TEKNIK ALETLER SANAYI VE TICARET A.S.
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Rev.03

# CABLE GLANDS TYPE
# EBU (OCTANS) AND EBS (VELA)
# SAFETY, MAINTENENCE AND MOUNTING INSTRUCTIONS

**CERTIFICATE**

BMD EB..... CE 0722 II2GD Ex d IIC Gb Ex e IIC Gb, Ex tb IIIC Db IP66/68
IMQ 13 ATEX 018X
IECEx IMQ 13.0006X

**APPLICABLE CODES**

EN/IEC 60079-0 EN/IEC 60079-7
EN/IEC 60079-1 EN/IEC 60079-31
DIRECTIVE 94/9/CE ATEX

**TEMPERATURE OF INSTALLATION**

In execution Ex d, Ex e, Ex tb
from -40°C to +80°C with Neoprene sealing ring
from -60°C to +80°C with Silicon sealing ring

In execution Ex e, Ex tb
from -40°C to +80°C with Neoprene sealing ring
from -60°C to +140°C with Silicon sealing ring

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## SAFETY AND ASSEMBLING INSTRUCTIONS ⚠

- They are destined to qualified personnel in compliance with the national laws and where applicable, in accordance with EN 60079-17 Standard, concerning electrical appliances to products are not allowed.
- Changes to products are not allowed.
- Only BIMED spare parts must be used.

- Everyday and extraordinary maintenance operations must be carried out only by qualified personnel after approval from expert technicians.
- The maintenance operations must be carried out only after the engine has been cut of 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, specified as ⚠ in this technical booklet, must be strictly respected.
- In case of ambient temperature below -30°C, must be used austenitic steels according to EN10213-3 (Brass or Stainless steel AISI 316).
- The clamping cables must be realised on external of enclosure by appropriate clamps to guarantee the mechanical characteristics.

- The cable glands can be used with circuits Ex i.
- 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 maintaindegree 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.

**Non Threaded enclosure applications (Except for Ex d enclosures)**

Recomended Hole Diameters For Non Threaded enclosure applications in relation with the used thread types are shown below.

| Metric Threads (EN 60423) | |
|---|---|
| Thread | Hole Diameter (min. - max. mm) |
| M16 x 1.5 | Ø16,0 - 16,3 |
| M20 x 1.5 | Ø20,0 - 20,3 |
| M25 x 1.5 | Ø25,0 - 25,3 |
| M32 x 1.5 | Ø32,0 - 32,3 |
| M40 x 1.5 | Ø40,0 - 40,3 |
| M50 x 1.5 | Ø50,0 - 50,3 |
| M63 x 1.5 | Ø63,0 - 63,3 |
| M75 x 1.5 | Ø75,0 - 75,3 |
| M90 x 1.5 | Ø90,0 - 90,3 |

| G Threads (GAS UNI ISO 228/1) | |
|---|---|
| Thread | Hole Diameter (min. - max. mm) |
| G 3/8" | Ø16,6 - 16,9 |
| G 1/2" | Ø21,0 - 21,3 |
| G 3/4" | Ø26,4 - 26,7 |
| G 1" | Ø33,3 - 33,6 |
| G 1 1/4" | Ø41,9 - 42,2 |
| G 1 1/2" | Ø47,8 - 48,1 |
| G 2" | Ø59,6 - 59,9 |
| G 2 1/2" | Ø75,2 - 75,5 |
| G 3" | Ø87,9 - 88,2 |

| PG Threads (DIN 40430) | |
|---|---|
| Thread | Hole Diameter (min. - max. mm) |
| PG 9 | Ø15,2 - 15,5 |
| PG 11 | Ø18,6 - 18,9 |
| PG 13,5 | Ø20,4 - 20,8 |
| PG 16 | Ø22,5 - 22,8 |
| PG 21 | Ø28,3 - 28,6 |
| PG 29 | Ø37,0 - 37,3 |
| PG 36 | Ø47,0 - 47,3 |
| PG 42 | Ø54,0 - 54,3 |
| PG 48 | Ø59,3 - 59,6 |

**Remarks**

For for more detailed information please refer to CA4-IP.

For non-threaded enclosures, in case of enclosure wall thickness is lower than 3,0 mm, Bimed flat washer should be used. Oring can stay in the channel if it is necessary to mount flat washer. Flat washer material should be same material with the inner sealing of the gland. As an addition to Chloroprene and Silicone; EPDM, Klingersil (fiber type) PA flat washers can also be used. 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/oring/accessories.

Material temperature limitations are:

| | |
|---|---|
| Chloroprene | (-40°C +100°C) |
| Silicone | (-60°C +180°C) |
| EPDM | (-40°C +110°C) |
| Klingersil (fiber type) | (-50°C +130°C) |
| PA | (-50°C +60°C) |

The use of these materials has to be taken in account in determination of upper and lower service temperature of the glands.

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.

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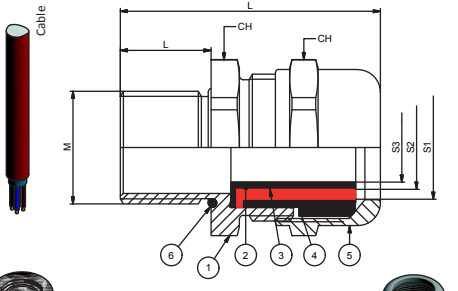
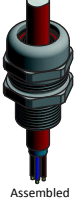
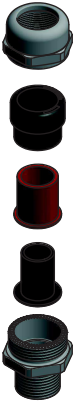
## Composition of cable gland type EBU




| | |
|---|---|
| 6 | O-RING |
| 5 | CAP ( E ) |
| 4 | OUTER SEAL ( D ) |
| 3 | INNER SEAL ( C ) |
| 2 | INNER SEAL ( B ) |
| 1 | BODY ( A ) |


Octans
Cable gland


Assembled
cable



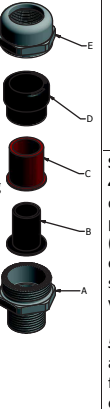
## OCTANS (EBU) CABLE GLAND MOUNTING INSTRUCTION

### SEALING RING COMBINATIONS


**STEP-1**

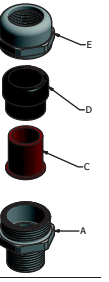
***1***- Hold the assembled gland straight and disassemble the parts as A,B,C,D and E.

***2***- Choose the optimal seal combination according to the cable diameter which is going to be tightened. (For triple seal combination, it is enough to disassamble only part E.)




**STEP-2**

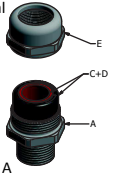
***3***- For double seal combination, part B is an obstacle to tighten the desired cable size. First take out part B to complete the seal combination.

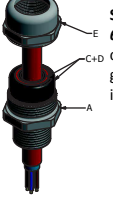



**STEP-3**

***4***- Assemble the seal combination inside part A. Mount (parts A,C,D) on the enclosure with sufficient torque value.

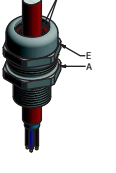
***5***- Then mount part A and E engaged one or two threads for inserting cable inside the gland easier.




**STEP-4**

***6***- Insert the cable inside the gland for installation.




**STEP-5**

***7***- Tighten part E to parts A,C,D sufficeint torque values .

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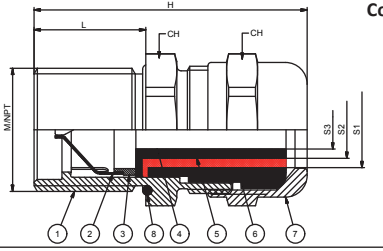



## Composition of cable gland type EBS

| | |
|---|---|
| 8 | O-RING |
| 7 | CAP ( E ) |
| 6 | OUTER SEAL ( D ) |
| 5 | INNER SEAL ( C ) |
| 4 | INNER SEAL ( B ) |
| 3 | PRESSURE RING ( F ) |
| 2 | SPRING ( G ) |
| 1 | BODY ( A ) |

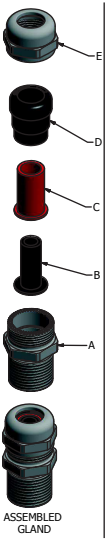

Assembled cable

SEALING RING COMBINATIONS

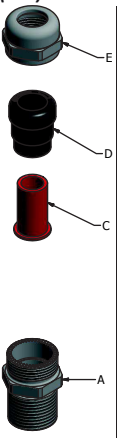

## VELA (EBS) CABLE GLAND MOUNTING INSTRUCTION

**STEP-1 :**
1- Hold the assembled gland straight and disassemble the parts as A,B,C,D and E.

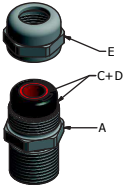
2- Choose the optimal seal combination according to the cable diameter which is going to be tightened. (For triple seal combination, it is enough to disassamble only part E.) (**Pressure ring and spring are inside part A.)

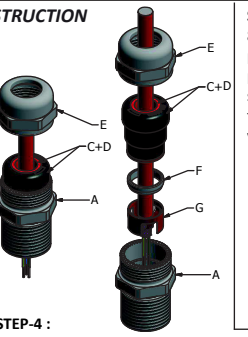



**STEP-2 :**
3- For double seal combination, part B is an obstacle to tighten the desired cable size. First take out part B to complete the seal combination.




**STEP-3:**
4- Assemble the seal combination inside part A. Mount (parts A,C,D) on the enclosure with sufficient torque value.
5- Then mount part A and E engaged one or two threads for inserting cable inside the gland easier.

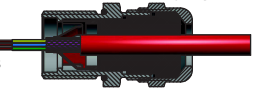


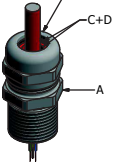

**STEP-4 :**
6- Insert the cable inside the gland for installation.

7- Place the armours inside the spring(G). Before the installation cut the excess parts of cable sheath and armour.

Cable contact with spring



**STEP-5 :**
8- Tighten part E to parts A,C,D sufficeint torque values .



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## EC DECLARATION OF CONFORMITY

We declare that the products designed to be placed on the market for use in the explosive atmospheres described below:

Cable glands type EBU, EBS, EBLS, EBLQ, EBMC, EBMS, EBLN;

In execution II 2GD Ex d IIC Gb; Ex e IIC Gb; Ex tb IIIC Db IP66/68
-40°C to +80°C with Neoprene (Chloroprene) sealing rings
-60°C to +80°C with Silicon sealing rings

Cable glands type EBU, EBS, EBLS, EBLQ, EBMC, EBMS, EBLN,
EBU(axb), EBS(axb), EBLS(axb), EBLQ(axb), EBMC(axb), EBMS(axb), EBLN(axb),

In execution II 2GD Ex e IIC Gb; Ex tb IIIC Db IP66/68
-40°C to +80°C with Neoprene (Chloroprene) sealing rings
-60°C to +140°C with Silicon sealing rings

Certificate number : IMQ 13 ATEX 018X

Satisfy

The dispositions applied of them directive ATEX 94/9/EC
The harmonized standards applied :
EN 60079-0:2012; EN 60079-1:2007; EN 60079-7:2007; EN 60079-31:2014

These products has been designed, manufactured and controlled within the guidelines of a quality insurance system which is certificated to be conform with ISO 9001:2008 and EN ISO 80079-34:2011.

Notified body CESI 0722

Istanbul, 05-11-2015

General Manager

| Type | M<br>ISO pitch 1,5 | ANSI ASME<br>NPT B1.20.1 | P<br>Ø Sealing Ring<br>Dimension<br>min-max |
|---|---|---|---|
| EBU | *0XSM (M8x1.25) | | 2,0-4,0 |
| EBU | *0SM (M12) | *0SN(1/4") | 4,0-8,0 |
| EBU | 01SM (M16) | 01SN (3/8") | 3,0-9,0 |
| EBU | 01M (M16) | 01N (3/8") | 4,0-12,0 |
| EBU | 1M (M20) | 1N (1/2") | 4,0-12,0 |
| EBU | 12M (M20) | 12N (1/2") | 10,0-16,0 |
| EBU | 2M (M25) | 2N (3/4") | 10,0-18,0 |
| EBU | 23M (M25) | 23N (3/4") | 14,0-20,0 |
| EBU | 3M (M32) | 3N (1") | 14,0-24,0 |
| EBU | 34M (M32) | 34N (1") | 22,0-28,0 |
| EBU | 4M (M40) | 4N (11/4") | 22,0-32,0 |
| EBU | 45M (M40) | 45N (11/4") | 26,0-34,0 |
| EBU | 5M (M50) | 5N (11/2") | 26,0-35,0 |
| EBU | 56M (M50) | 56N (11/2") | 35,0-44,0 |
| EBU | 6M (M63) | 6N (2") | 35,0-45,0 |
| EBU | 67M (M63) | 67N (2") | 46,0-56,0 |
| EBU | 7M (M75) | 7N (21/2") | 46,0-62,0 |
| EBU | 78M (M75) | 78N (21/2") | 60,0-70,0 |
| EBU | 8M (M90) | 8N (3") | 60,0-70,0 |
| EBU | 810M (M90) | 810N (3") | 75,0-85,0 |
| EBU | 10M (M100) | 10N (4") | 75,0-85,0 |
| EBU | 11M (M110) | 11N (4") | 85,0-95,0 |

| Type | M<br>ISO pitch 1,5 | ANSI ASME NPT<br>B1.20.1 | P<br>Ø Sealing Ring<br>Dimension<br>min-max |
|---|---|---|---|
| EBS | 1M (M20) | 1N (1/2") | 4,0-12,0 |
| EBS | 2M (M25) | 12N (1/2") | 10,0-18,0 |
| EBS | 3M (M32) | 2N (3/4") | 14,0-24,0 |
| EBS | 4M (M40) | 23N (3/4") | 22,0-32,0 |
| EBS | 5M (M50) | 3N (1") | 26,0-35,0 |
| EBS | 6M (M63) | 34N (1") | 35,0-45,0 |
| EBS | 7M (M75) | 4N (11/4") | 46,0-62,0 |
| EBS | 8M (M90) | 45N (11/4") | 60,0-75,0 |