



# 2017

Cable glands and electrical fittings for electrical plants







|                                                                                    |   |
|------------------------------------------------------------------------------------|---|
| Introduction - From cable glands to electrical fittings for electrical plants..... | 1 |
|------------------------------------------------------------------------------------|---|

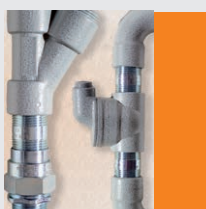
## Cable glands Ex-proof

|                                                                                     |      |
|-------------------------------------------------------------------------------------|------|
| REV series cable glands for non-armoured cable from 3/8" to 2" .....                | A.2  |
| REVL series cable glands for non-armoured cable <i>special version</i> .....        | A.4  |
| REV/REVS series cable glands for non-armoured cable from 2 1/2" to 4" .....         | A.6  |
| REVF series cable glands for non-armoured cable with a female entry .....           | A.8  |
| REVN series cable glands for non-armoured cable with a male entry .....             | A.10 |
| REVD series cable glands for armoured cable from 3/8" to 2" .....                   | A.12 |
| REVDL series cable glands for armour cable <i>special version</i> .....             | A.14 |
| REVD/REVDS series cable glands for armoured cable from 2 1/2" to 4" .....           | A.16 |
| FB series <i>barrier</i> cable glands for non-armoured cable .....                  | A.18 |
| FBF series <i>barrier</i> cable glands for non-armoured cable with female exit..... | A.20 |
| FBN series <i>barrier</i> cable glands for non-armoured cable with male exit.....   | A.22 |
| FGAB series <i>barrier</i> cable glands for armoured cable .....                    | A.24 |
| Sealing method of barrier cable glands .....                                        | A.26 |
| UNI series cable glands in <i>polyamide</i> for non-armoured cable .....            | A.28 |
| UNP series cable glands in <i>polyamide</i> for non-armoured cable .....            | A.30 |

## Electrical fittings for electrical plants

|                                                                                    |      |
|------------------------------------------------------------------------------------|------|
| BMF three pieces unions Fixed male/Turning female - IIB.....                       | B.2  |
| BFF three pieces unions Fixed female / Turning female - IIB.....                   | B.4  |
| BMM Three pieces unions Fixed male / Turning Male - IIB.....                       | B.6  |
| RBMF three pieces unions Fixed male / Turning Female - IIB high temperatures ..... | B.8  |
| RBFF three pieces unions Fixed female/Turning female - IIB high temperatures ..... | B.10 |
| RBMM three pieces unions Fixed male / Turning male - IIB high temperatures.....    | B.12 |
| RMF three pieces unions Fixed male/Turning female - IIC.....                       | B.14 |
| RFF three pieces unions Fixed female/Turning female - IIC .....                    | B.16 |
| RMM three pieces unions Fixed male/Turning male - IIC .....                        | B.18 |
| RE male - female adaptors.....                                                     | B.20 |
| Adaptors REB female - male.....                                                    | B.22 |
| Adaptors REM female - female.....                                                  | B.24 |
| Adaptors REN male - male.....                                                      | B.26 |
| PLG male close-up plugs with conical thread .....                                  | B.28 |
| PLG male close-up plugs with cylindrical thread .....                              | B.30 |
| PLG..7 polyamide close-up plugs with cylindrical thread.....                       | B.32 |
| ELF - ELMF - ELM 90° elbows .....                                                  | B.34 |
| EM couplings .....                                                                 | B.36 |
| Resin-filled sealing fittings and drain valves features .....                      | B.38 |
| CRV420 sealing compound.....                                                       | B.38 |

## PRODUCT





|                                                                         |      |
|-------------------------------------------------------------------------|------|
| <i>FV...</i> glass fiber .....                                          | B.39 |
| <i>EYS</i> Vertical sealing fittings .....                              | B.40 |
| <i>EYD</i> vertical sealing fittings .....                              | B.41 |
| <i>EZS</i> horizontal sealing fittings .....                            | B.42 |
| <i>ECD</i> drain and breather valves .....                              | B.44 |
| <i>NPS</i> sealing nipples .....                                        | B.46 |
| <i>NPS</i> sealing nipples .....                                        | B.47 |
| <i>TP</i> sealed bushings for multicables with a threaded joint .....   | B.48 |
| <i>CP</i> sealing bushings for multicables with cylindrical joint ..... | B.49 |
| Maximum quantity and wires type tables .....                            | B.50 |
| <i>SP</i> flexible conduits .....                                       | B.52 |
| <i>LBH</i> open elbows .....                                            | B.54 |
| <i>LBHS</i> open elbows .....                                           | B.55 |
| <i>EKC</i> Pulling boxes .....                                          | B.56 |
| ACCESSORIES .....                                                       | B.57 |
| <i>BC</i> rigid conduits .....                                          | B.57 |
| <i>DB...A</i> aluminium bushing .....                                   | B.58 |
| <i>DB...PVC</i> PVC bushings .....                                      | B.58 |
| <i>DBT</i> aluminium bushings with earth screw .....                    | B.59 |
| <i>MC</i> female closing plugs .....                                    | B.59 |
| <i>DL</i> metal locknuts .....                                          | B.60 |
| <i>DL...P</i> polyamide locknuts .....                                  | B.60 |
| <i>MT</i> conduit clamps .....                                          | B.61 |
| <i>UBD</i> U-bolts .....                                                | B.61 |
| <i>GF</i> saddles .....                                                 | B.62 |
| <i>MP</i> conduit clamps .....                                          | B.62 |

## Junction and pulling boxes

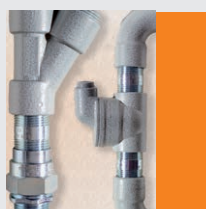
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|--------------------------------------------------|-----|
| <i>S</i> series junction and pulling boxes ..... | C.2 |
|--------------------------------------------------|-----|

## Weather proof series

|                                                                                           |      |
|-------------------------------------------------------------------------------------------|------|
| <i>CS, CSG</i> series aluminium junction boxes .....                                      | D.2  |
| <i>CS/P</i> series polyester junction boxes .....                                         | D.4  |
| <i>CTBEW</i> series stainless steel junction boxes .....                                  | D.6  |
| <i>TEV</i> series watertight cable glands for non-armoured cables .....                   | D.8  |
| <i>TEV</i> series watertight cable glands for non-armoured cables from 2 1/2" to 4" ..... | D.10 |
| <i>TEVL</i> series watertight cable glands for non-armoured cables .....                  | D.12 |
| <i>TEVD</i> series watertight cable glands for armoured cables .....                      | D.14 |
| <i>TEVDL</i> series cable glands for armoured cable <i>special version</i> .....          | D.16 |

|                |     |
|----------------|-----|
| Appendix ..... | E.1 |
|----------------|-----|

# PRODUCT



# INTRODUCTION

## FROM CABLE GLANDS TO ELECTRICAL FITTINGS **FOR ELECTRICAL PLANTS**

1

Elfit S.p.a.:  
the value of  
experience



**Fig.1e 2** Elfit's plant at the beginning of 80's

**D**uring the '70s, Elfit company was established in order to carry out some strategic internal processes of Cortem and to provide the market with complementary lighting products, such as electrical equipment, cable glands and junction boxes. Thanks to its reliability and the service offered, it becomes an important player of Oil&Gas field with a highly qualified brand, both in Italy and internationally. Due to a continuous improvement of technology and investments, Elfit is specialized in foundry, mechanical workshop and in the manufacturing of explosion and weather proof cable glands, junction boxes and electrical fitting.







Today Elfit, along with Cortem and Fondisonzo brands, forms **Cortem Group**, one of the main leader of Oil&Gas for the explosion-proof field. The peculiarity of Cortem Group is the experience gained in almost 50 years of activity in the Ex field which results not only in the supply of simple Ex-products, but also in customized solutions.

Cortem Group's products are available in different executions, "Ex d", "Ex e", "Ex de", "Ex i", "Ex n", and are manufactured using low copper aluminium alloy, stainless steel and plastic materials which ensure strenght and duration over the time.

Their autenticity is guaranteed by the application of an adhesive label with a 3D matrix, an alphanumeric code and a QR code for smartphone readers, that protect the product from fakes. The alphanumeric code can be verified on the [www.cortemgroup.com](http://www.cortemgroup.com) website.



To be sure to be safe.

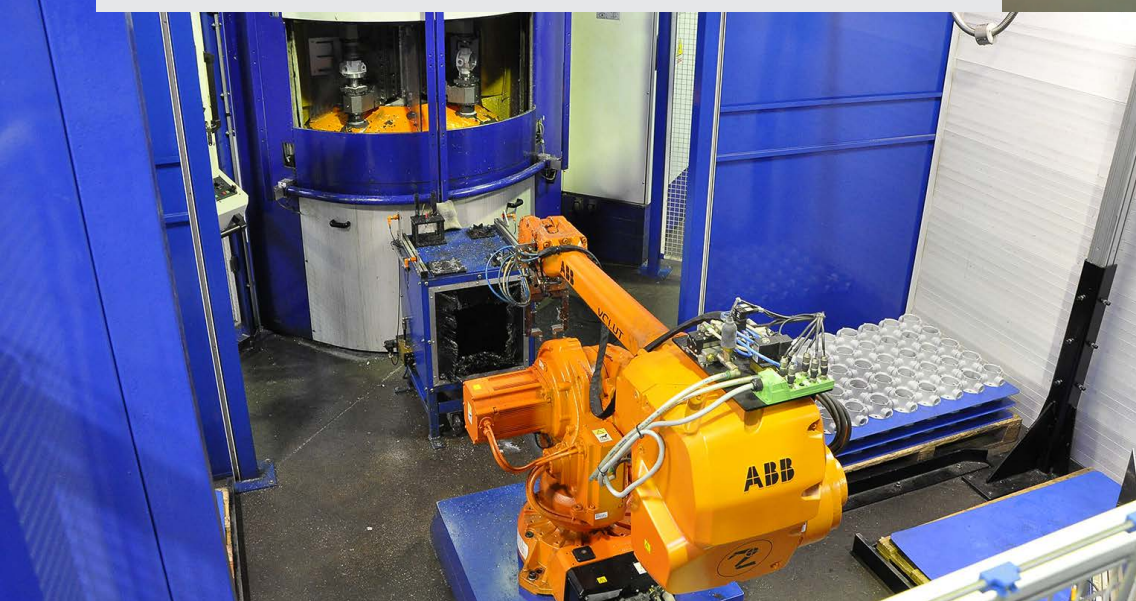


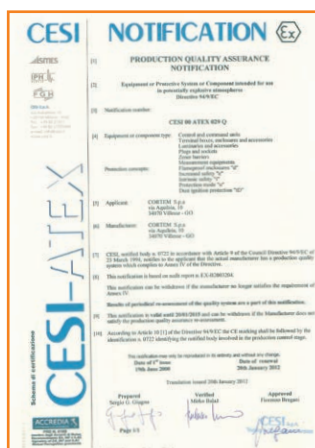
**Fig.3**

Above, Cortem Group's plant today

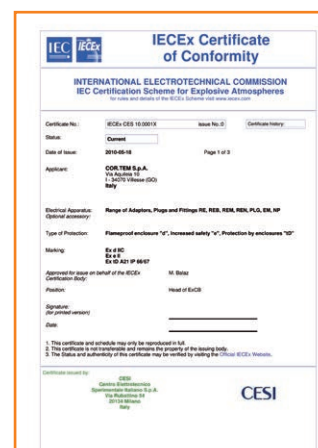
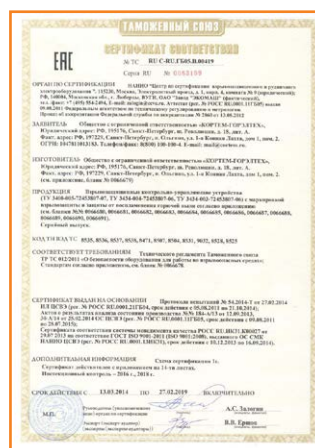
**Fig.4 e 5**

Above and on the left, the modern production technologies of Cortem Group





**Fig.6**  
**Products' certificates**



Cortem Group electrical equipment are certified in accordance with the European standard ATEX, the International regulation IEC Ex, also obtained the regulatory compliance to INMETRO standard for Brazil and TR CU standards for the Customs Union formed by the Republic of Armenia, the Republic of Belarus, the Republic of Kazakhstan, the Kyrgyz Republic and the Russian Federation. Respecting these strict international construction rules, guarantees the safety of people and environment.

Cortem Group manufactures its products using modern processes, plants and qualified personnel. The quality management system conforms to UNI EN ISO 9001:2008 standard.

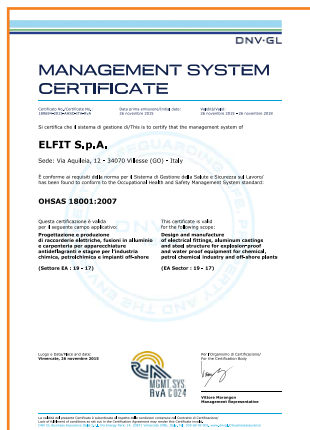
Furthermore, Cortem Group has developed an Occupational Safety and Health Management System certified according to OHSAS 18001:2007 Standard.

The Elfit production included in this catalogue can be summarized in the following macro-categories:

1. Ex-proof cable glands with compression ring and barrier cable glands for armoured and non-armoured cable; plastic cable glands for non-armoured cables.
2. Electrical fittings: three pieces unions, adaptors, closing plugs, available with different threads and methods of protection, 90°elbows, open elbows, couplings, sealing fittings and pulling fittings, rigid and flexible conduits.
3. Ex-proof junction boxes and pulling boxes.
4. Weather-proof pulling boxes and cable glands.



**Fig.7**  
**Management system certificates**





If we go back in time to the end of the first half of the last century, electrical systems suitable for hazardous areas were mainly realized in conduit "Freez moon" type and the ending on the input/output of flameproof enclosures were realized with sealing fittings next to the boxes (the old standard CEI 64-2 said that sealing fittings had to be positioned at a maximum distance of 450mm and only one joint was allowed between two enclosures with a distance not higher than 900mm).

This technique, still required today for some particular cases, except that distances have to be in compliance with the current standard EN 60079-1, had the disadvantage of having to cut the cable in case of reinstatement, with economical increases due to the impossibility to recover the cable because it is sealed into the sealing fitting.

The coming of cable gland has radically changed the plant approach, firstly simplifying the installation (image the difficult to align input/output conduits with entry/exit from junction boxes) and then giving the possibility to recover the cable in case of reinstatement.

Since the beginning of its activity, Elfit has been realizing products in compliance to current standards and in order to be used with a wide range of cables both armoured and non-armoured.

The cables usually used in on-shore and off-shore plants are divided in:

- non-armoured cables in PVC, for fixed sediment, with insulation class 0,6/1kV;
- insulated cables with wireframe ethylene propylene (EPR) or (XLPE), insulation class 0,6/1kV;
- armoured steel wire (SWA) or armoured aluminium wire (AWA).

In a first production phase, cable glands were realized with a sealing rings kit due to manufacturing characteristic of these cables with different diameters that change from manufacturer to manufacturer.

Anyway, this solution caused a waste of spare materials because the exact diameters of cables are not usually available during the design phase.

To avoid the unused and the consequent waste of sealing rings, Elfit focuses its research activity towards the optimization of those gaskets.

The new REV, REVD series cable glands has introduced an innovative solution considering only one sealing ring suitable to the variables of cables size, both armoured and non-armoured. Moreover, it provides only one opening key that simplifies the assembly.

This new series has successfully got the product certification by international

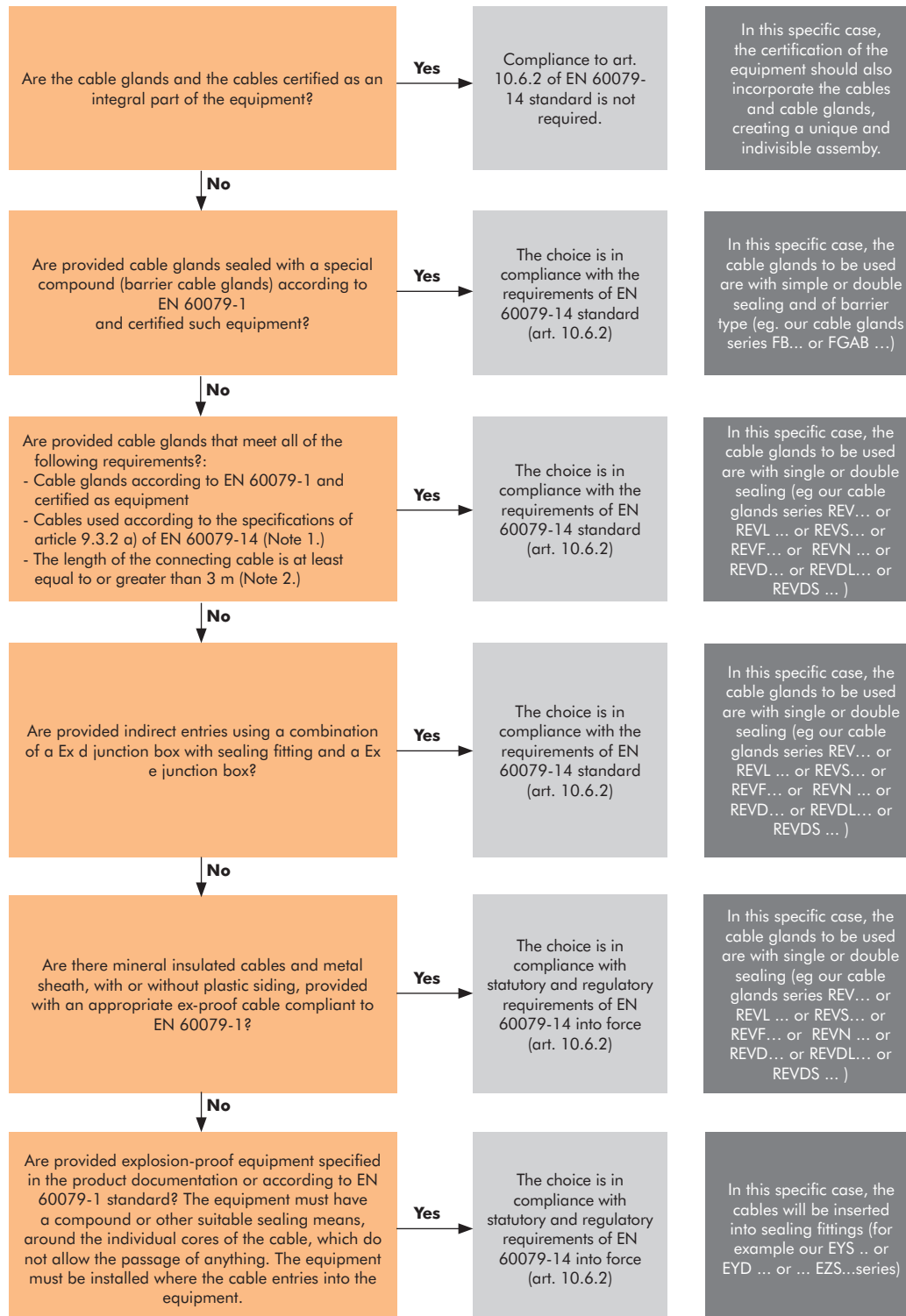
licensed authority.

Current standards relevant to products suitable to be installed in hazardous areas have settled a method to carry out plants that simplifies mounting and maintenance operations, always respecting what is defined by the standards.

### **2.1 THE SELECTION OF CABLE ENTRY SYSTEMS IN EXPLOSION-PROOF JUNCTION BOXES**

The selection of the cable entry in explosion-proof junction boxes must comply with the requirements of EN 60079-14 standard and in particular:

- Cables with sheaths with low tensile strength, known as "easy tear", must not be used in areas with risk of explosion if not installed in protective conduit. Thermoplastic wire of the type in polyvinyl chloride (PVC) with a tensile strength of 2.5 N / mm<sup>2</sup>; in polyethylene with a tensile strength of 15.0 N / mm<sup>2</sup> and cables in elastomeric polychloroprene or chlorosulfonated or polyethylene or similar polymers with a tensile strength of 15.0 N / mm<sup>2</sup>, are commonly classified as "easy tear".
- The cables for fixed installations must be suitable to the environmental conditions and must be sheathed in thermoplastic, thermosetting or elastomeric material and mineral insulated metal sheathed.
- When there is the possibility of gas or vapour transfer through the interstices between the conductors of a cable, to a non-hazardous area or to a different hazardous area, the construction and the use of the cable must be designed so that to avoid the flame propagation (See Note 2 in Figure 6).
- When it is not applicable as described in paragraph above, must be used mineral insulated cables, with sealing, for example our barrier cable glands series FGAB ...
- The cable glands must be properly selected depending on the specific cable diameter. It is not allowed the use of sealing tapes, thermo-tightening sheath or other materials such as fillers for the achievement of the sealing diameter on the cable gland.
- The choice of the cable glands must comply with the provisions of Section 10.6.2 of EN 60079-14 which are summarized in the flow, in Figure 8.



**FIG.8** Flow chart for the correct selection of the cable entry in Ex d junction boxes

- Note 1. With a sheath in thermoplastic, thermosetting or elastomeric material. They must be circular and compact. Any padding or sheath must be extruded. Any fillers must be non-hygroscopic.
- Note 2. The minimum cable length is defined in order to limit the potential danger due to the transmission of flame through the cable. For the test procedures of restricted breathing of cables (Appendix E, extracted from EN 60079-14), you have to take a piece of cable with a length of 0.5 m and try it once installed in a sealed junction box of 5 liters ( $\pm 0.2$  liters), in conditions of constant temperature. The cable is considered acceptable if the interval of time required to bring down to 0.15 kPa (15 mm of water column) an internal overpressure of 0.3 kPa (30 millimeters of water column) is equal to or greater than 5 s.



## 2.2 A COMPLETE RANGE OF SOLUTIONS FOR OIL&GAS APPLICATIONS

**INDUSTRIAL PLANTS WITH RISK OF EXPLOSION: CABLE GLANDS WITH COMPRESSION RING FOR AMOURED AND NON-ARMOURED CABLE**



**REV, REVD, REVf, REVn SERIES**



For armoured and non-armoured cable, protection method flame-proof "Ex d", increased safety "Ex e", dusts protection "Ex tb", intrinsically safe "Ex i", Zone 1, 21, 2, 22, Gas group IIC, Dusts group IIIC, IP 66/67. They have only one sealing ring that guarantees explosion and IP protection, they are available with male and female threaded hub and in special version to host cables of lower diameter avoiding the use of reducers. They are provided with high-tech and high mechanical performance compression rings and gaskets with high-temperature resistance.

**INDUSTRIAL PLANTS WITH RISK OF EXPLOSION: BARRIER CABLE GLANDS FOR AMOURED AND NON-ARMOURED CABLE**



**FB, FGAB, FBF SERIES**



For armoured and non-armoured cable, protection method explosion-proof "Ex d", increased safety "Ex e", protection against dusts "Ex tb", intrinsically safe "Ex i", Zone 1, 21, 2, 22, Gas group IIC, Dusts group IIIC, IP66/67. Barrier cable glands are supplied with a resin finishing kit composed by resin, spatula for mixing and protective gloves.

# INDUSTRIAL PLANTS WITH RISK OF EXPLOSION: CABLE GLANDS FOR NON-ARMOURED CABLES IN HIGH RESISTANCE POLYAMIDE



**UNI, UNP SERIES**



For non-armoured cables, protection method increased safety "Ex e", "Ex tb" for dusts, "Ex i" intrinsically safe, Zone 1, 21, 2, 22, Gas group IIC, Dusts group IIIC, IP66/68, ISO and PG threads. Cable glands are easy to install, impact resistant until 7J and guarantee Ex and IP protection on to the external sheath of the cable.

# WEATHER PROOF SERIES FOR INDUSTRIAL AND NAVAL APPLICATION, ENERGY PRODUCTION PLANTS, MOTORS, BOARD MACHINERY



**TEV, TEVD SERIES**



For armoured and non-armoured cable, IP66/67. They have only one sealing ring that guarantees watertight sealing. They are provided with high-tech and high mechanical performance compression rings and gaskets with high-temperature resistance.

### 2.3 THE MARKING OF CABLE GLANDS USING ADHESIVE TRANSPARENT LABELS

During the design of the new range of REV and REVD series cable glands, has been introduced the adhesive label as the most appropriate solution to report clearly and easily readable all the necessary information about marking.

The sticker, provided by the technical standard CEI EN 50262 relevant to cable glands, exceed very well all the tests we have carried out in the laboratory: aging cycles, resistance to heat and cold, damp heat environment testing, testing with water jets IP X6 and dipping IP X7, salt spray corrosion. The quality of the stickers, specially designed for use in harsh areas, it is also proven by years of use in the field on a variety of other Elfit and Cortem products as lighting fixtures, junction boxes, panels, sockets and plugs and command and signaling devices such as buttons, switches or emergency push buttons usually installed in a wide variety of climatic environments.

The material used for our stickers, produced by a company leader in the sector, it's a transparent polyester which can be used in a range of extreme temperatures (-60° C to +150° C). It's UV-, moisture- and chemicals-

resistant, it adheres to hard surfaces, although greasy, and it's applicable even on textured or curved surfaces.

The marking is carefully made by our production departments by thermal transfer printing. This technique, compared with the drum or laser marking, ensures that the markings remain indelible forever.

The stickers are equipped with a special anti-tampering system realized by the addition of a series of micro cuts which ensure that, in case of a tampering attempt, the sticker does not remain intact and it's not, therefore, applicable to another component. The sticker has been adopted for the marking of FB, FGAB, FBF series barrier cable glands too.





## 2.4 CABLE INSTALLATION AND CONDUIT INSTALLATION

It is important to check the match system between different enclosures that, contrary to industrial equipment (concerning standards EN 61439), requires to install specific sealed fittings between two junction boxes, so as to avoid the spread of a possible explosion that could accidentally occur in one of those enclosures.

As it is shown in the images sequence below reported, the lack of sealed fittings causes not only the passage of the explosion to the next enclosure, but it even generates an increase of the pressure originated from that explosion, with a consequent greater risk of damages to people.

The standard EN 60079-1, section 13.2.2, says "The distance from the face of the seal closest to the enclosure (or intended end-use enclosure), and



the outside wall of the enclosure (or intended end-use enclosure) shall be as small as practical, but in no case more than the size of the conduit or 50 mm, whichever is the lesser", so the sealed fitting should be installed next to the junction box, to give the right functional warranty, as specified on section 10.5 of Standard EN 60079-14 which says "A conduit sealing device is considered as fitted immediately at the entry of the flameproof enclosure when the device is fixed to the enclosure either directly or through an accessory necessary for coupling according to the manufacturer's instructions".

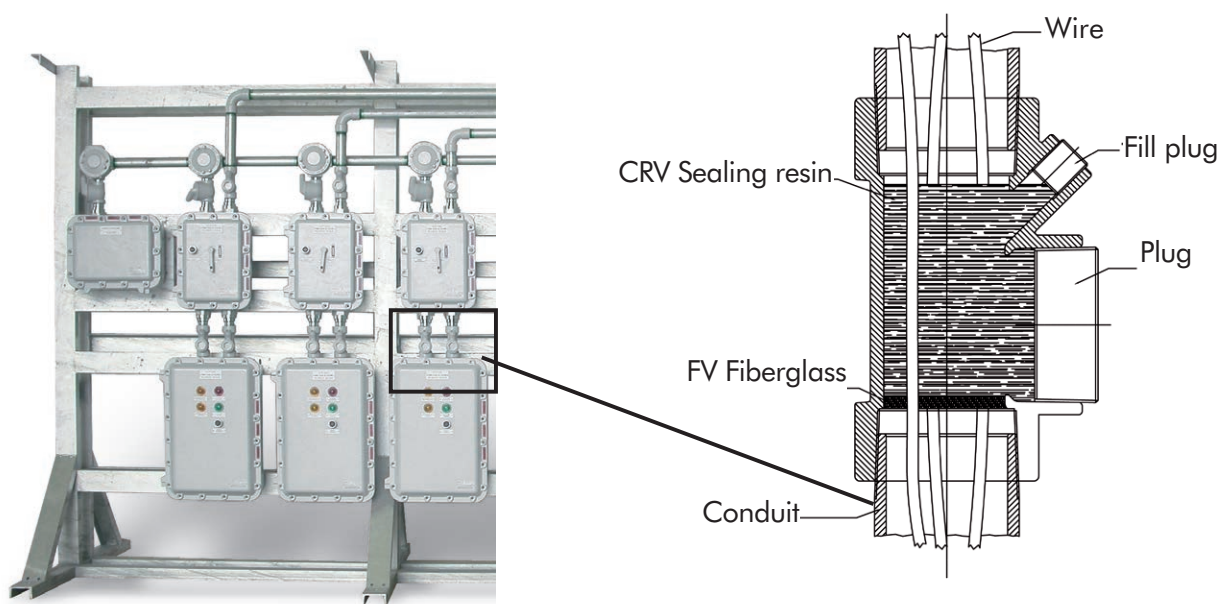
In the conduit installation, the electric cables run in a system of rigid conduits and enter explosion-proof boxes by means of sealed fittings. This avoids possible explosions to expand and spread inside the housings (Fig. 9). The outlet of every "Ex d" box features a sealed fitting which prevents explosions from spreading to other sections, delimits the volume of the "Ex d" electrical construction to a value close to that for which it has been proven, and separates the conduit installation from a possible part made with external cables.

In conduit installations, wires pass inside a threaded conduit "free moon" and though a sealed fitting; these sealed fitting must be filled with the right mixture of bi-component resin. This method effectively protects cables against mechanical and chemical damage. One disadvantage is that it is difficult to change the wiring later on.

On Fig. 9 there is an example of cable installation with mounting of sealing joints.

Cable installation, with use of specific cable glands, can be realized both with direct and indirect entry.

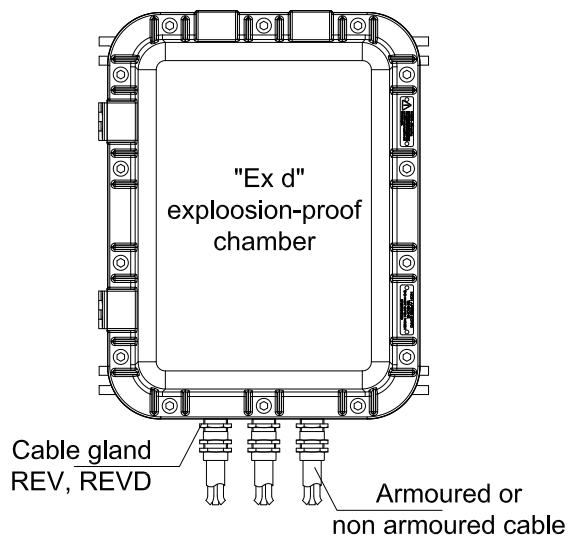
**FIG.9** Example conduit installation. Between the enclosures, EYS series sealing fittings are visible



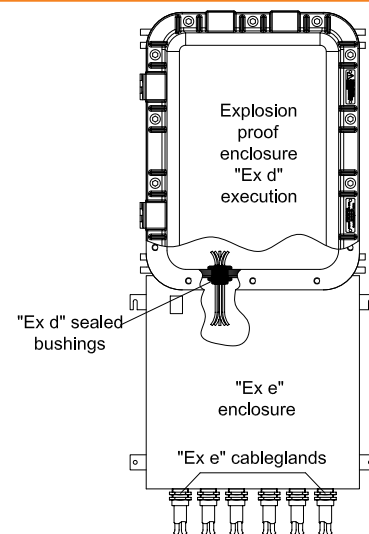
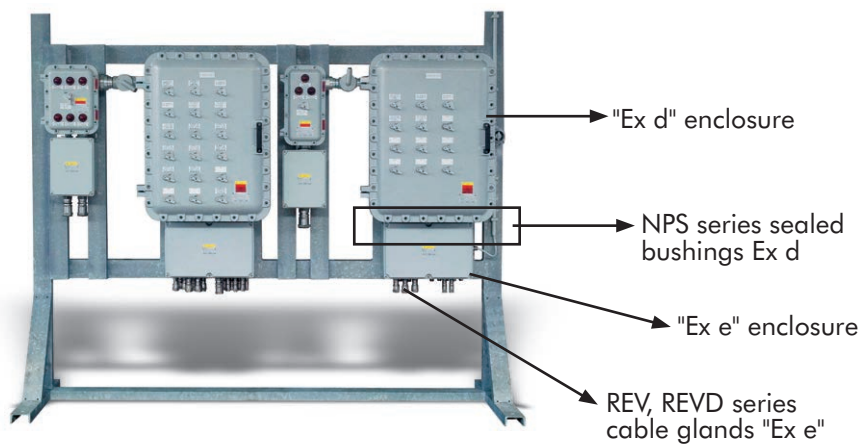
In the cable installation with direct entry, (Fig. 10) cable glands are restricted directly on one or more sides of the "Ex d" enclosure and, thanks to their peculiarity, they realize the same segregation degree of the sealed fitting with the advantage of being inspect (possible cable replacement).

In the cable installation with indirect entry, (Fig. 11) cable glands are increased safety "Ex e" type and tested on one or more sides of the enclosure in "Ex e" execution. By means of sealed bushings, the "Ex e" box is connected to the "Ex d" box.

**FIG.10** Example of directly cable entry



**FIG.11** Example of indirect cable entry





3.

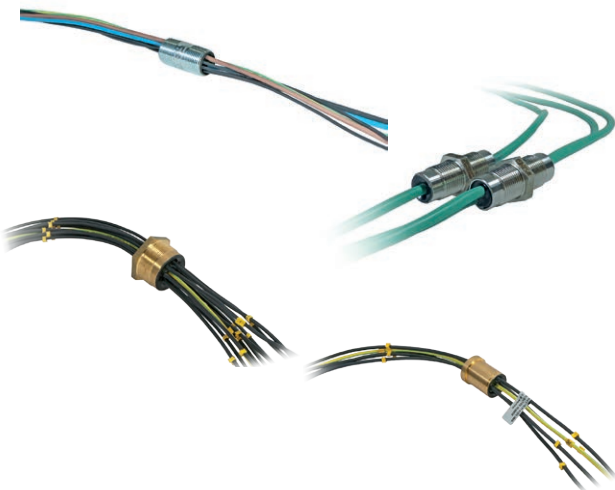
## Electrical fittings, explosion proof and weather proof junction and pulling boxes

Considering the difficulty for designers to forecast the development of a plant since the first phases of its project and until the conclusion of the engineering, there are devices specifically thought to simplify the designer's job.

Elfit offers a wide range of electrical fittings which enables the realization of a complete electrical plant: three pieces unions, adaptors, closing plugs available in different threads and executions, 90° elbows, open elbows, couplings, sealing and pulling fittings, rigid and flexible conduits.



Moreover, Elfit manufactures explosion proof and weather proof junction boxes. The ex-proof junction boxes are available in different models, size and threads and can be used for the pulling or also for the junction of conductors. Weather proof junction boxes in aluminium, stainless steel and polyester can contain electrical and electronic instruments and be installed in any industrial environment.



4.

## Elfit foundry: Aluminium customized die-casting items



**FIG.12 e 13**

The working process of  
aluminium in Elfit foundry

**E**lfit foundry is able to realize aluminium customized die-casting items using primary and secondary alloys in various fields: electro-mechanical, hydraulic, transports, food, lighting and furniture. The service includes the feasibility study of product, die making with filling simulation package and the production of particular customized solutions.







# Cable glands





REV series cable glands are suitable for use in hazardous areas with danger of explosion to enable direct insertion of non-armoured cables into explosion-proof junction boxes, lighting fixtures, plugs and sockets, etc... They are provided with one sealing ring which tightens the incoming cable ensuring the 'Ex d' way of protection and the IP 66/67. Designed with a single opening key, they are less bulky and easier to install. Thanks to their structure, they are particularly suitable both in harsh application, such as marine one, and places subjected to stress and mechanical shock as it often happens in all those places of the "heavy" industry where safety is a top priority. REV series cable glands has three types of protection 'Ex d', 'Ex e' and 'Ex tb'.


**Classification:**  
 2014/34/UE

**Group II**
**Category 2GD**
**Installation:**  
 EN 60079-14

**zone 1 - zone 2 (Gas)**
**zone 21 - zone 22 (Dusts)**
**Marking:**
**CE 0722 Ex II 2 GD - Ex d IIC Gb Ex tb IIIC Db - IP66/67**
**Certification:**
**ATEX CESI 13 ATEX 019 X**
**IECEx IECEx CES 13.0005X**

 All IEC Ex and TR CU  
 certification data can be  
 downloaded at  
[www.cortemgroup.com](http://www.cortemgroup.com)
**TR CU AVAILABLE**
**Standards:**

 CENELEC EN 60079-0: 2012, EN 60079-1: 2007,  
 EN 60079-7: 2007, EN 60079-31: 2009 and European  
 Directive 2014/34/UE  
 IEC60079-0: 2011, IEC60079-1: 2007-04,  
 IEC60079-31: 2008, IEC 60079-7: 2006-07  
 Directive RoHS 2002/95/CE

 **Class temperature:**
**-40°C +110°C**
**Degree of protection:**
**IP66/67**

 Certificates are available on [www.cortemgroup.com](http://www.cortemgroup.com)

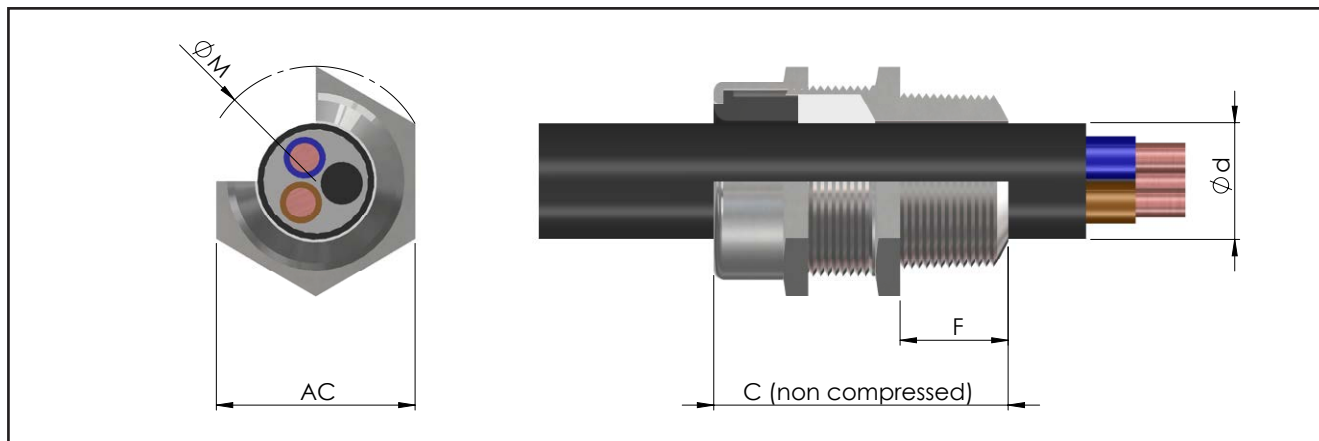
Interactive Point


[REV assembly instructions video](#)

### Accessories upon request

| Locknut                                                                             | ISO thread        | Nichel-plated brass | Galvanized steel | Stainless steel                                                                      | Shrouds black PVC made                                                                | Code                                                                                  |
|-------------------------------------------------------------------------------------|-------------------|---------------------|------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|  | M16x1,5           | <b>DL01IB</b>       | <b>DL01IG</b>    | <b>DL01IS</b>                                                                        |  | <b>PGA1F</b>                                                                          |
|                                                                                     | M20x1,5           | <b>DL11IB</b>       | <b>DL11IG</b>    | <b>DL11IS</b>                                                                        |                                                                                       | <b>PGA1F</b>                                                                          |
|                                                                                     | M25x1,5           | <b>DL21IB</b>       | <b>DL21IG</b>    | <b>DL21IS</b>                                                                        |                                                                                       | <b>PGA2R</b>                                                                          |
|                                                                                     | M32x1,5           | <b>DL31IB</b>       | <b>DL31IG</b>    | <b>DL31IS</b>                                                                        |                                                                                       | <b>PGA3</b>                                                                           |
|                                                                                     | M40x1,5           | <b>DL41IB</b>       | <b>DL41IG</b>    | <b>DL41IS</b>                                                                        |                                                                                       | <b>PGA4</b>                                                                           |
|                                                                                     | M50x1,5           | <b>DL51IB</b>       | <b>DL51IG</b>    | <b>DL51IS</b>                                                                        |                                                                                       | <b>PGA5</b>                                                                           |
|                                                                                     | M63x1,5           | <b>DL61IB</b>       | <b>DL61IG</b>    | <b>DL61IS</b>                                                                        |                                                                                       | <b>PGA6R</b>                                                                          |
| Nichel-plated brass earthing rings                                                  | For ISO threading | Nichel-plated brass | Stainless steel  | Stainless steel idented washers *                                                    | Code                                                                                  | Adaptors and reducers RE... series                                                    |
|  | M16x1,5           | <b>A0131B</b>       | <b>A0131S</b>    |  | <b>RD101S/A4</b>                                                                      |  |
|                                                                                     | M20x1,5           | <b>A1311B</b>       | <b>A1311S</b>    |                                                                                      | <b>RD11S/A4</b>                                                                       |                                                                                       |
|                                                                                     | M25x1,5           | <b>A2312B</b>       | <b>A2312S</b>    |                                                                                      | <b>RD12S/A4</b>                                                                       |                                                                                       |
|                                                                                     | M32x1,5           | <b>A3313B</b>       | <b>A3313S</b>    |                                                                                      | <b>RD13S/A4</b>                                                                       |                                                                                       |
|                                                                                     | M40x1,5           | <b>A4314B</b>       | <b>A4314S</b>    |                                                                                      | <b>RD14S/A4</b>                                                                       |                                                                                       |
|                                                                                     | M50x1,5           | <b>A5315B</b>       | <b>A5315S</b>    |                                                                                      | <b>RD15S/A4</b>                                                                       |                                                                                       |
|                                                                                     | M63x1,5           | <b>A6316B</b>       | <b>A6316S</b>    |                                                                                      | <b>RD16S/A4</b>                                                                       |                                                                                       |

\* For different threads contact the sales office.



**CABLE GLANDS SELECTION TABLE**

| Code<br>Nichel-plated<br>brass | Thread        | Dimensions in mm |    |    |      | Range                      | Weight |
|--------------------------------|---------------|------------------|----|----|------|----------------------------|--------|
|                                |               | AC               | ØM | F  | C    | Ød min-max<br>Under armour | Kg     |
| REV01B                         | 3/8" ISO7/1   | 24               | 28 | 15 | 44   | 5 - 10                     | 0,062  |
| REVL1B                         | 1/2" ISO7/1   | 24               | 28 | 18 | 47   | 5 - 10                     | 0,079  |
| REV1B                          | 1/2" ISO7/1   | 24               | 28 | 18 | 47   | 7 - 12                     | 0,070  |
| REV2B                          | 3/4" ISO7/1   | 32               | 37 | 18 | 48,5 | 12 - 18                    | 0,104  |
| REV3B                          | 1" ISO7/1     | 40               | 47 | 22 | 59,5 | 18 - 24                    | 0,172  |
| REV4B                          | 1 1/4" ISO7/1 | 48               | 56 | 22 | 60   | 24 - 30                    | 0,252  |
| REV5B                          | 1 1/2" ISO7/1 | 53               | 62 | 24 | 64   | 30 - 35                    | 0,316  |
| REV6B                          | 2" ISO7/1     | 63               | 73 | 24 | 64   | 35 - 45                    | 0,424  |
| REV01NB                        | 3/8" NPT      | 24               | 28 | 16 | 45   | 5 - 10                     | 0,062  |
| REVL1NB                        | 1/2" NPT      | 24               | 28 | 20 | 49   | 5 - 10                     | 0,079  |
| REV1NB                         | 1/2" NPT      | 24               | 28 | 20 | 49   | 7 - 12                     | 0,070  |
| REV2NB                         | 3/4" NPT      | 32               | 37 | 20 | 50,5 | 12 - 18                    | 0,104  |
| REV3NB                         | 1" NPT        | 40               | 47 | 26 | 63,5 | 18 - 24                    | 0,172  |
| REV4NB                         | 1 1/4" NPT    | 48               | 56 | 26 | 64   | 24 - 30                    | 0,252  |
| REV5NB                         | 1 1/2" NPT    | 53               | 62 | 26 | 66   | 30 - 35                    | 0,316  |
| REV6NB                         | 2" NPT        | 63               | 73 | 27 | 67   | 35 - 45                    | 0,424  |
| REV01IB                        | M16x1,5       | 24               | 28 | 16 | 45   | 5 - 10                     | 0,062  |
| REVL1IB                        | M20x1,5       | 24               | 28 | 16 | 45   | 5 - 10                     | 0,079  |
| REV1IB                         | M20x1,5       | 24               | 28 | 16 | 45   | 7 - 12                     | 0,070  |
| REV2IB                         | M25x1,5       | 32               | 37 | 16 | 46,5 | 12 - 18                    | 0,104  |
| REV3IB                         | M32x1,5       | 40               | 47 | 16 | 53,5 | 18 - 24                    | 0,172  |
| REV4IB                         | M40x1,5       | 48               | 56 | 16 | 54   | 24 - 30                    | 0,252  |
| REV5IB                         | M50x1,5       | 53               | 62 | 16 | 56   | 30 - 35                    | 0,316  |
| REV6IB                         | M63x1,5       | 63/65            | 73 | 18 | 58   | 35 - 45                    | 0,424  |

### Example of Order Code

|            |          |          |          |
|------------|----------|----------|----------|
| <b>REV</b> | <b>6</b> | <b>I</b> | <b>B</b> |
| MODEL      | SIZE     | THREAD   | MATERIAL |

### TECHNICAL NOTES:

- The silicone o-ring for the IP protection for cylindrical threads (ISO metric) is supplied already assembled on cable gland
- Available also in stainless steel (example code REV1S)
- Available also in galvanized steel (example code REV1G)
- For "Ex i" intrinsically safe marking, blu nut RAL 5015 (example code REV1SIA)



REVL series cable glands are suitable for use in hazardous areas with danger of explosion to enable direct insertion of non-armoured cables into explosion-proof junction boxes, lighting fixtures, plugs and sockets, etc... This series can accommodate smaller cable diameters than the standard required for each measure. In this way, the use of reducers is avoid. They are provided with one sealing ring which tightens the incoming cable ensuring the 'Ex d' way of protection and the IP 66/67.


**Classification:**  
 2014/34/UE

**Group II**
**Category 2GD**
**Installation:**  
 EN 60079.14

**zone 1 - zone 2 (Gas)**
**zone 21 - zone 22 (Dust)**
**Marking:**
**CE 0722 Ex II 2 GD - Ex d IIC Gb Ex tb IIIC Db - IP66/67**
**Certification:**
**ATEX CESI 13 ATEX 019 X**
**IECEx IECEx CES 13.0005X**

 All IEC Ex and TR CU  
 certification data can be  
 downloaded at  
[www.cortemgroup.com](http://www.cortemgroup.com)
**TR CU AVAILABLE**
**Standards:**

 CENELEC EN 60079-0: 2012, EN 60079-1: 2007,  
 EN 60079-7: 2007, EN 60079-31: 2009 and European  
 Directive 2014/34/UE  
 IEC60079-0: 2011, IEC60079-1: 2007-04,  
 IEC60079-31: 2008, IEC 60079-7: 2006-07  
 Directive RoHS 2002/95/CE

 **Class temperature:**
**-40°C +110°C**
**Degree of protection:**
**IP66/67**

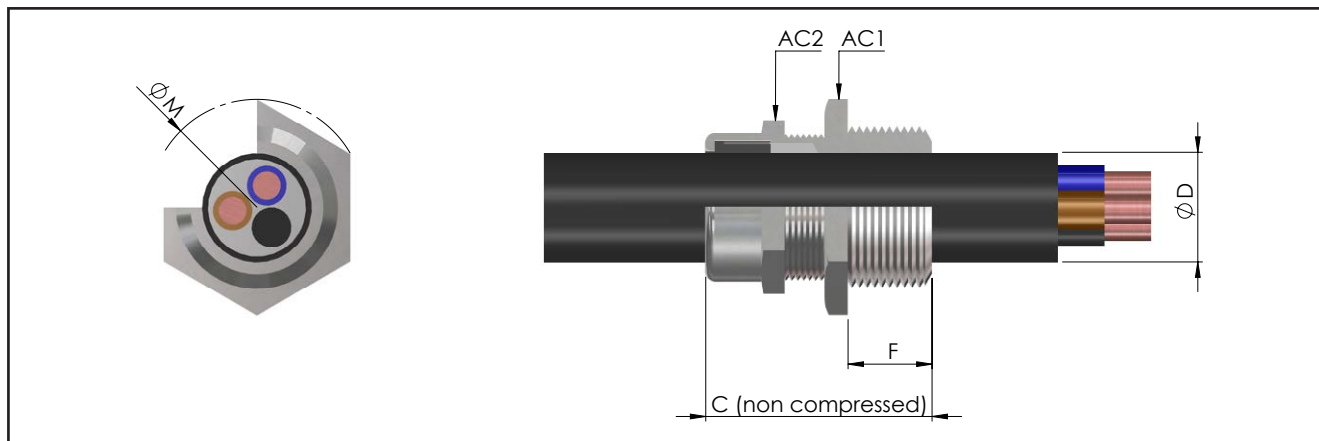
Interactive Point


[REV assembly instructions video](#)

 Certificates are available on [www.cortemgroup.com](http://www.cortemgroup.com)
**Accessories upon request**

| Locknut                                                                             | ISO thread        | Nichel-plated brass | Galvanized steel | Stainless steel                                                                      | Shrouds black PVC made                                                                | Code                                                                                  |
|-------------------------------------------------------------------------------------|-------------------|---------------------|------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|  | M20x1,5           | <b>DL1IB</b>        | <b>DL1IG</b>     | <b>DL1IS</b>                                                                         |  | <b>PGA1F</b>                                                                          |
|                                                                                     | M25x1,5           | <b>DL2IB</b>        | <b>DL2IG</b>     | <b>DL2IS</b>                                                                         |                                                                                       | <b>PGA1F</b>                                                                          |
|                                                                                     | M32x1,5           | <b>DL3IB</b>        | <b>DL3IG</b>     | <b>DL3IS</b>                                                                         |                                                                                       | <b>PGA2R</b>                                                                          |
|                                                                                     | M40x1,5           | <b>DL4IB</b>        | <b>DL4IG</b>     | <b>DL4IS</b>                                                                         |                                                                                       | <b>PGA3</b>                                                                           |
|                                                                                     | M50x1,5           | <b>DL5IB</b>        | <b>DL5IG</b>     | <b>DL5IS</b>                                                                         |                                                                                       | <b>PGA4</b>                                                                           |
|                                                                                     | M63x1,5           | <b>DL6IB</b>        | <b>DL6IG</b>     | <b>DL6IS</b>                                                                         |                                                                                       | <b>PGA5</b>                                                                           |
| Nichel-plated brass earthing rings *                                                | For ISO threading | Nichel-plated brass | Stainless steel  | Stainless steel idented washers *                                                    | Code                                                                                  | Adaptors and reducers RE... series                                                    |
|  | M20x1,5           | <b>A1311IB</b>      | <b>A1311IS</b>   |  | <b>RD11IS/A4</b>                                                                      |  |
|                                                                                     | M25x1,5           | <b>A2312IB</b>      | <b>A2312IS</b>   |                                                                                      | <b>RD12IS/A4</b>                                                                      |                                                                                       |
|                                                                                     | M32x1,5           | <b>A3313IB</b>      | <b>A3313IS</b>   |                                                                                      | <b>RD13IS/A4</b>                                                                      |                                                                                       |
|                                                                                     | M40x1,5           | <b>A4314IB</b>      | <b>A4314IS</b>   |                                                                                      | <b>RD14IS/A4</b>                                                                      |                                                                                       |
|                                                                                     | M50x1,5           | <b>A5315IB</b>      | <b>A5315IS</b>   |                                                                                      | <b>RD15IS/A4</b>                                                                      |                                                                                       |
|                                                                                     | M63x1,5           | <b>A6315IB</b>      | <b>A6315IS</b>   |                                                                                      | <b>RD16IS/A4</b>                                                                      |                                                                                       |

\* For different threads contact the sales office.



**CABLE GLANDS SELECTION TABLE**

| Code<br>Nichel-plated<br>brass | Thread        | Dimensions in mm |     |    |    |      | Range                      | Weight |
|--------------------------------|---------------|------------------|-----|----|----|------|----------------------------|--------|
|                                |               | AC1              | AC2 | ØM | F  | C    | Ød min-max<br>Under armour | Kg     |
| REVL1B                         | 1/2" ISO7/1   | 24               | 24  | 28 | 18 | 47   | 5 - 10                     | 0,079  |
| REVL2B                         | 3/4" ISO7/1   | 32               | 24  | 37 | 18 | 47   | 7 - 12                     | 0,116  |
| REVL3B                         | 1" ISO7/1     | 40               | 32  | 47 | 22 | 52,5 | 12 - 18                    | 0,184  |
| REVL4B                         | 1 1/4" ISO7/1 | 48               | 40  | 56 | 22 | 59,5 | 18 - 24                    | 0,310  |
| REVL5B                         | 1 1/2" ISO7/1 | 53               | 48  | 62 | 24 | 62   | 24 - 30                    | 0,387  |
| REVL6B                         | 2" ISO7/1     | 63               | 53  | 73 | 24 | 64   | 30 - 35                    | 0,420  |
| REVL1NB                        | 1/2" NPT      | 24               | 24  | 28 | 20 | 48   | 5 - 10                     | 0,079  |
| REVL2NB                        | 3/4" NPT      | 32               | 24  | 37 | 20 | 49   | 7 - 12                     | 0,116  |
| REVL3NB                        | 1" NPT        | 40               | 32  | 47 | 26 | 56,5 | 12 - 18                    | 0,184  |
| REVL4NB                        | 1 1/4" NPT    | 48               | 40  | 56 | 26 | 63,5 | 18 - 24                    | 0,310  |
| REVL5NB                        | 1 1/2" NPT    | 53               | 48  | 62 | 26 | 64   | 24 - 30                    | 0,387  |
| REVL6NB                        | 2" NPT        | 63               | 53  | 73 | 27 | 67   | 30 - 35                    | 0,420  |
| REVL1IB                        | M20x1,5       | 24               | 24  | 28 | 16 | 45   | 5 - 10                     | 0,079  |
| REVL2IB                        | M25x1,5       | 32               | 24  | 37 | 16 | 45   | 7 - 12                     | 0,116  |
| REVL3IB                        | M32x1,5       | 40               | 32  | 47 | 16 | 46,5 | 12 - 18                    | 0,184  |
| REVL4IB                        | M40x1,5       | 48               | 40  | 56 | 16 | 53,5 | 18 - 24                    | 0,310  |
| REVL5IB                        | M50x1,5       | 53               | 48  | 62 | 16 | 54   | 24 - 30                    | 0,387  |
| REVL6IB                        | M63x1,5       | 63/65            | 53  | 73 | 18 | 58   | 30 - 35                    | 0,420  |

### Example of Order Code

|             |          |          |          |
|-------------|----------|----------|----------|
| <b>REVL</b> | <b>6</b> | <b>I</b> | <b>B</b> |
| MODEL       | SIZE     | THREAD   | MATERIAL |

### TECHNICAL NOTES:

- The silicone o-ring for the IP protection for cylindrical threads (ISO metric) is supplied already assembled on cable gland
- Available also in stainless steel (example code REVL1S)
- Available also in galvanized steel (example code REVL1G)
- For "Ex i" intrinsically safe marking, blu nut RAL 5015 (example code REVL1SIA)

REV/REVS series cable glands from 2 1/2" to 4" are suitable for use in hazardous areas with danger of explosion to enable direct insertion of non-armoured cables into explosion-proof junction boxes, lighting fixtures, plugs and sockets, etc... They are provided with one sealing ring which tightens the incoming cable ensuring the 'Ex d' way of protection and the IP 66/67.

Thanks to their structure, they are particularly suitable both in harsh application, such as marine one, and places subjected to stress and mechanical shock as it often happens in all those places of the "heavy" industry where safety is a top priority.

REV series cable glands has three types of protection 'Ex d', 'Ex e' and 'Ex tb'.



**Classification:**  
2014/34/UE

**Group II**

**Category 2GD**

**Installation:**  
EN 60079-14

**zone 1 - zone 2 (Gas)**

**zone 21 - zone 22 (Dust)**

**Marking:**

**CE 0722 Ex II 2 GD - Ex d IIC Gb Ex tb IIIC Db - IP66/67**

**Certification:**

**ATEX CESI 13 ATEX 019 X**

**IECEx IECEx CES 13.0005X**

All IEC Ex and TR CU certification data can be downloaded at [www.cortemgroup.com](http://www.cortemgroup.com)

**TR CU AVAILABLE**

**Standards:**

CENELEC EN 60079-0: 2012, EN 60079-1: 2007, EN 60079-7: 2007, EN 60079-31: 2009 and European Directive 2014/34/UE  
IEC60079-0: 2011, IEC60079-1: 2007-04, IEC60079-31: 2008, IEC 60079-7: 2006-07  
Directive RoHS 2002/95/CE

**Class temperature:**

**-40°C +110°C**

**Degree of protection:**

**IP66/67**

Certificates are available on [www.cortemgroup.com](http://www.cortemgroup.com)

**Interactive Point**



[REV assembly instructions video](#)

#### Accessories upon request

| Locknut *                                                                           | ISO thread | Nichel-plated brass | Galvanized steel | Stainless steel | Nichel-plated brass earthing rings *                                                 | Code     | Adaptors and reducers RE... series                                                    |
|-------------------------------------------------------------------------------------|------------|---------------------|------------------|-----------------|--------------------------------------------------------------------------------------|----------|---------------------------------------------------------------------------------------|
|  | M75x1,5    | DL7IB               | DL7IG            | DL7IS           |  | A7317IB  |  |
|                                                                                     | M90x1,5    | DL8IB               | DL8IG            | DL8IS           |                                                                                      | A8318IB  |                                                                                       |
|                                                                                     | M100x1,5   | DL10IB              | DL10IG           | DL10IS          |                                                                                      | A10310IB |                                                                                       |

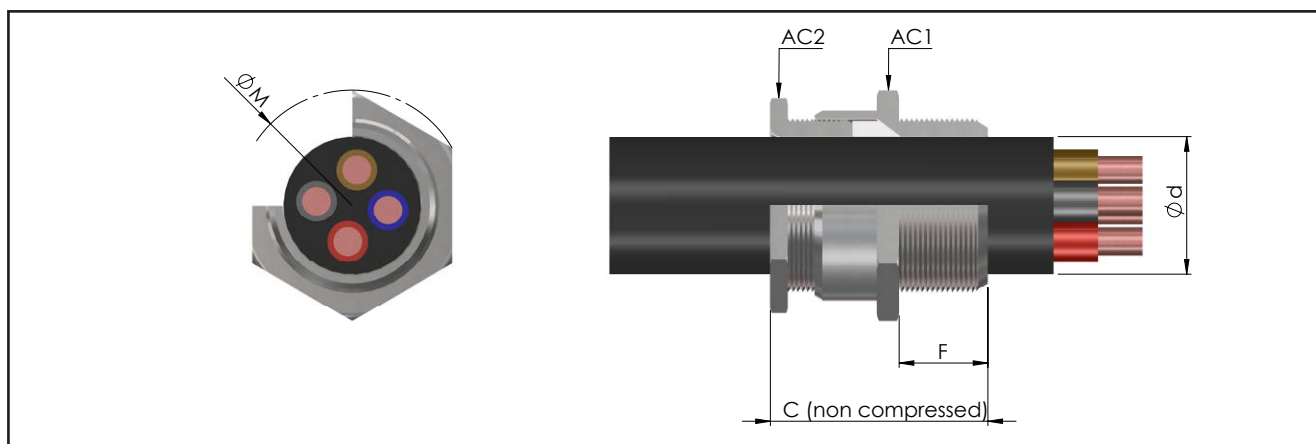
\* For different threads contact the sales office.

#### Note

Shrouds for cable glands upon request.

Idented washer in stainless steel upon request.




**CABLE GLANDS SELECTION TABLE**

| Code<br>Nichel-plated<br>brass | Thread      | Dimensions in mm |     |     |    |       | Range                      | Weight |
|--------------------------------|-------------|------------------|-----|-----|----|-------|----------------------------|--------|
|                                |             | AC1              | AC2 | ØM  | F  | C     | Ød min-max<br>Under armour | Kg     |
| REV7B                          | 2 ½" ISO7/1 | 84               | 73  | 90  | 30 | 100   | 46 - 55                    | 1,492  |
| REVS7B                         | 2 ½" ISO7/1 | 90               | 84  | 100 | 30 | 100   | 55 - 62                    | 1,452  |
| REV8B                          | 3" ISO7/1   | 100              | 94  | 106 | 30 | 100   | 62 - 70                    | 1,944  |
| REVS8B                         | 3" ISO7/1   | 105              | 98  | 110 | 30 | 100   | 70 - 78                    | 1,791  |
| REV9B                          | 3 ½" ISO7/1 | 115              | 105 | 120 | 30 | 101   | 76 - 84                    | 2,356  |
| REVS9B                         | 3 ½" ISO7/1 | 120              | 112 | 125 | 30 | 101   | 84 - 92                    | 2,302  |
| REV10B                         | 4" ISO7/1   | 115              | 105 | 120 | 30 | 101,5 | 76 - 84                    | 3,010  |
| REVS10B                        | 4" ISO7/1   | 120              | 112 | 125 | 30 | 101,5 | 84 - 92                    | 2,457  |
| REV7NB                         | 2 ½" NPT    | 84               | 73  | 90  | 30 | 110   | 46 - 55                    | 1,492  |
| REVS7NB                        | 2 ½" NPT    | 90               | 84  | 100 | 30 | 110   | 55 - 62                    | 1,452  |
| REV8NB                         | 3" NPT      | 100              | 94  | 106 | 30 | 112   | 62 - 70                    | 1,944  |
| REVS8NB                        | 3" NPT      | 105              | 98  | 110 | 30 | 112   | 70 - 78                    | 1,791  |
| REV9NB                         | 3 ½" NPT    | 115              | 105 | 120 | 30 | 114   | 76 - 84                    | 2,356  |
| REVS9NB                        | 3 ½" NPT    | 120              | 112 | 125 | 30 | 114   | 84 - 92                    | 2,302  |
| REV10NB                        | 4" NPT      | 115              | 105 | 120 | 30 | 115,5 | 76 - 84                    | 3,010  |
| REVS10NB                       | 4" NPT      | 120              | 112 | 125 | 30 | 115,5 | 84 - 92                    | 2,457  |
| REV7IB                         | M75x1,5     | 84               | 73  | 90  | 30 | 88    | 46 - 55                    | 1,492  |
| REVS7IB                        | M75x1,5     | 90               | 84  | 100 | 30 | 88    | 55 - 62                    | 1,452  |
| REV8IB                         | M90x1,5     | 100              | 94  | 106 | 30 | 88    | 62 - 70                    | 1,944  |
| REVS8IB                        | M90x1,5     | 105              | 98  | 110 | 30 | 88    | 70 - 78                    | 1,791  |
| REV10IB                        | M100x1,5    | 115              | 105 | 120 | 30 | 89,5  | 76 - 84                    | 3,010  |
| REVS10IB                       | M100x1,5    | 120              | 112 | 125 | 30 | 89,5  | 84 - 92                    | 2,457  |

**Example of Order Code**

|             |          |          |          |
|-------------|----------|----------|----------|
| <b>REVS</b> | <b>7</b> | <b>I</b> | <b>B</b> |
| MODEL       | SIZE     | THREAD   | MATERIAL |

**TECHNICAL NOTES:**

- The silicone o-ring for the IP protection for cylindrical threads (ISO metric) is supplied already assembled on cable gland
- Available also in stainless steel (example code REVS7S)
- Available also in galvanized steel (example code REVS7G)
- For "Ex i" intrinsically safe marking, blu nut RAL 5015 (example code REV8SIA)

REVF series cable glands, with a female threaded entry, are suitable for use in hazardous areas with danger of explosion to enable direct insertion of non-armoured cables into explosion-proof junction boxes, lighting fixtures, plugs and sockets, etc... They are provided with one sealing ring which tightens the incoming cable ensuring the 'Ex d' way of protection and the IP 66/67. Designed with a single opening key, they are less bulky and easier to install.


**Classification:**  
 2014/34/UE

**Group II**
**Category 2GD**
**Installation:**  
 EN 60079-14

**zone 1 - zone 2 (Gas)**
**zone 21 - zone 22 (Dust)**
**Marking:**
**CE 0722 Ex II 2 GD - Ex d IIC Gb Ex tb IIIC Db - IP66/67**
**Certification:**
**ATEX CESI 13 ATEX 019 X**
**IECEx IECEx CES 13.0005X**

 All IEC Ex and TR CU  
 certification data can be  
 downloaded at  
[www.cortemgroup.com](http://www.cortemgroup.com)
**TR CU AVAILABLE**
**Standards:**

 CENELEC EN 60079-0: 2012, EN 60079-1: 2007,  
 EN 60079-7: 2007, EN 60079-31: 2009 and European  
 Directive 2014/34/UE  
 IEC60079-0: 2011, IEC60079-1: 2007-04,  
 IEC60079-31: 2008, IEC 60079-7: 2006-07  
 Directive RoHS 2002/95/CE

 **Class temperature:**
**-40°C +110°C**
**Degree of protection:**
**IP66/67**

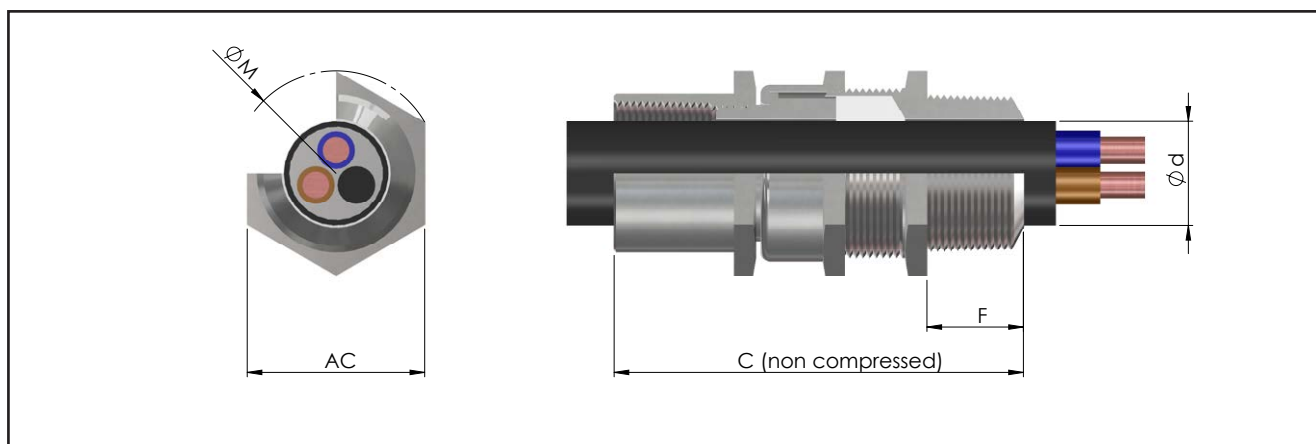
Interactive Point


[REVF assembly instructions video](#)

 Certificates are available on [www.cortemgroup.com](http://www.cortemgroup.com)
**Accessories upon request**

| Locknut                                                                             | ISO thread        | Nichel-plated brass | Galvanized steel | Stainless steel                                                                      | Shrouds black PVC made                                                                | Code                                                                                  |
|-------------------------------------------------------------------------------------|-------------------|---------------------|------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|  | M16x1,5           | <b>DL01IB</b>       | <b>DL01IG</b>    | <b>DL01IS</b>                                                                        |  | <b>PGA1F</b>                                                                          |
|                                                                                     | M20x1,5           | <b>DL1IB</b>        | <b>DL1IG</b>     | <b>DL1IS</b>                                                                         |                                                                                       | <b>PGA1F</b>                                                                          |
|                                                                                     | M25x1,5           | <b>DL2IB</b>        | <b>DL2IG</b>     | <b>DL2IS</b>                                                                         |                                                                                       | <b>PGA2R</b>                                                                          |
|                                                                                     | M32x1,5           | <b>DL3IB</b>        | <b>DL3IG</b>     | <b>DL3IS</b>                                                                         |                                                                                       | <b>PGA3</b>                                                                           |
|                                                                                     | M40x1,5           | <b>DL4IB</b>        | <b>DL4IG</b>     | <b>DL4IS</b>                                                                         |                                                                                       | <b>PGA4</b>                                                                           |
|                                                                                     | M50x1,5           | <b>DL5IB</b>        | <b>DL5IG</b>     | <b>DL5IS</b>                                                                         |                                                                                       | <b>PGA5</b>                                                                           |
|                                                                                     | M63x1,5           | <b>DL6IB</b>        | <b>DL6IG</b>     | <b>DL6IS</b>                                                                         |                                                                                       | <b>PGA6R</b>                                                                          |
| Nichel-plated brass earthing rings *                                                | For ISO threading | Nichel-plated brass | Stainless steel  | Stainless steel idented washers *                                                    | Code                                                                                  | Adaptors and reducers RE... series                                                    |
|  | M16x1,5           | <b>A0131B</b>       | <b>A0131S</b>    |  | <b>RD101S/A4</b>                                                                      |  |
|                                                                                     | M20x1,5           | <b>A1311B</b>       | <b>A1311S</b>    |                                                                                      | <b>RD11S/A4</b>                                                                       |                                                                                       |
|                                                                                     | M25x1,5           | <b>A2312B</b>       | <b>A2312S</b>    |                                                                                      | <b>RD12S/A4</b>                                                                       |                                                                                       |
|                                                                                     | M32x1,5           | <b>A3313B</b>       | <b>A3313S</b>    |                                                                                      | <b>RD13S/A4</b>                                                                       |                                                                                       |
|                                                                                     | M40x1,5           | <b>A4314B</b>       | <b>A4314S</b>    |                                                                                      | <b>RD14S/A4</b>                                                                       |                                                                                       |
|                                                                                     | M50x1,5           | <b>A5315B</b>       | <b>A5315S</b>    |                                                                                      | <b>RD15S/A4</b>                                                                       |                                                                                       |
|                                                                                     | M63x1,5           | <b>A6316B</b>       | <b>A6316S</b>    |                                                                                      | <b>RD16S/A4</b>                                                                       |                                                                                       |

\* For different threads contact the sales office.



**CABLE GLANDS SELECTION TABLE**

| Code<br>Nichel-plated<br>brass | Thread      | Dimensions in mm |    |    |      | Range                      | Weight |
|--------------------------------|-------------|------------------|----|----|------|----------------------------|--------|
|                                |             | AC1              | ØM | F  | C    | Ød min-max<br>Under armour | Kg     |
| REVF01B                        | 3/8" ISO7/1 | 24               | 28 | 15 | 69,5 | 5 - 10                     | 0,116  |
| REVF1B                         | 1/2" ISO7/1 | 24               | 28 | 18 | 75,5 | 7 - 12                     | 0,132  |
| REVF2B                         | 3/4" ISO7/1 | 32               | 37 | 18 | 77   | 12 - 18                    | 0,212  |
| REVF3B                         | 1" ISO7/1   | 40               | 47 | 22 | 92   | 18 - 24                    | 0,330  |
| REVF4B                         | 1 ¼" ISO7/1 | 48               | 56 | 22 | 92,5 | 24 - 30                    | 0,498  |
| REVF5B                         | 1 ½" ISO7/1 | 53               | 62 | 24 | 98,5 | 30 - 35                    | 0,617  |
| REVF6B                         | 2" ISO7/1   | 63               | 73 | 24 | 98,5 | 35 - 45                    | 0,771  |
| REVF01NB                       | 3/8" NPT    | 24               | 28 | 15 | 68,5 | 5 - 10                     | 0,116  |
| REVF1NB                        | 1/2" NPT    | 24               | 28 | 18 | 76,5 | 7 - 12                     | 0,132  |
| REVF2NB                        | 3/4" NPT    | 32               | 37 | 18 | 78   | 12 - 18                    | 0,212  |
| REVF3NB                        | 1" NPT      | 40               | 47 | 22 | 94   | 18 - 24                    | 0,330  |
| REVF4NB                        | 1 ¼" NPT    | 48               | 56 | 22 | 95,5 | 24 - 30                    | 0,498  |
| REVF5NB                        | 1 ½" NPT    | 53               | 62 | 24 | 97,5 | 30 - 35                    | 0,617  |
| REVF6NB                        | 2" NPT      | 63               | 73 | 24 | 98,5 | 35 - 45                    | 0,771  |
| REVF01IB                       | M16x1,5     | 24               | 28 | 15 | 70,5 | 5 - 10                     | 0,116  |
| REVF1IB                        | M20x1,5     | 24               | 28 | 18 | 70,5 | 7 - 12                     | 0,132  |
| REVF2IB                        | M25x1,5     | 32               | 37 | 18 | 72   | 12 - 18                    | 0,212  |
| REVF3IB                        | M32x1,5     | 40               | 47 | 22 | 79   | 18 - 24                    | 0,330  |
| REVF4IB                        | M40x1,5     | 48               | 56 | 22 | 79,5 | 24 - 30                    | 0,498  |
| REVF5IB                        | M50x1,5     | 53               | 62 | 24 | 82,5 | 30 - 35                    | 0,617  |
| REVF6IB                        | M63x1,5     | 63/65            | 73 | 24 | 84,5 | 35 - 45                    | 0,771  |

### Example of Order Code

|             |          |          |          |
|-------------|----------|----------|----------|
| <b>REVF</b> | <b>2</b> | <b>I</b> | <b>B</b> |
| MODEL       | SIZE     | THREAD   | MATERIAL |

### TECHNICAL NOTES:

- The silicone o-ring for the IP protection for cylindrical threads (ISO metric) is supplied already assembled on cable gland
- Available also in stainless steel (example code REV F4S)
- Available also in galvanized steel (example code REV F4G)
- For "Ex i" intrinsically safe marking, blu nut RAL 5015 (example code REV F4SIA)
- It's available upon request a version with mixed thread, of the same equivalence and size (example code for cable gland in nichel-plated brass Male 1" NPT - Female M32x1,5:REV F3NIB)



REVN series cable glands, with a male threaded entry, are suitable for use in hazardous areas with danger of explosion to enable direct insertion of non-armoured cables into explosion-proof junction boxes, lighting fixtures, plugs and sockets, etc... They are provided with one sealing ring which tightens the incoming cable ensuring the 'Ex d' way of protection and the IP 66/67. Designed with a single opening key, they are less bulky and easier to install.



|                                      |                                                                                                                                                                                                                                  |                                 |
|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|
| <b>Classification:</b><br>2014/34/UE | <b>Group II</b>                                                                                                                                                                                                                  | <b>Category 2GD</b>             |
| <b>Installation:</b><br>EN 60079-14  | <b>zone 1 - zone 2 (Gas)</b>                                                                                                                                                                                                     | <b>zone 21 - zone 22 (Dust)</b> |
| <b>Marking:</b>                      | <b>CE 0722 Ex II 2 GD - Ex d IIC Gb Ex tb IIIC Db - IP66/67</b>                                                                                                                                                                  |                                 |
| <b>Certification:</b>                | <b>ATEX</b>                                                                                                                                                                                                                      | <b>CESI 13 ATEX 019 X</b>       |
|                                      | <b>IECEx</b>                                                                                                                                                                                                                     | <b>IECEx CES 13.0005X</b>       |
|                                      | <b>TR CU</b>                                                                                                                                                                                                                     | <b>AVAILABLE</b>                |
| <b>Standards:</b>                    | CENELEC EN 60079-0: 2012, EN 60079-1: 2007, EN 60079-7: 2007, EN 60079-31: 2009 and European Directive 2014/34/UE<br>IEC60079-0: 2011, IEC60079-1: 2007-04, IEC60079-31: 2008, IEC 60079-7: 2006-07<br>Directive RoHS 2002/95/CE |                                 |
| <b>Class temperature:</b>            | <b>-40°C +110°C</b>                                                                                                                                                                                                              |                                 |
| <b>Degree of protection:</b>         | <b>IP66/67</b>                                                                                                                                                                                                                   |                                 |

All IEC Ex and TR CU certification data can be downloaded at [www.cortemgroup.com](http://www.cortemgroup.com)

Interactive Point



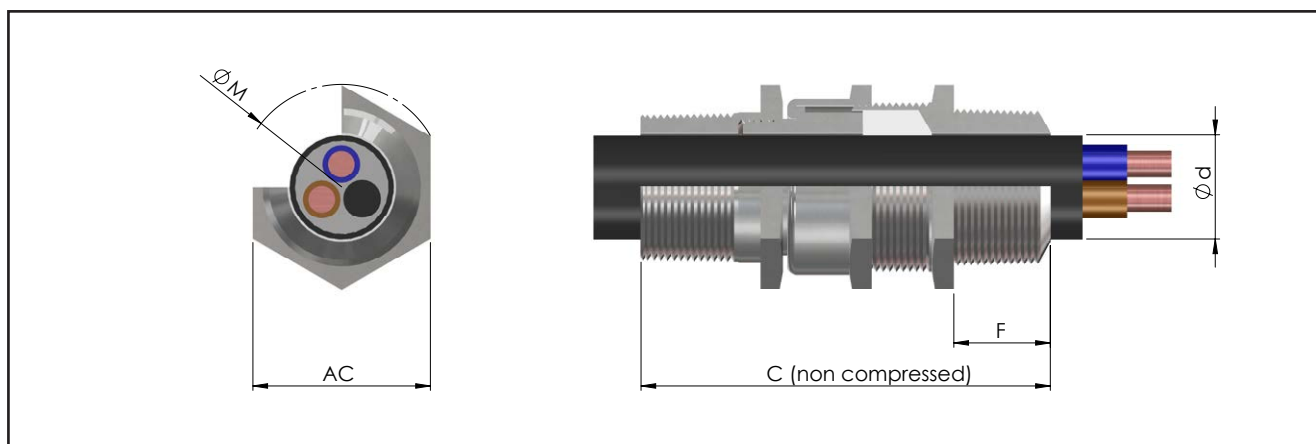
[REVN assembly instructions video](#)

Certificates are available on [www.cortemgroup.com](http://www.cortemgroup.com)

#### Accessories upon request

| Locknut                                                                             | ISO thread        | Nichel-plated brass | Galvanized steel | Stainless steel                                                                      | Shrouds black PVC made                                                                | Code                                                                                  |
|-------------------------------------------------------------------------------------|-------------------|---------------------|------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|  | M16x1,5           | <b>DL01IB</b>       | <b>DL01IG</b>    | <b>DL01IS</b>                                                                        |  | <b>PGA1F</b>                                                                          |
|                                                                                     | M20x1,5           | <b>DL11IB</b>       | <b>DL11IG</b>    | <b>DL11IS</b>                                                                        |                                                                                       | <b>PGA1F</b>                                                                          |
|                                                                                     | M25x1,5           | <b>DL21IB</b>       | <b>DL21IG</b>    | <b>DL21IS</b>                                                                        |                                                                                       | <b>PGA2R</b>                                                                          |
|                                                                                     | M32x1,5           | <b>DL31IB</b>       | <b>DL31IG</b>    | <b>DL31IS</b>                                                                        |                                                                                       | <b>PGA3</b>                                                                           |
|                                                                                     | M40x1,5           | <b>DL41IB</b>       | <b>DL41IG</b>    | <b>DL41IS</b>                                                                        |                                                                                       | <b>PGA4</b>                                                                           |
|                                                                                     | M50x1,5           | <b>DL51IB</b>       | <b>DL51IG</b>    | <b>DL51IS</b>                                                                        |                                                                                       | <b>PGA5</b>                                                                           |
|                                                                                     | M63x1,5           | <b>DL61IB</b>       | <b>DL61IG</b>    | <b>DL61IS</b>                                                                        |                                                                                       | <b>PGA6R</b>                                                                          |
| Nichel-plated brass earthing rings *                                                | For ISO threading | Nichel-plated brass | Stainless steel  | Stainless steel idented washers *                                                    | Code                                                                                  | Adaptors and reducers RE... series                                                    |
|  | M16x1,5           | <b>A0131B</b>       | <b>A0131S</b>    |  | <b>RD101S/A4</b>                                                                      |  |
|                                                                                     | M20x1,5           | <b>A1311B</b>       | <b>A1311S</b>    |                                                                                      | <b>RD11S/A4</b>                                                                       |                                                                                       |
|                                                                                     | M25x1,5           | <b>A2312B</b>       | <b>A2312S</b>    |                                                                                      | <b>RD12S/A4</b>                                                                       |                                                                                       |
|                                                                                     | M32x1,5           | <b>A3313B</b>       | <b>A3313S</b>    |                                                                                      | <b>RD13S/A4</b>                                                                       |                                                                                       |
|                                                                                     | M40x1,5           | <b>A4314B</b>       | <b>A4314S</b>    |                                                                                      | <b>RD14S/A4</b>                                                                       |                                                                                       |
|                                                                                     | M50x1,5           | <b>A5315B</b>       | <b>A5315S</b>    |                                                                                      | <b>RD15S/A4</b>                                                                       |                                                                                       |
|                                                                                     | M63x1,5           | <b>A6316B</b>       | <b>A6316S</b>    |                                                                                      | <b>RD16S/A4</b>                                                                       |                                                                                       |

\* For different threads contact the sales office.



**CABLE GLANDS SELECTION TABLE**

| Code<br>Nichel-plated<br>brass | Thread      | Dimensions in mm |    |    |       | Range                      | Weight |
|--------------------------------|-------------|------------------|----|----|-------|----------------------------|--------|
|                                |             | AC1              | ØM | F  | C     | Ød min-max<br>Under armour | Kg     |
| REVN01B                        | 3/8" ISO7/1 | 24               | 28 | 15 | 69,5  | 5 - 10                     | 0,140  |
| REVN1B                         | 1/2" ISO7/1 | 24               | 28 | 18 | 75,5  | 7 - 12                     | 0,138  |
| REVN2B                         | 3/4" ISO7/1 | 32               | 37 | 18 | 77    | 12 - 18                    | 0,205  |
| REVN3B                         | 1" ISO7/1   | 40               | 47 | 22 | 92    | 18 - 24                    | 0,340  |
| REVN4B                         | 1 ¼" ISO7/1 | 48               | 56 | 22 | 92,5  | 24 - 30                    | 0,491  |
| REVN5B                         | 1 ½" ISO7/1 | 53               | 62 | 24 | 98,5  | 30 - 35                    | 0,632  |
| REVN6B                         | 2" ISO7/1   | 63               | 73 | 24 | 98,5  | 35 - 45                    | 0,867  |
| REVN01NB                       | 3/8" NPT    | 24               | 28 | 15 | 71,5  | 5 - 10                     | 0,140  |
| REVN1NB                        | 1/2" NPT    | 24               | 28 | 18 | 79,5  | 7 - 12                     | 0,138  |
| REVN2NB                        | 3/4" NPT    | 32               | 37 | 18 | 81    | 12 - 18                    | 0,205  |
| REVN3NB                        | 1" NPT      | 40               | 47 | 22 | 100   | 18 - 24                    | 0,340  |
| REVN4NB                        | 1 ¼" NPT    | 48               | 56 | 22 | 100,5 | 24 - 30                    | 0,491  |
| REVN5NB                        | 1 ½" NPT    | 53               | 62 | 24 | 102,5 | 30 - 35                    | 0,632  |
| REVN6NB                        | 2" NPT      | 63               | 73 | 24 | 104,5 | 35 - 45                    | 0,867  |
| REVN01IB                       | M16x1,5     | 24               | 28 | 15 | 72,5  | 5 - 10                     | 0,140  |
| REVN1IB                        | M20x1,5     | 24               | 28 | 18 | 66,5  | 7 - 12                     | 0,138  |
| REVN2IB                        | M25x1,5     | 32               | 37 | 18 | 74    | 12 - 18                    | 0,205  |
| REVN3IB                        | M32x1,5     | 40               | 47 | 22 | 82    | 18 - 24                    | 0,340  |
| REVN4IB                        | M40x1,5     | 48               | 56 | 22 | 75,5  | 24 - 30                    | 0,491  |
| REVN5IB                        | M50x1,5     | 53               | 62 | 24 | 77,5  | 30 - 35                    | 0,632  |
| REVN6IB                        | M63x1,5     | 63               | 73 | 24 | 81,5  | 35 - 45                    | 0,867  |

### Example of Order Code

|             |          |          |          |
|-------------|----------|----------|----------|
| <b>REVN</b> | <b>2</b> | <b>I</b> | <b>B</b> |
| MODEL       | SIZE     | THREAD   | MATERIAL |

### TECHNICAL NOTES:

- The silicone o-ring for the IP protection for cylindrical threads (ISO metric) is supplied already assembled on cable gland
- Available also in stainless steel (example code **REVN4S**)
- Available also in galvanized steel (example code **REVN4G**)
- For "Ex i" intrinsically safe marking, blu nut RAL 5015 (example code **REVN4SIA**)
- It's available upon request a version with mixed thread, of the same equivalence and size (example code for cable gland in nichel-plated brass Male 1" NPT - Female M32x1,5: **REVN3NIB**)

REVD series cable glands are suitable for use in hazardous areas with danger of explosion to enable direct insertion of armoured cables into explosion-proof junction boxes, lighting fixtures, plugs and sockets, etc... They are provided with one sealing ring which tightens the incoming cable ensuring the 'Ex d' way of protection and a second sealing ring that tightens on the outer sheath of the cable to ensure the IP 66/67 degree of protection avoiding the ingress of water, moisture, rain and dust. Designed with a single opening key, they are less bulky and easier to install. Thanks to their structure, they are particularly suitable both in harsh application, such as marine one, and places subjected to stress and mechanical shock as it often happens in all those places of the "heavy" industry where safety is a top priority. REVD series cable glands has three types of protection 'Ex d', 'Ex e' and 'Ex tb'.



|                                      |                                                                                                                                                                                                                                  |                                 |
|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|
| <b>Classification:</b><br>2014/34/UE | <b>Group II</b>                                                                                                                                                                                                                  | <b>Category 2GD</b>             |
| <b>Installation:</b><br>EN 60079-14  | <b>zone 1 - zone 2 (Gas)</b>                                                                                                                                                                                                     | <b>zone 21 - zone 22 (Dust)</b> |
| <b>Marking:</b>                      | <b>CE 0722 Ex II 2 GD - Ex d IIC Gb Ex tb IIIC Db - IP66/67</b>                                                                                                                                                                  |                                 |
| <b>Certification:</b>                | <b>ATEX</b>                                                                                                                                                                                                                      | <b>CESI 13 ATEX 019 X</b>       |
|                                      | <b>IECEx</b>                                                                                                                                                                                                                     | <b>IECEx CES 13.0005X</b>       |
|                                      | <b>TR CU</b>                                                                                                                                                                                                                     | <b>AVAILABLE</b>                |
| <b>Standards:</b>                    | CENELEC EN 60079-0: 2012, EN 60079-1: 2007, EN 60079-7: 2007, EN 60079-31: 2009 and European Directive 2014/34/UE<br>IEC60079-0: 2011, IEC60079-1: 2007-04, IEC60079-31: 2008, IEC 60079-7: 2006-07<br>Directive RoHS 2002/95/CE |                                 |
| <b>Class temperature:</b>            | <b>-40°C +110°C</b>                                                                                                                                                                                                              |                                 |
| <b>Degree of protection:</b>         | <b>IP66/67</b>                                                                                                                                                                                                                   |                                 |

All IEC Ex and TR CU certification data can be downloaded at [www.cortemgroup.com](http://www.cortemgroup.com)

Interactive Point



[REVD assembly instructions video](#)

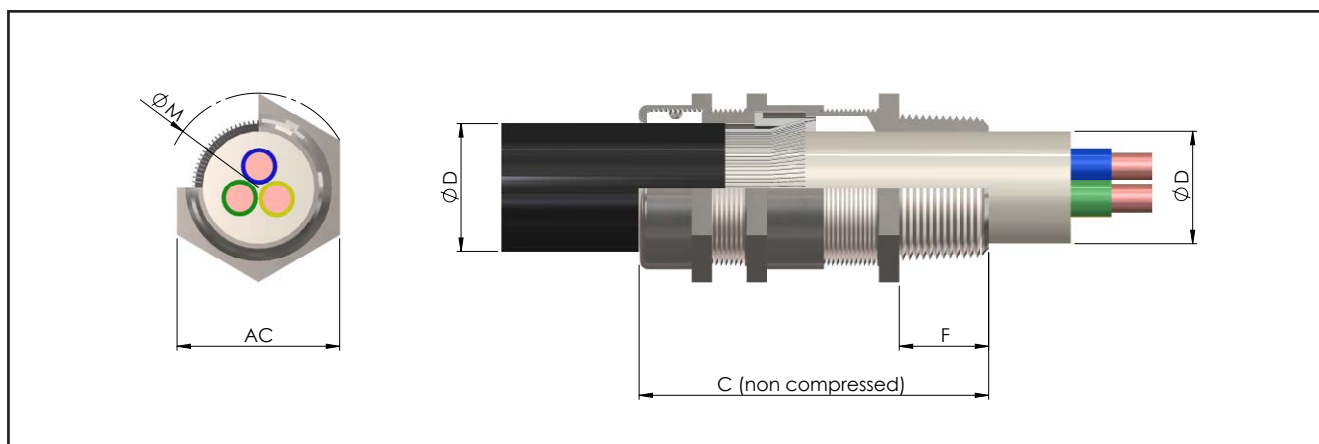
Certificates are available on [www.cortemgroup.com](http://www.cortemgroup.com)

#### Accessories upon request

| Locknut                                                                             | ISO thread        | Nichel-plated brass | Galvanized steel | Stainless steel                                                                      | Shrouds black PVC made                                                                | Code                                                                                  |
|-------------------------------------------------------------------------------------|-------------------|---------------------|------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|  | M16x1,5           | <b>DL01IB</b>       | <b>DL01IG</b>    | <b>DL01IS</b>                                                                        |  | <b>PGA1F</b>                                                                          |
|                                                                                     | M20x1,5           | <b>DL1IB</b>        | <b>DL1IG</b>     | <b>DL1IS</b>                                                                         |                                                                                       | <b>PGA1F</b>                                                                          |
|                                                                                     | M25x1,5           | <b>DL2IB</b>        | <b>DL2IG</b>     | <b>DL2IS</b>                                                                         |                                                                                       | <b>PGA2R</b>                                                                          |
|                                                                                     | M32x1,5           | <b>DL3IB</b>        | <b>DL3IG</b>     | <b>DL3IS</b>                                                                         |                                                                                       | <b>PGA3</b>                                                                           |
|                                                                                     | M40x1,5           | <b>DL4IB</b>        | <b>DL4IG</b>     | <b>DL4IS</b>                                                                         |                                                                                       | <b>PGA4</b>                                                                           |
|                                                                                     | M50x1,5           | <b>DL5IB</b>        | <b>DL5IG</b>     | <b>DL5IS</b>                                                                         |                                                                                       | <b>PGA5</b>                                                                           |
|                                                                                     | M63x1,5           | <b>DL6IB</b>        | <b>DL6IG</b>     | <b>DL6IS</b>                                                                         |                                                                                       | <b>PGA6R</b>                                                                          |
| Nichel-plated brass earthing rings *                                                | For ISO threading | Nichel-plated brass | Stainless steel  | Stainless steel idented washers *                                                    | Code                                                                                  | Adaptors and reducers RE... series                                                    |
|  | M16x1,5           | <b>A0131B</b>       | <b>A0131S</b>    |  | <b>RD101S/A4</b>                                                                      |  |
|                                                                                     | M20x1,5           | <b>A1311B</b>       | <b>A1311S</b>    |                                                                                      | <b>RD11S/A4</b>                                                                       |                                                                                       |
|                                                                                     | M25x1,5           | <b>A2312B</b>       | <b>A2312S</b>    |                                                                                      | <b>RD12S/A4</b>                                                                       |                                                                                       |
|                                                                                     | M32x1,5           | <b>A3313B</b>       | <b>A3313S</b>    |                                                                                      | <b>RD13S/A4</b>                                                                       |                                                                                       |
|                                                                                     | M40x1,5           | <b>A4314B</b>       | <b>A4314S</b>    |                                                                                      | <b>RD14S/A4</b>                                                                       |                                                                                       |
|                                                                                     | M50x1,5           | <b>A5315B</b>       | <b>A5315S</b>    |                                                                                      | <b>RD15S/A4</b>                                                                       |                                                                                       |
|                                                                                     | M63x1,5           | <b>A6316B</b>       | <b>A6316S</b>    |                                                                                      | <b>RD16S/A4</b>                                                                       |                                                                                       |

\* For different threads contact the sales office.





**CABLE GLANDS SELECTION TABLE**

| Code<br>Nichel-<br>plated<br>brass | Thread        | Dimensions in mm |    |    |      | Range                      |                                         | Standard<br>armour<br>thickness | Increased<br>armour<br>thickness<br>upon request | Weight<br><br>Kg |
|------------------------------------|---------------|------------------|----|----|------|----------------------------|-----------------------------------------|---------------------------------|--------------------------------------------------|------------------|
|                                    |               | AC               | ØM | F  | C    | Ød min-max<br>Under armour | ØD min-max<br>Outer sheath of the cable |                                 |                                                  |                  |
| REVD01B                            | 3/8" ISO7/1   | 24               | 28 | 15 | 69   | 5 - 10                     | 8 - 15                                  | 0.2 - 0.8                       | 0.8 - 1.2                                        | 0,100            |
| REVDL1B                            | 1/2" ISO7/1   | 24               | 28 | 18 | 72   | 5 - 10                     | 8 - 15                                  | 0.2 - 0.8                       | 0.8 - 1.2                                        | 0,110            |
| REVD1B                             | 1/2" ISO7/1   | 24               | 28 | 18 | 72   | 7 - 12                     | 11 - 16                                 | 0.2 - 0.7                       | 0.7 - 1.2                                        | 0,110            |
| REVD2B                             | 3/4" ISO7/1   | 32               | 37 | 18 | 73,5 | 12 - 18                    | 16 - 24                                 | 0.2 - 0.8                       | 0.8 - 1.6                                        | 0,166            |
| REVD3B                             | 1" ISO7/1     | 40               | 47 | 22 | 86,5 | 18 - 24                    | 24 - 31                                 | 0.2 - 0.9                       | 0.9 - 1.6                                        | 0,264            |
| REVD4B                             | 1 1/4" ISO7/1 | 48               | 56 | 22 | 89   | 24 - 30                    | 31 - 37                                 | 0.2 - 1.2                       | 1.2 - 2.0                                        | 0,406            |
| REVD5B                             | 1 1/2" ISO7/1 | 53               | 62 | 24 | 94   | 30 - 35                    | 37 - 43                                 | 0.2 - 1.3                       | 1.3 - 2.5                                        | 0,484            |
| REVD6B                             | 2" ISO7/1     | 63               | 73 | 24 | 94   | 35 - 45                    | 43 - 53                                 | 0.2 - 1.4                       | 1.4 - 2.5                                        | 0,632            |
| REVD01NB                           | 3/8" NPT      | 24               | 28 | 16 | 70   | 5 - 10                     | 8 - 15                                  | 0.2 - 0.8                       | 0.8 - 1.2                                        | 0,100            |
| REVDL1NB                           | 1/2" NPT      | 24               | 28 | 20 | 74   | 5 - 10                     | 8 - 15                                  | 0.2 - 0.8                       | 0.8 - 1.2                                        | 0,110            |
| REVD1NB                            | 1/2" NPT      | 24               | 28 | 20 | 74   | 7 - 12                     | 11 - 16                                 | 0.2 - 0.7                       | 0.7 - 1.2                                        | 0,110            |
| REVD2NB                            | 3/4" NPT      | 32               | 37 | 20 | 75,5 | 12 - 18                    | 16 - 24                                 | 0.2 - 0.8                       | 0.8 - 1.6                                        | 0,166            |
| REVD3NB                            | 1" NPT        | 40               | 47 | 26 | 90,5 | 18 - 24                    | 24 - 31                                 | 0.2 - 0.9                       | 0.9 - 1.6                                        | 0,264            |
| REVD4NB                            | 1 1/4" NPT    | 48               | 56 | 26 | 93   | 24 - 30                    | 31 - 37                                 | 0.2 - 1.2                       | 1.2 - 2.0                                        | 0,406            |
| REVD5NB                            | 1 1/2" NPT    | 53               | 62 | 26 | 96   | 30 - 35                    | 37 - 43                                 | 0.2 - 1.3                       | 1.3 - 2.5                                        | 0,484            |
| REVD6NB                            | 2" NPT        | 63               | 73 | 27 | 97   | 35 - 45                    | 43 - 53                                 | 0.2 - 1.4                       | 1.4 - 2.5                                        | 0,632            |
| REVD01IB                           | M16x1,5       | 24               | 28 | 16 | 70   | 5 - 10                     | 8 - 15                                  | 0.2 - 0.8                       | 0.8 - 1.2                                        | 0,100            |
| REVDL1IB                           | M20x1,5       | 24               | 28 | 16 | 70   | 5 - 10                     | 8 - 15                                  | 0.2 - 0.8                       | 0.8 - 1.2                                        | 0,100            |
| REVD1IB                            | M20x1,5       | 24               | 28 | 16 | 70   | 7 - 12                     | 11 - 16                                 | 0.2 - 0.7                       | 0.7 - 1.2                                        | 0,110            |
| REVD2IB                            | M25x1,5       | 32               | 37 | 16 | 71,5 | 12 - 18                    | 16 - 24                                 | 0.2 - 0.8                       | 0.8 - 1.6                                        | 0,166            |
| REVD3IB                            | M32x1,5       | 40               | 47 | 16 | 80,5 | 18 - 24                    | 24 - 31                                 | 0.2 - 0.9                       | 0.9 - 1.6                                        | 0,264            |
| REVD4IB                            | M40x1,5       | 48               | 56 | 16 | 83   | 24 - 30                    | 31 - 37                                 | 0.2 - 1.2                       | 1.2 - 2.0                                        | 0,406            |
| REVD5IB                            | M50x1,5       | 53               | 62 | 16 | 86   | 30 - 35                    | 37 - 43                                 | 0.2 - 1.3                       | 1.3 - 2.5                                        | 0,484            |
| REVD6IB                            | M63x1,5       | 63/65            | 73 | 18 | 88   | 35 - 45                    | 43 - 53                                 | 0.2 - 1.4                       | 1.4 - 2.5                                        | 0,632            |

### Example of Order Code

|             |          |          |          |
|-------------|----------|----------|----------|
| <b>REVD</b> | <b>6</b> | <b>I</b> | <b>B</b> |
| MODEL       | SIZE     | THREAD   | MATERIAL |

### TECHNICAL NOTES:

- The silicone o-ring for the IP protection for cylindrical threads (ISO metric) is supplied already assembled on cable gland
- Available also in stainless steel (example code REVD1S)
- Available also in galvanized steel (example code REVD1G)
- For "Ex i" intrinsically safe marking, blu nut RAL 5015 (example code REVD1SIA)
- Internal ring nut for cables with armour with increased section

REVDL series cable glands are suitable for use in hazardous areas with danger of explosion to enable direct insertion of non-armoured cables into explosion-proof junction boxes, lighting fixtures, plugs and sockets, etc... This series can accommodate smaller cable diameters than the standard required for each measure. In this way, the use of reductions is avoided. They are provided with one sealing ring which tightens the incoming cable ensuring the 'Ex d' way of protection and a second sealing ring that tightens on the outer sheath of the cable to ensure the IP 66/67 degree of protection avoiding the ingress of water, moisture, rain and dust.



**Classification:**  
2014/34/UE

**Group II**

**Category 2GD**

**Installation:**  
EN 60079-14

**zone 1 - zone 2 (Gas)**

**zone 21 - zone 22 (Dust)**

**Marking:**

**CE 0722 Ex II 2 GD - Ex d IIC Gb Ex tb IIIC Db - IP66/67**

**Certification:**

**ATEX CESI 13 ATEX 019 X**

**IECEx IECEx CES 13.0005X**

All IEC Ex and TR CU certification data can be downloaded at [www.cortemgroup.com](http://www.cortemgroup.com)

**TR CU AVAILABLE**

**Standards:**

CENELEC EN 60079-0: 2012, EN 60079-1: 2007, EN 60079-7: 2007, EN 60079-31: 2009 and European Directive 2014/34/UE  
IEC60079-0: 2011, IEC60079-1: 2007-04, IEC60079-31: 2008, IEC 60079-7: 2006-07  
Directive RoHS 2002/95/CE

**Class temperature:**

**-40°C +110°C**

**Degree of protection:**

**IP66/67**

Certificates are available on [www.cortemgroup.com](http://www.cortemgroup.com)

**Interactive Point**

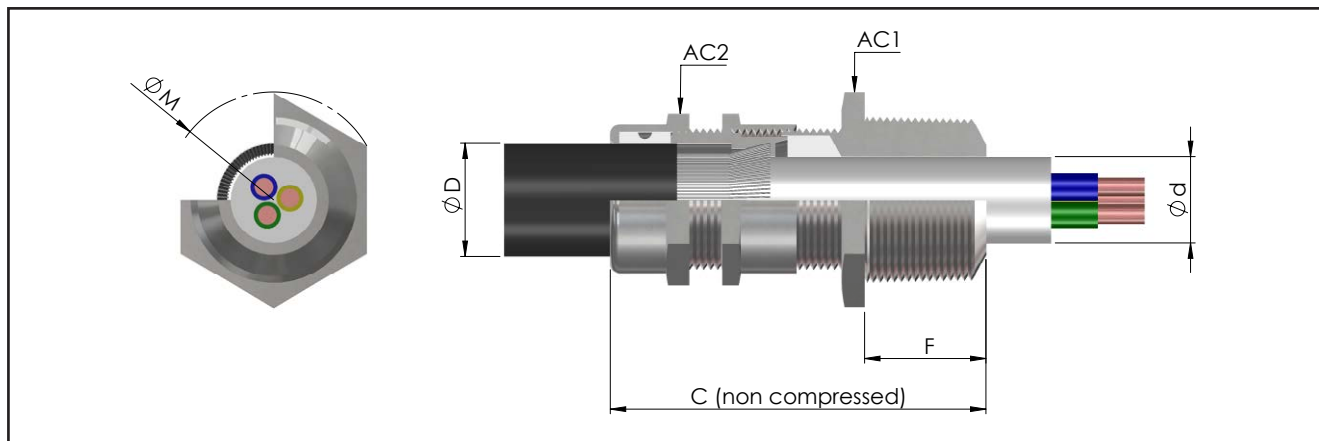


[REVD assembly instructions video](#)

#### Accessories upon request

| Locknut                                                                             | ISO thread        | Nichel-plated brass | Galvanized steel | Stainless steel                                                                      | Shrouds black PVC made                                                                | Code                                                                                  |
|-------------------------------------------------------------------------------------|-------------------|---------------------|------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|  | M20x1,5           | <b>DL1IB</b>        | <b>DL1IG</b>     | <b>DL1IS</b>                                                                         |  | <b>PGA1F</b>                                                                          |
|                                                                                     | M25x1,5           | <b>DL2IB</b>        | <b>DL2IG</b>     | <b>DL2IS</b>                                                                         |                                                                                       | <b>PGA1F</b>                                                                          |
|                                                                                     | M32x1,5           | <b>DL3IB</b>        | <b>DL3IG</b>     | <b>DL3IS</b>                                                                         |                                                                                       | <b>PGA2R</b>                                                                          |
|                                                                                     | M40x1,5           | <b>DL4IB</b>        | <b>DL4IG</b>     | <b>DL4IS</b>                                                                         |                                                                                       | <b>PGA3</b>                                                                           |
|                                                                                     | M50x1,5           | <b>DL5IB</b>        | <b>DL5IG</b>     | <b>DL5IS</b>                                                                         |                                                                                       | <b>PGA4</b>                                                                           |
|                                                                                     | M63x1,5           | <b>DL6IB</b>        | <b>DL6IG</b>     | <b>DL6IS</b>                                                                         |                                                                                       | <b>PGA5</b>                                                                           |
| Nichel-plated brass earthing rings *                                                | For ISO threading | Nichel-plated brass | Stainless steel  | Stainless steel idented washers *                                                    | Code                                                                                  | Adaptors and reducers RE... series                                                    |
|  | M20x1,5           | <b>A1311IB</b>      | <b>A1311IS</b>   |  | <b>RD11IS/A4</b>                                                                      |  |
|                                                                                     | M25x1,5           | <b>A2312IB</b>      | <b>A2312IS</b>   |                                                                                      | <b>RD12IS/A4</b>                                                                      |                                                                                       |
|                                                                                     | M32x1,5           | <b>A3313IB</b>      | <b>A3313IS</b>   |                                                                                      | <b>RD13IS/A4</b>                                                                      |                                                                                       |
|                                                                                     | M40x1,5           | <b>A4314IB</b>      | <b>A4314IS</b>   |                                                                                      | <b>RD14IS/A4</b>                                                                      |                                                                                       |
|                                                                                     | M50x1,5           | <b>A5315IB</b>      | <b>A5315IS</b>   |                                                                                      | <b>RD15IS/A4</b>                                                                      |                                                                                       |
|                                                                                     | M63x1,5           | <b>A6315IB</b>      | <b>A6315IS</b>   |                                                                                      | <b>RD16IS/A4</b>                                                                      |                                                                                       |

\* For different threads contact the sales office.



**CABLE GLANDS SELECTION TABLE**

| Code<br>Nichel-plated<br>brass | Thread        | Dimensions in mm |     |    |    |      | Range                      |                                         | Standard<br>armour<br>thickness | Increased<br>armour<br>thickness<br>upon request | Weight<br>Kg |
|--------------------------------|---------------|------------------|-----|----|----|------|----------------------------|-----------------------------------------|---------------------------------|--------------------------------------------------|--------------|
|                                |               | AC1              | AC2 | ØM | F  | C    | Ød min-max<br>Under armour | ØD min-max<br>Outer sheath of the cable |                                 |                                                  |              |
| REVDL1B                        | 1/2" ISO7/1   | 24               | 24  | 28 | 18 | 72   | 5 - 10                     | 8 - 15                                  | 0.2 - 0.8                       | 0.8 - 1.2                                        | 0,110        |
| REVDL2B                        | 3/4" ISO7/1   | 32               | 24  | 37 | 18 | 72   | 7 - 12                     | 11 - 16                                 | 0.2 - 0.7                       | 0.7 - 1.2                                        | 0,166        |
| REVDL3B                        | 1" ISO7/1     | 40               | 32  | 47 | 22 | 77,5 | 12 - 18                    | 16 - 24                                 | 0.2 - 0.8                       | 0.8 - 1.6                                        | 0,264        |
| REVDL4B                        | 1 1/4" ISO7/1 | 48               | 40  | 56 | 22 | 86,5 | 18 - 24                    | 24 - 31                                 | 0.2 - 0.9                       | 0.9 - 1.6                                        | 0,406        |
| REVDL5B                        | 1 1/2" ISO7/1 | 53               | 48  | 62 | 24 | 91   | 24 - 30                    | 31 - 37                                 | 0.2 - 1.2                       | 1.2 - 2.0                                        | 0,484        |
| REVDL6B                        | 2" ISO7/1     | 63               | 53  | 73 | 24 | 94   | 30 - 35                    | 37 - 43                                 | 0.2 - 1.3                       | 1.3 - 2.5                                        | 0,632        |
| REVDL1NB                       | 1/2" NPT      | 24               | 24  | 28 | 20 | 74   | 5 - 10                     | 8 - 15                                  | 0.2 - 0.8                       | 0.8 - 1.2                                        | 0,110        |
| REVDL2NB                       | 3/4" NPT      | 32               | 24  | 37 | 20 | 74   | 7 - 12                     | 11 - 16                                 | 0.2 - 0.7                       | 0.7 - 1.2                                        | 0,166        |
| REVDL3NB                       | 1" NPT        | 40               | 32  | 47 | 26 | 81,5 | 12 - 18                    | 16 - 24                                 | 0.2 - 0.8                       | 0.8 - 1.6                                        | 0,264        |
| REVDL4NB                       | 1 1/4" NPT    | 48               | 40  | 56 | 26 | 90,5 | 18 - 24                    | 24 - 31                                 | 0.2 - 0.9                       | 0.9 - 1.6                                        | 0,406        |
| REVDL5NB                       | 1 1/2" NPT    | 53               | 48  | 62 | 26 | 93   | 24 - 30                    | 31 - 37                                 | 0.2 - 1.2                       | 1.2 - 2.0                                        | 0,484        |
| REVDL6NB                       | 2" NPT        | 63               | 53  | 73 | 27 | 97   | 30 - 35                    | 37 - 43                                 | 0.2 - 1.3                       | 1.3 - 2.5                                        | 0,632        |
| REVDL1IB                       | M20x1,5       | 24               | 24  | 28 | 16 | 70   | 5 - 10                     | 8 - 15                                  | 0.2 - 0.8                       | 0.8 - 1.2                                        | 0,110        |
| REVDL2IB                       | M25x1,5       | 32               | 24  | 37 | 16 | 70   | 7 - 12                     | 11 - 16                                 | 0.2 - 0.7                       | 0.7 - 1.2                                        | 0,166        |
| REVDL3IB                       | M32x1,5       | 40               | 32  | 47 | 16 | 71,5 | 12 - 18                    | 16 - 24                                 | 0.2 - 0.8                       | 0.8 - 1.6                                        | 0,264        |
| REVDL4IB                       | M40x1,5       | 48               | 40  | 56 | 16 | 80,5 | 18 - 24                    | 24 - 31                                 | 0.2 - 0.9                       | 0.9 - 1.6                                        | 0,406        |
| REVDL5IB                       | M50x1,5       | 53               | 48  | 62 | 16 | 83   | 24 - 30                    | 31 - 37                                 | 0.2 - 1.2                       | 1.2 - 2.0                                        | 0,484        |
| REVDL6IB                       | M63x1,5       | 63/65            | 73  | 73 | 18 | 88   | 30 - 35                    | 37 - 43                                 | 0.2 - 1.3                       | 1.3 - 2.5                                        | 0,632        |

### Example of Order Code

|              |             |               |                 |
|--------------|-------------|---------------|-----------------|
| <b>REVDL</b> | <b>6</b>    | <b>I</b>      | <b>B</b>        |
| <b>MODEL</b> | <b>SIZE</b> | <b>THREAD</b> | <b>MATERIAL</b> |

### TECHNICAL NOTES:

- The silicone o-ring for the IP protection for cylindrical threads (ISO metric) is supplied already assembled on cable gland
- Available also in stainless steel (example code REVDL1S)
- Available also in galvanized steel (example code REVDL1G)
- For "Ex i" intrinsically safe marking, blu nut RAL 5015 (example code REVDL1SIA)
- Internal ring nut for cables with armour with increased section

REVD/REVDS series cable glands are suitable for use in hazardous areas with danger of explosion to enable direct insertion of armoured cables into explosion-proof junction boxes, lighting fixtures, plugs and sockets, etc... They are provided with one sealing ring which tightens the incoming cable ensuring the 'Ex d' way of protection and a second sealing ring that tightens on the outer sheath of the cable to ensure the IP 66/67 degree of protection avoiding the ingress of water, moisture, rain and dust.



**Classification:**  
2014/34/UE

**Group II**

**Category 2GD**

**Installation:**  
EN 60079-14

**zone 1 - zone 2 (Gas)**

**zone 21 - zone 22 (Dust)**

**Marking:**

**CE 0722 Ex II 2 GD - Ex d IIC Gb Ex tb IIIC Db - IP66/67**

**Certification:**

**ATEX CESI 13 ATEX 019 X**

**IECEx IECEx CES 13.0005X**

All IEC Ex and TR CU certification data can be downloaded at [www.cortemgroup.com](http://www.cortemgroup.com)

**TR CU AVAILABLE**

**Standards:**

CENELEC EN 60079-0: 2012, EN 60079-1: 2007, EN 60079-7: 2007, EN 60079-31: 2009 and European Directive 2014/34/UE  
IEC60079-0: 2011, IEC60079-1: 2007-04, IEC60079-31: 2008, IEC 60079-7: 2006-07  
Directive RoHS 2002/95/CE

**Class temperature:**

**-40°C +110°C**

**Degree of protection:**

**IP66/67**

Certificates are available on [www.cortemgroup.com](http://www.cortemgroup.com)

**Interactive Point**



[REVD assembly instructions video](#)

#### Accessories upon request

| Locknut *                                                                           | ISO thread | Nichel-plated brass | Galvanized steel | Stainless steel | Nichel-plated brass earthing rings *                                                 | Code            | Adaptors and reducers RE... series                                                    |
|-------------------------------------------------------------------------------------|------------|---------------------|------------------|-----------------|--------------------------------------------------------------------------------------|-----------------|---------------------------------------------------------------------------------------|
|  | M75x1,5    | <b>DL7IB</b>        | <b>DL7IG</b>     | <b>DL7IS</b>    |  | <b>A7317IB</b>  |  |
|                                                                                     | M90x1,5    | <b>DL8IB</b>        | <b>DL8IG</b>     | <b>DL8IS</b>    |                                                                                      | <b>A8318IB</b>  |                                                                                       |
|                                                                                     | M100x1,5   | <b>DL10IB</b>       | <b>DL10IG</b>    | <b>DL10IS</b>   |                                                                                      | <b>A10310IB</b> |                                                                                       |

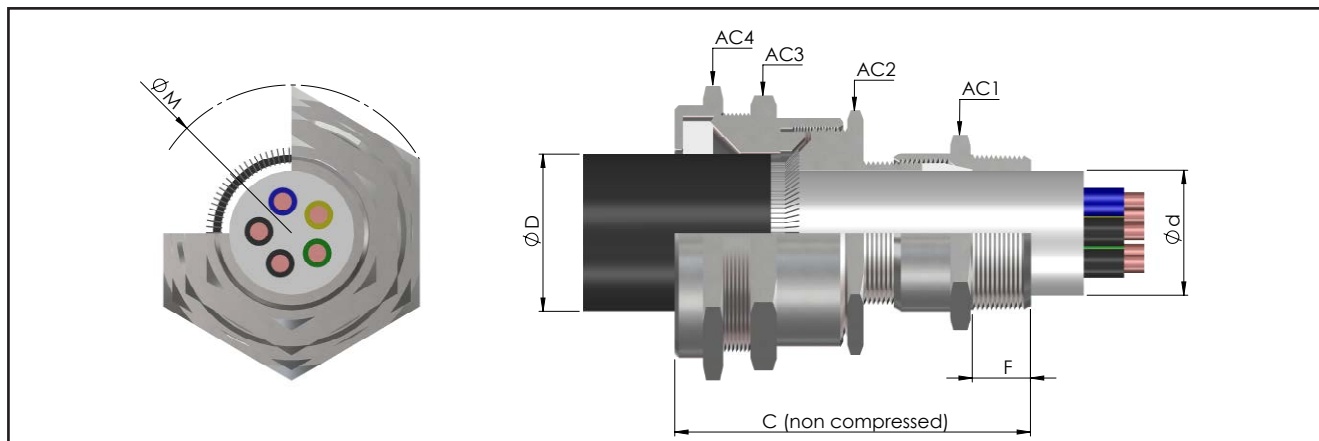
\* For different threads contact the sales office.

#### Note

Shrouds for cable glands upon request.

Idented washer in stainless steel upon request.





**CABLE GLANDS SELECTION TABLE**

| Code<br>Nichel-<br>plated brass | Thread      | Dimensions in mm |     |     |     |     |    |       | Range                      |                                         | Armour<br>thickness<br>min-max | Weight<br>Kg |
|---------------------------------|-------------|------------------|-----|-----|-----|-----|----|-------|----------------------------|-----------------------------------------|--------------------------------|--------------|
|                                 |             | AC1              | AC2 | AC3 | AC4 | ØM  | F  | C     | Ød min-max<br>Under armour | ØD min-max<br>Outer sheath of the cable |                                |              |
| REVD7B                          | 2 ½" ISO7/1 | 84               | 105 | 118 | 127 | 140 | 30 | 185   | 46 - 55                    | 54 - 78                                 | 1,8 - 3,5                      | 5,515        |
| REVDS7B                         | 2 ½" ISO7/1 | 90               | 105 | 118 | 127 | 140 | 30 | 185   | 55 - 62                    | 54 - 78                                 | 1,8 - 3,5                      | 5,515        |
| REVD8B                          | 3" ISO7/1   | 110              | 113 | 130 | 140 | 148 | 30 | 185   | 62 - 70                    | 64 - 90                                 | 2 - 4                          | 5,896        |
| REVDS8B                         | 3" ISO7/1   | 105              | 113 | 130 | 140 | 148 | 30 | 185   | 70 - 78                    | 64 - 90                                 | 2 - 4                          | 5,896        |
| REVD9B                          | 3 ½" ISO7/1 | 115              | 135 | 144 | 153 | 160 | 30 | 187   | 76 - 84                    | 88 - 104                                | 2,5 - 4                        | 6,365        |
| REVDS9B                         | 3 ½" ISO7/1 | 120              | 135 | 144 | 153 | 160 | 30 | 187   | 84 - 92                    | 88 - 104                                | 2,5 - 4                        | 6,365        |
| REVD10B                         | 4" ISO7/1   | 115              | 135 | 144 | 153 | 160 | 30 | 187,5 | 76 - 84                    | 88 - 104                                | 2,5 - 4                        | 7,721        |
| REVDS10B                        | 4" ISO7/1   | 120              | 135 | 144 | 153 | 160 | 30 | 187,5 | 84 - 92                    | 88 - 104                                | 2,5 - 4                        | 7,721        |
| REVD7NB                         | 2 ½" NPT    | 84               | 105 | 118 | 127 | 140 | 30 | 195   | 46 - 55                    | 54 - 78                                 | 1,8 - 3,5                      | 5,515        |
| REVDS7NB                        | 2 ½" NPT    | 90               | 105 | 118 | 127 | 140 | 30 | 195   | 55 - 62                    | 54 - 78                                 | 1,8 - 3,5                      | 5,515        |
| REVD8NB                         | 3" NPT      | 100              | 113 | 130 | 140 | 148 | 30 | 197   | 62 - 70                    | 64 - 90                                 | 2 - 4                          | 5,896        |
| REVDS8NB                        | 3" NPT      | 105              | 113 | 130 | 140 | 148 | 30 | 197   | 70 - 78                    | 64 - 90                                 | 2 - 4                          | 5,896        |
| REVD9NB                         | 3 ½" NPT    | 115              | 135 | 144 | 153 | 160 | 30 | 200   | 76 - 84                    | 88 - 104                                | 2,5 - 4                        | 6,365        |
| REVDS9NB                        | 3 ½" NPT    | 120              | 135 | 144 | 153 | 160 | 30 | 200   | 84 - 92                    | 88 - 104                                | 2,5 - 4                        | 6,365        |
| REVD10NB                        | 4" NPT      | 115              | 135 | 144 | 153 | 160 | 30 | 201,5 | 76 - 84                    | 88 - 104                                | 2,5 - 4                        | 7,721        |
| REVDS10NB                       | 4" NPT      | 120              | 135 | 144 | 153 | 160 | 30 | 201,5 | 84 - 92                    | 88 - 104                                | 2,5 - 4                        | 7,721        |
| REVD7IB                         | M75x1,5     | 84               | 105 | 118 | 127 | 140 | 30 | 173   | 46 - 55                    | 54 - 78                                 | 1,8 - 3,5                      | 5,515        |
| REVDS7IB                        | M75x1,5     | 90               | 105 | 118 | 127 | 140 | 30 | 173   | 55 - 62                    | 54 - 78                                 | 1,8 - 3,5                      | 5,515        |
| REVD8IB                         | M90x1,5     | 100              | 113 | 130 | 140 | 148 | 30 | 173   | 62 - 70                    | 64 - 90                                 | 2 - 4                          | 5,896        |
| REVDS8IB                        | M90x1,5     | 105              | 113 | 130 | 140 | 148 | 30 | 173   | 70 - 78                    | 64 - 90                                 | 2 - 4                          | 5,896        |
| REVD10IB                        | M100x1,5    | 115              | 135 | 144 | 153 | 160 | 30 | 175,5 | 76 - 84                    | 88 - 104                                | 2,5 - 4                        | 7,721        |
| REVDS10IB                       | M100x1,5    | 120              | 135 | 144 | 153 | 160 | 30 | 175,5 | 84 - 92                    | 88 - 104                                | 2,5 - 4                        | 7,721        |

### Example of Order Code

|             |          |          |          |
|-------------|----------|----------|----------|
| <b>REVD</b> | <b>7</b> | <b>I</b> | <b>B</b> |
| MODEL       | SIZE     | THREAD   | MATERIAL |

### TECHNICAL NOTES:

- The silicone o-ring for the IP protection for cylindrical threads (ISO metric) is supplied already assembled on cable gland
- Available also in stainless steel (example code REVD7S)
- Available also in galvanized steel (example code REVD7G)
- For "Ex i" intrinsically safe marking, blu nut RAL 5015 (example code REVD9SIA)

FB series barrier cable glands for non-armoured cable are used to ensure the IP 66/67 degree and the explosion protection in applications with regulations of installation according to EN-IEC 60079-14:2015 Standard.



**Classification:**  
2014/34/UE

**Group II**

**Category 2GD**

**Installation:**  
EN 60079.14

**zone 1 - zone 2 (Gas)**

**zone 21 - zone 22 (Dust)**

**Marking:**

**CE 0722 Ex II 2 GD - Ex d IIC Gb Ex e IIC Gb Ex tb IIIC Db IP66/67**

**Certification:**

**ATEX CESI 00 ATEX 075X**

**IECEx IECEx CES 14.0015X**

**TR CU AVAILABLE**

All IEC Ex and TR CU certification data can be downloaded at [www.cortemgroup.com](http://www.cortemgroup.com)

**Standards:**

CENELEC EN 60079-0: 2012, EN 60079-1: 2007, EN 60079-7: 2007, EN 60079-31: 2009 and European Directive 2014/34/UE  
IEC60079-0: 2011, IEC60079-1: 2007-04, IEC60079-31: 2008, IEC 60079-7: 2006-07  
Directive RoHS 2002/95/CE

**Class temperature:**

**-20°C +100°C**

**Degree of protection:**

**IP66/67**

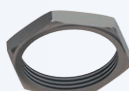
**Interactive Point**



[FB assembly instructions video](#)

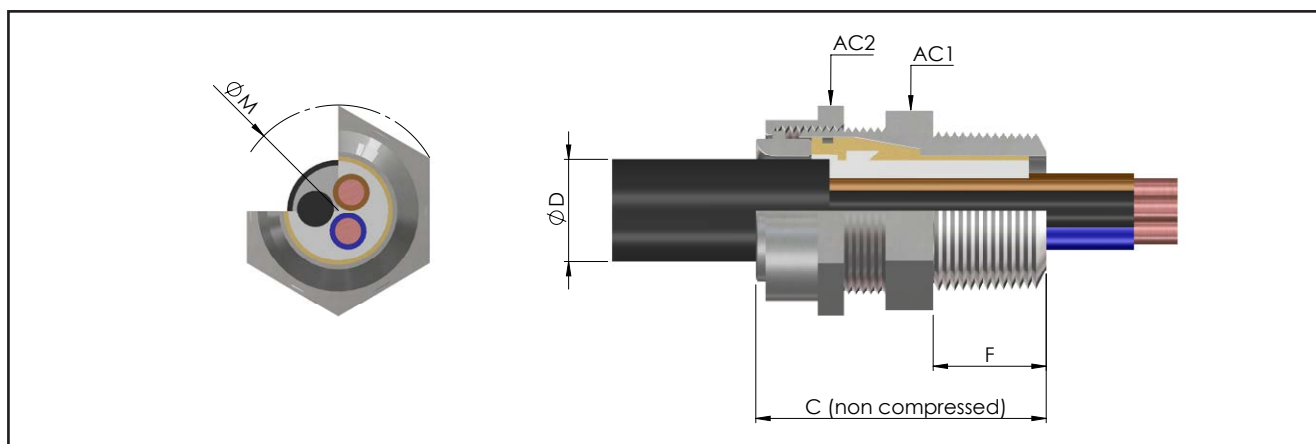
Certificates are available on [www.cortemgroup.com](http://www.cortemgroup.com)

#### Accessories upon request

| Locknut *                                                                           | ISO thread | nickel-plated brass | Shrouds black PVC made                                                              | Code         | Nichel-plated brass earthing rings *                                                  | Code           |
|-------------------------------------------------------------------------------------|------------|---------------------|-------------------------------------------------------------------------------------|--------------|---------------------------------------------------------------------------------------|----------------|
|  | M20x1,5    | <b>DL1IB</b>        |  | <b>PGA1</b>  |  | <b>A1311IB</b> |
|                                                                                     | M25x1,5    | <b>DL2IB</b>        |                                                                                     | <b>PGA2</b>  |                                                                                       | <b>A2311IB</b> |
|                                                                                     | M32x1,5    | <b>DL3IB</b>        |                                                                                     | <b>PGA3</b>  |                                                                                       | <b>A3311IB</b> |
|                                                                                     | M40x1,5    | <b>DL4IB</b>        |                                                                                     | <b>PGA6R</b> |                                                                                       | <b>A4311IB</b> |
|                                                                                     | M50x1,5    | <b>DL5IB</b>        |                                                                                     | <b>PGA6R</b> |                                                                                       | <b>A5311IB</b> |
|                                                                                     | M63x1,5    | <b>DL6IB</b>        |                                                                                     | <b>PGA6</b>  |                                                                                       | <b>A6311IB</b> |
|                                                                                     | M75x1,5    | <b>DL7IB</b>        |                                                                                     | <b>PGA7</b>  |                                                                                       | <b>A7311IB</b> |
|                                                                                     | M90x1,5    | <b>DL8IB</b>        |                                                                                     | <b>PGA8</b>  |                                                                                       | <b>A8311IB</b> |

|                                                                                     |                                   |                   |      |                                    |                                                                                      |
|-------------------------------------------------------------------------------------|-----------------------------------|-------------------|------|------------------------------------|--------------------------------------------------------------------------------------|
|  | Stainless steel idented washers * | For ISO threading | Code | Adaptors and reducers RE... series |  |
|                                                                                     | M20                               | <b>RD11IS/A4</b>  |      |                                    |                                                                                      |
|                                                                                     | M25                               | <b>RD12IS/A4</b>  |      |                                    |                                                                                      |
|                                                                                     | M32                               | <b>RD13IS/A4</b>  |      |                                    |                                                                                      |
|                                                                                     | M40                               | <b>RD14IS/A4</b>  |      |                                    |                                                                                      |
|                                                                                     | M50                               | <b>RD15IS/A4</b>  |      |                                    |                                                                                      |
|                                                                                     | M63                               | <b>RD16IS/A4</b>  |      |                                    |                                                                                      |

\* For different threads contact the sales office.



**CABLE GLANDS SELECTION TABLE**

| Code<br>Nichel-plated<br>brass | Thread        | Dimensions in mm |     |     |    |    | Range      | Weight |
|--------------------------------|---------------|------------------|-----|-----|----|----|------------|--------|
|                                |               | AC1              | AC2 | ØM  | F  | C  | ØD min-max | Kg     |
| FB1BK/3                        | 1/2" ISO7/1   | 27               | 30  | 35  | 19 | 58 | 5 - 13     | 0,140  |
| FB2BK/3                        | 3/4" ISO7/1   | 32               | 35  | 41  | 19 | 58 | 11 - 18    | 0,170  |
| FB3BK/2                        | 1" ISO7/1     | 40               | 42  | 49  | 26 | 66 | 17 - 24    | 0,275  |
| FB4BK                          | 1 1/4" ISO7/1 | 53               | 60  | 69  | 26 | 68 | 23 - 30    | 0,390  |
| FB5BK                          | 1 1/2" ISO7/1 | 60               | 67  | 77  | 26 | 68 | 29 - 38    | 0,510  |
| FB6BK                          | 2" ISO7/1     | 72               | 79  | 91  | 26 | 68 | 36 - 49    | 0,720  |
| FB7BK                          | 2 1/2" ISO7/1 | 95               | 105 | 121 | 32 | 76 | 44 - 61    | 1,220  |
| FB8BK                          | 3" ISO7/1     | 105              | 115 | 133 | 32 | 76 | 59 - 74    | 1,580  |
| FB1NBK/3                       | 1/2" NPT      | 27               | 30  | 35  | 19 | 58 | 5 - 13     | 0,140  |
| FB2NBK/3                       | 3/4" NPT      | 32               | 35  | 41  | 19 | 58 | 11 - 18    | 0,170  |
| FB3NBK/2                       | 1" NPT        | 40               | 42  | 49  | 26 | 66 | 17 - 24    | 0,275  |
| FB4NBK                         | 1 1/4" NPT    | 55               | 60  | 69  | 26 | 68 | 23 - 30    | 0,390  |
| FB5NBK                         | 1 1/2" NPT    | 60               | 67  | 77  | 26 | 68 | 29 - 38    | 0,510  |
| FB6NBK                         | 2" NPT        | 72               | 79  | 91  | 26 | 68 | 36 - 49    | 0,720  |
| FB7NBK                         | 2 1/2" NPT    | 90               | 105 | 121 | 32 | 76 | 44 - 61    | 1,220  |
| FB8NBK                         | 3" NPT        | 105              | 115 | 133 | 32 | 76 | 59 - 74    | 1,580  |
| FB1IBK/3                       | M20x1,5       | 27               | 30  | 35  | 16 | 55 | 5 - 13     | 0,140  |
| FB2IBK/3                       | M25x1,5       | 32               | 35  | 41  | 16 | 55 | 11 - 18    | 0,170  |
| FB3IBK/2                       | M32x1,5       | 40               | 42  | 49  | 16 | 56 | 17 - 24    | 0,275  |
| FB4IBK                         | M40x1,5       | 55               | 60  | 69  | 16 | 58 | 23 - 30    | 0,390  |
| FB5IBK                         | M50x1,5       | 60               | 67  | 77  | 16 | 58 | 29 - 38    | 0,510  |
| FB6IBK                         | M63x1,5       | 72               | 79  | 91  | 18 | 60 | 36 - 49    | 0,720  |
| FB7IBK                         | M75x1,5       | 95               | 105 | 121 | 18 | 62 | 44 - 61    | 1,220  |
| FB8IBK                         | M90x1,5       | 105              | 115 | 133 | 18 | 62 | 59 - 74    | 1,580  |

### Example of Order Code

|           |          |          |          |                      |                      |
|-----------|----------|----------|----------|----------------------|----------------------|
| <b>FB</b> | <b>3</b> | <b>I</b> | <b>B</b> | <b>K</b>             | <b>2</b>             |
| MODEL     | SIZE     | THREAD   | MATERIAL | KIT OF SEALING RINGS | SUPPLIED IN PACKAGES |

Resin compound kit:  
Cable glands are supplied  
with a resin bag, mixing  
spatula and protective  
gloves.



For sealing system, diameter and maximum number of conductors to be used see "Sealing method" chapter

### TECHNICAL NOTES:

- The silicone o-ring for the IP protection for cylindrical threads (ISO metric) is supplied already assembled on cable gland
- Other materials upon request
- For "Ex i" intrinsically safe marking, blu nut RAL 5015 (example code FB5BKIA)

FBF series barrier cable glands for non-armoured cable with female threaded exit are used to ensure the IP 66/67 degree and explosion protection in applications where the prescriptions of installation are required according to EN-IEC 60079-14:2015 Standards.



**Classification:**  
2014/34/UE

Group II

Category 2GD

**Installation:**  
EN 60079.14

zone 1 - zone 2 (Gas)

zone 21 - zone 22 (Dust)

**Marking:**

CE 0722 Ex II 2 GD - Ex d IIC Gb Ex e IIC Gb Ex tb IIIC Db IP66/67

**Certification:**

ATEX CESI 00 ATEX 075

IECEx IECEx CES 14.0015X

TR CU AVAILABLE

All IEC Ex and TR CU certification data can be downloaded at [www.cortemgroup.com](http://www.cortemgroup.com)

**Standards:**

CENELEC EN 60079-0: 2012, EN 60079-1: 2007, EN 60079-7: 2007, EN 60079-31: 2009 and European Directive 2014/34/UE  
IEC60079-0: 2011, IEC60079-1: 2007-04, IEC60079-31: 2008, IEC 60079-7: 2006-07  
Directive RoHS 2002/95/CE

**Class temperature:**

-20°C +60°C

**Degree of protection:**

IP66/67

Interactive Point



[FB assembly instructions video](#)

Certificates are available on [www.cortemgroup.com](http://www.cortemgroup.com)

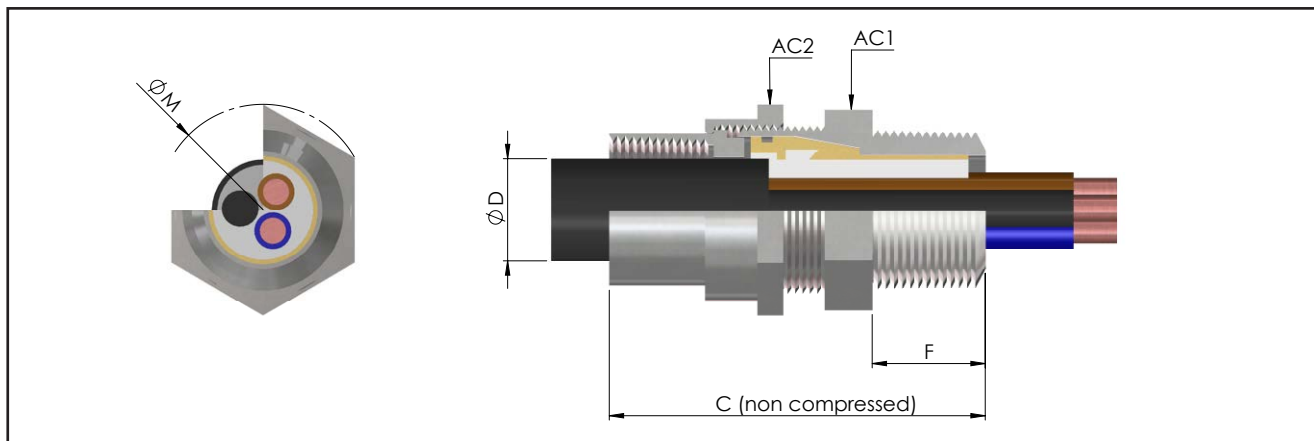
#### Accessories upon request

| Locknut *                                                                           | ISO thread | Nichel-plated brass | Shrouds black PVC made                                                              | Code  | Nichel-plated brass earthing rings *                                                  | Code    |
|-------------------------------------------------------------------------------------|------------|---------------------|-------------------------------------------------------------------------------------|-------|---------------------------------------------------------------------------------------|---------|
|  | M20x1,5    | DL1IB               |  | PGA1  |  | A1311IB |
|                                                                                     | M25x1,5    | DL2IB               |                                                                                     | PGA2  |                                                                                       | A2311IB |
|                                                                                     | M32x1,5    | DL3IB               |                                                                                     | PGA3  |                                                                                       | A3311IB |
|                                                                                     | M40x1,5    | DL4IB               |                                                                                     | PGA6R |                                                                                       | A4311IB |
|                                                                                     | M50x1,5    | DL5IB               |                                                                                     | PGA6R |                                                                                       | A5311IB |
|                                                                                     | M63x1,5    | DL6IB               |                                                                                     | PGA6  |                                                                                       | A6311IB |
|                                                                                     | M75x1,5    | DL7IB               |                                                                                     | PGA7  |                                                                                       | A7311IB |
|                                                                                     | M90x1,5    | DL8IB               |                                                                                     | PGA8  |                                                                                       | A8311IB |

|                                                                                     |                                   |                   |      |                                    |                                                                                      |
|-------------------------------------------------------------------------------------|-----------------------------------|-------------------|------|------------------------------------|--------------------------------------------------------------------------------------|
|  | Stainless steel idented washers * | For ISO threading | Code | Adaptors and reducers RE... series |  |
|                                                                                     | M20                               | RD11IS/A4         |      |                                    |                                                                                      |
|                                                                                     | M25                               | RD12IS/A4         |      |                                    |                                                                                      |
|                                                                                     | M32                               | RD13IS/A4         |      |                                    |                                                                                      |
|                                                                                     | M40                               | RD14IS/A4         |      |                                    |                                                                                      |
|                                                                                     | M50                               | RD15IS/A4         |      |                                    |                                                                                      |
|                                                                                     | M63                               | RD16IS/A4         |      |                                    |                                                                                      |

\* For different threads contact the sales office.





**CABLE GLANDS SELECTION TABLE**

| Code<br>Nichel-plated<br>brass | Thread        | Dimensions in mm |     |     |    |     | Range      | Weight |
|--------------------------------|---------------|------------------|-----|-----|----|-----|------------|--------|
|                                |               | AC1              | AC2 | ØM  | F  | C   | ØD min-max | Kg     |
| FBF1BK                         | 1/2" ISO7/1   | 27               | 30  | 35  | 19 | 68  | 5 - 13     | 0,180  |
| FBF2BK                         | 3/4" ISO7/1   | 32               | 35  | 41  | 19 | 68  | 11 - 18    | 0,220  |
| FBF3BK                         | 1" ISO7/1     | 40               | 42  | 49  | 26 | 78  | 17 - 24    | 0,420  |
| FBF4BK                         | 1 1/4" ISO7/1 | 53               | 60  | 69  | 26 | 78  | 23 - 30    | 0,800  |
| FBF5BK                         | 1 1/2" ISO7/1 | 60               | 67  | 77  | 26 | 78  | 29 - 38    | 1,010  |
| FBF6BK                         | 2" ISO7/1     | 72               | 79  | 91  | 26 | 78  | 36 - 49    | 1,420  |
| FBF7BK                         | 2 1/2" ISO7/1 | 95               | 105 | 121 | 32 | 102 | 44 - 61    | 2,530  |
| FBF8BK                         | 3" ISO7/1     | 105              | 115 | 133 | 32 | 102 | 59 - 74    | 2,930  |
| FBF1NBK                        | 1/2" NPT      | 27               | 30  | 35  | 19 | 68  | 5 - 13     | 0,180  |
| FBF2NBK                        | 3/4" NPT      | 32               | 35  | 41  | 19 | 68  | 11 - 18    | 0,220  |
| FBF3NBK                        | 1" NPT        | 40               | 42  | 49  | 26 | 78  | 17 - 24    | 0,420  |
| FBF4NBK                        | 1 1/4" NPT    | 55               | 60  | 69  | 26 | 78  | 23 - 30    | 0,800  |
| FBF5NBK                        | 1 1/2" NPT    | 60               | 67  | 77  | 26 | 78  | 29 - 38    | 1,010  |
| FBF6NBK                        | 2" NPT        | 72               | 79  | 91  | 26 | 78  | 36 - 49    | 1,420  |
| FBF7NBK                        | 2 1/2" NPT    | 90               | 105 | 121 | 32 | 102 | 44 - 61    | 2,530  |
| FBF8NBK                        | 3" NPT        | 105              | 115 | 133 | 32 | 102 | 59 - 74    | 2,930  |
| FBF1IBK                        | M20x1,5       | 27               | 30  | 35  | 16 | 55  | 5 - 13     | 0,180  |
| FBF2IBK                        | M25x1,5       | 32               | 35  | 41  | 16 | 55  | 11 - 18    | 0,220  |
| FBF3IBK                        | M32x1,5       | 40               | 42  | 49  | 16 | 56  | 17 - 24    | 0,420  |
| FBF4IBK                        | M40x1,5       | 55               | 60  | 69  | 16 | 58  | 23 - 30    | 0,800  |
| FBF5IBK                        | M50x1,5       | 60               | 67  | 77  | 16 | 58  | 29 - 38    | 1,010  |
| FBF6IBK                        | M63x1,5       | 72               | 79  | 91  | 18 | 60  | 36 - 49    | 1,420  |
| FBF7IBK                        | M75x1,5       | 95               | 105 | 121 | 18 | 62  | 44 - 61    | 2,530  |
| FBF8IBK                        | M90x1,5       | 105              | 115 | 133 | 18 | 62  | 59 - 74    | 2,930  |

### Example of Order Code

|            |          |          |          |                      |
|------------|----------|----------|----------|----------------------|
| <b>FBF</b> | <b>3</b> | <b>I</b> | <b>B</b> | <b>K</b>             |
| MODEL      | SIZE     | THREAD   | MATERIAL | KIT OF SEALING RINGS |

Resin compound kit:  
Cable glands are supplied  
with a resin bag, mixing  
spatula and protective  
gloves.



For sealing system, diameter and maximum number of  
conductors to be used see "Sealing method" chapter

### TECHNICAL NOTES:

- The silicone o-ring for the IP protection for cylindrical threads (ISO metric) is supplied already assembled on cable gland
- Other materials upon request
- For "Ex i" intrinsically safe marking, blu nut RAL 5015 (example code FBF5BKIA)
- It's available upon request a version with mixed thread, of the same equivalence and size (example code for cable gland in nichel-plated brass Male 1"NPT - Female M32x1,5: FBF3NIBK)

FBN series barrier cable glands for non-armoured cable with threaded male exit, are used to ensure the IP 66/67 degree and the explosion protection in applications where the prescriptions of installation are required according to EN-IEC 60079-14:2015 Standards.



**Classification:**  
2014/34/UE

**Group II**

**Category 2GD**

**Installation:**  
EN 60079.14

**zone 1 - zone 2 (Gas)**

**zone 21 - zone 22 (Dust)**

**Marking:**

**CE 0722 Ex II 2 GD - Ex d IIC Gb Ex e IIC Gb Ex tb IIIC Db IP66/67**

**Certification:**

**ATEX CESI 00 ATEX 075**

**IECEx IECEx CES 14.0015X**

All IEC Ex and TR CU certification data can be downloaded at [www.cortemgroup.com](http://www.cortemgroup.com)

**TR CU AVAILABLE**

**Standards:**

CENELEC EN 60079-0: 2012, EN 60079-1: 2007, EN 60079-7: 2007, EN 60079-31: 2009 and European Directive 2014/34/UE  
IEC60079-0: 2011, IEC60079-1: 2007-04, IEC60079-31: 2008, IEC 60079-7: 2006-07  
Directive RoHS 2002/95/CE

**Class temperature:**

**-20°C +60°C**

**Degree of protection:**

**IP66/67**

**Interactive Point**



[FB assembly instructions video](#)

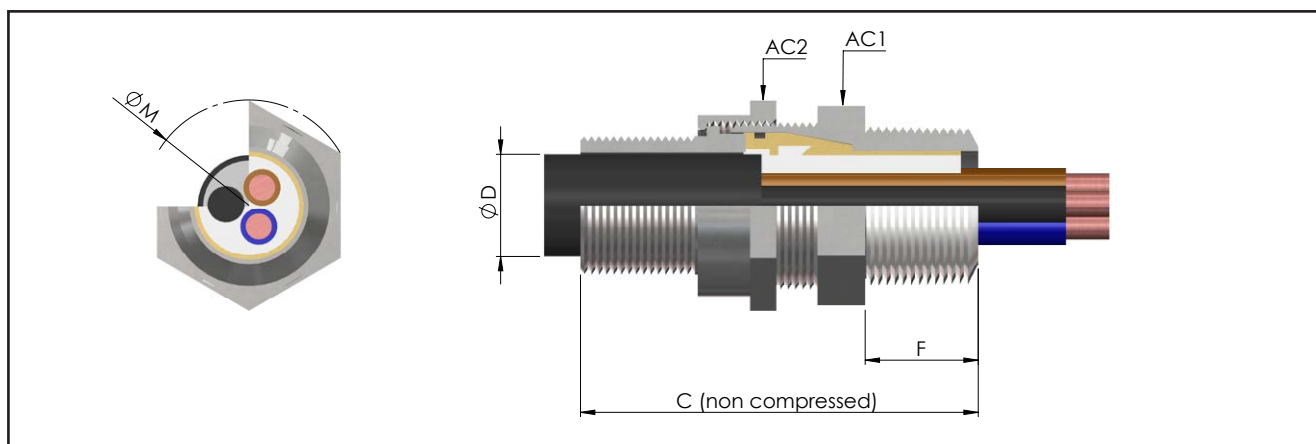
Certificates are available on [www.cortemgroup.com](http://www.cortemgroup.com)

#### Accessories upon request

| Locknut *                                                                           | ISO thread | Nichel-plated brass | Shrouds black PVC made                                                              | Code  | Nichel-plated brass earthing rings *                                                  | Code    |
|-------------------------------------------------------------------------------------|------------|---------------------|-------------------------------------------------------------------------------------|-------|---------------------------------------------------------------------------------------|---------|
|  | M20x1,5    | DL1IB               |  | PGA1  |  | A1311IB |
|                                                                                     | M25x1,5    | DL2IB               |                                                                                     | PGA2  |                                                                                       | A2311IB |
|                                                                                     | M32x1,5    | DL3IB               |                                                                                     | PGA3  |                                                                                       | A3311IB |
|                                                                                     | M40x1,5    | DL4IB               |                                                                                     | PGA6R |                                                                                       | A4311IB |
|                                                                                     | M50x1,5    | DL5IB               |                                                                                     | PGA6R |                                                                                       | A5311IB |
|                                                                                     | M63x1,5    | DL6IB               |                                                                                     | PGA6  |                                                                                       | A6311IB |
|                                                                                     | M75x1,5    | DL7IB               |                                                                                     | PGA7  |                                                                                       | A7311IB |
|                                                                                     | M90x1,5    | DL8IB               |                                                                                     | PGA8  |                                                                                       | A8311IB |

|                                                                                     |                   |           |                                                                                      |
|-------------------------------------------------------------------------------------|-------------------|-----------|--------------------------------------------------------------------------------------|
|  | For ISO threading | Code      | Adaptors and reducers RE... series                                                   |
|                                                                                     | M20               | RD11IS/A4 |  |
|                                                                                     | M25               | RD12IS/A4 |                                                                                      |
|                                                                                     | M32               | RD13IS/A4 |                                                                                      |
|                                                                                     | M40               | RD14IS/A4 |                                                                                      |
|                                                                                     | M50               | RD15IS/A4 |                                                                                      |
|                                                                                     | M63               | RD16IS/A4 |                                                                                      |

\* For different threads contact the sales office.



**CABLE GLANDS SELECTION TABLE**

| Code<br>Nichel-plated<br>brass | Thread        | Dimensions in mm |     |     |    |     | Range      | Weight |
|--------------------------------|---------------|------------------|-----|-----|----|-----|------------|--------|
|                                |               | AC1              | AC2 | ØM  | F  | C   | ØD min-max | Kg     |
| FBN1BK                         | 1/2" ISO7/1   | 27               | 30  | 35  | 19 | 75  | 5 - 13     | 0,180  |
| FBN2BK                         | 3/4" ISO7/1   | 32               | 35  | 41  | 19 | 75  | 11 - 18    | 0,220  |
| FBN3BK                         | 1" ISO7/1     | 40               | 42  | 49  | 26 | 82  | 17 - 24    | 0,420  |
| FBN4BK                         | 1 1/4" ISO7/1 | 53               | 60  | 69  | 26 | 94  | 23 - 30    | 0,800  |
| FBN5BK                         | 1 1/2" ISO7/1 | 60               | 67  | 77  | 26 | 94  | 29 - 38    | 1,010  |
| FBN6BK                         | 2" ISO7/1     | 72               | 79  | 91  | 26 | 94  | 36 - 49    | 1,420  |
| FBN7BK                         | 2 1/2" ISO7/1 | 95               | 105 | 121 | 32 | 106 | 44 - 61    | 2,530  |
| FBN8BK                         | 3" ISO7/1     | 105              | 115 | 133 | 32 | 106 | 59 - 74    | 2,930  |
| FBN1NBK                        | 1/2" NPT      | 27               | 30  | 35  | 19 | 68  | 5 - 13     | 0,180  |
| FBN2NBK                        | 3/4" NPT      | 32               | 35  | 41  | 19 | 68  | 11 - 18    | 0,220  |
| FBN3NBK                        | 1" NPT        | 40               | 42  | 49  | 26 | 78  | 17 - 24    | 0,420  |
| FBN4NBK                        | 1 1/4" NPT    | 55               | 60  | 69  | 26 | 78  | 23 - 30    | 0,800  |
| FBN5NBK                        | 1 1/2" NPT    | 60               | 67  | 77  | 26 | 78  | 29 - 38    | 1,010  |
| FBN6NBK                        | 2" NPT        | 72               | 79  | 91  | 26 | 78  | 36 - 49    | 1,420  |
| FBN7NBK                        | 2 1/2" NPT    | 90               | 105 | 121 | 32 | 102 | 44 - 61    | 2,530  |
| FBN8NBK                        | 3" NPT        | 105              | 115 | 133 | 32 | 102 | 59 - 74    | 2,930  |
| FBN1IBK                        | M20x1,5       | 27               | 30  | 35  | 16 | 55  | 5 - 13     | 0,180  |
| FBN2IBK                        | M25x1,5       | 32               | 35  | 41  | 16 | 55  | 11 - 18    | 0,220  |
| FBN3IBK                        | M32x1,5       | 40               | 42  | 49  | 16 | 56  | 17 - 24    | 0,420  |
| FBN4IBK                        | M40x1,5       | 55               | 60  | 69  | 16 | 58  | 23 - 30    | 0,800  |
| FBN5IBK                        | M50x1,5       | 60               | 67  | 77  | 16 | 58  | 29 - 38    | 1,010  |
| FBN6IBK                        | M63x1,5       | 72               | 79  | 91  | 18 | 60  | 36 - 49    | 1,420  |
| FBN7IBK                        | M75x1,5       | 95               | 105 | 121 | 18 | 62  | 44 - 61    | 2,530  |
| FBN8IBK                        | M90x1,5       | 105              | 115 | 133 | 18 | 62  | 59 - 74    | 2,930  |

### Example of Order Code

|            |          |          |          |                      |
|------------|----------|----------|----------|----------------------|
| <b>FBN</b> | <b>3</b> | <b>I</b> | <b>B</b> | <b>K</b>             |
| MODEL      | SIZE     | THREAD   | MATERIAL | KIT OF SEALING RINGS |

Resin compound kit:  
Cable glands are supplied  
with a resin bag, mixing  
spatula and protective  
gloves.



For sealing system, diameter and maximum number of  
conductors to be used see "Sealing method" chapter

### TECHNICAL NOTES:

- The silicone o-ring for the IP protection for cylindrical threads (ISO metric) is supplied already assembled on cable gland
- Other materials upon request
- For "Ex i" intrinsically safe marking, blu nut RAL 5015 (example code FBN5BK1A)
- It's available upon request a version with mixed thread, of the same equivalence and size (example code for cable gland in nichel-plated brass Male 1"NPT - Female M32x1,5: FBN3NIBK)

FGAB series barrier cable glands for armoured cable are used to ensure the IP 66/67 degree and the explosion protection in applications where prescriptions of installation are required according to EN-IEC 60079-14:2015 certification.



Interactive Point



[FGAB assembly instructions video](#)

|                                      |                                                                                                                                                                                                                                  |                          |
|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| <b>Classification:</b><br>2014/34/UE | Group II                                                                                                                                                                                                                         | Category 2GD             |
| <b>Installation:</b><br>EN 60079-14  | zone 1 - zone 2 (Gas)                                                                                                                                                                                                            | zone 21 - zone 22 (Dust) |
| <b>Marking:</b>                      | CE 0722 Ex II 2 GD - Ex d IIC Gb Ex e IIC Gb Ex tb IIIC Db IP66/67                                                                                                                                                               |                          |
| <b>Certification:</b>                | ATEX                                                                                                                                                                                                                             | CESI 00 ATEX 075         |
|                                      | IECEx                                                                                                                                                                                                                            | IECEx CES 14.0015X       |
|                                      | TR CU                                                                                                                                                                                                                            | AVAILABLE                |
| <b>Standards:</b>                    | CENELEC EN 60079-0: 2012, EN 60079-1: 2007, EN 60079-7: 2007, EN 60079-31: 2009 and European Directive 2014/34/UE<br>IEC60079-0: 2011, IEC60079-1: 2007-04, IEC60079-31: 2008, IEC 60079-7: 2006-07<br>Directive RoHS 2002/95/CE |                          |
| <b>Class temperature:</b>            | -20°C +60°C                                                                                                                                                                                                                      |                          |
| <b>Degree of protection:</b>         | IP66/67                                                                                                                                                                                                                          |                          |

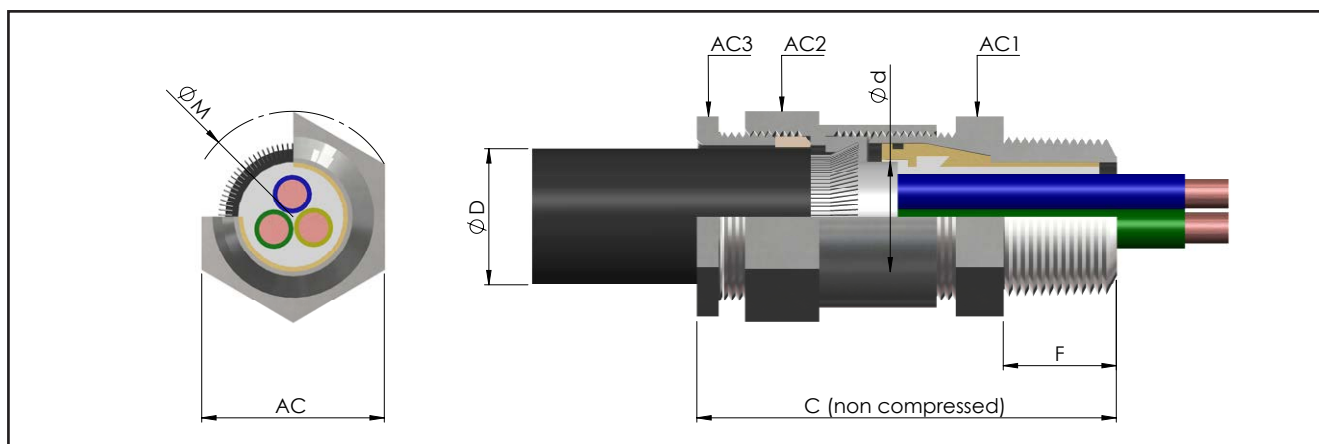
All IEC Ex and TR CU certification data can be downloaded at [www.cortemgroup.com](http://www.cortemgroup.com)

Certificates are available on [www.cortemgroup.com](http://www.cortemgroup.com)

| Accessories upon request                                                            |            |                     |                                                                                     |                                                                                      |                                                                                       |         |
|-------------------------------------------------------------------------------------|------------|---------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------|
| Locknut *                                                                           | ISO thread | Nichel-plated brass | Shrouds black PVC made                                                              | Code                                                                                 | Nichel-plated brass earthing rings *                                                  | Code    |
|  | M20x1,5    | DL1IB               |  | PGA1                                                                                 |  | A1311IB |
|                                                                                     | M25x1,5    | DL2IB               |                                                                                     | PGA2                                                                                 |                                                                                       | A2311IB |
|                                                                                     | M32x1,5    | DL3IB               |                                                                                     | PGA3                                                                                 |                                                                                       | A3311IB |
|                                                                                     | M40x1,5    | DL4IB               |                                                                                     | PGA6R                                                                                |                                                                                       | A4311IB |
|                                                                                     | M50x1,5    | DL5IB               |                                                                                     | PGA6R                                                                                |                                                                                       | A5311IB |
|                                                                                     | M63x1,5    | DL6IB               |                                                                                     | PGA6                                                                                 |                                                                                       | A6311IB |
|                                                                                     | M75x1,5    | DL7IB               |                                                                                     | PGA7                                                                                 |                                                                                       | A7311IB |
|                                                                                     | M90x1,5    | DL8IB               |                                                                                     | PGA8                                                                                 |                                                                                       | A8311IB |
| Stainless steel idented washers *                                                   |            | For ISO threading   | Code                                                                                | Adaptors and reducers RE... series                                                   |                                                                                       |         |
|  |            | M20                 | RD11IS/A4                                                                           |  |                                                                                       |         |
|                                                                                     |            | M25                 | RD12IS/A4                                                                           |                                                                                      |                                                                                       |         |
|                                                                                     |            | M32                 | RD13IS/A4                                                                           |                                                                                      |                                                                                       |         |
|                                                                                     |            | M40                 | RD14IS/A4                                                                           |                                                                                      |                                                                                       |         |
|                                                                                     |            | M50                 | RD15IS/A4                                                                           |                                                                                      |                                                                                       |         |
|                                                                                     |            | M63                 | RD16IS/A4                                                                           |                                                                                      |                                                                                       |         |

\* For different threads contact the sales office.




**CABLE GLANDS SELECTION TABLE**

| Code<br>Nichel-plated<br>brass | Thread      | Dimensions in mm |     |     |     |    |    | Range      |            | Armour<br>thickness<br>min-max | Weight<br><br>Kg |
|--------------------------------|-------------|------------------|-----|-----|-----|----|----|------------|------------|--------------------------------|------------------|
|                                |             | AC1              | AC2 | AC3 | ØM  | F  | C  | ØD min-max | Ød min-max |                                |                  |
| FGAB1BK/3                      | 1/2" ISO7/1 | 27               | 30  | 27  | 35  | 19 | 83 | 8 - 18     | 5 - 13     | 0,5 - 1,4                      | 0,140            |
| FGAB2BK/3                      | 3/4" ISO7/1 | 32               | 35  | 32  | 41  | 19 | 58 | 17 - 25    | 11 - 18    | 0,5 - 1,8                      | 0,170            |
| FGAB3BK/2                      | 1" ISO7/1   | 40               | 42  | 40  | 49  | 26 | 66 | 23 - 32    | 17 - 24    | 0,5 - 2                        | 0,275            |
| FGAB4BK                        | 1 ¼" ISO7/1 | 53               | 60  | 50  | 69  | 26 | 68 | 29 - 39    | 23 - 30    | 0,9 - 2                        | 0,390            |
| FGAB5BK                        | 1 ½" ISO7/1 | 60               | 67  | 55  | 77  | 26 | 68 | 36 - 46    | 29 - 38    | 1,2 - 2,5                      | 0,510            |
| FGAB6BK                        | 2" ISO7/1   | 72               | 79  | 72  | 91  | 26 | 68 | 44 - 60    | 36 - 49    | 1,3 - 2,5                      | 0,720            |
| FGAB7BK                        | 2 ½" ISO7/1 | 95               | 105 | 82  | 121 | 32 | 76 | 51 - 70    | 44 - 61    | 1,3 - 2,5                      | 1,220            |
| FGAB8BK                        | 3" ISO7/1   | 105              | 115 | 103 | 133 | 32 | 76 | 65 - 81    | 59 - 74    | 1,5 - 3,2                      | 1,580            |
| FGAB1NBK/3                     | 1/2" NPT    | 27               | 30  | 27  | 35  | 19 | 58 | 8 - 18     | 5 - 13     | 0,5 - 1,4                      | 0,140            |
| FGAB2NBK/3                     | 3/4" NPT    | 32               | 35  | 32  | 41  | 19 | 58 | 17 - 25    | 11 - 18    | 0,5 - 1,8                      | 0,170            |
| FGAB3NBK/2                     | 1" NPT      | 40               | 42  | 40  | 49  | 26 | 66 | 23 - 32    | 17 - 24    | 0,5 - 2                        | 0,275            |
| FGAB4NBK                       | 1 ¼" NPT    | 55               | 60  | 50  | 69  | 26 | 68 | 29 - 39    | 23 - 30    | 0,9 - 2                        | 0,390            |
| FGAB5NBK                       | 1 ½" NPT    | 60               | 67  | 55  | 77  | 26 | 68 | 36 - 46    | 29 - 38    | 1,2 - 2,5                      | 0,510            |
| FGAB6NBK                       | 2" NPT      | 72               | 79  | 72  | 91  | 26 | 68 | 44 - 60    | 36 - 49    | 1,3 - 2,5                      | 0,720            |
| FGAB7NBK                       | 2 ½" NPT    | 90               | 105 | 82  | 121 | 32 | 76 | 51 - 70    | 44 - 61    | 1,3 - 2,5                      | 1,220            |
| FGAB8NBK                       | 3" NPT      | 105              | 115 | 103 | 133 | 32 | 76 | 65 - 81    | 59 - 74    | 1,5 - 3,2                      | 1,580            |
| FGAB1IBK/3                     | M20x1,5     | 27               | 30  | 27  | 35  | 16 | 55 | 8 - 18     | 5 - 13     | 0,5 - 1,4                      | 0,140            |
| FGAB2IBK/3                     | M25x1,5     | 32               | 35  | 32  | 41  | 16 | 55 | 17 - 25    | 11 - 18    | 0,5 - 1,8                      | 0,170            |
| FGAB3IBK/2                     | M32x1,5     | 40               | 42  | 40  | 49  | 16 | 56 | 23 - 32    | 17 - 24    | 0,5 - 2                        | 0,275            |
| FGAB4IBK                       | M40x1,5     | 55               | 60  | 50  | 69  | 16 | 58 | 29 - 39    | 23 - 30    | 0,9 - 2                        | 0,390            |
| FGAB5IBK                       | M50x1,5     | 60               | 67  | 55  | 77  | 16 | 58 | 36 - 46    | 29 - 38    | 1,2 - 2,5                      | 0,510            |
| FGAB6IBK                       | M63x1,5     | 72               | 79  | 72  | 91  | 18 | 60 | 44 - 60    | 36 - 49    | 1,3 - 2,5                      | 0,720            |
| FGAB7IBK                       | M75x1,5     | 95               | 105 | 82  | 121 | 18 | 62 | 51 - 70    | 44 - 61    | 1,3 - 2,5                      | 1,220            |
| FGAB8IBK                       | M90x1,5     | 105              | 115 | 103 | 133 | 18 | 62 | 65 - 81    | 59 - 74    | 1,5 - 3,2                      | 1,580            |

**Example of Order Code**

|             |          |          |          |                      |                      |
|-------------|----------|----------|----------|----------------------|----------------------|
| <b>FGAB</b> | <b>3</b> | <b>I</b> | <b>B</b> | <b>K</b>             | <b>2</b>             |
| MODEL       | SIZE     | THREAD   | MATERIAL | KIT OF SEALING RINGS | SUPPLIED IN PACKAGES |

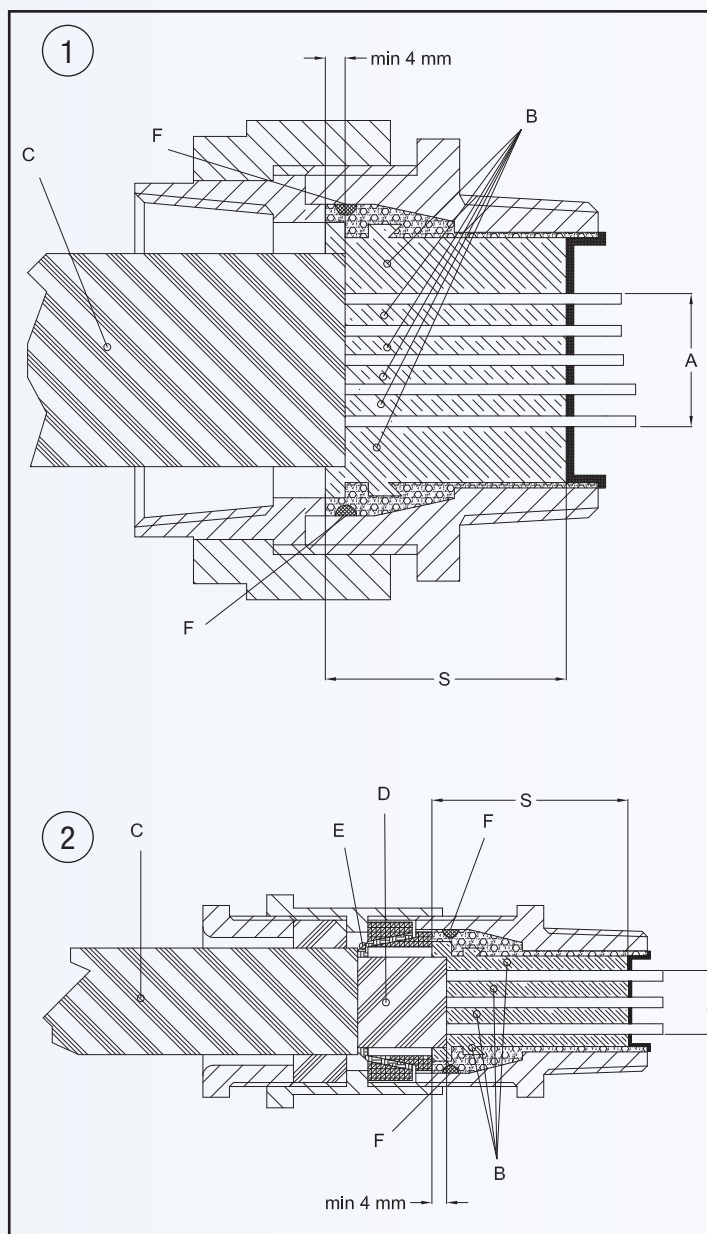
Resin compound kit:  
Cable glands are supplied  
with a resin bag, mixing  
spatula and protective  
gloves.



For sealing system, diameter and maximum number of  
conductors to be used see "Sealing method" chapter

**TECHNICAL NOTES:**

- The silicone o-ring for the IP protection for cylindrical threads (ISO metric) is supplied already assembled on cable gland
- Other materials upon request
- For "Ex i" intrinsically safe marking, blu nut RAL 5015 (example code FGAB5BK1A)

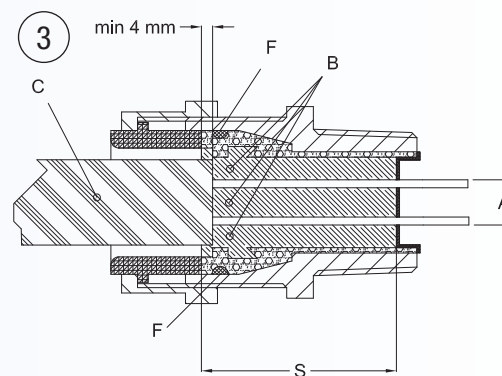


## Note:

1. Amount of resin  $S \geq 20\text{mm}$
2. a= sealed conductors
3. b= bi-component resin
4. c= external sheat of cable
5. d= internal sheat of cable
6. e= cable armour
7. f= sealing ring for IP protection
8. min. 4 mm (sealing for external sheat of the cable mandatory)

## Examples of resined barrier cable glands:

1. FBF series for non-armoured cable
2. FGAB series for armoured cable
3. FB series for non-armoured cable



## DIMENSIONS (mm)

| Conductors section<br>mm <sup>2</sup> | Maximum number of<br>conductors | Ø internal cable<br>min-max | Ø external cable<br>min-max | Size NPT cable gland |
|---------------------------------------|---------------------------------|-----------------------------|-----------------------------|----------------------|
| 1,0                                   | 4                               | 5-10                        | 8-14                        | 1/2"                 |
| 1,5                                   | 7                               | 5-13                        | 8-18                        | 1/2"                 |
|                                       | 12                              | 11-18                       | 17-25                       | 3/4"                 |
|                                       | 27                              | 17-24                       | 23-32                       | 1"                   |
|                                       | 37                              | 23-30                       | 29-39                       | 1 1/4"               |
| 2,5                                   | 5                               | 5-13                        | 8-18                        | 1/2"                 |
|                                       | 10                              | 11-18                       | 17-25                       | 3/4"                 |
|                                       | 19                              | 17-24                       | 23-32                       | 1"                   |
| 4,0                                   | 3                               | 5-13                        | 8-18                        | 1/2"                 |
|                                       | 5                               | 11-18                       | 17-25                       | 3/4"                 |
| 6,0                                   | 1                               | 5-13                        | 8-18                        | 1/2"                 |
|                                       | 5                               | 11-18                       | 17-25                       | 3/4"                 |
| 10,0                                  | 1                               | 5-13                        | 8-18                        | 1/2"                 |
|                                       | 3                               | 11-18                       | 17-25                       | 3/4"                 |
|                                       | 5                               | 17-24                       | 23-32                       | 1"                   |

| <b>DIMENSIONS (mm)</b>                       |                                         |                                     |                                     |                             |
|----------------------------------------------|-----------------------------------------|-------------------------------------|-------------------------------------|-----------------------------|
| <b>Conductors section<br/>mm<sup>2</sup></b> | <b>Maximum number of<br/>conductors</b> | <b>Ø internal cable<br/>min-max</b> | <b>Ø external cable<br/>min-max</b> | <b>Size NPT cable gland</b> |
| 16,0                                         | 1                                       | 5-13                                | 8-18                                | 1/2"                        |
|                                              | 2                                       | 11-18                               | 17-25                               | 3/4"                        |
|                                              | 4                                       | 17-24                               | 23-32                               | 1"                          |
|                                              | 5                                       | 23-30                               | 29-39                               | 1 ¼"                        |
| 25,0                                         | 1                                       | 5-13                                | 8-18                                | 1/2"                        |
|                                              | 1                                       | 11-18                               | 17-25                               | 3/4"                        |
|                                              | 3                                       | 17-24                               | 23-32                               | 1"                          |
|                                              | 5                                       | 23-30                               | 29-39                               | 1 ¼"                        |
| 35,0                                         | 1                                       | 5-13                                | 8-18                                | 1/2"                        |
|                                              | 1                                       | 11-18                               | 17-25                               | 3/4"                        |
|                                              | 3                                       | 17-24                               | 23-32                               | 1"                          |
|                                              | 5                                       | 23-30                               | 29-39                               | 1 ¼"                        |
| 50,0                                         | 1                                       | 11-18                               | 17-25                               | 3/4"                        |
|                                              | 1                                       | 17-24                               | 23-32                               | 1"                          |
|                                              | 3                                       | 23-30                               | 29-39                               | 1 ¼"                        |
|                                              | 4                                       | 29-38                               | 36-46                               | 1 ½"                        |
|                                              | 5                                       | 36-49                               | 44-60                               | 2"                          |
| 70,0                                         | 1                                       | 11-18                               | 17-25                               | 3/4"                        |
|                                              | 1                                       | 17-24                               | 23-32                               | 1"                          |
|                                              | 2                                       | 23-30                               | 29-39                               | 1 ¼"                        |
|                                              | 4                                       | 29-38                               | 36-46                               | 1 ½"                        |
|                                              | 5                                       | 36-49                               | 44-60                               | 2"                          |
| 95,0                                         | 1                                       | 17-24                               | 23-32                               | 1"                          |
|                                              | 1                                       | 23-30                               | 29-39                               | 1 ¼"                        |
|                                              | 2                                       | 29-38                               | 36-46                               | 1 ½"                        |
|                                              | 5                                       | 36-49                               | 44-60                               | 2"                          |
| 120,0                                        | 1                                       | 17-24                               | 23-32                               | 1"                          |
|                                              | 1                                       | 23-30                               | 29-39                               | 1 ¼"                        |
|                                              | 1                                       | 29-38                               | 36-46                               | 1 ½"                        |
|                                              | 4                                       | 36-49                               | 44-60                               | 2"                          |
| 150,0                                        | 1                                       | 17-24                               | 23-32                               | 1"                          |
|                                              | 1                                       | 23-30                               | 29-39                               | 1 ¼"                        |
|                                              | 1                                       | 29-38                               | 36-46                               | 1 ½"                        |
|                                              | 3                                       | 36-49                               | 44-60                               | 2"                          |
|                                              | 4                                       | 44-61                               | 51-70                               | 2 ½"                        |
| 185,0                                        | 1                                       | 23-30                               | 29-39                               | 1 ¼"                        |
|                                              | 1                                       | 29-38                               | 36-46                               | 1 ½"                        |
|                                              | 1                                       | 36-49                               | 44-60                               | 2"                          |
|                                              | 4                                       | 44-61                               | 51-70                               | 2 ½"                        |
| 240,0                                        | 1                                       | 23-30                               | 29-39                               | 1 ¼"                        |
|                                              | 1                                       | 29-38                               | 36-46                               | 1 ½"                        |
|                                              | 1                                       | 36-49                               | 44-60                               | 2"                          |
|                                              | 3                                       | 44-61                               | 51-70                               | 2 ½"                        |
|                                              | 4                                       | 59-74                               | 65-84                               | 3"                          |
| 300,0                                        | 1                                       | 29-38                               | 36-46                               | 1 ½"                        |
|                                              | 1                                       | 36-49                               | 44-60                               | 2"                          |
|                                              | 1                                       | 44-61                               | 51-70                               | 2 ½"                        |
|                                              | 4                                       | 59-74                               | 65-84                               | 3"                          |
| 400,0                                        | 1                                       | 23-30                               | 29-39                               | 1 ¼"                        |
|                                              | 1                                       | 29-38                               | 36-46                               | 1 ½"                        |
|                                              | 1                                       | 36-49                               | 44-60                               | 2"                          |
|                                              | 1                                       | 44-61                               | 51-70                               | 2 ½"                        |
| 500,0                                        | 1                                       | 29-37,5                             | 36-46                               | 1 ½"                        |
|                                              | 1                                       | 36-48,5                             | 44-60                               | 2"                          |
|                                              | 1                                       | 44-61                               | 51-70                               | 2 ½"                        |
| 630,0                                        | 1                                       | 29-38                               | 36-46                               | 1 ½"                        |
|                                              | 1                                       | 36-49                               | 44-60                               | 2"                          |
|                                              | 1                                       | 44-61                               | 51-70                               | 2 ½"                        |

UNI series cable glands in polyamide with ISO thread are used in hazardous areas to allow direct insertions of unarmoured cables into Ex e (UNI..XE) or Ex i (UNI..XI) equipment or junction boxes. They can be installed easily, they are strikes resistant until 7J and they ensure Ex e and IP protection on the cable external sheath.



Interactive Point



[UNI assembly instructions video](#)

**Classification:**  
2014/34/UE

Group II

Category 2GD

**Installation:**  
EN 60079.14

zone 1 - zone 2 (Gas)

zone 21 - zone 22 (Dust)

**Marking:**

CE 0722 Ex II 2 GD - Ex e IIC Gb Ex tb IIIC Db IP66/68  
CE 0722 Ex II 2 GD - Ex i IIC Gb Ex tb IIIC Db IP66/68

**Certification:**

ATEX IMQ 16 ATEX 005X

IECEX IECEX IMQ 15.0009X

**Standards:**

CENELEC EN 60079-0: 2012, EN 60079-7: 2007,  
EN 60079-11: 2012, EN 60079-31: 2014 and European  
Directive 2014/34/UE  
IEC 60079-0: 2011, IEC 60079-7: 2006,  
IEC 60079-11: 2012, IEC 60079-31: 2014  
Directive RoHS 2002/95/CE

**Class temperature:**

-60°C +70°C

**Degree of protection:**

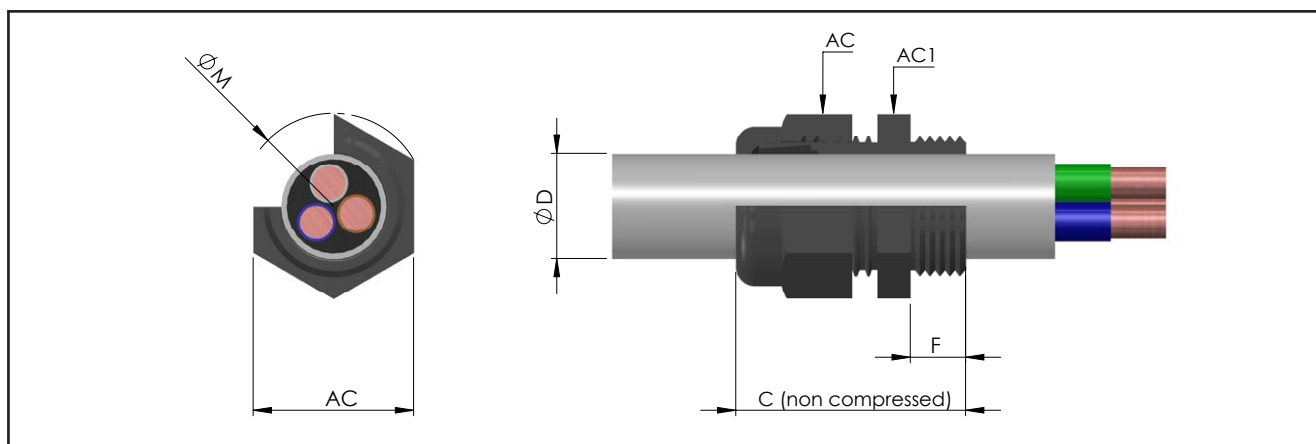
IP66/68

Certificates are available on [www.cortemgroup.com](http://www.cortemgroup.com)

### Accessories upon request

| Locknut                                                                             | ISO thread | Code     | Material  | Plugs for IP protection                                                              | ISO thread | Code |
|-------------------------------------------------------------------------------------|------------|----------|-----------|--------------------------------------------------------------------------------------|------------|------|
|  | M12x1,5    | DL02IXEP | Polyamide |  | M12x1,5    | PT02 |
|                                                                                     | M16x1,5    | DL01IXEP |           |                                                                                      | M16x1,5    | PT01 |
|                                                                                     | M20x1,5    | DL11IXEP |           |                                                                                      | M20x1,5    | PT1  |
|                                                                                     | M25x1,5    | DL21IXEP |           |                                                                                      | M25x1,5    | PT2  |
|                                                                                     | M32x1,5    | DL31IXEP |           |                                                                                      | M32x1,5    | PT3  |
|                                                                                     | M40x1,5    | DL41IXEP |           |                                                                                      | M40x1,5    | PT4  |
|                                                                                     | M50x1,5    | DL51IXEP |           |                                                                                      | M50x1,5    | PT5  |
|                                                                                     | M63x1,5    | DL61IXEP |           |                                                                                      | M63x1,5    | PT6  |





**CABLE GLANDS SELECTION TABLE**

| Code<br><b>Polyamide</b> | Method of protection | Thread  | Dimensions in mm |     |    |    |      | Range      | Weight |
|--------------------------|----------------------|---------|------------------|-----|----|----|------|------------|--------|
|                          |                      |         | AC               | AC1 | ØM | F  | C    | ØD min-max | Kg     |
| UNI02XE7                 | Ex e                 | M12x1,5 | 15               | 15  | 17 | 10 | 32   | 4 - 6,5    | 0,004  |
| UNI01LXE7                |                      | M16x1,5 | 22               | 22  | 25 | 15 | 44,5 | 6 - 10     | 0,006  |
| UNI1LXE7                 |                      | M20x1,5 | 24               | 24  | 28 | 15 | 45   | 7 - 12     | 0,010  |
| UNI2LXE7                 |                      | M25x1,5 | 33               | 33  | 38 | 15 | 50   | 14 - 18    | 0,016  |
| UNI3XE7                  |                      | M32x1,5 | 42               | 42  | 48 | 15 | 55,5 | 19 - 25    | 0,042  |
| UNI4XE7                  |                      | M40x1,5 | 53               | 53  | 60 | 18 | 68   | 23 - 32    | 0,074  |
| UNI5XE7                  |                      | M50x1,5 | 60               | 60  | 69 | 18 | 72   | 31 - 38    | -      |
| UNI6XE7                  |                      | M63x1,5 | 65               | 65  | 75 | 18 | 72   | 35 - 44    | -      |
| UNI02XI7                 | Ex i                 | M12x1,5 | 15               | 15  | 17 | 10 | 32   | 4 - 6,5    | 0,004  |
| UNI01LXI7                |                      | M16x1,5 | 22               | 22  | 25 | 15 | 44,5 | 6 - 10     | 0,006  |
| UNI1LXI7                 |                      | M20x1,5 | 24               | 24  | 28 | 15 | 45   | 7 - 12     | 0,010  |
| UNI2LXI7                 |                      | M25x1,5 | 33               | 33  | 38 | 15 | 50   | 14 - 18    | 0,016  |
| UNI3XI7                  |                      | M32x1,5 | 42               | 42  | 48 | 15 | 55,5 | 19 - 25    | 0,042  |
| UNI4XI7                  |                      | M40x1,5 | 53               | 53  | 60 | 18 | 68   | 23 - 32    | 0,074  |
| UNI5XI7                  |                      | M50x1,5 | 60               | 60  | 69 | 18 | 72   | 31 - 38    | -      |
| UNI6XI7                  |                      | M63x1,5 | 65               | 65  | 75 | 18 | 72   | 35 - 44    | -      |

### Example of Order Code

|            |          |                               |                                 |             |
|------------|----------|-------------------------------|---------------------------------|-------------|
| <b>UNI</b> | <b>2</b> | <b>L</b>                      | <b>XE</b>                       | <b>7</b>    |
| MODEL      | SIZE     | INCREASED<br>THREAD<br>LENGHT | METHOD OF<br>PROTECTION<br>Ex e | SERIE<br>7J |

### TECHNICAL NOTES:

- Silicone gaskets
- Color of cable gland black RAL 9005 (Ex e) or blue RAL 5015 (Ex i)
- Strikes resistant 7J
- Different lenght of thread

UNP series cable glands with PG thread are used in hazardous areas to allow the direct insertions of non-armoured cables into 'Ex e' (UNP...XE) or 'Ex i' (UNP...XI) equipment or junction boxes. They can be installed easily, they are strikes resistant until 7J and they ensure Ex and IP protection on the cable external sheath.



Interactive Point



[UNP assembly instructions video](#)

**Classification:**  
2014/34/UE

Group II

Category 2GD

**Installation:**  
EN 60079.14

zone 1 - zone 2 (Gas)

zone 21 - zone 22 (Dust)

**Marking:**

CE 0722 Ex II 2 GD - Ex e IIC Gb Ex tb IIIC Db IP66/68  
CE 0722 Ex II 2 GD - Ex i IIC Gb Ex tb IIIC Db IP66/68

**Certification:**

ATEX IMQ 16 ATEX 005X

IECEX IECEX IMQ 15.0009X

**Standards:**

CENELEC EN 60079-0: 2012, EN 60079-7: 2007, EN 60079-11: 2012, EN 60079-31: 2014 and European Directive 2014/34/UE  
IEC 60079-0: 2011, IEC 60079-7: 2006, IEC 60079-11: 2012, IEC 60079-31: 2014  
Directive RoHS 2002/95/CE

**Class temperature:**

-60°C +70°C

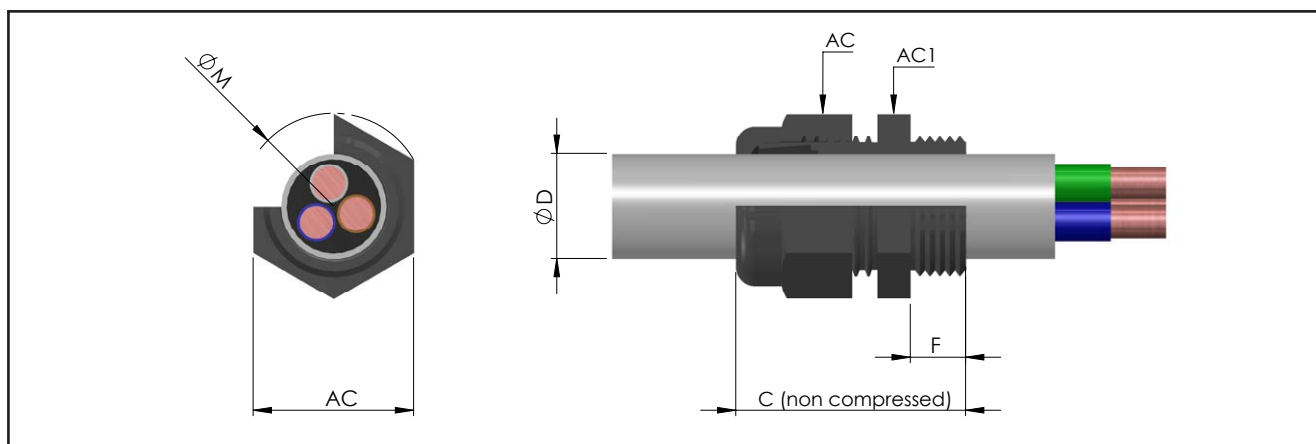
**Degree of protection:**

IP66/68

Certificates are available on [www.cortemgroup.com](http://www.cortemgroup.com)

### Accessories upon request

| Locknut                                                                             | Thread PG | Code     | Material  | Plugs for IP protection                                                              | Thread PG | Code  |
|-------------------------------------------------------------------------------------|-----------|----------|-----------|--------------------------------------------------------------------------------------|-----------|-------|
|  | 7         | DL1PXEP  | Polyamide |  | 7         | PT7   |
|                                                                                     | 9         | DL2PXEP  |           |                                                                                      | 9         | PT01E |
|                                                                                     | 11        | DL3PXEP  |           |                                                                                      | 11        | PT01L |
|                                                                                     | 13,5      | DL4PXEP  |           |                                                                                      | 13,5      | PT1   |
|                                                                                     | 16        | DL5PXEP  |           |                                                                                      | 16        | PT1L  |
|                                                                                     | 21        | DL6PXEP  |           |                                                                                      | 21        | PT2L  |
|                                                                                     | 29        | DL7PXEP  |           |                                                                                      | 29        | PT3L  |
|                                                                                     | 36        | DL8PXEP  |           |                                                                                      | 36        | PT4L  |
|                                                                                     | 42        | DL9PXEP  |           |                                                                                      | 42        | PT5   |
|                                                                                     | 48        | DL10PXEP |           |                                                                                      | 48        | PT6   |



**CABLE GLANDS SELECTION TABLE**

| Code<br><b>Polyamide</b> | Method of protection | Thread  | Dimensions in mm |     |      |    |      | Range      | Weight |
|--------------------------|----------------------|---------|------------------|-----|------|----|------|------------|--------|
|                          |                      |         | AC               | AC1 | ØM   | F  | C    | ØD min-max | Kg     |
| UNP1XE7                  | Ex e                 | PG 7    | 15               | 15  | 17   | 10 | 32   | 4 - 6,5    |        |
| UNP2XE7                  |                      | PG 9    | 19               | 19  | 22   | 10 | 36   | 5 - 8      |        |
| UNP3LXE7                 |                      | PG 11   | 22               | 22  | 25   | 15 | 44,5 | 6 - 10     |        |
| UNP4LXE7                 |                      | PG 13,5 | 24               | 24  | 25,5 | 15 | 45   | 7 - 12     |        |
| UNP5LXE7                 |                      | PG 16   | 27               | 27  | 31   | 15 | 48   | 11 - 14    |        |
| UNP6LXE7                 |                      | PG 21   | 33               | 33  | 38   | 15 | 50   | 14 - 18    |        |
| UNP7XE7                  |                      | PG 29   | 42               | 42  | 48   | 15 | 55,5 | 19 - 25    |        |
| UNP8XE7                  |                      | PG 36   | 53               | 53  | 61   | 18 | 68   | 23 - 32    |        |
| UNP9XE7                  |                      | PG 42   | 60               | 60  | 70   | 18 | 72   | 31 - 38    |        |
| UNP10XE7                 |                      | PG 48   | 65               | 65  | 75   | 18 | 72   | 35 - 44    |        |
| UNP1XI7                  | Ex i                 | PG 7    | 15               | 15  | 17   | 10 | 32   | 4 - 6,5    |        |
| UNP2XI7                  |                      | PG 9    | 19               | 19  | 22   | 10 | 36   | 5 - 8      |        |
| UNP3LXI7                 |                      | PG 11   | 22               | 22  | 25   | 15 | 44,5 | 6 - 10     |        |
| UNP4LXI7                 |                      | PG 13,5 | 24               | 24  | 25,5 | 15 | 45   | 7 - 12     |        |
| UNP5LXI7                 |                      | PG 16   | 27               | 27  | 31   | 15 | 48   | 11 - 14    |        |
| UNP6LXI7                 |                      | PG 21   | 33               | 33  | 38   | 15 | 50   | 14 - 18    |        |
| UNP7XI7                  |                      | PG 29   | 42               | 42  | 48   | 15 | 55,5 | 19 - 25    |        |
| UNP8XI7                  |                      | PG 36   | 53               | 53  | 61   | 18 | 68   | 23 - 32    |        |
| UNP9XI7                  |                      | PG 42   | 60               | 60  | 70   | 18 | 72   | 31 - 38    |        |
| UNP10XI7                 |                      | PG 48   | 65               | 65  | 75   | 18 | 72   | 35 - 44    |        |

**Example of Order Code**

|            |          |                               |                                 |             |
|------------|----------|-------------------------------|---------------------------------|-------------|
| <b>UNP</b> | <b>3</b> | <b>L</b>                      | <b>XI</b>                       | <b>7</b>    |
| MODEL      | SIZE     | INCREASED<br>THREAD<br>LENGHT | METHOD OF<br>PROTECTION<br>Ex i | SERIE<br>7J |

**TECHNICAL NOTES:**

- Silicone gaskets
- Color of cable gland black RAL 9005 (Ex e) or blue RAL 5015 (Ex i)
- Strikes resistant 7J
- Different lenght of thread

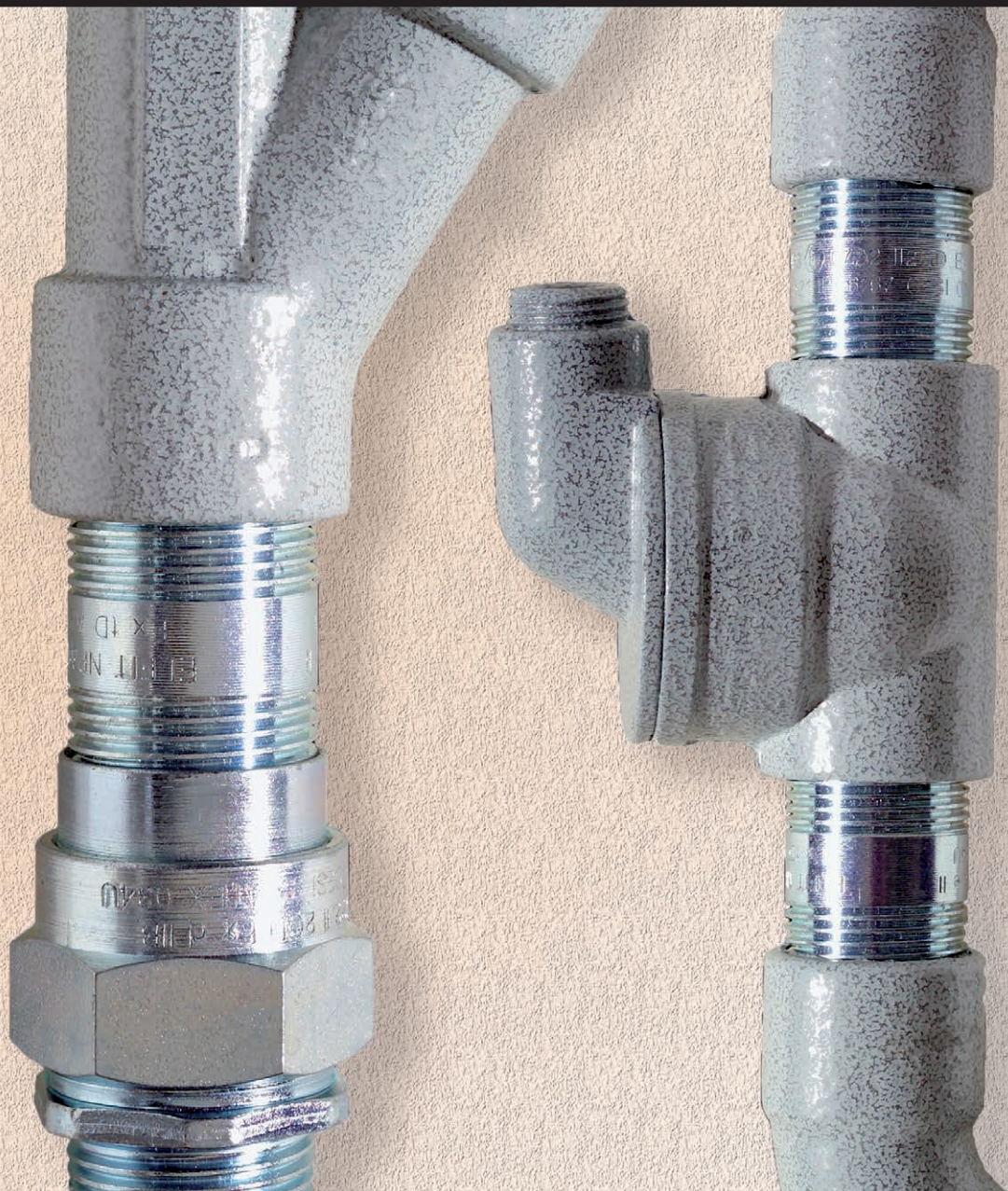






# Electrical fittings for electrical plants

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BMF series three pieces unions for IIB gas group enable an independent rotation and the connection between pipes, enclosures or different equipment.



|                                      |                                                                |                                 |
|--------------------------------------|----------------------------------------------------------------|---------------------------------|
| <b>Classification:</b><br>2014/34/UE | <b>Group II</b>                                                | <b>Category 2GD</b>             |
| <b>Installation:</b><br>EN 60079.14  | <b>zone 1 - zone 2 (Gas)</b>                                   | <b>zone 21 - zone 22 (Dust)</b> |
| <b>Marking:</b>                      | <b>CE 0722 Ex II 2 GD Ex d IIB Gb Ex tb IIIC Db IP66 (B..)</b> |                                 |
| <b>Certification:</b>                | <b>ATEX</b>                                                    | <b>CESI 99 ATEX 034U</b>        |
|                                      | <b>IECEx</b>                                                   | <b>IECEx CES 10.0002U</b>       |
|                                      | <b>TR CU</b>                                                   | <b>AVAILABLE</b>                |

All IEC Ex and TR CU certification data can be downloaded at [www.cortemgroup.com](http://www.cortemgroup.com)

|                              |                                                                                                                                                                                       |
|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Standards:</b>            | CENELEC EN 60079-0: 2012, EN 60079-1: 2007, EN 60079-31: 2009 and EUROPEAN DIRECTIVE 2014/34/UE<br>IEC60079-0: 2011, IEC60079-1: 2007-04, IEC60079-31: 2008 Directive RoHS 2002/95/CE |
| <b>Degree of protection:</b> | <b>IP66/67</b>                                                                                                                                                                        |

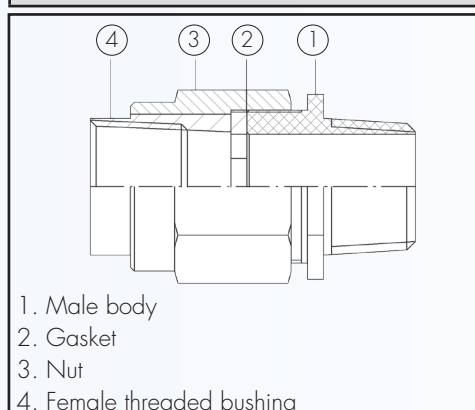


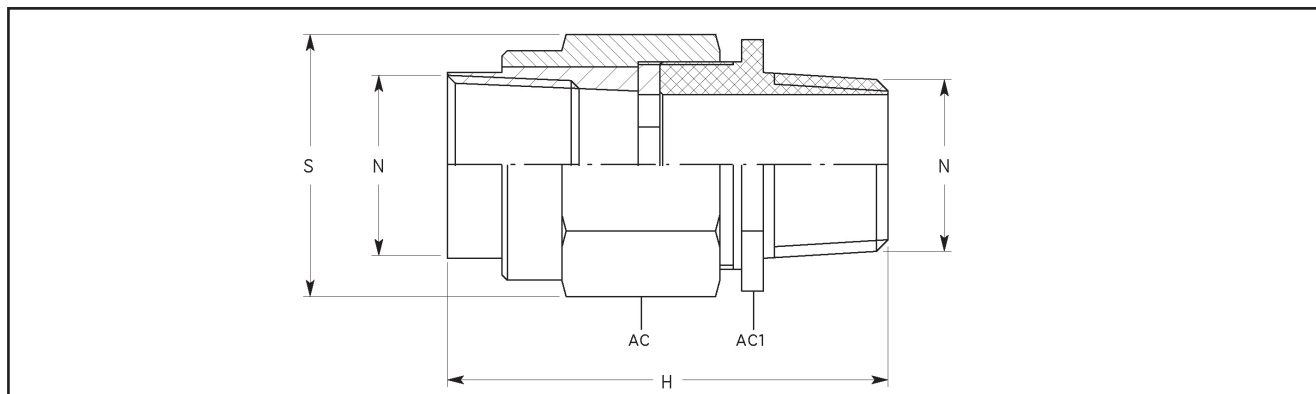
**Operating temperature:**

| Three pieces unions series | Materials                                                       | Gaskets  | Ambient temperature |
|----------------------------|-----------------------------------------------------------------|----------|---------------------|
| <b>BMF...</b>              | Galvanised steel ( <b>G</b> ), Nichel-plated brass ( <b>B</b> ) | Silicone | -20°C +60°C         |
| <b>BMF...S</b>             | Stainless steel ( <b>S</b> )                                    | Silicone | -55°C +60°C         |

Certificates are available on [www.cortemgroup.com](http://www.cortemgroup.com)

#### COMPOSITION OF STANDARD UNION





### UNIONS SELECTION TABLE

| Code<br>In galvanised<br>steel | Thread N      | Dimensions in mm |     |     |     | Weight |
|--------------------------------|---------------|------------------|-----|-----|-----|--------|
|                                |               | H                | S   | AC  | AC1 | Kg     |
| BMF1G                          | 1/2" ISO7/1   | 60               | 35  | 30  | 27  | 0,150  |
| BMF2G                          | 3/4" ISO7/1   | 61               | 40  | 35  | 32  | 0,185  |
| BMF3G                          | 1" ISO7/1     | 71,5             | 48  | 42  | 40  | 0,300  |
| BMF4G                          | 1 1/4" ISO7/1 | 86               | 60  | 55  | 59  | 0,760  |
| BMF5G                          | 1 1/2" ISO7/1 | 86,5             | 75  | 70  | 67  | 1,000  |
| BMF6G                          | 2" ISO7/1     | 88               | 90  | 84  | 77  | 1,400  |
| BMF7G                          | 2 1/2" ISO7/1 | 107              | 117 | 108 | 99  | 2,350  |
| BMF8G                          | 3" ISO7/1     | 109              | 132 | 121 | 108 | 2,800  |
| BMF10G                         | 4" ISO7/1     | 116,5            | 152 | 145 | 135 | 4,160  |
| BMF1NG                         | 1/2" NPT      | 60               | 35  | 30  | 27  | 0,150  |
| BMF2NG                         | 3/4" NPT      | 61               | 40  | 35  | 32  | 0,185  |
| BMF3NG                         | 1" NPT        | 71,5             | 48  | 42  | 40  | 0,300  |
| BMF4NG                         | 1 1/4" NPT    | 86               | 60  | 55  | 59  | 0,760  |
| BMF5NG                         | 1 1/2" NPT    | 86,5             | 75  | 70  | 67  | 1,000  |
| BMF6NG                         | 2" NPT        | 88               | 90  | 84  | 77  | 1,400  |
| BMF7NG                         | 2 1/2" NPT    | 107              | 117 | 108 | 99  | 2,350  |
| BMF8NG                         | 3" NPT        | 109              | 132 | 121 | 108 | 2,800  |
| BMF10NG                        | 4" NPT        | 116,5            | 152 | 145 | 135 | 4,160  |
| BMF1IG                         | M20x1,5       | 60               | 35  | 30  | 27  | 0,150  |
| BMF2IG                         | M25x1,5       | 61               | 40  | 35  | 32  | 0,185  |
| BMF3IG                         | M32x1,5       | 71,5             | 48  | 42  | 40  | 0,300  |
| BMF4IG                         | M40x1,5       | 86               | 60  | 55  | 59  | 0,760  |
| BMF5IG                         | M50x1,5       | 86,5             | 75  | 70  | 67  | 1,000  |
| BMF6IG                         | M63x1,5       | 88               | 90  | 84  | 77  | 1,400  |
| BMF7IG                         | M75x1,5       | 107              | 117 | 108 | 99  | 2,350  |
| BMF8IG                         | M90x1,5       | 109              | 132 | 121 | 108 | 2,800  |
| BMF10IG                        | M100x1,5      | 116,5            | 152 | 145 | 135 | 4,160  |

### Order code example

|            |          |          |          |
|------------|----------|----------|----------|
| <b>BMF</b> | <b>6</b> | <b>I</b> | <b>G</b> |
| MODEL      | SIZE     | THREAD   | MATERIAL |

### TECHNICAL NOTES:

- The silicone O-ring for the IP protection for cylindrical threads (ISO metric) is supplied already assembled on the union
- Available also in stainless steel (example code BMF1S)
- Available also upon request in nichel-plated brass (example code BMF1B)
- It is possible supply mixed thread, of the same equivalence, adding code for female thread (sample code for fitting in galvanised steel Male 1"NPT - Female M32x1,5: BMF3NIG)

BFF series three pieces unions for IIB gas group enable an independent rotation and connection between pipes, enclosures or different equipment.



**Classification:**  
2014/34/UE

Group II

Category 2GD

**Installation:**  
EN 60079-14

zone 1 - zone 2 (Gas)

zone 21 - zone 22 (Dust)

**Marking:**

CE 0722 Ex II 2 GD Ex d IIB Gb Ex tb IIIC Db IP66 (B..)

**Certification:**

ATEX CESI 99 ATEX 034U

IECEx IECEx CES 10.0002U

TR CU AVAILABLE

All IEC Ex and TR CU certification data can be downloaded at [www.cortemgroup.com](http://www.cortemgroup.com)

**Standards:**

CENELEC EN 60079-0: 2012, EN 60079-1: 2007, EN 60079-31: 2009 and EUROPEAN DIRECTIVE 2014/34/UE  
IEC60079-0: 2011, IEC60079-1: 2007-04, IEC60079-31: 2008 Directive RoHS 2002/95/CE

**Degree of protection:**

IP66/67

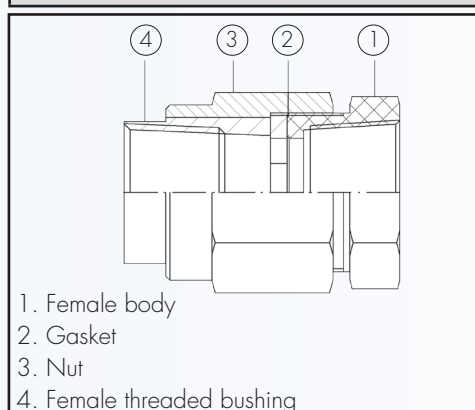


**Operating temperature:**

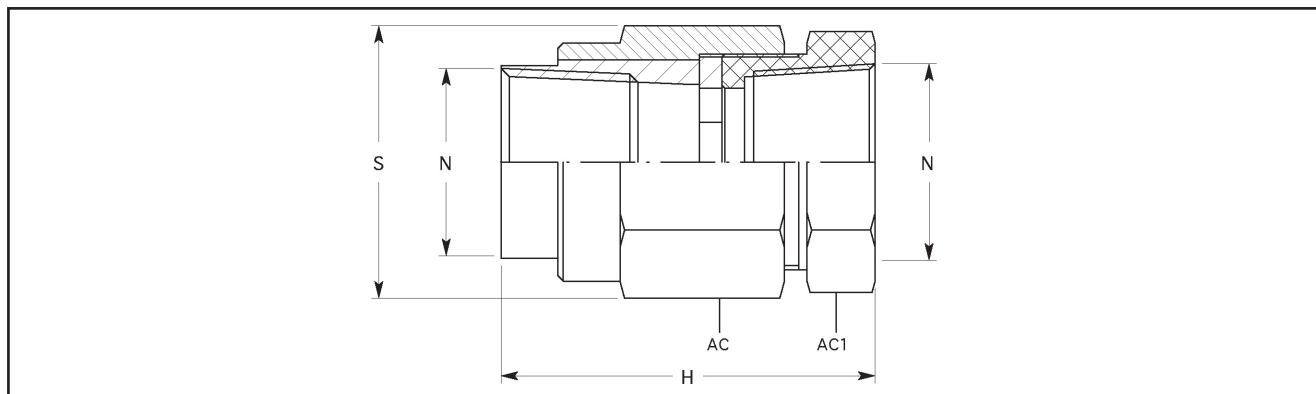
| Three pieces unions series | Materials                                     | Gaskets  | Ambient temperature |
|----------------------------|-----------------------------------------------|----------|---------------------|
| BFF...                     | Galvanised steel (G), Nickel-plated brass (B) | Silicone | -20°C +60°C         |
| BFF...S                    | Stainless steel (S)                           | Silicone | -55°C +60°C         |

Certificates are available on [www.cortemgroup.com](http://www.cortemgroup.com)

#### COMPOSITION OF STANDARD UNION



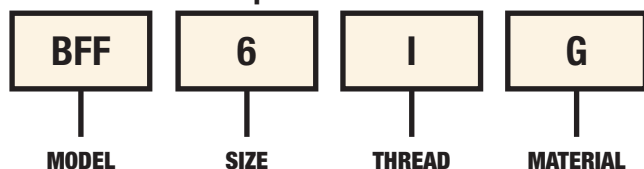




### UNIONS SELECTION TABLE

| Code<br>In galvanised<br>steel | Thread N      | Dimensions in mm |     |     |     | Weight<br>Kg |
|--------------------------------|---------------|------------------|-----|-----|-----|--------------|
|                                |               | H                | S   | AC  | AC1 |              |
| BFF1G                          | 1/2" ISO7/1   | 57               | 35  | 30  | 27  | 0,125        |
| BFF2G                          | 3/4" ISO7/1   | 57               | 40  | 35  | 32  | 0,150        |
| BFF3G                          | 1" ISO7/1     | 67               | 48  | 42  | 40  | 0,235        |
| BFF4G                          | 1 1/4" ISO7/1 | 63               | 60  | 55  | 59  | 0,640        |
| BFF5G                          | 1 1/2" ISO7/1 | 63               | 75  | 70  | 67  | 0,960        |
| BFF6G                          | 2" ISO7/1     | 64               | 90  | 84  | 77  | 1,220        |
| BFF7G                          | 2 1/2" ISO7/1 | 71               | 117 | 108 | 99  | 2,240        |
| BFF8G                          | 3" ISO7/1     | 71               | 132 | 121 | 108 | 2,600        |
| BFF10G                         | 4" ISO7/1     | 77               | 152 | 145 | 135 | 3,700        |
| BFF1NG                         | 1/2" NPT      | 57               | 35  | 30  | 27  | 0,125        |
| BFF2NG                         | 3/4" NPT      | 57               | 40  | 35  | 32  | 0,150        |
| BFF3NG                         | 1" NPT        | 67               | 48  | 42  | 40  | 0,235        |
| BFF4NG                         | 1 1/4" NPT    | 63               | 60  | 55  | 59  | 0,640        |
| BFF5NG                         | 1 1/2" NPT    | 63               | 75  | 70  | 67  | 0,960        |
| BFF6NG                         | 2" NPT        | 64               | 90  | 84  | 77  | 1,220        |
| BFF7NG                         | 2 1/2" NPT    | 71               | 117 | 108 | 99  | 2,240        |
| BFF8NG                         | 3" NPT        | 71               | 132 | 121 | 108 | 2,600        |
| BFF10NG                        | 4" NPT        | 77               | 152 | 145 | 135 | 3,700        |
| BFF1IG                         | M20x1,5       | 57               | 35  | 30  | 27  | 0,125        |
| BFF2IG                         | M25x1,5       | 57               | 40  | 35  | 32  | 0,150        |
| BFF3IG                         | M32x1,5       | 67               | 48  | 42  | 40  | 0,235        |
| BFF4IG                         | M40x1,5       | 63               | 60  | 55  | 59  | 0,640        |
| BFF5IG                         | M50x1,5       | 63               | 75  | 70  | 67  | 0,960        |
| BFF6IG                         | M63x1,5       | 64               | 90  | 84  | 77  | 1,220        |
| BFF7IG                         | M75x1,5       | 71               | 117 | 108 | 99  | 2,240        |
| BFF8IG                         | M90x1,5       | 71               | 132 | 121 | 108 | 2,600        |
| BFF10IG                        | M100x1,5      | 77               | 152 | 145 | 135 | 3,700        |

### Order code example



### TECHNICAL NOTES:

- The silicone O-ring for the IP protection for cylindrical threads (ISO metric) is supplied already assembled on the union
- Available also in stainless steel (example code BFF1S)
- Available also upon request in nichel-plated brass (example code BFF1B)

BMM series three pieces unions for IIB gas group enable an independent rotation and connection between pipes, enclosures or different equipment.



|                                      |                                                                |                                 |
|--------------------------------------|----------------------------------------------------------------|---------------------------------|
| <b>Classification:</b><br>2014/34/UE | <b>Group II</b>                                                | <b>Category 2GD</b>             |
| <b>Installation:</b><br>EN 60079-14  | <b>zone 1 - zone 2 (Gas)</b>                                   | <b>zone 21 - zone 22 (Dust)</b> |
| <b>Marking:</b>                      | <b>CE 0722 Ex II 2 GD Ex d IIB Gb Ex tb IIIC Db IP66 (B..)</b> |                                 |
| <b>Certification:</b>                | <b>ATEX</b>                                                    | <b>CESI 99 ATEX 034U</b>        |
|                                      | <b>IECEx</b>                                                   | <b>IECEx CES 10.0002U</b>       |
|                                      | <b>TR CU</b>                                                   | <b>AVAILABLE</b>                |

All IEC Ex and TR CU certification data can be downloaded at [www.cortemgroup.com](http://www.cortemgroup.com)

|                              |                                                                                                                                                                                       |
|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Standards:</b>            | CENELEC EN 60079-0: 2012, EN 60079-1: 2007, EN 60079-31: 2009 and EUROPEAN DIRECTIVE 2014/34/UE<br>IEC60079-0: 2011, IEC60079-1: 2007-04, IEC60079-31: 2008 Directive RoHS 2002/95/CE |
| <b>Degree of protection:</b> | <b>IP66/67</b>                                                                                                                                                                        |

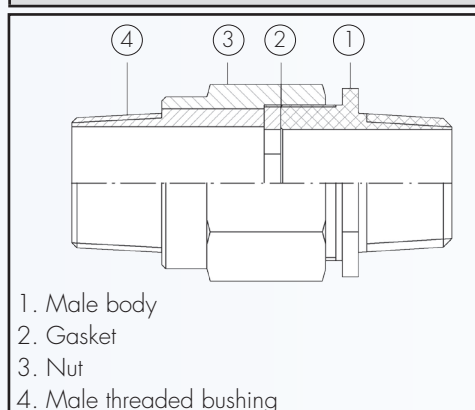


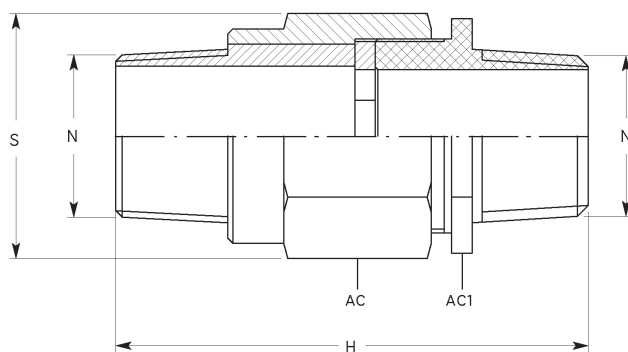
**Operating temperature:**

| Three pieces unions series | Materials                                                       | Gaskets  | Ambient temperature |
|----------------------------|-----------------------------------------------------------------|----------|---------------------|
| <b>BMM...</b>              | Galvanised steel ( <b>G</b> ), Nichel-plated brass ( <b>B</b> ) | Silicone | -20°C +60°C         |
| <b>BMM...S</b>             | Stainless steel ( <b>S</b> )                                    | Silicone | -55°C +60°C         |

Certificates are available on [www.cortemgroup.com](http://www.cortemgroup.com)

#### COMPOSITION OF STANDARD UNION





### UNIONS SELECTION TABLE

| Code<br>In galvanised<br>steel | Thread N      | Dimensions in mm |     |     |     | Weight<br>Kg |
|--------------------------------|---------------|------------------|-----|-----|-----|--------------|
|                                |               | H                | S   | AC  | AC1 |              |
| BMM1G                          | 1/2" ISO7/1   | 64               | 35  | 30  | 27  | 0,125        |
| BMM2G                          | 3/4" ISO7/1   | 66               | 40  | 35  | 32  | 0,150        |
| BMM3G                          | 1" ISO7/1     | 76               | 48  | 42  | 40  | 0,235        |
| BMM4G                          | 1 1/4" ISO7/1 | 91               | 60  | 55  | 59  | 0,640        |
| BMM5G                          | 1 1/2" ISO7/1 | 92               | 75  | 70  | 67  | 0,960        |
| BMM6G                          | 2" ISO7/1     | 94               | 90  | 84  | 77  | 1,220        |
| BMM7G                          | 2 1/2" ISO7/1 | 118              | 117 | 108 | 99  | 2,240        |
| BMM8G                          | 3" ISO7/1     | 122              | 132 | 121 | 108 | 2,600        |
| BMM10G                         | 4" ISO7/1     | 132              | 152 | 145 | 135 | 3,700        |
| BMM1NG                         | 1/2" NPT      | 64               | 35  | 30  | 27  | 0,125        |
| BMM2NG                         | 3/4" NPT      | 66               | 40  | 35  | 32  | 0,150        |
| BMM3NG                         | 1" NPT        | 76               | 48  | 42  | 40  | 0,235        |
| BMM4NG                         | 1 1/4" NPT    | 91               | 60  | 55  | 59  | 0,640        |
| BMM5NG                         | 1 1/2" NPT    | 92               | 75  | 70  | 67  | 0,960        |
| BMM6NG                         | 2" NPT        | 94               | 90  | 84  | 77  | 1,220        |
| BMM7NG                         | 2 1/2" NPT    | 118              | 117 | 108 | 99  | 2,240        |
| BMM8NG                         | 3" NPT        | 122              | 132 | 121 | 108 | 2,600        |
| BMM10NG                        | 4" NPT        | 132              | 152 | 145 | 135 | 3,700        |
| BMM1IG                         | M20x1,5       | 64               | 35  | 30  | 27  | 0,125        |
| BMM2IG                         | M25x1,5       | 66               | 40  | 35  | 32  | 0,150        |
| BMM3IG                         | M32x1,5       | 76               | 48  | 42  | 40  | 0,235        |
| BMM4IG                         | M40x1,5       | 91               | 60  | 55  | 59  | 0,640        |
| BMM5IG                         | M50x1,5       | 92               | 75  | 70  | 67  | 0,960        |
| BMM6IG                         | M63x1,5       | 94               | 90  | 84  | 77  | 1,220        |
| BMM7IG                         | M75x1,5       | 118              | 117 | 108 | 99  | 2,240        |
| BMM8IG                         | M90x1,5       | 122              | 132 | 121 | 108 | 2,600        |
| BMM10IG                        | M100x1,5      | 132              | 152 | 145 | 135 | 3,700        |

### Order code example

|            |          |          |          |
|------------|----------|----------|----------|
| <b>BMM</b> | <b>6</b> | <b>I</b> | <b>G</b> |
| MODEL      | SIZE     | THREAD   | MATERIAL |

### TECHNICAL NOTES:

- The silicone O-ring for the IP protection for cylindrical threads (ISO metric) is supplied already assembled on the union
- Available also in stainless steel (example code BMM1S)
- Available also upon request in nichel-plated brass (example code BMM1B)

RBMF series three pieces unions suitable for IIB gas group and extreme temperatures enable an independent rotation and connection between pipes, enclosures or different equipment.



|                                      |                                                          |                          |
|--------------------------------------|----------------------------------------------------------|--------------------------|
| <b>Classification:</b><br>2014/34/UE | Group II                                                 | Category 2GD             |
| <b>Installation:</b><br>EN 60079.14  | zone 1 - zone 2 (Gas)                                    | zone 21 - zone 22 (Dust) |
| <b>Marking:</b>                      | CE 0722 Ex II 2 GD Ex d IIB Gb Ex tb IIIC Db IP66 (RB..) |                          |
| <b>Certification:</b>                | ATEX                                                     | CESI 99 ATEX 034U        |
|                                      | IECEx                                                    | IECEx CES 10.0002U       |
|                                      | TR CU                                                    | AVAILABLE                |

All IEC Ex and TR CU certification data can be downloaded at [www.cortemgroup.com](http://www.cortemgroup.com)

|                              |                                                                                                                                                                                       |
|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Standards:</b>            | CENELEC EN 60079-0: 2012, EN 60079-1: 2007, EN 60079-31: 2009 and EUROPEAN DIRECTIVE 2014/34/UE<br>IEC60079-0: 2011, IEC60079-1: 2007-04, IEC60079-31: 2008 Directive RoHS 2002/95/CE |
| <b>Degree of protection:</b> | IP66/67                                                                                                                                                                               |

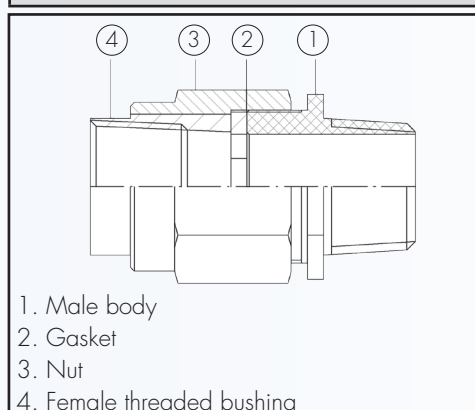


**Operating temperature:**

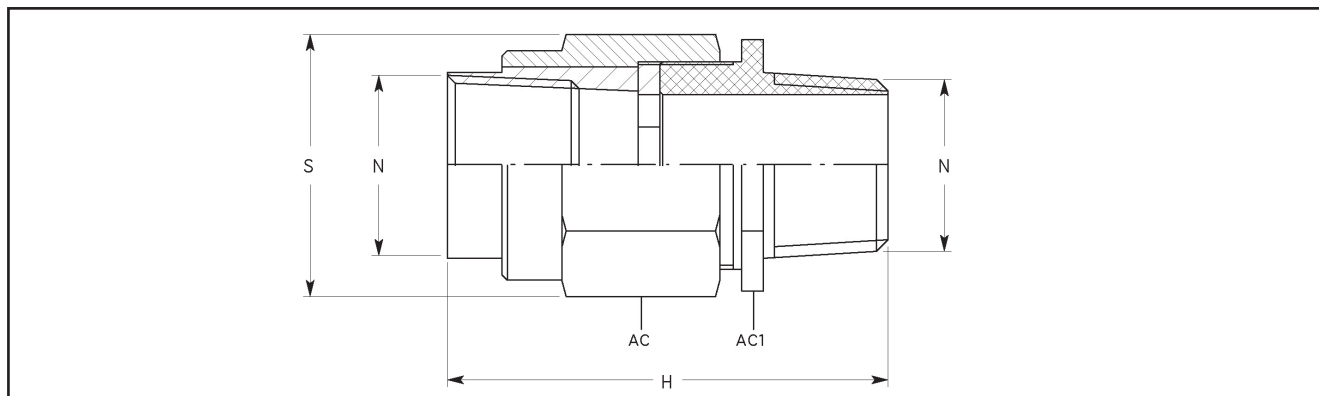
| Three pieces unions series | Materials                                     | Gaskets  | Ambient temperature |
|----------------------------|-----------------------------------------------|----------|---------------------|
| RBMF...                    | Galvanised steel (G), Nichel-plated brass (B) | Silicone | -20°C +150°C        |
| RBMF...S                   | Stainless steel (S)                           | Silicone | -55°C +150°C        |

Certificates are available on [www.cortemgroup.com](http://www.cortemgroup.com)

#### COMPOSITION OF STANDARD UNION







### UNIONS SELECTION TABLE

| Code<br>In galvanised<br>steel | Thread N      | Dimensions in mm |     |     |     | Weight |
|--------------------------------|---------------|------------------|-----|-----|-----|--------|
|                                |               | H                | S   | AC  | AC1 | Kg     |
| RBMF1G                         | 1/2" ISO7/1   | 71               | 35  | 30  | 27  | 0,150  |
| RBMF2G                         | 3/4" ISO7/1   | 72               | 40  | 35  | 32  | 0,185  |
| RBMF3G                         | 1" ISO7/1     | 82,5             | 48  | 42  | 40  | 0,300  |
| RBMF4G                         | 1 1/4" ISO7/1 | 86               | 60  | 55  | 59  | 0,760  |
| RBMF5G                         | 1 1/2" ISO7/1 | 86,5             | 75  | 70  | 67  | 1,000  |
| RBMF6G                         | 2" ISO7/1     | 88               | 90  | 84  | 77  | 1,400  |
| RBMF7G                         | 2 1/2" ISO7/1 | 107              | 117 | 108 | 99  | 2,350  |
| RBMF8G                         | 3" ISO7/1     | 109              | 132 | 121 | 108 | 2,800  |
| RBMF10G                        | 4" ISO7/1     | 116,5            | 152 | 145 | 135 | 4,160  |
| RBMF1NG                        | 1/2" NPT      | 71               | 35  | 30  | 27  | 0,150  |
| RBMF2NG                        | 3/4" NPT      | 72               | 40  | 35  | 32  | 0,185  |
| RBMF3NG                        | 1" NPT        | 82,5             | 48  | 42  | 40  | 0,300  |
| RBMF4NG                        | 1 1/4" NPT    | 86               | 60  | 55  | 59  | 0,760  |
| RBMF5NG                        | 1 1/2" NPT    | 86,5             | 75  | 70  | 67  | 1,000  |
| RBMF6NG                        | 2" NPT        | 88               | 90  | 84  | 77  | 1,400  |
| RBMF7NG                        | 2 1/2" NPT    | 107              | 117 | 108 | 99  | 2,350  |
| RBMF8NG                        | 3" NPT        | 109              | 132 | 121 | 108 | 2,800  |
| RBMF10NG                       | 4" NPT        | 116,5            | 152 | 145 | 135 | 4,160  |
| RBMF1IG                        | M20x1,5       | 71               | 35  | 30  | 27  | 0,150  |
| RBMF2IG                        | M25x1,5       | 72               | 40  | 35  | 32  | 0,185  |
| RBMF3IG                        | M32x1,5       | 82,5             | 48  | 42  | 40  | 0,300  |
| RBMF4IG                        | M40x1,5       | 86               | 60  | 55  | 59  | 0,760  |
| RBMF5IG                        | M50x1,5       | 86,5             | 75  | 70  | 67  | 1,000  |
| RBMF6IG                        | M63x1,5       | 88               | 90  | 84  | 77  | 1,400  |
| RBMF7IG                        | M75x1,5       | 107              | 117 | 108 | 99  | 2,350  |
| RBMF8IG                        | M90x1,5       | 109              | 132 | 121 | 108 | 2,800  |
| RBMF10IG                       | M100x1,5      | 116,5            | 152 | 145 | 135 | 4,160  |

### Order code example

|             |          |          |          |
|-------------|----------|----------|----------|
| <b>RBMF</b> | <b>6</b> | <b>I</b> | <b>G</b> |
| MODEL       | SIZE     | THREAD   | MATERIAL |

### TECHNICAL NOTES:

- The silicone O-ring for the IP protection for cylindrical threads (ISO metric) is supplied already assembled on the union
- Available also in stainless steel (example code RBMF1S)
- Available also in nichel-plated brass (example code RBMF1B)
- It is possible supply mixed thread, of the same equivalence (sample code for fitting in galvanised steel Male 1"NPT - Female M32x1,5: RBMF3NG)

RBFF series three pieces unions suitable for IIB gas group and extreme temperatures enable an independent rotation and connection between pipes, enclosures or different instruments.



|                                      |                                                                 |                                 |
|--------------------------------------|-----------------------------------------------------------------|---------------------------------|
| <b>Classification:</b><br>2014/34/UE | <b>Group II</b>                                                 | <b>Category 2GD</b>             |
| <b>Installation:</b><br>EN 60079-14  | <b>zone 1 - zone 2 (Gas)</b>                                    | <b>zone 21 - zone 22 (Dust)</b> |
| <b>Marking:</b>                      | <b>CE 0722 Ex II 2 GD Ex d IIB Gb Ex tb IIIC Db IP66 (RB..)</b> |                                 |
| <b>Certification:</b>                | <b>ATEX</b>                                                     | <b>CESI 99 ATEX 034U</b>        |
|                                      | <b>IECEx</b>                                                    | <b>IECEx CES 10.0002U</b>       |
|                                      | <b>TR CU</b>                                                    | <b>AVAILABLE</b>                |

All IEC Ex and TR CU certification data can be downloaded at [www.cortemgroup.com](http://www.cortemgroup.com)

|                              |                                                                                                                                                                                       |
|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Standards:</b>            | CENELEC EN 60079-0: 2012, EN 60079-1: 2007, EN 60079-31: 2009 and EUROPEAN DIRECTIVE 2014/34/UE<br>IEC60079-0: 2011, IEC60079-1: 2007-04, IEC60079-31: 2008 Directive RoHS 2002/95/CE |
| <b>Degree of protection:</b> | <b>IP66/67</b>                                                                                                                                                                        |

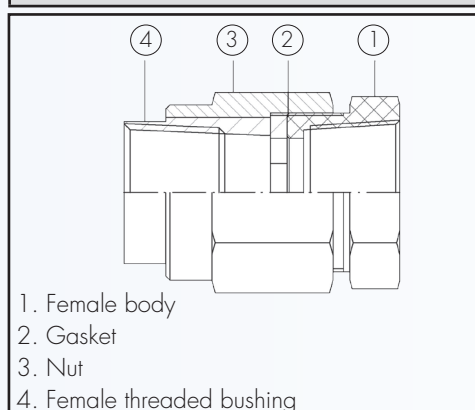


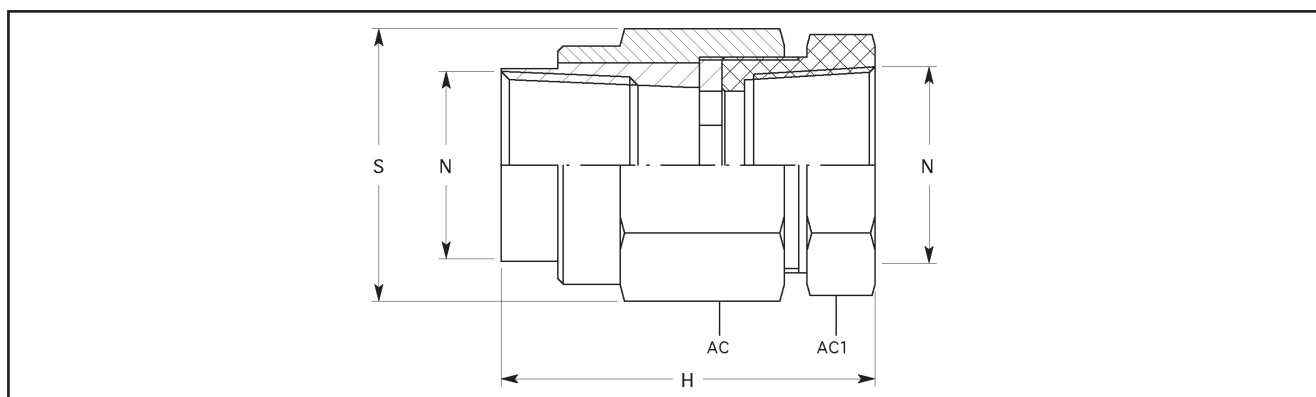
**Operating temperature:**

| Three pieces unions series | Materials                                                       | Gaskets  | Ambient temperature |
|----------------------------|-----------------------------------------------------------------|----------|---------------------|
| <b>RBFF...</b>             | Galvanised steel ( <b>G</b> ), Nichel-plated brass ( <b>B</b> ) | Silicone | -20°C +150°C        |
| <b>RBFF...S</b>            | Stainless steel ( <b>S</b> )                                    | Silicone | -55°C +150°C        |

Certificates are available on [www.cortemgroup.com](http://www.cortemgroup.com)

#### COMPOSITION OF STANDARD UNION





### UNIONS SELECTION TABLE

| Code<br>In galvanised<br>steel | Thread N      | Dimensions in mm |     |     |     | Weight |
|--------------------------------|---------------|------------------|-----|-----|-----|--------|
|                                |               | H                | S   | AC  | AC1 | Kg     |
| RBFF1G                         | 1/2" ISO7/1   | 57               | 35  | 30  | 27  | 0,125  |
| RBFF2G                         | 3/4" ISO7/1   | 57               | 40  | 35  | 32  | 0,150  |
| RBFF3G                         | 1" ISO7/1     | 67               | 48  | 42  | 40  | 0,235  |
| RBFF4G                         | 1 1/4" ISO7/1 | 63               | 60  | 55  | 59  | 0,640  |
| RBFF5G                         | 1 1/2" ISO7/1 | 63               | 75  | 70  | 67  | 0,960  |
| RBFF6G                         | 2" ISO7/1     | 64               | 90  | 84  | 77  | 1,220  |
| RBFF7G                         | 2 1/2" ISO7/1 | 71               | 117 | 108 | 99  | 2,240  |
| RBFF8G                         | 3" ISO7/1     | 71               | 132 | 121 | 108 | 2,600  |
| RBFF10G                        | 4" ISO7/1     | 77               | 152 | 145 | 135 | 3,700  |
| RBFF1NG                        | 1/2" NPT      | 57               | 35  | 30  | 27  | 0,125  |
| RBFF2NG                        | 3/4" NPT      | 57               | 40  | 35  | 32  | 0,150  |
| RBFF3NG                        | 1" NPT        | 67               | 48  | 42  | 40  | 0,235  |
| RBFF4NG                        | 1 1/4" NPT    | 63               | 60  | 55  | 59  | 0,640  |
| RBFF5NG                        | 1 1/2" NPT    | 63               | 75  | 70  | 67  | 0,960  |
| RBFF6NG                        | 2" NPT        | 64               | 90  | 84  | 77  | 1,220  |
| RBFF7NG                        | 2 1/2" NPT    | 71               | 117 | 108 | 99  | 2,240  |
| RBFF8NG                        | 3" NPT        | 71               | 132 | 121 | 108 | 2,600  |
| RBFF10NG                       | 4" NPT        | 77               | 152 | 145 | 135 | 3,700  |
| RBFF1IG                        | M20x1,5       | 57               | 35  | 30  | 27  | 0,125  |
| RBFF2IG                        | M25x1,5       | 57               | 40  | 35  | 32  | 0,150  |
| RBFF3IG                        | M32x1,5       | 67               | 48  | 42  | 40  | 0,235  |
| RBFF4IG                        | M40x1,5       | 63               | 60  | 55  | 59  | 0,640  |
| RBFF5IG                        | M50x1,5       | 63               | 75  | 70  | 67  | 0,960  |
| RBFF6IG                        | M63x1,5       | 64               | 90  | 84  | 77  | 1,220  |
| RBFF7IG                        | M75x1,5       | 71               | 117 | 108 | 99  | 2,240  |
| RBFF8IG                        | M90x1,5       | 71               | 132 | 121 | 108 | 2,600  |
| RBFF10IG                       | M100x1,5      | 77               | 152 | 145 | 135 | 3,700  |

### Order code example

|             |          |          |          |
|-------------|----------|----------|----------|
| <b>RBFF</b> | <b>6</b> | <b>I</b> | <b>G</b> |
| MODEL       | SIZE     | THREAD   | MATERIAL |

### TECHNICAL NOTES:

- The silicone O-ring for the IP protection for cylindrical threads (ISO metric) is supplied already assembled on the union
- Available also in stainless steel (example code **RBFF1S**)
- Available also in nichel-plated brass (example code **RBFF1B**)

RBMM series three pieces unions suitable for IIB gas group and extreme temperatures enable an independent rotation and connection between pipes, enclosures or different instruments.



|                                      |                                                                 |                                 |
|--------------------------------------|-----------------------------------------------------------------|---------------------------------|
| <b>Classification:</b><br>2014/34/UE | <b>Group II</b>                                                 | <b>Category 2GD</b>             |
| <b>Installation:</b><br>EN 60079-14  | <b>zone 1 - zone 2 (Gas)</b>                                    | <b>zone 21 - zone 22 (Dust)</b> |
| <b>Marking:</b>                      | <b>CE 0722 Ex II 2 GD Ex d IIB Gb Ex tb IIIC Db IP66 (RB..)</b> |                                 |
| <b>Certification:</b>                | <b>ATEX</b>                                                     | <b>CESI 99 ATEX 034U</b>        |
|                                      | <b>IECEx</b>                                                    | <b>IECEx CES 10.0002U</b>       |
|                                      | <b>TR CU</b>                                                    | <b>AVAILABLE</b>                |

All IEC Ex and TR CU certification data can be downloaded at [www.cortemgroup.com](http://www.cortemgroup.com)

|                              |                                                                                                                                                                                       |
|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Standards:</b>            | CENELEC EN 60079-0: 2012, EN 60079-1: 2007, EN 60079-31: 2009 and EUROPEAN DIRECTIVE 2014/34/UE<br>IEC60079-0: 2011, IEC60079-1: 2007-04, IEC60079-31: 2008 Directive RoHS 2002/95/CE |
| <b>Degree of protection:</b> | <b>IP66/67</b>                                                                                                                                                                        |

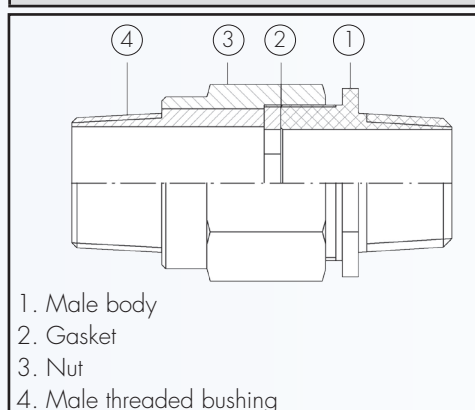


**Operating temperature:**

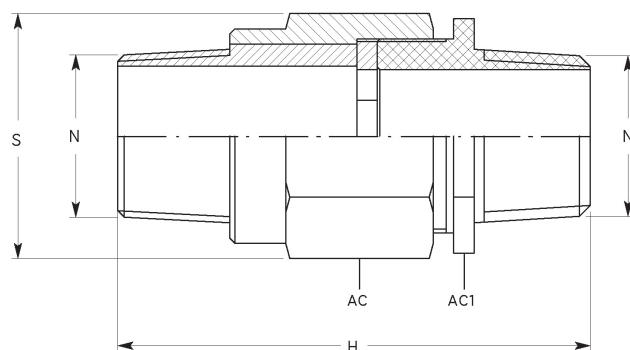
| Three pieces unions series | Materials                                                       | Gaskets  | Ambient temperature |
|----------------------------|-----------------------------------------------------------------|----------|---------------------|
| <b>RBMM...</b>             | Galvanised steel ( <b>G</b> ), Nichel-plated brass ( <b>B</b> ) | Silicone | -20°C +150°C        |
| <b>RBMM...S</b>            | Stainless steel ( <b>S</b> )                                    | Silicone | -55°C +150°C        |

Certificates are available on [www.cortemgroup.com](http://www.cortemgroup.com)

#### COMPOSITION OF STANDARD UNION







### UNIONS SELECTION TABLE

| Code<br>In galvanised<br>steel | Thread N      | Dimensions in mm |     |     |     | Weight |
|--------------------------------|---------------|------------------|-----|-----|-----|--------|
|                                |               | H                | S   | AC  | AC1 | Kg     |
| RBMM1G                         | 1/2" ISO7/1   | 87               | 35  | 30  | 27  | 0,125  |
| RBMM2G                         | 3/4" ISO7/1   | 89               | 40  | 35  | 32  | 0,150  |
| RBMM3G                         | 1" ISO7/1     | 99               | 48  | 42  | 40  | 0,235  |
| RBMM4G                         | 1 1/4" ISO7/1 | 125              | 60  | 55  | 59  | 0,640  |
| RBMM5G                         | 1 1/2" ISO7/1 | 126              | 75  | 70  | 67  | 0,960  |
| RBMM6G                         | 2" ISO7/1     | 127              | 90  | 84  | 77  | 1,220  |
| RBMM7G                         | 2 1/2" ISO7/1 | 161              | 117 | 108 | 99  | 2,240  |
| RBMM8G                         | 3" ISO7/1     | 165              | 132 | 121 | 108 | 2,600  |
| RBMM10G                        | 4" ISO7/1     | 171              | 152 | 145 | 135 | 3,700  |
| RBMM1NG                        | 1/2" NPT      | 87               | 35  | 30  | 27  | 0,125  |
| RBMM2NG                        | 3/4" NPT      | 89               | 40  | 35  | 32  | 0,150  |
| RBMM3NG                        | 1" NPT        | 99               | 48  | 42  | 40  | 0,235  |
| RBMM4NG                        | 1 1/4" NPT    | 125              | 60  | 55  | 59  | 0,640  |
| RBMM5NG                        | 1 1/2" NPT    | 126              | 75  | 70  | 67  | 0,960  |
| RBMM6NG                        | 2" NPT        | 127              | 90  | 84  | 77  | 1,220  |
| RBMM7NG                        | 2 1/2" NPT    | 161              | 117 | 108 | 99  | 2,240  |
| RBMM8NG                        | 3" NPT        | 165              | 132 | 121 | 108 | 2,600  |
| RBMM10NG                       | 4" NPT        | 171              | 152 | 145 | 135 | 3,700  |
| RBMM1IG                        | M20x1,5       | 87               | 35  | 30  | 27  | 0,125  |
| RBMM2IG                        | M25x1,5       | 89               | 40  | 35  | 32  | 0,150  |
| RBMM3IG                        | M32x1,5       | 99               | 48  | 42  | 40  | 0,235  |
| RBMM4IG                        | M40x1,5       | 125              | 60  | 55  | 59  | 0,640  |
| RBMM5IG                        | M50x1,5       | 126              | 75  | 70  | 67  | 0,960  |
| RBMM6IG                        | M63x1,5       | 127              | 90  | 84  | 77  | 1,220  |
| RBMM7IG                        | M75x1,5       | 161              | 117 | 108 | 99  | 2,240  |
| RBMM8IG                        | M90x1,5       | 165              | 132 | 121 | 108 | 2,600  |
| RBMM10IG                       | M100x1,5      | 171              | 152 | 145 | 135 | 3,700  |

### Order code example

|             |          |          |          |
|-------------|----------|----------|----------|
| <b>RBMM</b> | <b>6</b> | <b>I</b> | <b>G</b> |
| MODEL       | SIZE     | THREAD   | MATERIAL |

### TECHNICAL NOTES:

- The silicone O-ring for the IP protection for cylindrical threads (ISO metric) is supplied already assembled on the union
- Available also in stainless steel (example code RBMM1S)
- Available also in nichel-plated brass (example code RBMM1B)

RMF series three pieces unions for IIC gas group enable an independent rotation and connection between pipes, enclosures or different instruments.



**Classification:**  
2014/34/UE

Group II

Category 2GD

**Installation:**  
EN 60079.14

zone 1 - zone 2 (Gas)

zone 21 - zone 22 (Dust)

**Marking:**

CE 0722 Ex II 2 GD Ex d IIC Gb Ex tb IIIC Db IP66 (R..)

**Certification:**

ATEX CESI 99 ATEX 034U

IECEx IECEx CES 10.0002U

TR CU AVAILABLE

All IEC Ex and TR CU certification data can be downloaded at [www.cortemgroup.com](http://www.cortemgroup.com)

**Standards:**

CENELEC EN 60079-0: 2012, EN 60079-1: 2007, EN 60079-31: 2009 and EUROPEAN DIRECTIVE 2014/34/UE  
IEC60079-0: 2011, IEC60079-1: 2007-04, IEC60079-31: 2008 Directive RoHS 2002/95/CE

**Degree of protection:**

IP66/67

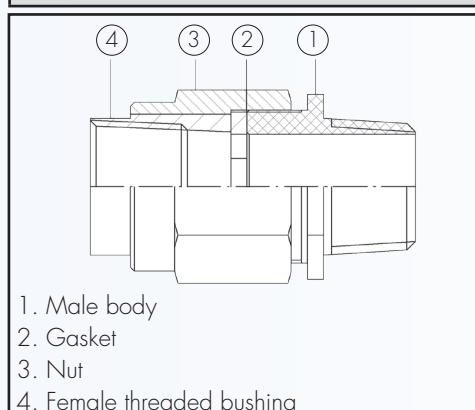


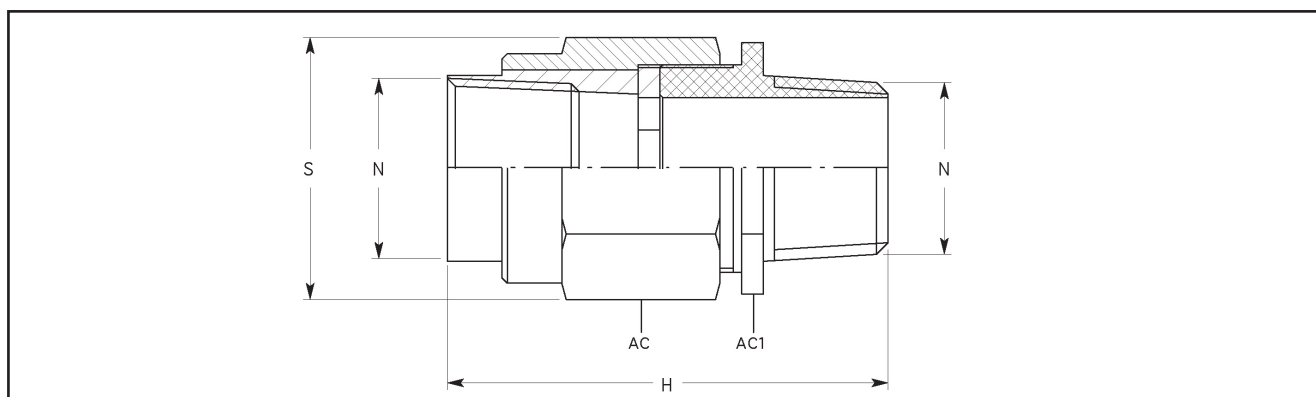
**Operating temperature:**

| Three pieces unions series | Materials                                     | Gaskets  | Ambient temperature |
|----------------------------|-----------------------------------------------|----------|---------------------|
| RMF...                     | Galvanised steel (G), Nichel-plated brass (B) | Silicone | -20°C +60°C         |
| RMF...S                    | Stainless steel (S)                           | Silicone | -55°C +60°C         |

Certificates are available on [www.cortemgroup.com](http://www.cortemgroup.com)

#### COMPOSITION OF STANDARD UNION





### UNIONS SELECTION TABLE

| Code<br>In galvanised<br>steel | Thread N      | Dimensions in mm |     |     |     | Weight |
|--------------------------------|---------------|------------------|-----|-----|-----|--------|
|                                |               | H                | S   | AC  | AC1 | Kg     |
| RMF1G                          | 1/2" ISO7/1   | 71               | 35  | 30  | 27  | 0,200  |
| RMF2G                          | 3/4" ISO7/1   | 71               | 40  | 35  | 32  | 0,230  |
| RMF3G                          | 1" ISO7/1     | 82               | 48  | 42  | 40  | 0,380  |
| RMF4G                          | 1 1/4" ISO7/1 | 87               | 60  | 55  | 59  | 0,940  |
| RMF5G                          | 1 1/2" ISO7/1 | 87               | 75  | 70  | 67  | 1,125  |
| RMF6G                          | 2" ISO7/1     | 87               | 90  | 84  | 77  | 1,540  |
| RMF7G                          | 2 1/2" ISO7/1 | 98               | 117 | 108 | 99  | 3,125  |
| RMF8G                          | 3" ISO7/1     | 98               | 132 | 121 | 108 | 3,990  |
| RMF10G                         | 4" ISO7/1     | 112              | 152 | 145 | 135 | 4,160  |
| RMF1NG                         | 1/2" NPT      | 71               | 35  | 30  | 27  | 0,200  |
| RMF2NG                         | 3/4" NPT      | 71               | 40  | 35  | 32  | 0,230  |
| RMF3NG                         | 1" NPT        | 82               | 48  | 42  | 40  | 0,380  |
| RMF4NG                         | 1 1/4" NPT    | 87               | 60  | 55  | 59  | 0,940  |
| RMF5NG                         | 1 1/2" NPT    | 87               | 75  | 70  | 67  | 1,125  |
| RMF6NG                         | 2" NPT        | 87               | 90  | 84  | 77  | 1,540  |
| RMF7NG                         | 2 1/2" NPT    | 98               | 117 | 108 | 99  | 3,125  |
| RMF8NG                         | 3" NPT        | 98               | 132 | 121 | 108 | 3,990  |
| RMF10NG                        | 4" NPT        | 112              | 152 | 145 | 135 | 4,160  |
| RMF1IG                         | M20x1,5       | 71               | 35  | 30  | 27  | 0,200  |
| RMF2IG                         | M25x1,5       | 71               | 40  | 35  | 32  | 0,230  |
| RMF3IG                         | M32x1,5       | 82               | 48  | 42  | 40  | 0,380  |
| RMF4IG                         | M40x1,5       | 87               | 60  | 55  | 59  | 0,940  |
| RMF5IG                         | M50x1,5       | 87               | 75  | 70  | 67  | 1,125  |
| RMF6IG                         | M63x1,5       | 87               | 90  | 84  | 77  | 1,540  |
| RMF7IG                         | M75x1,5       | 98               | 117 | 108 | 99  | 3,125  |
| RMF8IG                         | M90x1,5       | 98               | 132 | 121 | 108 | 3,990  |
| RMF10IG                        | M100x1,5      | 112              | 152 | 145 | 135 | 4,160  |

### Order code example

|            |          |          |          |
|------------|----------|----------|----------|
| <b>RMF</b> | <b>6</b> | <b>I</b> | <b>G</b> |
| MODEL      | SIZE     | THREAD   | MATERIAL |

### TECHNICAL NOTES:

- The silicone O-ring for the IP protection for cylindrical threads (ISO metric) is supplied already assembled on the union
- Available also in stainless steel (example code RMF1S)
- Available also in nichel-plated brass (example code RMF1B)
- It is possible supply mixed thread, of the same equivalence (sample code for fitting in galvanised steel Male 1"NPT - Female M32x1,5: RMF3NIG)

RFF series three pieces unions for IIC gas group enable an independent rotation and connection between pipes, enclosures or different equipment.



|                                      |                                                                |                                 |
|--------------------------------------|----------------------------------------------------------------|---------------------------------|
| <b>Classification:</b><br>2014/34/UE | <b>Group II</b>                                                | <b>Category 2GD</b>             |
| <b>Installation:</b><br>EN 60079.14  | <b>zone 1 - zone 2 (Gas)</b>                                   | <b>zone 21 - zone 22 (Dust)</b> |
| <b>Marking:</b>                      | <b>CE 0722 Ex II 2 GD Ex d IIC Gb Ex tb IIIC Db IP66 (R..)</b> |                                 |
| <b>Certification:</b>                | <b>ATEX</b>                                                    | <b>CESI 99 ATEX 034U</b>        |
|                                      | <b>IECEx</b>                                                   | <b>IECEx CES 10.0002U</b>       |
|                                      | <b>TR CU</b>                                                   | <b>AVAILABLE</b>                |

All IEC Ex and TR CU certification data can be downloaded at [www.cortemgroup.com](http://www.cortemgroup.com)

|                              |                                                                                                                                                                                       |
|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Standards:</b>            | CENELEC EN 60079-0: 2012, EN 60079-1: 2007, EN 60079-31: 2009 and EUROPEAN DIRECTIVE 2014/34/UE<br>IEC60079-0: 2011, IEC60079-1: 2007-04, IEC60079-31: 2008 Directive RoHS 2002/95/CE |
| <b>Degree of protection:</b> | <b>IP66/67</b>                                                                                                                                                                        |

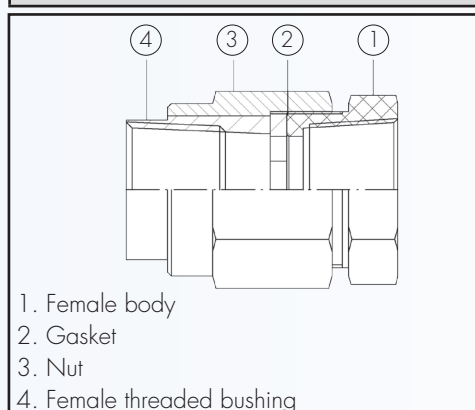


**Operating temperature:**

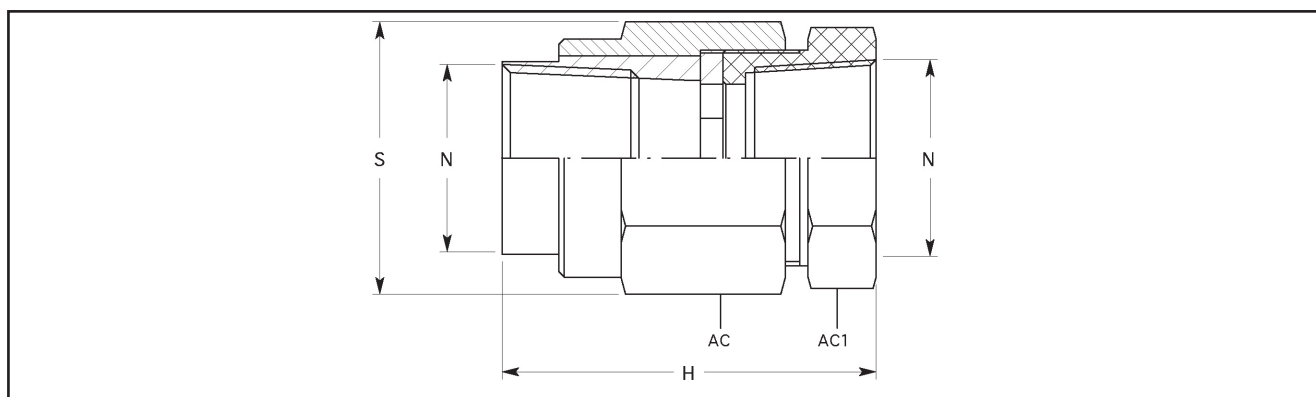
| Three pieces unions series | Materials                                                       | Gaskets  | Ambient temperature |
|----------------------------|-----------------------------------------------------------------|----------|---------------------|
| <b>RFF...</b>              | Galvanised steel ( <b>G</b> ), Nichel-plated brass ( <b>B</b> ) | Silicone | -20°C +60°C         |
| <b>RFF...S</b>             | Stainless steel ( <b>S</b> )                                    | Silicone | -55°C +60°C         |

Certificates are available on [www.cortemgroup.com](http://www.cortemgroup.com)

#### COMPOSITION OF STANDARD UNION



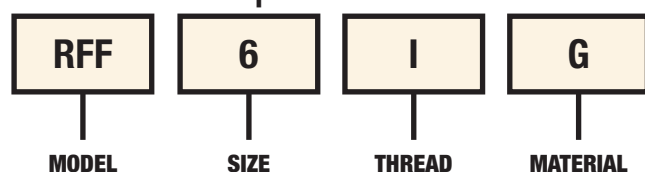




### UNIONS SELECTION TABLE

| Code<br>In galvanised<br>steel | Thread N      | Dimensions in mm |     |     |     | Weight |
|--------------------------------|---------------|------------------|-----|-----|-----|--------|
|                                |               | H                | S   | AC  | AC1 | Kg     |
| RFF1G                          | 1/2" ISO7/1   | 58               | 35  | 30  | 27  | 0,170  |
| RFF2G                          | 3/4" ISO7/1   | 58               | 40  | 35  | 32  | 0,200  |
| RFF3G                          | 1" ISO7/1     | 68               | 48  | 42  | 40  | 0,315  |
| RFF4G                          | 1 1/4" ISO7/1 | 63               | 60  | 55  | 59  | 0,820  |
| RFF5G                          | 1 1/2" ISO7/1 | 66               | 75  | 70  | 67  | 1,020  |
| RFF6G                          | 2" ISO7/1     | 66               | 90  | 84  | 77  | 1,390  |
| RFF7G                          | 2 1/2" ISO7/1 | 71               | 117 | 108 | 99  | 2,520  |
| RFF8G                          | 3" ISO7/1     | 71               | 132 | 121 | 108 | 2,900  |
| RFF10G                         | 4" ISO7/1     | 86               | 152 | 145 | 135 | 3,700  |
| RFF1NG                         | 1/2" NPT      | 58               | 35  | 30  | 27  | 0,170  |
| RFF2NG                         | 3/4" NPT      | 58               | 40  | 35  | 32  | 0,200  |
| RFF3NG                         | 1" NPT        | 68               | 48  | 42  | 40  | 0,315  |
| RFF4NG                         | 1 1/4" NPT    | 63               | 60  | 55  | 59  | 0,820  |
| RFF5NG                         | 1 1/2" NPT    | 66               | 75  | 70  | 67  | 1,020  |
| RFF6NG                         | 2" NPT        | 66               | 90  | 84  | 77  | 1,390  |
| RFF7NG                         | 2 1/2" NPT    | 71               | 117 | 108 | 99  | 2,520  |
| RFF8NG                         | 3" NPT        | 71               | 132 | 121 | 108 | 2,900  |
| RFF10NG                        | 4" NPT        | 86               | 152 | 145 | 135 | 3,700  |
| RFF1IG                         | M20x1,5       | 58               | 35  | 30  | 27  | 0,170  |
| RFF2IG                         | M25x1,5       | 58               | 40  | 35  | 32  | 0,200  |
| RFF3IG                         | M32x1,5       | 68               | 48  | 42  | 40  | 0,315  |
| RFF4IG                         | M40x1,5       | 63               | 60  | 55  | 59  | 0,820  |
| RFF5IG                         | M50x1,5       | 66               | 75  | 70  | 67  | 1,020  |
| RFF6IG                         | M63x1,5       | 66               | 90  | 84  | 77  | 1,390  |
| RFF7IG                         | M75x1,5       | 71               | 117 | 108 | 99  | 2,520  |
| RFF8IG                         | M90x1,5       | 71               | 132 | 121 | 108 | 2,900  |
| RFF10IG                        | M100x1,5      | 86               | 152 | 145 | 135 | 3,700  |

### Order code example



### TECHNICAL NOTES:

- The silicone O-ring for the IP protection for cylindrical threads (ISO metric) is supplied already assembled on the union
- Available also in stainless steel (example code RFF1S)
- Available also in nichel-plated brass (example code RFF1B)

RMM series three pieces unions for IIC gas group enable an independent rotation and connection between pipes, enclosures or different equipment.



|                                      |                                                                |                                 |
|--------------------------------------|----------------------------------------------------------------|---------------------------------|
| <b>Classification:</b><br>2014/34/UE | <b>Group II</b>                                                | <b>Category 2GD</b>             |
| <b>Installation:</b><br>EN 60079-14  | <b>zone 1 - zone 2 (Gas)</b>                                   | <b>zone 21 - zone 22 (Dust)</b> |
| <b>Marking:</b>                      | <b>CE 0722 Ex II 2 GD Ex d IIC Gb Ex tb IIIC Db IP66 (R..)</b> |                                 |
| <b>Certification:</b>                | <b>ATEX</b>                                                    | <b>CESI 99 ATEX 034U</b>        |
|                                      | <b>IECEx</b>                                                   | <b>IECEx CES 10.0002U</b>       |
|                                      | <b>TR CU</b>                                                   | <b>AVAILABLE</b>                |

All IEC Ex and TR CU certification data can be downloaded at [www.cortemgroup.com](http://www.cortemgroup.com)

|                              |                                                                                                                                                                                       |
|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Standards:</b>            | CENELEC EN 60079-0: 2012, EN 60079-1: 2007, EN 60079-31: 2009 and EUROPEAN DIRECTIVE 2014/34/UE<br>IEC60079-0: 2011, IEC60079-1: 2007-04, IEC60079-31: 2008 Directive RoHS 2002/95/CE |
| <b>Degree of protection:</b> | <b>IP66/67</b>                                                                                                                                                                        |

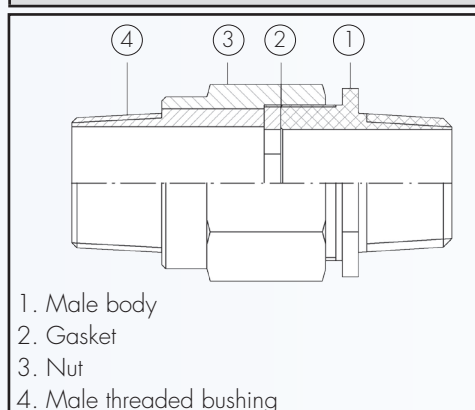


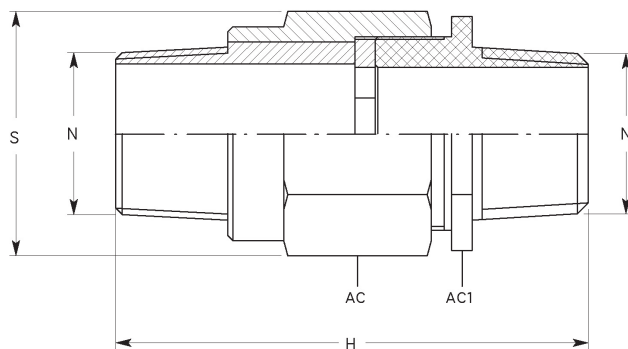
**Operating temperature:**

| Three pieces unions series | Materials                                                       | Gaskets  | Ambient temperature |
|----------------------------|-----------------------------------------------------------------|----------|---------------------|
| <b>RMM...</b>              | Galvanised steel ( <b>G</b> ), Nichel-plated brass ( <b>B</b> ) | Silicone | -20°C +60°C         |
| <b>RMM...S</b>             | Stainless steel ( <b>S</b> )                                    | Silicone | -55°C +60°C         |

Certificates are available on [www.cortemgroup.com](http://www.cortemgroup.com)

#### COMPOSITION OF STANDARD UNION





### UNIONS SELECTION TABLE

| Code<br>In galvanised<br>steel | Thread N      | Dimensions in mm |     |     |     | Weight<br>Kg |
|--------------------------------|---------------|------------------|-----|-----|-----|--------------|
|                                |               | H                | S   | AC  | AC1 |              |
| RMM1G                          | 1/2" IS07/1   | 97               | 35  | 30  | 27  | 0,220        |
| RMM2G                          | 3/4" IS07/1   | 97               | 40  | 35  | 32  | 0,290        |
| RMM3G                          | 1" IS07/1     | 110              | 48  | 42  | 40  | 0,425        |
| RMM4G                          | 1 1/4" IS07/1 | 125              | 60  | 55  | 59  | 1,200        |
| RMM5G                          | 1 1/2" IS07/1 | 125              | 75  | 70  | 67  | 1,500        |
| RMM6G                          | 2" IS07/1     | 125              | 90  | 84  | 77  | 1,900        |
| RMM7G                          | 2 1/2" IS07/1 | 142              | 117 | 108 | 99  | 4,000        |
| RMM8G                          | 3" IS07/1     | 142              | 132 | 121 | 108 | 4,000        |
| RMM10G                         | 4" IS07/1     | 150              | 152 | 145 | 135 | 5,160        |
| RMM1NG                         | 1/2" NPT      | 97               | 35  | 30  | 27  | 0,220        |
| RMM2NG                         | 3/4" NPT      | 97               | 40  | 35  | 32  | 0,290        |
| RMM3NG                         | 1" NPT        | 110              | 48  | 42  | 40  | 0,425        |
| RMM4NG                         | 1 1/4" NPT    | 125              | 60  | 55  | 59  | 1,200        |
| RMM5NG                         | 1 1/2" NPT    | 125              | 75  | 70  | 67  | 1,500        |
| RMM6NG                         | 2" NPT        | 125              | 90  | 84  | 77  | 1,900        |
| RMM7NG                         | 2 1/2" NPT    | 142              | 117 | 108 | 99  | 4,000        |
| RMM8NG                         | 3" NPT        | 142              | 132 | 121 | 108 | 4,000        |
| RMM10NG                        | 4" NPT        | 150              | 152 | 145 | 135 | 5,160        |
| RMM1IG                         | M20x1,5       | 97               | 35  | 30  | 27  | 0,220        |
| RMM2IG                         | M25x1,5       | 97               | 40  | 35  | 32  | 0,290        |
| RMM3IG                         | M32x1,5       | 110              | 48  | 42  | 40  | 0,425        |
| RMM4IG                         | M40x1,5       | 125              | 60  | 55  | 59  | 1,200        |
| RMM5IG                         | M50x1,5       | 125              | 75  | 70  | 67  | 1,500        |
| RMM6IG                         | M63x1,5       | 125              | 90  | 84  | 77  | 1,900        |
| RMM7IG                         | M75x1,5       | 142              | 117 | 108 | 99  | 4,000        |
| RMM8IG                         | M90x1,5       | 142              | 132 | 121 | 108 | 4,000        |
| RMM10IG                        | M100x1,5      | 150              | 152 | 145 | 135 | 5,160        |

### Order code example

|            |          |          |          |
|------------|----------|----------|----------|
| <b>RMM</b> | <b>6</b> | <b>I</b> | <b>G</b> |
| MODEL      | SIZE     | THREAD   | MATERIAL |

### TECHNICAL NOTES:

- The silicone O-ring for the IP protection for cylindrical threads (ISO metric) is supplied already assembled on the union
- Available also in stainless steel (example code RMM1S)
- Available also in nichel-plated brass (example code RMM1B)

Reducers and adaptors are used to join instruments, enclosures, pipes and hubs of different diameter and threads.



**Classification:**  
2014/34/UE

Group II

Category 2GD

**Installation:**  
EN 60079.14

zone 1 - zone 2 (Gas)

zone 21 - zone 22 (Dust)

**Marking:**

CE 0722 Ex II 2 GD Ex d IIC Gb Ex tb IIIC Db IP66/67

CE 0722 Ex II 2 GD Ex e IIC Gb Ex tb IIIC Db IP66/67

**Certification:**

ATEX CESI 02 ATEX 049

IECEx IECEx CES 10.0001X

All IEC Ex and TR CU certification data can be downloaded at [www.cortemgroup.com](http://www.cortemgroup.com)

TR CU AVAILABLE

**Standards:**

CENELEC EN 60079-0: 2012, EN 60079-1: 2007, EN 60079-31: 2009 and EUROPEAN DIRECTIVE 2014/34/UE  
IEC60079-0: 2011, IEC60079-1: 2007-04, IEC60079-7: 2006-07, IEC60079-31: 2008 Directive RoHS 2002/95/CE

**Degree of protection:**

IP66/67



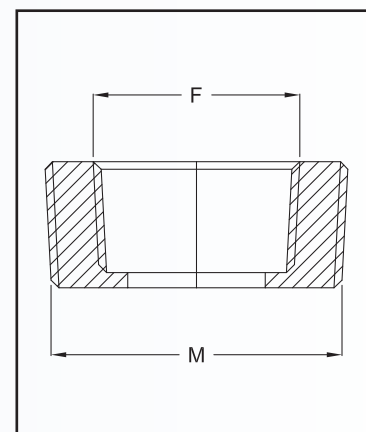
**Operating temperature:**

| Adaptors | Material                                        | Ambient temperature |
|----------|-------------------------------------------------|---------------------|
| RE...    | Galvanised steel (G)                            | -20°C +80°C         |
| RE...    | Nichel-plated brass (B),<br>Aluminium alloy (A) | -40°C +150°C        |
| RE...    | Stainless steel (S)                             | -50°C +150°C        |

Certificates are available on [www.cortemgroup.com](http://www.cortemgroup.com)

## SELECTION TABLE OF STANDARD ADAPTORS

| Thread<br>ISO7/1 |      | Ø FEMALE F |       |      |      |      |      |      |      |      |
|------------------|------|------------|-------|------|------|------|------|------|------|------|
|                  |      | 1/4"       | 3/8"  | 1/2" | 3/4" | 1"   | 1 ¼" | 1 ½" | 2"   | 2 ½" |
| Ø MALE M         | 3/8" | RE3814     |       |      |      |      |      |      |      |      |
|                  | 1/2" | RE114      | RE138 |      |      |      |      |      |      |      |
|                  | 3/4" | RE214      | RE238 | RE21 |      |      |      |      |      |      |
|                  | 1"   | RE314      | RE338 | RE31 | RE32 |      |      |      |      |      |
|                  | 1 ¼" | RE414      | RE438 | RE41 | RE42 | RE43 |      |      |      |      |
|                  | 1 ½" | RE514      | RE538 | RE51 | RE52 | RE53 | RE54 |      |      |      |
|                  | 2"   | RE614      | RE638 | RE61 | RE62 | RE63 | RE64 | RE65 |      |      |
|                  | 2 ½" |            |       | RE71 | RE72 | RE73 | RE74 | RE75 | RE76 |      |
|                  | 3"   |            |       | RE81 | RE82 | RE83 | RE84 | RE85 | RE86 | RE87 |



Order code example of standard adaptors

|       |      |          |
|-------|------|----------|
| RE    | 31   | G        |
| MODEL | SIZE | MATERIAL |

### TECHNICAL NOTES:

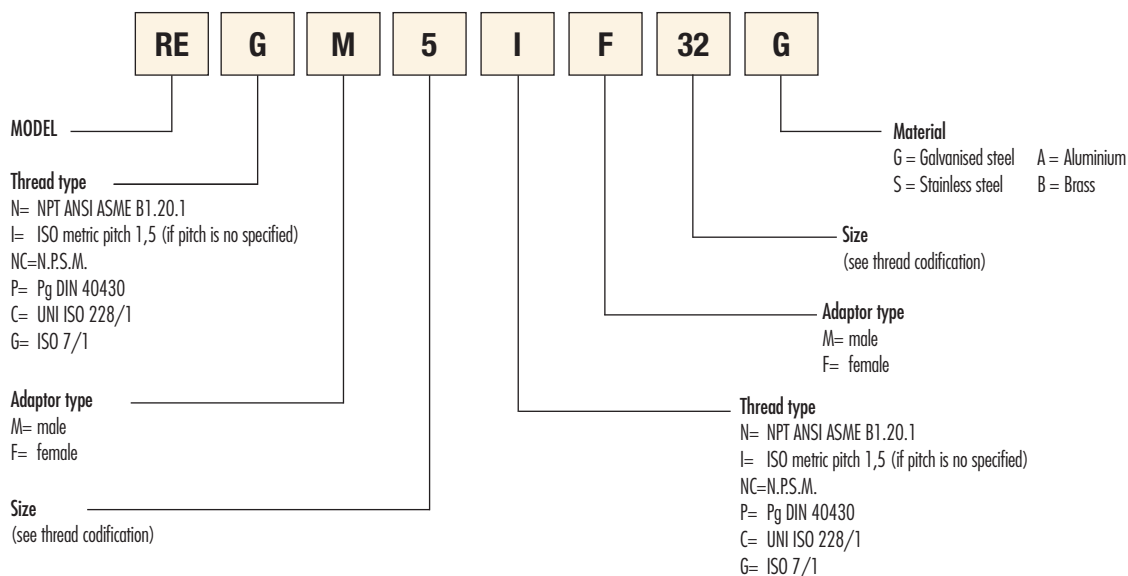
- Available with other threads (example code RE31NG)
- Available in different materials (example code RE31A)
- Size over 3" upon request



**SPECIAL ADAPTORS (MIXED THREADS)**

**Order code example**

(Adaptor type RE, male 1 1/2" Gk, female M32x1,5, galvanised steel)



**THREAD CODIFICATION**

**NPT, N.P.S.M., UNI ISO 228/1, ISO 7/1**

| 02   | 01   | 1    | 2    | 3  | 4      | 5      | 6 | 7      | 8  | 9      | 10 | 12 | 14 |
|------|------|------|------|----|--------|--------|---|--------|----|--------|----|----|----|
| 1/4" | 3/8" | 1/2" | 3/4" | 1" | 1 1/4" | 1 1/2" | 2 | 2 1/2" | 3" | 3 1/2" | 4" | 5" | 6" |

**ISO Metric**

| 12      | 16      | 20      | 25      | 32      | 40      | 50      | 63      | 75      | 90      | 100      | 63X2  | 75X2  | 90X2  |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|-------|-------|-------|
| M12x1,5 | M16x1,5 | M20x1,5 | M25x1,5 | M32x1,5 | M40x1,5 | M50x1,5 | M63x1,5 | M75x1,5 | M90x1,5 | M100x1,5 | M63x2 | M75x2 | M90x2 |

**Pg DIN 40430**

| 2   | 3    | 4      | 5    | 6    | 7    | 8    | 9    | 10   |
|-----|------|--------|------|------|------|------|------|------|
| PG9 | PG11 | PG13,5 | PG16 | PG21 | PG29 | PG36 | PG42 | PG48 |

Reducers and adaptors are used to join instruments, enclosures, pipes and hubs of different diameter and threads.


**Classification:**  
2014/34/UE

Group II

Category 2GD

**Installation:**  
EN 60079.14

zone 1 - zone 2 (Gas)

zone 21 - zone 22 (Dust)

**Marking:**

CE 0722 Ex II 2 GD Ex d IIC Gb Ex tb IIIC Db IP66/67

CE 0722 Ex II 2 GD Ex e IIC Gb Ex tb IIIC Db IP66/67

**Certification:**

ATEX CESI 02 ATEX 049

IECEx IECEx CES 10.0001X

All IEC Ex and TR CU certification  
data can be downloaded at  
[www.cortemgroup.com](http://www.cortemgroup.com)

TR CU AVAILABLE

**Standards:**

CENELEC EN 60079-0: 2012, EN 60079-1: 2007, EN 60079-31: 2009 and EUROPEAN DIRECTIVE 2014/34/UE  
IEC60079-0: 2011, IEC60079-1: 2007-04, IEC60079-7: 2006-07, IEC60079-31: 2008 Directive RoHS 2002/95/CE

**Degree of protection:**

IP66/67

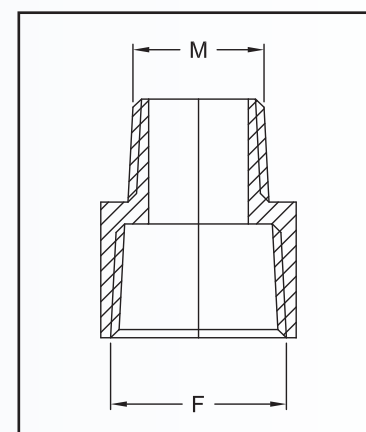

**Operating temperature:**

| Adaptors | Material                                        | Ambient temperature |
|----------|-------------------------------------------------|---------------------|
| REB...   | Galvanised steel (G)                            | -20°C +80°C         |
| REB...   | Nichel-plated brass (B),<br>Aluminium alloy (A) | -40°C +150°C        |
| REB...   | Stainless steel (S)                             | -50°C +150°C        |

Certificates are available on [www.cortemgroup.com](http://www.cortemgroup.com)

## SELECTION TABLE OF STANDARD ADAPTORS

| Thread<br>ISO7/1 |        | Ø MALE M |        |       |       |       |        |        |       |        |
|------------------|--------|----------|--------|-------|-------|-------|--------|--------|-------|--------|
|                  |        | 1/4"     | 3/8"   | 1/2"  | 3/4"  | 1"    | 1 1/4" | 1 1/2" | 2"    | 2 1/2" |
| Ø FEMALE F       | 3/8"   | REB3814  |        |       |       |       |        |        |       |        |
|                  | 1/2"   | REB114   | REB138 |       |       |       |        |        |       |        |
|                  | 3/4"   | REB214   | REB238 | REB21 |       |       |        |        |       |        |
|                  | 1"     | REB314   | REB338 | REB31 | REB32 |       |        |        |       |        |
|                  | 1 1/4" | REB414   | REB438 | REB41 | REB42 | REB43 |        |        |       |        |
|                  | 1 1/2" | REB514   | REB538 | REB51 | REB52 | REB53 | REB54  |        |       |        |
|                  | 2"     | REB614   | REB638 | REB61 | REB62 | REB63 | REB64  | REB65  |       |        |
|                  | 2 1/2" |          |        | REB71 | REB72 | REB73 | REB74  | REB75  | REB76 |        |
|                  | 3"     |          |        | REB81 | REB82 | REB83 | REB84  | REB85  | REB86 | REB87  |



Order code example of  
standard adaptors

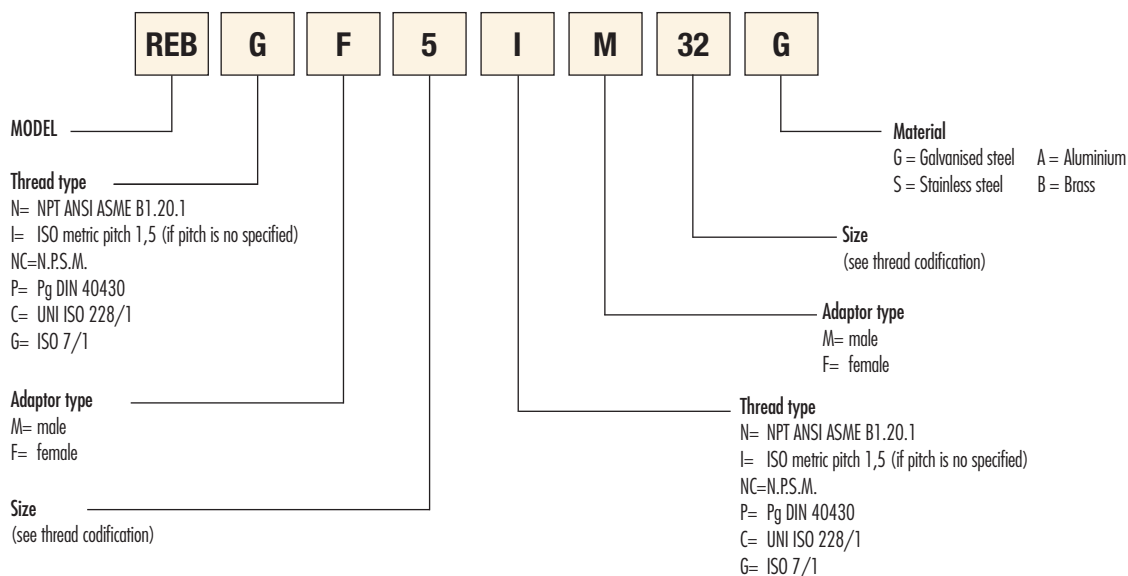
|            |           |          |
|------------|-----------|----------|
| <b>REB</b> | <b>31</b> | <b>G</b> |
| MODEL      | SIZE      | MATERIAL |

### TECHNICAL NOTES:

- The silicone O-ring for the IP protection for cylindrical threads (ISO metric) is supplied already assembled
- Available with other threads (example code REB31NG)
- Available in different materials (example code REB31A)

**SPECIAL ADAPTORS (MIXED THREADS)**
**Order code example**

(Adaptor type REB, female 1 1/2" Gk, male M32x1,5, galvanised steel)


**THREAD CODIFICATION**
**NPT, N.P.S.M., UNI ISO 228/1, ISO 7/1**

| 02   | 01   | 1    | 2    | 3  | 4      | 5      | 6 | 7      | 8  | 9      | 10 | 12 | 14 |
|------|------|------|------|----|--------|--------|---|--------|----|--------|----|----|----|
| 1/4" | 3/8" | 1/2" | 3/4" | 1" | 1 1/4" | 1 1/2" | 2 | 2 1/2" | 3" | 3 1/2" | 4" | 5" | 6" |

**ISO Metric**

| 12      | 16      | 20      | 25      | 32      | 40      | 50      | 63      | 75      | 90      | 100      | 63X2  | 75X2  | 90X2  |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|-------|-------|-------|
| M12x1,5 | M16x1,5 | M20x1,5 | M25x1,5 | M32x1,5 | M40x1,5 | M50x1,5 | M63x1,5 | M75x1,5 | M90x1,5 | M100x1,5 | M63x2 | M75x2 | M90x2 |

**Pg DIN 40430**

| 2   | 3    | 4      | 5    | 6    | 7    | 8    | 9    | 10   |
|-----|------|--------|------|------|------|------|------|------|
| PG9 | PG11 | PG13,5 | PG16 | PG21 | PG29 | PG36 | PG42 | PG48 |

Reducers and adaptors are used to join instruments, enclosures, pipes and hubs of different diameter and threads.


**Classification:**  
2014/34/UE

Group II

Category 2GD

**Installation:**  
EN 60079.14

zone 1 - zone 2 (Gas)

zone 21 - zone 22 (Dust)

**Marking:**

CE 0722 Ex II 2 GD Ex d IIC Gb Ex tb IIIC Db IP66/67

CE 0722 Ex II 2 GD Ex e IIC Gb Ex tb IIIC Db IP66/67

**Certification:**

ATEX CESI 02 ATEX 049

IECEx IECEx CES 10.0001X

All IEC Ex and TR CU certification  
data can be downloaded at  
[www.cortemgroup.com](http://www.cortemgroup.com)

TR CU AVAILABLE

**Standards:**

CENELEC EN 60079-0: 2012, EN 60079-1: 2007, EN 60079-31: 2009 and EUROPEAN DIRECTIVE 2014/34/UE  
IEC60079-0: 2011, IEC60079-1: 2007-04, IEC60079-7: 2006-07, IEC60079-31: 2008 Directive RoHS 2002/95/CE

**Degree of protection:**

IP66/67

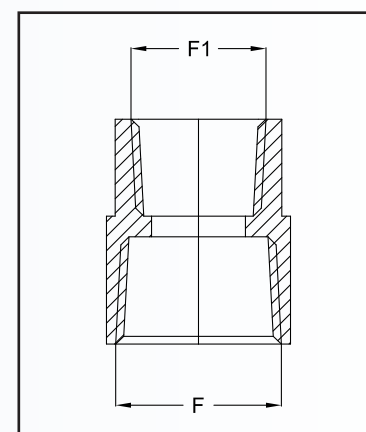

**Operating temperature:**

| Adaptors | Material                                        | Ambient temperature |
|----------|-------------------------------------------------|---------------------|
| REM...   | Galvanised steel (G)                            | -20°C +80°C         |
| REM...   | Nichel-plated brass (B),<br>Aluminium alloy (A) | -40°C +150°C        |
| REM...   | Stainless steel (S)                             | -50°C +150°C        |

Certificates are available on [www.cortemgroup.com](http://www.cortemgroup.com)

## SELECTION TABLE OF STANDARD ADAPTORS

| Thread<br>ISO7/1 |        | Ø FEMALE F1 |        |       |       |       |        |        |       |        |
|------------------|--------|-------------|--------|-------|-------|-------|--------|--------|-------|--------|
|                  |        | 1/4"        | 3/8"   | 1/2"  | 3/4"  | 1"    | 1 1/4" | 1 1/2" | 2"    | 2 1/2" |
| Ø FEMALE F       | 3/8"   | REM3814     |        |       |       |       |        |        |       |        |
|                  | 1/2"   | REM114      | REM138 |       |       |       |        |        |       |        |
|                  | 3/4"   | REM214      | REM238 | REM21 |       |       |        |        |       |        |
|                  | 1"     | REM314      | REM338 | REM31 | REM32 |       |        |        |       |        |
|                  | 1 1/4" | REM414      | REM438 | REM41 | REM42 | REM43 |        |        |       |        |
|                  | 1 1/2" | REM514      | REM538 | REM51 | REM52 | REM53 | REM54  |        |       |        |
|                  | 2"     | REM614      | REM638 | REM61 | REM62 | REM63 | REM64  | REM65  |       |        |
|                  | 2 1/2" |             |        | REM71 | REM72 | REM73 | REM74  | REM75  | REM76 |        |
|                  | 3"     |             |        | REM81 | REM82 | REM83 | REM84  | REM85  | REM86 | REM87  |



Order code example of  
standard adaptors

|       |      |          |
|-------|------|----------|
| REM   | 31   | G        |
| MODEL | SIZE | MATERIAL |

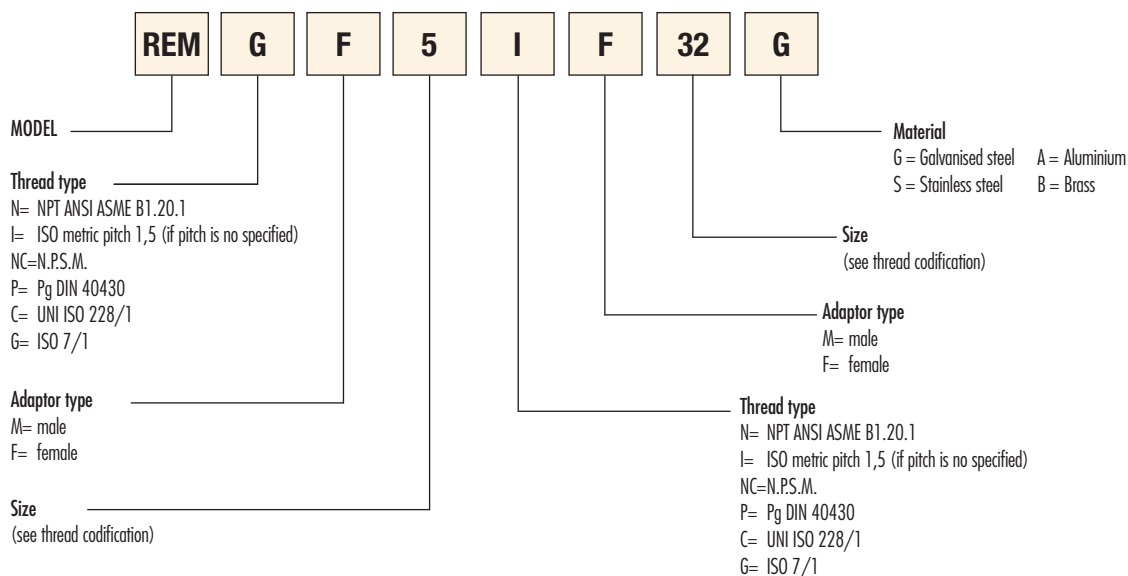
### TECHNICAL NOTES:

- Available with other threads (example code REM31NG)
- Available in different materials (example code REM31A)



**SPECIAL ADAPTORS (MIXED THREADS)**
**Order code example**

(Adaptor type REM, female 1 ½" Gk, female M32x1,5, galvanised steel)


**THREAD CODIFICATION**
**NPT, N.P.S.M., UNI ISO 228/1, ISO 7/1**

| 02   | 01   | 1    | 2    | 3  | 4    | 5    | 6 | 7    | 8  | 9    | 10 | 12 | 14 |
|------|------|------|------|----|------|------|---|------|----|------|----|----|----|
| 1/4" | 3/8" | 1/2" | 3/4" | 1" | 1 ¼" | 1 ½" | 2 | 2 ½" | 3" | 3 ½" | 4" | 5" | 6" |

**ISO Metric**

| 12      | 16      | 20      | 25      | 32      | 40      | 50      | 63      | 75      | 90      | 100      | 63X2  | 75X2  | 90X2  |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|-------|-------|-------|
| M12x1,5 | M16x1,5 | M20x1,5 | M25x1,5 | M32x1,5 | M40x1,5 | M50x1,5 | M63x1,5 | M75x1,5 | M90x1,5 | M100x1,5 | M63x2 | M75x2 | M90x2 |

**Pg DIN 40430**

| 2   | 3    | 4      | 5    | 6    | 7    | 8    | 9    | 10   |
|-----|------|--------|------|------|------|------|------|------|
| PG9 | PG11 | PG13,5 | PG16 | PG21 | PG29 | PG36 | PG42 | PG48 |

Reducers and adaptors are used to join instruments, enclosures, pipes and hubs of different diameter and threads.



|                                      |                                                                                                                            |                                 |
|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------|---------------------------------|
| <b>Classification:</b><br>2014/34/UE | <b>Group II</b>                                                                                                            | <b>Category 2GD</b>             |
| <b>Installation:</b><br>EN 60079.14  | <b>zone 1 - zone 2 (Gas)</b>                                                                                               | <b>zone 21 - zone 22 (Dust)</b> |
| <b>Marking:</b>                      | <b>CE 0722 Ex II 2 GD Ex d IIC Gb Ex tb IIIC Db IP66/67</b><br><b>CE 0722 Ex II 2 GD Ex e IIC Gb Ex tb IIIC Db IP66/67</b> |                                 |
| <b>Certification:</b>                | <b>ATEX CESI 02 ATEX 049</b><br><b>IECEx IECEx CES 10.0001X</b><br><b>TR CU AVAILABLE</b>                                  |                                 |

All IEC Ex and TR CU certification data can be downloaded at [www.cortemgroup.com](http://www.cortemgroup.com)

**Standards:**

CENELEC EN 60079-0: 2012, EN 60079-1: 2007, EN 60079-31: 2009 and EUROPEAN DIRECTIVE 2014/34/UE  
IEC60079-0: 2011, IEC60079-1: 2007-04, IEC60079-7: 2006-07, IEC60079-31: 2008 Directive RoHS 2002/95/CE

**Degree of protection:**

**IP66/67**

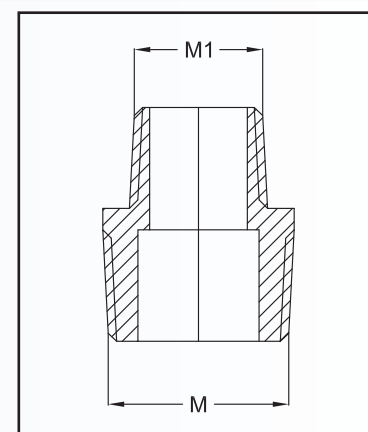

**Operating temperature:**

| Adaptors      | Material                                                          | Ambient temperature |
|---------------|-------------------------------------------------------------------|---------------------|
| <b>REN...</b> | Galvanised steel ( <b>G</b> )                                     | -20°C +80°C         |
| <b>REN...</b> | Nichel-plated brass ( <b>B</b> ),<br>Aluminium alloy ( <b>A</b> ) | -40°C +150°C        |
| <b>REN...</b> | Stainless steel ( <b>S</b> )                                      | -50°C +150°C        |

Certificates are available on [www.cortemgroup.com](http://www.cortemgroup.com)

**SELECTION TABLE OF STANDARD ADAPTORS**

| Thread<br>ISO7/1 |        | Ø MALE F       |               |              |              |              |              |              |              |              |
|------------------|--------|----------------|---------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
|                  |        | 1/4"           | 3/8"          | 1/2"         | 3/4"         | 1"           | 1 1/4"       | 1 1/2"       | 2"           | 2 1/2"       |
| Ø MALE M         | 3/8"   | <b>REN3814</b> |               |              |              |              |              |              |              |              |
|                  | 1/2"   | <b>REN114</b>  | <b>REN138</b> |              |              |              |              |              |              |              |
|                  | 3/4"   | <b>REN214</b>  | <b>REN238</b> | <b>REN21</b> |              |              |              |              |              |              |
|                  | 1"     | <b>REN314</b>  | <b>REN338</b> | <b>REN31</b> | <b>REN32</b> |              |              |              |              |              |
|                  | 1 1/4" | <b>REN414</b>  | <b>REN438</b> | <b>REN41</b> | <b>REN42</b> | <b>REN43</b> |              |              |              |              |
|                  | 1 1/2" | <b>REN514</b>  | <b>REN538</b> | <b>REN51</b> | <b>REN52</b> | <b>REN53</b> | <b>REN54</b> |              |              |              |
|                  | 2"     | <b>REN614</b>  | <b>REN638</b> | <b>REN61</b> | <b>REN62</b> | <b>REN63</b> | <b>REN64</b> | <b>REN65</b> |              |              |
|                  | 2 1/2" |                |               | <b>REN71</b> | <b>REN72</b> | <b>REN73</b> | <b>REN74</b> | <b>REN75</b> | <b>REN76</b> |              |
|                  | 3"     |                |               | <b>REN81</b> | <b>REN82</b> | <b>REN83</b> | <b>REN84</b> | <b>REN85</b> | <b>REN86</b> | <b>REN87</b> |


**Order code example of standard adaptors**

|              |             |                 |
|--------------|-------------|-----------------|
| <b>REN</b>   | <b>31</b>   | <b>G</b>        |
| <b>MODEL</b> | <b>SIZE</b> | <b>MATERIAL</b> |

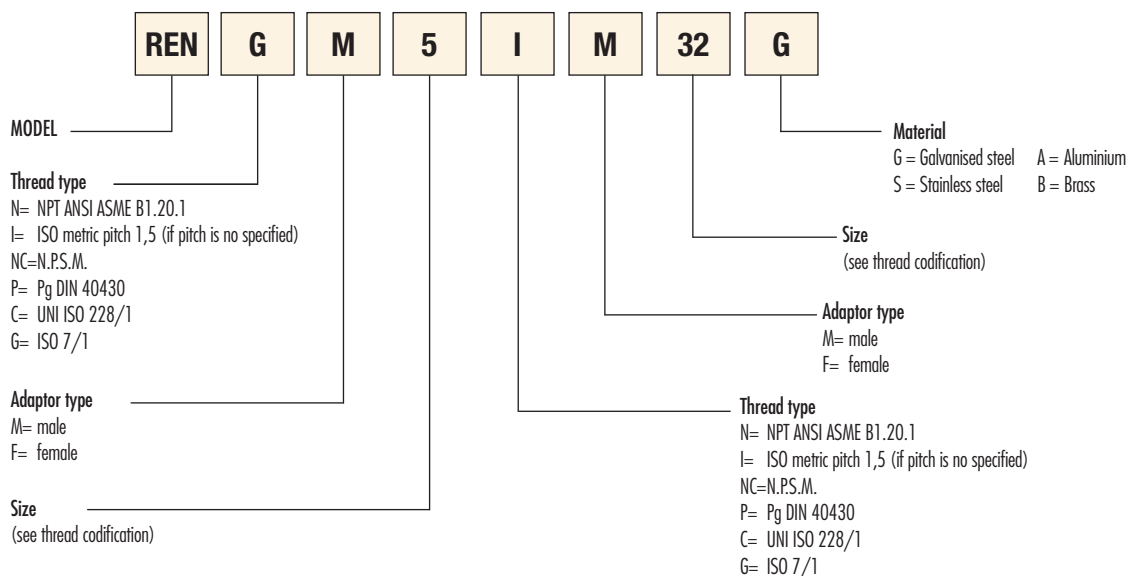
**TECHNICAL NOTES:**

- The silicone O-ring for the IP protection for cylindrical threads (ISO metric) is supplied already assembled
- Available with other threads (example code **REN31NG**)
- Available in different materials (example code **REN31A**)

**SPECIAL ADAPTORS (MIXED THREADS)**

**Order code example**

(Adaptor type REN, male 1 1/2" Gk, male M32x1,5, galvanised steel)



**THREAD CODIFICATION**

**NPT, N.P.S.M., UNI ISO 228/1, ISO 7/1**

| 02   | 01   | 1    | 2    | 3  | 4      | 5      | 6 | 7      | 8  | 9      | 10 | 12 | 14 |
|------|------|------|------|----|--------|--------|---|--------|----|--------|----|----|----|
| 1/4" | 3/8" | 1/2" | 3/4" | 1" | 1 1/4" | 1 1/2" | 2 | 2 1/2" | 3" | 3 1/2" | 4" | 5" | 6" |

**ISO Metric**

| 12      | 16      | 20      | 25      | 32      | 40      | 50      | 63      | 75      | 90      | 100      | 63X2  | 75X2  | 90X2  |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|-------|-------|-------|
| M12x1,5 | M16x1,5 | M20x1,5 | M25x1,5 | M32x1,5 | M40x1,5 | M50x1,5 | M63x1,5 | M75x1,5 | M90x1,5 | M100x1,5 | M63x2 | M75x2 | M90x2 |

**Pg DIN 40430**

| 2   | 3    | 4      | 5    | 6    | 7    | 8    | 9    | 10   |
|-----|------|--------|------|------|------|------|------|------|
| PG9 | PG11 | PG13,5 | PG16 | PG21 | PG29 | PG36 | PG42 | PG48 |

PLG series plugs are used for close-up unused entries. They feature a hexagonal recessed-type head to ensure the opening with proper tools only.



|                                      |                                                      |                                 |
|--------------------------------------|------------------------------------------------------|---------------------------------|
| <b>Classification:</b><br>2014/34/UE | <b>Group II</b>                                      | <b>Category 2GD</b>             |
| <b>Installation:</b><br>EN 60079.14  | <b>zone 1 - zone 2 (Gas)</b>                         | <b>zone 21 - zone 22 (Dust)</b> |
| <b>Marking:</b>                      | CE 0722 Ex II 2 GD Ex d IIC Gb Ex tb IIIC Db IP66/67 |                                 |
|                                      | CE 0722 Ex II 2 GD Ex e IIC Gb Ex tb IIIC Db IP66/67 |                                 |
| <b>Certification:</b>                | <b>ATEX</b>                                          | <b>CESI 02 ATEX 049</b>         |
|                                      | <b>IECEx</b>                                         | <b>IECEx CES 10.0001X</b>       |
|                                      | <b>TR CU</b>                                         | <b>AVAILABLE</b>                |

All IEC Ex and TR CU certification data can be downloaded at [www.cortemgroup.com](http://www.cortemgroup.com)

|                   |                                                                                                                                                                                                            |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Standards:</b> | CENELEC EN 60079-0: 2012, EN 60079-1: 2007, EN 60079-31: 2009 and EUROPEAN DIRECTIVE 2014/34/UE<br>IEC60079-0: 2011, IEC60079-1: 2007-04, IEC60079-7: 2006-07, IEC60079-31: 2008 Directive RoHS 2002/95/CE |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

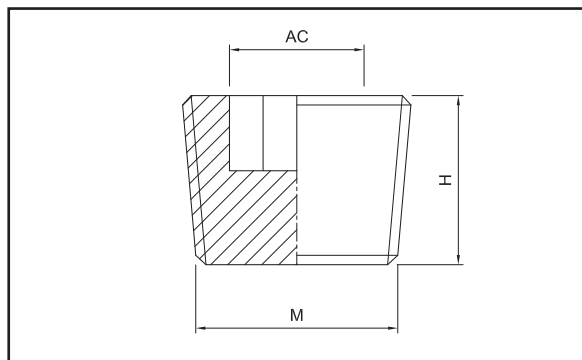
|                              |                |
|------------------------------|----------------|
| <b>Degree of protection:</b> | <b>IP66/67</b> |
|------------------------------|----------------|



**Operating temperature:**

| Close-up plugs | Material                                                       | Ambient temperature |
|----------------|----------------------------------------------------------------|---------------------|
| <b>PLG...</b>  | Galvanised steel <b>(G)</b>                                    | -20°C +80°C         |
| <b>PLG...</b>  | Nichel-plated brass <b>(B)</b> ,<br>Aluminium alloy <b>(A)</b> | -40°C +150°C        |
| <b>PLG...</b>  | Stainless steel <b>(S)</b>                                     | -50°C +150°C        |

Certificates are available on [www.cortemgroup.com](http://www.cortemgroup.com)


**SELECTION TABLE FOR PLUGS WITH STANDARD CONICAL THREAD**

| Code    | Thread<br>M    | Dimensions in mm |    | Material         | Weight |
|---------|----------------|------------------|----|------------------|--------|
|         |                | AC               | H  |                  | Kg     |
| PLG02NG | 1/4" NPT       | 8                | 23 | Galvanised steel | 0,014  |
| PLG01NG | 3/8" NPT       | 8                | 14 | Galvanised steel | 0,024  |
| PLG1NG  | 1/2" NPT       | 13               | 18 | Galvanised steel | 0,034  |
| PLG2NG  | 3/4" NPT       | 17               | 18 | Galvanised steel | 0,054  |
| PLG3NG  | 1" NPT         | 19               | 24 | Galvanised steel | 0,124  |
| PLG4NA  | 1 1/4" NPT     | 24               | 24 | Aluminium        | 0,061  |
| PLG5NA  | 1 1/2" NPT     | 35               | 24 | Aluminium        | 0,063  |
| PLG6NA  | 2" NPT         | 36               | 24 | Aluminium        | 0,109  |
| PLG7NA  | 2 1/2" NPT     | 50               | 30 | Aluminium        | 0,169  |
| PLG8NA  | 3" NPT         | 50               | 30 | Aluminium        | 0,242  |
| PLG10NA | 4" NPT         | 85               | 30 | Aluminium        | 0,489  |
| PLG12NA | 5" NPT         | 102              | 32 | Aluminium        | 0,735  |
| PLG14NA | 6" NPT         | 119              | 32 | Aluminium        | 1,00   |
| PLG02G  | 1/4" ISO 7/1   | 8                | 23 | Galvanised steel | 0,014  |
| PLG01G  | 3/8" ISO 7/1   | 8                | 14 | Galvanised steel | 0,024  |
| PLG1G   | 1/2" ISO 7/1   | 13               | 18 | Galvanised steel | 0,034  |
| PLG2G   | 3/4" ISO 7/1   | 17               | 18 | Galvanised steel | 0,054  |
| PLG3G   | 1" ISO 7/1     | 19               | 24 | Galvanised steel | 0,124  |
| PLG4A   | 1 1/4" ISO 7/1 | 24               | 24 | Aluminium        | 0,061  |
| PLG5A   | 1 1/2" ISO 7/1 | 35               | 24 | Aluminium        | 0,063  |
| PLG6A   | 2" ISO 7/1     | 36               | 24 | Aluminium        | 0,109  |
| PLG7A   | 2 1/2" ISO 7/1 | 50               | 30 | Aluminium        | 0,169  |
| PLG8A   | 3" ISO 7/1     | 50               | 30 | Aluminium        | 0,242  |
| PLG10A  | 4" ISO 7/1     | 85               | 30 | Aluminium        | 0,489  |
| PLG12A  | 5" ISO 7/1     | 102              | 32 | Aluminium        | 0,735  |
| PLG14A  | 6" ISO 7/1     | 119              | 32 | Aluminium        | 1,00   |

**Order code example**

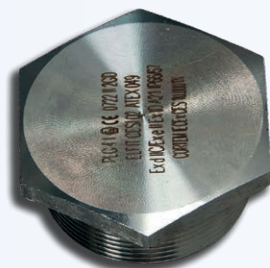
|            |           |          |          |
|------------|-----------|----------|----------|
| <b>PLG</b> | <b>10</b> | <b>N</b> | <b>B</b> |
| MODEL      | SIZE      | THREAD   | MATERIAL |

**TECHNICAL NOTES:**

- Available also in stainless steel (example code **PLG3S**)
- Available also in nichel plated brass (example code **PLG1B**)
- Available also in aluminium (example code **PLG2A**)
- Available also in galvanized steel (example code **PLG6G**)



PLG series plugs are used for close-up unused entries. They feature a hexagonal external head to ensure the opening with proper tools only.



|                                      |                                                                                                                            |                                 |
|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------|---------------------------------|
| <b>Classification:</b><br>2014/34/UE | <b>Group II</b>                                                                                                            | <b>Category 2GD</b>             |
| <b>Installation:</b><br>EN 60079.14  | <b>zone 1 - zone 2 (Gas)</b>                                                                                               | <b>zone 21 - zone 22 (Dust)</b> |
| <b>Marking:</b>                      | <b>CE 0722 Ex II 2 GD Ex d IIC Gb Ex tb IIIC Db IP66/67</b><br><b>CE 0722 Ex II 2 GD Ex e IIC Gb Ex tb IIIC Db IP66/67</b> |                                 |
| <b>Certification:</b>                | <b>ATEX CESI 02 ATEX 049</b><br><b>IECEX IECEX CES 10.0001X</b><br><b>TR CU AVAILABLE</b>                                  |                                 |

All IEC Ex and TR CU certification data can be downloaded at [www.cortemgroup.com](http://www.cortemgroup.com)

|                   |                                                                                                                                                                                                            |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Standards:</b> | CENELEC EN 60079-0: 2012, EN 60079-1: 2007, EN 60079-31: 2009 and EUROPEAN DIRECTIVE 2014/34/UE<br>IEC60079-0: 2011, IEC60079-1: 2007-04, IEC60079-7: 2006-07, IEC60079-31: 2008 Directive RoHS 2002/95/CE |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                              |                |
|------------------------------|----------------|
| <b>Degree of protection:</b> | <b>IP66/67</b> |
|------------------------------|----------------|



**Operating temperature:**

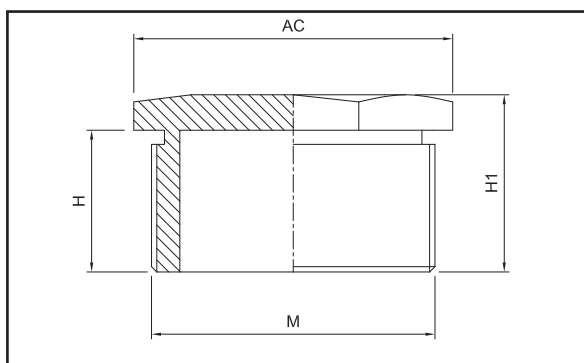
| Close-up plugs | Material                                                          | Gaskets  | Ambient temperature |
|----------------|-------------------------------------------------------------------|----------|---------------------|
| <b>PLG...</b>  | Galvanised steel ( <b>G</b> )                                     | Silicone | -20°C +80°C         |
| <b>PLG...</b>  | Nichel-plated brass ( <b>B</b> ),<br>Aluminium alloy ( <b>A</b> ) | Silicone | -40°C +150°C        |
| <b>PLG...</b>  | Stainless steel ( <b>S</b> )                                      | Silicone | -50°C +150°C        |

Certificates are available on [www.cortemgroup.com](http://www.cortemgroup.com)

#### ACCESSORIES OPON REQUEST

| Lock nuts *                                                                         | Thread ISO228 | Code         | Material         | ISO metric thread | Code   | Material            |
|-------------------------------------------------------------------------------------|---------------|--------------|------------------|-------------------|--------|---------------------|
|  | 1/4"          | <b>DL02G</b> | Galvanised steel | M12x1,5           | DL02IB | Nichel-plated brass |
|                                                                                     | 3/8"          | <b>DL01G</b> | Galvanised steel | M16x1,5           | DL01IB | Nichel-plated brass |
|                                                                                     | 1/2"          | <b>DL1G</b>  | Galvanised steel | M20x1,5           | DL1IB  | Nichel-plated brass |
|                                                                                     | 3/4"          | <b>DL2G</b>  | Galvanised steel | M25x1,5           | DL2IB  | Nichel-plated brass |
|                                                                                     | 1"            | <b>DL3G</b>  | Galvanised steel | M32x1,5           | DL3IB  | Nichel-plated brass |
|                                                                                     | 1 ¼"          | <b>DL4G</b>  | Galvanised steel | M40x1,5           | DL4IB  | Nichel-plated brass |
|                                                                                     | 1 ½"          | <b>DL5A</b>  | Aluminium        | M50x1,5           | DL5IB  | Nichel-plated brass |
|                                                                                     | 2"            | <b>DL6A</b>  | Aluminium        | M63x1,5           | DL6IB  | Nichel-plated brass |
|                                                                                     | 2 ½"          | <b>DL7A</b>  | Aluminium        | M75x1,5           | DL7IB  | Nichel-plated brass |
|                                                                                     | 3"            | <b>DL8A</b>  | Aluminium        | M90x1,5           | DL8IB  | Nichel-plated brass |
|                                                                                     | 3 ½"          | <b>DL9A</b>  | Aluminium        | -                 | -      | -                   |
|                                                                                     | 4"            | <b>DL10A</b> | Aluminium        | M100x1,5          | DL10IB | Nichel-plated brass |

\* For different material contact the sales office.



### SELECTION TABLE FOR PLUGS WITH CYLINDRICAL THREAD

| Code      | Thread<br>M          | Dimensions in mm |    |    | Material   | Weight |
|-----------|----------------------|------------------|----|----|------------|--------|
|           |                      | AC               | H  | H1 |            | Kg     |
| PLG02C... | 1/4" UNI ISO 228/1   | 17               | 16 | 21 | On request | 0,014  |
| PLG01C... | 3/8" UNI ISO 228/1   | 22               | 16 | 21 |            | 0,024  |
| PLG1C...  | 1/2" UNI ISO 228/1   | 25               | 20 | 25 |            | 0,034  |
| PLG2C...  | 3/4" UNI ISO 228/1   | 32               | 20 | 25 |            | 0,054  |
| PLG3C...  | 1" UNI ISO 228/1     | 38               | 24 | 29 |            | 0,124  |
| PLG4C...  | 1 1/4" UNI ISO 228/1 | 45               | 24 | 29 |            | 0,061  |
| PLG5C...  | 1 1/2" UNI ISO 228/1 | 55               | 24 | 29 |            | 0,063  |
| PLG6C...  | 2" UNI ISO 228/1     | 65               | 24 | 29 |            | 0,109  |
| PLG7C...  | 2 1/2" UNI ISO 228/1 | 85               | 24 | 29 |            | 0,169  |
| PLG8C...  | 3" UNI ISO 228/1     | 100              | 24 | 29 |            | 0,242  |
| PLG10C... | 4" UNI ISO 228/1     | 120              | 24 | 29 |            | 0,489  |
| PLG01I... | M16x1,5              | 20               | 16 | 21 | On request | 0,014  |
| PLG1I...  | M20x1,5              | 24               | 16 | 21 |            | 0,024  |
| PLG2I...  | M25x1,5              | 30               | 16 | 21 |            | 0,034  |
| PLG3I...  | M32x1,5              | 36               | 16 | 21 |            | 0,054  |
| PLG4I...  | M40x1,5              | 46               | 16 | 21 |            | 0,124  |
| PLG5I...  | M50x1,5              | 55               | 16 | 21 |            | 0,061  |
| PLG6I...  | M63x1,5              | 70               | 18 | 23 |            | 0,063  |
| PLG7I...  | M75x1,5              | 85               | 18 | 23 |            | 0,109  |
| PLG8I...  | M90x1,5              | 95               | 18 | 23 |            | 0,169  |
| PLG10I... | M100x1,5             | 105              | 18 | 23 |            | 0,242  |

### Order code example

|            |          |          |          |
|------------|----------|----------|----------|
| <b>PLG</b> | <b>8</b> | <b>I</b> | <b>G</b> |
| MODEL      | SIZE     | THREAD   | MATERIAL |

### TECHNICAL NOTES:

- Available also in stainless steel (example code **PLG3I**S****)
- Available also in nichel plated brass (example code **PLG1I**B****)
- Available also in aluminium (example code **PLG2I**A****)
- Available also in galvanized steel (example code **PLG2I**G****)
- Available also with PG thread (example code **PLG5**PA****)

### THREAD CODIFICATION

### Pg DIN 40430

| 2   | 3    | 4      | 5    | 6    | 7    | 8    | 9    | 10   |
|-----|------|--------|------|------|------|------|------|------|
| PG9 | PG11 | PG13,5 | PG16 | PG21 | PG29 | PG36 | PG42 | PG48 |

PLG series plugs are used for close-up unused entries. They feature a hexagonal external head to ensure the opening with proper tools only.


**Classification:**  
 2014/34/UE

**Group II**
**Category 2GD**
**Installation:**  
 EN 60079.14

**zone 1 - zone 2 (Gas)**
**zone 21 - zone 22 (Dust)**
**Marking:**
**CE 0722 Ex II 2 GD - Ex e IIC Gb Ex tb IIIC Db IP66/68**  
**CE 0722 Ex II 2 GD - Ex i IIC Gb Ex tb IIIC Db IP66/68**
**Certification:**
**ATEX IMQ 16 ATEX 005X**
**IECEX IECEX IMQ 15.0009X**
**Standards:**

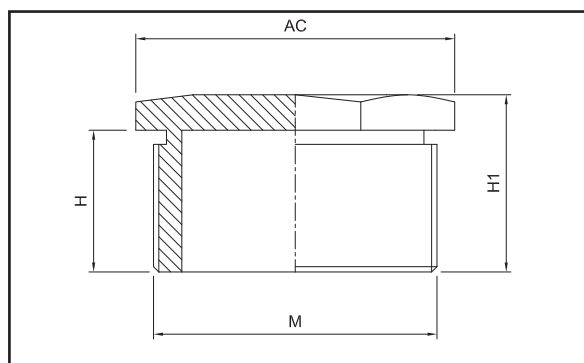
CENELEC EN 60079-0: 2012, EN 60079-7: 2007, EN 60079-11: 2012, EN 60079-31: 2014 and  
 EUROPEAN DIRECTIVE 2014/34/UE  
 IEC 60079-0: 2011, IEC 60079-7: 2006, IEC 60079-11: 2012, IEC 60079-31: 2014  
 Directive RoHS 2002/95/CE


**Ambient Temp.:**
**-60°C +70°C**
**Degree of protection:**
**IP66/68**

Certificates are available on [www.cortemgroup.com](http://www.cortemgroup.com)

**ACCESSORIES OPON REQUEST**

| Lock nuts                                                                           | ISO metric thread | Code            | Material  |
|-------------------------------------------------------------------------------------|-------------------|-----------------|-----------|
|  | M12x1,5           | <b>DL02IXEP</b> | polyamide |
|                                                                                     | M16x1,5           | <b>DL01IXEP</b> |           |
|                                                                                     | M20x1,5           | <b>DL1IXEP</b>  |           |
|                                                                                     | M25x1,5           | <b>DL2IXEP</b>  |           |
|                                                                                     | M32x1,5           | <b>DL3IXEP</b>  |           |
|                                                                                     | M40x1,5           | <b>DL4IXEP</b>  |           |
|                                                                                     | M50x1,5           | <b>DL5IXEP</b>  |           |
|                                                                                     | M63x1,5           | <b>DL6IXEP</b>  |           |


**SELECTION TABLE FOR PLUGS WITH CYLINDRICAL THREAD**

| Code<br>polyamide | Thread<br>M | Dimensions in mm |     |      | Weight |
|-------------------|-------------|------------------|-----|------|--------|
|                   |             | AC               | H   | H1   | Kg     |
| PLG02IXE7         | M12x1,5     | 15               | 10  | 15   | 0,002  |
| PLG01ILXE7        | M16x1,5     | 19               | 15* | 19,3 | 0,003  |
| PLG1ILXE7         | M20x1,5     | 23               | 15* | 21   | 0,005  |
| PLG2ILXE7         | M25x1,5     | 28               | 15* | 20,8 | 0,007  |
| PLG3IXE7          | M32x1,5     | 36               | 15  | 22,8 | 0,012  |
| PLG4IXE7          | M40x1,5     | 46               | 18  | 26,5 | 0,024  |
| PLG5IXE7          | M50x1,5     | 55               | 18  | 27,5 | 0,035  |
| PLG6IXE7          | M63x1,5     | 69               | 18  | 27,5 | 0,051  |
| PLG1PXE7          | PG 7        | 15               | 10  | 15   | 0,002  |
| PLG2PXE7          | PG 9        | 19               | 11  | 15   | 0,003  |
| PLG3PXE7          | PG 11       | 21               | 11  | 16   | 0,004  |
| PLG4PLXE7         | PG 13,5     | 24               | 15  | 20   | 0,005  |
| PLG5PXE7          | PG 16       | 28               | 11  | 17   | 0,007  |
| PLG6PLXE7         | PG 21       | 31               | 15  | 21   | 0,009  |
| PLG7PXE7          | PG 29       | 41               | 15  | 23   | 0,020  |
| PLG8PXE7          | PG 36       | 50               | 18  | 26,5 | 0,030  |
| PLG9PXE7          | PG 42       | 58               | 18  | 27,5 | 0,038  |
| PLG10PXE7         | PG 48       | 69               | 18  | 27,5 | 0,045  |

\* reduced length thread (10mm) upon request.

**Order code example**

|            |          |          |                               |                 |             |
|------------|----------|----------|-------------------------------|-----------------|-------------|
| <b>PLG</b> | <b>2</b> | <b>I</b> | <b>L</b>                      | <b>XE</b>       | <b>7</b>    |
| MODEL      | SIZE     | THREAD   | INCREASED<br>LENGTH<br>THREAD | Marking<br>Ex e | SERIE<br>7J |

**TECHNICAL NOTES:**

- Silicone gaskets
- Black color plug RAL 9005 (Ex e)
- Impact resistance 7J

Elbows with ELF series female-female hubs, ELMF series male-female hubs and ELM series male-male hubs enable the 90° deviations of pipes.



|                                      |                                                              |                                 |
|--------------------------------------|--------------------------------------------------------------|---------------------------------|
| <b>Classification:</b><br>2014/34/UE | <b>Group II</b>                                              | <b>Category 2GD</b>             |
| <b>Installation:</b><br>EN 60079-14  | <b>zone 1 - zone 2 (Gas)</b>                                 | <b>zone 21 - zone 22 (Dust)</b> |
| <b>Marking:</b>                      | <b>CE 0722 Ex II 2 GD Ex d IIC/Ex e II Ex tD A21 IP66/67</b> |                                 |
| <b>Certification:</b>                | <b>ATEX</b>                                                  | <b>CESI 01 ATEX 104U</b>        |
|                                      | <b>IECEx</b>                                                 | <b>IECEx CES 15.0005U</b>       |
|                                      | <b>TR CU</b>                                                 | <b>AVAILABLE</b>                |

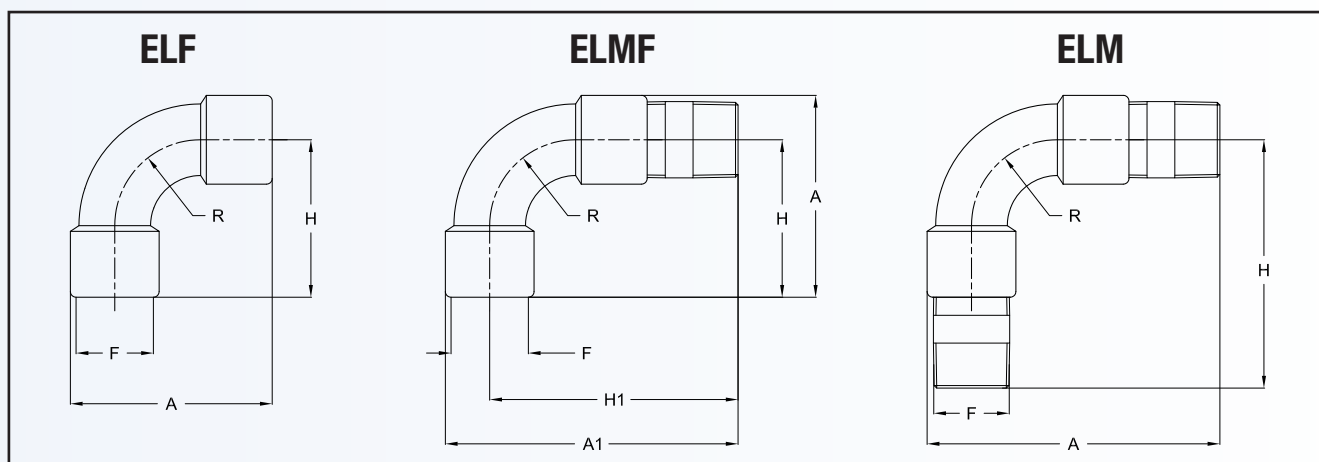
All IEC Ex and TR CU certification data can be downloaded at [www.cortemgroup.com](http://www.cortemgroup.com)

|                   |                                                                                                                                                                                                                           |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Standards:</b> | CENELEC EN 60079-0: 2012, EN 60079-1: 2007, EN 60079-7: 2007, EN 60079-31: 2009 and EUROPEAN DIRECTIVE 2014/34/UE<br>IEC60079-0: 2013, IEC60079-1: 2009, IEC60079-7: 2008, IEC60079-31: 2011<br>Directive RoHS 2002/95/CE |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                         |                     |
|-------------------------|---------------------|
| <b>Operating temp.:</b> | <b>-55°C +150°C</b> |
|-------------------------|---------------------|

|                              |                |
|------------------------------|----------------|
| <b>Degree of protection:</b> | <b>IP66/67</b> |
|------------------------------|----------------|

Certificates are available on [www.cortemgroup.com](http://www.cortemgroup.com)



#### THREAD CODIFICATION

NPT, N.P.S.M., UNI ISO 228/1

| 02   | 01   | 1    | 2    | 3  | 4      | 5      | 6 | 7      | 8  | 9      | 10 | 12 | 14 |
|------|------|------|------|----|--------|--------|---|--------|----|--------|----|----|----|
| 1/4" | 3/8" | 1/2" | 3/4" | 1" | 1 1/4" | 1 1/2" | 2 | 2 1/2" | 3" | 3 1/2" | 4" | 5" | 6" |

ISO Metric

| 12      | 16      | 20      | 25      | 32      | 40      | 50      | 63      | 75      | 90      | 100      | 63X2  | 75X2  | 90X2  |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|-------|-------|-------|
| M12x1,5 | M16x1,5 | M20x1,5 | M25x1,5 | M32x1,5 | M40x1,5 | M50x1,5 | M63x1,5 | M75x1,5 | M90x1,5 | M100x1,5 | M63x2 | M75x2 | M90x2 |



**SELECTION TABLE OF ELF 90° ELBOWS**

| Code<br>In aluminium | Thread<br>F    | Dimensions in mm |     |     | Weight |
|----------------------|----------------|------------------|-----|-----|--------|
|                      |                | A                | H   | R   | Kg     |
| ELF02                | 1/4" ISO 7/1   | 41               | 55  | 30  | 0,09   |
| ELF01                | 3/8" ISO 7/1   | 41               | 55  | 30  | 0,08   |
| ELF1                 | 1/2" ISO 7/1   | 60               | 45  | 30  | 0,12   |
| ELF2                 | 3/4" ISO 7/1   | 75               | 55  | 30  | 0,10   |
| ELF3                 | 1" ISO 7/1     | 85               | 65  | 35  | 0,20   |
| ELF4                 | 1 1/4" ISO 7/1 | 100              | 75  | 50  | 0,39   |
| ELF5                 | 1 1/2" ISO 7/1 | 110              | 87  | 50  | 0,37   |
| ELF6                 | 2" ISO 7/1     | 135              | 98  | 60  | 0,62   |
| ELF7                 | 2 1/2" ISO 7/1 | 175              | 135 | 65  | 0,88   |
| ELF8                 | 3" ISO 7/1     | 210              | 160 | 85  | 1,48   |
| ELF10                | 4" ISO 7/1     | 220              | 155 | 100 | 2,34   |

**SELECTION TABLE OF ELMF 90° ELBOWS**

| Code<br>In aluminium | Thread<br>F    | Dimensions in mm |     |     |     |     | Weight |
|----------------------|----------------|------------------|-----|-----|-----|-----|--------|
|                      |                | A                | A1  | H   | H1  | R   | Kg     |
| ELMF02               | 1/4" ISO 7/1   | 41               | 51  | 55  | 65  | 30  | 0,09   |
| ELMF01               | 3/8" ISO 7/1   | 41               | 51  | 55  | 65  | 30  | 0,08   |
| ELMF1                | 1/2" ISO 7/1   | 60               | 97  | 45  | 85  | 30  | 0,17   |
| ELMF2                | 3/4" ISO 7/1   | 75               | 107 | 55  | 95  | 30  | 0,17   |
| ELMF3                | 1" ISO 7/1     | 85               | 130 | 65  | 110 | 35  | 0,29   |
| ELMF4                | 1 1/4" ISO 7/1 | 100              | 145 | 75  | 125 | 50  | 0,52   |
| ELMF5                | 1 1/2" ISO 7/1 | 110              | 153 | 87  | 125 | 50  | 0,50   |
| ELMF6                | 2" ISO 7/1     | 135              | 180 | 98  | 143 | 60  | 0,79   |
| ELMF7                | 2 1/2" ISO 7/1 | 175              | 220 | 135 | 185 | 65  | 1,43   |
| ELMF8                | 3" ISO 7/1     | 210              | 255 | 160 | 205 | 85  | 2,20   |
| ELMF10               | 4" ISO 7/1     | 220              | 250 | 155 | 200 | 100 | 3,53   |

**SELECTION TABLE OF ELM 90° ELBOWS**

| Code<br>In aluminium | Thread<br>F    | Dimensions in mm |     |     | Weight |
|----------------------|----------------|------------------|-----|-----|--------|
|                      |                | A                | H   | R   | Kg     |
| ELM02                | 1/4" ISO 7/1   | 51               | 65  | 25  | 0,09   |
| ELM01                | 3/8" ISO 7/1   | 51               | 65  | 25  | 0,08   |
| ELM1                 | 1/2" ISO 7/1   | 97               | 56  | 30  | 0,21   |
| ELM2                 | 3/4" ISO 7/1   | 107              | 56  | 30  | 0,22   |
| ELM3                 | 1" ISO 7/1     | 130              | 70  | 35  | 0,38   |
| ELM4                 | 1 1/4" ISO 7/1 | 145              | 85  | 50  | 0,64   |
| ELM5                 | 1 1/2" ISO 7/1 | 153              | 85  | 50  | 0,64   |
| ELM6                 | 2" ISO 7/1     | 180              | 143 | 60  | 0,96   |
| ELM7                 | 2 1/2" ISO 7/1 | 220              | 185 | 65  | 1,99   |
| ELM8                 | 3" ISO 7/1     | 255              | 205 | 85  | 2,92   |
| ELM10                | 4" ISO 7/1     | 250              | 200 | 100 | 4,72   |

**Order code example**

**MODEL**

**SIZE**
**TECHNICAL NOTES:**

- Available also with NPT thread (example code ELF3N)
- Available upon request with ISO metric thread (example code ELF4I)

EM series couplings with female-female hubs, enable the connection between male hubs.



**Classification:**  
2014/34/UE

Group II

Category 2GD

**Installation:**  
EN 60079-14

zone 1 - zone 2 (Gas)

zone 21 - zone 22 (Dust)

**Marking:**

CE 0722 Ex II 2 GD Ex d IIC/Ex e II Ex tD A21 IP66/67

**Certification:**

ATEX CESI 01 ATEX 104U

IECEx IECEx CES 15.0005U

TR CU AVAILABLE

All IEC Ex and TR CU certification data can be downloaded at [www.cortemgroup.com](http://www.cortemgroup.com)

**Standards:**

CENELEC EN 60079-0: 2012, EN 60079-1: 2007, EN 60079-7: 2007, EN 60079-31: 2009 and EUROPEAN DIRECTIVE 2014/34/UE  
IEC60079-0: 2013, IEC60079-1: 2009, IEC60079-7: 2008, IEC60079-31: 2011  
Directive RoHS 2002/95/CE



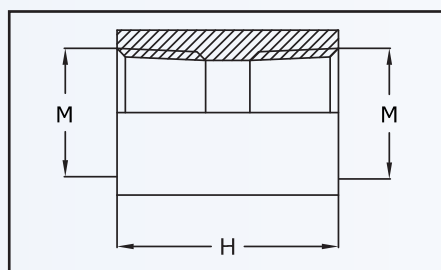
**Operating temp.:**

-40°C +150°C

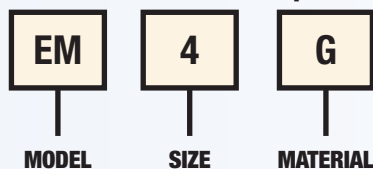
**Degree of protection:**

IP66/67

Certificates are available on [www.cortemgroup.com](http://www.cortemgroup.com)



**Order code example**



## SELECTION TABLE OF EM COUPLINGS

| Code<br>In galvanised steel | Thread<br>F  | Dimensions in mm | Weight |
|-----------------------------|--------------|------------------|--------|
|                             |              | H                | Kg     |
| EM1G                        | 1/2" ISO 7/1 | 39               | 0,090  |
| EM2G                        | 3/4" ISO 7/1 | 39               | 0,080  |
| EM3G                        | 1" ISO 7/1   | 51               | 0,150  |
| EM4G                        | 1 ¼" ISO 7/1 | 51               | 0,270  |
| EM5G                        | 1 ½" ISO 7/1 | 51               | 0,270  |
| EM6G                        | 2" ISO 7/1   | 51               | 0,450  |
| EM7G                        | 2 ½" ISO 7/1 | 65               | 0,650  |
| EM8G                        | 3" ISO 7/1   | 65               | 0,800  |
| EM10G                       | 4" ISO 7/1   | 65               | 1,000  |
| EM12G                       | 5" ISO 7/1   | 65               | 2,300  |
| EM14G                       | 6" ISO 7/1   | 65               | 2,800  |

### TECHNICAL NOTES:

- Available also with NPT thread (example code EM3NG)
- Available also with UNI ISO228/1 thread (example code EM2CG)
- Available also with ISO METRIC thread (example code EM4IG)
- Available also in stainless steel (example code EM2S)
- Available also in aluminium (example code EM2A)
- Available also in nichel plated brass (example code EM2B)
- For threads equivalence have a look at the correlation table in the last page

NP series nipples with male-male hubs, enable the connection between two female hubs.



**Classification:**  
2014/34/UE

Group II

Category 2GD

**Installation:**  
EN 60079-14

zone 1 - zone 2 (Gas)

zone 21 - zone 22 (Dust)

**Marking:**

CE 0722 Ex II 2 GD Ex d IIC/Ex e II Ex tD A21 IP66/67

**Certification:**

ATEX CESA 01 ATEX 104U

IECEx IECEx CES 15.0005U

TR CU AVAILABLE

All IEC Ex and TR CU certification data can be downloaded at [www.cortemgroup.com](http://www.cortemgroup.com)

**Standards:**

CENELEC EN 60079-0: 2012, EN 60079-1: 2007, EN 60079-7: 2007, EN 60079-31: 2009 and EUROPEAN DIRECTIVE 2014/34/UE  
IEC60079-0: 2013, IEC60079-1: 2009, IEC60079-7: 2008, IEC60079-31: 2011  
Directive RoHS 2002/95/CE



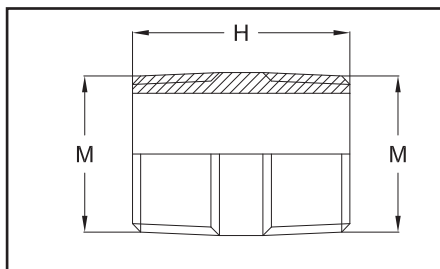
**Operating temp.:**

-40°C +150°C

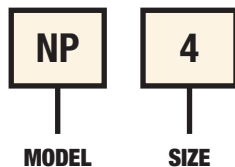
**Degree of protection:**

IP66/67

Certificates are available on [www.cortemgroup.com](http://www.cortemgroup.com)



**Order code example**



## SELECTION TABLE OF NP NIPPLES

| Code<br>In galvanised steel | Thread<br>F    | Dimensions in mm | Weight |
|-----------------------------|----------------|------------------|--------|
|                             |                | H                | Kg     |
| NP1G                        | 1/2" ISO 7/1   | 48               | 0,05   |
| NP2G                        | 3/4" ISO 7/1   | 48               | 0,06   |
| NP3G                        | 1" ISO 7/1     | 60               | 0,10   |
| NP4G                        | 1 1/4" ISO 7/1 | 55               | 0,14   |
| NP5G                        | 1 1/2" ISO 7/1 | 55               | 0,15   |
| NP6G                        | 2" ISO 7/1     | 55               | 0,20   |
| NP7G                        | 2 1/2" ISO 7/1 | 68               | 0,45   |
| NP8G                        | 3" ISO 7/1     | 68               | 0,70   |
| NP10G                       | 4" ISO 7/1     | 68               | 1,0    |
| NP12G                       | 5" ISO 7/1     | 68               | 1,25   |
| NP14G                       | 6" ISO 7/1     | 68               | 1,27   |

### TECHNICAL NOTES:

- Available also with NPT thread (example code NP3NG)
- Available also with UNI ISO228/1 thread (example code NP2CG)
- Available also with ISO METRIC thread (example code NP4IG)
- Available also in stainless steel (example code NP2S)
- Available also in aluminium (example code NP2A)
- Available also in nichel plated brass (example code NP2B)
- For threads equivalence have a look at the correlation table in the last page

Our resin-filled sealing fittings can be divided into two different categories: sealing fittings and sealing bushing. The sealing fittings prevent gases, vapours or flames from spreading through the system of pipes in the electrical system. Such products can be divided into:

**EYS** vertical sealing fitting;

**EZS** horizontal sealing fitting;

**EYD** vertical sealing fitting complete of drain valve to breath a possible condensation developed inside the pipes;

The multicable sealing bushings are suitable to be assembled on junction boxes, electrical motors, panel boards and other electrical devices built in accordance to the Ex d IIC method of protection.

The standard sealing bushings are:

**TP** threaded sealing bushing;

**CP** sealing bushing with cylindrical joint;

**NPS** sealing nipple.

The **ECD** drain and breather valves are used both on our EYD and EZD series sealing fittings and in any type of equipment for draining the inner condensation or for breathing out possible inner vapours.

## CRV420 sealing compound

Two-component polyurethan resin for sealing bushing and sealing fittings

CRV 420 resin is an exclusive Elfit product. Its chemical composition has been improved after countless sealing tests, made in collaboration with CESI laboratory. CRV 420 resin has been certified along with the sealing fittings type EYS and EZS, so they need to be sold together and never separated. Sealings have to be made perfectly, in order to block the passage of gases, vapours or flames through pipes systems.



 **Ambient Temp.:**

**-20°C +100°C**

| Quantity of resin for each sealing fitting |                           |                           |
|--------------------------------------------|---------------------------|---------------------------|
| Dimensions                                 | EYS/EYD quantity of resin | EZS/EZD quantity of resin |
| 1/2"                                       | 35 g                      | 140 g                     |
| 3/4"                                       | 50 g                      | 140 g                     |
| 1"                                         | 100 g                     | 140 g                     |
| 1 1/4"                                     | 240 g                     | 390 g                     |
| 1 1/2"                                     | 240 g                     | 390 g                     |
| 2"                                         | 380 g                     | 570 g                     |
| 2 1/2"                                     | 1250 g                    | 1000 g                    |
| 3"                                         | 1250 g                    | 1000 g                    |

## SELECTION TABLE OF RESIN PACKAGE

| Code               | Component A | Component B |
|--------------------|-------------|-------------|
| <b>CRV420/100</b>  | 100 g       | 20 g        |
| <b>CRV420/300</b>  | 300 g       | 60 g        |
| <b>CRV420/400</b>  | 400 g       | 80 g        |
| <b>CRV420/1000</b> | 1000 g      | 200 g       |

For further details about the resin compound preparation and safety information, look the instructions supplied with CRV420 resin.

## PREPARATION OF THE RESIN COMPOUND

### Characteristics

Polyuretan black resin (after mixing the two components)  
 Hardening time: around 4 hours  
 Cathalizing time: 24 hours  
 Code: CRV 420

### RESIN (Component A)

- Black compound
- Code: CRV420H71
- Mixing ratio: 100%

### CATALYST AGENT (Component B)

- Brown compound
- Code: CRV420H72
- Mixing ratio: 25%

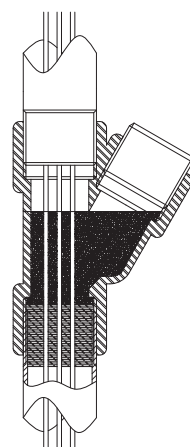
### Ratio of compounds to be mixed

Ratio 100g (Compound A) with 25g (Compound B)  
 when ready to be used

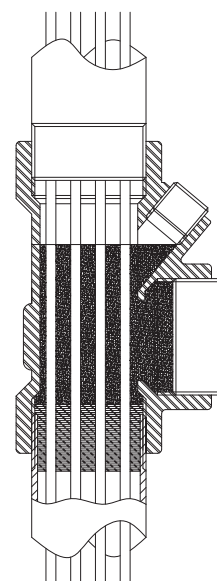
### Time of use for the mixed up compound

- Ambient temperature equal to 20°C within 30 minutes from the mixing
- Ambient temperature of 15°C within 45 minutes from the mixing

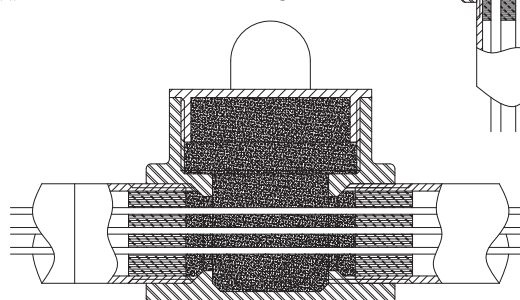
EYS - EYD



EYS - EYD



EZS



## FV... glass fiber

The glass fiber is inserted within sealing fittings to avoid that the sealing resin runs into the underlying connection pipe.



## SELECTION TABLE OF GLASS FIBER

| Code  | Weight |
|-------|--------|
| FV-1  | 250 g  |
| FV-5  | 500 g  |
| FV-10 | 1000 g |





EYS series sealing fittings prevent the passage of gas, vapours or flames through the pipe system in the electrical installation.

They are used for vertical mounting and available in two different shapes, the first for dimensions less than 1", and the second up to 4" with an additional lateral opening for an easy introduction of the fiber. The sealing fittings must be installed as close as possible to the Ex d junction box and in accordance with the standard EN60079-1. They must be filled only with CRV420 resin that has to be requested in the amount indicated in the table. It is not allowed the use of other types of sealing compound.



**Classification:**  
2014/34/UE

Group II

Category 2GD

**Installation:**  
EN 60079.14

zone 1 - zone 2 (Gas)

zone 21 - zone 22 (Dust)

**Marking:**

CE 0722 Ex II 2 GD Ex d IIC Gb Ex tD IIIC Db IP66

**Certification:**

ATEX CESI 03 ATEX 085

IECEx IECEx CES 14.0019X

All IEC Ex and TR CU certification data can be downloaded at [www.cortemgroup.com](http://www.cortemgroup.com)

TR CU AVAILABLE

**Standards:**

CENELEC EN 60079-0: 2012, EN 60079-1: 2007, EN 60079-31: 2009 and EUROPEAN DIRECTIVE 2014/34/UE  
IEC60079-0: 2011, IEC60079-1: 2007-04, IEC60079-31: 2008 Directive RoHS 2002/95/CE



**Ambient Temp. (EYS):**

-20°C +100°C



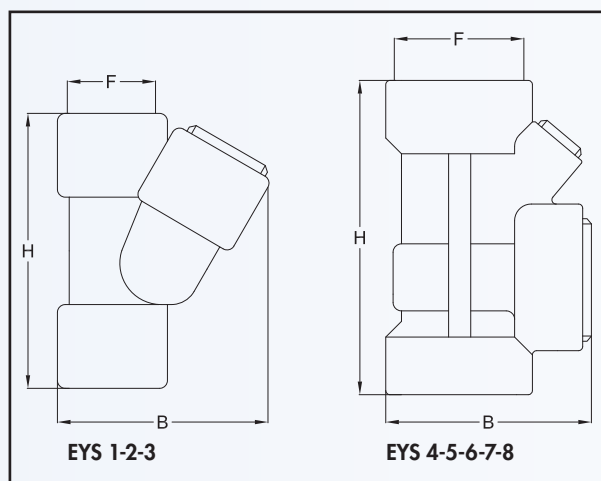
**Operating temperature:**

-20°C +100°C

**Degree of protection:**

IP66

Certificates are available on [www.cortemgroup.com](http://www.cortemgroup.com)



## SELECTION TABLE OF EYS VERTICAL SEALING FITTINGS

| Code<br>In<br>aluminium | Thread         | Dimensions in mm |     | Amount<br>of resin | Weight |
|-------------------------|----------------|------------------|-----|--------------------|--------|
|                         | F              | H                | B   | gr                 | Kg     |
| EYS1                    | 1/2" ISO 7/1   | 77               | 56  | 35                 | 0,097  |
| EYS2                    | 3/4" ISO 7/1   | 87               | 66  | 50                 | 0,147  |
| EYS3                    | 1" ISO 7/1     | 105              | 82  | 100                | 0,242  |
| EYS4                    | 1 1/4" ISO 7/1 | 145              | 84  | 240                | 0,576  |
| EYS5                    | 1 1/2" ISO 7/1 | 145              | 84  | 240                | 0,528  |
| EYS6                    | 2" ISO 7/1     | 150              | 95  | 380                | 0,643  |
| EYS7                    | 2 1/2" ISO 7/1 | 200              | 134 | 1250               | 1,580  |
| EYS8                    | 3" ISO 7/1     | 200              | 134 | 1250               | 1,480  |

### TECHNICAL NOTES:

- Available also with NPT thread (example code EYS2N)
- Available upon request in stainless steel

EYD series sealing fittings are equipped with ECD valve to drain the possible condensation inside the conduits. They are used for vertical mounting and available in two different shapes, the first for dimensions less than 1", and the second up to 4" with an additional lateral opening for easy introduction of the fiber. The sealing fittings have to be installed as close as possible to the Ex d junction box and in accordance with the standard EN60079-1. They must be filled only with CRV420 resin that has to be requested in the amount indicated in the table. It is not allowed the use of other types of sealing compound.



**Classification:**  
2014/34/UE

**Group II**

**Category 2GD**

**Installation:**  
EN 60079.14

**zone 1 - zone 2 (Gas)**

**Marking:**

**CE 0722 Ex II 2 G Ex d IIC Gb**

**Certification**

**ATEX CESI 03 ATEX 085**

**IECEx IECEx CES 14.0019X**

**TR CU AVAILABLE**

All IEC Ex and TR CU certification data can be downloaded at [www.cortemgroup.com](http://www.cortemgroup.com)

**Standards:**

CENELEC EN 60079-0: 2012, EN 60079-1: 2007, EN 60079-31: 2009 and EUROPEAN DIRECTIVE 2014/34/UE  
IEC60079-0: 2011, IEC60079-1: 2007-04, IEC60079-31: 2008 Directive RoHS 2002/95/CE

**Ambient Temp. (EYD):**

**-20°C +60°C**

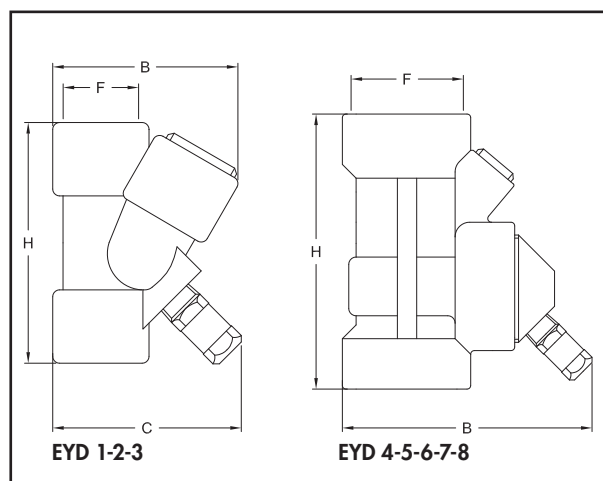
**Operating temperature:**

**-20°C +100°C**

**Degree of protection:**

**IP66**

Certificates are available on [www.cortemgroup.com](http://www.cortemgroup.com)



### SELECTION TABLE OF EYS VERTICAL SEALING FITTINGS

| Code<br>In<br>aluminium | Thread         | Dimensions in mm |     |     | Amount<br>of resin | Weight |
|-------------------------|----------------|------------------|-----|-----|--------------------|--------|
|                         | F              | H                | B   | C   | gr                 | Kg     |
| EYD1                    | 1/2" ISO 7/1   | 88               | 63  | 67  | 35                 | 0,280  |
| EYD2                    | 3/4" ISO 7/1   | 100              | 72  | 78  | 50                 | 0,310  |
| EYD3                    | 1" ISO 7/1     | 117              | 85  | 85  | 100                | 0,430  |
| EYD4                    | 1 1/4" ISO 7/1 | 145              | 120 | 120 | 240                | 0,720  |
| EYD5                    | 1 1/2" ISO 7/1 | 145              | 120 | 120 | 240                | 0,600  |
| EYD6                    | 2" ISO 7/1     | 150              | 131 | 131 | 380                | 0,820  |
| EYD7                    | 2 1/2" ISO 7/1 | 200              | 165 | 165 | 1250               | 1,580  |
| EYD8                    | 3" ISO 7/1     | 200              | 165 | 165 | 1250               | 1,480  |

#### TECHNICAL NOTES:

- Available also with NPT thread (example code EYD2N)
- Available upon request in stainless steel

EZS series horizontal fittings prevent the passage of gas, vapours or flames through the pipe system in the electrical installation.

EZS series can be used both for horizontal and vertical mounting. The sealing fittings have to be installed as close as possible to the Ex d junction box and in accordance with the standard EN60079-1. They must be filled only with CRV420 resin that has to be requested in the amount indicated in the table. It is not allowed the use of other types of sealing compound.



|                                      |                                                          |                                 |
|--------------------------------------|----------------------------------------------------------|---------------------------------|
| <b>Classification:</b><br>2014/34/UE | <b>Group II</b>                                          | <b>Category 2GD</b>             |
| <b>Installation:</b><br>EN 60079-14  | <b>zone 1 - zone 2 (Gas)</b>                             | <b>zone 21 - zone 22 (Dust)</b> |
| <b>Marking:</b>                      | <b>CE 0722 Ex II 2 GD Ex d IIC Gb Ex tD IIIC Db IP66</b> |                                 |
| <b>Certification:</b>                | <b>ATEX</b>                                              | <b>CESI 03 ATEX 085</b>         |
|                                      | <b>IECEx</b>                                             | <b>IECEx CES 14.0019X</b>       |
|                                      | <b>TR CU</b>                                             | <b>AVAILABLE</b>                |

All IEC Ex and TR CU certification data can be downloaded at [www.cortemgroup.com](http://www.cortemgroup.com)

**Standards:**

CENELEC EN 60079-0: 2012, EN 60079-1: 2007, EN 60079-31: 2009 and EUROPEAN DIRECTIVE 2014/34/UE  
 IEC60079-0: 2011, IEC60079-1: 2007-04, IEC60079-31: 2008 Directive RoHS 2002/95/CE

 **Ambient Temp. (EZS):**

**-20°C +100°C**

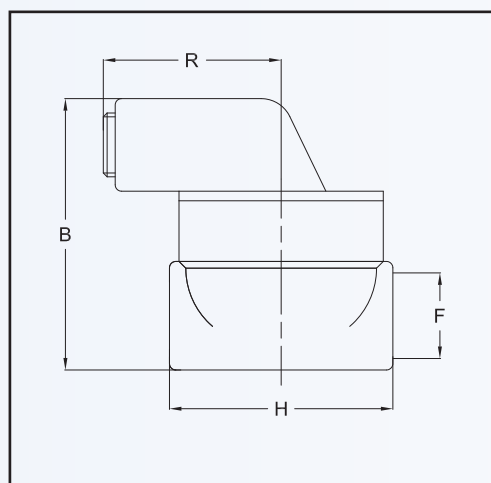
 **Operating temperature:**

**-20°C +100°C**

**Degree of protection:**

**IP66**

Certificates are available on [www.cortemgroup.com](http://www.cortemgroup.com)



### SELECTION TABLE OF EZS HORIZONTAL SEALING FITTINGS

| Code<br>In<br>aluminium | Thread       | Dimensions in mm |     |    | Amount<br>of resin | Weight |
|-------------------------|--------------|------------------|-----|----|--------------------|--------|
|                         | F            | H                | B   | R  | gr                 | Kg     |
| EZS1                    | 1/2" ISO 7/1 | 72               | 83  | 50 | 150                | 0,26   |
| EZS2                    | 3/4" ISO 7/1 | 72               | 83  | 50 | 140                | 0,25   |
| EZS3                    | 1" ISO 7/1   | 74               | 92  | 50 | 140                | 0,27   |
| EZS4                    | 1 ¼" ISO 7/1 | 98               | 110 | 80 | 390                | 0,52   |
| EZS5                    | 1 ½" ISO 7/1 | 98               | 110 | 80 | 390                | 0,48   |
| EZS6                    | 2" ISO 7/1   | 130              | 120 | 80 | 570                | 0,70   |
| EZS7                    | 2 ½" ISO 7/1 | 142              | 160 | 90 | 1000               | 1,50   |
| EZS8                    | 3" ISO 7/1   | 142              | 160 | 90 | 1000               | 1,74   |

**TECHNICAL NOTES:**

- Available also with NPT thread (example code EZS2N)
- Available upon request in stainless steel





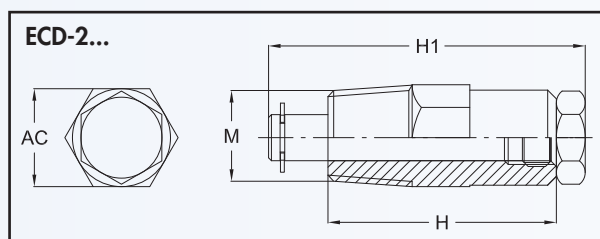
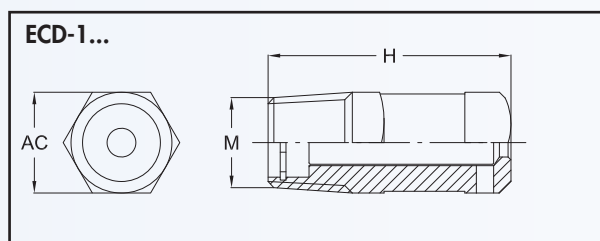
Drain and breather valves are suitable for use in any type of explosion proof enclosure to drain the condensation and vapours developed inside the enclosure.



|                                      |                                                                     |                          |                                                                                                                           |
|--------------------------------------|---------------------------------------------------------------------|--------------------------|---------------------------------------------------------------------------------------------------------------------------|
| <b>Classification:</b><br>2014/34/UE | Group II                                                            | Category 2GD             |                                                                                                                           |
| <b>Installation:</b><br>EN 60079-14  | zone 1 - zone 2 (Gas)                                               |                          | ECD-1...                                                                                                                  |
|                                      | zone 1 - zone 2 (Gas)                                               | zone 21 - zone 22 (Dust) | ECD-2...                                                                                                                  |
| <b>Marking:</b>                      | CE 0722 Ex II 2 G Ex d IIC/IIB Gb                                   |                          | ECD-1...                                                                                                                  |
|                                      | CE 0722 Ex II 2 GD Ex d IIC/IIB - Ex e IIC Gb<br>Ex tb IIIC Db IP66 |                          | ECD-2...                                                                                                                  |
| <b>Certification:</b>                | ATEX                                                                | CESI 01 ATEX 081U        |                                                                                                                           |
|                                      | IECEx                                                               | IECEx CES 14.0016U       | All IEC Ex and TR CU certification data can be downloaded at <a href="http://www.cortemgroup.com">www.cortemgroup.com</a> |
|                                      | TR CU                                                               | AVAILABLE                |                                                                                                                           |

|                               |                                                                                                                                                                                                                               |
|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Standards:</b>             | CENELEC EN 60079-0: 2012, EN 60079-1: 2007, EN 60079-7: 2007, EN 60079-31: 2009 and EUROPEAN DIRECTIVE 2014/34/UE<br>IEC60079-0: 2011, IEC60079-1: 2007-04, IEC 60079-7: 2006-07, IEC60079-31: 2008 Directive RoHS 2002/95/CE |
| <b>Operating temp. (IIC):</b> | -50°C +60°C                                                                                                                                                                                                                   |
| <b>Operating temp. (IIB):</b> | -50°C +150°C                                                                                                                                                                                                                  |
| <b>Degree of protection:</b>  | IP66                                                                                                                                                                                                                          |

Certificates are available on [www.cortemgroup.com](http://www.cortemgroup.com)



## SELECTION TABLE OF ECD VALVES

| Code<br>In stainless steel AISI 316 | Thread      | Dimensions in mm |    |    | Use      | Weight<br>Kg |
|-------------------------------------|-------------|------------------|----|----|----------|--------------|
|                                     |             | H                | H1 | AC |          |              |
| ECD110S                             | 3/8" IS07/1 | 42               | -  | 17 | Drain    | 0,08         |
| ECD115S                             | 1/2" IS07/1 | 43               | -  | 22 | Drain    | 0,08         |
| ECDS110S                            | 3/8" IS07/1 | 42               | -  | 17 | Breather | 0,10         |
| ECD210S                             | 3/8" IS07/1 | 40               | 55 | 17 | Drain    | 0,11         |
| ECD215S                             | 1/2" IS07/1 | 40               | 55 | 22 | Drain    | 0,20         |

### TECHNICAL NOTES:

- Available also in aluminium (example code ECD110)
- Available also with NPT thread (example code ECD110NS)
- Available also with ISO METRIC thread



Automatic drainage and breather valves ECDE series are suitable to be used on increased safety, intrinsically safety or watertight enclosures to facilitate the elimination of condensation or vapors developed inside. Thanks to a precise mechanism, it is possible to obtain a continuous drainage and breathing of the junction box, protecting it from the possible formations of internal condensation and thus avoiding the periodic manual discharge, while ensuring a suitable IP degree of protection.

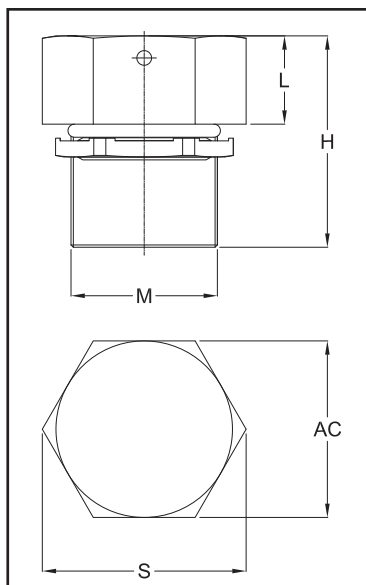


|                                      |                                                           |                                 |
|--------------------------------------|-----------------------------------------------------------|---------------------------------|
| <b>Classification:</b><br>2014/34/UE | <b>Group II</b>                                           | <b>Category 2GD</b>             |
| <b>Installation:</b><br>EN 60079-14  | <b>zone 1 - zone 2 (Gas)</b>                              | <b>zone 21 - zone 22 (Dust)</b> |
| <b>Marking:</b>                      | <b>CE 0722 Ex II 2 GD Ex eb IIC Gb Ex tb IIIC Db IP66</b> |                                 |
| <b>Certification:</b>                | <b>ATEX</b>                                               | <b>CML 16 ATEX 1351X</b>        |
|                                      | <b>IECEX</b>                                              | <b>IECEX CML16.0124U</b>        |

All IEC Ex certification data can be downloaded at [www.cortemgroup.com](http://www.cortemgroup.com)

|                              |                                                                                                                                                                                     |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Standards:</b>            | CENELEC EN 60079-0: 2012, EN 60079-7: 2015, EN 60079-31: 2014 and EUROPEAN DIRECTIVE 2014/34/UE<br>IEC60079-0: 2011, IEC 60079-7: 2015, IEC60079-31: 2013 Directive RoHS 2002/95/CE |
| <b>Ambient temp.:</b>        | -60°C +150°C                                                                                                                                                                        |
| <b>Degree of protection:</b> | IP66                                                                                                                                                                                |

Certificates are available on [www.cortemgroup.com](http://www.cortemgroup.com)



### SELECTION TABLE OF ECDE VALVES

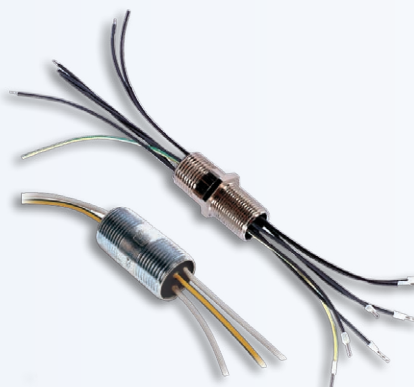
| Code<br>In stainless<br>steel AISI 316 | Code<br>In nichel-<br>plated brass | Thread<br>M | Dimensions in mm |    |    |    | Use      |
|----------------------------------------|------------------------------------|-------------|------------------|----|----|----|----------|
|                                        |                                    |             | H*               | L  | S  | AC |          |
| ECDE-B1S                               | ECDE-B1B                           | M20x1,5     | 26               | 13 | 28 | 24 | Breather |
| ECDE-B2S                               | ECDE-B2B                           | M25x1,5     | 26               | 13 | 35 | 30 | Breather |
| ECDE-D1S                               | ECDE-D1B                           | M20x1,5     | 26               | 13 | 28 | 24 | Drain    |
| ECDE-D2S                               | ECDE-D2B                           | M25x1,5     | 26               | 13 | 35 | 30 | Drain    |

#### TECHNICAL NOTES:

- \* Different lengths for thick junction boxes upon request.

The sealed nipples are used to connect explosion-proof enclosures. The cables are sealed through a two-component resin set around each conductor.

Note: Please refer to the Sales Office for the available cables arrangements.



|                                      |                                                             |                                 |
|--------------------------------------|-------------------------------------------------------------|---------------------------------|
| <b>Classification:</b><br>2014/34/UE | <b>Group II</b>                                             | <b>Category 2GD</b>             |
| <b>Installation:</b><br>EN 60079-14  | <b>zone 1 - zone 2 (Gas)</b>                                | <b>zone 21 - zone 22 (Dust)</b> |
| <b>Marking:</b>                      | <b>CE 0722 Ex II 2 GD Ex d IIC Gb Ex tb IIIC Db IP66/67</b> |                                 |
| <b>Certification:</b>                | <b>ATEX</b>                                                 | <b>CESI 01 ATEX 080U</b>        |
|                                      | <b>IECEx</b>                                                | <b>IECEx CES 10.0003U</b>       |
|                                      | <b>TR CU</b>                                                | <b>AVAILABLE</b>                |

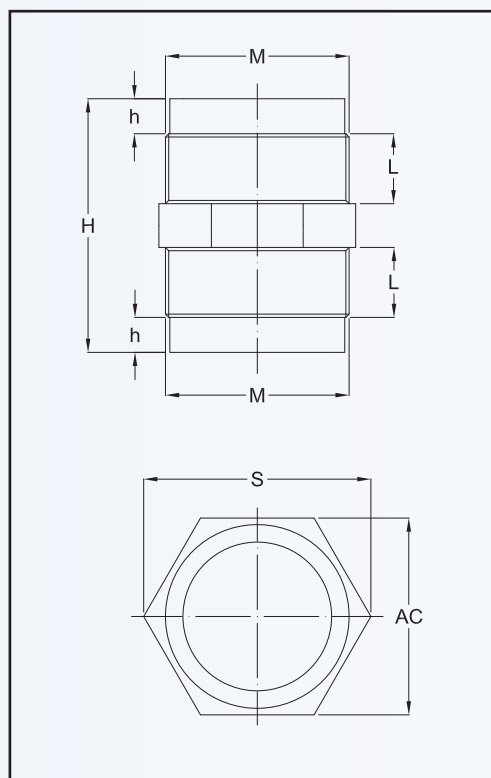
All IEC Ex and TR CU certification data can be downloaded at [www.cortemgroup.com](http://www.cortemgroup.com)

|                   |                                                                                                                                                                                       |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Standards:</b> | CENELEC EN 60079-0: 2012, EN 60079-1: 2007, EN 60079-31: 2009 and EUROPEAN DIRECTIVE 2014/34/UE<br>IEC60079-0: 2011, IEC60079-1: 2007-04, IEC60079-31: 2008 Directive RoHS 2002/95/CE |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                               |                     |
|-------------------------------|---------------------|
| <b>Operating temperature:</b> | <b>-50°C +110°C</b> |
|-------------------------------|---------------------|

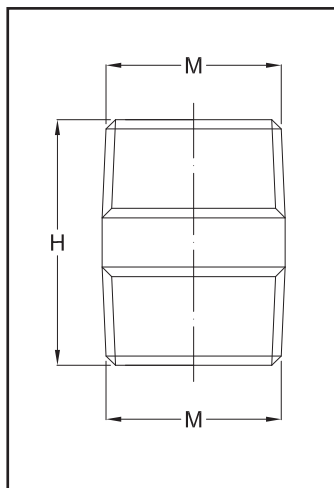
|                              |                |
|------------------------------|----------------|
| <b>Degree of protection:</b> | <b>IP66/67</b> |
|------------------------------|----------------|

Certificates are available on [www.cortemgroup.com](http://www.cortemgroup.com)



### SELECTION TABLE OF ISO METRIC SEALED NIPPLES

| Code<br>In brass | ISO METRIC<br>thread | Dimensions in mm |    |    |   |    |
|------------------|----------------------|------------------|----|----|---|----|
|                  |                      | M                | H  | L  | h | AC |
| NPS10            | M10x1,5              |                  | 54 | 16 | 8 | 14 |
| NPS12            | M12x1,5              |                  |    |    |   | 16 |
| NPS16            | M16x1,5              |                  |    |    |   | 20 |
| NPS20            | M20x1,5              |                  |    |    |   | 24 |
| NPS24            | M24x1,5              |                  |    |    |   | 30 |
| NPS25            | M25x1,5              |                  |    |    |   | 30 |
| NPS32            | M32x1,5              |                  |    |    |   | 36 |
| NPS33            | M33x1,5              |                  |    |    |   | 36 |
| NPS36            | M36x1,5              |                  |    |    |   | 40 |
| NPS38            | M38x1,5              |                  |    |    |   | 42 |
| NPS40            | M40x1,5              |                  |    |    |   | 45 |
| NPS42            | M42x1,5              |                  |    |    |   | 45 |



**SELECTION TABLE OF ISO 7/1 SEALED NIPPLES**

| Code<br>In galvani-<br>sed steel | Thread         | Dimensions<br>mm |
|----------------------------------|----------------|------------------|
|                                  | M              | H                |
| NPS1                             | 1/2" ISO 7/1   | 48               |
| NPS2                             | 3/4" ISO 7/1   | 48               |
| NPS3                             | 1" ISO 7/1     | 60               |
| NPS4                             | 1 1/4" ISO 7/1 | 55               |
| NPS5                             | 1 1/2" ISO 7/1 | 55               |

**SELECTION TABLE OF NPT SEALED NIPPLES**

| Code<br>In galvani-<br>sed steel | Thread     | Dimensions<br>mm |
|----------------------------------|------------|------------------|
|                                  | M          | H                |
| NPS1N                            | 1/2" NPT   | 48               |
| NPS2N                            | 3/4" NPT   | 48               |
| NPS3N                            | 1" NPT     | 60               |
| NPS4N                            | 1 1/4" NPT | 55               |
| NPS5N                            | 1 1/2" NPT | 55               |

### Order method for sealing nipples

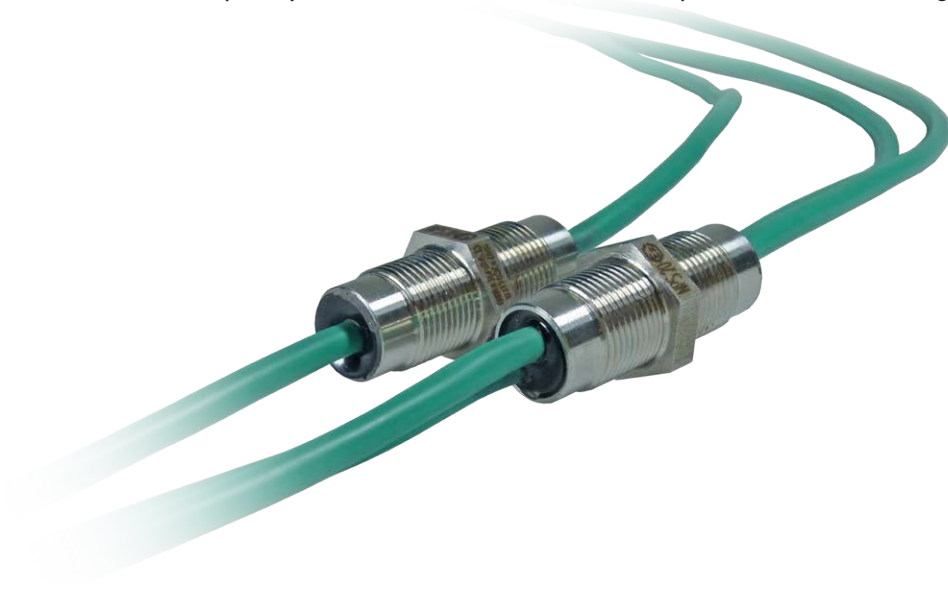
- 1 Indicate the NPS model based on the necessary thread type
- 2 Indicate amount, section, color of cables to be sealed in the nipple
- 3 Indicate the cables lenght on the two sides
- 4 Indicate the total amount of necessary sealed nipples

### TECHNICAL NOTES:

- The maximum quantity as well as the kind of usable cables are specified on "Maximum quantity and wires type tables" in the following pages
- Available the installation of terminals or connectors
- Possible numeration of cables
- Possible to strip the cables' extremities
- Available also in stainless steel
- Available also in galvanised steel
- It is possible to supply sealing nipples with mixed thread
- Request the lock nuts for the sealing nipples with ISO metric thread

### Upon request it's possible to supply sealing nipples with cables for thermocouples K type

- The maximum quantity and the kind of usable wires are specified on the following pages



The sealing bushings are used to connect explosion-proof enclosures. The cables are sealed through a two-component resin set around each conductor.



|                                      |                               |                    |
|--------------------------------------|-------------------------------|--------------------|
| <b>Classification:</b><br>2014/34/UE | Group II                      | Category 2GD       |
| <b>Installation:</b><br>EN 60079.14  | zone 1 - zone 2 (Gas)         |                    |
| <b>Marking:</b>                      | CE 0722 Ex II 2 G Ex d IIC Gb |                    |
| <b>Certification:</b>                | ATEX                          | CESI 01 ATEX 080   |
|                                      | IECEX                         | IECEX CES 10.0003U |
|                                      | TR CU                         | AVAILABLE          |

All IEC Ex and TR CU certification data can be downloaded at [www.cortemgroup.com](http://www.cortemgroup.com)

**Standards:**

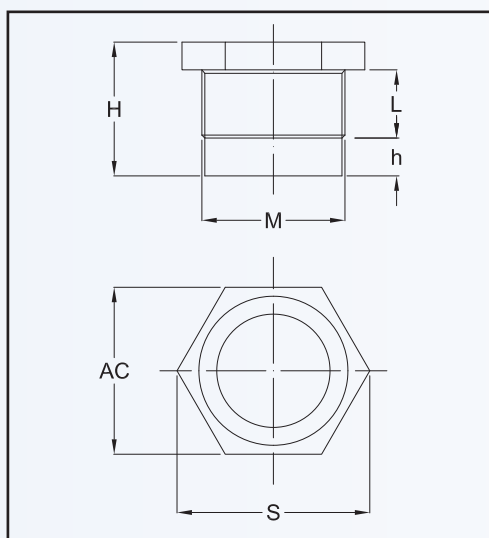
CENELEC EN 60079-0: 2012, EN 60079-1: 2007, EN 60079-31: 2009 and EUROPEAN DIRECTIVE 2014/34/UE  
IEC60079-0: 2011, IEC60079-1: 2007-04, IEC60079-31: 2008 Directive RoHS 2002/95/CE



**Operating temperature:**

-50°C +110°C

Certificates are available on [www.cortemgroup.com](http://www.cortemgroup.com)



**SELECTION TABLE OF SEALING BUSHINGS WITH THREADED JOINT**

| Code<br>In brass | ISO METRIC<br>thread | Dimensions in mm |    |    |   |    |
|------------------|----------------------|------------------|----|----|---|----|
|                  |                      | M                | H  | L  | h | AC |
| TP               | 10                   |                  | 30 | 15 | 9 | 14 |
| TP               | 12                   |                  |    |    |   | 16 |
| TP               | 16                   |                  |    |    |   | 20 |
| TP               | 24                   |                  |    |    |   | 28 |
| TP               | 25                   |                  |    |    |   | 30 |
| TP               | 33                   |                  |    |    |   | 36 |
| TP               | 36                   |                  |    |    |   | 40 |
| TP               | 38                   |                  |    |    |   | 42 |
| TP               | 42                   |                  |    |    |   | 45 |
|                  |                      |                  |    |    |   | 52 |

**Order method for sealing bushings**

- 1 Indicate the TP model based on the necessary thread type
- 2 Indicate amount, section, color of cables to be sealed in the nipple
- 3 Indicate cable length on the two sides
- 4 Indicate the total amount of necessary sealing nipples

**TECHNICAL NOTES:**

- The maximum quantity as well as the kind of usable cables are specified on "Maximum quantity and wires type tables" in the following pages
- Possible to strip the cables' extremities
- Available also in stainless steel
- Request the lock nuts for the block of the sealing bushings

The sealing bushings are used to connect explosion-proof enclosures. The cables are sealed through a two-component resin set around each conductor.



**Classification:**  
2014/34/UE

**Group II**

**Category 2GD**

**Installation:**  
EN 60079.14

**zone 1 - zone 2 (Gas)**

**Marking:**

**CE 0722 Ex II 2 G Ex d IIC Gb**

**Certification:**

**ATEX CESI 01 ATEX 080**

**IECEx IECEx CES 10.0003U**

**TR CU AVAILABLE**

All IEC Ex and TR CU certification data can be downloaded at [www.cortemgroup.com](http://www.cortemgroup.com)

**Standards:**

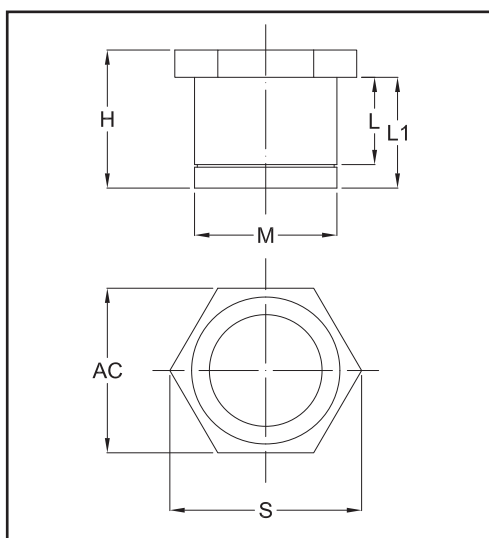
CENELEC EN 60079-0: 2012, EN 60079-1: 2007, EN 60079-31: 2009 and EUROPEAN DIRECTIVE 2014/34/UE  
IEC60079-0: 2011, IEC60079-1: 2007-04, IEC60079-31: 2008 Directive RoHS 2002/95/CE



**Operating temperature:**

**-50°C +110°C**

Certificates are available on [www.cortemgroup.com](http://www.cortemgroup.com)



## SELECTION TABLE OF SEALING BUSHINGS WITH CYLINDRICAL JOINT

| Code<br>In brass | ISO METRIC<br>thread | Dimensions in mm |      |    |    |      |
|------------------|----------------------|------------------|------|----|----|------|
|                  | M                    | H                | L    | L1 | AC | S    |
| CP               | 10                   | 35               | 25,5 | 29 | 14 | 16,5 |
| CP               | 12                   |                  |      |    | 16 | 19   |
| CP               | 16                   |                  |      |    | 20 | 23,5 |
| CP               | 24                   |                  |      |    | 28 | 32,5 |
| CP               | 29                   |                  |      |    | 32 | 37   |
| CP               | 33                   |                  |      |    | 36 | 42   |
| CP               | 36                   |                  |      |    | 40 | 46,5 |
| CP               | 38                   |                  |      |    | 42 | 48,5 |
| CP               | 42                   |                  |      |    | 45 | 52   |

## Order method for sealing bushings

- 1 Indicate the TP model based on the necessary thread type
- 2 Indicate amount, section, color of cables to be sealed in the nipple
- 3 Indicate cable length on the two sides
- 4 Indicate the total amount of necessary sealing nipples

## TECHNICAL NOTES:

- The maximum quantity as well as the kind of usable cables are specified on "Maximum quantity and wires type tables" in the following pages
- Possible to strip the cables' extremities
- Available also in stainless steel
- Request the lock nuts for the block of the sealing bushings



| Max. N. of wires                                        | Wires size mm <sup>2</sup> | Rated current for continuous usage for max. temperature of 40°C | Rated Voltage | Thread size for TP - NPS                                                                                             |                                                                                        | CP cylindrical Joint size                                                         |
|---------------------------------------------------------|----------------------------|-----------------------------------------------------------------|---------------|----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| 1<br>1<br>3<br>5<br>6<br>6<br>8<br>12<br>15<br>15<br>21 | 0,75                       | 10 A                                                            | 750 V         | M10x1,5<br>M12x1,5<br>M16x1,5<br>M20x1,5<br>M24x1,5<br>M25x1,5<br>-<br>-<br>M33x1,5<br>M36x1,5<br>M38x1,5<br>M42x1,5 | 1/8"<br>1/4"<br>3/8"<br>1/2"<br>-<br>3/4"<br>-<br>-<br>1"<br>-<br>-<br>1 1/4" - 1 1/2" | Ø 10<br>Ø 12<br>Ø 16<br>-<br>Ø 24<br>Ø 25<br>Ø 29<br>Ø 33<br>Ø 36<br>Ø 38<br>Ø 42 |
| 1<br>1<br>3<br>5<br>6<br>6<br>8<br>12<br>15<br>15<br>21 | 1                          | 12 A                                                            | 1000 V        | M10x1,5<br>M12x1,5<br>M16x1,5<br>M20x1,5<br>M24x1,5<br>M25x1,5<br>-<br>-<br>M33x1,5<br>M36x1,5<br>M38x1,5<br>M42x1,5 | 1/8"<br>1/4"<br>3/8"<br>1/2"<br>-<br>3/4"<br>-<br>-<br>1"<br>-<br>-<br>1 1/4" - 1 1/2" | Ø 10<br>Ø 12<br>Ø 16<br>-<br>Ø 24<br>Ø 25<br>Ø 29<br>Ø 33<br>Ø 36<br>Ø 38<br>Ø 42 |
| 1<br>1<br>3<br>5<br>6<br>6<br>8<br>12<br>15<br>15<br>21 | 1,5                        | 15 A                                                            |               | M10x1,5<br>M12x1,5<br>M16x1,5<br>M20x1,5<br>M24x1,5<br>M25x1,5<br>-<br>-<br>M33x1,5<br>M38x1,5<br>M42x1,5            | 1/8"<br>1/4"<br>3/8"<br>1/2"<br>-<br>3/4"<br>-<br>-<br>1"<br>-<br>1 1/4" - 1 1/2"      | Ø 10<br>Ø 12<br>Ø 16<br>-<br>Ø 24<br>Ø 25<br>Ø 29<br>Ø 33<br>Ø 38<br>Ø 42         |
| 1<br>3<br>3<br>3<br>5<br>12<br>12<br>21                 | 2,5                        | 20 A                                                            |               | M16x1,5<br>M20x1,5<br>M24x1,5<br>M25x1,5<br>-<br>M33x1,5<br>M38x1,5<br>M42x1,5                                       | 3/8"<br>1/2"<br>-<br>3/4"<br>-<br>1"<br>-<br>1 1/4" - 1 1/2"                           | Ø 16<br>-<br>Ø 24<br>Ø 25<br>Ø 29<br>Ø 33<br>Ø 38<br>Ø 42                         |
| 1<br>2<br>3<br>3<br>5<br>6<br>8<br>8<br>12              | 4                          | 27 A                                                            |               | M16x1,5<br>M20x1,5<br>M24x1,5<br>M25x1,5<br>-<br>M33x1,5<br>M36x1,5<br>M38x1,5<br>M42x1,5                            | 3/8"<br>1/2"<br>-<br>3/4"<br>-<br>1"<br>-<br>-<br>1 1/4" - 1 1/2"                      | Ø 16<br>-<br>Ø 24<br>Ø 25<br>Ø 29<br>Ø 33<br>Ø 36<br>Ø 38<br>Ø 42                 |
| 1<br>2<br>2<br>2<br>4<br>6<br>6<br>6                    | 6                          | 35 A                                                            |               | M16x1,5<br>M20x1,5<br>M24x1,5<br>M25x1,5<br>-<br>M33x1,5<br>M38x1,5<br>M42x1,5                                       | 3/8"<br>1/2"<br>-<br>3/4"<br>-<br>1"<br>-<br>1 1/4" - 1 1/2"                           | Ø 16<br>-<br>Ø 24<br>Ø 25<br>Ø 29<br>Ø 33<br>Ø 38<br>Ø 42                         |
| 1<br>3<br>6<br>6<br>6                                   | 10                         | 49 A                                                            |               | M24x1,5<br>M33x1,5<br>M36x1,5<br>M38x1,5<br>M42x1,5                                                                  | 3/4"<br>1"<br>-<br>-<br>1 1/4" - 1 1/2"                                                | Ø 24<br>Ø 33<br>Ø 36<br>Ø 38<br>Ø 42                                              |

| Max. N. of wires           | Wires size mm <sup>2</sup> | Rated current for continuous usage for max. temperature of 40°C | Rated Voltage | Thread size for TP - NPS                                                                     | CP cylindrical Joint size                    |
|----------------------------|----------------------------|-----------------------------------------------------------------|---------------|----------------------------------------------------------------------------------------------|----------------------------------------------|
| 1<br>1<br>3<br>6<br>6<br>6 | 16                         | 65 A                                                            | 1000 V        | M24x1,5 -<br>M25x1,5 3/4"<br>M33x1,5 1"<br>M36x1,5 -<br>M38x1,5 -<br>M42x1,5 1 1/4" - 1 1/2" | Ø 24<br>Ø 25<br>Ø 33<br>Ø 36<br>Ø 38<br>Ø 42 |
| 1<br>1<br>3                | 25                         | 86 A                                                            |               | M24x1,5 -<br>M25x1,5 3/4"<br>M42x1,5 1 1/4" - 1 1/2"                                         | Ø 24<br>Ø 25<br>Ø 42                         |
| 1<br>1<br>3                | 35                         | 107 A                                                           |               | M24x1,5 -<br>M25x1,5 3/4"<br>M42x1,5 1 1/4" - 1 1/2"                                         | Ø 24<br>Ø 25<br>Ø 42                         |
| 1<br>1<br>1                | 50                         | 132 A                                                           |               | M24x1,5 -<br>M25x1,5 3/4"<br>M33x1,5 1"                                                      | Ø 24<br>Ø 25<br>Ø 33                         |
| 1<br>1                     | 70                         | 165 A                                                           |               | M33x1,5 1"<br>M36x1,5 -                                                                      | Ø 33<br>Ø 36                                 |

| Rated voltage 750V                                          |                            |                                                                 |                                                                                                                                                                   |  |                                                                                   |
|-------------------------------------------------------------|----------------------------|-----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------|
| Max. N. of wires                                            | Wires size mm <sup>2</sup> | Rated current for continuous usage for max. temperature of 40°C | Thread size for TP - NPS                                                                                                                                          |  | CP cylindrical joint size                                                         |
| 3<br>3<br>8<br>12<br>16<br>16<br>20<br>20<br>25<br>35<br>45 | 0,5                        | 5 A                                                             | M10x1,5 1/8"<br>M12x1,5 1/4"<br>M16x1,5 3/8"<br>M20x1,5 1/2"<br>M24x1,5 -<br>M25x1,5 3/4"<br>-<br>M33x1,5 1"<br>M36x1,5 -<br>M38x1,5 -<br>M42x1,5 1 1/4" - 1 1/2" |  | Ø 10<br>Ø 12<br>Ø 16<br>-<br>Ø 24<br>Ø 25<br>Ø 29<br>Ø 33<br>Ø 36<br>Ø 38<br>Ø 42 |

| Wire capacity range with cables for thermocouples K type - Rated current 100/100V |                                  |                       |                                                                                          |                                                                      |
|-----------------------------------------------------------------------------------|----------------------------------|-----------------------|------------------------------------------------------------------------------------------|----------------------------------------------------------------------|
| Max. N. of wires                                                                  | Wires size mm <sup>2</sup>       | Operating temperature | Thread size for TP - NPS                                                                 | CP cylindrical joint size                                            |
| 1<br>1<br>2<br>2<br>5<br>5<br>7<br>7<br>9                                         | 2 x 0,22<br>2 x 0,50<br>2 x 0,80 | 110°C                 | M12x1,5<br>M16x1,5<br>M24x1,5<br>M25x1,5<br><br>M33x1,5<br>M36x1,5<br>M38x1,5<br>M42x1,5 | Ø 12<br>Ø 16<br>Ø 24<br>Ø 25<br>Ø 29<br>Ø 33<br>Ø 36<br>Ø 38<br>Ø 42 |
| 1<br>2<br>2<br>4<br>5<br>7<br>7<br>9                                              | 2 x 1,00                         |                       | M16x1,5<br>M24x1,5<br>M25x1,5<br><br>M33x1,5<br>M36x1,5<br>M38x1,5<br>M42x1,5            | Ø 16<br>Ø 24<br>Ø 25<br>Ø 29<br>Ø 33<br>Ø 36<br>Ø 38<br>Ø 42         |
| 1<br>2<br>2<br>4<br>5<br>7<br>7<br>9                                              | 2 x 1,30<br>2 x 1,50             |                       | M16x1,5<br>M24x1,5<br>M25x1,5<br><br>M33x1,5<br>M36x1,5<br>M38x1,5<br>M42x1,5            | Ø 16<br>Ø 24<br>Ø 25<br>Ø 29<br>Ø 33<br>Ø 36<br>Ø 38<br>Ø 42         |

**TECHNICAL NOTES:**

- The rated current specified in the tables refers to a temperature of 40°C
- For other service temperatures up to 110°C, the derating of current must be evaluated by the end user.
- For sealing bushings with cables of different sections, the amount of cables has not to exceed the maximum allowed quantity of cables referred to the section of the bigger cable.
- For the type of cable allowed, please refer to the certificate

Flexible conduits are used for connecting misaligned equipments or equipments subjected to vibrations, such as electrical motors. They are suitable for installation of lighting fixtures and in alternative to rigid conduits when they are difficult to install. SP series flexible conduits have a good flexibility and a very good damping effect against vibrations.



|                                      |                                                      |                                 |
|--------------------------------------|------------------------------------------------------|---------------------------------|
| <b>Classification:</b><br>2014/34/UE | <b>Group II</b>                                      | <b>Category 2GD</b>             |
| <b>Installation:</b><br>EN 60079-14  | <b>zone 1 - zone 2 (Gas)</b>                         | <b>zone 21 - zone 22 (Dust)</b> |
| <b>Marking:</b>                      | CE 0722 Ex II 2 GD Ex d IIB Gb Ex tb IIIC Db IP66/67 |                                 |
|                                      | CE 0722 Ex II 2 GD Ex d IIC Gb Ex tb IIIC Db IP66/67 |                                 |
| <b>Certification:</b>                | ATEX                                                 | CESI 00 ATEX 048U               |
|                                      | IECEX                                                | IECEX CES 14.0011U              |
|                                      | TR CU                                                | AVAILABLE                       |

All IEC Ex and TR CU certification data can be downloaded at [www.cortemgroup.com](http://www.cortemgroup.com)

**Standards:** CENELEC EN 60079-0: 2012, EN 60079-1: 2007, EN 60079-31: 2009, EN ISO 10807: 1996 and EUROPEAN DIRECTIVE 2014/34/UE  
IEC60079-0: 2011, IEC60079-1: 2007-04, IEC60079-31: 2008 Directive RoHS 2002/95/CE

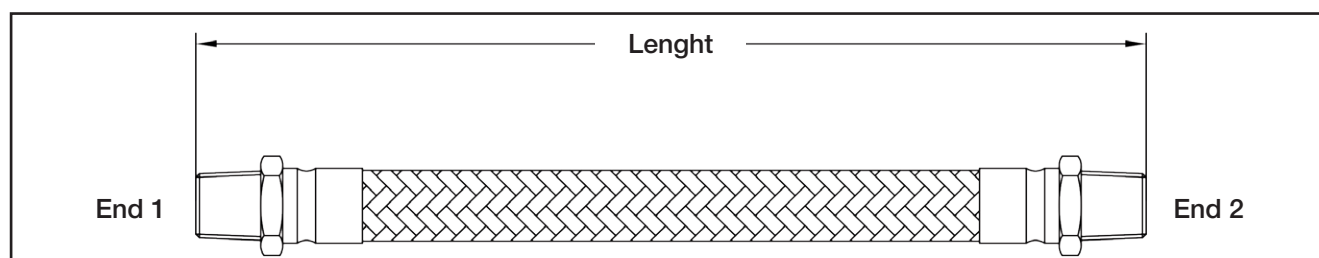
**Degree of protection:** IP66/67

Certificates are available on [www.cortemgroup.com](http://www.cortemgroup.com)



**Ambient temperature:**

|                   | Flexible conduit type                           | Method of protection | Construction material |                   | Size        | Ambient temperature |
|-------------------|-------------------------------------------------|----------------------|-----------------------|-------------------|-------------|---------------------|
|                   |                                                 |                      | Fixed fitting         | Revolving fitting |             |                     |
| Fixed fitting     | SPH - SPG - SPZ                                 | Ex d IIC             | Stainless steel       | /                 | 1/2" ÷ 1"   | -20°C +150°C        |
|                   |                                                 |                      | Galvanized steel      | /                 | 1 1/4" ÷ 4" |                     |
|                   | SPH - SPG - SPZ                                 | Ex d IIC             | Stainless steel       | /                 | 1/2" ÷ 1"   | -55°C +150°C        |
| Revolving fitting | SPN - SPI - SPY - SPD<br>SPP - SPE - SPT        | Ex d IIB             | Stainless steel       | Galvanized steel  | 1/2" ÷ 1"   | -20°C +60°C         |
|                   |                                                 |                      | Galvanized steel      | Galvanized steel  | 1 1/4" ÷ 4" |                     |
|                   | SPN - SPI - SPY - SPD<br>SPP - SPE - SPT        | Ex d IIB             | Stainless steel       | Stainless steel   | 1/2" ÷ 1"   | -55°C +60°C         |
|                   |                                                 |                      | Stainless steel       | Stainless steel   | 1 1/4" ÷ 4" |                     |
|                   | SPRN - SPRI - SPRY - SPRD<br>SPRP - SPRE - SPRT | Ex d IIC             | Stainless steel       | Galvanized steel  | 1/2" ÷ 1"   | -20°C +60°C         |
|                   |                                                 |                      | Galvanized steel      | Galvanized steel  | 1 1/4" ÷ 4" |                     |
| RB..              | SPRN - SPRI - SPRY - SPRD<br>SPRP - SPRE - SPRT | Ex d IIC             | Stainless steel       | Stainless steel   | 1/2" ÷ 4"   | -55°C +60°C         |
|                   |                                                 |                      | Stainless steel       | Stainless steel   | 1/2" ÷ 4"   |                     |



|                          |                  | Method of protection IIC |              | Method of protection IIB |                  | Method of protection IIC |                  | Method of protection IIB (Ta + 150°C) |                  |
|--------------------------|------------------|--------------------------|--------------|--------------------------|------------------|--------------------------|------------------|---------------------------------------|------------------|
|                          |                  | Fixed male               | Fixed female | Revolving male           | Revolving female | Revolving male           | Revolving female | Revolving male                        | Revolving female |
| Method of protection IIC | Fixed male       | SPH                      | SPG          | SPN                      | SPI              | SPRN                     | SPRI             | SPRN                                  | SPRI             |
|                          | Fixed female     |                          | SPZ          | SPY                      | SPD              | SPRY                     | SPRD             | SPRY                                  | SPRD             |
| Method of protection IIB | Revolving male   |                          |              | SPP                      | SPE              |                          |                  |                                       |                  |
|                          | Revolving female |                          |              |                          | SPT              |                          |                  |                                       |                  |
| Method of protection IIC | Revolving male   |                          |              |                          |                  | SPRP                     | SPRE             |                                       |                  |
|                          | Revolving female |                          |              |                          |                  |                          | SPRT             |                                       |                  |
| Method of protection IIB | Revolving male   |                          |              |                          |                  |                          |                  | SPRP                                  | SPRE             |
|                          | Revolving female |                          |              |                          |                  |                          |                  |                                       | SPRT             |

### Order code example

|              |             |               |                 |
|--------------|-------------|---------------|-----------------|
| <b>SPH</b>   | <b>1</b>    | <b>6</b>      | <b>G</b>        |
| <b>MODEL</b> | <b>SIZE</b> | <b>LENGHT</b> | <b>MATERIAL</b> |

| Flexible conduits: lenghts and method of protection |         |                      |
|-----------------------------------------------------|---------|----------------------|
| Lenght (mm)                                         |         | Method of protection |
| from                                                | to      |                      |
| ≥ 300                                               | ≤ 500   | Ex d IIB ÷ Ex d IIC  |
| ≥ 5000                                              | ≤ 10000 | Ex d IIB             |

| Conduit standard lenght |      |
|-------------------------|------|
| Cod.                    | mm   |
| 3                       | 300  |
| 4                       | 400  |
| 5                       | 500  |
| 6                       | 600  |
| 7                       | 700  |
| 8                       | 800  |
| 9                       | 900  |
| 10                      | 1000 |

### Thread hubs GAS UNI ISO 7/1

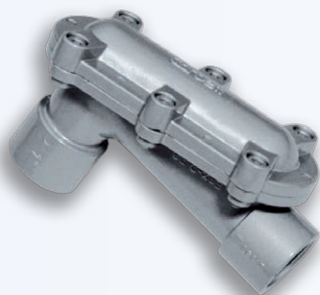
| Size                | 1    | 2    | 3    | 4      | 5      | 6    | 7      | 8    | 9      | 10    |
|---------------------|------|------|------|--------|--------|------|--------|------|--------|-------|
| Thread              | 1/2" | 3/4" | 1"   | 1 1/4" | 1 1/2" | 2    | 2 1/2" | 3"   | 3 1/2" | 4"    |
| Ø min. int.         | 12   | 16   | 25,1 | 32,2   | 38,2   | 50,1 | 63,1   | 73,1 | 73,1   | 100,1 |
| Curving radius min. | 40   | 60   | 75   | 90     | 110    | 150  | 200    | 225  | 225    | 280   |

### TECHNICAL NOTES:

- The flexible conduits and related fittings can be welded only by the manufacturer that certifies the method of protection
- Welded fittings: from 1/2" to 1" stainless steel - from 1 1/4" to 4" galvanized steel
- Revolving fittings: galvanized steel
- Flexible conduit with spiralled sheath : stainless steel
- Standard in galvanised steel (example code SPH56G)
- Available also in stainless steel (example code SPH56S)
- Available also with NPT thread (example code SPH3N10G)
- Available also with ISO thread ISO (example code SPH3I4G)

LBH series open elbows L shaped with small radius are used for the cables insertion in conduit system of electrical installations.

The back opening enables an easy inspection of the installation and easy insertion of electrical cables.

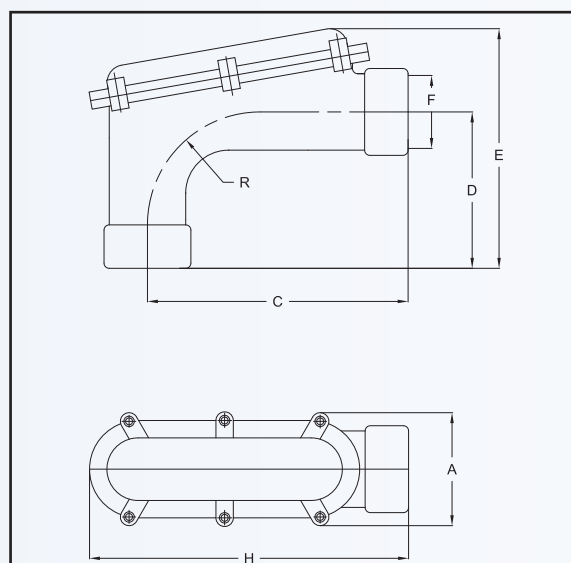


|                                      |                                   |                                                                                                                                                   |
|--------------------------------------|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Classification:</b><br>2014/34/UE | <b>Group II</b>                   | <b>Category 2G</b>                                                                                                                                |
| <b>Installation:</b><br>EN 60079-14  | <b>zone 1 - zone 2 (Gas)</b>      |                                                                                                                                                   |
| <b>Marking:</b>                      | <b>CE 0722 Ex II 2 G Ex d IIB</b> |                                                                                                                                                   |
| <b>Certification:</b>                | <b>ATEX</b>                       | <b>CESI 03 ATEX 141U</b>                                                                                                                          |
|                                      | <b>TR CU</b>                      | <b>AVAILABLE</b><br><small>All TR CU certification data can be downloaded at <a href="http://www.cortemgroup.com">www.cortemgroup.com</a></small> |

|                   |                                                                                                                                                                    |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Standards:</b> | CENELEC EN 60079-0: 2006, EN 60079-1: 2004 and EUROPEAN DIRECTIVE 2014/34/UE<br>IEC60079-0: 2011, IEC60079-1: 2007-04, IEC60079-31: 2008 Directive RoHS 2002/95/CE |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                       |                                                |
|-----------------------|------------------------------------------------|
| <b>Ambient Temp.:</b> | -20°C +60°C (Max. operating temperature +80°C) |
|-----------------------|------------------------------------------------|

Certificates are available on [www.cortemgroup.com](http://www.cortemgroup.com)



### SELECTION TABLE OF LBH OPEN ELBOWS

| Code<br>In<br>aluminium | Thread         | Dimensions in mm |     |     |     |     |     | Weight<br>Kg |
|-------------------------|----------------|------------------|-----|-----|-----|-----|-----|--------------|
|                         | F              | A                | H   | C   | D   | E   | R   |              |
| LBH1                    | 1/2" ISO 7/1   | 70               | 165 | 132 | 45  | 95  | 21  | 0,434        |
| LBH2                    | 3/4" ISO 7/1   | 70               | 165 | 132 | 45  | 95  | 21  | 0,404        |
| LBH3                    | 1" ISO 7/1     | 70               | 168 | 132 | 60  | 112 | 30  | 0,455        |
| LBH4                    | 1 1/4" ISO 7/1 | 100              | 230 | 175 | 83  | 155 | 50  | 1,277        |
| LBH5                    | 1 1/2" ISO 7/1 | 110              | 265 | 220 | 83  | 132 | 70  | 1,142        |
| LBH6                    | 2" ISO 7/1     | 110              | 265 | 220 | 80  | 132 | 70  | 1,024        |
| LBH7                    | 2 1/2" ISO 7/1 | 136              | 363 | 267 | 140 | 250 | 96  | 3,569        |
| LBH8                    | 3" ISO 7/1     | 136              | 363 | 267 | 140 | 250 | 96  | 3,171        |
| LBH10                   | 4" ISO 7/1     | 181              | 720 | 605 | 175 | 305 | 125 | 10,850       |

### Order code example

|            |          |          |
|------------|----------|----------|
| <b>LBH</b> | <b>4</b> | <b>N</b> |
| MODEL      | SIZE     | THREAD   |

### TECHNICAL NOTES:

- Available also with NPT thread (example code LBH3N)
- Available also with ISO7/1RP thread (example code LBH2C)
- Available also with ISO METRIC thread (example code LBH4I)
- 1/4" and 3/8" sizes can be obtained by assembling to the 1/2" LBH1 elbow the corresponding RE114 or RE138



LBHS series open elbows with a large radius are used for the cables insertion in conduit system of electrical installations. The back opening enables an easy inspection of the installation and an easy insertion of electrical cables.

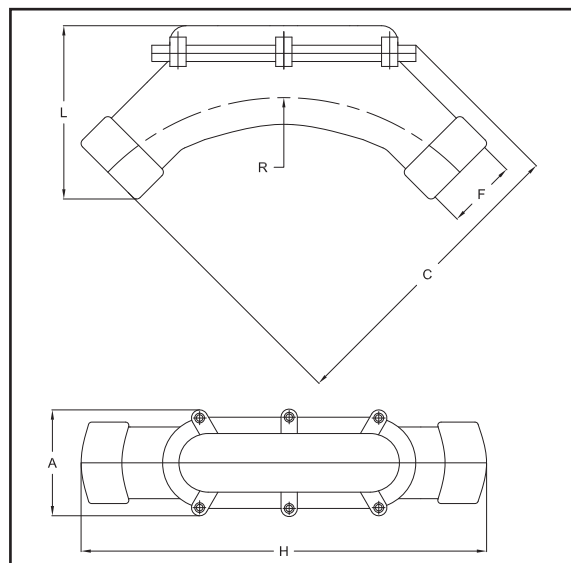


|                                      |                                   |                                                                                                                                                   |
|--------------------------------------|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Classification:</b><br>2014/34/UE | <b>Group II</b>                   | <b>Category 2G</b>                                                                                                                                |
| <b>Installation:</b><br>EN 60079.14  | <b>zone 1 - zone 2 (Gas)</b>      |                                                                                                                                                   |
| <b>Marking:</b>                      | <b>CE 0722 Ex II 2 G Ex d IIB</b> |                                                                                                                                                   |
| <b>Certification:</b>                | <b>ATEX</b>                       | <b>CESI 03 ATEX 141U</b>                                                                                                                          |
|                                      | <b>TR CU</b>                      | <b>AVAILABLE</b><br><small>All TR CU certification data can be downloaded at <a href="http://www.cortemgroup.com">www.cortemgroup.com</a></small> |

|                   |                                                                                                                                                                    |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Standards:</b> | CENELEC EN 60079-0: 2006, EN 60079-1: 2004 and EUROPEAN DIRECTIVE 2014/34/UE<br>IEC60079-0: 2011, IEC60079-1: 2007-04, IEC60079-31: 2008 Directive RoHS 2002/95/CE |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                       |                                                |
|-----------------------|------------------------------------------------|
| <b>Ambient Temp.:</b> | -20°C +60°C (Max. operating temperature +80°C) |
|-----------------------|------------------------------------------------|

Certificates are available on [www.cortemgroup.com](http://www.cortemgroup.com)



### SELECTION TABLE OF LBHS OPEN ELBOWS

| Code<br>In<br>aluminium | Thread         | Dimensions in mm |     |     |     |     | Weight |
|-------------------------|----------------|------------------|-----|-----|-----|-----|--------|
|                         | F              | A                | H   | C   | L   | R   | Kg     |
| LBHS1                   | 1/2" ISO 7/1   | 70               | 305 | 197 | 110 | 195 | 0,543  |
| LBHS2                   | 3/4" ISO 7/1   | 70               | 305 | 197 | 110 | 195 | 0,467  |
| LBHS3                   | 1" ISO 7/1     | 70               | 300 | 190 | 110 | 195 | 0,629  |
| LBHS4                   | 1 1/4" ISO 7/1 | 105              | 400 | 288 | 145 | 260 | 1,539  |
| LBHS5                   | 1 1/2" ISO 7/1 | 105              | 400 | 288 | 145 | 260 | 1,481  |
| LBHS6                   | 2" ISO 7/1     | 120              | 495 | 348 | 165 | 315 | 2,297  |
| LBHS7                   | 2 1/2" ISO 7/1 | 142              | 565 | 448 | 205 | 350 | 4,473  |
| LBHS8                   | 3" ISO 7/1     | 149              | 688 | 478 | 220 | 445 | 4,914  |
| LBHS10                  | 4" ISO 7/1     | 164              | 910 | 680 | 310 | 574 | 11,110 |

### Order code example

|             |          |          |
|-------------|----------|----------|
| <b>LBHS</b> | <b>4</b> | <b>N</b> |
| MODEL       | SIZE     | THREAD   |

### TECHNICAL NOTES:

- Available also with NPT thread (example code LBHS3N)
- Available also with ISO METRIC thread (example code LBHS4I)

EKC pulling boxes are used in conduit system of electrical plant to facilitate the cables insertion. The back opening enables an easy inspection of the installation and an easy insertion of electrical cables.



**Classification:**  
2014/34/UE

Group II

Category 2G

**Installation:**  
EN 60079-14

zone 1 - zone 2 (Gas)

**Marking:**

CE 0722 Ex II 2 G Ex d IIB

**Certification:**

ATEX CESI 03 ATEX 141U

TR CU AVAILABLE

All TR CU certification data can be downloaded at  
[www.cortemgroup.com](http://www.cortemgroup.com)

**Standards:**

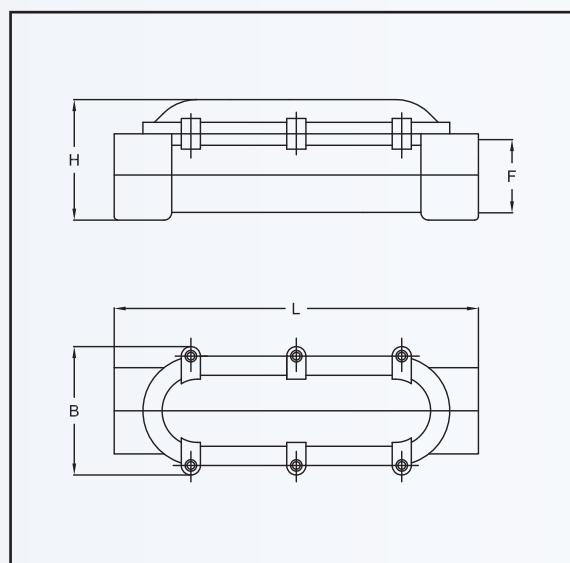
CENELEC EN 60079-0: 2006, EN 60079-1: 2004 and EUROPEAN DIRECTIVE 2014/34/UE  
IEC60079-0: 2011, IEC60079-1: 2007-04, IEC60079-31: 2008 Directive RoHS 2002/95/CE



**Ambient Temp.:**

-20°C +60°C (Max. operating temperature +80°C)

Certificates are available on [www.cortemgroup.com](http://www.cortemgroup.com)



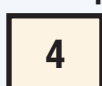
## SELECTION TABLE OF EKC PULLING BOXES

| Code<br>In<br>aluminium | Thread         | Dimensions in mm |     |     | Weight |
|-------------------------|----------------|------------------|-----|-----|--------|
|                         | F              | H                | L   | S   | Kg     |
| EKC1                    | 1/2" ISO 7/1   | 59               | 171 | 70  | 0,508  |
| EKC2                    | 3/4" ISO 7/1   | 59               | 171 | 70  | 0,485  |
| EKC3                    | 1" ISO 7/1     | 64               | 181 | 70  | 0,558  |
| EKC4                    | 1 1/4" ISO 7/1 | 87               | 240 | 99  | 1,211  |
| EKC5                    | 1 1/2" ISO 7/1 | 87               | 240 | 99  | 1,135  |
| EKC6                    | 2" ISO 7/1     | 112              | 298 | 105 | 1,745  |
| EKC7                    | 2 1/2" ISO 7/1 | 172              | 380 | 138 | 4,003  |
| EKC8                    | 3" ISO 7/1     | 172              | 380 | 138 | 3,609  |
| EKC10                   | 4" ISO 7/1     | 196              | 755 | 180 | 10,320 |

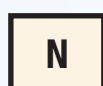
### Order code example



MODEL



SIZE



THREAD

### TECHNICAL NOTES:

- Available also with NPT thread (example code EKC3N)
- Available also with ISO METRIC thread (example code EKC4I)



## BC rigid conduits

Rigid conduits are used in hazardous areas to connect electrical equipment setting up a complete explosion proof system through sealing fittings. The conduits are drawn inside so that all roughness, which could damage the electrical cables, are eliminated.



|                                     |                                                                                                                                |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| <b>Installation:</b><br>EN 60079-14 | zone 1 - zone 2 (Gas)                                                                                                          |
| <b>Standards:</b>                   | EN 60079-0, EN 60079-1                                                                                                         |
| <b>Standard construction:</b>       | UNI 7683 galvanised steel conduit<br>Standard bar length: 6 meters<br>Plastic couplings for thread protection<br>ISO7/1 thread |
| <b>Upon request:</b>                | Thread NPT: (example code 1108001N)<br>Bar of 3 meters: (example code 1108001V/3000)                                           |

## SELECTION TABLE OF RIGID CONDUITS

| Code     | Thread         |
|----------|----------------|
| 1108001V | 1/2" ISO 7/1   |
| 1108002V | 3/4" ISO 7/1   |
| 1108003V | 1" ISO 7/1     |
| 1108004V | 1 1/4" ISO 7/1 |
| 1108005V | 1 1/2" ISO 7/1 |
| 1108006V | 2" ISO 7/1     |
| 1108007V | 2 1/2" ISO 7/1 |
| 1108008V | 3" ISO 7/1     |
| 1108010V | 4" ISO 7/1     |

DB...A series bushings are made in aluminium. They are screwed to the pipe end and they work as a cable guard. They prevent the cable from rubbing on any pipe burr/edge which could damage its sheath.



**Standard construction:**

Low copper content aluminium alloy body  
ISO 228 thread

**Upon request:**

Thread NPT: (example code DB3NA)  
Galvanised steel (example code DB3G)  
Stainless steel (example code DB3S)

### SELECTION TABLE ALUMINIUM BUSHINGS

| Code  | Thread         | Weight Kg |
|-------|----------------|-----------|
| DB1A  | 1/2" ISO 7/1   | 0,012     |
| DB2A  | 3/4" ISO 7/1   | 0,014     |
| DB3A  | 1" ISO 7/1     | 0,020     |
| DB4A  | 1 1/4" ISO 7/1 | 0,025     |
| DB5A  | 1 1/2" ISO 7/1 | 0,032     |
| DB6A  | 2" ISO 7/1     | 0,046     |
| DB7A  | 2 1/2" ISO 7/1 | 0,062     |
| DB8A  | 3" ISO 7/1     | 0,071     |
| DB10A | 4" ISO 7/1     | 0,107     |
| DB12A | 5" ISO 7/1     | 0,134     |

### DB...PVC PVC bushings

DB... series bushings, PVC made, are screwed to the pipe end and they work as a cable guard. They prevent the cable from rubbing on any pipe burr/edge which could damage its sheath.



**Standard construction:**

PVC thermoplastic moulding  
ISO 228 thread

### SELECTION TABLE FOR PVC BUSHING

| Code    | Thread         | Weight Kg |
|---------|----------------|-----------|
| DB1PVC  | 1/2" ISO 7/1   | 0,012     |
| DB2PVC  | 3/4" ISO 7/1   | 0,014     |
| DB3PVC  | 1" ISO 7/1     | 0,020     |
| DB4PVC  | 1 1/4" ISO 7/1 | 0,025     |
| DB5PVC  | 1 1/2" ISO 7/1 | 0,032     |
| DB6PVC  | 2" ISO 7/1     | 0,046     |
| DB7PVC  | 2 1/2" ISO 7/1 | 0,062     |
| DB8PVC  | 3" ISO 7/1     | 0,071     |
| DB10PVC | 4" ISO 7/1     | 0,107     |
| DB12PVC | 5" ISO 7/1     | 0,134     |

DBT series bushings, aluminium made, are screwed to the pipe end and they work as a cable guard. They prevent the cable from rubbing on any pipe burr/edge which could damage its sheath. They are equipped with earth screw for metal parts grounding.



**Standard construction:**

Low copper content aluminium alloy body  
Stainless steel screw  
ISO 228 thread

**Upon request:**

NPT thread: (example code DBT3NA)  
Galvanised steel (example code DBT3G)  
Stainless steel (example code DBT3S)

### SELECTION TABLE ALUMINIUM BUSHINGS

| Code   | Thread         | Weight Kg |
|--------|----------------|-----------|
| DBT1A  | 1/2" ISO 7/1   | 0,016     |
| DBT2A  | 3/4" ISO 7/1   | 0,018     |
| DBT3A  | 1" ISO 7/1     | 0,024     |
| DBT4A  | 1 1/4" ISO 7/1 | 0,033     |
| DBT5A  | 1 1/2" ISO 7/1 | 0,040     |
| DBT6A  | 2" ISO 7/1     | 0,054     |
| DBT7A  | 2 1/2" ISO 7/1 | 0,070     |
| DBT8A  | 3" ISO 7/1     | 0,079     |
| DBT10A | 4" ISO 7/1     | 0,115     |
| DBT12A | 5" ISO 7/1     | 0,142     |

### MC female closing plugs

MC series female plugs are used to close pipes ends.



**Standard construction:**

Galvanised steel or aluminium  
Standard thread: ISO 7/1

**Upon request:**

NPT thread: (example code MC3NG)  
Stainless steel (example code MC3S)

### SELECTION TABLE OF FEMALE CLOSING PLUGS

| Code  | Thread         | Material         | Weight Kg |
|-------|----------------|------------------|-----------|
| MC1G  | 1/2" ISO 7/1   | Galvanised steel | 0,035     |
| MC2G  | 3/4" ISO 7/1   | Galvanised steel | 0,039     |
| MC3G  | 1" ISO 7/1     | Galvanised steel | 0,045     |
| MC4G  | 1 1/4" ISO 7/1 | Galvanised steel | 0,052     |
| MC5G  | 1 1/2" ISO 7/1 | Galvanised steel | 0,285     |
| MC6G  | 2" ISO 7/1     | Galvanised steel | 0,335     |
| MC7A  | 2 1/2" ISO 7/1 | Aluminium        | 0,797     |
| MC8A  | 3" ISO 7/1     | Aluminium        | 0,887     |
| MC10A | 4" ISO 7/1     | Aluminium        | 1,119     |



DL series locknuts are used to block cable glands or fittings with cylindrical thread on 'Ex e' or 'Ex i' junction box flange or walls with drilling for cables entry.



**Standard construction:**

Galvanised steel o Aluminium (look at the table below)  
ISO 7/1 thread

**Upon request:**

Other threads  
Other materials

### SELECTION TABLE OF DL LOCKNUTS

| Code  | Thread         | Material         | Weight Kg |
|-------|----------------|------------------|-----------|
| DL1G  | 1/2" ISO 7/1   | Galvanised steel | 0,008     |
| DL2G  | 3/4" ISO 7/1   | Galvanised steel | 0,011     |
| DL3G  | 1" ISO 7/1     | Galvanised steel | 0,013     |
| DL4G  | 1 1/4" ISO 7/1 | Galvanised steel | 0,037     |
| DL5A  | 1 1/2" ISO 7/1 | Aluminium        | 0,027     |
| DL6A  | 2" ISO 7/1     | Aluminium        | 0,034     |
| DL7A  | 2 1/2" ISO 7/1 | Aluminium        | 0,052     |
| DL8A  | 3" ISO 7/1     | Aluminium        | 0,092     |
| DL10A | 4" ISO 7/1     | Aluminium        | 0,132     |
| DL12A | 5" ISO 7/1     | Aluminium        | 0,245     |

### DL...P polyamide locknuts

DL...P series locknuts are used to block polyamide cable glands with cylindrical thread on 'Ex e' or 'Ex i' junction box walls or flange with drilling for cables entry.



**Standard construction:**

Polyamide

**Upon request:**

Marking Ex i: (example code DL02IXIP)

### SELECTION TABLE OF DL LOCKNUTS

| Code     | ISO thread | Weight Kg |
|----------|------------|-----------|
| DL02IXEP | M12x1,5    | 0,004     |
| DL01IXEP | M16x1,5    | 0,005     |
| DL1IXEP  | M20x1,5    | 0,005     |
| DL2IXEP  | M25x1,5    | 0,006     |
| DL3IXEP  | M32x1,5    | 0,006     |
| DL4IXEP  | M40x1,5    | 0,009     |
| DL5IXEP  | M50x1,5    | 0,013     |
| DL6IXEP  | M63x1,5    | 0,019     |

### SELECTION TABLE OF DL LOCKNUTS

| Code    | PG thread | Weight Kg |
|---------|-----------|-----------|
| DL1PXE  | PG7       | 0,003     |
| DL2PXE  | PG9       | 0,004     |
| DL3PXE  | PG11      | 0,005     |
| DL4PXE  | PG13,5    | 0,005     |
| DL5PXE  | PG16      | 0,006     |
| DL6PXE  | PG21      | 0,006     |
| DL7PXE  | PG29      | 0,009     |
| DL8PXE  | PG36      | 0,013     |
| DL9PXE  | PG42      | 0,019     |
| DL10PXE | PG48      | 0,026     |

MT series conduit clamps are used for mounting of cable conduits perpendicular to the support structure.



**Standard construction:**

Galvanised steel  
Galvanized bolts and nuts.

### SELECTION TABLE OF CONDUIT CLAMPS

| Code | Thread | Weight Kg |
|------|--------|-----------|
| MT1  | 1/2"   | 0,093     |
| MT2  | 3/4"   | 0,129     |
| MT3  | 1"     | 0,150     |
| MT4  | 1 ¼"   | 0,194     |
| MT5  | 1 ½"   | 0,232     |
| MT6  | 2"     | 0,275     |
| MT7  | 2 ½"   | 0,310     |
| MT8  | 3"     | 0,579     |
| MT10 | 4"     | -         |

### UBD U-bolts

U-bolts are used to fix rigid cable conduits to flat surfaces.



**Standard construction:**

Galvanised steel

**Upon request:**

Stainless steel (example code UBD3S)

### SELECTION TABLE OF UBD U-BOLTS

| Code   | Ø cable conduits | Weight Kg |
|--------|------------------|-----------|
| UBD1G  | 1/2"             | 0,035     |
| UBD2G  | 3/4"             | 0,039     |
| UBD3G  | 1"               | 0,045     |
| UBD4G  | 1 ¼"             | 0,052     |
| UBD5G  | 1 ½"             | 0,285     |
| UBD6G  | 2"               | 0,335     |
| UBD7G  | 2 ½"             | 0,797     |
| UBD8G  | 3"               | 0,887     |
| UBD10G | 4"               | 1,119     |
| UBD12G | 5"               | 1,327     |

Saddles are used to fix cable conduits to walls or to flat surfaces.



**Standard construction:**

Galvanised steel or aluminium

**Upon request:**

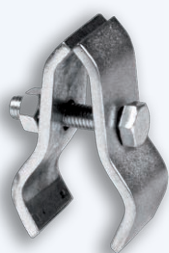
Stainless steel (example code GF3S)

### SELECTION TABLE OF GF SADDLES

| Code  | Thread | Weight Kg |
|-------|--------|-----------|
| GF1G  | 1/2"   | 0,028     |
| GF2G  | 3/4"   | 0,037     |
| GF3G  | 1"     | 0,045     |
| GF4G  | 1 1/4" | 0,087     |
| GF5G  | 1 1/2" | 0,115     |
| GF6G  | 2"     | 0,156     |
| GF7A  | 2 1/2" | 0,158     |
| GF8A  | 3"     | 0,215     |
| GF10A | 4"     | 0,284     |
| GF12A | 5"     | -         |

### MP conduit clamps

MP clamps are used for mounting cable conduits in parallel to the support structure.



**Standard construction:**

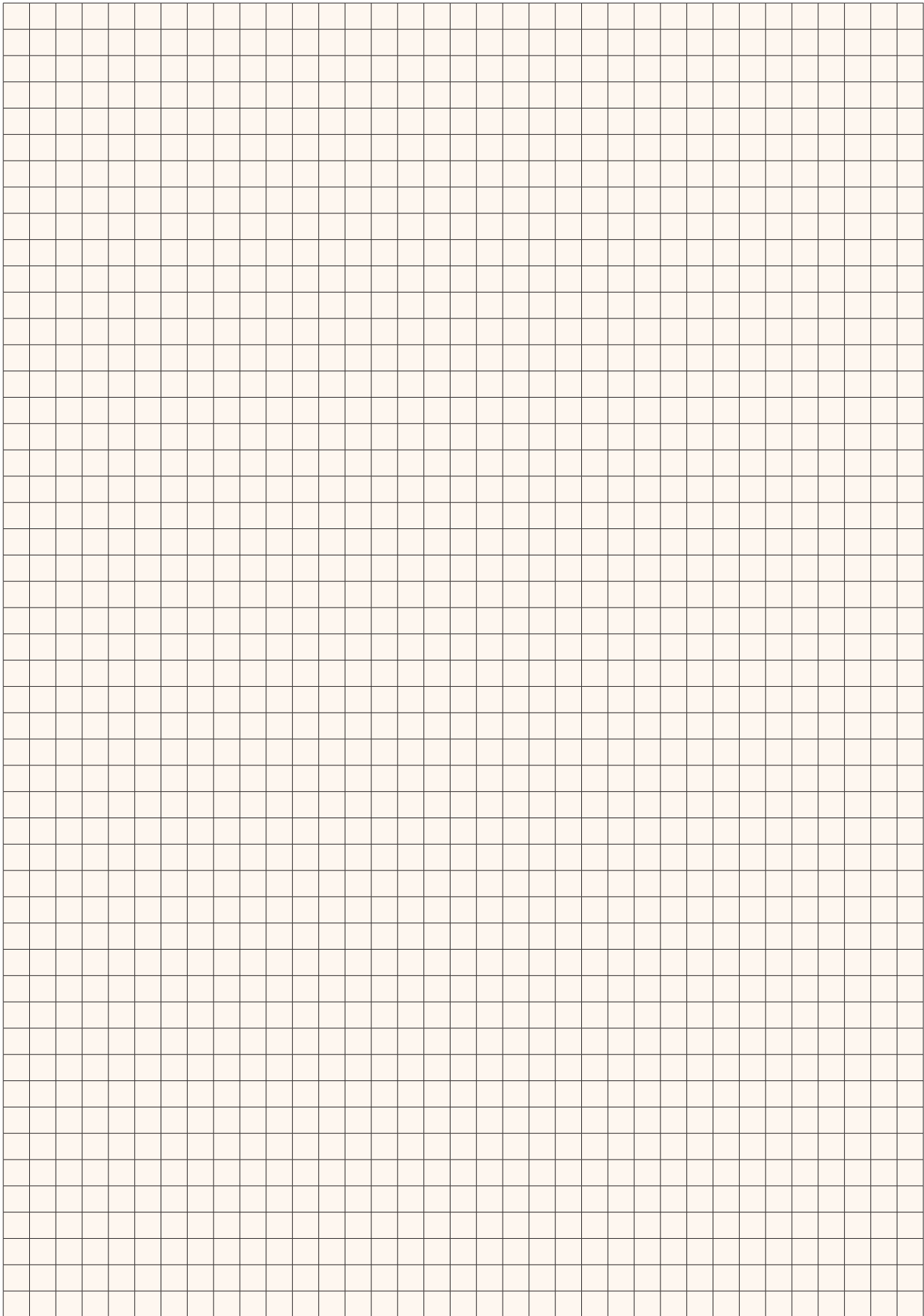
Galvanised steel

**Upon request:**

Stainless steel (example code DB3S)

### SELECTION TABLE OF MP CONDUIT CLAMPS

| Code | Diameter | Weight Kg |
|------|----------|-----------|
| MP1  | 1/2"     | 0,138     |
| MP2  | 3/4"     | 0,145     |
| MP3  | 1"       | 0,198     |
| MP4  | 1 1/4"   | 0,53      |
| MP5  | 1 1/2"   | 0,59      |
| MP6  | 2"       | -         |
| MP7  | 2 1/2"   | -         |
| MP8  | 3"       | -         |
| MP10 | 4"       | -         |

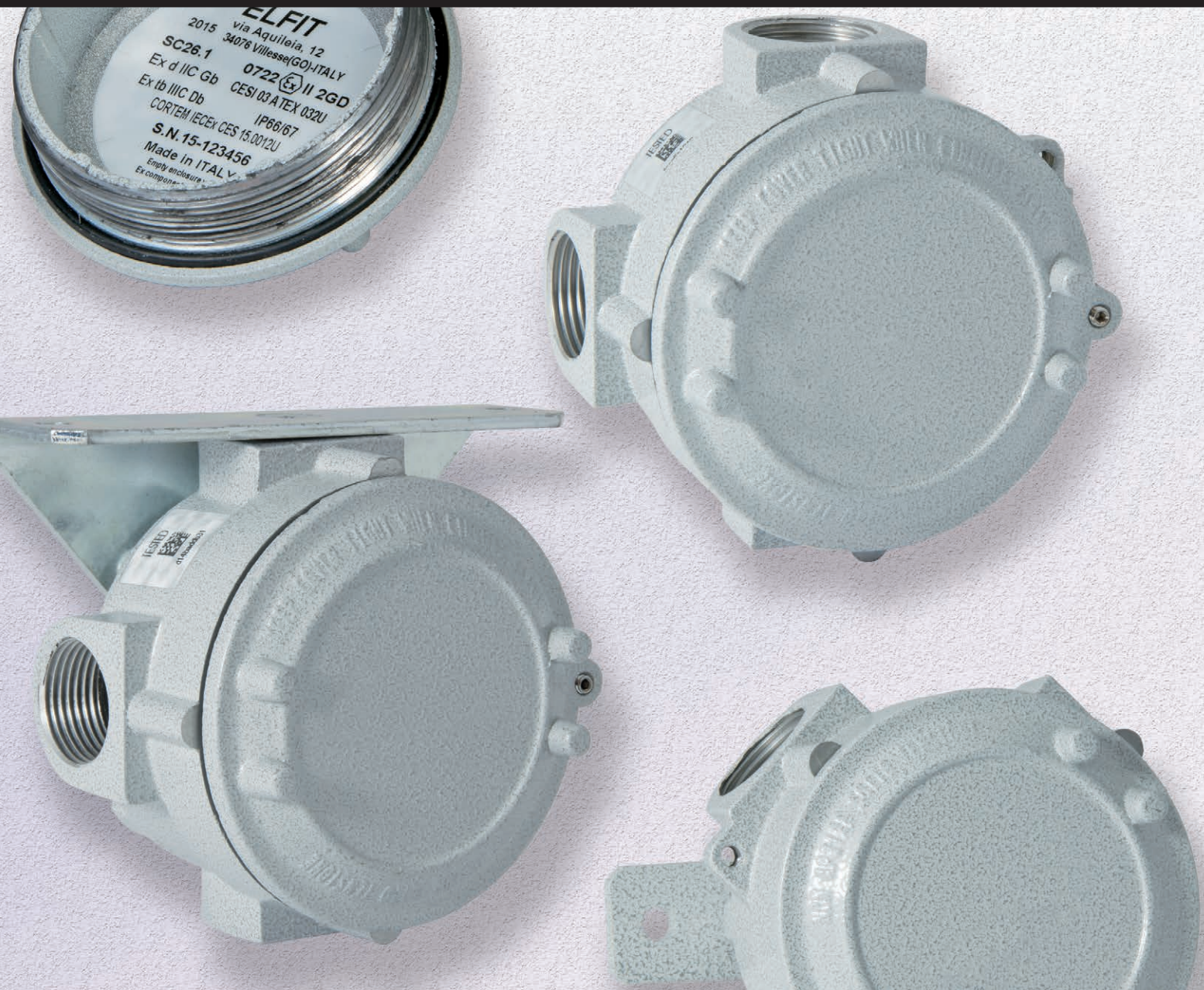








# Junction and pulling boxes





S series junction boxes are usually installed for the conduit connection and can be used for the insertion of conductors only (empty boxes) or for the derivation of conductors (boxes with terminals). The wide range offered includes several models with different sizes and threads.



### EMPTY ENCLOSURES



|                                      |                                                             |                                 |
|--------------------------------------|-------------------------------------------------------------|---------------------------------|
| <b>Classification:</b><br>2014/34/UE | <b>Group II</b>                                             | <b>Category 2GD</b>             |
| <b>Installation:</b><br>EN 60079-14  | <b>zone 1 - zone 2 (Gas)</b>                                | <b>zone 21 - zone 22 (Dust)</b> |
| <b>Marking:</b>                      | <b>CE 0722 Ex II 2 GD Ex d IIC Gb Ex tb IIIC Db IP66/67</b> |                                 |
| <b>Certification:</b>                | <b>ATEX</b>                                                 | <b>CESI 03 ATEX 032U</b>        |
|                                      | <b>IECEx</b>                                                | <b>IECEx CES 15.0012U</b>       |
|                                      | <b>TR CU</b>                                                | <b>AVAILABLE</b>                |

All IEC Ex and TR CU certification data can be downloaded at [www.cortemgroup.com](http://www.cortemgroup.com)

#### Standards:

CENELEC EN 60079-0: 2012, EN 60079-1: 2007, EN 60079-31: 2009 e and EUROPEAN DIRECTIVE 2014/34/UE  
 IEC60079-0: 2011, IEC60079-1: 2007-04, IEC60079-31: 2008 Directive RoHS 2002/95/CE

#### Operating temperature:

-40°C (-20°C) +110°C

CESI 03 ATEX 032U

-40°C (-20°C) +160°C

CESI 03 ATEX 059U

#### Degree of protection:

IP66/67

Certificates are available on [www.cortemgroup.com](http://www.cortemgroup.com)

### MECHANICAL FEATURES

|                              |                                                                                                                                                                    |
|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Body and lid:</b>         | Low copper content aluminium alloy. Screw-on lid with safety fastening grub screw                                                                                  |
| <b>Gasket:</b>               | Acid/hydrocarbon-resistant silicone, located between body and lid                                                                                                  |
| <b>Entries:</b>              | GAS Rp UNI ISO 7/1 thread                                                                                                                                          |
| <b>Certification label:</b>  | Adhesive label located on lid for size 6 and 9 boxes; on body for size 4                                                                                           |
| <b>Bolts and screws:</b>     | Stainless steel                                                                                                                                                    |
| <b>Earth screws:</b>         | Stainless steel. On inside and outside of body complete with anti-rotation brackets                                                                                |
| <b>Corrosion Resistance:</b> | The STANDARD of the aluminium alloy used by Cortem has passed the tests required by standards EN 60068-2-30 (hot/humid cycles) and EN 60068-2-11 (salt mist tests) |

### ACCESSORIES AVAILABLE ON REQUEST/ SPECIAL REQUESTS

AISI 316 L stainless steel boxes (Ex. SC16.1S)  
 Electropolished AISI 316 L stainless steel boxes (Ex. SC16.1SE)  
 Boxes coated with RAL 7035 paint (Ex. SC16.1V)  
 Boxes with different entry diameter

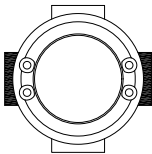
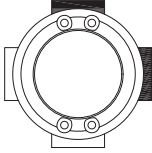
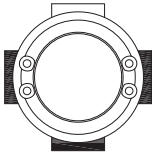
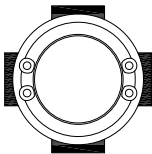
#### Other threads:

- NPT threads ANSI B1.20.1 (Ex. SC26.1N)
- GAS UNI ISO 228 thread (Ex. SC26.1C)
- Metric threads ISO 261/965 (Ex. SC26.1I)

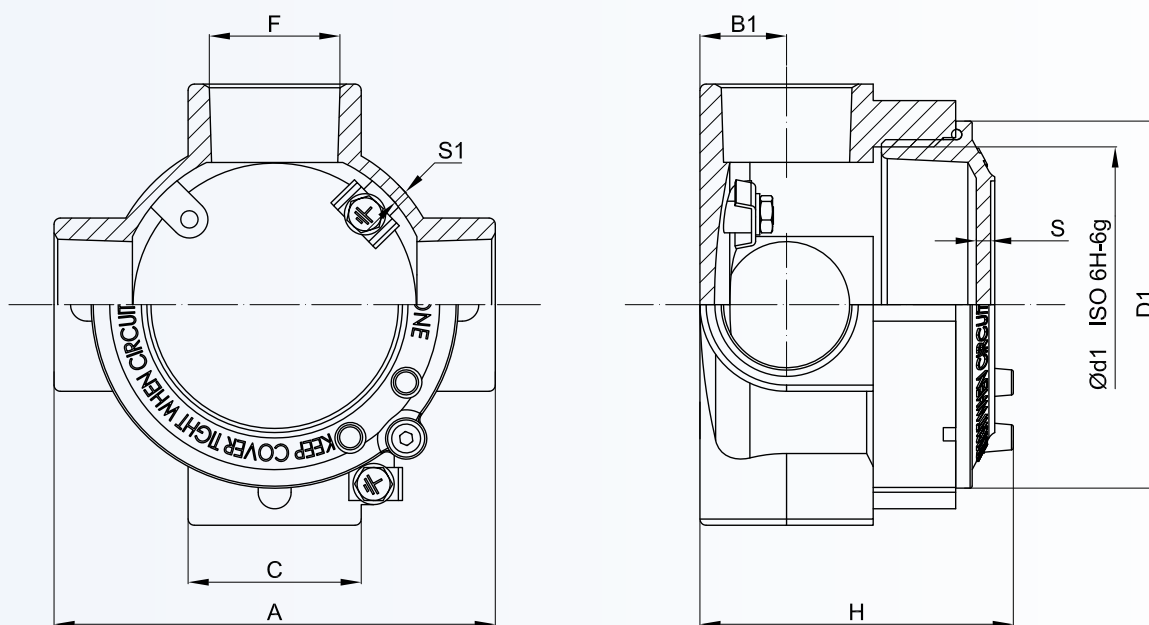


AISI 316 L stainless steel box code SX-36.1SE with electropolished finish

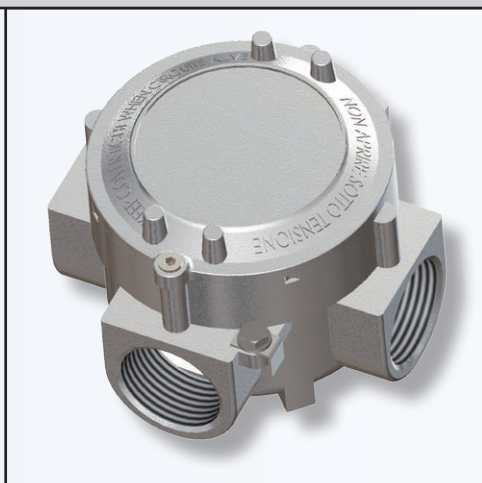
**S SERIES ENCLOSURE SELECTION CHART**

| Code   | Position of entries                                                                 | GAS UNI ISO 7/1 | Model | Outside dimensions mm |     |     |    |    | Inside dimensions mm |     |     | Weight kg |
|--------|-------------------------------------------------------------------------------------|-----------------|-------|-----------------------|-----|-----|----|----|----------------------|-----|-----|-----------|
|        |                                                                                     |                 |       | A                     | D1  | H   | C  | B1 | Ød1                  | S   | S1  |           |
| SC14.1 |    | 2 x 1/2"        | A     | 72                    | 65  | 61  | 34 | 17 | 54x2                 | 3,5 | 3,5 | 0,27      |
| SC24.1 |                                                                                     | 2 x 3/4"        | A     | 72                    | 65  | 61  | 34 | 17 | 54x2                 | 3,5 | 3,5 | 0,25      |
| SC16.1 |                                                                                     | 2 x 1/2"        | A     | 100                   | 89  | 67  | 34 | 17 | 80x2                 | 3,5 | 3,5 | 0,41      |
| SC26.1 |                                                                                     | 2 x 3/4"        | A     | 100                   | 89  | 67  | 34 | 17 | 80x2                 | 3,5 | 3,5 | 0,38      |
| SC36.1 |                                                                                     | 2 x 1"          | A     | 107                   | 89  | 75  | 42 | 21 | 80x2                 | 3,5 | 3,5 | 0,48      |
| SC29.1 |                                                                                     | 2 x 3/4"        | B     | 190                   | 146 | 105 | 60 | 30 | 130x2                | 4   | 7   |           |
| SC39.1 |                                                                                     | 2 x 1"          | B     | 190                   | 146 | 105 | 60 | 30 | 130x2                | 4   | 7   | 1,30      |
| SC59.1 |                                                                                     | 2 x 1 1/2"      | B     | 190                   | 146 | 105 | 60 | 30 | 130x2                | 4   | 7   |           |
| SC69.1 |                                                                                     | 2 x 2"          | B     | 190                   | 146 | 110 | 70 | 35 | 130x2                | 4   | 7   | 1,54      |
| SL14.1 |   | 2 x 1/2"        | A     | 72                    | 65  | 61  | 34 | 17 | 54x2                 | 3,5 | 3,5 | 0,28      |
| SL24.1 |                                                                                     | 2 x 3/4"        | A     | 72                    | 65  | 61  | 34 | 17 | 54x2                 | 3,5 | 3,5 | 0,24      |
| SL16.1 |                                                                                     | 2 x 1/2"        | A     | 100                   | 89  | 67  | 34 | 17 | 80x2                 | 3,5 | 3,5 |           |
| SL26.1 |                                                                                     | 2 x 3/4"        | A     | 100                   | 89  | 67  | 34 | 17 | 80x2                 | 3,5 | 3,5 | 0,40      |
| SL36.1 |                                                                                     | 2 x 1"          | A     | 107                   | 89  | 75  | 42 | 21 | 80x2                 | 3,5 | 3,5 | 0,49      |
| SL29.1 |                                                                                     | 2 x 3/4"        | B     | 166                   | 146 | 105 | 60 | 30 | 130x2                | 4   | 7   | 1,61      |
| SL39.1 |                                                                                     | 2 x 1"          | B     | 166                   | 146 | 105 | 60 | 30 | 130x2                | 4   | 7   | 1,20      |
| SL59.1 |                                                                                     | 2 x 1 1/2"      | B     | 166                   | 146 | 105 | 60 | 30 | 130x2                | 4   | 7   | 1,45      |
| SL69.1 |                                                                                     | 2 x 2"          | B     | 166                   | 146 | 110 | 70 | 35 | 130x2                | 4   | 7   | 1,51      |
| ST14.1 |  | 3 x 1/2"        | A     | 72                    | 65  | 61  | 34 | 17 | 54x2                 | 3,5 | 3,5 | 0,27      |
| ST24.1 |                                                                                     | 3 x 3/4"        | A     | 72                    | 65  | 61  | 34 | 17 | 54x2                 | 3,5 | 3,5 | 0,25      |
| ST16.1 |                                                                                     | 3 x 1/2"        | A     | 100                   | 89  | 67  | 34 | 17 | 80x2                 | 3,5 | 3,5 | 0,40      |
| ST26.1 |                                                                                     | 3 x 3/4"        | A     | 100                   | 89  | 67  | 34 | 17 | 80x2                 | 3,5 | 3,5 | 0,38      |
| ST36.1 |                                                                                     | 3 x 1"          | A     | 107                   | 89  | 75  | 42 | 21 | 80x2                 | 3,5 | 3,5 | 0,48      |
| ST29.1 |                                                                                     | 3 x 3/4"        | B     | 190                   | 146 | 105 | 60 | 30 | 130x2                | 4   | 7   | 1,77      |
| ST39.1 |                                                                                     | 3 x 1"          | B     | 190                   | 146 | 105 | 60 | 30 | 130x2                | 4   | 7   | 1,70      |
| ST59.1 |                                                                                     | 3 x 1 1/2"      | B     | 190                   | 146 | 105 | 60 | 30 | 130x2                | 4   | 7   | 1,48      |
| ST69.1 |                                                                                     | 3 x 2"          | B     | 190                   | 146 | 110 | 70 | 35 | 130x2                | 4   | 7   | 1,53      |
| SX14.1 |  | 4 x 1/2"        | A     | 72                    | 65  | 61  | 34 | 17 | 54x2                 | 3,5 | 3,5 | 0,26      |
| SX24.1 |                                                                                     | 4 x 3/4"        | A     | 72                    | 65  | 61  | 34 | 17 | 54x2                 | 3,5 | 3,5 |           |
| SX16.1 |                                                                                     | 4 x 1/2"        | A     | 100                   | 89  | 67  | 34 | 17 | 80x2                 | 3,5 | 3,5 | 0,39      |
| SX26.1 |                                                                                     | 4 x 3/4"        | A     | 100                   | 89  | 67  | 34 | 17 | 80x2                 | 3,5 | 3,5 | 0,36      |
| SX36.1 |                                                                                     | 4 x 1"          | A     | 107                   | 89  | 75  | 42 | 21 | 80x2                 | 3,5 | 3,5 | 0,43      |
| SX29.1 |                                                                                     | 4 x 3/4"        | B     | 190                   | 146 | 105 | 60 | 30 | 130x2                | 4   | 7   | 1,94      |
| SX39.1 |                                                                                     | 4 x 1"          | B     | 190                   | 146 | 105 | 60 | 30 | 130x2                | 4   | 7   | 1,85      |
| SX59.1 |                                                                                     | 4 x 1 1/2"      | B     | 190                   | 146 | 105 | 60 | 30 | 130x2                | 4   | 7   | 1,51      |
| SX69.1 |                                                                                     | 4 x 2"          | B     | 190                   | 146 | 110 | 70 | 35 | 130x2                | 4   | 7   | 1,63      |

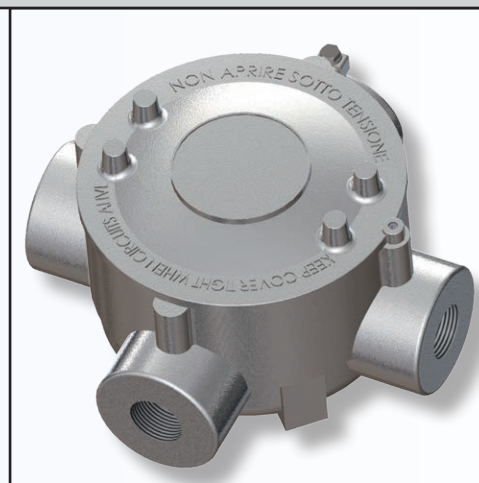
DIMENSIONAL DRAWING



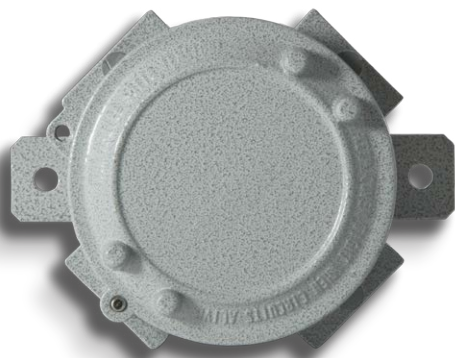
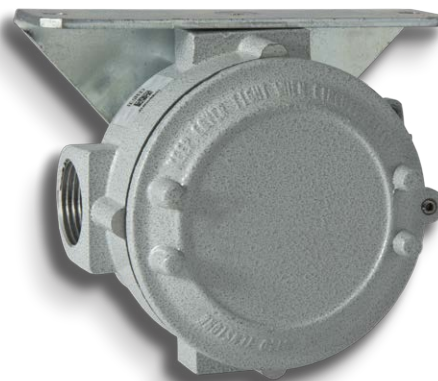
MODEL A



MODEL B



| Code | MODEL | F GAS UNI<br>ISO 7/1 | A   | Outside dimensions mm<br>D1 | H   | C  | B1 | Inside dimensions mm<br>Ød1 | S   | S1  | Weight<br>kg |
|------|-------|----------------------|-----|-----------------------------|-----|----|----|-----------------------------|-----|-----|--------------|
| SB14 |       | 2 x 1/2"             | 90  | 65                          | 90  | 39 | 43 | 54x2                        | 3,5 | 3,5 | 0,34         |
| SB24 |       | 2 x 3/4"             | 90  | 65                          | 90  | 39 | 43 | 54x2                        | 3,5 | 3,5 | 0,34         |
| SB16 |       | 2 x 1/2"             | 110 | 90                          | 90  | 45 | 43 | 80x2                        | 3,5 | 5   |              |
| SB26 |       | 2 x 3/4"             | 110 | 90                          | 90  | 45 | 43 | 80x2                        | 3,5 | 5   | 0,48         |
| SB36 |       | 2 x 1"               | 114 | 90                          | 96  | 45 | 52 | 80x2                        | 3,5 | 5   | 0,54         |
| SB49 |       | 2 x 1 1/4"           | 180 | 150                         | 114 | 60 | 59 | 130x2                       | 4   | 5   |              |
| SB59 |       | 2 x 1 1/2"           | 180 | 150                         | 114 | 60 | 59 | 130x2                       | 4   | 5   |              |
| SB69 |       | 2 x 2"               | 180 | 150                         | 114 | 74 | 71 | 130x2                       | 4   | 5   | 1,58         |


**MODEL SF**

**MODEL SSC**

SF series enclosures (with wall-mounting bracket) and SSC series (with ceiling-mounting bracket) are installed on ducting paths as junction boxes for connecting and branching conductors.

Various different models are available and they can be supplied with multi-pole terminal strips or modular terminals.

### MECHANICAL AND ELECTRICAL FEATURES

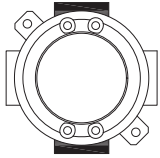
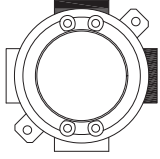
**MOUNTING BRACKETS:** Galvanized steel for SSC. Aluminium for SF.

*Other features are identical to S series boxes*

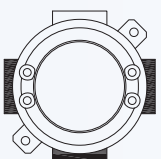
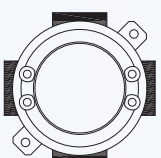
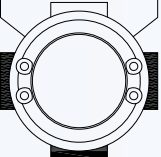
### ACCESSORIES AVAILABLE ON REQUEST/ SPECIAL REQUESTS

*See S series boxes*

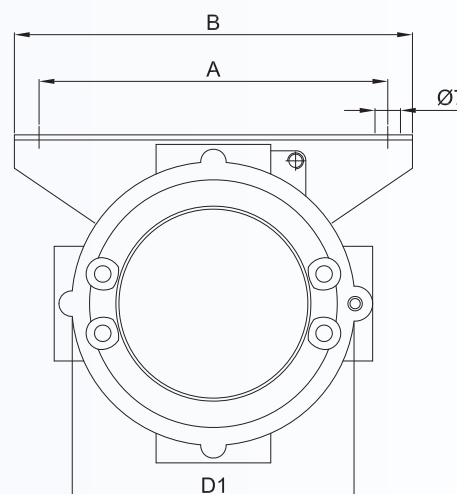
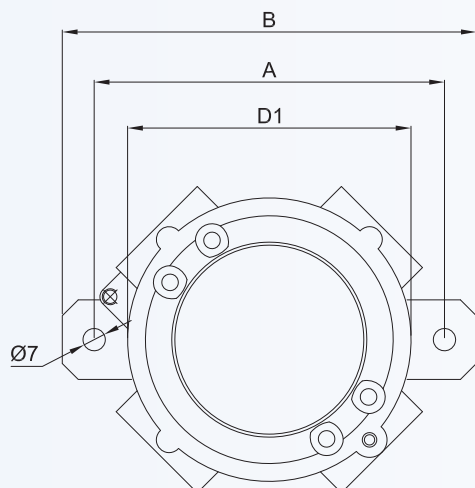
### SF... SSC... SERIES ENCLOSURE SELECTION CHART

| Code    | Position of entries                                                                 | GAS UNI ISO 7/1 | Outside dimensions mm |     |     | Weight kg |
|---------|-------------------------------------------------------------------------------------|-----------------|-----------------------|-----|-----|-----------|
|         |                                                                                     | F               | D1                    | A   | B   |           |
| SFC14.1 |  | 2 x 1/2"        | 65                    | 75  | 90  | 0,30      |
| SFC24.1 |                                                                                     | 2 x 3/4"        | 65                    | 75  | 90  | 0,28      |
| SFC16.1 |                                                                                     | 2 x 1/2"        | 89                    | 110 | 130 | 0,45      |
| SFC26.1 |                                                                                     | 2 x 3/4"        | 89                    | 110 | 130 | 0,42      |
| SFC36.1 |                                                                                     | 2 x 1"          | 89                    | 110 | 130 | 0,52      |
| SFC29.1 |                                                                                     | 2 x 3/4"        | 146                   | 160 | 180 | 1,37      |
| SFC39.1 |                                                                                     | 2 x 1"          | 146                   | 160 | 180 | 1,35      |
| SFC59.1 |                                                                                     | 2 x 1 1/2"      | 146                   | 160 | 180 |           |
| SFC69.1 |                                                                                     | 2 x 2"          | 146                   | 160 | 180 | 1,59      |
| SFL14.1 |  | 2 x 1/2"        | 65                    | 75  | 90  | 0,31      |
| SFL24.1 |                                                                                     | 2 x 3/4"        | 65                    | 75  | 90  | 0,27      |
| SFL16.1 |                                                                                     | 2 x 1/2"        | 89                    | 110 | 130 | 0,45      |
| SFL26.1 |                                                                                     | 2 x 3/4"        | 89                    | 110 | 130 | 0,44      |
| SFL36.1 |                                                                                     | 2 x 1"          | 89                    | 110 | 130 | 0,53      |
| SFL29.1 |                                                                                     | 2 x 3/4"        | 146                   | 160 | 180 | 1,66      |
| SFL39.1 |                                                                                     | 2 x 1"          | 146                   | 160 | 180 | 1,25      |
| SFL59.1 |                                                                                     | 2 x 1 1/2"      | 146                   | 160 | 180 | 1,50      |
| SFL69.1 |                                                                                     | 2 x 2"          | 146                   | 160 | 180 | 1,56      |



| Code    | Position of entries                                                                 | GAS UNI ISO 7/1<br>F | Outside dimensions mm |     |     | Weight<br>kg |
|---------|-------------------------------------------------------------------------------------|----------------------|-----------------------|-----|-----|--------------|
|         |                                                                                     |                      | D1                    | A   | B   |              |
| SFT14.1 |    | 3 x 1/2"             | 65                    | 75  | 90  | 0,30         |
| SFT24.1 |                                                                                     | 3 x 3/4"             | 65                    | 75  | 90  | 0,28         |
| SFT16.1 |                                                                                     | 3 x 1/2"             | 89                    | 110 | 130 | 0,44         |
| SFT26.1 |                                                                                     | 3 x 3/4"             | 89                    | 110 | 130 | 0,42         |
| SFT36.1 |                                                                                     | 3 x 1"               | 89                    | 110 | 130 | 0,52         |
| SFT29.1 |                                                                                     | 3 x 3/4"             | 146                   | 160 | 180 | 1,82         |
| SFT39.1 |                                                                                     | 3 x 1"               | 146                   | 160 | 180 | 1,75         |
| SFT59.1 |                                                                                     | 3 x 1 1/2"           | 146                   | 160 | 180 | 1,53         |
| SFT69.1 |                                                                                     | 3 x 2"               | 146                   | 160 | 180 | 1,58         |
| SFX14.1 |    | 4 x 1/2"             | 65                    | 75  | 90  | 0,29         |
| SFX24.1 |                                                                                     | 4 x 3/4"             | 65                    | 75  | 90  |              |
| SFX16.1 |                                                                                     | 4 x 1/2"             | 89                    | 110 | 130 | 0,43         |
| SFX26.1 |                                                                                     | 4 x 3/4"             | 89                    | 110 | 130 |              |
| SFX36.1 |                                                                                     | 4 x 1"               | 89                    | 110 | 130 | 0,47         |
| SFX29.1 |                                                                                     | 4 x 3/4"             | 146                   | 160 | 180 | 1,98         |
| SFX39.1 |                                                                                     | 4 x 1"               | 146                   | 160 | 180 | 1,90         |
| SFX59.1 |                                                                                     | 4 x 1 1/2"           | 146                   | 160 | 180 | 1,56         |
| SFX69.1 |                                                                                     | 4 x 2"               | 146                   | 160 | 180 | 1,68         |
| SSC14.1 |  | 3 x 1/2"             | 65                    | 65  | 80  | 0,38         |
| SSC24.1 |                                                                                     | 3 x 3/4"             | 65                    | 65  | 80  | 0,36         |
| SSC16.1 |                                                                                     | 3 x 1/2"             | 89                    | 110 | 125 | 0,57         |
| SSC26.1 |                                                                                     | 3 x 3/4"             | 89                    | 110 | 125 | 0,54         |
| SSC36.1 |                                                                                     | 3 x 1"               | 89                    | 110 | 125 | 0,64         |
| SSC29.1 |                                                                                     | 3 x 3/4"             | 146                   | 130 | 150 | 1,94         |
| SSC39.1 |                                                                                     | 3 x 1"               | 146                   | 130 | 150 | 1,91         |
| SSC59.1 |                                                                                     | 3 x 1 1/2"           | 146                   | 130 | 150 |              |
| SSC69.1 |                                                                                     | 3 x 2"               | 146                   | 130 | 150 | 2,15         |

### DIMENSIONAL DRAWING



**TERMINAL BOXES**



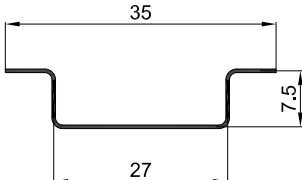
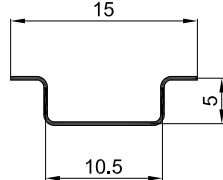
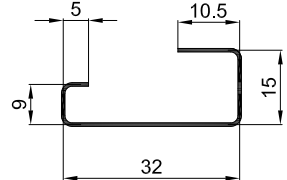
**CHART 1**

| Ex d IIC rated terminal strips |                                         |                   |                             |
|--------------------------------|-----------------------------------------|-------------------|-----------------------------|
| Ambient temperature            | Terminal material                       | Temperature class | Maximum surface temperature |
| -20°C +40°C<br>-40°C +40°C     | Polyamide (PA)                          | T6                | T85°C                       |
| -20°C +65°C<br>-40°C +65°C     | Melamine (KrG)<br>Wemid<br>Stamin (KrS) | T5                | T100°C                      |
| -20°C +150°C<br>-40°C +150°C   | Ceramic (Steatite)                      | T3                | T200°C                      |

**CHART 2**

| Ex e II or Ex i IIC rated terminal strips (ATEX-certified terminals) |                                                      |                   |                             |
|----------------------------------------------------------------------|------------------------------------------------------|-------------------|-----------------------------|
| Ambient temperature                                                  | Terminal material                                    | Temperature class | Maximum surface temperature |
| -20°C +40°C<br>-40°C +40°C                                           | Polyamide (PA)                                       | T6                | T85°C                       |
| -20°C +65°C<br>-40°C +65°C                                           | Melamine (KrG)<br>Wemid<br>Stamin (KrS)              | T5                | T100°C                      |
| -20°C +80°C<br>-40°C +80°C                                           | Melamine (KrG)<br>Stamin (KrS)<br>Ceramic (Steatite) | T4                | T135°C                      |

**MOUNTING RAILS (as per standard IEC 60715)**

| Terminal manufacturer                                                               | Terminal code | ENCLOSURE TYPE                                                                      |                      |                                                                                       |
|-------------------------------------------------------------------------------------|---------------|-------------------------------------------------------------------------------------|----------------------|---------------------------------------------------------------------------------------|
|                                                                                     |               | S.1 - SB<br>14-24                                                                   | S.1 - SB<br>16-26-36 | S.1 - SB<br>29-39-49-59-69                                                            |
|                                                                                     |               | PROFILE TYPE                                                                        |                      |                                                                                       |
| CABUR                                                                               | EDM           | -                                                                                   | -                    | DIN PR/DIN/AC                                                                         |
|                                                                                     | CBD           | -                                                                                   | -                    | PR/3/AC                                                                               |
|                                                                                     | SV            | -                                                                                   | -                    | DIN PR/DIN/AC                                                                         |
|                                                                                     | RN            | -                                                                                   | PR/2/AC              | PR/2/AC                                                                               |
| WEIDMULLER                                                                          | WDU           | -                                                                                   | PR/3/AC              | PR/3/AC                                                                               |
|                                                                                     | SAK           | -                                                                                   | -                    | DIN PR/DIN/AC                                                                         |
|                                                                                     | BK            | Bracket                                                                             | Bracket              | Bracket                                                                               |
|                                                                                     | AKZ           | -                                                                                   | PR/2/AC              | PR/2/AC                                                                               |
| Top hat profile PR/3/AC                                                             |               | Top hat profile PR/2/AC                                                             |                      | DIN profile PR/DIN/AC                                                                 |
|  |               |  |                      |  |

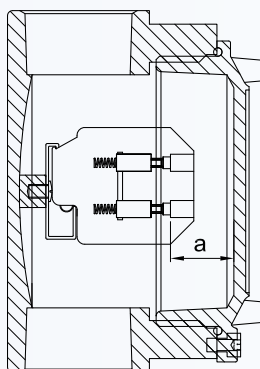
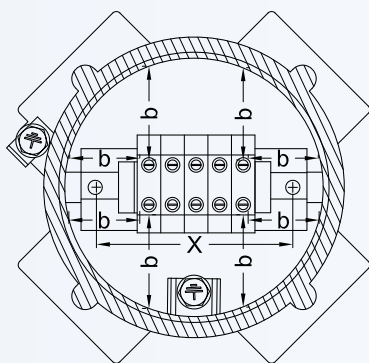
Marking:

CE 0722 Ex II 2 GD - Ex d IIC T6, T5, T3 - Ex tD A21- IP66/67

| Ex d IIC rated enclosures                                                                                                                    |             | CROSS-SECTIONAL AREA AND MAXIMUM NUMBER OF TERMINALS |      |    |    |    |    |     |     |     |
|----------------------------------------------------------------------------------------------------------------------------------------------|-------------|------------------------------------------------------|------|----|----|----|----|-----|-----|-----|
| Enclosure type                                                                                                                               | Size        | 1,5                                                  | 2,5  | 4  | 6  | 10 | 16 | 25  | 35  | 70  |
| S.1 - SB                                                                                                                                     | 14-24       | -                                                    | -    | 3  | -  | -  | -  | -   | -   | -   |
| S.1 - SB                                                                                                                                     | 16-26-36    | 8                                                    | 8    | 6  | -  | -  | -  | -   | -   | -   |
| S.1                                                                                                                                          | 29-39-59-69 | 16                                                   | 16   | 16 | 9  | 7  | 6  | 4   | 4   | 3   |
| SB                                                                                                                                           | 49-59-69    | 16                                                   | 16   | 16 | 10 | 8  | 7  | 5   | 5   | 4   |
| Maximum current (A)                                                                                                                          | at 40°C     | 10                                                   | 12.5 | 20 | 24 | 30 | 48 | 75  | 105 | 175 |
|                                                                                                                                              | at 65°C     | 8                                                    | 10.5 | 17 | 20 | 24 | 40 | 65  | 88  | 150 |
|                                                                                                                                              | at 150°C    |                                                      |      |    |    |    |    |     |     |     |
| Maximum current density (A/mm <sup>2</sup> ) for terminals and cables                                                                        |             | 6.6                                                  | 5    | 5  | 4  | 3  | 3  | 3   | 3   | 2.5 |
| Maximum current (A) referring to 35% of the max. number of terminals as given in the table                                                   | at 40°C     | 13                                                   | 19.5 | 24 | 30 | 50 | 64 | 100 | 140 | 210 |
|                                                                                                                                              | at 65°C     | 10                                                   | 12.5 | 20 | 24 | 30 | 48 | 75  | 105 | 175 |
|                                                                                                                                              | at 150°C    |                                                      |      |    |    |    |    |     |     |     |
| Maximum current density (A/mm <sup>2</sup> ) for terminals and cables referring to 35% of the max. number of terminals as given in the table |             | 8.5                                                  | 7    | 6  | 5  | 5  | 4  | 4   | 4   | 3   |
| Min.-max. rated voltage (V)                                                                                                                  |             | 420 - 750                                            |      |    |    |    |    |     |     |     |

#### Minimum distances for Ex d IIC rated enclosures with terminals

| Enclosure type | Size        | Minimum surface distance |          | S.1  | SB |
|----------------|-------------|--------------------------|----------|------|----|
|                |             | a min.                   | b+b min. | x    | x  |
| S.1 - SB       | 14-24       | 6                        | 20       | 40   | 40 |
| S.1 - SB       | 16-26-36    |                          |          | 58.5 | 50 |
| S.1            | 29-39-59-69 |                          |          | 100  | 85 |
| SB             | 49-59-69    |                          |          |      |    |



Enclosure code SFL-36.1 with 3 x AKZ-2.5 terminals and 1 x AKE2.5 earth terminal

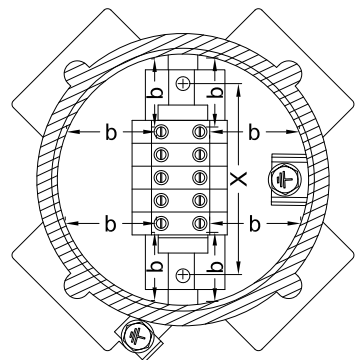
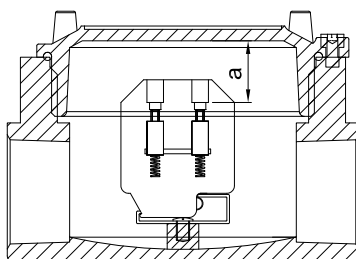
**Marking:**
**CE 0722 Ex II 2 GD - Ex e II T6, T5, T3 - Ex tD A21- IP66/67**

| Ex e IIC rated enclosures                                |             | CROSS-SECTIONAL AREA AND MAXIMUM NUMBER OF TERMINALS |       |       |       |       |       |       |       |       |       |       |       |       |       |       |    |  |  |
|----------------------------------------------------------|-------------|------------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----|--|--|
| Enclosure type                                           | Size        | 1,5                                                  |       |       | 2,5   |       |       | 4     |       |       | 6     |       |       | 10    |       |       |    |  |  |
|                                                          |             | Tab 1                                                | Tab 2 | Tab 3 | Tab 1 | Tab 2 | Tab 3 | Tab 1 | Tab 2 | Tab 3 | Tab 1 | Tab 2 | Tab 3 | Tab 1 | Tab 2 | Tab 3 |    |  |  |
| S.1 - SB                                                 | 14-24       | -                                                    | -     | -     | -     | -     | -     | 3     | -     | -     | -     | -     | -     | -     | -     | -     |    |  |  |
| S.1 - SB                                                 | 16-26-36    | 8                                                    | 8     | 8     | 8     | 8     | 8     | 6     | 6     | 6     | -     | -     | -     | -     | -     | -     |    |  |  |
| S.1                                                      | 29-39-59-69 | 16                                                   | 16    | 16    | 16    | 16    | 16    | 16    | 14    | 14    | 9     | 9     | 9     | 7     | 7     | 7     |    |  |  |
| SB                                                       | 49-59-69    | 16                                                   | 16    | 16    | 16    | 16    | 16    | 16    | 14    | 14    | 10    | 10    | 9     | 8     | 7     | 7     |    |  |  |
| Maximum current (A)                                      |             | at 40°C                                              |       |       | 8     |       |       | 10,5  |       |       | 17    |       |       | 20    |       |       | 24 |  |  |
|                                                          |             | at 65°C                                              |       |       | 5,5   |       |       | 7,5   |       |       | 12    |       |       | 14    |       |       | 17 |  |  |
|                                                          |             | at 150°C                                             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |    |  |  |
| Maximum current density (A/mm²) for terminals and cables |             | 6,6                                                  |       |       | 5     |       |       | 5     |       |       | 4     |       |       | 3     |       |       |    |  |  |
| Min.-max. rated voltage (V)                              |             | 275 - 630                                            |       |       |       |       |       |       |       |       |       |       |       |       |       |       |    |  |  |

| Ex e IIC rated enclosures                                   |             | CROSS-SECTIONAL AREA AND<br>MAXIMUM NUMBER OF TERMINALS |       |       |       |       |       |
|-------------------------------------------------------------|-------------|---------------------------------------------------------|-------|-------|-------|-------|-------|
| Enclosure<br>type                                           | Size        | 16                                                      |       |       | 25    |       |       |
|                                                             |             | Tab 1                                                   | Tab 2 | Tab 3 | Tab 1 | Tab 2 | Tab 3 |
| S.1 - SB                                                    | 14-24       | -                                                       | -     | -     | -     | -     | -     |
| S.1 - SB                                                    | 16-26-36    | -                                                       | -     | -     | -     | -     | -     |
| S.1                                                         | 29-39-59-69 | 6                                                       | 6     | 6     | 4     | 4     | 4     |
| SB                                                          | 49-59-69    | 7                                                       | 6     | 6     | 5     | 4     | 4     |
| Maximum current (A)                                         |             | at 40°C                                                 |       |       | 65    |       |       |
|                                                             |             | at 65°C                                                 |       |       | 47    |       |       |
|                                                             |             | at 150°C                                                |       |       |       |       |       |
| Maximum current density<br>(A/mm²) for terminals and cables |             | 3                                                       |       |       | 3     |       |       |
| Min.-max. rated voltage (V)                                 |             | 275 - 630                                               |       |       |       |       |       |



Enclosure code SFL-26.1 with 3 x RP-4 terminals and 1 x TR-2 earth terminal


**NOTES:**

 Tab 1 for operating voltage  $U \leq 400$ 

 Tab 2 for operating voltage  $U \leq 500$ 

 Tab 3 for operating voltage  $U \leq 630$ 
**Minimum distances for Ex e IIC rated enclosures with terminals**

| <b>Tab 1</b> | <b>Enclosure type</b> | <b>Size</b> | <b>Minimum surface distance</b> |          | <b>S.1</b> | <b>SB</b> |
|--------------|-----------------------|-------------|---------------------------------|----------|------------|-----------|
|              |                       |             | a min.                          | b+b min. |            |           |
|              | S.1 - SB              | 14-24       | 6                               | 20       | x          | x         |
|              | S.1 - SB              | 16-26-36    |                                 |          | 40         | 40        |
|              | S.1                   | 29-39-59-69 |                                 |          | 58.5       | 50        |
|              | SB                    | 49-59-69    |                                 |          | 100        | 85        |

| <b>Tab 2</b> | <b>Enclosure type</b> | <b>Size</b> | <b>Minimum surface distance</b> |          | <b>S.1</b> | <b>SB</b> |
|--------------|-----------------------|-------------|---------------------------------|----------|------------|-----------|
|              |                       |             | a min.                          | b+b min. |            |           |
|              | S.1 - SB              | 14-24       | 8                               | 25       | x          | x         |
|              | S.1 - SB              | 16-26-36    |                                 |          | 40         | 40        |
|              | S.1                   | 29-39-59-69 |                                 |          | 58.5       | 50        |
|              | SB                    | 49-59-69    |                                 |          | 100        | 85        |

| <b>Tab 3</b> | <b>Enclosure type</b> | <b>Size</b> | <b>Minimum surface distance</b> |          | <b>S.1</b> | <b>SB</b> |
|--------------|-----------------------|-------------|---------------------------------|----------|------------|-----------|
|              |                       |             | a min.                          | b+b min. |            |           |
|              | S.1 - SB              | 14-24       | 10                              | 32       | x          | x         |
|              | S.1 - SB              | 16-26-36    |                                 |          | 40         | 40        |
|              | S.1                   | 29-39-59-69 |                                 |          | 58.5       | 50        |
|              | SB                    | 49-59-69    |                                 |          | 100        | 85        |

| TERMINAL<br>MANUFACTURER | TERMINAL CODE    | ENCLOSURE TYPE              |                          |                           |                    | CONDUCTOR<br>CROSS-<br>SECTIONAL AREA<br>sq mm |
|--------------------------|------------------|-----------------------------|--------------------------|---------------------------|--------------------|------------------------------------------------|
|                          |                  | SB - S.1<br>14 - 24         | SB - S.1<br>16 - 26 - 36 | S.1<br>29 - 39<br>59 - 69 | SB<br>49 - 59 - 69 |                                                |
|                          |                  | MAXIMUM NUMBER OF TERMINALS |                          |                           |                    |                                                |
| CABUR                    | EDM 2            |                             |                          | 12                        | 10                 | 2.5                                            |
|                          | EDM 4            |                             |                          | 10                        | 8                  | 4                                              |
|                          | EDM 6            |                             |                          | 8                         | 6                  | 6                                              |
|                          | EDM 10           |                             |                          | 7                         | 5                  | 10                                             |
|                          | EDM 16           |                             |                          | 5                         | 4                  | 16                                             |
|                          | EDM 25           |                             |                          | 4                         | 3                  | 25                                             |
|                          | EDM 35           |                             |                          | 3                         | 3                  | 35                                             |
|                          | CBD 2            |                             |                          | 12                        | 15                 | 2.5                                            |
|                          | CBD 4            |                             |                          | 10                        | 12                 | 4                                              |
|                          | CBD 6            |                             |                          | 8                         | 10                 | 6                                              |
|                          | CBD 10           |                             |                          | 7                         | 8                  | 10                                             |
|                          | CBD 16           |                             |                          | 6                         | 7                  | 16                                             |
|                          | CBD 25           |                             |                          | 4                         | 5                  | 25                                             |
|                          | CBD 35           |                             |                          | 3                         | 4                  | 35                                             |
|                          | CBD 70           |                             |                          | 3                         | 4                  | 70                                             |
|                          | SV 2             |                             |                          | 12                        | 10                 | 2.5                                            |
|                          | SV 4             |                             |                          | 10                        | 8                  | 4                                              |
|                          | SV 6             |                             |                          | 8                         | 7                  | 6                                              |
|                          | SV 10            |                             |                          | 6                         | 5                  | 10                                             |
|                          | RP 4             |                             | 6                        | 14                        | 14                 | 4                                              |
| WEIDMULLER               | WDU 1.5/R 3.5/E  |                             | 10                       | 22                        | 22                 | 1.5                                            |
|                          | WDU 2.5N/E       |                             | 5                        | 14                        | 16                 | 2.5                                            |
|                          | WDU 2.5          |                             |                          | 14                        | 16                 | 2.5                                            |
|                          | WDU 4            |                             |                          | 12                        | 14                 | 4                                              |
|                          | WDU 6            |                             |                          | 9                         | 10                 | 6                                              |
|                          | WDU 10           |                             |                          | 7                         | 8                  | 10                                             |
|                          | WDU 16           |                             |                          | 6                         | 7                  | 16                                             |
|                          | WDU 35           |                             |                          | 4                         | 5                  | 35                                             |
|                          | SAK 2.5          |                             |                          | 12                        | 9                  | 2.5                                            |
|                          | SAK 4            |                             |                          | 12                        | 9                  | 4                                              |
|                          | SAK 6            |                             |                          | 8                         | 7                  | 6                                              |
|                          | SAK 10           |                             |                          | 7                         | 5                  | 10                                             |
|                          | SAK 16           |                             |                          | 5                         | 4                  | 16                                             |
|                          | SAK 35           |                             |                          | 4                         | 3                  | 35                                             |
|                          | AKZ 1.5          |                             | 8                        | 14                        | 14                 | 1.5                                            |
|                          | AKZ 2.5          |                             | 8                        | 14                        | 14                 | 2.5                                            |
|                          | AKZ 4            |                             | 6                        | 14                        | 14                 | 4                                              |
|                          | BK 2 (2 poles)   | 1                           | 2                        | 4                         | 3                  | 4                                              |
|                          | BK 3 (3 poles)   | 1                           | 1                        | 2                         | 2                  | 4                                              |
|                          | BK 4 (4 poles)   |                             | 1                        | 2                         | 2                  | 4                                              |
|                          | BK 6 (6 poles)   |                             |                          | 1                         | 1                  | 4                                              |
|                          | BK 12 (12 poles) |                             |                          |                           |                    | 4                                              |



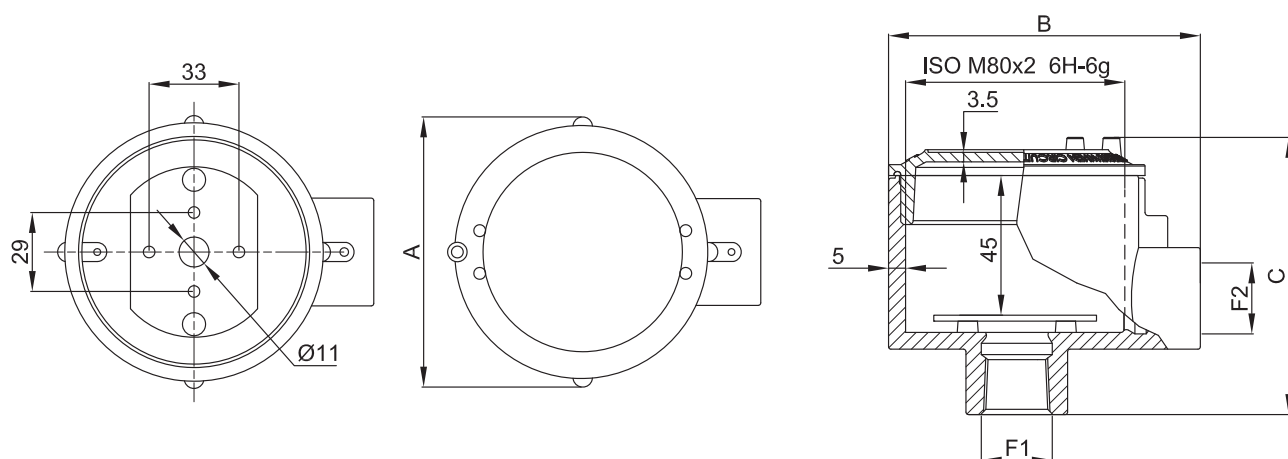


'Ex d' SWS series enclosures are normally used to house temperature sensors, such as thermocouples, level gauges, flow transmitters and pressure sensors.

### MECHANICAL FEATURES

|                              |                                                                                                                                                                    |
|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Body and lid:</b>         | Low copper content aluminium alloy. Screw-on lid with safety fastening grub screw and steel chain so the lid cannot be misplaced                                   |
| <b>Gasket:</b>               | Acid/hydrocarbon-resistant NBR, located between body and lid                                                                                                       |
| <b>Entries:</b>              | Standard NPT thread                                                                                                                                                |
| <b>Certification label:</b>  | Adhesive label located on inside of lid                                                                                                                            |
| <b>Bolts and screws:</b>     | Stainless steel                                                                                                                                                    |
| <b>Earth screws:</b>         | Stainless steel. On inside and outside of body complete with anti-rotation brackets                                                                                |
| <b>Corrosion Resistance:</b> | The STANDARD of the aluminium alloy used by Cortem has passed the tests required by standards EN 60068-2-30 (hot/humid cycles) and EN 60068-2-11 (salt mist tests) |

### DIMENSIONAL DRAWING



| Code            | Outside dimensions mm |     |     | Entry Ø  |          | Weight kg |
|-----------------|-----------------------|-----|-----|----------|----------|-----------|
|                 | A                     | B   | C   | F1       | F2       |           |
| <b>SWS16</b>    | 100                   | 115 | 100 | 1/2" NPT | 1/2" NPT |           |
| <b>SWS26</b>    | 100                   | 115 | 100 | 3/4" NPT | 3/4" NPT |           |
| <b>SWS26/21</b> | 100                   | 115 | 100 | 1/2" NPT | 3/4" NPT |           |
| <b>SWS16/20</b> | 100                   | 115 | 100 | 1/2" NPT | ISO M20  |           |
| <b>SWS26/12</b> | 100                   | 115 | 100 | 3/4" NPT | 1/2" NPT |           |







# Weather proof series

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CS... CSG... series junction boxes are made from aluminium alloy and given an electrostatically applied epoxy coating containing stainless steel particles that is then baked at 200°C. This treatment ensures good UV as well as thermal stability, providing mechanical impact resistance and excellent resistance when exposed either to salt mist or to marine and other damp environments. CS and CSG series junction boxes are usually installed in industrial plants and they are mainly used as junction boxes and/or for routing cables to control rooms for analogue or digital signals and for control, monitoring and signalling associated with equipment such as motors, pumps...etc., or for giving physical readings such as flow rate, level, temperature, pressure, etc.... The thickness of its walls (7mm) means the CSG series is suitable for direct connection with pipes and fittings featuring tapered threads. Upon customer's request threaded hubs or bushings, complete with cable glands, plugs and other accessories, can be made.


**Standard construction:**

Low copper content aluminium alloy.  
 Stainless steel screws and bolts.  
 Silicone gasket.  
 Internal/external earth screws.  
 Fixing lugs.  
 RAL 7035 epoxy coating.

**Protection degree:**

IP 66

**Mechanical strenght:**

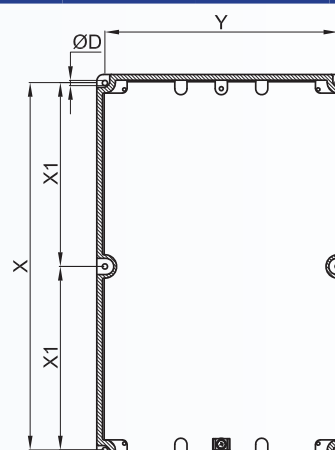
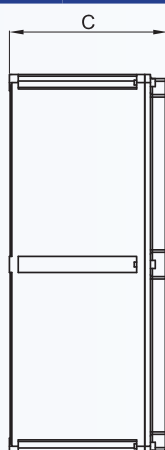
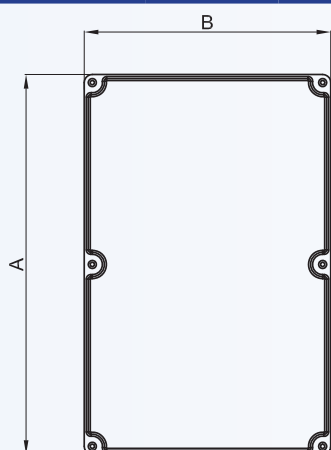
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**Standards:**

IEC 60529

**ALUMINIUM ENCLOSURES SELECTION CHART**

| Code      | Outside dimensions |     |     | Fixing |     |       |     | Weight<br>Kg |
|-----------|--------------------|-----|-----|--------|-----|-------|-----|--------------|
|           | A                  | B   | C   | X      | Y   | X1    | ØD  |              |
| CS090907  | 90                 | 90  | 73  | 74     | 74  | -     | 6,5 | 0,40         |
| CS111108  | 110                | 110 | 83  | 94     | 94  | -     | 6,5 | 0,50         |
| CSG111108 | 110                | 110 | 83  | 94     | 94  | -     | 6,5 | 0,75         |
| CS171108  | 170                | 110 | 83  | 154    | 94  | -     | 6,5 | 0,80         |
| CSG171108 | 170                | 110 | 83  | 154    | 94  | -     | 6,5 | 1,55         |
| CS141410  | 147                | 147 | 100 | 131    | 131 | -     | 6,5 | 0,80         |
| CSG141410 | 147                | 147 | 100 | 131    | 131 | -     | 6,5 | 1,40         |
| CS202012  | 200                | 200 | 120 | 180    | 180 | -     | 6,5 | 1,70         |
| CS301410  | 305                | 147 | 110 | 285    | 127 | -     | 6,5 | 2,00         |
| CSG301410 | 305                | 147 | 96  | 285    | 127 | -     | 6,5 | 2,70         |
| CS302310  | 305                | 230 | 110 | 285    | 210 | -     | 6,5 | 2,80         |
| CSG302310 | 305                | 230 | 100 | 285    | 210 | -     | 6,5 | 3,40         |
| CS302318  | 305                | 230 | 190 | 285    | 210 | -     | 6,5 | 3,50         |
| CSG302318 | 305                | 230 | 180 | 285    | 210 | -     | 6,5 | 5,30         |
| CS473018  | 475                | 305 | 195 | 450    | 285 | 225   | 6,5 | 6,50         |
| CSG473018 | 475                | 305 | 195 | 450    | 285 | 225   | 6,5 | 8,90         |
| CSG623018 | 625                | 305 | 195 | 605    | 285 | 302,5 | 6,5 | 11,3         |
| CSG606018 | 600                | 600 | 205 | 580    | 580 | 290   | 6,5 | 27,0         |



**ACCESSORIES UPON REQUEST**

| ILLUSTRATION                                                                        | DESCRIPTION                                                                                                                                 | MODEL                           | SIZE                      |     | CODE     |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|---------------------------|-----|----------|
|                                                                                     |                                                                                                                                             |                                 | A                         | B   |          |
|    | Internal mounting plates<br><br>Thickness 25/10<br>Aluminium<br><br>Galvanized steel<br>(B...-229AC)<br><br>Stainless steel<br>(B...-229IN) | CS090907                        | 82                        | 48  | B09-229  |
|                                                                                     |                                                                                                                                             | CSG090907                       | 73                        | 48  | B09-229P |
|                                                                                     |                                                                                                                                             | CS111108                        | 100                       | 68  | B11-229  |
|                                                                                     |                                                                                                                                             | CSG111108                       | 92                        | 68  | B11-229P |
|                                                                                     |                                                                                                                                             | CS141410                        | 137                       | 105 | B14-229  |
|                                                                                     |                                                                                                                                             | CSG141410                       | 129                       | 105 | B14-229P |
|                                                                                     |                                                                                                                                             | CS171108                        | 159                       | 67  | B17-229  |
|                                                                                     |                                                                                                                                             | CS202012                        | 186                       | 146 | B20-229  |
|                                                                                     |                                                                                                                                             | CS/CSG301410                    | 285                       | 97  | B31-229  |
|                                                                                     |                                                                                                                                             | CS/CSG302310<br>CS/CSG302318    | 285                       | 180 | B32-229  |
|                                                                                     |                                                                                                                                             | CS/CSG473018                    | 453                       | 254 | B43-229  |
|                                                                                     |                                                                                                                                             | CS/CSG623018                    | 603                       | 249 | B63-229  |
|                                                                                     |                                                                                                                                             | CSG606018                       | 532                       | 532 | B60-229  |
| ILLUSTRATION                                                                        | DESCRIPTION                                                                                                                                 | MODEL                           | CHARACTERISTICS           |     | CODE     |
|    | Breather and drain valve                                                                                                                    | Thread diameter<br>ISO 7-R 3/8" | Material: stainless steel |     | ECD-210S |
|   | Hinges<br>(2 per enclosure)                                                                                                                 | Low lid enclosures              | Material: stainless steel |     | B-0105   |
|                                                                                     |                                                                                                                                             | High lid enclosures             |                           |     | B-0106   |
|  | Hinges<br>(2 per enclosure)                                                                                                                 | SAG606018                       | Material: stainless steel |     | K-0351   |

**CS and CSG series enclosures**

Models from CS...series (lightweight series)  
Thinner walls

The body can only accommodate through holes with no threading



Models from CSG...series (heavy-duty series)  
Extra-thick walls

The body can also accommodate threaded holes





CS/P series junction boxes are made from fibreglass-reinforced polyester. Because they are highly resistant to contamination from fuel oils and mechanical shock, in addition to being lightweight and practical, they can be installed in all industrial plants. The enclosures have special holes made in the base for easy wall mounting. The lid features a silicone gasket that is resistant to low and high temperatures and comes complete with AISI 304 stainless steel screws, which are arranged around the outside of the lid to ensure a tight seal with the IP66 rating. CS/P series enclosures are mainly used as junction boxes for routing cables for analogue or digital signals and/or for control and monitoring associated with equipment such as motors, fans, pumps and/or for giving physical readings such as flow rate, level, pressure, temperature, current, etc..


**Standard construction:**

GRP (glass reinforced polyester resin) in RAL 9017 black coating.  
 Stainless steel screws and bolts.  
 Silicone gasket.  
 Fixing lugs.

**Protection degree:**

IP 66

**Mechanical strenght:**

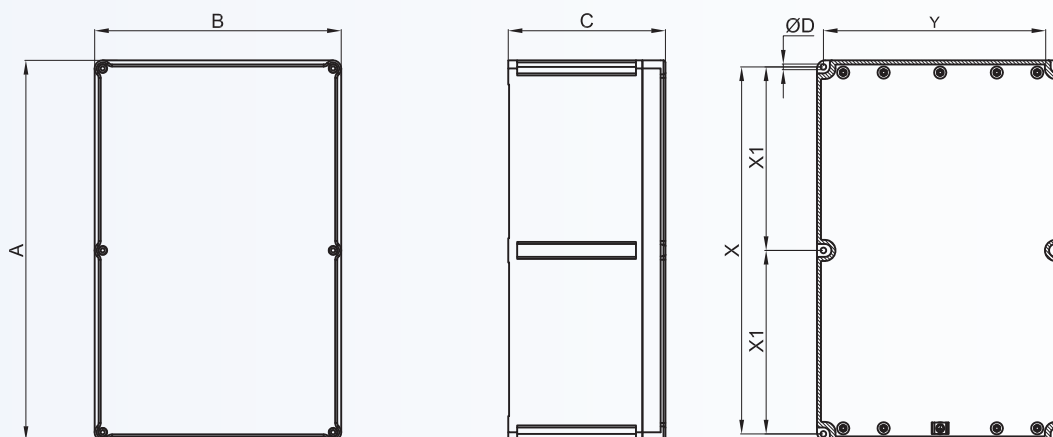
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**Standards:**

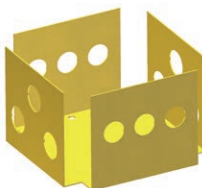
IEC 60529

**POLYESTER ENCLOSURES SELECTION CHART**

| Code       | Outside dimension |     |     | Fixing |     |         |     | Weight<br>Kg |
|------------|-------------------|-----|-----|--------|-----|---------|-----|--------------|
|            | A                 | B   | C   | X      | Y   | X1      | ØD  |              |
| CS090907/P | 90                | 90  | 73  | 74     | 74  | -       | 6,5 | 0,30         |
| CS111108/P | 110               | 110 | 83  | 94     | 94  | -       | 6,5 | 0,40         |
| CS171108/P | 170               | 110 | 83  | 154    | 94  | -       | 6,5 | 0,80         |
| CS141410/P | 147               | 147 | 100 | 131    | 131 | -       | 6,5 | 1,00         |
| CS301410/P | 305               | 147 | 110 | 285    | 127 | -       | 6,5 | 1,90         |
| CS302310/P | 305               | 230 | 110 | 285    | 210 | -       | 6,5 | 2,50         |
| CS302318/P | 305               | 230 | 190 | 285    | 210 | -       | 6,5 | 3,10         |
| CS473018/P | 470               | 305 | 195 | 450    | 285 | 225     | 6,5 | 4,70         |
| CS623018/P | 620               | 305 | 185 | 560    | 285 | 260-300 | 8   | 6,30         |



**ACCESSORIES UPON REQUEST**

| ILLUSTRATION                                                                        | DESCRIPTION                                                                                                                                 | MODEL                                         | SIZE                      |     | CODE            |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|---------------------------|-----|-----------------|
|                                                                                     |                                                                                                                                             |                                               | A                         | B   |                 |
|    | Internal mounting plates<br><br>Thickness 2.5mm<br>Aluminium<br><br>Galvanized steel<br>(B...-229AC)<br><br>Stainless steel<br>(B...-229IN) | CS090907/P                                    | 82                        | 48  | <b>B09-229</b>  |
|                                                                                     |                                                                                                                                             | CS111108/P                                    | 100                       | 68  | <b>B11-229</b>  |
|                                                                                     |                                                                                                                                             | CS141410/P                                    | 137                       | 105 | <b>B14-229</b>  |
|                                                                                     |                                                                                                                                             | CS171108/P                                    | 159                       | 67  | <b>B17-229</b>  |
|                                                                                     |                                                                                                                                             | CS301410/P                                    | 285                       | 97  | <b>B31-229</b>  |
|                                                                                     |                                                                                                                                             | CS302310/P<br>CS302318/P                      | 285                       | 180 | <b>B32-229</b>  |
|                                                                                     |                                                                                                                                             | CS473018/P                                    | 453                       | 254 | <b>B43-229</b>  |
|                                                                                     |                                                                                                                                             | CS623018/P                                    | 603                       | 249 | <b>B63-229</b>  |
| ILLUSTRATION                                                                        | DESCRIPTION                                                                                                                                 | MODEL                                         | CHARACTERISTICS           |     | CODE            |
|    | Breather and drain valve                                                                                                                    | Thread diameter<br>ISO 7-R 3/8"               | Material: stainless steel |     | <b>ECD-210S</b> |
|    | Hinges<br>(2 per enclosure)                                                                                                                 | Low lid enclosures                            | Material: stainless steel |     | <b>B-0105</b>   |
|                                                                                     |                                                                                                                                             | High lid enclosures                           |                           |     | <b>B-0106</b>   |
|   | Through earth connection                                                                                                                    | M8                                            | Material: stainless steel |     | <b>K-0307/1</b> |
|                                                                                     |                                                                                                                                             | M6                                            |                           |     | <b>K-0307/2</b> |
|  | Brass continuity plates for earthing                                                                                                        | For models and codes see the following scheme |                           |     | <b>B-...</b>    |

**CONTINUITY PLATES**

| Enclosure  | Plate code | Plate code |            |
|------------|------------|------------|------------|
|            |            | Long side  | Short side |
| SA090907/P | B-388      | B-455      |            |
| SA111108/P | B-389      | B-456      |            |
| SA141410/P | B-390      | B-457      |            |
| SA171108/P | B-391      | B-458      | B-456      |
| SA301410/P | B-392      | B-459      | B-457      |
| SA302310/P | B-393      | B-459      | B-460      |
| SA302318/P | B-394      | B-461      | B-462      |
| SA473018/P | B-395      | (2x) B-462 | B-461      |
| SA623018/P | -          | (2x) B-463 | B-463      |



Economic junction boxes, are used as pulling or junction boxes in areas where there is no danger of explosion, but it is required a specific protection to prevent the entry of solids and liquids. They are stainless steel made and can be installed in chemical and off-shore plants and where is a strong external agents' aggression. Upon specific request they can be supplied with terminal blocks and copper rods for earth connections. Upon customer request threaded hubs or bushings, complete with cable glands, plugs and other accessories both on the enclosure's side and on specific removable flanges, can be made.

**Standard construction:**

Stainless steel AISI 316L  
 Stainless steel bolts and screws  
 Silicone gasket  
 Fixing lugs

**Degree of protection:**

IP 66

**Mechanical strenght:**

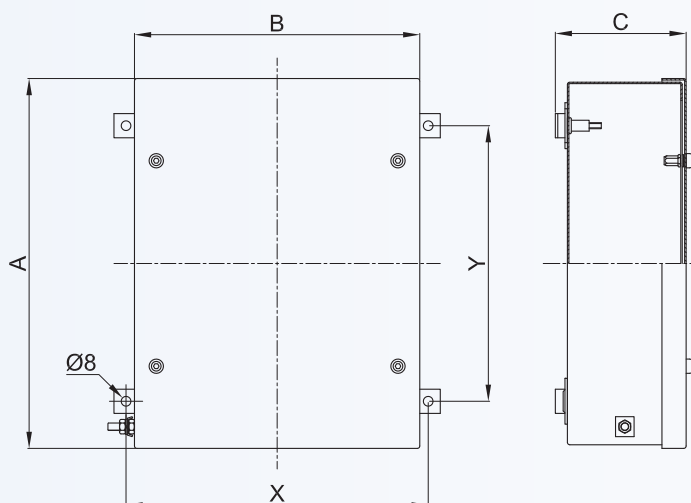
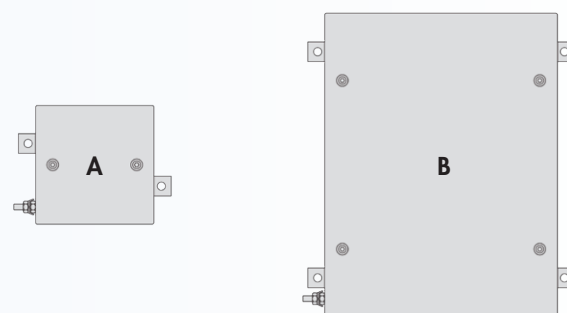
IK10

**Standards:**

IEC 60529

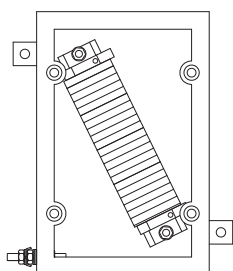
### STAINLESS STEEL ENCLOSURES SELECTION CHART

| Code        | Outside dimensions |     |     | Fixing |     | ØD | Weight<br>Kg |
|-------------|--------------------|-----|-----|--------|-----|----|--------------|
|             | A                  | B   | C   | X      | Y   |    |              |
| CTBEW121208 | 120                | 120 | 90  | 135    | 42  | A  |              |
| CTBEW151208 | 150                | 120 | 90  | 135    | 73  | A  |              |
| CTBEW151509 | 150                | 150 | 100 | 165    | 73  | A  |              |
| CTBEW191509 | 190                | 150 | 100 | 165    | 113 | A  |              |
| CTBEW191910 | 190                | 190 | 100 | 165    | 73  | A  |              |
| CTBEW221513 | 229                | 152 | 140 | 205    | 113 | A  |              |
| CTBEW262610 | 258                | 258 | 110 | 273    | 181 | B  |              |
| CTBEW262616 | 258                | 258 | 170 | 273    | 181 | B  |              |
| CTBEW262620 | 258                | 258 | 210 | 273    | 181 | B  |              |
| CTBEW301410 | 306                | 146 | 110 | 160    | 228 | B  |              |
| CTBEW302310 | 306                | 236 | 110 | 250    | 228 | B  |              |
| CTBEW303010 | 306                | 306 | 110 | 320    | 228 | B  |              |
| CTBEW303016 | 306                | 306 | 170 | 320    | 228 | B  |              |
| CTBEW303020 | 306                | 306 | 210 | 320    | 228 | B  |              |
| CTBEW381612 | 380                | 160 | 130 | 175    | 303 | B  |              |
| CTBEW382610 | 380                | 260 | 110 | 275    | 303 | B  |              |
| CTBEW382616 | 380                | 260 | 170 | 275    | 303 | B  |              |
| CTBEW382620 | 380                | 260 | 210 | 275    | 303 | B  |              |
| CTBEW402513 | 400                | 250 | 140 | 265    | 323 | B  |              |

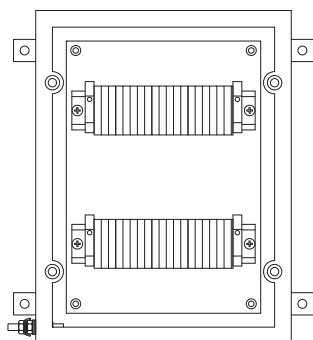
**Type**

**ACCESSORIES UPON REQUEST**

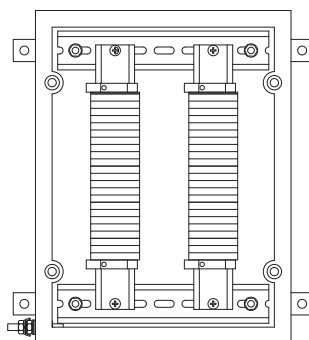
| ILLUSTRATION                                                                      | DESCRIPTION                                 | MODEL                                     | SIZE                      |     | CODE            |
|-----------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------|---------------------------|-----|-----------------|
|                                                                                   |                                             |                                           | A                         | B   |                 |
|  | Internal mounting plates<br>Stainless steel | CTBEW121208                               | 60                        | 60  | <b>B12-484</b>  |
|                                                                                   |                                             | CTBEW151509                               | 90                        | 90  | <b>B15-484</b>  |
|                                                                                   |                                             | CTBEW191910                               | 130                       | 130 | <b>B19-484</b>  |
|                                                                                   |                                             | CTBEW221513                               | 170                       | 90  | <b>B22-484</b>  |
|                                                                                   |                                             | CTBEW262610<br>CTBEW262616<br>CTBEW262620 | 200                       | 200 | <b>B26-484</b>  |
|                                                                                   |                                             | CTBEW301410                               | 245                       | 85  | <b>B303-484</b> |
|                                                                                   |                                             | CTBEW302310                               | 145                       | 175 | <b>B302-484</b> |
|                                                                                   |                                             | CTBEW303010<br>CTBEW303016<br>CTBEW303020 | 245                       | 245 | <b>B30-484</b>  |
|                                                                                   |                                             | CTBEW382610<br>CTBEW382616<br>CTBEW382620 | 320                       | 200 | <b>B38-484</b>  |
| ILLUSTRATION                                                                      | DESCRIPTION                                 | MODEL                                     | CHARACTERISTICS           |     | CODE            |
|  | Breather and drain valve                    | Thread diameter<br>ISO 7-R 3/8"           | Material: stainless steel |     | <b>ECD-210S</b> |

**INSTALLATION EXAMPLE OF INSIDE TERMINAL BLOCKS**


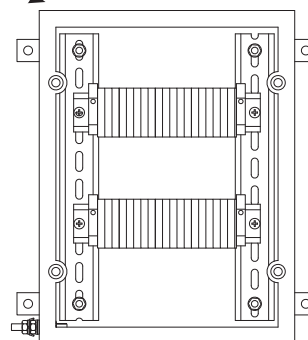
Diagonally and directly installed on internal inserts for greater amount of terminal blocks on small enclosures



Horizontally or vertically, installed on mounting plate in order to minimize oscillations of terminal block in case of external vibrations



Vertically installed on DIN guides for greater cheapness



Horizontally installed on DIN guides for greater cheapness

TEV series cable glands are suitable for use in industrial plant for the direct insertion of non-armoured cables into watertight equipment or junction box.


**Standard construction:**

Nickel-plated brass  
Sealing ring in silicone material  
Compression ring in plastic material  
ISO 7/1, NPT and isometric threads

**Degree of protection:**

IP66/67

**Standards:**

IEC 60529 / IEC 529

**Accessories upon request**

| Locknut *                                                                           | ISO thread | Nichel-plated brass | Galvanized steel | Stainless steel | Nichel-plated brass earthing rings *                                                 | Code            | Adaptors and reducers <b>RE...</b> series                                             |
|-------------------------------------------------------------------------------------|------------|---------------------|------------------|-----------------|--------------------------------------------------------------------------------------|-----------------|---------------------------------------------------------------------------------------|
|  | M75x1,5    | <b>DL7IB</b>        | <b>DL7IG</b>     | <b>DL7IS</b>    |  | <b>A7317IB</b>  |  |
|                                                                                     | M90x1,5    | <b>DL8IB</b>        | <b>DL8IG</b>     | <b>DL8IS</b>    |                                                                                      | <b>A8318IB</b>  |                                                                                       |
|                                                                                     | M100x1,5   | <b>DL10IB</b>       | <b>DL10IG</b>    | <b>DL10IS</b>   |                                                                                      | <b>A10310IB</b> |                                                                                       |

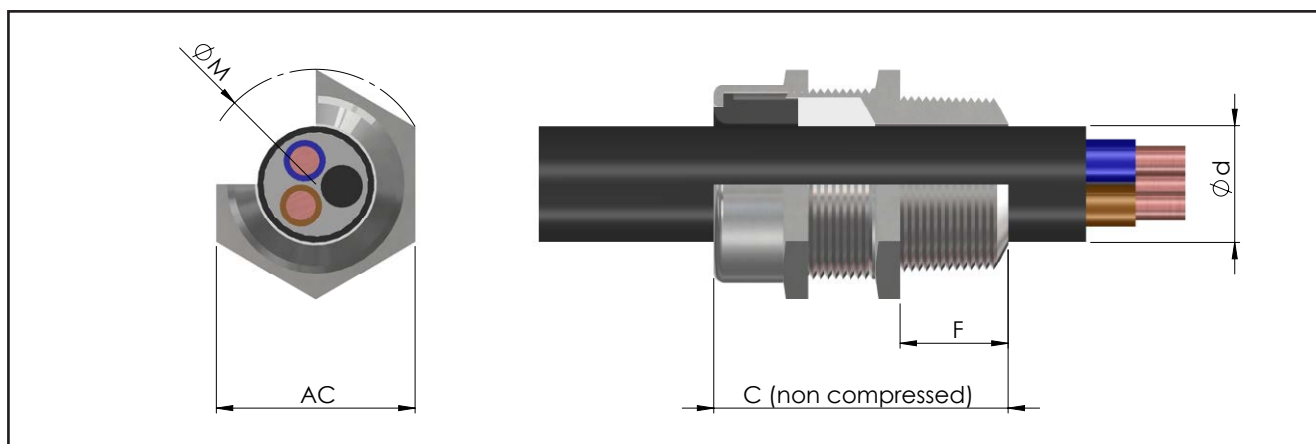
\* For different threads contact the sales office.

**Note**

Shrouds for cable glands upon request.

Idented washer in stainless steel upon request.





### CABLE GLANDS SELECTION CHART

| Code<br>Nichel-plated<br>brass | Thread      | Dimensions in mm |    |    |      | Range                      | Weight |
|--------------------------------|-------------|------------------|----|----|------|----------------------------|--------|
|                                |             | AC               | ØM | F  | C    | Ød min-max<br>Below armour | Kg     |
| TEV01B                         | 3/8" IS07/1 | 24               | 28 | 15 | 44   | 5 - 10                     | 0,062  |
| TEVL1B                         | 1/2" IS07/1 | 24               | 28 | 18 | 47   | 5 - 10                     | 0,071  |
| TEV1B                          | 1/2" IS07/1 | 24               | 28 | 18 | 47   | 7 - 12                     | 0,070  |
| TEV2B                          | 3/4" IS07/1 | 32               | 37 | 18 | 48,5 | 12 - 18                    | 0,104  |
| TEV3B                          | 1" IS07/1   | 40               | 47 | 22 | 59,5 | 18 - 24                    | 0,172  |
| TEV4B                          | 1 ¼" IS07/1 | 48               | 56 | 22 | 60   | 24 - 30                    | 0,252  |
| TEV5B                          | 1 ½" IS07/1 | 53               | 62 | 24 | 64   | 30 - 35                    | 0,316  |
| TEV6B                          | 2" IS07/1   | 63               | 73 | 24 | 64   | 35 - 45                    | 0,424  |
| TEV01NB                        | 3/8" NPT    | 24               | 28 | 16 | 45   | 5 - 10                     | 0,062  |
| TEVL1NB                        | 1/2" NPT    | 24               | 28 | 20 | 49   | 5 - 10                     | 0,071  |
| TEV1NB                         | 1/2" NPT    | 24               | 28 | 20 | 49   | 7 - 12                     | 0,070  |
| TEV2NB                         | 3/4" NPT    | 32               | 37 | 20 | 50,5 | 12 - 18                    | 0,104  |
| TEV3NB                         | 1" NPT      | 40               | 47 | 26 | 63,5 | 18 - 24                    | 0,172  |
| TEV4NB                         | 1 ¼" NPT    | 48               | 56 | 26 | 64   | 24 - 30                    | 0,252  |
| TEV5NB                         | 1 ½" NPT    | 53               | 62 | 26 | 66   | 30 - 35                    | 0,316  |
| TEV6NB                         | 2" NPT      | 63               | 73 | 27 | 67   | 35 - 45                    | 0,424  |
| TEV01IB                        | M16x1,5     | 24               | 28 | 16 | 45   | 5 - 10                     | 0,062  |
| TEVL1IB                        | M20x1,5     | 24               | 28 | 16 | 45   | 5 - 10                     | 0,071  |
| TEV1IB                         | M20x1,5     | 24               | 28 | 16 | 45   | 7 - 12                     | 0,070  |
| TEV2IB                         | M25x1,5     | 32               | 37 | 16 | 46,5 | 12 - 18                    | 0,104  |
| TEV3IB                         | M32x1,5     | 40               | 47 | 16 | 53,5 | 18 - 24                    | 0,172  |
| TEV4IB                         | M40x1,5     | 48               | 56 | 16 | 54   | 24 - 30                    | 0,252  |
| TEV5IB                         | M50x1,5     | 53               | 62 | 16 | 56   | 30 - 35                    | 0,316  |
| TEV6IB                         | M63x1,5     | 63/65            | 73 | 18 | 58   | 35 - 45                    | 0,424  |

### Example of order code

|            |          |          |          |
|------------|----------|----------|----------|
| <b>TEV</b> | <b>6</b> | <b>I</b> | <b>B</b> |
| MODEL      | SIZE     | THREAD   | MATERIAL |

### TECHNICAL NOTES:

- For cylindrical threads (ISO metric) it is supplied the silicone O-ring for the IP seal already assembled on cable gland
- Available also in stainless steel (sample code TEV1S)
- Available also in galvanized steel (sample code TEV1G)

TEV series cable glands are suitable for use in industrial plant for the direct insertion of non-armoured cables into watertight equipment or junction box.



**Standard construction:**

Nickel-plated brass  
Sealing ring in silicone material  
Compression ring in plastic material  
ISO 7/1, NPT and isometric threads

**Degree of protection:**

IP66/67

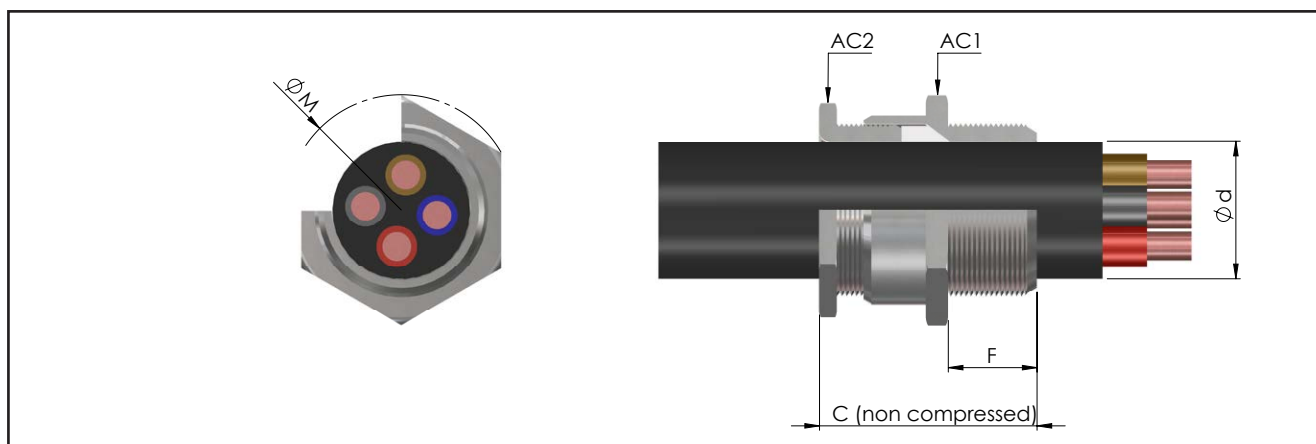
**Standards:**

IEC 60529 / IEC 529

**ACCESSORIES UPON REQUEST**

| Locknuts                                | ISO thread      | Nichel-plated brass | Galvanized steel | Stainless steel                   | Shrouds in black PVC | Code                               |
|-----------------------------------------|-----------------|---------------------|------------------|-----------------------------------|----------------------|------------------------------------|
|                                         | M16x1,5         | <b>DL01IB</b>       | <b>DL01IG</b>    | <b>DL01IS</b>                     |                      | <b>PGA1F</b>                       |
|                                         | M20x1,5         | <b>DL1IB</b>        | <b>DL1IG</b>     | <b>DL1IS</b>                      |                      | <b>PGA1F</b>                       |
|                                         | M25x1,5         | <b>DL2IB</b>        | <b>DL2IG</b>     | <b>DL2IS</b>                      |                      | <b>PGA2R</b>                       |
|                                         | M32x1,5         | <b>DL3IB</b>        | <b>DL3IG</b>     | <b>DL3IS</b>                      |                      | <b>PGA3</b>                        |
|                                         | M40x1,5         | <b>DL4IB</b>        | <b>DL4IG</b>     | <b>DL4IS</b>                      |                      | <b>PGA4</b>                        |
|                                         | M50x1,5         | <b>DL5IB</b>        | <b>DL5IG</b>     | <b>DL5IS</b>                      |                      | <b>PGA5</b>                        |
|                                         | M63x1,5         | <b>DL6IB</b>        | <b>DL6IG</b>     | <b>DL6IS</b>                      |                      | <b>PGA6R</b>                       |
| Earthing rings in nichel-plated brass * | For ISO threads | Nichel-plated brass | Stainless steel  | Stainless steel idented washers * | Code                 | RE... series adaptors and reducers |
|                                         | M16x1,5         | <b>A0131IB</b>      | <b>A0131IS</b>   |                                   | <b>RD101IS/A4</b>    |                                    |
|                                         | M20x1,5         | <b>A1311IB</b>      | <b>A1311IS</b>   |                                   | <b>RD11IS/A4</b>     |                                    |
|                                         | M25x1,5         | <b>A2312IB</b>      | <b>A2312IS</b>   |                                   | <b>RD12IS/A4</b>     |                                    |
|                                         | M32x1,5         | <b>A3313IB</b>      | <b>A3313IS</b>   |                                   | <b>RD13IS/A4</b>     |                                    |
|                                         | M40x1,5         | <b>A4314IB</b>      | <b>A4314IS</b>   |                                   | <b>RD14IS/A4</b>     |                                    |
|                                         | M50x1,5         | <b>A5315IB</b>      | <b>A5315IS</b>   |                                   | <b>RD15IS/A4</b>     |                                    |
|                                         | M63x1,5         | <b>A6316IB</b>      | <b>A6316IS</b>   |                                   | <b>RD16IS/A4</b>     |                                    |

\* For different threading contact our sales office.


**CABLE GLANDS SELECTION TABLE**

| Code<br>Nichel-plated<br>brass | Thread      | Dimensions in mm |     |     |    |       | Range                      | Weight |
|--------------------------------|-------------|------------------|-----|-----|----|-------|----------------------------|--------|
|                                |             | AC1              | AC2 | ØM  | F  | C     | Ød min-max<br>Under armour | Kg     |
| TEV7B                          | 2 ½" ISO7/1 | 84               | 73  | 90  | 30 | 100   | 46 - 55                    | 1,492  |
| TEVS7B                         | 2 ½" ISO7/1 | 90               | 84  | 100 | 30 | 100   | 55 - 62                    | 1,452  |
| TEV8B                          | 3" ISO7/1   | 100              | 94  | 106 | 30 | 100   | 62 - 70                    | 1,944  |
| TEVS8B                         | 3" ISO7/1   | 105              | 98  | 110 | 30 | 100   | 70 - 78                    | 1,791  |
| TEV9B                          | 3 ½" ISO7/1 | 115              | 105 | 120 | 30 | 101   | 76 - 84                    | 2,356  |
| TEVS9B                         | 3 ½" ISO7/1 | 120              | 112 | 125 | 30 | 101   | 84 - 92                    | 2,302  |
| TEV10B                         | 4" ISO7/1   | 115              | 105 | 120 | 30 | 101,5 | 76 - 84                    | 3,010  |
| TEVS10B                        | 4" ISO7/1   | 120              | 112 | 125 | 30 | 101,5 | 84 - 92                    | 2,457  |
| TEV7NB                         | 2 ½" NPT    | 84               | 73  | 90  | 30 | 110   | 46 - 55                    | 1,492  |
| TEVS7NB                        | 2 ½" NPT    | 90               | 84  | 100 | 30 | 110   | 55 - 62                    | 1,452  |
| TEV8NB                         | 3" NPT      | 100              | 94  | 106 | 30 | 112   | 62 - 70                    | 1,944  |
| TEVS8NB                        | 3" NPT      | 105              | 98  | 110 | 30 | 112   | 70 - 78                    | 1,791  |
| TEV9NB                         | 3 ½" NPT    | 115              | 105 | 120 | 30 | 114   | 76 - 84                    | 2,356  |
| TEVS9NB                        | 3 ½" NPT    | 120              | 112 | 125 | 30 | 114   | 84 - 92                    | 2,302  |
| TEV10NB                        | 4" NPT      | 115              | 105 | 120 | 30 | 115,5 | 76 - 84                    | 3,010  |
| TEVS10NB                       | 4" NPT      | 120              | 112 | 125 | 30 | 115,5 | 84 - 92                    | 2,457  |
| TEV7IB                         | M75x1,5     | 84               | 73  | 90  | 30 | 88    | 46 - 55                    | 1,492  |
| TEVS7IB                        | M75x1,5     | 90               | 84  | 100 | 30 | 88    | 55 - 62                    | 1,452  |
| TEV8IB                         | M90x1,5     | 100              | 94  | 106 | 30 | 88    | 62 - 70                    | 1,944  |
| TEVS8IB                        | M90x1,5     | 105              | 98  | 110 | 30 | 88    | 70 - 78                    | 1,791  |
| TEV10IB                        | M100x1,5    | 115              | 105 | 120 | 30 | 89,5  | 76 - 84                    | 3,010  |
| TEVS10IB                       | M100x1,5    | 120              | 112 | 125 | 30 | 89,5  | 84 - 92                    | 2,457  |

**Example of order code**

|            |          |          |          |
|------------|----------|----------|----------|
| <b>TEV</b> | <b>7</b> | <b>I</b> | <b>B</b> |
| MODEL      | SIZE     | THREAD   | MATERIAL |

**TECHNICAL NOTES:**

- For cylindrical threads (ISO metric) it is supplied the silicone O-ring for the IP seal already assembled on cable gland
- Available also in stainless steel (sample code TEV1S)

TEVL series cable glands are suitable for use in industrial plant for the direct insertion of non-armoured cables into watertight equipment or junction box. This series can accommodate smaller cable diameters than the standard required for each measure. In this way, the use of reductions is avoid.


**Standard construction:**

Nickel-plated brass  
 Sealing ring in silicone material  
 Compression ring in plastic material  
 ISO 7/1, NPT and isometric threads

**Degree of protection:**

IP66/67

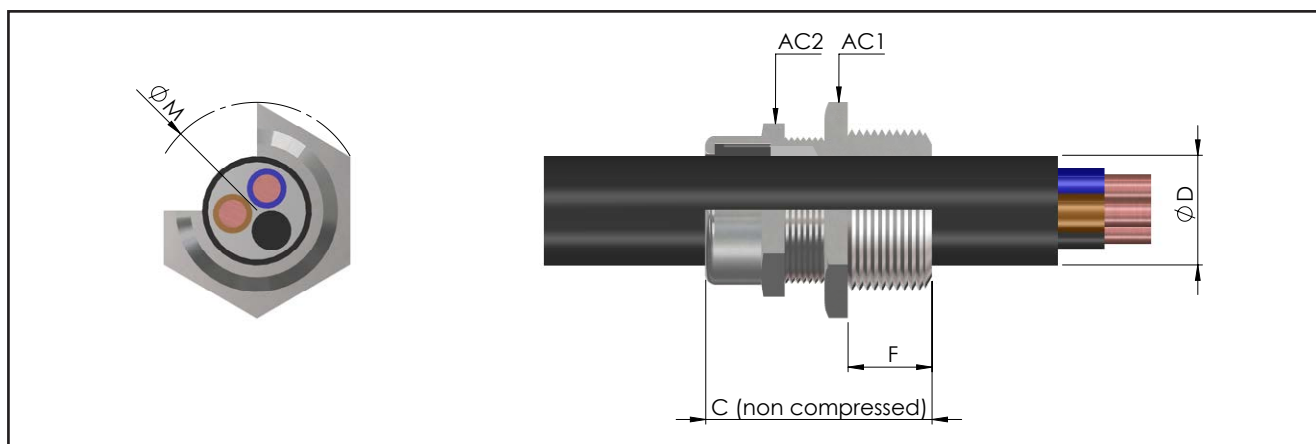
**Standards:**

IEC 60529 / IEC 529

**ACCESSORIES UPON REQUEST**

| Locknuts                                                                            | Thread ISO      | Nichel-plated brass | Galvanized steel | Stainless steel                                                                      | Shrouds in black PVC                                                                  | Code                                                                                  |
|-------------------------------------------------------------------------------------|-----------------|---------------------|------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|  | M16x1,5         | <b>DL01IB</b>       | <b>DL01IG</b>    | <b>DL01IS</b>                                                                        |  | <b>PGA1F</b>                                                                          |
|                                                                                     | M20x1,5         | <b>DL1IB</b>        | <b>DL1IG</b>     | <b>DL1IS</b>                                                                         |                                                                                       | <b>PGA1F</b>                                                                          |
|                                                                                     | M25x1,5         | <b>DL2IB</b>        | <b>DL2IG</b>     | <b>DL2IS</b>                                                                         |                                                                                       | <b>PGA2R</b>                                                                          |
|                                                                                     | M32x1,5         | <b>DL3IB</b>        | <b>DL3IG</b>     | <b>DL3IS</b>                                                                         |                                                                                       | <b>PGA3</b>                                                                           |
|                                                                                     | M40x1,5         | <b>DL4IB</b>        | <b>DL4IG</b>     | <b>DL4IS</b>                                                                         |                                                                                       | <b>PGA4</b>                                                                           |
|                                                                                     | M50x1,5         | <b>DL5IB</b>        | <b>DL5IG</b>     | <b>DL5IS</b>                                                                         |                                                                                       | <b>PGA5</b>                                                                           |
|                                                                                     | M63x1,5         | <b>DL6IB</b>        | <b>DL6IG</b>     | <b>DL6IS</b>                                                                         |                                                                                       | <b>PGA6R</b>                                                                          |
| Earthing rings in nichel-plated brass *                                             | For ISO threads | Nichel-plated brass | Stainless steel  | Stainless steel idented washers                                                      | Code                                                                                  | RE... series adaptors and reducers                                                    |
|  | M16x1,5         | <b>A0131IB</b>      | <b>A0131IS</b>   |  | <b>RD101IS/A4</b>                                                                     |  |
|                                                                                     | M20x1,5         | <b>A1311IB</b>      | <b>A1311IS</b>   |                                                                                      | <b>RD11IS/A4</b>                                                                      |                                                                                       |
|                                                                                     | M25x1,5         | <b>A2312IB</b>      | <b>A2312IS</b>   |                                                                                      | <b>RD12IS/A4</b>                                                                      |                                                                                       |
|                                                                                     | M32x1,5         | <b>A3313IB</b>      | <b>A3313IS</b>   |                                                                                      | <b>RD13IS/A4</b>                                                                      |                                                                                       |
|                                                                                     | M40x1,5         | <b>A4314IB</b>      | <b>A4314IS</b>   |                                                                                      | <b>RD14IS/A4</b>                                                                      |                                                                                       |
|                                                                                     | M50x1,5         | <b>A5315IB</b>      | <b>A5315IS</b>   |                                                                                      | <b>RD15IS/A4</b>                                                                      |                                                                                       |
|                                                                                     | M63x1,5         | <b>A6316IB</b>      | <b>A6316IS</b>   |                                                                                      | <b>RD16IS/A4</b>                                                                      |                                                                                       |

\* For different threading contact our sales office.



### CABLE GLANDS SELECTION CHART

| Code<br>Nichel-plated<br>brass | Thread        | Dimensions in mm |     |    |    |      | Range                      | Weight |
|--------------------------------|---------------|------------------|-----|----|----|------|----------------------------|--------|
|                                |               | AC1              | AC2 | ØM | F  | C    | Ød min-max<br>Below armour | Kg     |
| TEVL1B                         | 1/2" ISO7/1   | 24               | 24  | 28 | 18 | 47   | 5 - 10                     | 0,079  |
| TEVL2B                         | 3/4" ISO7/1   | 32               | 24  | 37 | 18 | 47   | 7 - 12                     | 0,116  |
| TEVL3B                         | 1" ISO7/1     | 40               | 32  | 47 | 22 | 52,5 | 12 - 18                    | 0,184  |
| TEVL4B                         | 1 1/4" ISO7/1 | 48               | 40  | 56 | 22 | 59,5 | 18 - 24                    | 0,310  |
| TEVL5B                         | 1 1/2" ISO7/1 | 53               | 48  | 62 | 24 | 62   | 24 - 30                    | 0,387  |
| TEVL6B                         | 2" ISO7/1     | 63               | 53  | 73 | 24 | 64   | 30 - 35                    | 0,420  |
| TEVL1NB                        | 1/2" NPT      | 24               | 24  | 28 | 20 | 48   | 5 - 10                     | 0,079  |
| TEVL2NB                        | 3/4" NPT      | 32               | 24  | 37 | 20 | 49   | 7 - 12                     | 0,116  |
| TEVL3NB                        | 1" NPT        | 40               | 32  | 47 | 26 | 56,5 | 12 - 18                    | 0,184  |
| TEVL4NB                        | 1 1/4" NPT    | 48               | 40  | 56 | 26 | 63,5 | 18 - 24                    | 0,310  |
| TEVL5NB                        | 1 1/2" NPT    | 53               | 48  | 62 | 26 | 64   | 24 - 30                    | 0,387  |
| TEVL6NB                        | 2" NPT        | 63               | 53  | 73 | 27 | 67   | 30 - 35                    | 0,420  |
| TEVL1IB                        | M20x1,5       | 24               | 24  | 28 | 16 | 45   | 5 - 10                     | 0,079  |
| TEVL2IB                        | M25x1,5       | 32               | 24  | 37 | 16 | 45   | 7 - 12                     | 0,116  |
| TEVL3IB                        | M32x1,5       | 40               | 32  | 47 | 16 | 46,5 | 12 - 18                    | 0,184  |
| TEVL4IB                        | M40x1,5       | 48               | 40  | 56 | 16 | 53,5 | 18 - 24                    | 0,310  |
| TEVL5IB                        | M50x1,5       | 53               | 48  | 62 | 16 | 54   | 24 - 30                    | 0,387  |
| TEVL6IB                        | M63x1,5       | 63/65            | 53  | 73 | 18 | 58   | 30 - 35                    | 0,420  |

#### Example of order code

|             |          |          |          |
|-------------|----------|----------|----------|
| <b>TEVL</b> | <b>6</b> | <b>I</b> | <b>B</b> |
| MODEL       | SIZE     | THREAD   | MATERIAL |

#### TECHNICAL NOTES:

- For cylindrical threads (ISO metric) it is supplied the silicone O-ring for the IP seal already assembled on cable gland
- Available also in stainless steel (sample code REVL1S)
- Available also in galvanized steel (sample code REVL1G)



TEVD series cable glands are suitable for use in industrial plant for the direct insertion of armoured cables into watertight equipment or junction box.


**Standard construction:**

Nickel-plated brass  
 Sealing ring in silicone material  
 Compression ring in plastic material  
 ISO 7/1, NPT and isometric threads

**Degree of protection:**

IP66/67

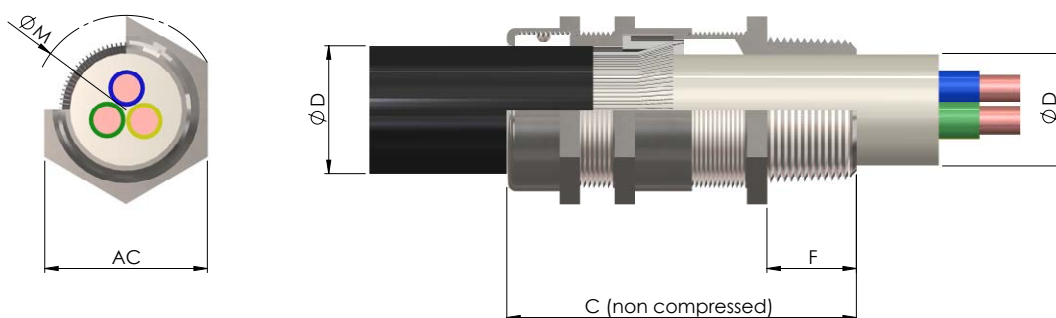
**Standards:**

IEC 60529 / IEC 529


**ACCESSORIES UPON REQUEST**

| Locknuts                                                                            | Thread ISO      | Nichel-plated brass | Galvanized steel | Stainless steel                                                                      | Shrouds in black PVC                                                                  | Code                                                                                  |
|-------------------------------------------------------------------------------------|-----------------|---------------------|------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|  | M16x1,5         | <b>DL01IB</b>       | <b>DL01IG</b>    | <b>DL01IS</b>                                                                        |  | <b>PGA1F</b>                                                                          |
|                                                                                     | M20x1,5         | <b>DL1IB</b>        | <b>DL1IG</b>     | <b>DL1IS</b>                                                                         |                                                                                       | <b>PGA1F</b>                                                                          |
|                                                                                     | M25x1,5         | <b>DL2IB</b>        | <b>DL2IG</b>     | <b>DL2IS</b>                                                                         |                                                                                       | <b>PGA2R</b>                                                                          |
|                                                                                     | M32x1,5         | <b>DL3IB</b>        | <b>DL3IG</b>     | <b>DL3IS</b>                                                                         |                                                                                       | <b>PGA3</b>                                                                           |
|                                                                                     | M40x1,5         | <b>DL4IB</b>        | <b>DL4IG</b>     | <b>DL4IS</b>                                                                         |                                                                                       | <b>PGA4</b>                                                                           |
|                                                                                     | M50x1,5         | <b>DL5IB</b>        | <b>DL5IG</b>     | <b>DL5IS</b>                                                                         |                                                                                       | <b>PGA5</b>                                                                           |
|                                                                                     | M63x1,5         | <b>DL6IB</b>        | <b>DL6IG</b>     | <b>DL6IS</b>                                                                         |                                                                                       | <b>PGA6R</b>                                                                          |
| Earthing rings in nichel-plated brass *                                             | For ISO threads | Nichel-plated brass | Stainless steel  | Stainless steel idented washers                                                      | Code                                                                                  | RE... series adaptors and reducers                                                    |
|  | M16x1,5         | <b>A0131IB</b>      | <b>A0131IS</b>   |  | <b>RD101IS/A4</b>                                                                     |  |
|                                                                                     | M20x1,5         | <b>A1311IB</b>      | <b>A1311IS</b>   |                                                                                      | <b>RD11IS/A4</b>                                                                      |                                                                                       |
|                                                                                     | M25x1,5         | <b>A2312IB</b>      | <b>A2312IS</b>   |                                                                                      | <b>RD12IS/A4</b>                                                                      |                                                                                       |
|                                                                                     | M32x1,5         | <b>A3313IB</b>      | <b>A3313IS</b>   |                                                                                      | <b>RD13IS/A4</b>                                                                      |                                                                                       |
|                                                                                     | M40x1,5         | <b>A4314IB</b>      | <b>A4314IS</b>   |                                                                                      | <b>RD14IS/A4</b>                                                                      |                                                                                       |
|                                                                                     | M50x1,5         | <b>A5315IB</b>      | <b>A5315IS</b>   |                                                                                      | <b>RD15IS/A4</b>                                                                      |                                                                                       |
|                                                                                     | M63x1,5         | <b>A6316IB</b>      | <b>A6316IS</b>   |                                                                                      | <b>RD16IS/A4</b>                                                                      |                                                                                       |

\* For different threading contact our sales office.



## CABLE GLANDS SELECTION CHART

| Code<br>Nichel-plated brass | Thread        | Dimensions in mm |    |    |      | Range                      |                                        | Thickness armour standard | Thickness armour on request | Weight Kg |
|-----------------------------|---------------|------------------|----|----|------|----------------------------|----------------------------------------|---------------------------|-----------------------------|-----------|
|                             |               | AC               | ØM | F  | C    | Ød min-max<br>Below armour | ØD min-max<br>External sheath of cable |                           |                             |           |
| TEVD01B                     | 3/8" ISO7/1   | 24               | 28 | 15 | 69   | 5 - 10                     | 8 - 15                                 | 0.2 - 0.8                 | 0.8 - 1.2                   | 0,100     |
| TEVDL1B                     | 1/2" ISO7/1   | 24               | 28 | 18 | 72   | 5 - 10                     | 8 - 15                                 | 0.2 - 0.8                 | 0.8 - 1.2                   | 0,110     |
| TEVD1B                      | 1/2" ISO7/1   | 24               | 28 | 18 | 72   | 7 - 12                     | 11 - 16                                | 0.2 - 0.7                 | 0.7 - 1.2                   | 0,110     |
| TEVD2B                      | 3/4" ISO7/1   | 32               | 37 | 18 | 73,5 | 12 - 18                    | 16 - 24                                | 0.2 - 0.8                 | 0.8 - 1.6                   | 0,166     |
| TEVD3B                      | 1" ISO7/1     | 40               | 47 | 22 | 86,5 | 18 - 24                    | 24 - 31                                | 0.2 - 0.9                 | 0.9 - 1.6                   | 0,264     |
| TEVD4B                      | 1 1/4" ISO7/1 | 48               | 56 | 22 | 89   | 24 - 30                    | 31 - 37                                | 0.2 - 1.2                 | 1.2 - 2.0                   | 0,406     |
| TEVD5B                      | 1 1/2" ISO7/1 | 53               | 62 | 24 | 94   | 30 - 35                    | 37 - 43                                | 0.2 - 1.3                 | 1.3 - 2.5                   | 0,484     |
| TEVD6B                      | 2" ISO7/1     | 63               | 73 | 24 | 94   | 35 - 45                    | 43 - 53                                | 0.2 - 1.4                 | 1.4 - 2.5                   | 0,632     |
| TEVD01NB                    | 3/8" NPT      | 24               | 28 | 16 | 70   | 5 - 10                     | 8 - 15                                 | 0.2 - 0.8                 | 0.8 - 1.2                   | 0,100     |
| TEVDL1NB                    | 1/2" NPT      | 24               | 28 | 20 | 74   | 5 - 10                     | 8 - 15                                 | 0.2 - 0.8                 | 0.8 - 1.2                   | 0,110     |
| TEVD1NB                     | 1/2" NPT      | 24               | 28 | 20 | 74   | 7 - 12                     | 11 - 16                                | 0.2 - 0.7                 | 0.7 - 1.2                   | 0,110     |
| TEVD2NB                     | 3/4" NPT      | 32               | 37 | 20 | 75,5 | 12 - 18                    | 16 - 24                                | 0.2 - 0.8                 | 0.8 - 1.6                   | 0,166     |
| TEVD3NB                     | 1" NPT        | 40               | 47 | 26 | 90,5 | 18 - 24                    | 24 - 31                                | 0.2 - 0.9                 | 0.9 - 1.6                   | 0,264     |
| TEVD4NB                     | 1 1/4" NPT    | 48               | 56 | 26 | 93   | 24 - 30                    | 31 - 37                                | 0.2 - 1.2                 | 1.2 - 2.0                   | 0,406     |
| TEVD5NB                     | 1 1/2" NPT    | 53               | 62 | 26 | 96   | 30 - 35                    | 37 - 43                                | 0.2 - 1.3                 | 1.3 - 2.5                   | 0,484     |
| TEVD6NB                     | 2" NPT        | 63               | 73 | 27 | 97   | 35 - 45                    | 43 - 53                                | 0.2 - 1.4                 | 1.4 - 2.5                   | 0,632     |
| TEVD01IB                    | M16x1,5       | 24               | 28 | 16 | 70   | 5 - 10                     | 8 - 15                                 | 0.2 - 0.8                 | 0.8 - 1.2                   | 0,100     |
| TEVDL1IB                    | M20x1,5       | 24               | 28 | 16 | 70   | 5 - 10                     | 8 - 15                                 | 0.2 - 0.8                 | 0.8 - 1.2                   | 0,100     |
| TEVD1IB                     | M20x1,5       | 24               | 28 | 16 | 70   | 7 - 12                     | 11 - 16                                | 0.2 - 0.7                 | 0.7 - 1.2                   | 0,110     |
| TEVD2IB                     | M25x1,5       | 32               | 37 | 16 | 71,5 | 12 - 18                    | 16 - 24                                | 0.2 - 0.8                 | 0.8 - 1.6                   | 0,166     |
| TEVD3IB                     | M32x1,5       | 40               | 47 | 16 | 80,5 | 18 - 24                    | 24 - 31                                | 0.2 - 0.9                 | 0.9 - 1.6                   | 0,264     |
| TEVD4IB                     | M40x1,5       | 48               | 56 | 16 | 83   | 24 - 30                    | 31 - 37                                | 0.2 - 1.2                 | 1.2 - 2.0                   | 0,406     |
| TEVD5IB                     | M50x1,5       | 53               | 62 | 16 | 86   | 30 - 35                    | 37 - 43                                | 0.2 - 1.3                 | 1.3 - 2.5                   | 0,484     |
| TEVD6IB                     | M63x1,5       | 63/65            | 73 | 18 | 88   | 35 - 45                    | 43 - 53                                | 0.2 - 1.4                 | 1.4 - 2.5                   | 0,632     |

### Example of order code

|             |          |          |          |
|-------------|----------|----------|----------|
| <b>TEVD</b> | <b>6</b> | <b>I</b> | <b>B</b> |
| MODEL       | SIZE     | THREAD   | MATERIAL |

### TECHNICAL NOTES:

- For cylindrical threads (ISO metric) it is supplied the silicone O-ring for the IP seal already assembled on cable gland
- Available also in stainless steel (sample code TEVD1S)
- Available also in galvanized steel (sample code TEVD1G)
- On request, inside compression ring for thickness armour

TEVDL series cable glands are suitable for use in industrial plant for the direct insertion of non-armoured cables into watertight equipment or junction box. This series can accommodate smaller cable diameters than the standard required for each measure. In this way, the use of reductions is avoid.


**Standard construction:**

Nickel-plated brass  
 Sealing ring in silicone material  
 Compression ring in plastic material  
 ISO 7/1, NPT and isometric threads

**Degree of protection:**

IP66/67

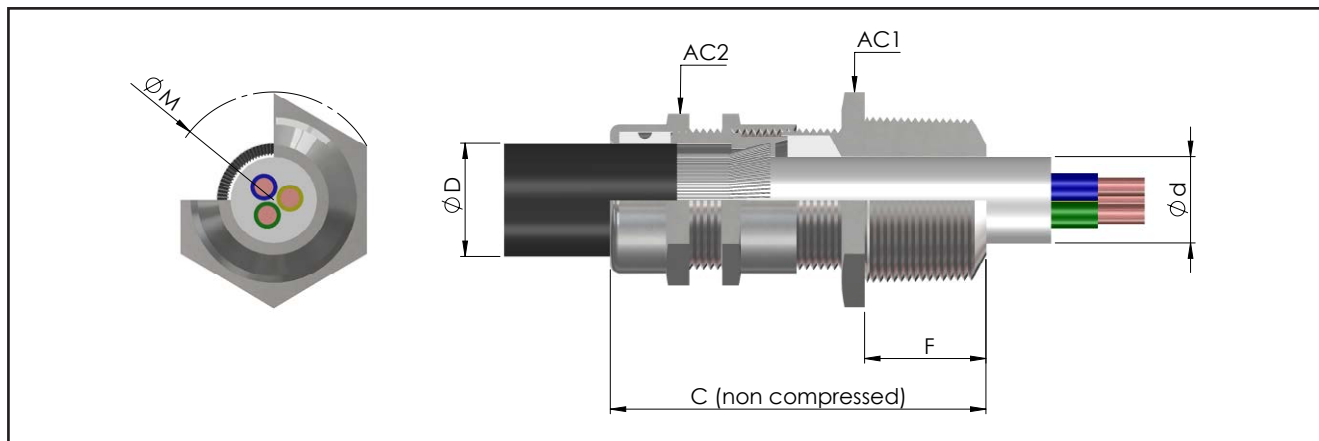
**Standards:**

IEC 60529 / IEC 529


**ACCESSORIES UPON REQUEST**

| Locknuts                                                                            | ISO thread      | Nichel-plated brass | Galvanized steel | Stainless steel                                                                      | Shrouds in black PVC                                                                  | Code                                                                                  |
|-------------------------------------------------------------------------------------|-----------------|---------------------|------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|  | M16x1,5         | <b>DL01IB</b>       | <b>DL01IG</b>    | <b>DL01IS</b>                                                                        |  | <b>PGA1F</b>                                                                          |
|                                                                                     | M20x1,5         | <b>DL1IB</b>        | <b>DL1IG</b>     | <b>DL1IS</b>                                                                         |                                                                                       | <b>PGA1F</b>                                                                          |
|                                                                                     | M25x1,5         | <b>DL2IB</b>        | <b>DL2IG</b>     | <b>DL2IS</b>                                                                         |                                                                                       | <b>PGA2R</b>                                                                          |
|                                                                                     | M32x1,5         | <b>DL3IB</b>        | <b>DL3IG</b>     | <b>DL3IS</b>                                                                         |                                                                                       | <b>PGA3</b>                                                                           |
|                                                                                     | M40x1,5         | <b>DL4IB</b>        | <b>DL4IG</b>     | <b>DL4IS</b>                                                                         |                                                                                       | <b>PGA4</b>                                                                           |
|                                                                                     | M50x1,5         | <b>DL5IB</b>        | <b>DL5IG</b>     | <b>DL5IS</b>                                                                         |                                                                                       | <b>PGA5</b>                                                                           |
|                                                                                     | M63x1,5         | <b>DL6IB</b>        | <b>DL6IG</b>     | <b>DL6IS</b>                                                                         |                                                                                       | <b>PGA6R</b>                                                                          |
| Earthing rings in nichel-plated brass *                                             | For ISO threads | Nichel-plated brass | Stainless steel  | Stainless steel idented washers                                                      | Code                                                                                  | RE... series adaptors and reducers                                                    |
|  | M16x1,5         | <b>A0131IB</b>      | <b>A0131IS</b>   |  | <b>RD101IS/A4</b>                                                                     |  |
|                                                                                     | M20x1,5         | <b>A1311IB</b>      | <b>A1311IS</b>   |                                                                                      | <b>RD11IS/A4</b>                                                                      |                                                                                       |
|                                                                                     | M25x1,5         | <b>A2312IB</b>      | <b>A2312IS</b>   |                                                                                      | <b>RD12IS/A4</b>                                                                      |                                                                                       |
|                                                                                     | M32x1,5         | <b>A3313IB</b>      | <b>A3313IS</b>   |                                                                                      | <b>RD13IS/A4</b>                                                                      |                                                                                       |
|                                                                                     | M40x1,5         | <b>A4314IB</b>      | <b>A4314IS</b>   |                                                                                      | <b>RD14IS/A4</b>                                                                      |                                                                                       |
|                                                                                     | M50x1,5         | <b>A5315IB</b>      | <b>A5315IS</b>   |                                                                                      | <b>RD15IS/A4</b>                                                                      |                                                                                       |
|                                                                                     | M63x1,5         | <b>A6316IB</b>      | <b>A6316IS</b>   |                                                                                      | <b>RD16IS/A4</b>                                                                      |                                                                                       |

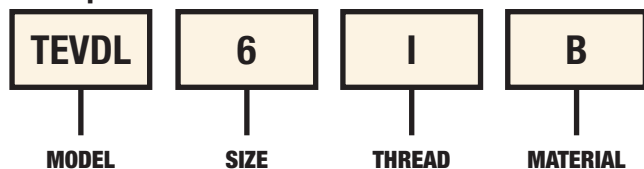
\* For different threading contact our sales office.



### CABLE GLANDS SELECTION CHART

| Code<br>Nichel-<br>plated<br>brass | Thread        | Dimensions in mm |     |    |    |      | Range                      |                                       | Thickness<br>armour<br>standard | Thickness<br>armour on<br>request<br>on request | Weight<br>Kg |
|------------------------------------|---------------|------------------|-----|----|----|------|----------------------------|---------------------------------------|---------------------------------|-------------------------------------------------|--------------|
|                                    |               | AC1              | AC2 | ØM | F  | C    | Ød min-max<br>Below armour | ØD min-max<br>External sheat of cable |                                 |                                                 |              |
| TEVDL1B                            | 1/2" ISO7/1   | 24               | 24  | 28 | 18 | 72   | 5 - 10                     | 8 - 15                                | 0.2 - 0.8                       | 0.8 - 1.2                                       | 0,110        |
| TEVDL2B                            | 3/4" ISO7/1   | 32               | 24  | 37 | 18 | 72   | 7 - 12                     | 11 - 16                               | 0.2 - 0.7                       | 0.7 - 1.2                                       | 0,166        |
| TEVDL3B                            | 1" ISO7/1     | 40               | 32  | 47 | 22 | 77,5 | 12 - 18                    | 16 - 24                               | 0.2 - 0.8                       | 0.8 - 1.6                                       | 0,264        |
| TEVDL4B                            | 1 1/4" ISO7/1 | 48               | 40  | 56 | 22 | 86,5 | 18 - 24                    | 24 - 31                               | 0.2 - 0.9                       | 0.9 - 1.6                                       | 0,406        |
| TEVDL5B                            | 1 1/2" ISO7/1 | 53               | 48  | 62 | 24 | 91   | 24 - 30                    | 31 - 37                               | 0.2 - 1.2                       | 1.2 - 2.0                                       | 0,484        |
| TEVDL6B                            | 2" ISO7/1     | 63               | 53  | 73 | 24 | 94   | 30 - 35                    | 37 - 43                               | 0.2 - 1.3                       | 1.3 - 2.5                                       | 0,632        |
| TEVDL1NB                           | 1/2" NPT      | 24               | 24  | 28 | 20 | 74   | 5 - 10                     | 8 - 15                                | 0.2 - 0.8                       | 0.8 - 1.2                                       | 0,110        |
| TEVDL2NB                           | 3/4" NPT      | 32               | 24  | 37 | 20 | 74   | 7 - 12                     | 11 - 16                               | 0.2 - 0.7                       | 0.7 - 1.2                                       | 0,166        |
| TEVDL3NB                           | 1" NPT        | 40               | 32  | 47 | 26 | 81,5 | 12 - 18                    | 16 - 24                               | 0.2 - 0.8                       | 0.8 - 1.6                                       | 0,264        |
| TEVDL4NB                           | 1 1/4" NPT    | 48               | 40  | 56 | 26 | 90,5 | 18 - 24                    | 24 - 31                               | 0.2 - 0.9                       | 0.9 - 1.6                                       | 0,406        |
| TEVDL5NB                           | 1 1/2" NPT    | 53               | 48  | 62 | 26 | 93   | 24 - 30                    | 31 - 37                               | 0.2 - 1.2                       | 1.2 - 2.0                                       | 0,484        |
| TEVDL6NB                           | 2" NPT        | 63               | 53  | 73 | 27 | 97   | 30 - 35                    | 37 - 43                               | 0.2 - 1.3                       | 1.3 - 2.5                                       | 0,632        |
| TEVDL1IB                           | M20x1,5       | 24               | 24  | 28 | 16 | 70   | 5 - 10                     | 8 - 15                                | 0.2 - 0.8                       | 0.8 - 1.2                                       | 0,110        |
| TEVDL2IB                           | M25x1,5       | 32               | 24  | 37 | 16 | 70   | 7 - 12                     | 11 - 16                               | 0.2 - 0.7                       | 0.7 - 1.2                                       | 0,166        |
| TEVDL3IB                           | M32x1,5       | 40               | 32  | 47 | 16 | 71,5 | 12 - 18                    | 16 - 24                               | 0.2 - 0.8                       | 0.8 - 1.6                                       | 0,264        |
| TEVDL4IB                           | M40x1,5       | 48               | 40  | 56 | 16 | 80,5 | 18 - 24                    | 24 - 31                               | 0.2 - 0.9                       | 0.9 - 1.6                                       | 0,406        |
| TEVDL5IB                           | M50x1,5       | 53               | 48  | 62 | 16 | 83   | 24 - 30                    | 31 - 37                               | 0.2 - 1.2                       | 1.2 - 2.0                                       | 0,484        |
| TEVDL6IB                           | M63x1,5       | 63/65            | 73  | 73 | 18 | 88   | 30 - 35                    | 37 - 43                               | 0.2 - 1.3                       | 1.3 - 2.5                                       | 0,632        |

### Example of order code



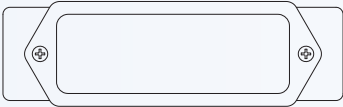
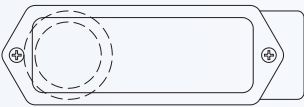
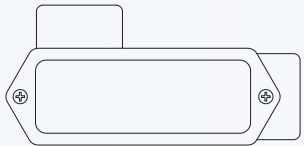
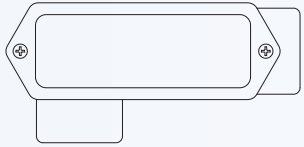
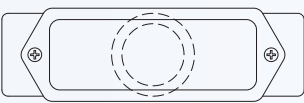
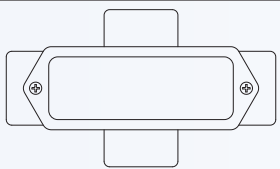
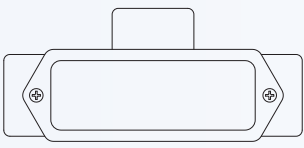
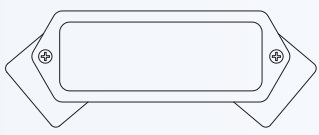
### TECHNICAL NOTES:

- For cylindrical threads (ISO metric) it is supplied the silicone O-ring for the IP seal already assembled on cable gland
- Available also in stainless steel (sample code TEVDL1S)
- Available also in galvanized steel (sample code TEVDL1G)
- Inside gasket for cables with increased armour

Condulet are used as pulling or junction boxes in areas where is no danger of explosion, but it is required a specific protection to prevent the entry of solids and liquids. They are aluminium made and can be installed in chemical and off-shore plants and where is a strong external agents aggression.

|                        |                                                                                            |
|------------------------|--------------------------------------------------------------------------------------------|
| Standard construction: | Body and cover in aluminium alloy<br>Galvanized steel bolts and screws<br>Elastomer gasket |
| Degree of protection   | IP 65                                                                                      |
| Standards:             | IEC 60529                                                                                  |
| On request:            | Other threads<br>Coating<br>Stainless steel screws                                         |



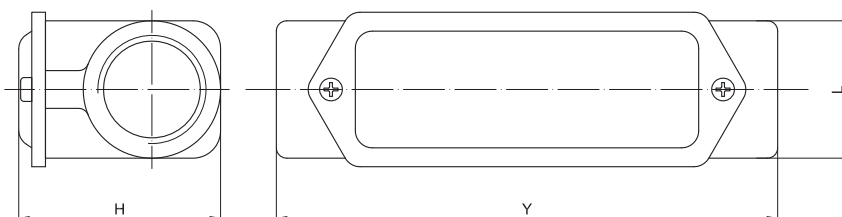
| Box type                                                                            | Code      | Description                                                                                               |
|-------------------------------------------------------------------------------------|-----------|-----------------------------------------------------------------------------------------------------------|
|    | <b>C</b>  | Enclosure with two coaxial hubs                                                                           |
|   | <b>LB</b> | Enclosure with two hubs arranged at 90°<br>(One hub arranged on the bottom of the enclosure)              |
|  | <b>LL</b> | Enclosure with two hubs arranged at 90°<br>(One hub arranged on the bottom left side)                     |
|  | <b>LR</b> | Enclosure with two hubs arranged at 90°<br>(One hub arranged on the right side)                           |
|  | <b>TB</b> | Enclosure with three hubs, two coaxial and one at 90°<br>arranged on the middle of the enclosure's bottom |
|  | <b>X</b>  | Enclosure with four cross hubs                                                                            |
|  | <b>T</b>  | Enclosure with three hubs, two coaxial and one at 90°<br>arranged on the side                             |
|  | <b>LU</b> | Enclosure with two 45° hubs with respect to the axis                                                      |





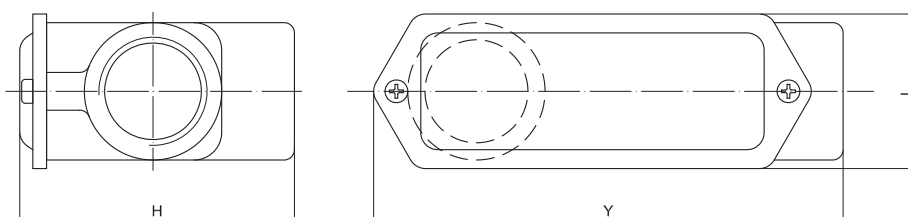
### PULLING BOXES SELECTION CHART

| Box type | Thread          | Dimensions in mm |     |     | Weight Kg |
|----------|-----------------|------------------|-----|-----|-----------|
|          |                 | Y                | L   | H   |           |
| C17      | 1/2" ISO228/1   | 118              | 51  | 42  | 0,168     |
| C27      | 3/4" ISO228/1   | 123              | 40  | 48  | 0,151     |
| C37      | 1" ISO228/1     | 146              | 45  | 57  | 0,234     |
| C47      | 1 1/4" ISO228/1 | 171              | 62  | 71  | 0,417     |
| C57      | 1 1/2" ISO228/1 | 171              | 62  | 71  | 0,372     |
| C67      | 2" ISO228/1     | 204              | 76  | 83  | 0,514     |
| C77      | 2 1/2" ISO228/1 | 315              | 108 | 125 | 1,779     |
| C87      | 3" ISO228/1     | 315              | 108 | 125 | 1,779     |
| C107     | 4" ISO228/1     | 314              | 133 | 148 | 2,606     |
| C171I    | M20x1,5         | 118              | 51  | 42  | 0,157     |
| C272I    | M25x1,5         | 118              | 51  | 42  | 0,146     |
| C373I    | M32x1,5         | 146              | 45  | 57  | 0,234     |
| C474I    | M40x1,5         | 171              | 62  | 71  | 0,417     |
| C675I    | M50x1,5         | 204              | 76  | 83  | 0,514     |
| C676I    | M63x1,5         | 204              | 76  | 83  | 0,514     |



### PULLING BOXES SELECTION CHART

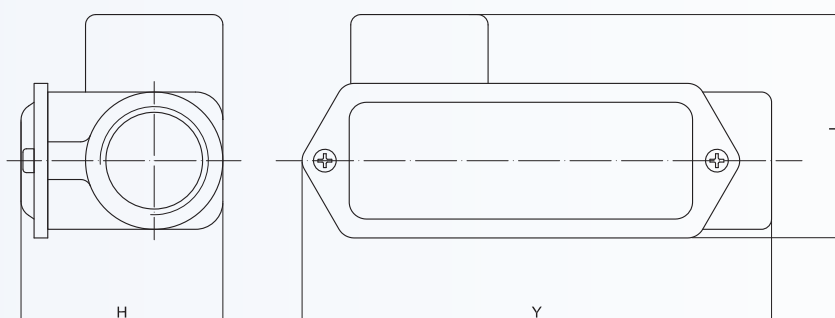
| Box type | Thread          | Dimensions in mm |     |     | Weight Kg |
|----------|-----------------|------------------|-----|-----|-----------|
|          |                 | Y                | L   | H   |           |
| LB17     | 1/2" ISO228/1   | 117              | 40  | 65  | 0,172     |
| LB27     | 3/4" ISO228/1   | 117              | 40  | 65  | 0,159     |
| LB37     | 1" ISO228/1     | 137              | 45  | 78  | 0,236     |
| LB47     | 1 1/4" ISO228/1 | 163              | 62  | 89  | 0,427     |
| LB57     | 1 1/2" ISO228/1 | 163              | 62  | 89  | 0,387     |
| LB67     | 2" ISO228/1     | 190              | 76  | 108 | 0,541     |
| LB77     | 2 1/2" ISO228/1 | 238              | 107 | 150 | 2,121     |
| LB87     | 3" ISO228/1     | 238              | 107 | 150 | 1,785     |
| LB107    | 4" ISO228/1     | 300              | 133 | 185 | 2,658     |





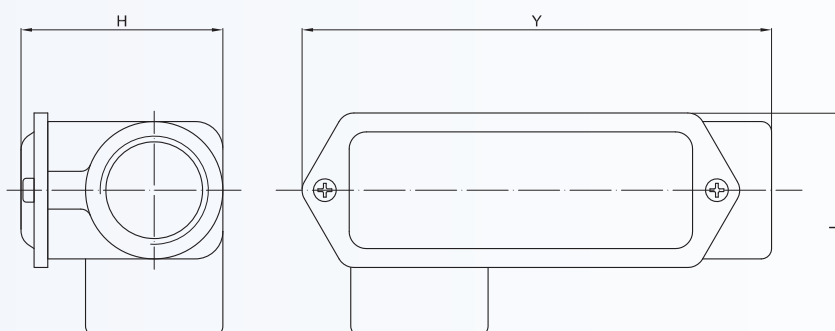
### PULLING BOXES SELECTION CHART

| Box type | Thread          | Dimensions in mm |     |     | Weight Kg |
|----------|-----------------|------------------|-----|-----|-----------|
|          |                 | Y                | L   | H   |           |
| LL17     | 1/2" ISO228/1   | 117              | 51  | 48  | 0,171     |
| LL27     | 3/4" ISO228/1   | 117              | 51  | 48  | 0,150     |
| LL37     | 1" ISO228/1     | 137              | 61  | 57  | 0,238     |
| LL47     | 1 1/4" ISO228/1 | 163              | 76  | 71  | 0,414     |
| LL57     | 1 1/2" ISO228/1 | 163              | 76  | 71  | 0,381     |
| LL67     | 2" ISO228/1     | 190              | 94  | 83  | 0,522     |
| LL77     | 2 1/2" ISO228/1 | 238              | 138 | 122 | 2,084     |
| LL87     | 3" ISO228/1     | 238              | 138 | 122 | 1,748     |
| LL107    | 4" ISO228/1     | 300              | 162 | 148 | 2,666     |



### PULLING BOXES SELECTION CHART

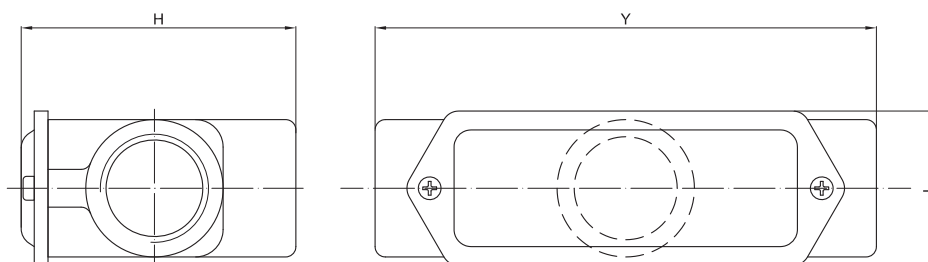
| Box type | Thread          | Dimensions in mm |     |     | Weight Kg |
|----------|-----------------|------------------|-----|-----|-----------|
|          |                 | Y                | L   | H   |           |
| LR17     | 1/2" ISO228/1   | 117              | 51  | 48  | 0,171     |
| LR27     | 3/4" ISO228/1   | 117              | 51  | 48  | 0,150     |
| LR37     | 1" ISO228/1     | 137              | 61  | 57  | 0,238     |
| LR47     | 1 1/4" ISO228/1 | 163              | 76  | 71  | 0,414     |
| LR57     | 1 1/2" ISO228/1 | 163              | 76  | 71  | 0,381     |
| LR67     | 2" ISO228/1     | 190              | 94  | 83  | 0,522     |
| LR77     | 2 1/2" ISO228/1 | 238              | 138 | 122 | 2,084     |
| LR87     | 3" ISO228/1     | 238              | 138 | 122 | 1,748     |
| LR107    | 4" ISO228/1     | 300              | 162 | 148 | 2,666     |





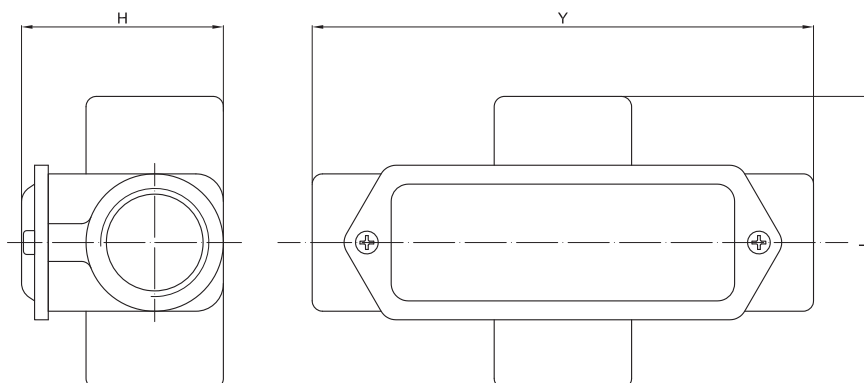
### PULLING BOXES SELECTION CHART

| Box type | Thread          | Dimensions in mm |     |     | Weight Kg |
|----------|-----------------|------------------|-----|-----|-----------|
|          |                 | Y                | L   | H   |           |
| TB17     | 1/2" ISO228/1   | 123              | 40  | 65  | 0,193     |
| TB27     | 3/4" ISO228/1   | 123              | 40  | 65  | 0,168     |
| TB37     | 1" ISO228/1     | 146              | 45  | 78  | 0,254     |
| TB47     | 1 1/4" ISO228/1 | 171              | 62  | 89  | 0,488     |
| TB57     | 1 1/2" ISO228/1 | 171              | 62  | 89  | 0,416     |
| TB67     | 2" ISO228/1     | 204              | 76  | 108 | 0,607     |
| TB77     | 2 1/2" ISO228/1 | 315              | 108 | 163 | 2,492     |
| TB87     | 3" ISO228/1     | 315              | 108 | 163 | 1,996     |
| TB107    | 4" ISO228/1     | 314              | 133 | 185 | 2,747     |



### PULLING BOXES SELECTION CHART

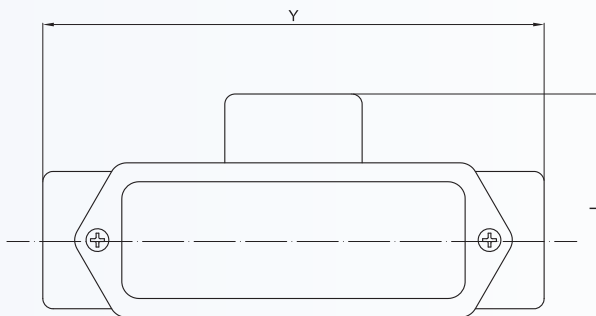
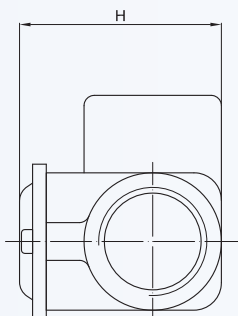
| Box type | Thread          | Dimensions in mm |     |     | Weight Kg |
|----------|-----------------|------------------|-----|-----|-----------|
|          |                 | Y                | L   | H   |           |
| X17      | 1/2" ISO228/1   | 123              | 68  | 48  | 0,217     |
| X27      | 3/4" ISO228/1   | 123              | 68  | 48  | 0,187     |
| X37      | 1" ISO228/1     | 146              | 81  | 57  | 0,289     |
| X47      | 1 1/4" ISO228/1 | 171              | 96  | 71  | 0,532     |
| X57      | 1 1/2" ISO228/1 | 171              | 96  | 71  | 0,428     |
| X67      | 2" ISO228/1     | 204              | 118 | 83  | 0,623     |
| X77      | 2 1/2" ISO228/1 | 315              | 183 | 125 | 2,394     |
| X87      | 3" ISO228/1     | 315              | 183 | 125 | 2,105     |
| X107     | 4" ISO228/1     | 315              | 196 | 148 | 2,881     |
| X171I    | M20x1,5         | 118              | 83  | 42  | 0,206     |
| X272I    | M25x1,5         | 118              | 83  | 42  | 0,195     |
| X373I    | M32x1,5         | 146              | 81  | 57  | 0,289     |
| X474I    | M40x1,5         | 171              | 96  | 71  | 0,532     |
| X675I    | M50x1,5         | 204              | 118 | 83  | 0,623     |
| X676I    | M63x1,5         | 204              | 118 | 83  | 0,623     |





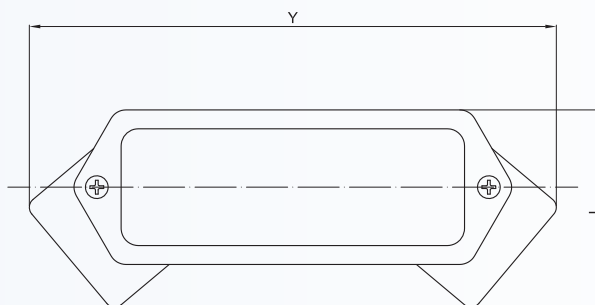
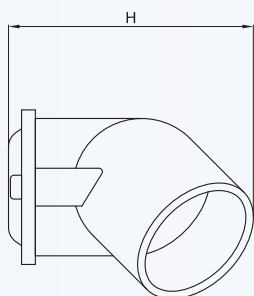
### PULLING BOXES SELECTION CHART

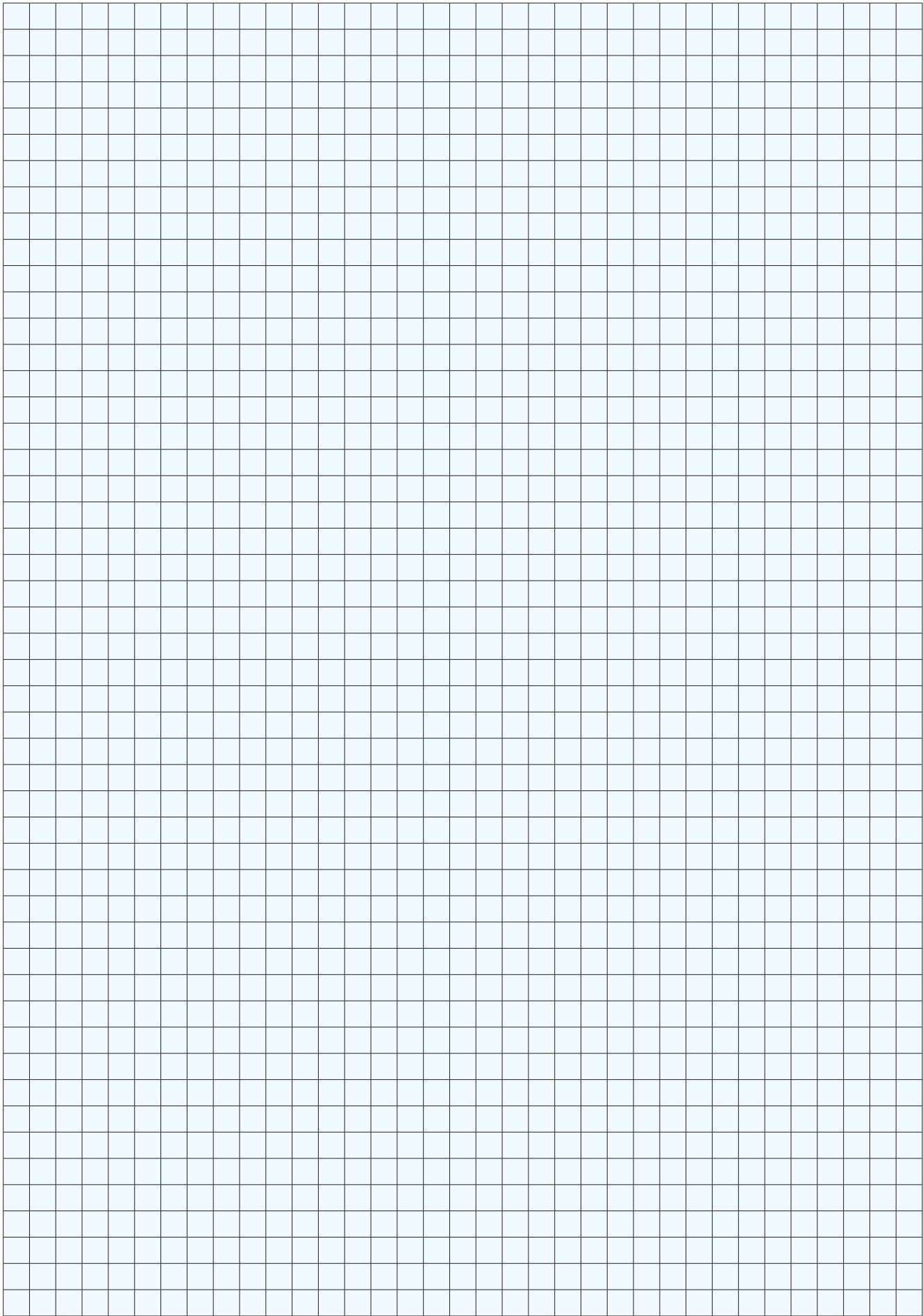
| Box type | Thread          | Dimensions in mm |     |     | Weight Kg |
|----------|-----------------|------------------|-----|-----|-----------|
|          |                 | Y                | L   | H   |           |
| T17      | 1/2" ISO228/1   | 123              | 53  | 48  | 0,191     |
| T27      | 3/4" ISO228/1   | 123              | 53  | 48  | 0,170     |
| T37      | 1" ISO228/1     | 146              | 63  | 57  | 0,264     |
| T47      | 1 1/4" ISO228/1 | 171              | 78  | 71  | 0,473     |
| T57      | 1 1/2" ISO228/1 | 171              | 78  | 71  | 0,410     |
| T67      | 2" ISO228/1     | 204              | 96  | 83  | 0,560     |
| T77      | 2 1/2" ISO228/1 | 315              | 148 | 125 | 2,457     |
| T87      | 3" ISO228/1     | 315              | 148 | 125 | 1,948     |
| T107     | 4" ISO228/1     | 315              | 166 | 148 | 2,725     |
| T171I    | M20x1,5         | 118              | 67  | 42  | 0,161     |
| T272I    | M25x1,5         | 118              | 67  | 42  | 0,150     |
| T373I    | M32x1,5         | 146              | 63  | 57  | 0,264     |
| T474I    | M40x1,5         | 171              | 78  | 71  | 0,473     |
| T675I    | M50x1,5         | 204              | 96  | 83  | 0,560     |
| T676I    | M63x1,5         | 204              | 96  | 83  | 0,560     |



### PULLING BOXES SELECTION CHART

| Box type | Thread          | Dimensions in mm |     |     | Weight Kg |
|----------|-----------------|------------------|-----|-----|-----------|
|          |                 | Y                | L   | H   |           |
| LU17     | 1/2" ISO228/1   | 130              | 64  | 44  | 0,185     |
| LU27     | 3/4" ISO228/1   | 130              | 64  | 44  | 0,167     |
| LU37     | 1" ISO228/1     | 148              | 73  | 50  | 0,217     |
| LU47     | 1 1/4" ISO228/1 | 182              | 103 | 71  | 0,523     |
| LU57     | 1 1/2" ISO228/1 | 182              | 103 | 71  | 0,456     |
| LU67     | 2" ISO228/1     | 211              | 118 | 83  | 0,639     |
| LU77     | 2 1/2" ISO228/1 | 310              | 156 | 115 | 2,498     |
| LU87     | 3" ISO228/1     | 310              | 156 | 115 | 1,961     |







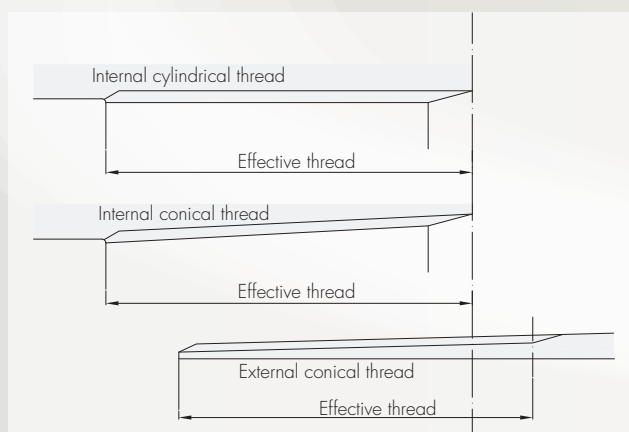
# Appendix

**TABLE OF THREAD CORRELATION**

| Hub size    | "M" and "F" thread hub diameter |                          |                        |             |             |            |
|-------------|---------------------------------|--------------------------|------------------------|-------------|-------------|------------|
|             | GAS UNI<br>ISO 7/1              | Conical<br>equivalent    | Cylindrical equivalent |             |             |            |
|             |                                 | NPT ANSI<br>ASME B1.20.1 | GAS UNI ISO<br>228/1   | NPSM        | PG DIN 4030 | ISO METRIC |
| 1/4"        | 1/4"                            | 1/4"                     | 1/4"                   | 1/4"        | PG9         | M12x1,5    |
| <b>Code</b> | <b>02</b>                       | <b>02N</b>               | <b>02C</b>             | <b>02NC</b> | <b>2P</b>   | <b>02I</b> |
| 3/8"        | 3/8"                            | 3/8"                     | 3/8"                   | 3/8"        | PG11        | M16x1,5    |
| <b>Code</b> | <b>01</b>                       | <b>01N</b>               | <b>01C</b>             | <b>01NC</b> | <b>3P</b>   | <b>01I</b> |
| 1/2"        | 1/2"                            | 1/2"                     | 1/2"                   | 1/2"        | PG13,5      | M20x1,5    |
| <b>Code</b> | <b>1</b>                        | <b>1N</b>                | <b>1C</b>              | <b>1NC</b>  | <b>4P</b>   | <b>1I</b>  |
| 3/4"        | 3/4"                            | 3/4"                     | 3/4"                   | 3/4"        | PG16        | M25x1,5    |
| <b>Code</b> | <b>2</b>                        | <b>2N</b>                | <b>2C</b>              | <b>2NC</b>  | <b>5P</b>   | <b>2I</b>  |
| 1"          | 1"                              | 1"                       | 1"                     | 1"          | PG21        | M32x1,5    |
| <b>Code</b> | <b>3</b>                        | <b>3N</b>                | <b>3C</b>              | <b>3NC</b>  | <b>6P</b>   | <b>3I</b>  |
| 1 1/4"      | 1 1/4"                          | 1 1/4"                   | 1 1/4"                 | 1 1/4"      | PG29        | M40x1,5    |
| <b>Code</b> | <b>4</b>                        | <b>4N</b>                | <b>4C</b>              | <b>4NC</b>  | <b>7P</b>   | <b>4I</b>  |
| 1 1/2"      | 1 1/2"                          | 1 1/2"                   | 1 1/2"                 | 1 1/2"      | PG36        | M50x1,5    |
| <b>Code</b> | <b>5</b>                        | <b>5N</b>                | <b>5C</b>              | <b>5NC</b>  | <b>8P</b>   | <b>5I</b>  |
| 2"          | 2"                              | 2"                       | 2"                     | 2"          | PG42        | M63x1,5    |
| <b>Code</b> | <b>6</b>                        | <b>6N</b>                | <b>6C</b>              | <b>6NC</b>  | <b>9P</b>   | <b>6I</b>  |
| 2 1/2"      | 2 1/2"                          | 2 1/2"                   | 2 1/2"                 | 2 1/2"      | PG48        | M75x1,5    |
| <b>Code</b> | <b>7</b>                        | <b>7N</b>                | <b>7C</b>              | <b>7NC</b>  | <b>10P</b>  | <b>7I</b>  |
| 3"          | 3"                              | 3"                       | 3"                     | 3"          | -           | M90x1,5    |
| <b>Code</b> | <b>8</b>                        | <b>8N</b>                | <b>8C</b>              | <b>8NC</b>  | -           | <b>8I</b>  |
| 4"          | 4"                              | 4"                       | 4"                     | 4"          | -           | M100x1,5   |
| <b>Code</b> | <b>10</b>                       | <b>10N</b>               | <b>10C</b>             | <b>10NC</b> | -           | <b>10I</b> |

**THREADS SIZE (in mm)**

| GAS UNI ISO 7/1 Thread |        |        |        |        |        |        |        |        |        |        |         |
|------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|
| Size                   | 1/4"   | 3/8"   | 1/2"   | 3/4"   | 1"     | 1 1/4" | 1 1/2" | 2"     | 2 1/2" | 3"     | 4"      |
| Pitch                  | 1,337  | 1,337  | 1,814  | 1,814  | 2,309  | 2,309  | 2,309  | 2,309  | 2,309  | 2,309  | 2,309   |
| Ø external             | 13,157 | 16,662 | 20,955 | 26,441 | 33,249 | 41,910 | 47,803 | 59,614 | 75,184 | 87,884 | 113,030 |



Example of indication in accordance with UNI ISO 7/1  
 Example with thread from 1 1/4"

|                 |                |                         |
|-----------------|----------------|-------------------------|
| Internal thread | Conical        | UNI ISO 7/1 - Rc 1 1/4" |
|                 | Cylindrical    | UNI ISO 7/1 - Rp 1 1/4" |
| External thread | Always conical | UNI ISO 7/1 - R 1 1/4"  |

Key:

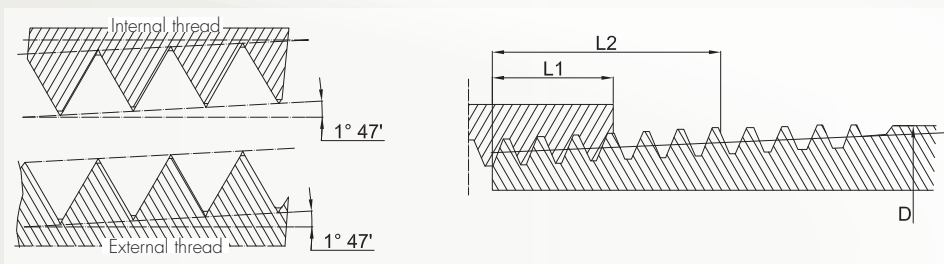
Rp UNI ISO 7/1 internal cylindrical thread

Rc UNI ISO 7/1 internal conical thread

R UNI ISO 7/1 external thread (always conical)

### NPT Thread - American standard ANSI B1.20.1

| Size                    | 1/4"   | 3/8"   | 1/2"   | 3/4"   | 1"     | 1 1/4" | 1 1/2" | 2"     | 2 1/2" | 3"     | 4"     |
|-------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Pitch                   | 1,411  | 1,411  | 1,814  | 1,814  | 2,208  | 2,208  | 2,208  | 2,208  | 3,175  | 3,175  | 3,175  |
| Threads per inch        | 18     | 18     | 14     | 14     | 11,5   | 11,5   | 11,5   | 11,5   | 8      | 8      | 8      |
| External D (of pipe)    | 13,716 | 17,145 | 21,336 | 26,670 | 33,401 | 42,164 | 48,260 | 60,325 | 73,025 | 88,90  | 114,30 |
| Effective thread L2     | 10,206 | 10,358 | 13,556 | 13,861 | 17,343 | 17,953 | 18,377 | 19,215 | 28,892 | 30,480 | 33,020 |
| Handtight Engagement L1 | 5,786  | 6,096  | 8,128  | 8,611  | 10,160 | 10,668 | 10,668 | 11,074 | 17,323 | 19,456 | 21,438 |



### GAS UNI ISO 228/1 Thread

| Size             | 1/4"  | 3/8"  | 1/2"  | 3/4"  | 1"    | 1 1/4" | 1 1/2" | 2"    | 2 1/2" | 3"    | 4"     |
|------------------|-------|-------|-------|-------|-------|--------|--------|-------|--------|-------|--------|
| Pitch            | 1,34  | 1,34  | 1,81  | 1,81  | 2,31  | 2,31   | 2,31   | 2,31  | 2,31   | 2,31  | 2,31   |
| Threads per inch | 19    | 19    | 14    | 14    | 11    | 11     | 11     | 11    | 11     | 11    | 11     |
| Ø external       | 13,16 | 16,66 | 20,96 | 26,44 | 33,25 | 41,91  | 47,80  | 59,61 | 75,18  | 87,88 | 113,03 |

### NPSM Thread

| Size             | 1/4"   | 3/8"   | 1/2"   | 3/4"   | 1"     | 1 1/4" | 1 1/2" | 2"     | 2 1/2" | 3"     | 4"     |
|------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Pitch            | 1,411  | 1,411  | 1,814  | 1,814  | 2,209  | 2,209  | 2,209  | 2,209  | 3,175  | 3,175  | 3,175  |
| Threads per inch | 18     | 18     | 14     | 14     | 11,5   | 11,5   | 11,5   | 11,5   | 8      | 8      | 8      |
| Ø external       | 13,716 | 17,145 | 21,336 | 26,670 | 33,401 | 42,164 | 48,260 | 60,325 | 73,025 | 88,900 | 114,30 |

### PG DIN 4030 Thread

| Size             | PG9   | PG11  | PG13,5 | PG16  | PG21  | PG29  | PG36  | PG42  | PG48  |
|------------------|-------|-------|--------|-------|-------|-------|-------|-------|-------|
| Pitch            | 1,410 | 1,410 | 1,410  | 1,410 | 1,588 | 1,588 | 1,588 | 1,588 | 1,588 |
| Threads per inch | 18    | 18    | 18     | 18    | 16    | 16    | 16    | 16    | 16    |
| Ø external       | 15,2  | 18,6  | 20,4   | 22,5  | 28,3  | 37,0  | 47,0  | 54,0  | 59,3  |

### ISO METRIC Thread

| Size       | M12 | M16 | M20 | M25 | M32 | M40 | M50 | M63 | M75 | M90 | M100 |
|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| Pitch      | 1,5 | 1,5 | 1,5 | 1,5 | 1,5 | 1,5 | 1,5 | 1,5 | 1,5 | 1,5 | 1,5  |
| Ø external | 12  | 16  | 20  | 25  | 32  | 40  | 50  | 63  | 75  | 90  | 100  |

## Appendix

### EXPLOSION-PROOF OR WEATHER-PROOF EQUIPMENT

Very often, the explosion-proof equipment is confused with water-proof equipment, even in technical environments. This comes from the incorrect belief that it's possible to avoid an explosion preventing an explosive atmosphere to get in touch with the ignition source (spark, arc or hot spot).

This may be partially true if the hazardous substance is a powder suspended in the air, but it's a misconception if the explosive atmosphere is represented by a gas.

This belief may cause an improper use of an enclosure, incorrectly considered as water-proof, in unsuitable conditions to ensure their safety.

To analyse properly the problem, we need to step back and understand what are the principles on which is based the electrical explosion protection.

The principles are three:

- Containment
- Segregation
- Prevention

- **Containment**

'Ex d' method of protection is based on the principle that it's not possible to absolutely prevent a gas from entering into an enclosure.

This is the oldest method of protection, but still today the one that is most commonly used and, consequently, the 'Ex d' products are the most common on the market.

The majority of applications for conventional power plant can be achieved with this type of protection.

- **Segregation**

This principle prevents the explosive atmosphere from coming into contact with an ignition source. Different systems are used: the immersion of the equipment in oil, sand or resin. These systems, respectively 'Ex o', 'Ex q', 'Ex m', are primarily used to protect electrical components.

- **Prevention**

The protection is provided through the over sizing of the equipment that prevents the creation of sparks or electric arcs, even under fault conditions.

These systems ('Ex e', 'Ex i') are used respectively for junction and pulling systems or they are applicable in the case of intrinsically safe instrumentation or to other equipment that operate at very low powers. Nobody would ever think to build an electric panel of a refinery through an intrinsically safe system.

'Ex e' method of protection, the increased safety, is usable alone only for those equipment that, of course, cannot sparkle such as the junction boxes with terminals. But if the system contains equipment that can sparkle, they must be individually protected with another type of protection.

### HAZARDOUS AREAS CLASSIFICATION

Only highly qualified staff should identify and classify hazardous areas in a chemical or petrochemical plant, who decide where there is a permanently or occasionally explosive atmosphere in the plant.

The most hazardous areas are where combustible gas or dusts may be present during normal operation or due to a fault. The classification is based on what type of combustible gas or dust is present in a specific area.

Nevertheless, it is important to underline that there is no uniformity in the classification of hazardous area, so below we have listed European classification, which correspond with international IEC and American categories.

## GAS

|                                                                                                                                                                        |                            |                                                                                                                                                                                         |                          |                                                                                                                                                                                          |                             |                                                                                                                                                                                                                                             |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <br> | <b>Zone 0</b>              | Area in which an explosive atmosphere, consisting in a mixture of air and flammable substances in the shape of gas, vapor or mist, is present permanently or for long periods or often. | <b>Zone 1</b>            | Area in which during normal activities the formation of an explosive atmosphere consisting in a mixture of air and flammable substances in the shape of gas, vapor or mist, is possible. | <b>Zone 2</b>               | Area in which during normal activities the formation of an explosive atmosphere consisting in a mixture of air and flammable substances in the shape of gas, vapor or mist, is not possible, and in case it happens, it lasts very shortly. |
| <br> | <b>Class I, Division 1</b> |                                                                                                                                                                                         |                          |                                                                                                                                                                                          | <b>Class I, Division 2</b>  |                                                                                                                                                                                                                                             |
|                                                                                                                                                                        | <b>&gt; 1.000 h/year</b>   |                                                                                                                                                                                         | <b>10 ÷ 1.000 h/year</b> |                                                                                                                                                                                          | <b>Class 0,1 ÷ 10h/year</b> |                                                                                                                                                                                                                                             |

Tab. 1 Comparison between hazardous areas classification for presence of gas based on international standards (IEC Zone System) and according to North American standards

## DUSTS

|                                                                                                                                                                            |                             |                                                                                                                             |                          |                                                                                                                                                                 |                             |                                                                                                                                                                                           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <br> | <b>Zone 20</b>              | Area in which an explosive atmosphere is present permanently or for long periods or often, in the shape of clouds of dusts. | <b>Zone 21</b>           | Area in which occasionally during normal activities the formation of an explosive atmosphere in the shape of cloud of combustible dust in the air, is possible. | <b>Zone 22</b>              | Area in which during normal activities the formation of an explosive atmosphere in the shape of cloud of combustible dust is not possible, and in case it happens, it lasts very shortly. |
| <br> | <b>Class II, Division 1</b> |                                                                                                                             |                          |                                                                                                                                                                 | <b>Class II, Division 2</b> |                                                                                                                                                                                           |
|                                                                                                                                                                            | <b>&gt; 1.000 h/year</b>    |                                                                                                                             | <b>10 ÷ 1.000 h/year</b> |                                                                                                                                                                 | <b>Class 0,1 ÷ 10h/year</b> |                                                                                                                                                                                           |

Tab. 2 Comparison between hazardous areas classification for presence of dusts based on international standards (IEC Zone System) and according to North American standards

## Groups and categories, EPL (Equipment Protection Level)

The 2014/34/UE Directive foresees the following division:

- Group I: products addressed to mines and in their surface systems, where firedamp gas can be present.
- Group II: products addressed to surface sites with the presence of explosive atmosphere.

The products are then divided inside the Groups as follows:

Group I

- category M1: equipment which guarantees a very high protection level; it has to be kept powered in presence of explosive atmosphere.
- category M2: equipment which guarantees a very high protection level; it must be possible to cut the power off in presence of explosive atmosphere.

## Appendix

### Group II

- **category 1:** equipment which guarantees a very high protection level; it is intended to be used in areas in which there is, always or for long periods, the presence of explosive atmosphere.
- **category 2:** equipment which guarantees a very high protection level; it is intended to be used in areas in which the development of explosive atmosphere is most likely.
- **category 3:** equipment which guarantees a normal protection level; it is intended to be used in areas in which the development of explosive atmosphere is slightly possible.

The numbers of the categories of group II (1, 2, 3) are followed by a capital letter:

- G, for gases;
- D, for combustible dusts.

For example: II 2G.

On the basis of group II definitions and by comparing them to those provided by the 99/92/CE "ATEX 137" Directive, a two-way link is established and highlighted in Table 9, between equipment category and installation area.

What we have described above is valid for the EU.

Outside EU, until 2007, the equipment was marked only with the protection method.

Therefore, inspired by the European system, the EPL Equipment Protection Level (Table 10) has been created, replacing the letters "a", "b", "c" to the numbers "1", "2" and "3".

Currently, at a technical standard level, the group III related only to dusts, has been divided in three sub-categories, similarly to what it has already done for gas.

The subgroups are:

- IIIA: flammable particles; solid particles, fibers included, with nominal sizes  $> 500 \mu\text{m}$ ;
- IIIB: non-conductive dust; finely divided solid particles, with nominal sizes  $\leq 500 \mu\text{m}$ , with electrical resistivity  $> 10^3 \Omega\text{m}$ ;
- IIIC: conductive dust; finely divided solid particles, with nominal sizes  $\leq 500 \mu\text{m}$ , with electrical resistivity  $\leq 10^3 \Omega\text{m}$ .

As described above, the "Ex d" protection method is highly probably the oldest protection method and its applicability to multiple types of industrial products has allowed its great spread.

Comparing a normal equipment to an "Ex d" one, the first evident characteristic is the strength of the latter, since it has to resist mechanically, without being deformed plastically, to the internal pressure generated by the explosion. The pressure ranges normally from 5 to 12 bar. Therefore, in this method, which is the only one based on the explosion containment (held at pressure), the protection is given by the junction box.

The sparking electrical components are enclosed inside the junction box, that allows the explosive atmosphere to enter but, in case of contact between this and the ignition source (arc or spark) the consequent explosion remains confined inside the junction box.

Through the flame-paths, the flame cools down and the combustion product is not able to trigger the mixture present outside (held at flame). When choosing the "Ex d" protection method, the following indications have to be considered:

- do not make further holes in the junction boxes than those allowed in the certificate;
- if the cable entry has a parallel thread, the coupling must have at least 5 full threads;
- if the use of gasket is foreseen, the number of threads must be still sufficient after the insertion of the gasket;
- if the thread is conical, the connection must be fully tightened;
- if an adapter is required, it must comply with the "Ex d" (IEC 60079-1) protection method;
- the unused cable entries must be sealed with elements that comply with "Ex d" protection method (IEC 60079-1).

|   | 1       | 2       | 3       |
|---|---------|---------|---------|
| G | Zone 0  | Zone 1  | Zone 2  |
| D | Zone 20 | Zone 21 | Zone 22 |

Tab.3 Correlation between equipment category and installation area for Group II

|                                                                                   | M1 | M2 | 1G |    | 2G |    | 3G |    |
|-----------------------------------------------------------------------------------|----|----|----|----|----|----|----|----|
|  |    |    |    | 1D |    | 2D |    | 3D |
|  | Ma | Mb | Ga |    | Gb |    | Gc |    |
|                                                                                   |    |    |    | Da |    | Db |    | Dc |

Tab.4 Correlation between equipment category and the protection level



## TEMPERATURE CLASSES

The temperature class is one of the parameters to consider in order to choose electrical equipment to be installed in places with danger of explosion.

Very often this parameter is ignored or underestimated while it's one of the main features of the safety equipment.

An electrical device, addressed to classified areas where there might be danger of explosion due to the presence of gases, vapours, mists or dusts, should be chosen considering that, its maximum surface temperature, must not reach, even in case of failure, the ignition temperature of the hazardous substances present in the atmosphere.

### • Temperature classes for Gas

A standard method of classification defines the temperature classes of a gas. This standard, defined by IEC, but also acknowledged by CENELEC, is held in IEC 60079-4 Standard "Method of testing ignition temperatures". According to this method, all gases and vapours are divided into temperature classes. According to these classes, the equipment maximum surface temperature reached is always lower than the ignition temperature.

The Standard defines in detail the maximum values and the necessary safety net for these temperatures.

| Temperature class | Gas group ignition temperature | Equipment max. surface temperature |
|-------------------|--------------------------------|------------------------------------|
| T1                | > 450 °C                       | 400 °C                             |
| T2                | > 300 ... ≤ 450 °C             | 300 °C                             |
| T3                | > 200 ... ≤ 300 °C             | 200 °C                             |
| T4                | > 135 ... ≤ 200 °C             | 135 °C                             |
| T5                | > 100 ... ≤ 135 °C             | 100 °C                             |
| T6                | > 85 ... ≤ 100 °C              | 85 °C                              |

Tab.5 Temperature classes

# Appendix

## IP PROTECTION RATINGS (IEC 529, EN 60529-4, CEI 70-1 ed. 11/92)

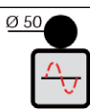
The table gives protection ratings in accordance with standard CEI 70-1 ed. 11/92. Ratings are identified by the acronym IP followed by 2 digits, to which 2 letters may be added, indicating the degree to which persons are protected against access or other properties. There is some variation in the application of ratings 7 and 8 relating to the ingress of liquids, with these ratings not always meaning that the item is suitable for lower levels (whereas IP rating x4 also covers the lower levels).

## IMPACT PROTECTION RATINGS

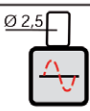
This classification shows the acceptable level of strength, when evaluating a product's safety, and is mainly employed in relation to testing on electromechanical products.

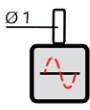
### 1st Digit PROTECTION AGAINST SOLID BODIES

**0** No protection 

**1** Protected against solid bodies greater than 50 [mm] 

**2** Protected against solid bodies greater than 12 [mm] 

**3** Protected against solid bodies greater than 2,5 [mm] 

**4** Protected against solid bodies greater than 1 [mm] 

**5** Protected against dust 

**6** Totally protected against dust 

### ADDITIONAL LETTER\*\*

**A** Protected against access with the back of the hand

**B** Protected against access with a finger

**C** Protected against access with a tool

**D** Protected against access with a wire

### OPTIONAL LETTER

**H** High-voltage device

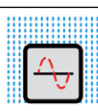
**M** Tested against the harmful effects of water ingress with the equipment running

**S** Tested against the harmful effects of water ingress with the equipment not running

**W** Suitable for use in specified atmospheric conditions

### 2nd Digit PROTECTION AGAINST LIQUIDS

**0** No protection 

**1** Protected against vertically falling water drops 

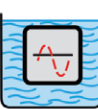
**2** Protected against falling water drops with maximum inclination 15° 

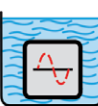
**3** Protected against rain 

**4** Protected against sprinkles 

**5** Protected against water splashes from every directions 

**6** Protected against strong water splashes (waves) 

**7** Protected against temporal immersion 

**8** Protected against continuous immersion 

### PROTECTION AGAINST EXTERNAL MECHANICAL IMPACTS \*

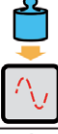
**IK00**   
No protection

**IK01** 0,25 Kg 5,6 cm   
Protected against impact energy 0,15J

**IK03** 0,25 Kg 14 cm   
Protected against impact energy 0,35J

**IK05** 0,25 Kg 28 cm   
Protected against impact energy 0,7J

**IK06** 0,25 Kg 40 cm   
Protected against impact energy 1J

**IK07** 0,5 Kg 40 cm   
Protected against impact energy 2J

**IK08** 1,7 Kg 30 cm   
Protected against impact energy 5J

**IK09** 5 Kg 20 cm   
Protected against impact energy 10J

**IK10** 5 Kg 40 cm   
Protected against impact energy 20J

\* As per IEC EN 50102: 1996-05; IEC EN 60078-2-7-5: 1998-09.

\*\* Optional letter describing protection against access by persons. Only used if protection against access to hazardous parts is greater than that indicated by the first digit, or if only protection against access to hazardous parts is given and an X is used in place of the first digit.

## MATERIAL USED

We use many different materials to produce equipment and components designed for areas with a potentially explosive atmosphere. Despite the careful choice of these materials to be transformed into finished products, we have to take into account the limitations imposed by nature.

All materials, including the ones we use, have three enemies:

- environment;
- temperature;
- time.

Temperature and time are familiar factors, while the environment, where our products are used, is not easy to control. We are not talking about familiar potential hazards caused by an explosive atmosphere (which can be controlled by laboratory tests and guaranteed by certification), but rather deterioration caused by highly aggressive environments like chemical and petrochemical plants.

Corrosion resistance is a relative factor, as it depends on the actual environmental conditions that significantly influence the nature of the attack. Shown below are described the materials mainly used by ELFIT for the production of cable glands and electrical fittings.

## NICKEL-PLATED BRASS

We use this material (leaded brass with Cu 58%, Zn 40% and Pb 2%) exclusively for the construction of Ex cable entry (Cable glands). Besides the traditional copper (Cu) and zinc (Zn) alloy, our material has also a low lead (Pb) percentage on the external part of the bar, which simplifies the turning since it does not create a solution with the alloy Cu-Zn, and since it has a lower solidification temperature than the other two elements. Subsequently, it undergoes a surface treatment of electrolytic nickel plating, to provide the product, more than with an aesthetic aspect, with a higher corrosion-protection level by external agents.

## ALUMINIUM ALLOY

Aluminium alloy is one of the world's most widely used materials in the production of explosion-proof enclosures.

It is highly corrosion-resistant and, therefore, universally known as the most effective and versatile material for most applications.

It is much lighter than cast iron, so it makes the equipment much easier to install and maintain; moreover, it is highly corrosion-resistant and does not require surface protection, unlike cast iron which has to be galvanized or coated.

Aluminium is also much cheaper than stainless steel.

Aluminium and its alloys have generally excellent corrosion resistance in various and different environments.

|                    | Fe       | Si          | Mn       | Ni       | Ti       | Cu       | Pb       | Mg         | Zn       | Sn       | Other                 |
|--------------------|----------|-------------|----------|----------|----------|----------|----------|------------|----------|----------|-----------------------|
| <b>AlSi10Mg(a)</b> | max 0,55 | 9 ÷ 11      | max 0,45 | max 0,05 | max 0,15 | max 0,05 | max 0,05 | 0,2 ÷ 0,45 | max 0,1  | max 0,05 | each 0,05; total 0,15 |
| <b>AlSi12(b)</b>   | max 0,65 | 10,5 ÷ 13,5 | max 0,55 | max 0,1  | max 0,2  | max 0,15 | max 0,1  | max 0,1    | max 0,15 | //       | each 0,05; total 0,15 |

Tab. 6 Chemical composition of aluminum-silicon alloys

Despite of it's a very chemically active metal, its behavior is stabilized by the formation of a protective oxide film on its surface. This film, which in case of breakage is able to reproduce itself immediately, has a thickness, if formed in the air, ranging from 50 to 100 Å.

## Appendix

### STAINLESS STEEL

The stainless steels are iron-, coal- and chrome-based alloys that combine the mechanical properties typical of carbon steels with the corrosion resistance properties, due to a thin and transparent surface layer called "passivation layer". It is formed when the materials of the alloy come into contact with the air or water oxygen.

This phenomenon in stainless steel, in ideal conditions, occurs naturally and immediately.

This protection can also be artificially and optimally induced carrying out a particular chemical treatment by immersing the products in sequence, first in pickling acid and, subsequently, in a passivating acid. This treatment enhances very significantly the corrosion resistance, making this invisible layer, which has the thickness of a few atoms (about 0.002 microns) and which reform spontaneously, an excellent barrier to oxidation and corrosion. Essential condition for the formation of a protective layer is the presence of a sufficient amount of chromium.

The stainless steels are traditionally divided into three big families, depending on their metallographic structure:

- martensitic;
- ferritic;
- austenitic.

Austenitic steels, which are usually used for the construction of electrical equipment, suitable for environments with risk of explosion and in the presence of aggressive substances, are mainly:

- AISI 304 It's a founder of austenitic stainless steels. It has good corrosion resistance and good mechanical characteristics. Used in the pharmaceutical and food industries.
- AISI 304L It differs from AISI 304 for the low carbon content ( $C \leq 0,03\%$ ), which considerably increases the resistance to corrosion. Because of the low carbon content of the mechanical characteristics, they are slightly inferior to AISI 304 ones.
- AISI 316 Compared to AISI 304 contains molybdenum with percentage of about 2,5% and a higher percentage of nickel. These elements give to the steel superior mechanical characteristics and a higher resistance to corrosion at high temperatures. Used in the processes of machining and of installations in contact with seawater.
- AISI 316L It differs from AISI 316 for the low carbon content ( $C \leq 0,03\%$ ). It has a better corrosion resistance maintaining good mechanical characteristics. Used for the construction of electrical equipment and for the construction of distribution panels in environments with explosion risk and the presence of gases or dusts, corrosive agents and high temperatures.

### GALVANIZED STEEL

We use even this type of material, an iron (Fe) carbon (C) alloy, as well as nickel-plated brass, for connection elements of Ex entries. It is a stainless steel, sweet, for general use, with small amounts of lead, bismuth, tellurium or sulfur.

To protect the component from corrosion, at the end of machining it undergoes a galvanizing process.

### SILICONE

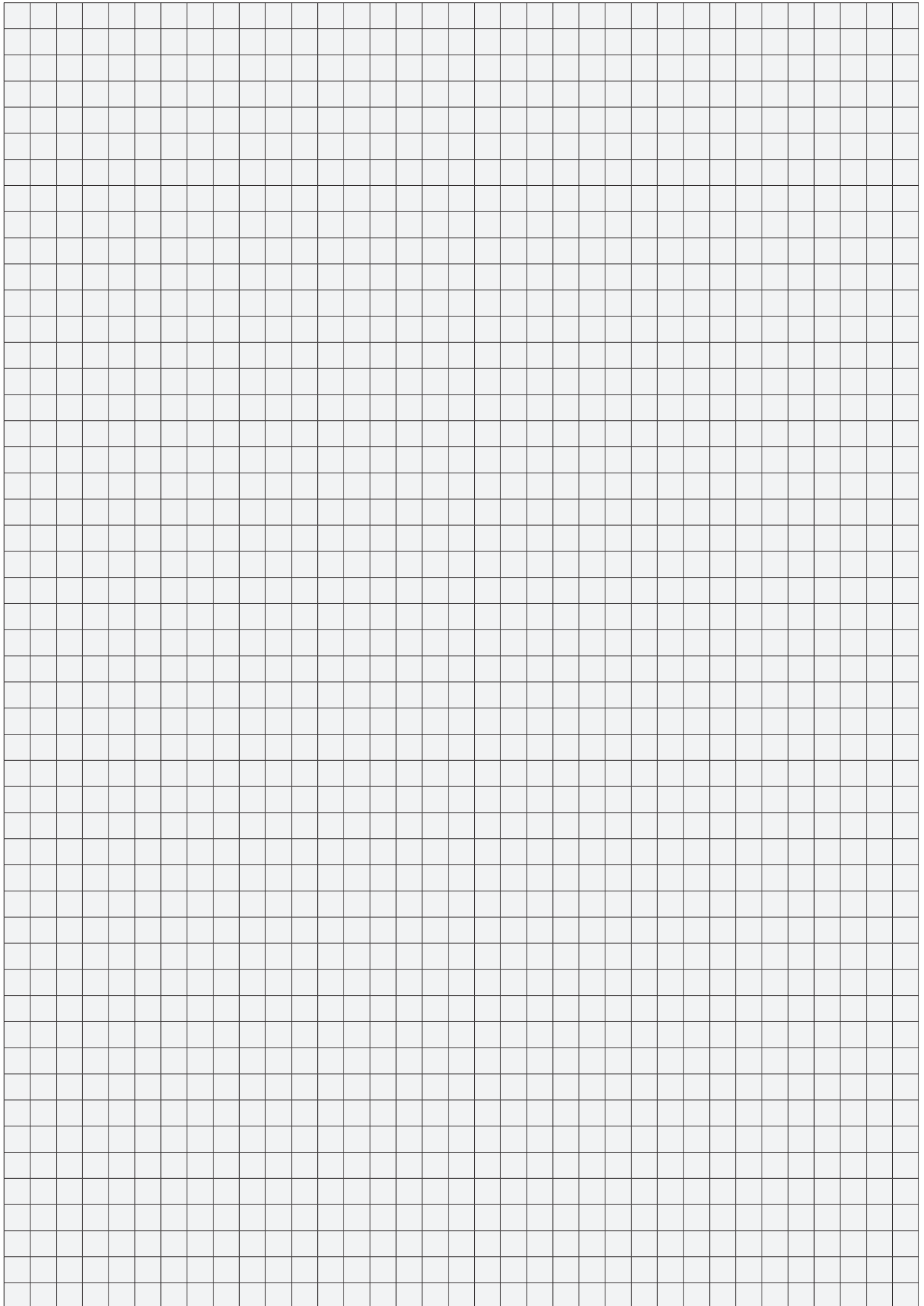
The silicone, as well as the neoprene, is one of main materials we use for our seals. Silicones or polysiloxanes (methylvinyl polysiloxane) are inorganic polymers based on a silicon-oxygen chain and organic functional groups (R) linked to the silicon atoms. Typically, the silicone rubbers (VMQ) are remarkably resistant to temperature, chemical attack and oxidation, and are excellent electrical insulators. They are excellent non-stick, flexible, resistant to aging and to high temperatures.

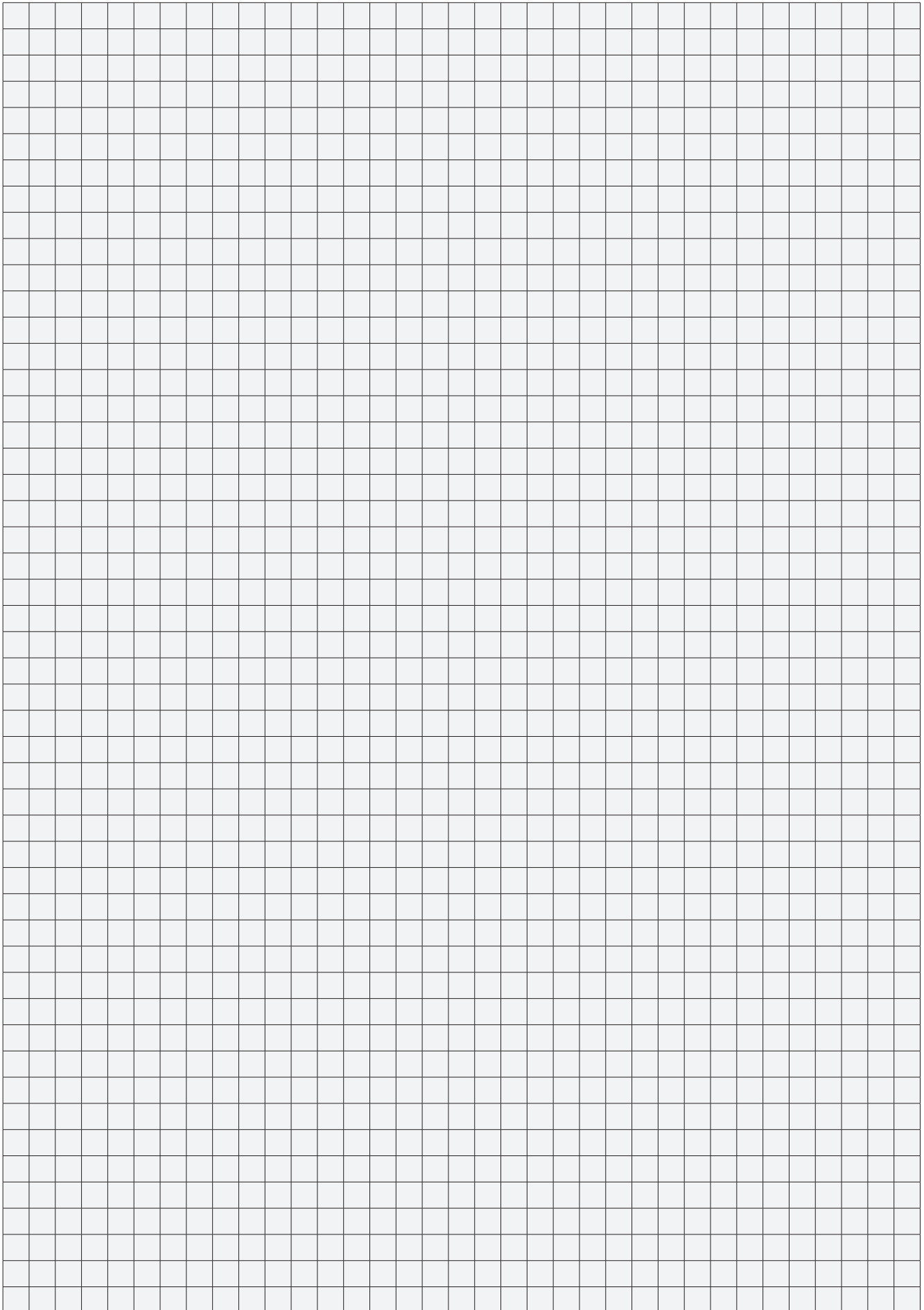




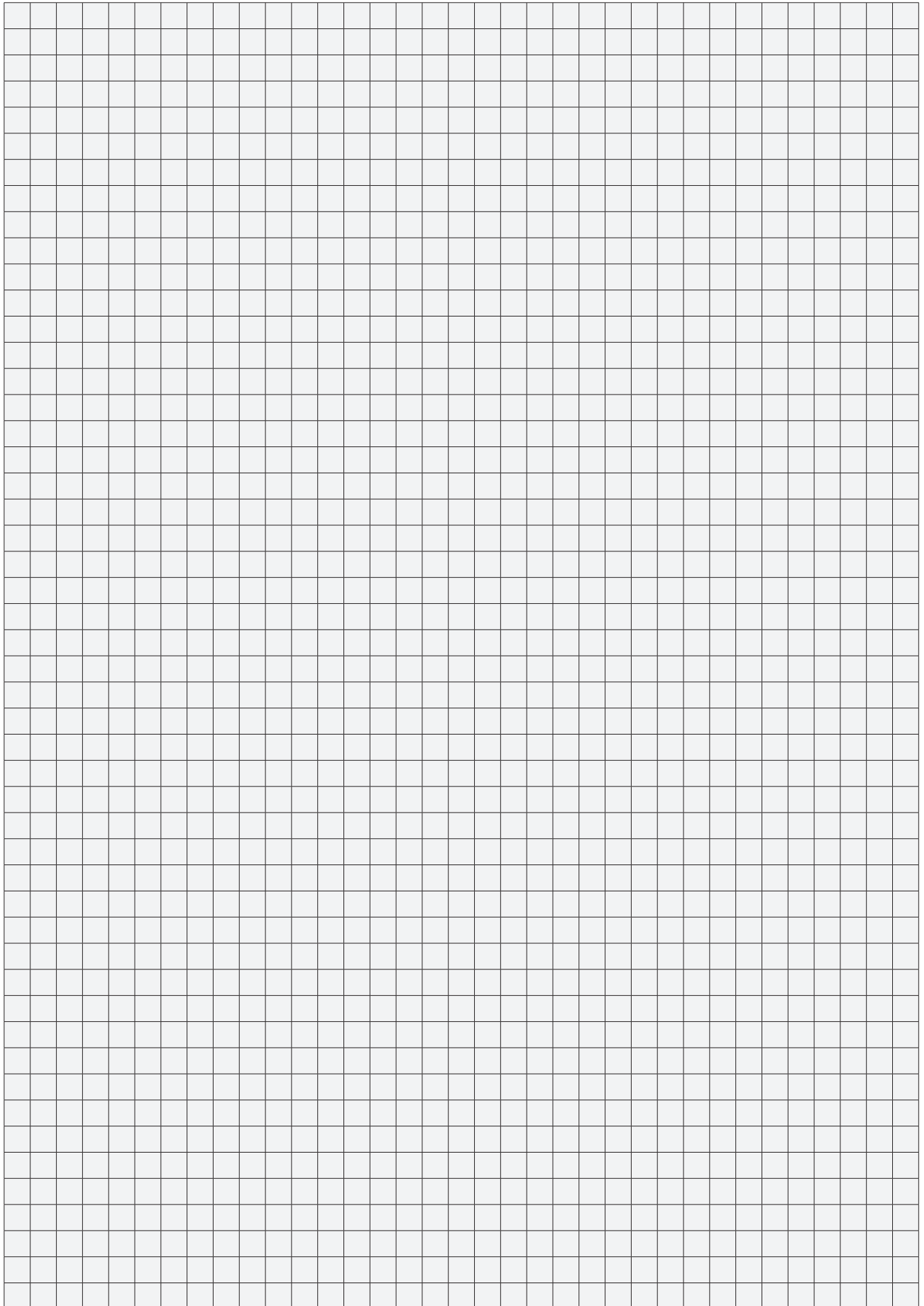


# Appendix





# Appendix



#### **Product modifications and warranty**

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