

SAFETY, MAINTENANCE AND MOUNTING INSTRUCTIONS

CESI 13 ATEX 033X IECEx CES 13.0013X

GLANDS TYPES



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

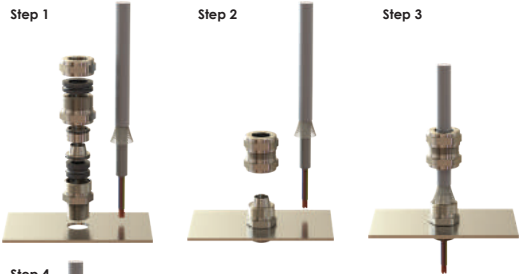


KBU (CRATER)
MKBU (M-CRATER)



Rev. 04

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.

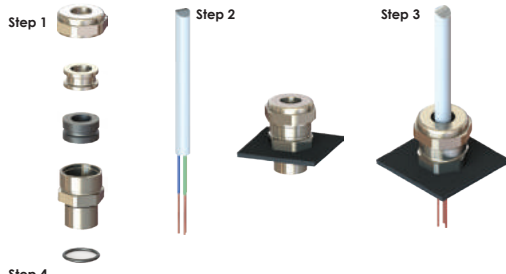
Step 2 Separate lower body and upper body from each other so that ensure the grounding cone is visible in the lower body. Mount the lower body to the appropriate opening on enclosure and tighten with sufficient torque value. Use locknut to tighten if the enclosure is non-threaded.

Step 3 Insert the cable to the inside of upper body and then mount with lower body as shown. Ensure that Armour 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.

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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.

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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	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
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 IECEx CES 13.0013X
BMD KBU..	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 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

APPLICABLE STANDARDS

DIRECTIVE 2014/34/EU	EN/IEC 60079-7
EN/IEC 60079-0	EN/IEC 60079-31
EN/IEC 60079-1	EN/IEC 60529

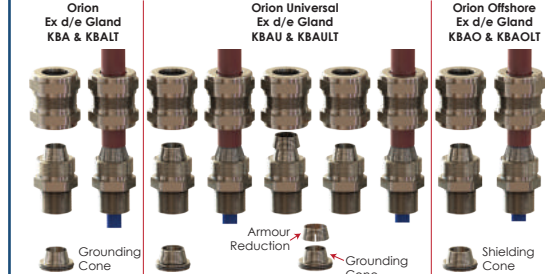
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TECHNICAL SPECIFICATION TABLE

Types	Sizes		Group		Body Material		Temperature1	
	from	to	Group I	Group II	Brass Galvanised 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
KBALT	M16	M63	NO	YES	YES	NO	-40°C to +80°C	-60°C to +100°C
KBAULT	M20	M32	NO	YES	YES	NO	-40°C to +80°C	-60°C to +80°C
KBAULT	M20	M30	NO	YES	YES	NO	-40°C to +80°C	-60°C to +80°C

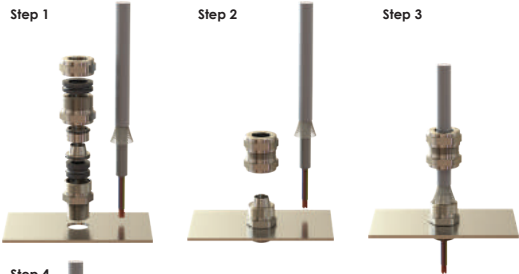
1. Cable glands made of galvanized steel can be used up to -20°C.
2. Min. temperature is limited by -50°C when the gland is used with fiber washer.

PRODUCTS PARTS



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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.

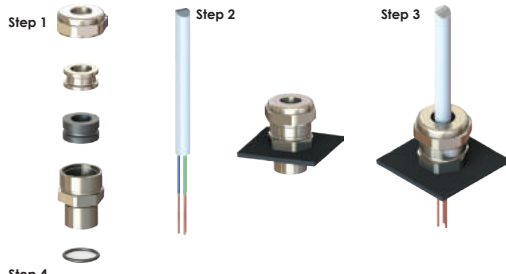
Step 2 Separate lower body and upper body from each other so that ensure the grounding cone is visible in the lower body. Mount the lower body to the appropriate opening on enclosure and tighten with sufficient torque value. Use locknut to tighten if the enclosure is non-threaded.

Step 3 Insert the cable to the inside of upper body and then mount with lower body as shown. Ensure that Armour 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.

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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.

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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.

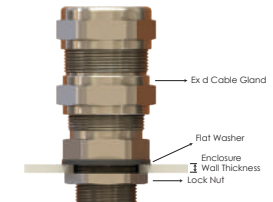
Metric Threads		G Threads (GAS UNI ISO 228/1)		PG Threads	
Thread	Hole Diameter (min. - max. mm)	Thread	Hole Diameter (min. - max. mm)	Thread	Hole Diameter (min. - max. mm)
M8x1.25	8.0-8.2	G 1/4"	13.2-13.4	PG 7	12.5-12.7
M12x1.5	12.0-12.2	G 3/8"	16.6-16.8	PG 9	15.2-15.4
M16x1.5	16.0-16.2	G 1/2"	21.0-21.2	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				

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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

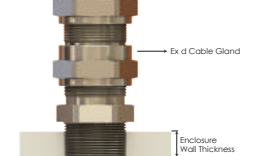


Ex d Execution:
- Assemble the gland with o-ring or flat washer through the threaded hole.
- The wall has to be thick enough to engage at least 5 full threads.
- The minimum engaged thread depth must be at least 8 mm.

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 eb applications please refer to NPT ANSI B1.20.1 standard.

NPT	Minimum Engaged Thread Depth
	mm
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

