115.3				
M130x2.0	130.0-130.3				

6 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. For threaded enclosures min. wall thickness must be equal to the thickness of the relevant locknut.

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 Ib 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.

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 Ib Execution:
- For Ex Ib applications please refer to NPT ANSI B1.20.1 standard.

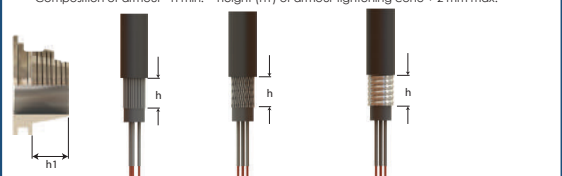
NPT	Minimum Engaged Thread Depth
mm	inch
1/4	7,055 0,277
3/8	7,055 0,277
1/2	9,070 0,357
3/4	9,070 0,357
1	11,045 0,434
1 1/4	11,045 0,434
1 1/2	11,045 0,434
2	11,045 0,434
2 1/2	15,875 0,625
3	15,875 0,625
4	15,875 0,625
5	15,875 0,625

7 SAFETY INSTRUCTION

-Qualified personnel in compliance with the national laws shall carry out the maintenance in accordance with EN/IEC 60079-14 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 out 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 can 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/ornia/accessories.

8 PREPERATION OF CABLES

Please refer to the figure below, for details about the preparation of steel wire armour, braided and metal tape shielded cables for fitting into the cable gland.



9 ORION (KBA) SIZE TABLE

Size	Clamping Range Ø min-max		Armor Wire Ø min-max	Upper Body Tightening Torques [Nm]	Cap Tightening Torques [Nm]	Part Number
	Lower Seal mm	Upper Seal mm				
M12x1.5	2.0-4.0	3.0-5.5	0.10-0.40	13	13	*KBA05M
	3.0-7.5	6.0-12.0	0.70-1.20	27	25	*KBA015M
M16x1.5	3.0-8.5	6.0-12.0	0.70-1.20	27	25	*KBA015M
	6.0-12.0	8.5-16.0	0.70-1.25	49	28	*KBA015M
M20x1.5	3.0-8.5	6.0-12.0	0.70-1.20	27	25	*KBA015M
	6.0-12.0	8.5-16.0	0.70-1.25	49	28	*KBA015M
M25x1.5	3.0-8.5	6.0-12.0	0.70-1.20	27	25	*KBA015M
	6.0-12.0	8.5-16.0	0.70-1.25	49	28	*KBA015M
M32x1.5	3.0-8.5	6.0-12.0	0.70-1.20	27	25	*KBA015M
	6.0-12.0	8.5-16.0	0.70-1.25	49	28	*KBA015M
M40x1.5	3.0-8.5	6.0-12.0	0.70-1.20	27	25	*KBA015M
	6.0-12.0	8.5-16.0	0.70-1.25	49	28	*KBA015M
M50x1.5	3.0-8.5	6.0-12.0	0.70-1.20	27	25	*KBA015M
	6.0-12.0	8.5-16.0	0.70-1.25	49	28	*KBA015M
M63x1.5	3.0-8.5	6.0-12.0	0.70-1.20	27	25	*KBA015M
	6.0-12.0	8.5-16.0	0.70-1.25	49	28	*KBA015M
M75x1.5	3.0-8.5	6.0-12.0	0.70-1.20	27	25	*KBA015M
	6.0-12.0	8.5-16.0	0.70-1.25	49	28	*KBA015M
M90x1.5	3.0-8.5	6.0-12.0	0.70-1.20	27	25	*KBA015M
	6.0-12.0	8.5-16.0	0.70-1.25	49	28	*KBA015M
M110x1.5	3.0-8.5	6.0-12.0	0.70-1.20	27	25	*KBA015M
	6.0-12.0	8.5-16.0	0.70-1.25	49	28	*KBA015M

Note: These torque values are recommended according to the tests performed in Bimed laboratory.

10 ORION OFFSHORE (KBAO) SIZE TABLE

Size	Clamping Range Ø min-max		Armor Wire Ø min-max	Upper Body Tightening Torques [Nm]	Cap Tightening Torques [Nm]	Part Number
	Lower Seal mm	Upper Seal mm				
M12x1.5	3.0-7.5	6.0-12.0	0.20-0.50	27	25	*KBAO05M
	3.0-8.5	6.0-12.0	0.20-0.50	27	25	*KBAO015M
M16x1.5	3.0-8.5	6.0-12.0	0.20-0.50	27	25	*KBAO015M
	6.0-12.0	8.5-16.0	0.20-0.50	49	28	*KBAO015M
M20x1.5	3.0-8.5	6.0-12.0	0.20-0.50	27	25	*KBAO015M
	6.0-12.0	8.5-16.0	0.20-0.50	49	28	*KBAO015M
M25x1.5	3.0-8.5	6.0-12.0	0.20-0.50	27	25	*KBAO015M
	6.0-12.0	8.5-16.0	0.20-0.50	49	28	*KBAO015M
M32x1.5	3.0-8.5	6.0-12.0	0.20-0.50	27	25	*KBAO015M
	6.0-12.0	8.5-16.0	0.20-0.50	49	28	*KBAO015M
M40x1.5	3.0-8.5	6.0-12.0	0.20-0.50	27	25	*KBAO015M
	6.0-12.0	8.5-16.0	0.20-0.50	49	28	*KBAO015M
M50x1.5	3.0-8.5	6.0-12.0	0.20-0.50	27	25	*KBAO015M
	6.0-12.0	8.5-16.0	0.20-0.50	49	28	*KBAO015M
M63x1.5	3.0-8.5	6.0-12.0	0.20-0.50	27	25	*KBAO015M
	6.0-12.0	8.5-16.0	0.20-0.50	49	28	*KBAO015M
M75x1.5	3.0-8.5	6.0-12.0	0.20-0.50	27	25	*KBAO015M
	6.0-12.0	8.5-16.0	0.20-0.50	49	28	*KBAO015M
M90x1.5	3.0-8.5	6.0-12.0	0.20-0.50	27	25	*KBAO015M
	6.0-12.0	8.5-16.0	0.20-0.50	49	28	*KBAO015M
M110x1.5	3.0-8.5	6.0-12.0	0.20-0.50	27	25	*KBAO015M
	6.0-12.0	8.5-16.0	0.20-0.50	49	28	*KBAO015M

Note: These torque values are recommended according to the tests performed in Bimed laboratory.

11 ORION UNIVERSAL (KBAU) SIZE TABLE

Size	Clamping Range Ø min-max		Armor Wire Ø min-max	Shielded Wire Ø min-max	Upper Body Tightening Torques [Nm]	Cap Tightening Torques [Nm]	Part Number
	Lower Seal mm	Upper Seal mm					
M12x1.5	3.0-7.5	6.0-12.0	0.70-1.20	0.2-0.5	27	25	*KBAU05M
	3.0-8.5	6.0-12.0	0.70-1.20	0.2-0.5	27	25	*KBAU015M
M16x1.5	3.0-8.5	6.0-12.0	0.70-1.20	0.2-0.5	27	25	*KBAU015M
	6.0-12.0	8.5-16.0	0.70-1.25	0.2-0.5	49	28	*KBAU015M
M20x1.5	3.0-8.5	6.0-12.0	0.70-1.20	0.2-0.5	27	25	*KBAU015M
	6.0-12.0	8.5-16.0	0.70-1.25	0.2-0.5	49	28	*KBAU015M
M25x1.5	3.0-8.5	6.0-12.0	0.70-1.20	0.2-0.5	27	25	*KBAU015M
	6.0-12.0	8.5-16.0	0.70-1.25	0.2-0.5	49	28	*KBAU015M
M32x1.5	3.0-8.5	6.0-12.0	0.70-1.20	0.2-0.5	27	25	*KBAU015M
	6.0-12.0	8.5-16.0	0.70-1.25	0.2-0.5	49	28	*KBAU015M
M40x1.5	3.0-8.5	6.0-12.0	0.70-1.20	0.2-0.5	27	25	*KBAU015M
	6.0-12.0	8.5-16.0	0.70-1.25	0.2-0.5	49	28	*KBAU015M
M50x1.5	3.0-8.5	6.0-12.0	0.70-1.20	0.2-0.5	27	25	*KBAU015M
	6.0-12.0	8.5-16.0	0.70-1.25	0.2-0.5	49	28	*KBAU015M
M63x1.5	3.0-8.5	6.0-12.0	0.70-1.20	0.2-0.5	27	25	*KBAU015M
	6.0-12.0	8.5-16.0	0.70-1.25	0.2-0.5	49	28	*KBAU015M
M75x1.5	3.0-8.5	6.0-12.0	0.70-1.20	0.2-0.5	27	25	*KBAU015M
	6.0-12.0	8.5-16.0	0.70-1.25	0.2-0.5	49	28	*KBAU015M
M90x1.5	3.0-8.5	6.0-12.0	0.70-1.20	0.2-0.5	27	25	*KBAU015M
	6.0-12.0	8.5-16.0	0.70-1.25	0.2-0.5	49	28	*KBAU015M
M110x1.5	3.0-8.5	6.0-12.0	0.70-1.20	0.2-0.5	27	25	*KBAU015M
	6.0-12.0	8.5-16.0	0.70-1.25	0.2-0.5	49	28	*KBAU015M

Note: These torque values are recommended according to the tests performed in Bimed laboratory.

12 CRATER (KBU) SIZE TABLE

Size	Clamping Range Ø min-max mm	Cap Tightening Torques [Nm]	Part Number
M16x1.5	3.0-8.5	30	KBU01M
	6.0-12.0	35	KBU01LM
M20x1.5	6.0-12.0	35	KBU1M
	12.0-14.5	33	KBU1LM
M25x1.5	6.0-12.0	35	KBU2SM
	12.0-16.0	30	KBU2M
M32x1.5	12.0-20.0	61	KBU3SM
	15.0-26.0	86	KBU3M
M40x1.5	15.0-26.0	86	KBU4SM
	20.0-32.0	110	KBU4M
M50x1.5	22.0-35.0	110	KBU5SM
	27.0-41.0	125	KBU5M
M63x1.5	35.0-45.0	165	KBU6SM
	40.0-52.0	250	KBU6M
M75x1.5	40.0-52.0	250	KBU7SM
	45.0-60.0	250	KBU7M
M90x1.5	45.0-60.0	250	KBU8SM
	60.0-72.0	300	KBU8M

Note: These torque values are recommended according to the tests performed in Bimed laboratory.

13 CRATER (MKBU) SIZE TABLE

Size	Clamping Range Ø min-max mm	Cap Tightening Torques [Nm]	Part Number
M16x1.5	3.0-8.5	31	MKBU01M2
	6.0-9.0	50	MKBU01LM1
M20x1.5	6.0-9.0	50	MKBU01LM2
	9.0-12.0	35	MKBU1M1
M25x1.5	9.0-12.0	35	MKBU1M2
	11.5-14.5	35	MKBU1LM2
M32x1.5	6.0-9.0	50	MKBU2SM1
	9.0-12.0	51	MKBU2SM2
M40x1.5	8.5-12.5	51	MKBU2M1
	12.5-16.0	50	MKBU2M2
M50x1.5	12.0-16.0	51	MKBU2LM1
	16.0-20.0	50	MKBU2LM2
M63x1.5	12.0-16.0	100	MKBU3SM1
	16.0-20.0	100	MKBU3SM2
M75x1.5	15.0-20.0	100	MKBU3M1
	20.0-26.0	100	MKBU3M2
M90x1.5	15.0-20.0	110	MKBU4SM1
	20.0-26.0	110	MKBU4SM2
M110x1.5	26.0-32.0	110	MKBU4M1
	32.0-40.0	130	MKBU4M2
M130x1.5	22.0-28.0	130	MKBU5SM1
	28.0-35.0	130	MKBU5SM2
M150x1.5	27.0-34.0	130	MKBU5M1
	34.0-41.0	130	MKBU5M2
M175x1.5	35.0-40.0	200	MKBU6SM1
	40.0-45.0	200	MKBU6SM2
M200x1.5	40.0-46.0	200	MKBU6M1
	46.0-52.0	200	MKBU6M2
M225x1.5	40.0-46.0	300	MKBU7SM1
	46.0-52.0	300	MKBU7SM2
M250x1.5	45.0-52.0	300	MKBU7M1
	52.0-60.0	300	MKBU7M2
M280x1.5	45.0-52.0	350	MKBU8SM1
	52.0-60.0	350	MKBU8SM2
M315x1.5	60.0-66.0	350	MKBU8M1
	66.0-72.0	350	MKBU8M2

Note: These torque values are recommended according to the tests performed in Bimed laboratory.

14 EU DECLARATION OF CONFORMITY

EU DECLARATION OF CONFORMITY

bimed

Bimed Teknik Aletler San. ve Tic. A.Ş.
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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:

Cable Gland Types: KBA, KBAU, KBAO, KBA, LT, KBAO, LT, KBU, MKBU, KBA1T

Certificate Number: CESI 11 ATEX 033X

Protection Type: II 2 GD, Ex db IIC Gb; Ex eh IIC Gb; Ex eh IIC Db IP66/68

Cable Gland Types: KBA, KBA, LT, MKBU

Certificate Number: CESI 11 ATEX 033X

Protection Type: I MD; Ex db 1Mb; Ex eh 1Mb; Ex eh IIC Db IP66/68

EU Directive: ATEX 2014/34/EU

The harmonized standards applied: EN IEC 60079-0:2018
 EN 60079-1:2014
 EN IEC 60079-2:2015/A1:2018
 EN 60079-31:2014

The compliance of the equipment is not affected by the modifications introduced by harmonized standard
 EN IEC 60079-7:2015/A1:2018
 EN IEC 60079-0:2018

Notified body CESI 0722

İstanbul, 03.10.2025

General Manager
 Yakup Gülünhal
 YAKUP GULUNHAL
 TERSAN SANAYI VE TICARET

14 UK DECLARATION OF CONFORMITY

UK DECLARATION OF CONFORMITY

bimed

Bimed Teknik Aletler San. ve Tic. A.Ş.
 Özer Sanayi Bölgesi, Delialıkaya Mh. Yurubay Mehmet Hilmi Cd. No:28/1 Amavucuköy -
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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:

Cable Gland Types: KBA, KBAU, KBAO, KBA, LT, KBAO, LT, KBU, MKBU, KBA1T

Certificate Number: CML 22 UKEX183X

Protection Type: II 2 GD, Ex db IIC Gb; Ex eh IIC Gb; Ex eh IIC Db IP66/68

Cable Gland Types: KBA, KBA, LT, MKBU

Certificate Number: CML 22 UKEX183X

Protection Type: I MD; Ex db 1Mb; Ex eh 1Mb; Ex eh IIC Db IP66/68

UK Directive: SI 2016 No. 1107 (amended by SI 2019 No. 699)

The designated standards applied: EN IEC 60079-0:2018
 EN 60079-1:2014
 EN IEC 60079-2:2015/A1:2018
 EN 60079-31:2014

Approved body CML 2503

İstanbul, 03.10.2025

General Manager
 Yakup Gülünhal
 YAKUP GULUNHAL
 TERSAN SANAYI VE TICARET