2016

Cable glands and electrical fittings for electrical plants

ELFIT®

ELectrical FITtings for Hazardous Areas

ELFIT®

ELectrical FITtings for Hazardous Areas

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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**

During the '70s, **Elfit** company was estabilished 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 website.

CORTEM® GROUP

To be sure to be safe.

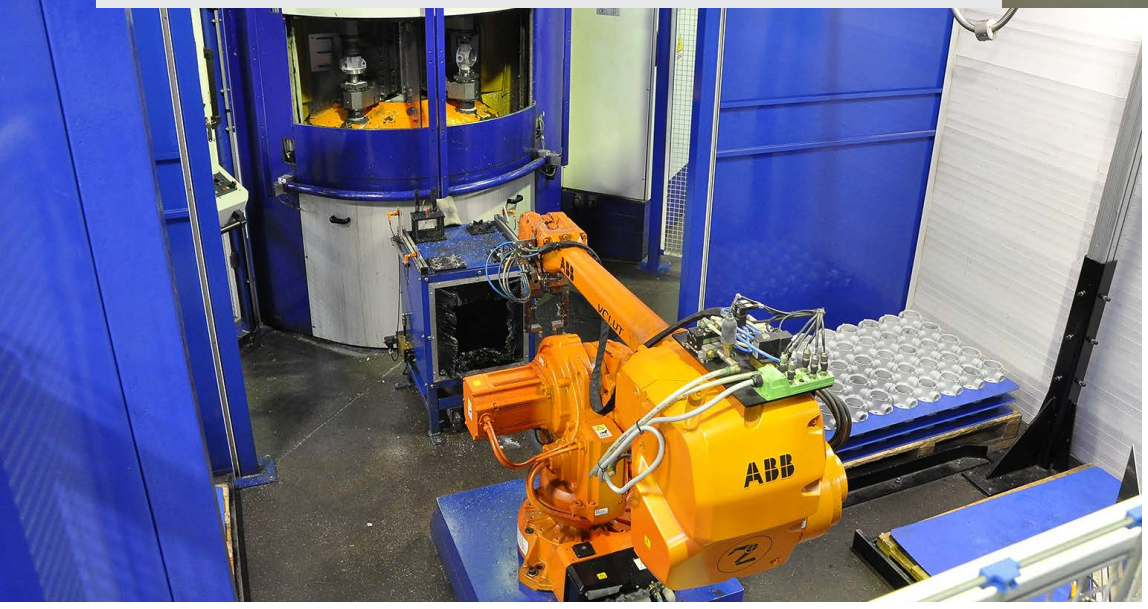


Fig.3
Above, Cortem Group's plant today

Fig.4 e 5
Above and on the left, the modern production technologies of Cortem Group

ELFIT® ELectrical FITtings for Hazardous Areas

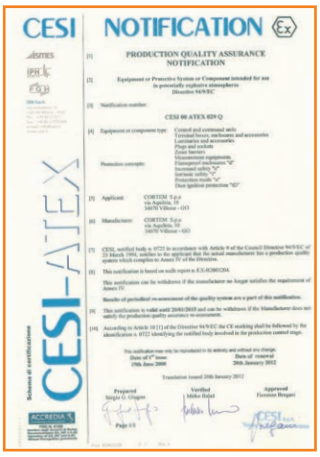
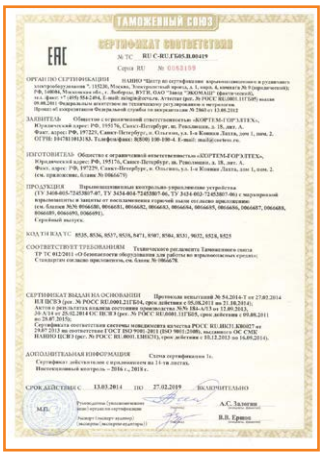
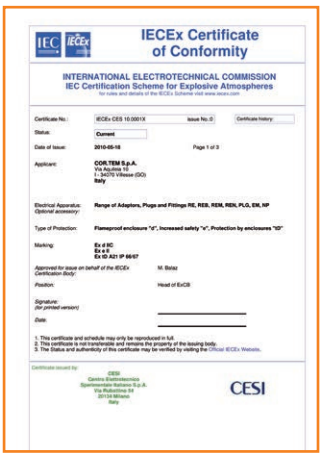


Fig.6
Products' certificates





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

2. The cable gland

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 prophylene (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 / mm2; in polyethylene with a tensile strength of 15.0 N / mm2 and cables in elastomeric polychloroprene or chlorosulfonated or polyethylene or similar polymers with a tensile strength of 15.0 N / mm2, 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.

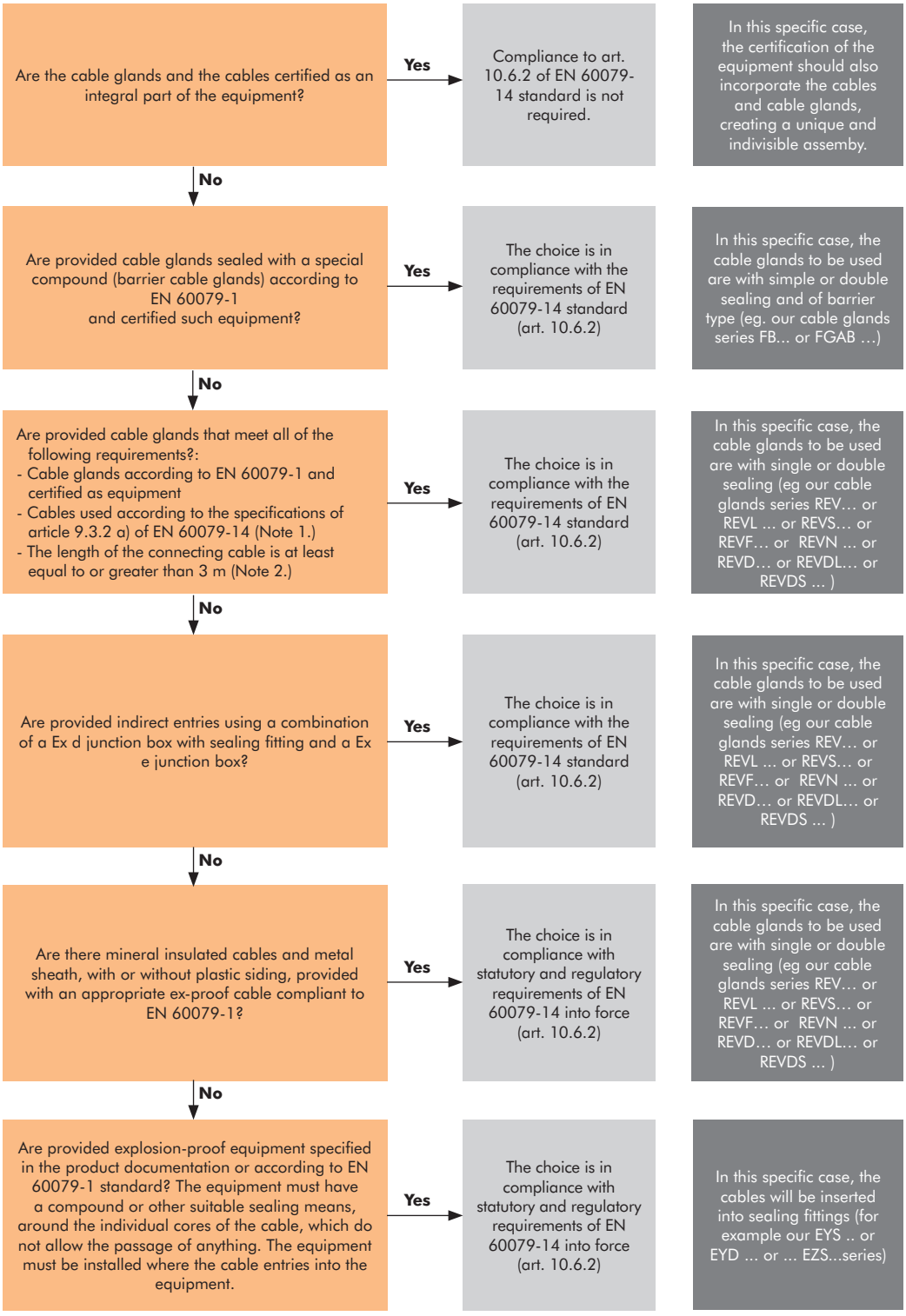


FIG.8 Flow chart for the correct selection of the cable entry in Ex d junction boxes

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 (± 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. The 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 ARMOURED 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 sheat 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.

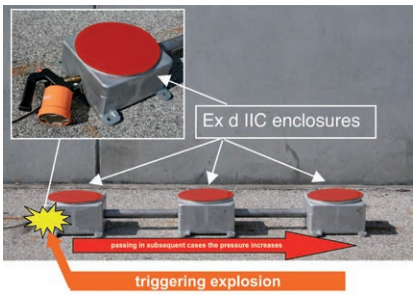
The material used for our stickers, produced by a company leader in the sector, it's a transparent polyester which can be used in a range of extreme temperatures (-60° C to +150° C). It's UV-, moisture- and chemicals-resistant, it adheres to hard surfaces, although greasy, and it's applicable even on textured or curved surfaces.

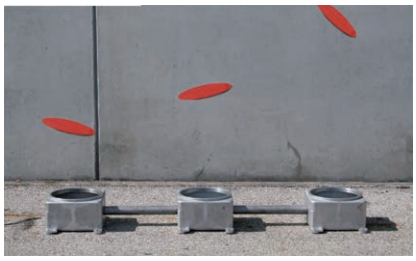
The marking is carefully made by our production departments by thermal transfer printing. This technique, compared with the drum or laser marking, ensures that the markings remain indelible forever.

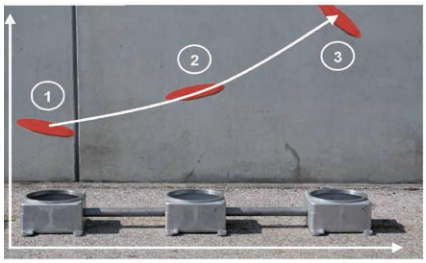
The stickers are equipped with a special anti-tampering system realized by the addition of a series of micro cuts which ensure that, in case of a tampering attempt, the sticker does not remain intact and it's not, therefore, applicable to another component. The sticker has been adopted for the marking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



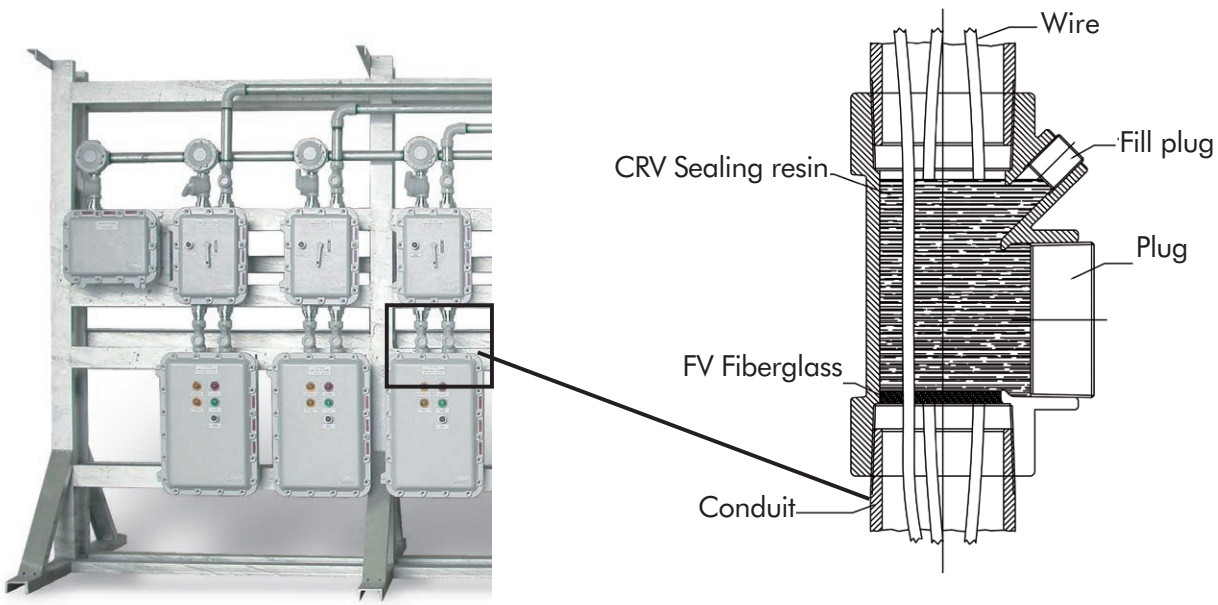




the outside wall of the enclosure (or intended end-use enclosure) shall be as small as practical, but in no case more than the size of the conduit or 50 mm, whichever is the lesser", so the sealed fitting should be installed next to the junction box, to give the right functional warranty, as specified 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 "freez 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 enclusures, 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

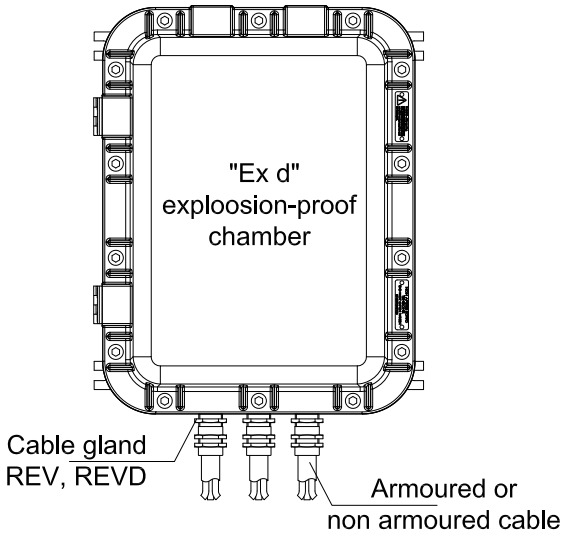
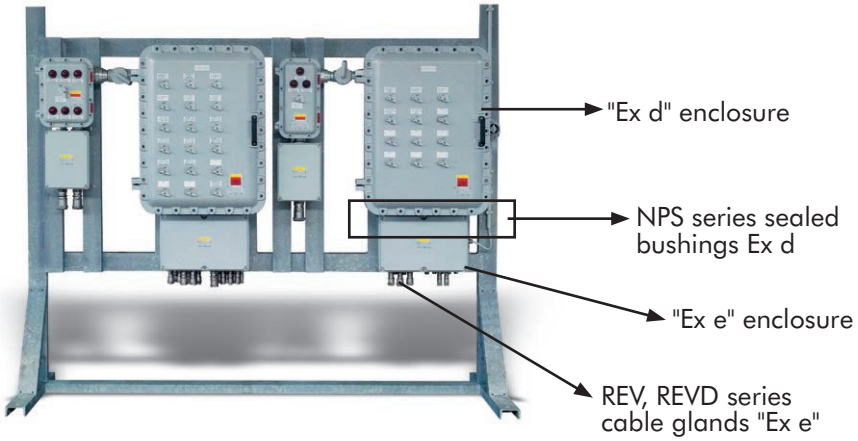
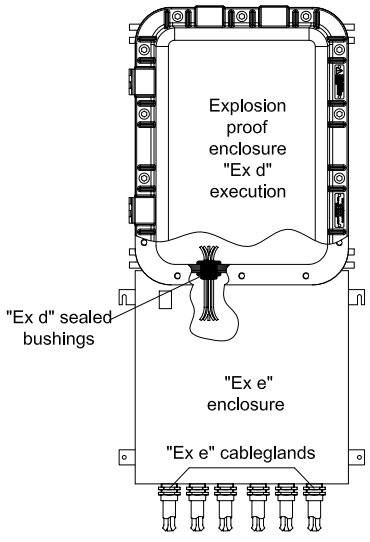


FIG.11 Example of indirect cable entry

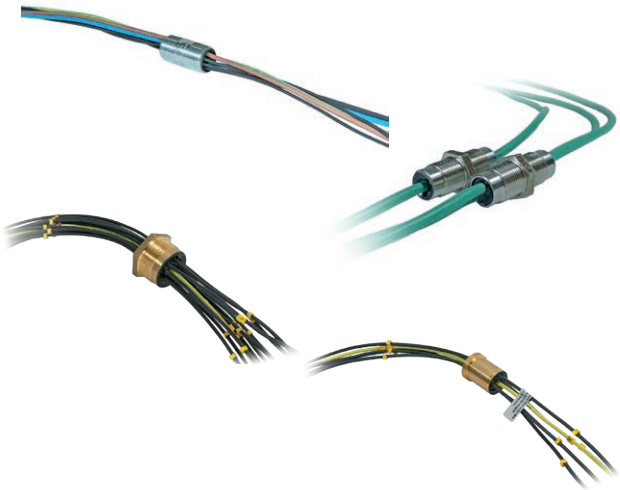




3.
Electrical fittings, explosion proof and weather proof junction and pulling boxes

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

Elfit 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.

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ELectrical FITtings for Hazardous Areas

Cable glands

REV series cable glands for non-armoured cable from 3/8" to 2"

REV series cable glands are suitable for use in hazardous areas with danger of explosion to enable direct insertion of non-armored 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'.

Interactive Point

REV assembly instructions video

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
	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	

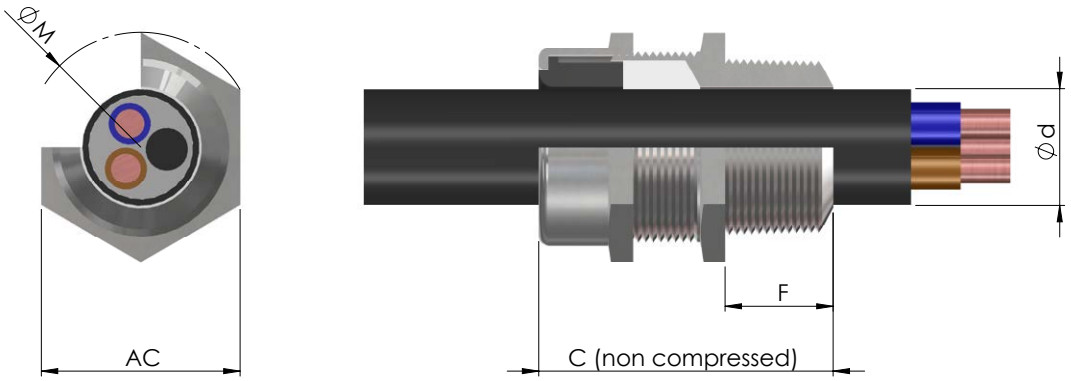
Certificates are available on www.cortemgroup.com

Accessories upon request

Locknut	ISO thread	Nichel-plated brass	Galvanized steel	Stainless steel	Shrouds black PVC made	Code
	M16x1,5	**DL01IB**	**DL01IG**	**DL01IS**		**PGA1F**
	M20x1,5	**DL1IB**	**DL1IG**	**DL1IS**		**PGA1F**
	M25x1,5	**DL2IB**	**DL2IG**	**DL2IS**		**PGA2R**
	M32x1,5	**DL3IB**	**DL3IG**	**DL3IS**		**PGA3**
	M40x1,5	**DL4IB**	**DL4IG**	**DL4IS**		**PGA4**
	M50x1,5	**DL5IB**	**DL5IG**	**DL5IS**		**PGA5**
	M63x1,5	**DL6IB**	**DL6IG**	**DL6IS**		**PGA6R**

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	**A0131B**	**A0131S**		**RDI01IS/A4**	
	M20x1,5	**A1311IB**	**A1311IS**		**RDI1IS/A4**	
	M25x1,5	**A2312IB**	**A2312IS**		**RDI2IS/A4**	
	M32x1,5	**A3313IB**	**A3313IS**		**RDI3IS/A4**	
	M40x1,5	**A4314IB**	**A4314IS**		**RDI4IS/A4**	
	M50x1,5	**A5315IB**	**A5315IS**		**RDI5IS/A4**	
	M63x1,5	**A6316IB**	**A6316IS**		**RDI6IS/A4**	

* For different threads contact the sales office.



CABLE GLANDS SELECTION TABLE

Code Nichel-plated brass	Thread	Dimensions in mm				Range	Weight
		AC	ØM	F	C	Ød min-max 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 ¼" ISO7/1	48	56	22	60	24 - 30	0,252
REV5B	1 ½" 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 ¼" NPT	48	56	26	64	24 - 30	0,252
REV5NB	1 ½" 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

REV	6	I	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 REV1**S**)*
- *Available also in galvanized steel (example code REV1**G**)*
- *For "Ex i" intrinsically safe marking, blu nut RAL 5015 (example code REV1S**IA**)*

REVL series cable glands for non-armoured cable special version

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.

Interactive Point

REV 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 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
	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	

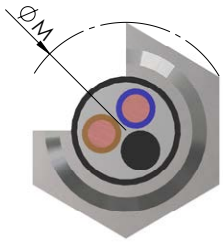
Certificates are available on www.cortemgroup.com

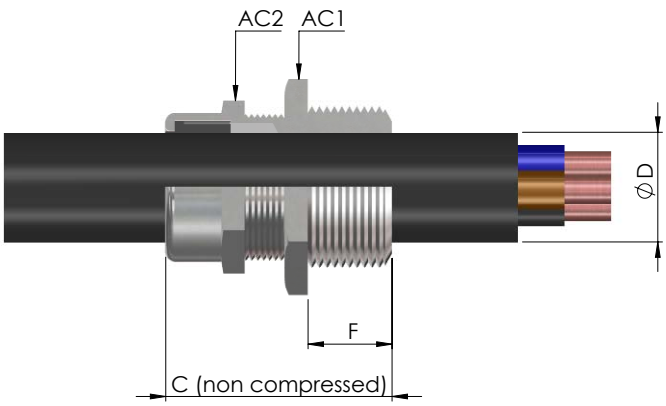
Accessories upon request

Locknut	ISO thread	Nichel-plated brass	Galvanized steel	Stainless steel	Shrouds black PVC made	Code
	M20x1,5	**DL1IB**	**DL1IG**	**DL1IS**		**PGA1F**
	M25x1,5	**DL2IB**	**DL2IG**	**DL2IS**		**PGA1F**
	M32x1,5	**DL3IB**	**DL3IG**	**DL3IS**		**PGA2R**
	M40x1,5	**DL4IB**	**DL4IG**	**DL4IS**		**PGA3**
	M50x1,5	**DL5IB**	**DL5IG**	**DL5IS**		**PGA4**
	M63x1,5	**DL6IB**	**DL6IG**	**DL6IS**		**PGA5**

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	**A1311IB**	**A1311IS**		**RDI1IS/A4**	
	M25x1,5	**A2312IB**	**A2312IS**		**RDI2IS/A4**	
	M32x1,5	**A3313IB**	**A3313IS**		**RDI3IS/A4**	
	M40x1,5	**A4314IB**	**A4314IS**		**RDI4IS/A4**	
	M50x1,5	**A5315IB**	**A5315IS**		**RDI5IS/A4**	
	M63x1,5	**A6315IB**	**A6315IS**		**RDI6IS/A4**	

* For different threads contact the sales office.





CABLE GLANDS SELECTION TABLE

Code Nichel-plated brass	Thread	Dimensions in mm					Range	Weight
		AC1	AC2	ØM	F	C	Ød min-max 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 ¼" ISO7/1	48	40	56	22	59,5	18 - 24	0,310
REVL5B	1 ½" 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 ¼" NPT	48	40	56	26	63,5	18 - 24	0,310
REVL5NB	1 ½" 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

REVL	6	I	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 REVL1**S**)*
- *Available also in galvanized steel (example code REVL1**G**)*
- *For "Ex i" intrinsically safe marking, blu nut RAL 5015 (example code REVL1S**IA**)*

REV/REVS series cable glands for non-armoured cable from 2 ½" to 4"

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'.

Interactive Point

REV 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 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
	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	

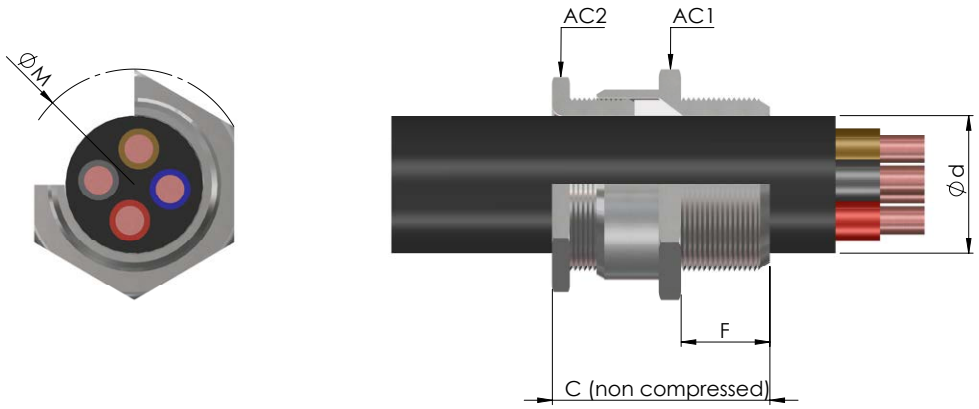
Certificates are available on www.cortemgroup.com

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 Nichel-plated brass	Thread	Dimensions in mm					Range	Weight
		AC1	AC2	ØM	F	C	Ød min-max 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

REVS	7	I	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 REVS7**S**)*
- *Available also in galvanized steel (example code REVS7**G**)*
- *For "Ex i" intrinsically safe marking, blu nut RAL 5015 (example code REV8S**IA**)*

REVF series cable glands for non-armoured cable with a female entry

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.

Interactive Point

REVF 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 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
	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	

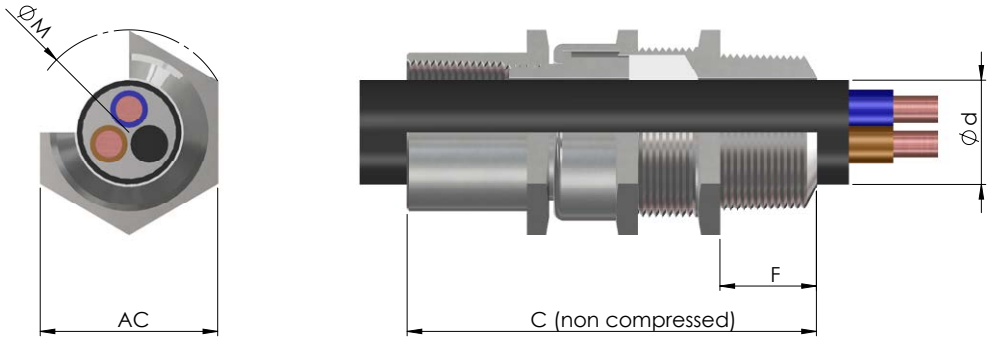
Certificates are available on www.cortemgroup.com

Accessories upon request

Locknut	ISO thread	Nichel-plated brass	Galvanized steel	Stainless steel	Shrouds black PVC made	Code
	M16x1,5	**DL01IB**	**DL01IG**	**DL01IS**		**PGA1F**
	M20x1,5	**DL1IB**	**DL1IG**	**DL1IS**		**PGA1F**
	M25x1,5	**DL2IB**	**DL2IG**	**DL2IS**		**PGA2R**
	M32x1,5	**DL3IB**	**DL3IG**	**DL3IS**		**PGA3**
	M40x1,5	**DL4IB**	**DL4IG**	**DL4IS**		**PGA4**
	M50x1,5	**DL5IB**	**DL5IG**	**DL5IS**		**PGA5**
	M63x1,5	**DL6IB**	**DL6IG**	**DL6IS**		**PGA6R**

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	**A0131B**	**A0131S**		**RDI01IS/A4**	
	M20x1,5	**A1311IB**	**A1311IS**		**RDI1IS/A4**	
	M25x1,5	**A2312IB**	**A2312IS**		**RDI2IS/A4**	
	M32x1,5	**A3313IB**	**A3313IS**		**RDI3IS/A4**	
	M40x1,5	**A4314IB**	**A4314IS**		**RDI4IS/A4**	
	M50x1,5	**A5315IB**	**A5315IS**		**RDI5IS/A4**	
	M63x1,5	**A6316IB**	**A6316IS**		**RDI6IS/A4**	

* For different threads contact the sales office.



CABLE GLANDS SELECTION TABLE

Code Nichel-plated brass	Thread	Dimensions in mm				Range	Weight
		AC1	ØM	F	C	Ød min-max 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

REVF	2	I	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 REVF4**S**)*
- *Available also in galvanized steel (example code REVF4**G**)*
- *For "Ex i" intrinsically safe marking, blu nut RAL 5015 (example code REVF4S**IA**)*
- *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:REVF3**NI**B)*

REVN series cable glands for non-armoured cable with a male entry

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.

Interactive Point

REVN 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 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
	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	

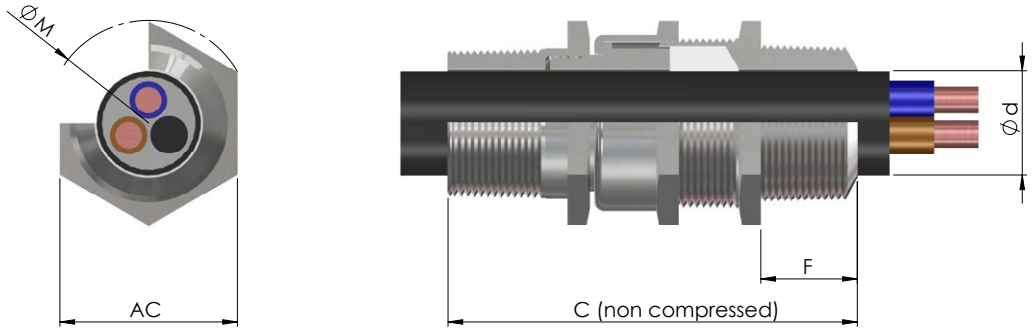
Certificates are available on www.cortemgroup.com

Accessories upon request

Locknut	ISO thread	Nichel-plated brass	Galvanized steel	Stainless steel	Shrouds black PVC made	Code
	M16x1,5	**DL01IB**	**DL01IG**	**DL01IS**		**PGA1F**
	M20x1,5	**DL1IB**	**DL1IG**	**DL1IS**		**PGA1F**
	M25x1,5	**DL2IB**	**DL2IG**	**DL2IS**		**PGA2R**
	M32x1,5	**DL3IB**	**DL3IG**	**DL3IS**		**PGA3**
	M40x1,5	**DL4IB**	**DL4IG**	**DL4IS**		**PGA4**
	M50x1,5	**DL5IB**	**DL5IG**	**DL5IS**		**PGA5**
	M63x1,5	**DL6IB**	**DL6IG**	**DL6IS**		**PGA6R**

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	**A0131B**	**A0131S**		**RDI01IS/A4**	
	M20x1,5	**A1311IB**	**A1311IS**		**RDI1IS/A4**	
	M25x1,5	**A2312IB**	**A2312IS**		**RDI2IS/A4**	
	M32x1,5	**A3313IB**	**A3313IS**		**RDI3IS/A4**	
	M40x1,5	**A4314IB**	**A4314IS**		**RDI4IS/A4**	
	M50x1,5	**A5315IB**	**A5315IS**		**RDI5IS/A4**	
	M63x1,5	**A6316IB**	**A6316IS**		**RDI6IS/A4**	

* For different threads contact the sales office.



CABLE GLANDS SELECTION TABLE

Code Nichel-plated brass	Thread	Dimensions in mm				Range	Weight
		AC1	ØM	F	C	Ød min-max 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

REVN	2	I	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 REVN4**S**)*
- *Available also in galvanized steel (example code REVN4**G**)*
- *For "Ex i" intrinsically safe marking, blu nut RAL 5015 (example code REVN4S**IA**)*
- *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:REVN3**NI**B)*

REVD series cable glands for armoured cable from 3/8" to 2"

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'.

Interactive Point

REVD 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 d IIC Gb Ex tb IIIC Db - IP66/67	
Certification:	ATEX CESI 13 ATEX 019 X IECEx IECEx CES 13.0005X TR CU AVAILABLE	All IEC Ex and TR CU certification data can be downloaded at 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:	-40°C +110°C	
Degree of protection:	IP66/67	

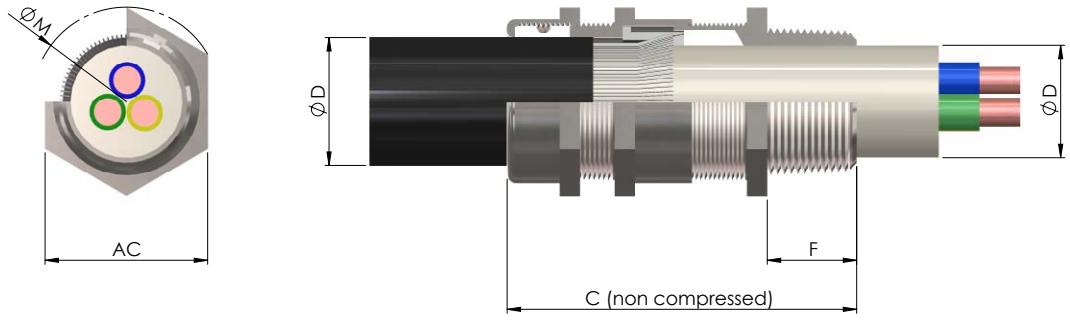
Certificates are available on www.cortemgroup.com

Accessories upon request

Locknut	ISO thread	Nichel-plated brass	Galvanized steel	Stainless steel	Shrouds black PVC made	Code
	M16x1,5	**DL01IB**	**DL01IG**	**DL01IS**		**PGA1F**
	M20x1,5	**DL1IB**	**DL1IG**	**DL1IS**		**PGA1F**
	M25x1,5	**DL2IB**	**DL2IG**	**DL2IS**		**PGA2R**
	M32x1,5	**DL3IB**	**DL3IG**	**DL3IS**		**PGA3**
	M40x1,5	**DL4IB**	**DL4IG**	**DL4IS**		**PGA4**
	M50x1,5	**DL5IB**	**DL5IG**	**DL5IS**		**PGA5**
	M63x1,5	**DL6IB**	**DL6IG**	**DL6IS**		**PGA6R**

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	**A0131B**	**A0131S**		**RDI01IS/A4**	
	M20x1,5	**A1311IB**	**A1311IS**		**RDI1IS/A4**	
	M25x1,5	**A2312IB**	**A2312IS**		**RDI2IS/A4**	
	M32x1,5	**A3313IB**	**A3313IS**		**RDI3IS/A4**	
	M40x1,5	**A4314IB**	**A4314IS**		**RDI4IS/A4**	
	M50x1,5	**A5315IB**	**A5315IS**		**RDI5IS/A4**	
	M63x1,5	**A6316IB**	**A6316IS**		**RDI6IS/A4**	

* For different threads contact the sales office.



CABLE GLANDS SELECTION TABLE

Code Nichel-plated brass	Thread	Dimensions in mm				Range		Standard armour thickness	Increased armour thickness upon request	Weight Kg
		AC	ØM	F	C	Ød min-max Under armour	ØD min-max 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 ¼" ISO7/1	48	56	22	89	24 - 30	31 - 37	0.2 - 1.2	1.2 - 2.0	0,406
REVD5B	1 ½" 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 ¼" NPT	48	56	26	93	24 - 30	31 - 37	0.2 - 1.2	1.2 - 2.0	0,406
REVD5NB	1 ½" 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

REVD	6	I	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 REVD1**S**)*
- *Available also in galvanized steel (example code REVD1**G**)*
- *For "Ex i" intrinsically safe marking, blu nut RAL 5015 (example code REVD1S**IA**)*
- *Internal ring nut for cables with armour with increased section*

REVDL series cable glands for armour cable special version

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.

Interactive Point

REVD 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 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
	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	

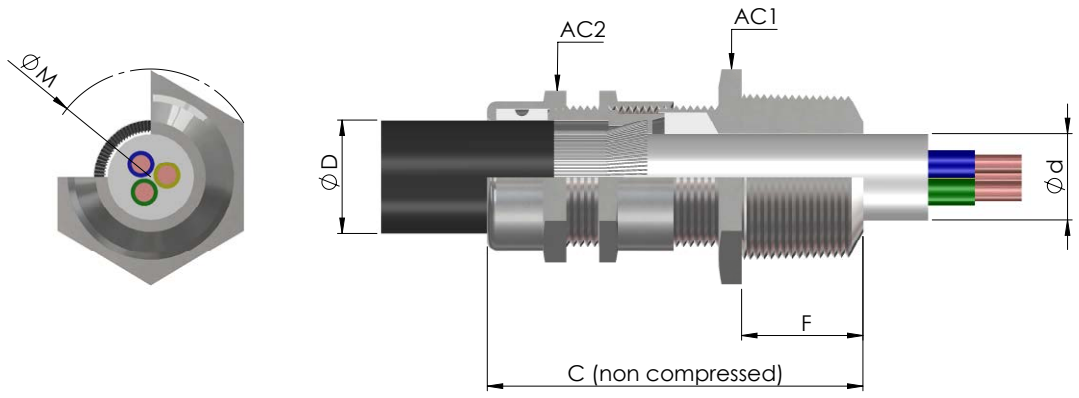
Certificates are available on www.cortemgroup.com

Accessories upon request

Locknut	ISO thread	Nichel-plated brass	Galvanized steel	Stainless steel	Shrouds black PVC made	Code
	M20x1,5	**DL1IB**	**DL1IG**	**DL1IS**		**PGA1F**
	M25x1,5	**DL2IB**	**DL2IG**	**DL2IS**		**PGA1F**
	M32x1,5	**DL3IB**	**DL3IG**	**DL3IS**		**PGA2R**
	M40x1,5	**DL4IB**	**DL4IG**	**DL4IS**		**PGA3**
	M50x1,5	**DL5IB**	**DL5IG**	**DL5IS**		**PGA4**
	M63x1,5	**DL6IB**	**DL6IG**	**DL6IS**		**PGA5**

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	**A1311IB**	**A1311IS**		**RDI1IS/A4**	
	M25x1,5	**A2312IB**	**A2312IS**		**RDI2IS/A4**	
	M32x1,5	**A3313IB**	**A3313IS**		**RDI3IS/A4**	
	M40x1,5	**A4314IB**	**A4314IS**		**RDI4IS/A4**	
	M50x1,5	**A5315IB**	**A5315IS**		**RDI5IS/A4**	
	M63x1,5	**A6315IB**	**A6315IS**		**RDI6IS/A4**	

* For different threads contact the sales office.



CABLE GLANDS SELECTION TABLE

Code Nichel-plated brass	Thread	Dimensions in mm					Range		Standard armour thickness	Increased armour thickness upon request	Weight
		AC1	AC2	ØM	F	C	Ød min-max Under armour	ØD min-max Outer sheath of the cable			Kg
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 ¼" ISO7/1	48	40	56	22	86,5	18 - 24	24 - 31	0.2 - 0.9	0.9 - 1.6	0,406
REVDL5B	1 ½" 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 ¼" NPT	48	40	56	26	90,5	18 - 24	24 - 31	0.2 - 0.9	0.9 - 1.6	0,406
REVDL5NB	1 ½" 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

REVDL	6	I	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 REVDL1**S**)*
- *Available also in galvanized steel (example code REVDL1**G**)*
- *For "Ex i" intrinsically safe marking, blu nut RAL 5015 (example code REVDL1S**IA**)*
- *Internal ring nut for cables with armour with increased section*

REVD/REVDS series cable glands for armoured cable from 2 ½" to 4"

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.

Interactive Point

REVD 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 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
	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

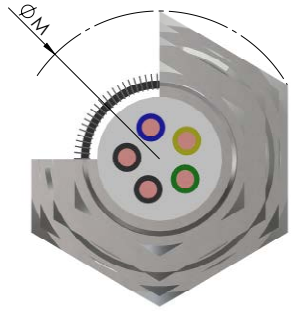
Accessories upon request

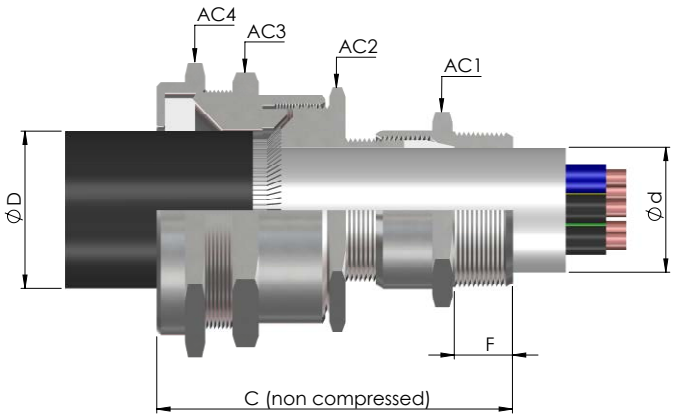
Locknut *	ISO thread	Nichel-plated brass	Galvanized steel	Stainless steel	Nichel-plated brass earthing rings *	Code	Adaptors and reducers RE... series
	M75x1,5	DL7IB	DL7IG	DL7IS		A7317IB	
	M90x1,5	DL8IB	DL8IG	DL8IS		A8318IB	
	M100x1,5	DL10IB	DL10IG	DL10IS		A10310IB	

* 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 Nichel-plated brass	Thread	Dimensions in mm							Range		Armour thickness min-max	Weight
		AC1	AC2	AC3	AC4	ØM	F	C	Ød min-max Under armour	ØD min-max Outer sheath of the cable		Kg
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

REVD	7	I	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 REVD7**S**)*
- *Available also in galvanized steel (example code REVD7**G**)*
- *For "Ex i" intrinsically safe marking, blu nut RAL 5015 (example code REVD9S**IA**)*

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	All IEC Ex and TR CU certification data can be downloaded at 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 +100°C	
Degree of protection:	IP66/67	

Certificates are available on www.cortemgroup.com

Interactive Point

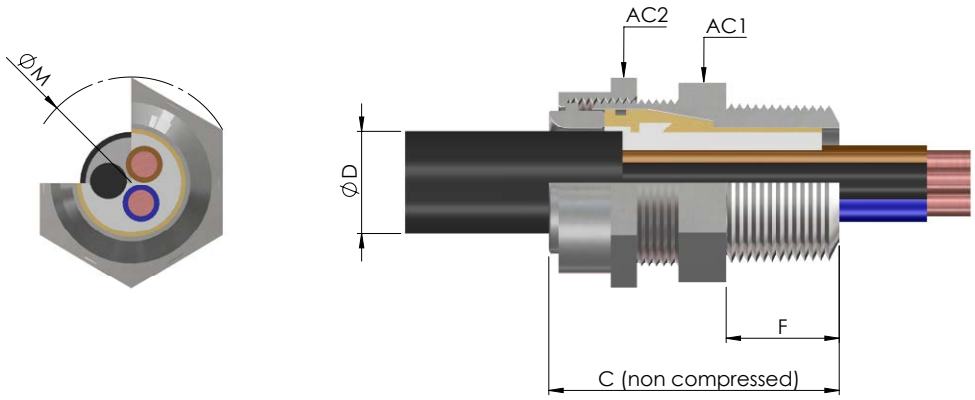
FB assembly instructions video

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	RDI1IS/A4	
	M25	RDI2IS/A4	
	M32	RDI3IS/A4	
	M40	RDI4IS/A4	
	M50	RDI5IS/A4	
	M63	RDI6IS/A4	

* For different threads contact the sales office.



CABLE GLANDS SELECTION TABLE

Code Nichel-plated 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 ¼" ISO7/1	53	60	69	26	68	23 - 30	0,390
FB5BK	1 ½" 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 ½" 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 ¼" NPT	55	60	69	26	68	23 - 30	0,390
FB5NBK	1 ½" NPT	60	67	77	26	68	29 - 38	0,510
FB6NBK	2" NPT	72	79	91	26	68	36 - 49	0,720
FB7NBK	2 ½" 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

FB	3	I	B	K	/	2
MODEL	SIZE	THREAD	MATERIAL	KIT OF SEALING RINGS		SUPPLIED IN PACKAGES

Resin compound kit:
Cable glands are supllied 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 FB5BK**IA**)*

FBF series barrier cable glands for non-armoured cable with female exit

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.

Interactive Point

FB 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 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
	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	

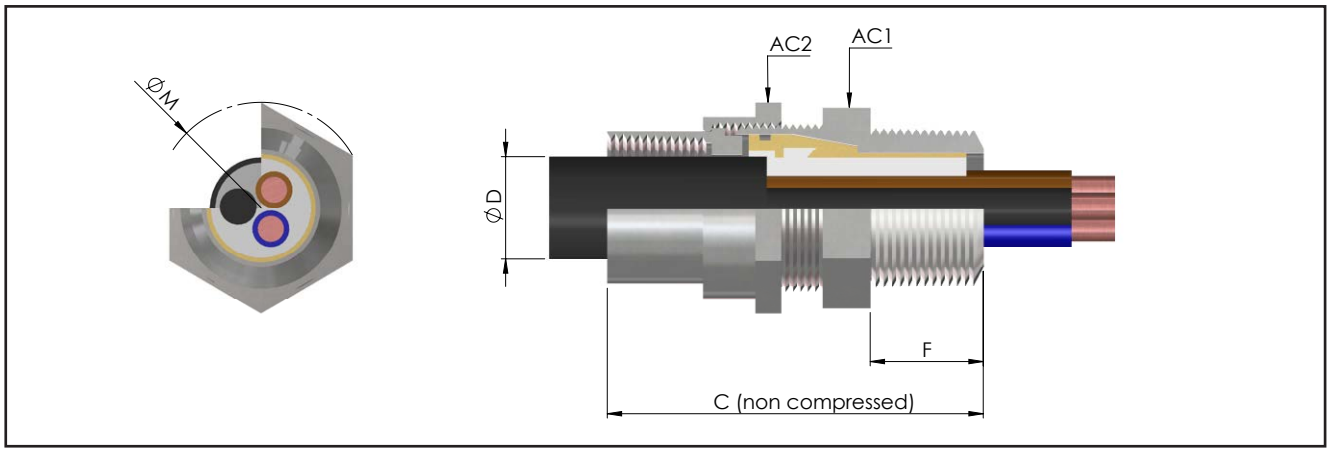
Certificates are available on www.cortemgroup.com

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	RDI1IS/A4	
	M25	RDI2IS/A4	
	M32	RDI3IS/A4	
	M40	RDI4IS/A4	
	M50	RDI5IS/A4	
	M63	RDI6IS/A4	

* For different threads contact the sales office.



CABLE GLANDS SELECTION TABLE

Code Nichel-plated 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 ¼" ISO7/1	53	60	69	26	78	23 - 30	0,800
FBF5BK	1 ½" 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 ½" 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 ¼" NPT	55	60	69	26	78	23 - 30	0,800
FBF5NBK	1 ½" NPT	60	67	77	26	78	29 - 38	1,010
FBF6NBK	2" NPT	72	79	91	26	78	36 - 49	1,420
FBF7NBK	2 ½" 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

FBF	3	I	B	K
MODEL	SIZE	THREAD	MATERIAL	KIT OF SEALING RINGS

Resin compound kit:
Cable glands are supllied 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 FBF5BK**IA**)*
- *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: FBF3**NI**BK)*

FBN series barrier cable glands for non-armoured cable with male exit

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.

Interactive Point

FB 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 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
	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	

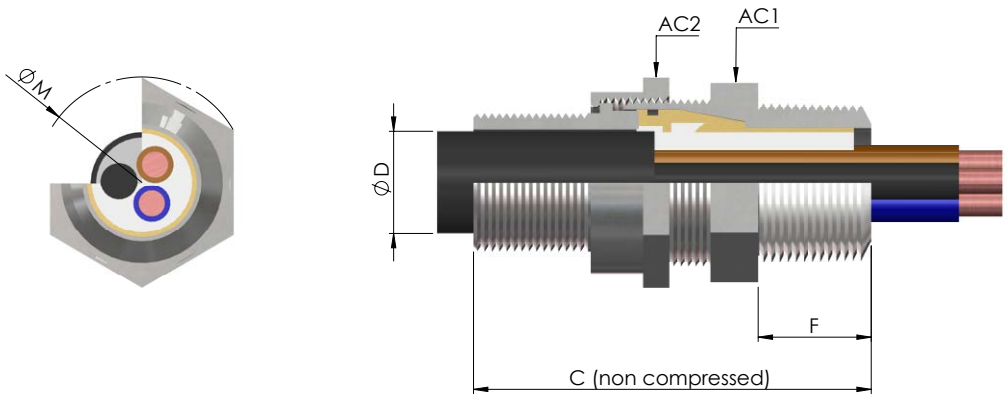
Certificates are available on www.cortemgroup.com

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	RDI1IS/A4	
	M25	RDI2IS/A4	
	M32	RDI3IS/A4	
	M40	RDI4IS/A4	
	M50	RDI5IS/A4	
	M63	RDI6IS/A4	

* For different threads contact the sales office.



CABLE GLANDS SELECTION TABLE

Code Nichel-plated 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 ¼" ISO7/1	53	60	69	26	94	23 - 30	0,800
FBN5BK	1 ½" 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 ½" 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 ¼" NPT	55	60	69	26	78	23 - 30	0,800
FBN5NBK	1 ½" NPT	60	67	77	26	78	29 - 38	1,010
FBN6NBK	2" NPT	72	79	91	26	78	36 - 49	1,420
FBN7NBK	2 ½" 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

FBN	3	I	B	K
MODEL	SIZE	THREAD	MATERIAL	KIT OF SEALING RINGS

Resin compound kit:
Cable glands are supllied 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 FBN5BK**IA**)*
- *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: FBN3**NI**BK)*

FGAB series barrier cable glands for armoured cable

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

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
	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	

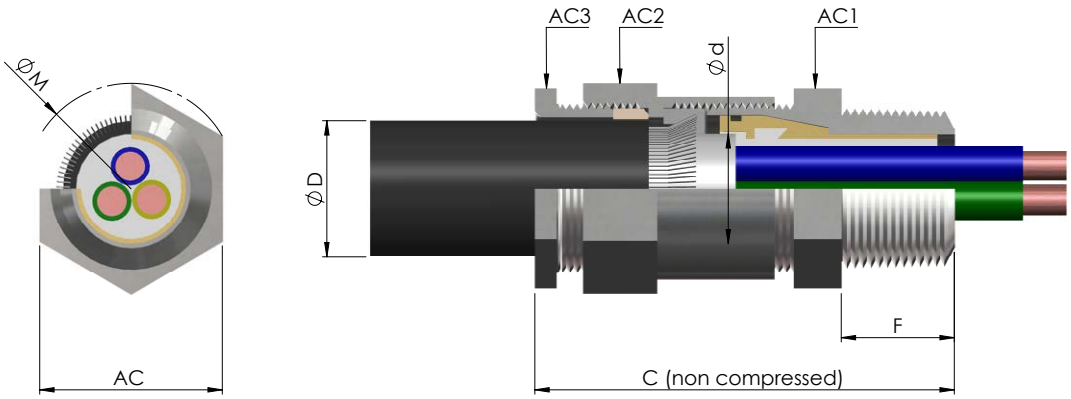
Certificates are available on www.cortemgroup.com

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	RDI1IS/A4	
	M25	RDI2IS/A4	
	M32	RDI3IS/A4	
	M40	RDI4IS/A4	
	M50	RDI5IS/A4	
	M63	RDI6IS/A4	

* For different threads contact the sales office.



CABLE GLANDS SELECTION TABLE

Code Nichel-plated brass	Thread	Dimensions in mm						Range		Armour thickness min-max	Weight
		AC1	AC2	AC3	ØM	F	C	ØD min-max	Ød min-max		Kg
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

FGAB	3	I	B	K	/	2
MODEL	SIZE	THREAD	MATERIAL	KIT OF SEALING RINGS		SUPPLIED IN PACKAGES

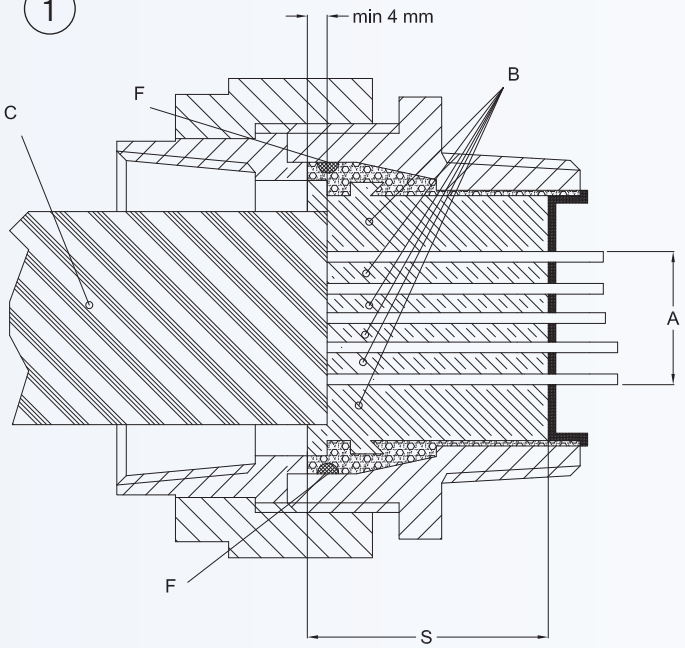
Resin compound kit: Cable glands are supllied with a resin bag, mixing spatula and protective gloves.

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 FGAB5BK**IA**)*

1

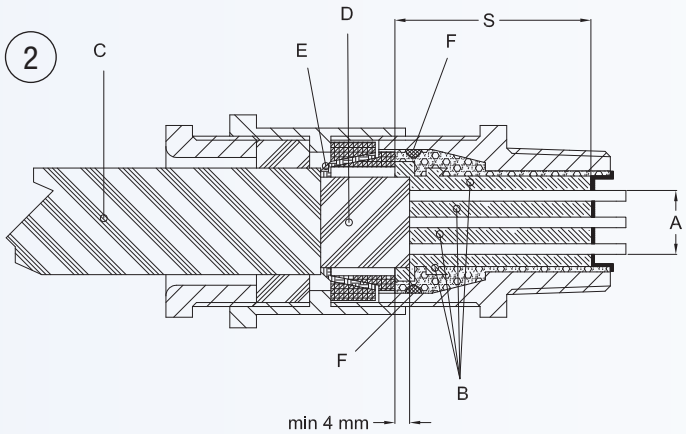


Note:

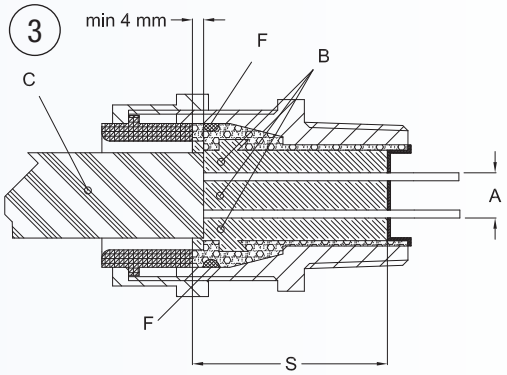
1. Amount of resin S≥20mm
2. a= sealed conductors
3. b= bi-component resin
4. c= external sheat of cable
5. d= internal sheat of cable
6. e= cable armour
7. f= sealing ring for IP protection
8. min. 4 mm (sealing for external sheat of the cable mandatory)

Examples of resined barrier cable glands:
1. FBF series for non-armoured cable
2. FGAB series for amoured cable
3. FB series for non-armoured cable

2



3



DIMENSIONS (mm)

Conductors section mm²	Maximum number of conductors	Ø internal cable min-max	Ø external cable 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 ¼"
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"

DIMENSIONS (mm)				
Conductors section mm²	Maximum number of conductors	Ø internal cable min-max	Ø external cable min-max	Size NPT cable gland
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 1/4"
	4	29-38	36-46	1 1/2"
	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 unrmoured 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

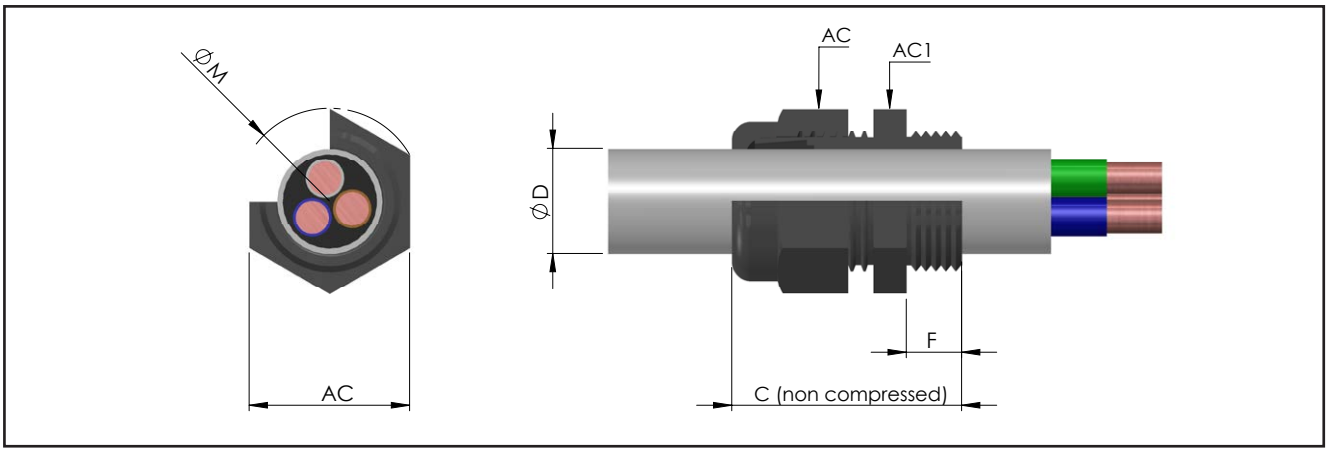
UNI assembly instructions video

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

Accessories upon request

Locknut	ISO thread	Code	Material	Plugs for IP ptotection	ISO thread	Code
	M12x1,5	**DL02IXEP**	Polyamide		M12x1,5	**PT02**
	M16x1,5	**DL01IXEP**			M16x1,5	**PT01**
	M20x1,5	**DL1IXEP**			M20x1,5	**PT1**
	M25x1,5	**DL2IXEP**			M25x1,5	**PT2**
	M32x1,5	**DL3IXEP**			M32x1,5	**PT3**
	M40x1,5	**DL4IXEP**			M40x1,5	**PT4**
	M50x1,5	**DL5IXEP**			M50x1,5	**PT5**
	M63x1,5	**DL6IXEP**			M63x1,5	**PT6**



CABLE GLANDS SELECTION TABLE

Code Polyamide	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

UNI	2	L	XE	7
MODEL	SIZE	INCREASED THREAD LENGHT	METHOD OF PROTECTION Ex e	SERIE 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 in polyamide for non-armoured cable

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

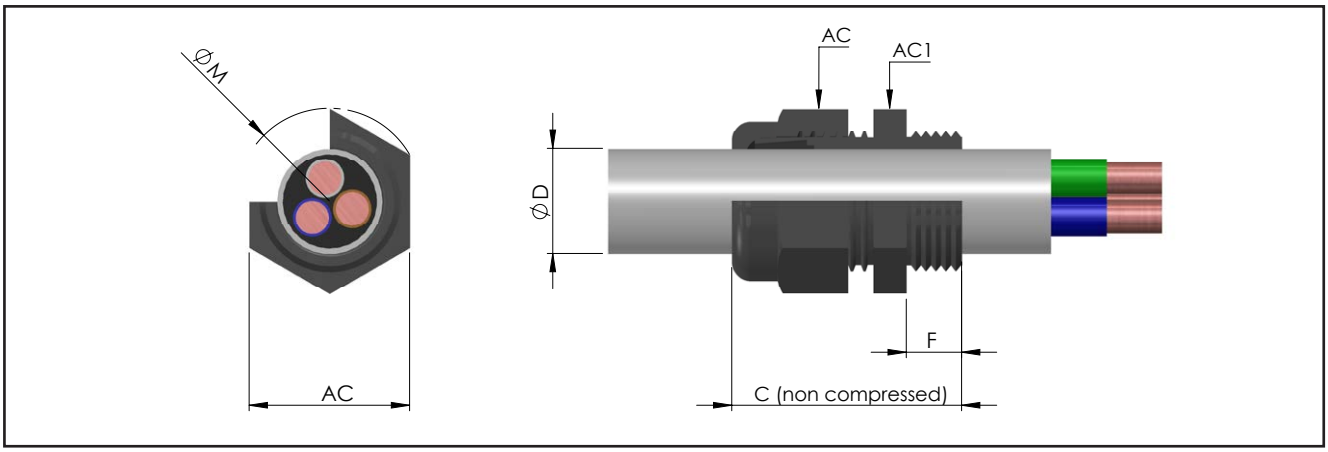
UNP assembly instructions video

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

Accessories upon request

Locknut	Thread PG	Code	Material	Plugs for IP ptotection	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 Polyamide	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

UNP	3	L	XI	7
MODEL	SIZE	INCREASED THREAD LENGHT	METHOD OF PROTECTION Ex i	SERIE 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*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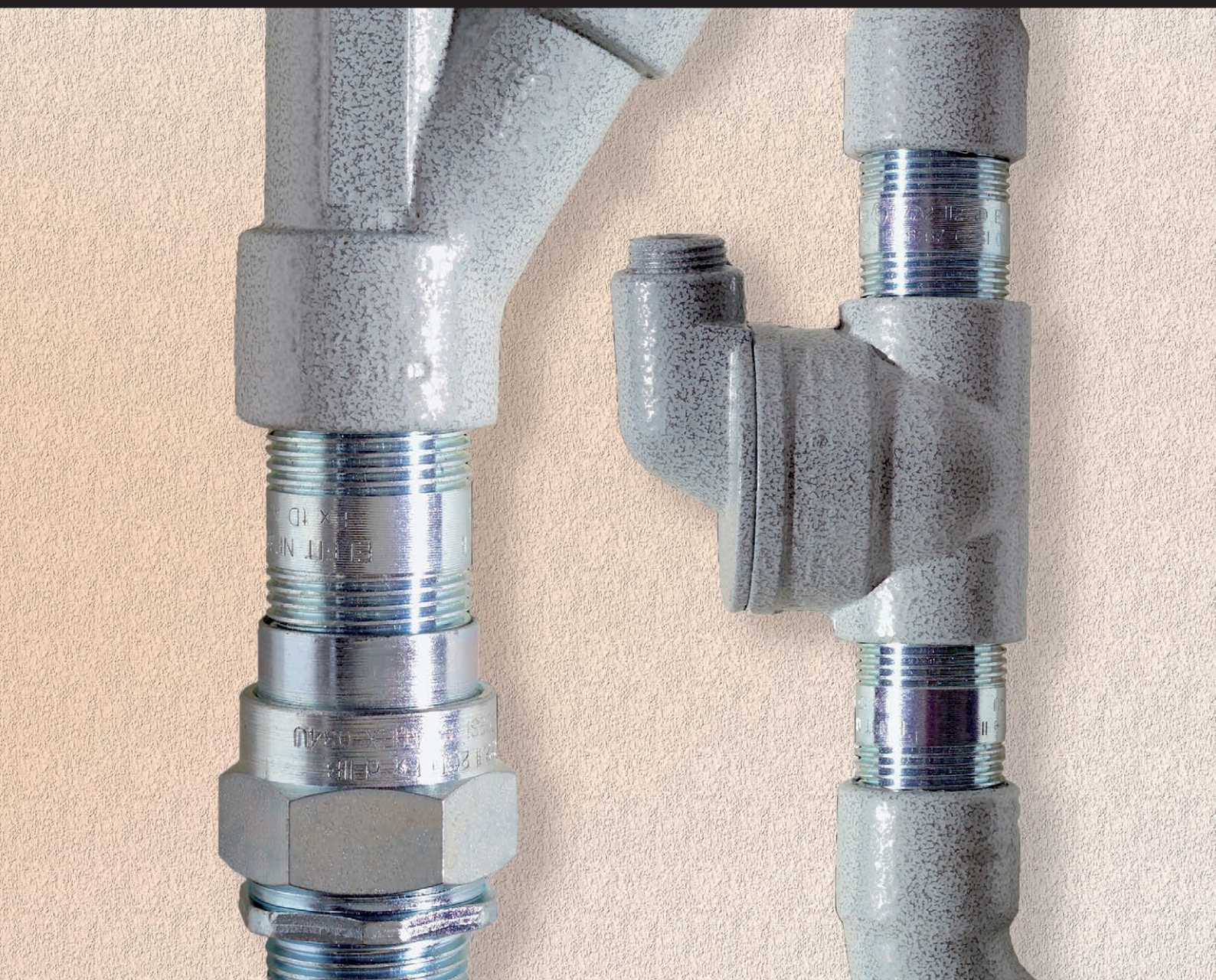


BMF series three pieces unions for IIB gas group enable an independent rotation and the connection between pipes, enclosures or different equipment.

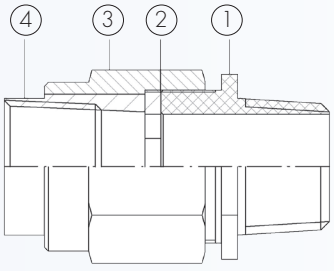
Classification: 2014/34/UE	Group II	Category 2GD
Installation: EN 60079.14	zone 1 - zone 2 (Gas)	zone 21 - zone 22 (Dust)
Marking:	CE 0722 Ex II 2 GD Ex d IIB Gb Ex tb IIIC Db IP66 (B..)	
Certification:	ATEX CESI 99 ATEX 034U	
	IECEx IECEx CES 10.0002U	All IEC Ex and TR CU certification data can be downloaded at 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	
Degree of protection:	IP66/67	

Operating temperature:

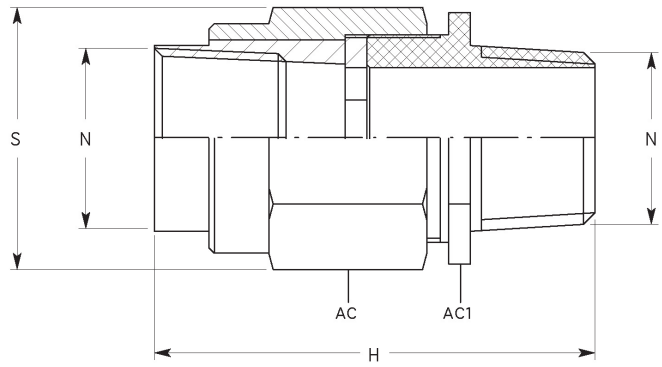
Three pieces unions series	Materials	Gaskets	Ambient temperature
BMF...	Galvanised steel **(G)**, Nichel-plated brass **(B)**	Silicone	-20°C +60°C
BMF...S	Stainless steel **(S)**	Silicone	-55°C +60°C

Certificates are available on www.cortemgroup.com

COMPOSITION OF STANDARD UNION



1. Male body
2. Gasket
3. Nut
4. Female threaded bushing



UNIONS SELECTION TABLE

Code In galvanised 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 ¼" ISO7/1	86	60	55	59	0,760
BMF5G	1 ½" ISO7/1	86,5	75	70	67	1,000
BMF6G	2" ISO7/1	88	90	84	77	1,400
BMF7G	2 ½" 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 ¼" NPT	86	60	55	59	0,760
BMF5NG	1 ½" NPT	86,5	75	70	67	1,000
BMF6NG	2" NPT	88	90	84	77	1,400
BMF7NG	2 ½" 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

BMF	6	I	G
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 BMF1**S**)*
- *Available also upon request in nichel-plated brass (example code BMF1**B**)*
- *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.

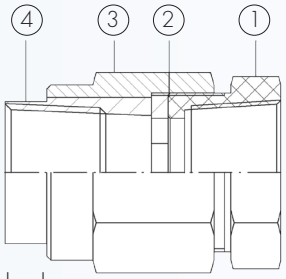
Classification: 2014/34/UE	Group II	Category 2GD
Installation: EN 60079.14	zone 1 - zone 2 (Gas)	zone 21 - zone 22 (Dust)
Marking:	CE 0722 Ex II 2 GD Ex d IIB Gb Ex tb IIIC Db IP66 (B..)	
Certification:	ATEX CESI 99 ATEX 034U	
	IECEx IECEx CES 10.0002U	All IEC Ex and TR CU certification data can be downloaded at 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	
Degree of protection:	IP66/67	

Operating temperature:

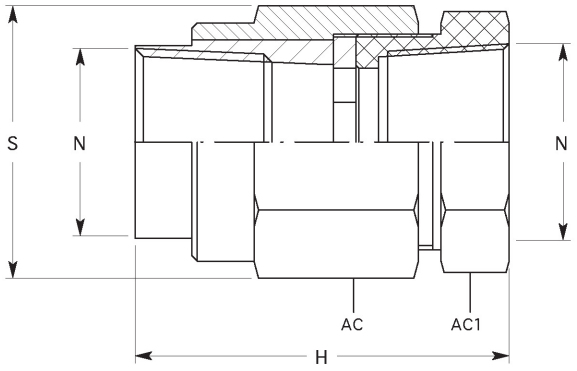
Three pieces unions series	Materials	Gaskets	Ambient temperature
BFF...	Galvanised steel **(G)**, Nichel-plated brass **(B)**	Silicone	-20°C +60°C
BFF...S	Stainless steel **(S)**	Silicone	-55°C +60°C

Certificates are available on www.cortemgroup.com

COMPOSITION OF STANDARD UNION



1. Female body
2. Gasket
3. Nut
4. Female threaded bushing



UNIONS SELECTION TABLE

Code In galvanised steel	Thread N	Dimensions in mm				Weight
		H	S	AC	AC1	Kg
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 ¼" ISO7/1	63	60	55	59	0,640
BFF5G	1 ½" ISO7/1	63	75	70	67	0,960
BFF6G	2" ISO7/1	64	90	84	77	1,220
BFF7G	2 ½" 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 ¼" NPT	63	60	55	59	0,640
BFF5NG	1 ½" NPT	63	75	70	67	0,960
BFF6NG	2" NPT	64	90	84	77	1,220
BFF7NG	2 ½" 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

BFF	6	I	G
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 BFF1**S**)*
- *Available also upon request in nichel-plated brass (example code BFF1**B**)*

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

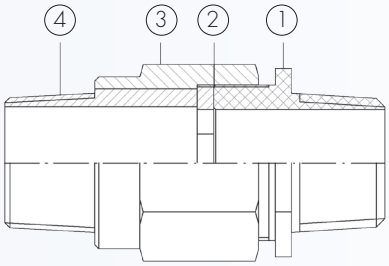
Classification: 2014/34/UE	Group II	Category 2GD
Installation: EN 60079.14	zone 1 - zone 2 (Gas)	zone 21 - zone 22 (Dust)
Marking:	CE 0722 Ex II 2 GD Ex d IIB Gb Ex tb IIIC Db IP66 (B..)	
Certification:	ATEX CESI 99 ATEX 034U	
	IECEx IECEx CES 10.0002U	All IEC Ex and TR CU certification data can be downloaded at 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	
Degree of protection:	IP66/67	

Operating temperature:

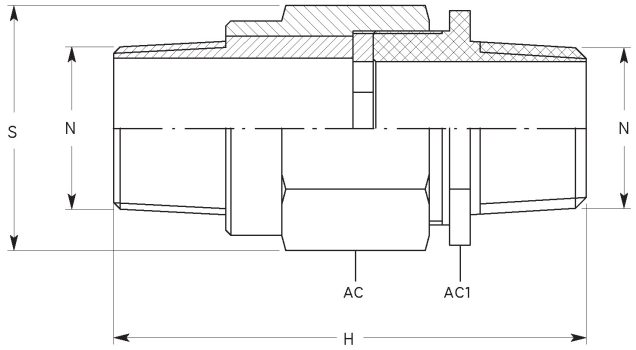
Three pieces unions series	Materials	Gaskets	Ambient temperature
BMM...	Galvanised steel **(G)**, Nichel-plated brass **(B)**	Silicone	-20°C +60°C
BMM...S	Stainless steel **(S)**	Silicone	-55°C +60°C

Certificates are available on www.cortemgroup.com

COMPOSITION OF STANDARD UNION



1. Male body
2. Gasket
3. Nut
4. Male threaded bushing



UNIONS SELECTION TABLE

Code In galvanised steel	Thread N	Dimensions in mm				Weight
		H	S	AC	AC1	Kg
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 ¼" ISO7/1	91	60	55	59	0,640
BMM5G	1 ½" ISO7/1	92	75	70	67	0,960
BMM6G	2" ISO7/1	94	90	84	77	1,220
BMM7G	2 ½" 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 ¼" NPT	91	60	55	59	0,640
BMM5NG	1 ½" NPT	92	75	70	67	0,960
BMM6NG	2" NPT	94	90	84	77	1,220
BMM7NG	2 ½" 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

BMM	6	I	G
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 BMM1**S**)*
- *Available also upon request in nichel-plated brass (example code BMM1**B**)*

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.

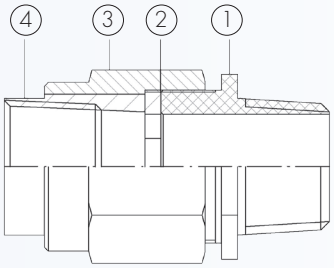
Classification: 2014/34/UE	Group II	Category 2GD
Installation: EN 60079.14	zone 1 - zone 2 (Gas)	zone 21 - zone 22 (Dust)
Marking:	CE 0722 Ex II 2 GD Ex d IIB Gb Ex tb IIIC Db IP66 (RB..)	
Certification:	ATEX CESI 99 ATEX 034U	
	IECEx IECEx CES 10.0002U	All IEC Ex and TR CU certification data can be downloaded at 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	
Degree of protection:	IP66/67	

Operating temperature:

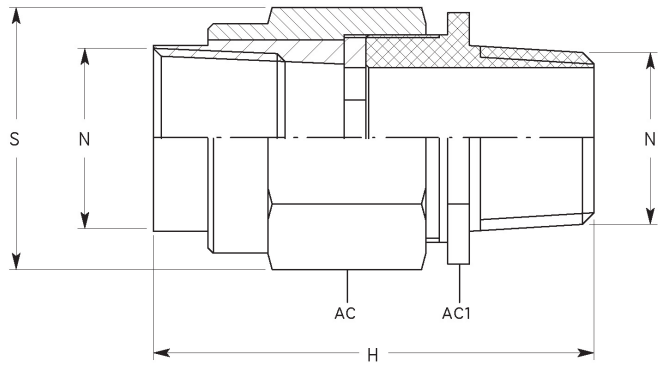
Three pieces unions series	Materials	Gaskets	Ambient temperature
RBMF...	Galvanised steel **(G)**, Nichel-plated brass **(B)**	Silicone	-20°C +150°C
RBMF...S	Stainless steel **(S)**	Silicone	-55°C +150°C

Certificates are available on www.cortemgroup.com

COMPOSITION OF STANDARD UNION



1. Male body
2. Gasket
3. Nut
4. Female threaded bushing



UNIONS SELECTION TABLE

Code In galvanised 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 ¼" ISO7/1	86	60	55	59	0,760
RBMF5G	1 ½" ISO7/1	86,5	75	70	67	1,000
RBMF6G	2" ISO7/1	88	90	84	77	1,400
RBMF7G	2 ½" 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 ¼" NPT	86	60	55	59	0,760
RBMF5NG	1 ½" NPT	86,5	75	70	67	1,000
RBMF6NG	2" NPT	88	90	84	77	1,400
RBMF7NG	2 ½" 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

RBMF	6	I	G
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 RBMF1**S**)*
- *Available also in nichel-plated brass (example code RBMF1**B**)*
- *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.

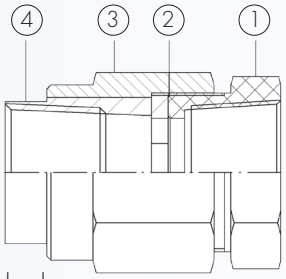
Classification: 2014/34/UE	Group II	Category 2GD
Installation: EN 60079.14	zone 1 - zone 2 (Gas)	zone 21 - zone 22 (Dust)
Marking:	CE 0722 Ex II 2 GD Ex d IIB Gb Ex tb IIIC Db IP66 (RB..)	
Certification:	ATEX CESI 99 ATEX 034U	
	IECEx IECEx CES 10.0002U	All IEC Ex and TR CU certification data can be downloaded at 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	
Degree of protection:	IP66/67	

Operating temperature:

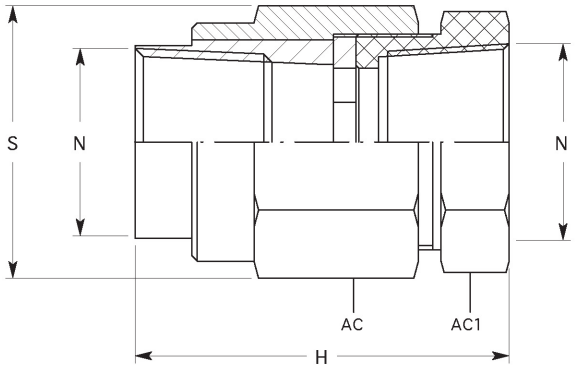
Three pieces unions series	Materials	Gaskets	Ambient temperature
RBFF...	Galvanised steel **(G)**, Nichel-plated brass **(B)**	Silicone	-20°C +150°C
RBFF...S	Stainless steel **(S)**	Silicone	-55°C +150°C

Certificates are available on www.cortemgroup.com

COMPOSITION OF STANDARD UNION



1. Female body
2. Gasket
3. Nut
4. Female threaded bushing



UNIONS SELECTION TABLE

Code In galvanised 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 ¼" ISO7/1	63	60	55	59	0,640
RBFF5G	1 ½" ISO7/1	63	75	70	67	0,960
RBFF6G	2" ISO7/1	64	90	84	77	1,220
RBFF7G	2 ½" 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 ¼" NPT	63	60	55	59	0,640
RBFF5NG	1 ½" NPT	63	75	70	67	0,960
RBFF6NG	2" NPT	64	90	84	77	1,220
RBFF7NG	2 ½" 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

RBFF	6	I	G
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 RBFF1**S**)*
- *Available also in nichel-plated brass (example code RBFF1**B**)*

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.

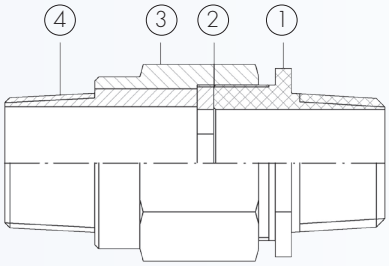
Classification: 2014/34/UE	Group II	Category 2GD
Installation: EN 60079.14	zone 1 - zone 2 (Gas)	zone 21 - zone 22 (Dust)
Marking:	CE 0722 Ex II 2 GD Ex d IIB Gb Ex tb IIIC Db IP66 (RB..)	
Certification:	ATEX CESI 99 ATEX 034U	
	IECEx IECEx CES 10.0002U	All IEC Ex and TR CU certification data can be downloaded at 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	
Degree of protection:	IP66/67	

Operating temperature:

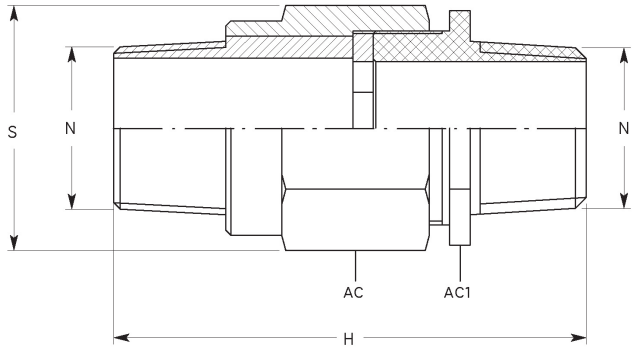
Three pieces unions series	Materials	Gaskets	Ambient temperature
RBMM...	Galvanised steel **(G)**, Nichel-plated brass **(B)**	Silicone	-20°C +150°C
RBMM...S	Stainless steel **(S)**	Silicone	-55°C +150°C

Certificates are available on www.cortemgroup.com

COMPOSITION OF STANDARD UNION



1. Male body
2. Gasket
3. Nut
4. Male threaded bushing



UNIONS SELECTION TABLE

Code In galvanised 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 ¼" ISO7/1	125	60	55	59	0,640
RBMM5G	1 ½" ISO7/1	126	75	70	67	0,960
RBMM6G	2" ISO7/1	127	90	84	77	1,220
RBMM7G	2 ½" 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 ¼" NPT	125	60	55	59	0,640
RBMM5NG	1 ½" NPT	126	75	70	67	0,960
RBMM6NG	2" NPT	127	90	84	77	1,220
RBMM7NG	2 ½" 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

RBMM	6	I	G
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 RBMM1**S**)*
- *Available also in nichel-plated brass (example code RBMM1**B**)*

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

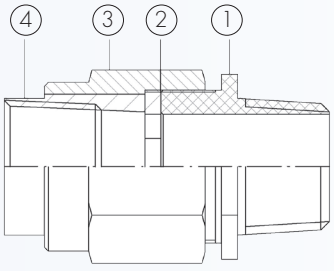
Classification: 2014/34/UE	Group II	Category 2GD
Installation: EN 60079.14	zone 1 - zone 2 (Gas)	zone 21 - zone 22 (Dust)
Marking:	CE 0722 Ex II 2 GD Ex d IIC Gb Ex tb IIIC Db IP66 (R..)	
Certification:	ATEX CESI 99 ATEX 034U	
	IECEx IECEx CES 10.0002U	All IEC Ex and TR CU certification data can be downloaded at 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	
Degree of protection:	IP66/67	

Operating temperature:

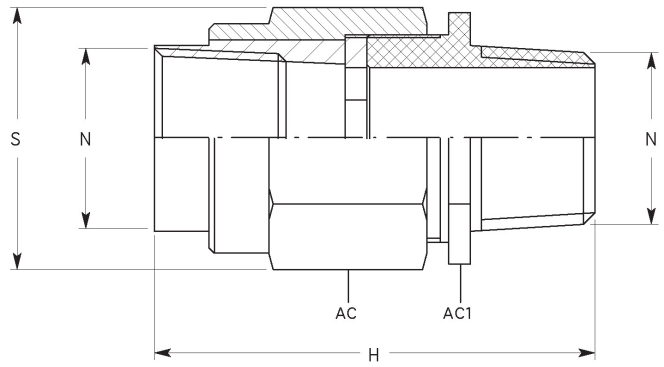
Three pieces unions series	Materials	Gaskets	Ambient temperature
RMF...	Galvanised steel **(G)**, Nichel-plated brass **(B)**	Silicone	-20°C +60°C
RMF...S	Stainless steel **(S)**	Silicone	-55°C +60°C

Certificates are available on www.cortemgroup.com

COMPOSITION OF STANDARD UNION



1. Male body
2. Gasket
3. Nut
4. Female threaded bushing



UNIONS SELECTION TABLE

Code In galvanised 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 ¼" ISO7/1	87	60	55	59	0,940
RMF5G	1 ½" ISO7/1	87	75	70	67	1,125
RMF6G	2" ISO7/1	87	90	84	77	1,540
RMF7G	2 ½" 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 ¼" NPT	87	60	55	59	0,940
RMF5NG	1 ½" NPT	87	75	70	67	1,125
RMF6NG	2" NPT	87	90	84	77	1,540
RMF7NG	2 ½" 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

RMF	6	I	G
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 RMF1**S**)*
- *Available also in nichel-plated brass (example code RMF1**B**)*
- *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.

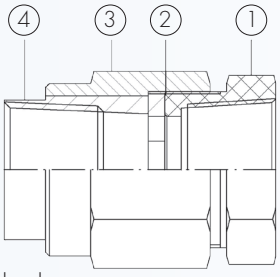
Classification: 2014/34/UE	Group II	Category 2GD
Installation: EN 60079.14	zone 1 - zone 2 (Gas)	zone 21 - zone 22 (Dust)
Marking:	CE 0722 Ex II 2 GD Ex d IIC Gb Ex tb IIIC Db IP66 (R..)	
Certification:	ATEX CESI 99 ATEX 034U	
	IECEx IECEx CES 10.0002U	All IEC Ex and TR CU certification data can be downloaded at 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	
Degree of protection:	IP66/67	

Operating temperature:

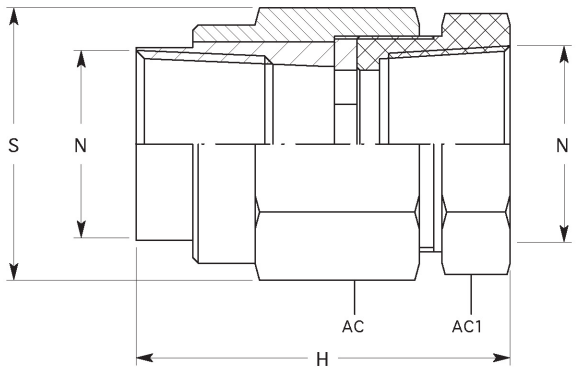
Three pieces unions series	Materials	Gaskets	Ambient temperature
RFF...	Galvanised steel **(G)**, Nichel-plated brass **(B)**	Silicone	-20°C +60°C
RFF...S	Stainless steel **(S)**	Silicone	-55°C +60°C

Certificates are available on www.cortemgroup.com

COMPOSITION OF STANDARD UNION



1. Female body
2. Gasket
3. Nut
4. Female threaded bushing



UNIONS SELECTION TABLE

Code In galvanised 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 ¼" ISO7/1	63	60	55	59	0,820
RFF5G	1 ½" ISO7/1	66	75	70	67	1,020
RFF6G	2" ISO7/1	66	90	84	77	1,390
RFF7G	2 ½" 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 ¼" NPT	63	60	55	59	0,820
RFF5NG	1 ½" NPT	66	75	70	67	1,020
RFF6NG	2" NPT	66	90	84	77	1,390
RFF7NG	2 ½" 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

RFF	6	I	G
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 RFF1**S**)*
- *Available also in nichel-plated brass (example code RFF1**B**)*

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

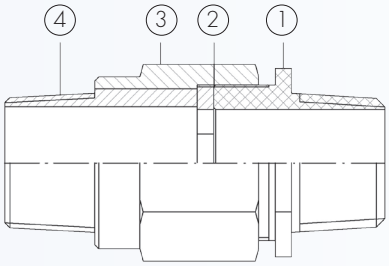
Classification: 2014/34/UE	Group II	Category 2GD
Installation: EN 60079.14	zone 1 - zone 2 (Gas)	zone 21 - zone 22 (Dust)
Marking:	CE 0722 Ex II 2 GD Ex d IIC Gb Ex tb IIIC Db IP66 (R..)	
Certification:	ATEX CESI 99 ATEX 034U	
	IECEx IECEx CES 10.0002U	All IEC Ex and TR CU certification data can be downloaded at 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	
Degree of protection:	IP66/67	

Operating temperature:

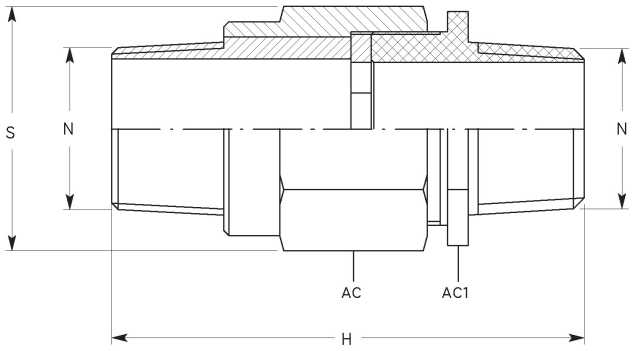
Three pieces unions series	Materials	Gaskets	Ambient temperature
RMM...	Galvanised steel **(G)**, Nichel-plated brass **(B)**	Silicone	-20°C +60°C
RMM...S	Stainless steel **(S)**	Silicone	-55°C +60°C

Certificates are available on www.cortemgroup.com

COMPOSITION OF STANDARD UNION



1. Male body
2. Gasket
3. Nut
4. Male threaded bushing



UNIONS SELECTION TABLE

Code In galvanised steel	Thread N	Dimensions in mm				Weight
		H	S	AC	AC1	Kg
RMM1G	1/2" ISO7/1	97	35	30	27	0,220
RMM2G	3/4" ISO7/1	97	40	35	32	0,290
RMM3G	1" ISO7/1	110	48	42	40	0,425
RMM4G	1 ¼" ISO7/1	125	60	55	59	1,200
RMM5G	1 ½" ISO7/1	125	75	70	67	1,500
RMM6G	2" ISO7/1	125	90	84	77	1,900
RMM7G	2 ½" ISO7/1	142	117	108	99	4,000
RMM8G	3" ISO7/1	142	132	121	108	4,000
RMM10G	4" ISO7/1	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 ¼" NPT	125	60	55	59	1,200
RMM5NG	1 ½" NPT	125	75	70	67	1,500
RMM6NG	2" NPT	125	90	84	77	1,900
RMM7NG	2 ½" 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

RMM	6	I	G
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 RMM1**S**)*
- *Available also in nichel-plated brass (example code RMM1**B**)*

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
	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	

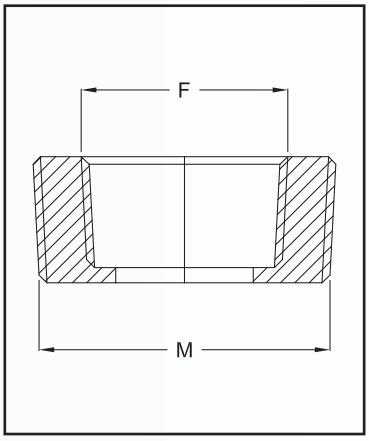
Operating temperature:

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

Certificates are available on www.cortemgroup.com

SELECTION TABLE OF STANDARD ADAPTORS

Thread 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 (MODEL) 31 (SIZE) G (MATERIAL)

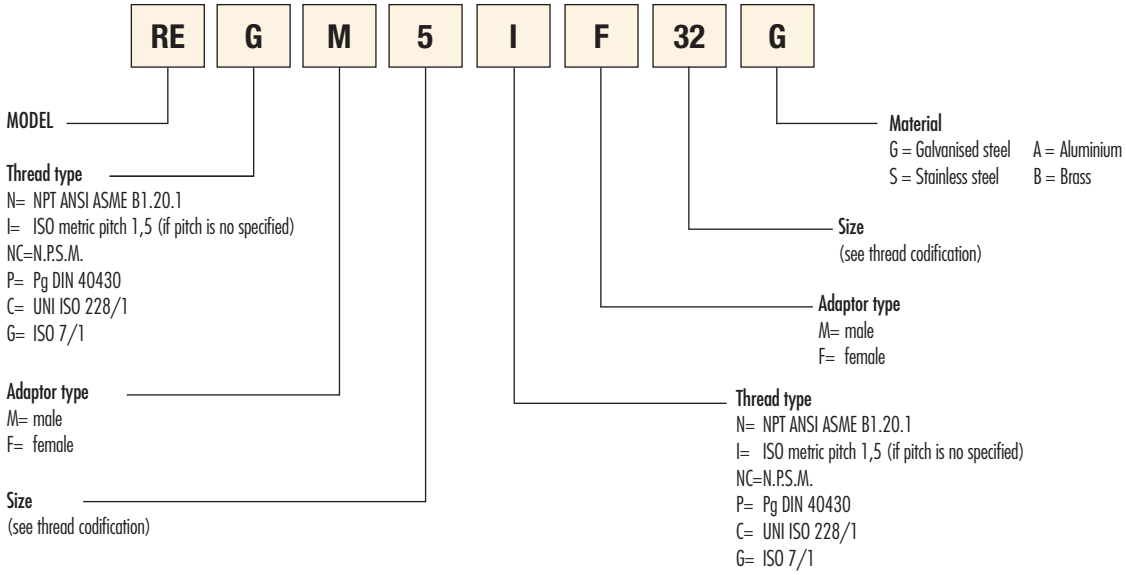
TECHNICAL NOTES:

- *Available with other threads (example code RE31**NG**)*
- *Available in different materials (example code RE31**A**)*
- *Size over 3" upon request*

SPECIAL ADAPTORS (MIXED THREADS)

Order code example

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



THREAD CODIFICATION

NPT, N.P.S.M., UNI ISO 228/1, ISO7/1

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

Adaptors REB female - male

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
	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	

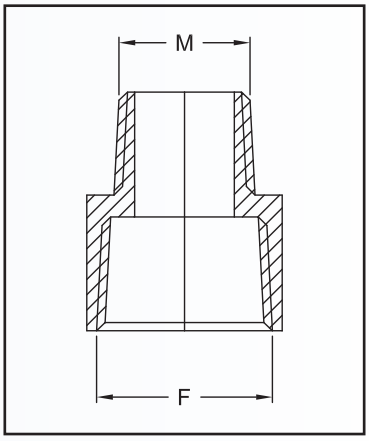
Operating temperature:

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

Certificates are available on www.cortemgroup.com

SELECTION TABLE OF STANDARD ADAPTORS

Thread ISO7/1		Ø MALE M								
		1/4"	3/8"	1/2"	3/4"	1"	1 ¼"	1 ½"	2"	2 ½"
Ø FEMALE F	3/8"	REB3814								
	1/2"	REB114	REB138							
	3/4"	REB214	REB238	REB21						
	1"	REB314	REB338	REB31	REB32					
	1 ¼"	REB414	REB438	REB41	REB42	REB43				
	1 ½"	REB514	REB538	REB51	REB52	REB53	REB54			
	2"	REB614	REB638	REB61	REB62	REB63	REB64	REB65		
	2 ½"			REB71	REB72	REB73	REB74	REB75	REB76	
	3"			REB81	REB82	REB83	REB84	REB85	REB86	REB87



Order code example of standard adaptors

REB	31	G
MODEL	SIZE	MATERIAL

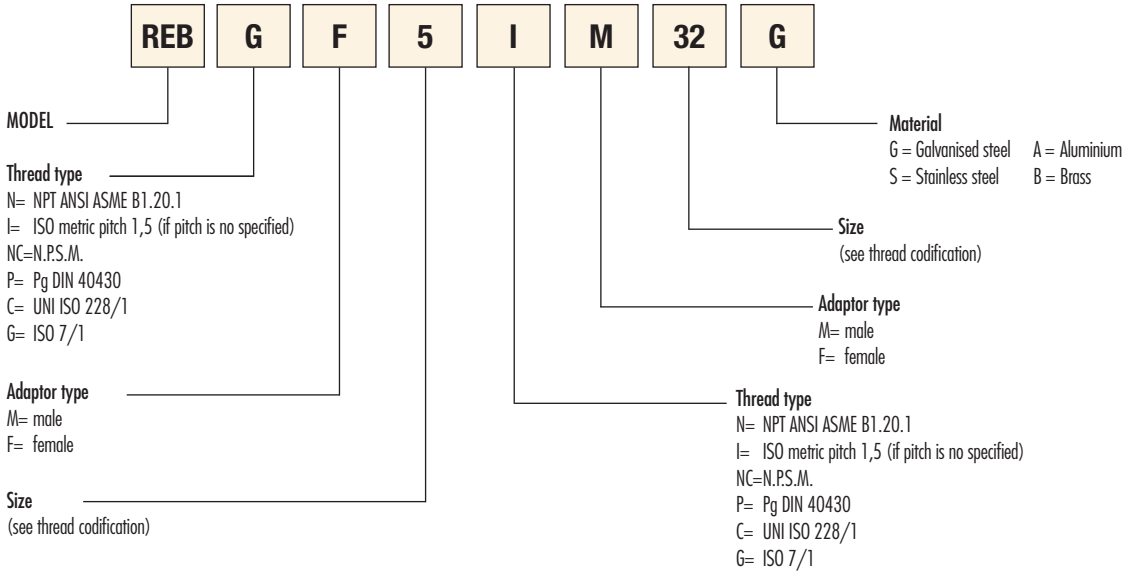
TECHNICAL NOTES:

- *The silicone O-ring for the IP protection for cylindrical threads (ISO metric) is supplied already assembled*
- *Available with other threads (example code REB31**NG**)*
- *Available in different materials (example code REB31**A**)*

SPECIAL ADAPTORS (MIXED THREADS)

Order code example

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



THREAD CODIFICATION

NPT, N.P.S.M., UNI ISO 228/1, ISO7/1

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

Adaptors REM female - female

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
	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	

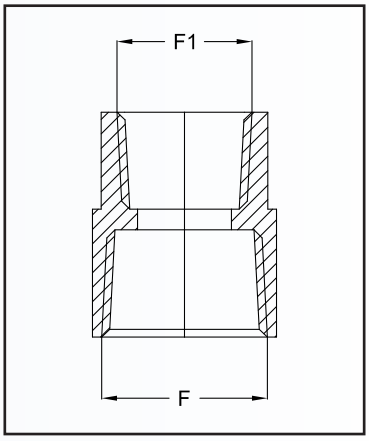
Operating temperature:

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

Certificates are available on www.cortemgroup.com

SELECTION TABLE OF STANDARD ADAPTORS

Thread ISO7/1		Ø FEMALE F1								
		1/4"	3/8"	1/2"	3/4"	1"	1 ¼"	1 ½"	2"	2 ½"
Ø FEMALE F	3/8"	REM3814								
	1/2"	REM114	REM138							
	3/4"	REM214	REM238	REM21						
	1"	REM314	REM338	REM31	REM32					
	1 ¼"	REM414	REM438	REM41	REM42	REM43				
	1 ½"	REM514	REM538	REM51	REM52	REM53	REM54			
	2"	REM614	REM638	REM61	REM62	REM63	REM64	REM65		
	2 ½"			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

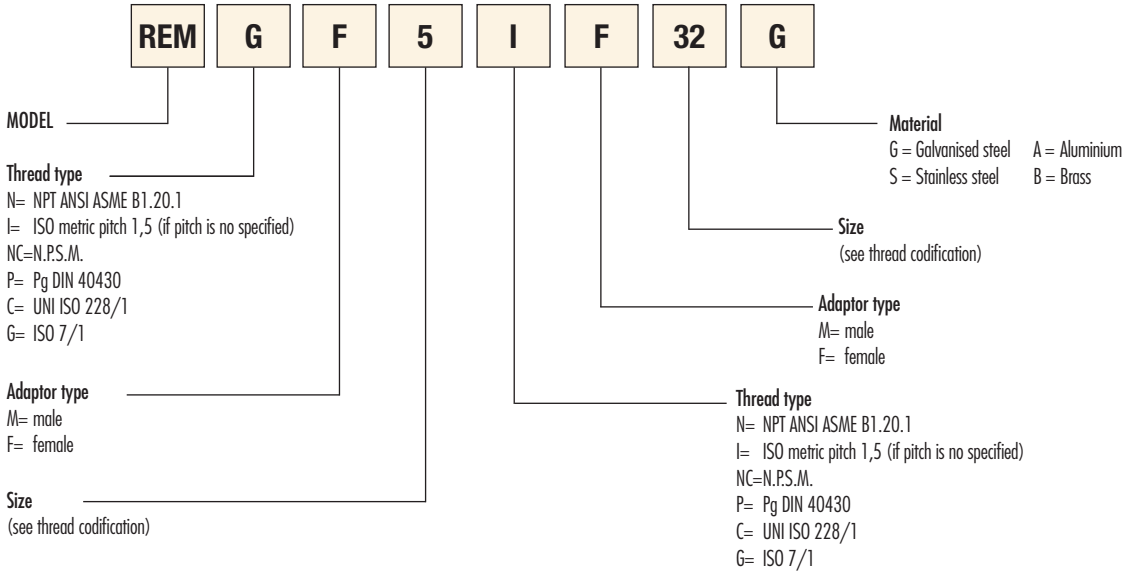
TECHNICAL NOTES:

- *Available with other threads (example code REM31**NG**)*
- *Available in different materials (example code REM31**A**)*

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, ISO7/1

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.

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
	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	

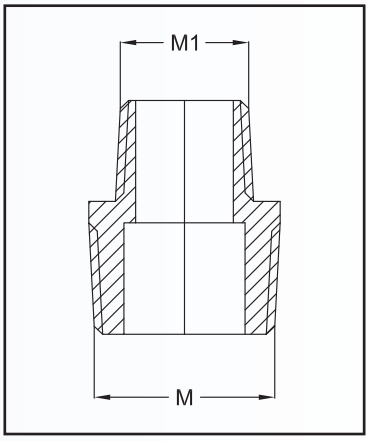
Operating temperature:

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

Certificates are available on www.cortemgroup.com

SELECTION TABLE OF STANDARD ADAPTORS

Thread ISO7/1		Ø MALE F								
		1/4"	3/8"	1/2"	3/4"	1"	1 ¼"	1 ½"	2"	2 ½"
Ø MALE M	3/8"	REN3814								
	1/2"	REN114	REN138							
	3/4"	REN214	REN238	REN21						
	1"	REN314	REN338	REN31	REN32					
	1 ¼"	REN414	REN438	REN41	REN42	REN43				
	1 ½"	REN514	REN538	REN51	REN52	REN53	REN54			
	2"	REN614	REN638	REN61	REN62	REN63	REN64	REN65		
	2 ½"			REN71	REN72	REN73	REN74	REN75	REN76	
	3"			REN81	REN82	REN83	REN84	REN85	REN86	REN87



Order code example of standard adaptors

REN	31	G
MODEL	SIZE	MATERIAL

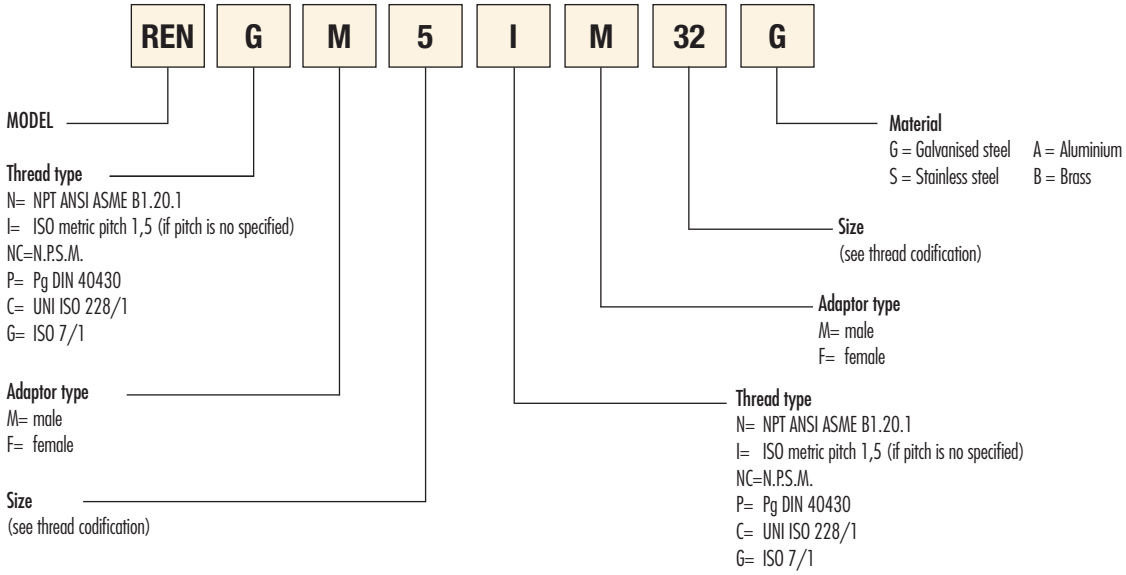
TECHNICAL NOTES:

- *The silicone O-ring for the IP protection for cylindrical threads (ISO metric) is supplied already assembled*
- *Available with other threads (example code REN31**N**G)*
- *Available in different materials (example code REN31**A**)*

SPECIAL ADAPTORS (MIXED THREADS)

Order code example

(Adaptor type REN, male 1 ½" Gk, male M32x1,5, galvanised steel)



THREAD CODIFICATION

NPT, N.P.S.M., UNI ISO 228/1, ISO7/1

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"

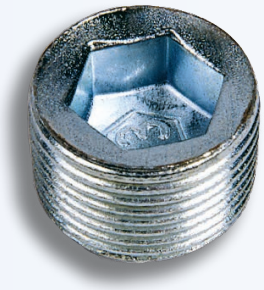
ISO Metric

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

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.

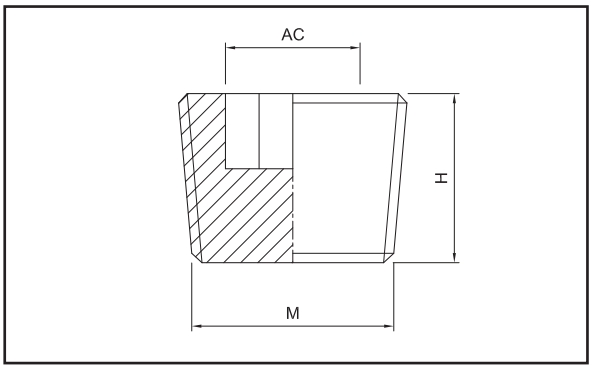


Classification: 2014/34/UE	Group II	Category 2GD
Installation: EN 60079.14	zone 1 - zone 2 (Gas)	zone 21 - zone 22 (Dust)
Marking:	CE 0722 Ex II 2 GD Ex d IIC Gb Ex tb IIIC Db IP66/67	
	CE 0722 Ex II 2 GD Ex e IIC Gb Ex tb IIIC Db IP66/67	
Certification:	ATEX CESI 02 ATEX 049	
	IECEx IECEx CES 10.0001X	All IEC Ex and TR CU certification data can be downloaded at www.cortemgroup.com
	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:

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

Certificates are available on www.cortemgroup.com



SELECTION TABLE FOR PLUGS WITH STANDARD CONICAL THREAD

Code	Thread 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 ¼" NPT	24	24	Aluminium	0,061
PLG5NA	1 ½" NPT	35	24	Aluminium	0,063
PLG6NA	2" NPT	36	24	Aluminium	0,109
PLG7NA	2 ½" 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 ¼" ISO 7/1	24	24	Aluminium	0,061
PLG5A	1 ½" ISO 7/1	35	24	Aluminium	0,063
PLG6A	2" ISO 7/1	36	24	Aluminium	0,109
PLG7A	2 ½" 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

PLG	10	N	B
MODEL	SIZE	THREAD	MATERIAL

TECHNICAL NOTES:

- *Available also in stainless steel (example code PLG3**S**)*
- *Available also in nichel plated brass (example code PLG1**B**)*
- *Available also in aluminium (example code PLG2**A**)*
- *Available also in galvanized steel (example code PLG6**G**)*

PLG male close-up plugs with cylindrical thread

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.

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
	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:

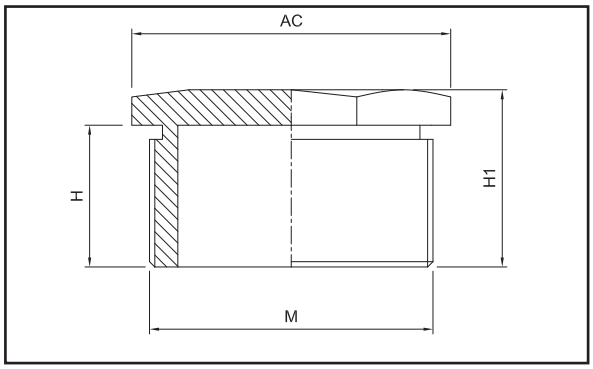
Close-up plugs	Material	Gaskets	Ambient temperature
PLG...	Galvanised steel **(G)**	Silicone	-20°C +80°C
PLG...	Nichel-plated brass **(B)**, Aluminium alloy **(A)**	Silicone	-40°C +150°C
PLG...	Stainless steel **(S)**	Silicone	-50°C +150°C

Certificates are available on www.cortemgroup.com

ACCESSORIES OPON REQUEST

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

* For different material contact the sales office.



SELECTION TABLE FOR PLUGS WITH CYLINDRICAL THREAD

Code	Thread 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 ¼" UNI ISO 228/1	45	24	29		0,061
PLG5C...	1 ½" UNI ISO 228/1	55	24	29		0,063
PLG6C...	2" UNI ISO 228/1	65	24	29		0,109
PLG7C...	2 ½" 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

PLG	8	I	G
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**P**A)*

THREAD CODIFICATION

Pg DIN 40430

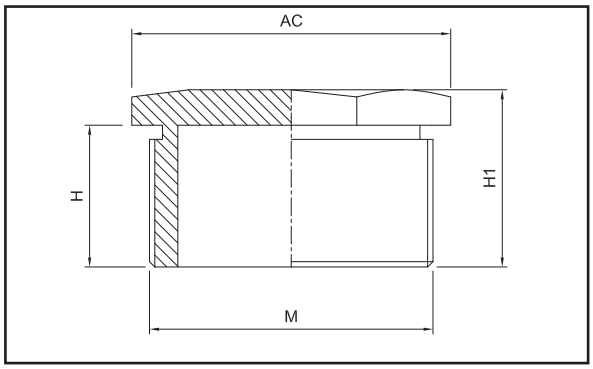
2	3	4	5	6	7	8	9	10
PG9	PG11	PG13,5	PG16	PG21	PG29	PG36	PG42	PG48

PLG series plugs are used for close-up unused entries. They feature a hexagonal recessed-type 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

ACCESSORIES OPON REQUEST			
Lock nuts	ISO metric thread	Code	Material
	M12x1,5	**DL02IXEP**	polyamide
	M16x1,5	**DL01IXEP**	
	M20x1,5	**DL1IXEP**	
	M25x1,5	**DL2IXEP**	
	M32x1,5	**DL3IXEP**	
	M40x1,5	**DL4IXEP**	
	M50x1,5	**DL5IXEP**	
	M63x1,5	**DL6IXEP**	



SELECTION TABLE FOR PLUGS WITH CYLINDRICAL THREAD

Code polyamide	Thread 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 lenght thread (10mm) upon request.**

Order code example

PLG	2	I	L	XE	7
MODEL	SIZE	THREAD	INCREASED LENGHT THREAD	Marking Ex e	SERIE 7J

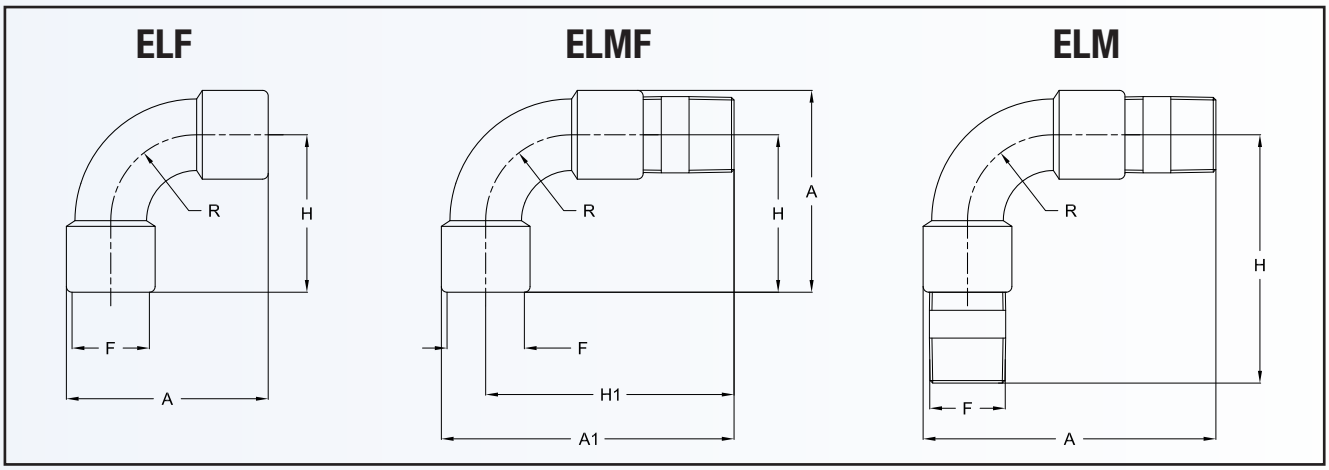
TECHNICAL NOTES:

- *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.

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	All IEC Ex and TR CU certification data can be downloaded at 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: 2013, IEC60079-1: 2009, IEC60079-7: 2008, IEC60079-31: 2011 Directive RoHS 2002/95/CE	
Operating temp.:	-55°C +150°C	
Degree of protection:	IP66/67	

Certificates are available on 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 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

SELECTION TABLE OF ELF 90° ELBOWS

Code In aluminium	Thread 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 ¼" ISO 7/1	100	75	50	0,39
ELF5	1 ½" ISO 7/1	110	87	50	0,37
ELF6	2" ISO 7/1	135	98	60	0,62
ELF7	2 ½" 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

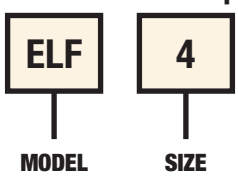
SELECTION TABLE OF ELMF 90° ELBOWS

Code In aluminium	Thread 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 ¼" ISO 7/1	100	145	75	125	50	0,52
ELMF5	1 ½" ISO 7/1	110	153	87	125	50	0,50
ELMF6	2" ISO 7/1	135	180	98	143	60	0,79
ELMF7	2 ½" 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 In aluminium	Thread 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 ¼" ISO 7/1	145	85	50	0,64
ELM5	1 ½" ISO 7/1	153	85	50	0,64
ELM6	2" ISO 7/1	180	143	60	0,96
ELM7	2 ½" 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



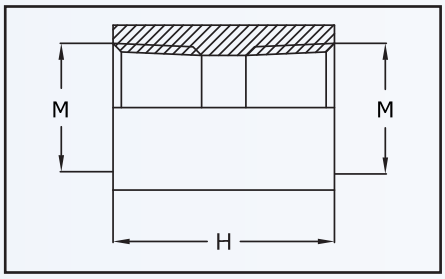
TECHNICAL NOTES:

- *Available also with NPT thread (example code ELF3**N**)*
- *Available upon request with ISO metric thread (example code ELF4**I**)*

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	All IEC Ex and TR CU certification data can be downloaded at 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: 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



Order code example

EM	4	G
MODEL	SIZE	MATERIAL

SELECTION TABLE OF EM COUPLINGS

Code In galvanised steel	Thread F	Dimensions in mm H	Weight 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

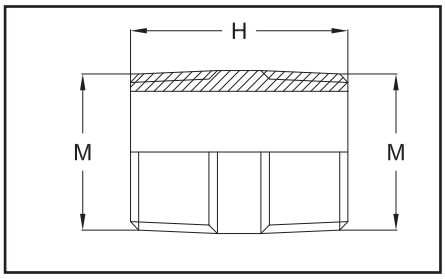
TECHNICAL NOTES:

- *Available also with NPT thread (example code EM3**N**G)*
- *Available also with UNI ISO228/1 thread (example code EM2**C**G)*
- *Available also with ISO METRIC thread (example code EM4**I**G)*
- *Available also in stainless steel (example code EM2**S**)*
- *Available also in aluminium (example code EM2**A**)*
- *Available also in nichel plated brass (example code EM2**B**)*
- *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 CESI 01 ATEX 104U	
	IECEx IECEx CES 15.0005U	All IEC Ex and TR CU certification data can be downloaded at 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: 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



Order code example

NP 4

MODEL SIZE

SELECTION TABLE OF NP NIPPLES

Code In galvanised steel	Thread F	Dimensions in mm H	Weight 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 ¼" ISO 7/1	55	0,14
NP5G	1 ½" ISO 7/1	55	0,15
NP6G	2" ISO 7/1	55	0,20
NP7G	2 ½" 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 NP3**N**G)*
- *Available also with UNI ISO228/1 thread (example code NP2**C**G)*
- *Available also with ISO METRIC thread (example code NP4**I**G)*
- *Available also in stainless steel (example code NP2**S**)*
- *Available also in aluminium (example code NP2**A**)*
- *Available also in nichel plated brass (example code NP2**B**)*
- *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
½"	35 g	140 g
¾"	50 g	140 g
1"	100 g	140 g
1 ¼"	240 g	390 g
1 ½"	240 g	390 g
2"	380 g	570 g
2 ½"	1250 g	1000 g
3"	1250 g	1000 g

SELECTION TABLE OF RESIN PACKAGE		
Code	**Component A**	**Component B**
CRV420/100	100 g	20 g
CRV420/300	300 g	60 g
CRV420/400	400 g	80 g
CRV420/1000	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

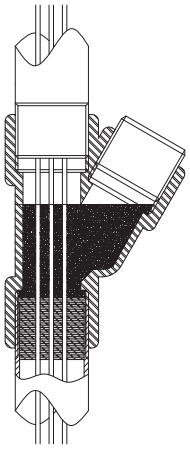
RESIN (Component A)
- Black compound
- Code: CRV420H71
- Mixing ratio: 100%

CATALYST AGENT (Component B)
- Brown compound
- Code: CRV420H72
- Mixing ratio: 25%

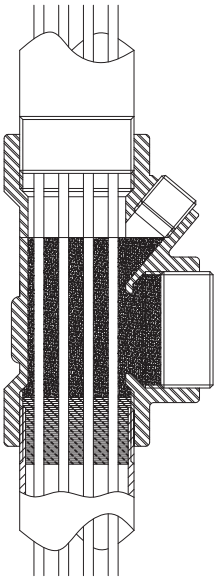
Ratio of compounds to be mixed
Ratio 100g (Compound A) with 25g (Compound B)
when ready to be used

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

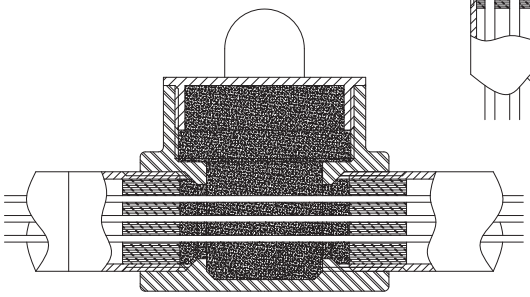
EYS - EYD



EYS - EYD



EZS



FV... glass fiber

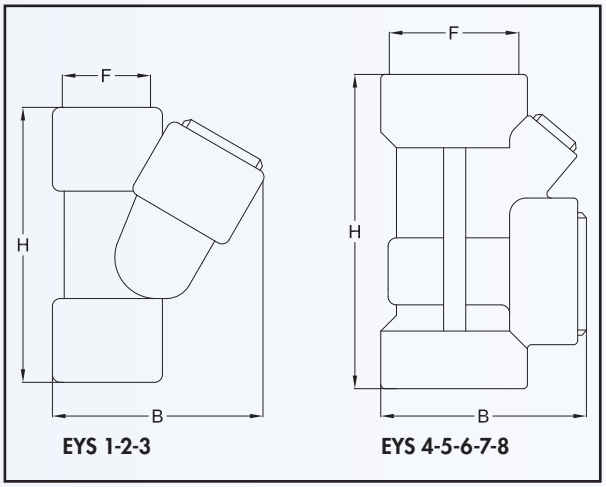
The glass fiber is inserted within sealing fittings to avoid that the sealing resin runs into the underlying connection pipe.

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
	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



SELECTION TABLE OF EYS VERTICAL SEALING FITTINGS

Code In aluminium	Thread	Dimensions in mm		Amount 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 ¼" ISO 7/1	145	84	240	0,576
EYS5	1 ½" ISO 7/1	145	84	240	0,528
EYS6	2" ISO 7/1	150	95	380	0,643
EYS7	2 ½" ISO 7/1	200	134	1250	1,580
EYS8	3" ISO 7/1	200	134	1250	1,480

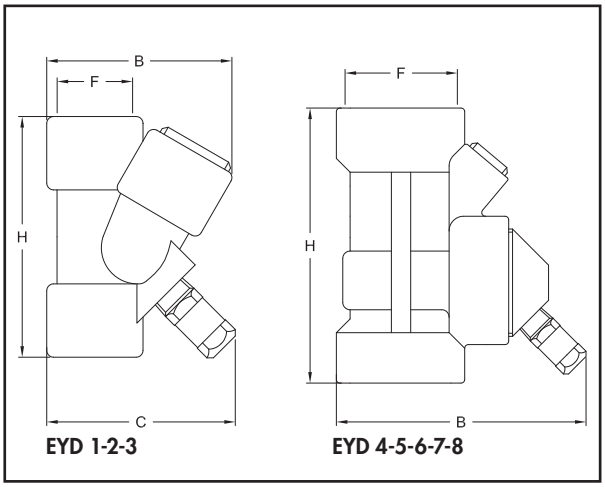
TECHNICAL NOTES:

- *Available also with NPT thread (example code EYS2**N**)*
- *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	All IEC Ex and TR CU certification data can be downloaded at www.cortemgroup.com
	IECEx	IECEx CES 14.0019X	
	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. (EYD):	-20°C +60°C		
Operating temperature:	-20°C +100°C		
Degree of protection:	IP66		

Certificates are available on www.cortemgroup.com



SELECTION TABLE OF EYS VERTICAL SEALING FITTINGS

Code In aluminium	Thread	Dimensions in mm			Amount 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 ¼" ISO 7/1	145	120	120	240	0,720
EYD5	1 ½" ISO 7/1	145	120	120	240	0,600
EYD6	2" ISO 7/1	150	131	131	380	0,820
EYD7	2 ½" ISO 7/1	200	165	165	1250	1,580
EYD8	3" ISO 7/1	200	165	165	1250	1,480

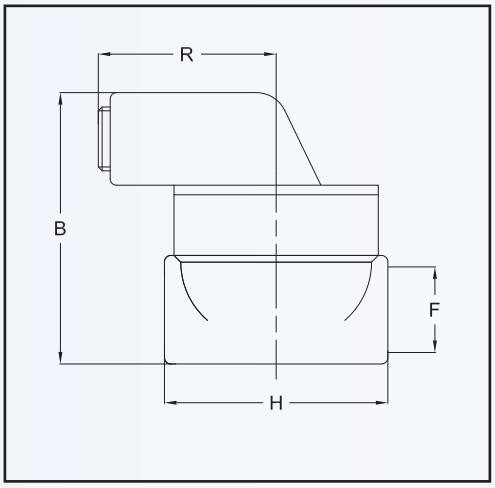
TECHNICAL NOTES:

- *Available also with NPT thread (example code EYD2**N**)*
- *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.

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
	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. (EZS):	-20°C +100°C	
Operating temperature:	-20°C +100°C	
Degree of protection:	IP66	

Certificates are available on www.cortemgroup.com



SELECTION TABLE OF EZS HORIZONTAL SEALING FITTINGS

Code In aluminium	Thread	Dimensions in mm			Amount 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 EZS2**N**)*
- *Available upon request in stainless steel*

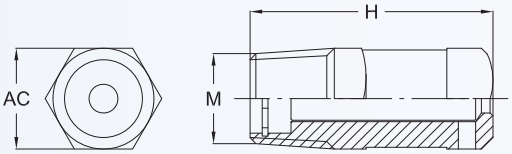
Drain and breather valves are suitable for use in any type of explosion proof enclosure to drain the condensation and vapours developed inside the enclosure.

Classification: 2014/34/UE	Group II	Category 2GD	
Installation: EN 60079.14	zone 1 - zone 2 (Gas)		ECD-1...
	zone 1 - zone 2 (Gas)	zone 21 - zone 22 (Dust)	ECD-2...
Marking:	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 Ex tb IIIC Db IP66		ECD-2...
Certification:	ATEX CESI 01 ATEX 081U		
	IECEx IECEx CES 14.0016U	All IEC Ex and TR CU certification data can be downloaded at www.cortemgroup.com	
	TR CU AVAILABLE		

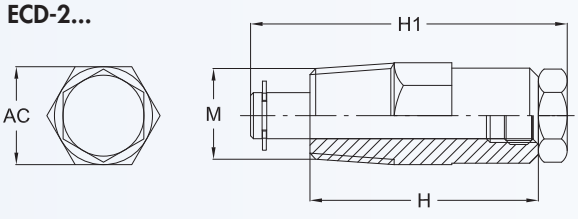
Standards:	CENELEC EN 60079-0: 2012, EN 60079-1: 2007, EN 60079-7: 2007, EN 60079-31: 2009 and EUROPEAN DIRECTIVE 2014/34/UE IEC60079-0: 2011, IEC60079-1: 2007-04, IEC 60079-7: 2006-07, IEC60079-31: 2008 Directive RoHS 2002/95/CE
Operating temp. (IIC):	-50°C +60°C
Operating temp. (IIB):	-50°C +150°C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

Certificates are available on www.cortemgroup.com

ECD-1...



ECD-2...



SELECTION TABLE OF ECD VALVES

Code In stainless steel AISI 316	Thread	Dimensions in mm			Use	Weight
	F	H	H1	AC		Kg
ECD110S	3/8" ISO7/1	42	-	17	Drain	0,08
ECD115S	1/2" ISO7/1	43	-	22	Drain	0,08
ECDS110S	3/8" ISO7/1	42	-	17	Breather	0,10
ECD210S	3/8" ISO7/1	40	55	17	Drain	0,11
ECD215S	1/2" ISO7/1	40	55	22	Drain	0,20

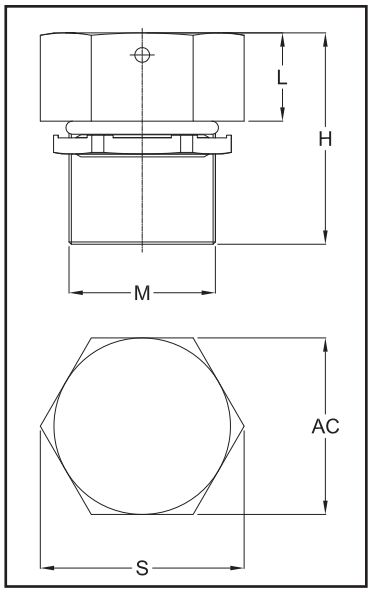
TECHNICAL NOTES:

- *Available also in aluminium (example code ECD110)*
- *Available also with NPT thread (example code ECD110**NS***
- *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.

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 eb IIC Gb Ex tb IIIC Db IP66	
Certification:	ATEX CESI 16 ATEX 1351U	
	IECEx IECEx CML16.0124U	All IEC Ex certification data can be downloaded at www.cortemgroup.com
Standards:	CENELEC EN 60079-0: 2012, EN 60079-7: 2015, EN 60079-31: 2014 and EUROPEAN DIRECTIVE 2014/34/UE IEC60079-0: 2011, IEC 60079-7: 2015, IEC60079-31: 2013 Directive RoHS 2002/95/CE	
Ambient temp.:	-60°C +150°C	
Degree of protection:	IP66	

Certificates are available on www.cortemgroup.com



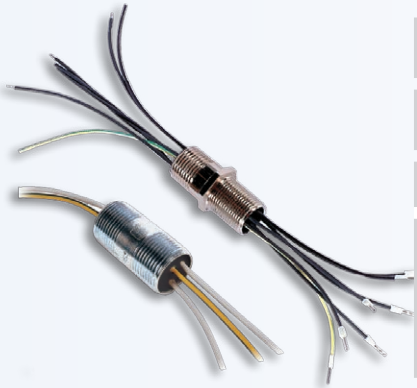
SELECTION TABLE OF ECDE VALVES

Code In stainless steel AISI 316	Code In nichel-plated brass	Thread	Dimensions in mm				Use
		M	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:

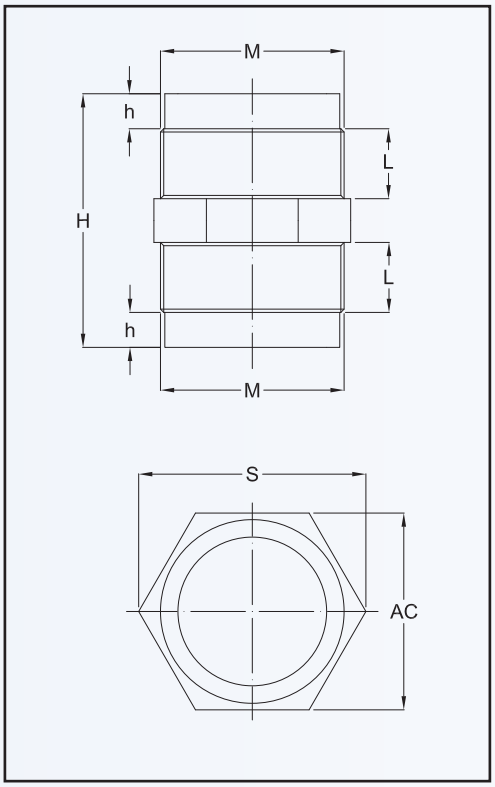
- * Different lengths for thick junction boxes upon request.

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.



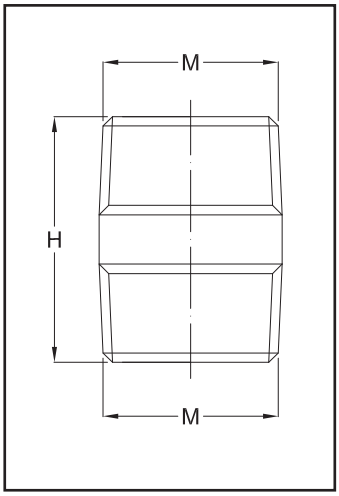
Classification: 2014/34/UE	Group II	Category 2GD
Installation: EN 60079.14	zone 1 - zone 2 (Gas)	zone 21 - zone 22 (Dust)
Marking:	CE 0722 Ex II 2 GD Ex d IIC Gb Ex tb IIIC Db IP66/67	
Certification:	ATEX CESI 01 ATEX 080U	
	IECEx IECEx CES 10.0003U	All IEC Ex and TR CU certification data can be downloaded at 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	
Operating temperature:	-50°C +110°C	
Degree of protection:	IP66/67	

Certificates are available on www.cortemgroup.com



SELECTION TABLE OF ISO METRIC SEALED NIPPLES

Code In brass	ISO METRIC thread	Dimensions in mm				
	M	H	L	h	AC	S
NPS10	M10x1,5	54	16	8	14	16,5
NPS12	M12x1,5				16	19
NPS16	M16x1,5				20	23,5
NPS20	M20x1,5				24	28
NPS24	M24x1,5				30	34,5
NPS25	M25x1,5				30	34,5
NPS32	M32x1,5				36	42
NPS33	M33x1,5				36	42
NPS36	M36x1,5				40	46,5
NPS38	M38x1,5				42	48,5
NPS40	M40x1,5				45	52
NPS42	M42x1,5				45	52



SELECTION TABLE OF ISO 7/1 SEALED NIPPLES

Code In galvanised steel	Thread	Dimensions 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 ¼" ISO 7/1	55
NPS5	1 ½" ISO 7/1	55

SELECTION TABLE OF NPT SEALED NIPPLES

Code In galvanised steel	Thread	Dimensions mm
	M	H
NPS1N	1/2" NPT	48
NPS2N	3/4" NPT	48
NPS3N	1" NPT	60
NPS4N	1 ¼" NPT	55
NPS5N	1 ½" 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

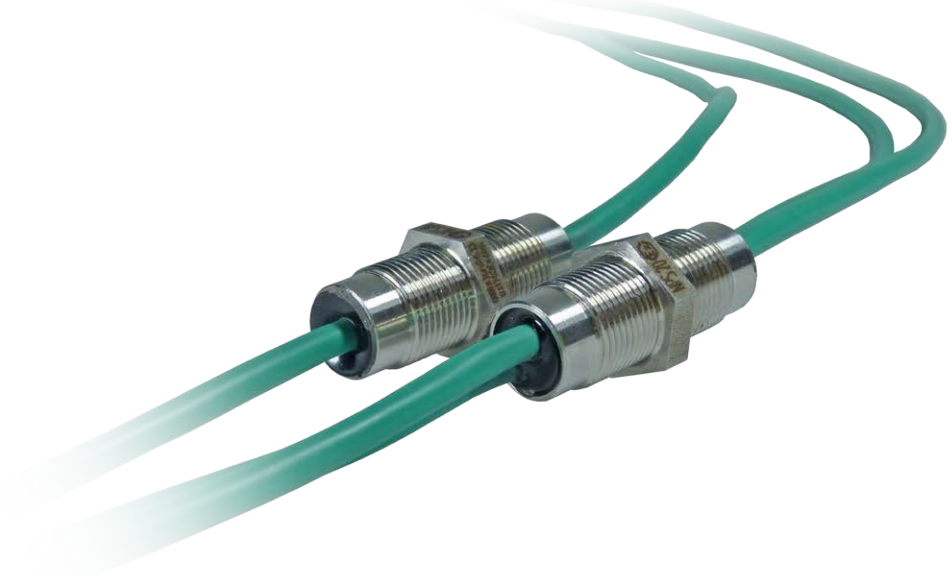
4 Indicate the total amount of necessary sealed nipples

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

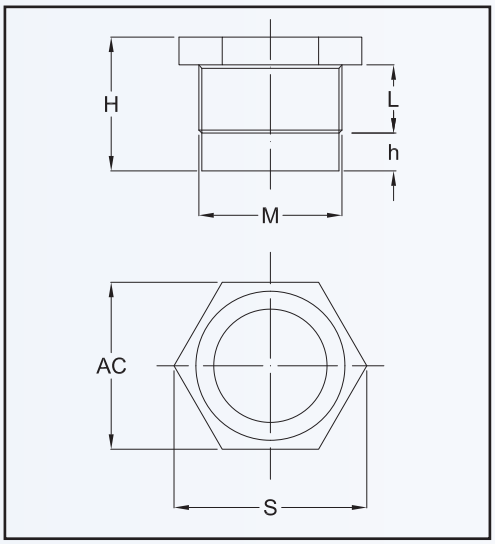
- *The maximum quantity and the kind of usable wires are specified on the following pages*



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

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	All IEC Ex and TR CU certification data can be downloaded at 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	
Operating temperature:	-50°C +110°C	

Certificates are available on www.cortemgroup.com



SELECTION TABLE OF SEALING BUSHINGS WITH THREADED JOINT

Code In brass	ISO METRIC thread	Dimensions in mm				
	M	H	L	h	AC	S
TP	10	30	15	9	14	16,5
TP	12				16	19
TP	16				20	23,5
TP	24				28	32,5
TP	25				30	34,5
TP	33				36	42
TP	36				40	46,5
TP	38				42	48,5
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 lenght on the two sides
4. Indicate the total amount of necessary sealing nipples

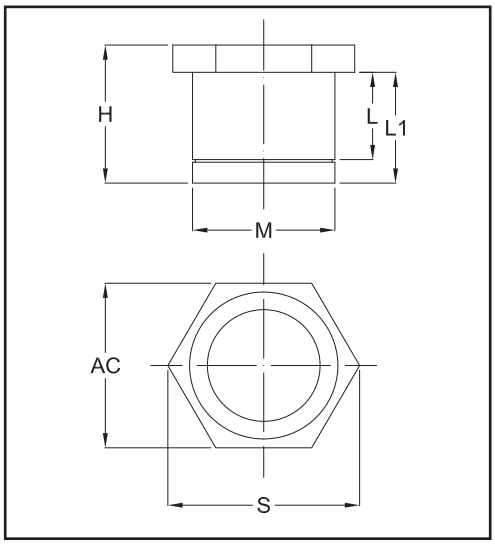
TECHNICAL NOTES:

- *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	All IEC Ex and TR CU certification data can be downloaded at 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	
Operating temperature:	-50°C +110°C	

Certificates are available on www.cortemgroup.com



SELECTION TABLE OF SEALING BUSHINGS WITH CYLINDRICAL JOINT

Code In brass	ISO METRIC 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 lenght 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 mm²	Rated current for continuous usage for max. temperature of 40°C	Rated Voltage	Thread size for TP - NPS		CP cylindrical Joint size
1	0,75	10 A	750 V	M10x1,5	1/8"	Ø 10
1				M12x1,5	1/4"	Ø 12
3				M16x1,5	3/8"	Ø 16
5				M20x1,5	1/2"	-
6				M24x1,5	-	Ø 24
6				M25x1,5	3/4"	Ø 25
8						Ø 29
12				M33x1,5	1"	Ø 33
15				M36x1,5	-	Ø 36
15				M38x1,5	-	Ø 38
21				M42x1,5	1 ¼" - 1 ½"	Ø 42
1	1	12 A	1000 V	M10x1,5	1/8"	Ø 10
1				M12x1,5	1/4"	Ø 12
3				M16x1,5	3/8"	Ø 16
5				M20x1,5	1/2"	-
6				M24x1,5	-	Ø 24
6				M25x1,5	3/4"	Ø 25
8						Ø 29
12				M33x1,5	1"	Ø 33
15				M36x1,5	-	Ø 36
15				M38x1,5	-	Ø 38
21				M42x1,5	1 ¼" - 1 ½"	-
						Ø 42
1	1,5	15 A		M10x1,5	1/8"	Ø 10
1				M12x1,5	1/4"	Ø 12
3				M16x1,5	3/8"	Ø 16
5				M20x1,5	1/2"	-
6				M24x1,5	-	Ø 24
6				M25x1,5	3/4"	Ø 25
8						Ø 29
12				M33x1,5	1"	Ø 33
15				M36x1,5	-	Ø 36
15				M38x1,5	-	Ø 38
21				M42x1,5	1 ¼" - 1 ½"	-
						Ø 42
1	2,5	20 A		M16x1,5	3/8"	Ø 16
3				M20x1,5	1/2"	-
3				M24x1,5	-	Ø 24
3				M25x1,5	3/4"	Ø 25
5						Ø 29
12				M33x1,5	1"	Ø 33
12				M38x1,5	-	Ø 38
21				M42x1,5	1 ¼" - 1 ½"	Ø 42
1	4	27 A		M16x1,5	3/8"	Ø 16
2				M20x1,5	1/2"	-
3				M24x1,5	-	Ø 24
3				M25x1,5	3/4"	Ø 25
5						Ø 29
6				M33x1,5	1"	Ø 33
8				M38x1,5	-	Ø 36
8				M42x1,5	1 ¼" - 1 ½"	Ø 38
12						Ø 42
1	6	35 A		M16x1,5	3/8"	Ø 16
2				M20x1,5	1/2"	-
2				M24x1,5	-	Ø 24
2				M25x1,5	3/4"	Ø 25
4						Ø 29
6				M33x1,5	1"	Ø 33
6				M38x1,5	-	Ø 38
6				M42x1,5	-	Ø 42
					1 ¼" - 1 ½"	
1	10	49 A		M24x1,5	3/4"	Ø 24
3				M33x1,5	1"	Ø 33
6				M36x1,5	-	Ø 36
6				M38x1,5	-	Ø 38
6				M42x1,5	1 ¼" - 1 ½"	Ø 42

Max. N. of wires	Wires size mm²	Rated current for continuous usage for max. temperature of 40°C	Rated Voltage	Thread size for TP - NPS		CP cylindrical Joint size
1 1 3 6 6	16	65 A	1000 V	M24x1,5 M25x1,5 M33x1,5 M36x1,5 M38x1,5 M42x1,5	- 3/4" 1" - - 1 ¼" - 1 ½"	Ø 24 Ø 25 Ø 33 Ø 36 Ø 38 Ø 42
1 1 3	25	86 A		M24x1,5 M25x1,5 M42x1,5	- 3/4" 1 ¼" - 1 ½"	Ø 24 Ø 25 Ø 42
1 1 3	35	107 A		M24x1,5 M25x1,5 M42x1,5	- 3/4" 1 ¼" - 1 ½"	Ø 24 Ø 25 Ø 42
1 1 1	50	132 A		M24x1,5 M25x1,5 M33x1,5	- 3/4" 1"	Ø 24 Ø 25 Ø 33
1 1	70	165 A		M33x1,5 M36x1,5	1" -	Ø 33 Ø 36

Rated voltage 750V					
Max. N. of wires	Wires size mm²	Rated current for continuous usage for max. temperature of 40°C	Thread size for TP - NPS		CP cylindrical joint size
3 3 8 12 16 16 20 20 25 35 45	0,5	5 A	M10x1,5 M12x1,5 M16x1,5 M20x1,5 M24x1,5 M25x1,5 M33x1,5 M36x1,5 M38x1,5 M42x1,5	1/8" 1/4" 3/8" 1/2" - 3/4" - 1" - - 1 ¼" - 1 ½"	Ø 10 Ø 12 Ø 16 - Ø 24 Ø 25 Ø 29 Ø 33 Ø 36 Ø 38 Ø 42

Wire capacity range with cables for thermocouples K type - Rated current 100/100V				
Max. N. of wires	Wires size mm²	Operating temperature	Thread size for TP - NPS	CP cylindrical joint size
1 1 2 2 5 5 7 7 9	2 x 0,22 2 x 0,50 2 x 0,80	110°C	M12x1,5 M16x1,5 M24x1,5 M25x1,5 M33x1,5 M36x1,5 M38x1,5 M42x1,5	Ø 12 Ø 16 Ø 24 Ø 25 Ø 29 Ø 33 Ø 36 Ø 38 Ø 42
1 2 2 4 5 7 7 9	2 x 1,00		M16x1,5 M24x1,5 M25x1,5 M33x1,5 M36x1,5 M38x1,5 M42x1,5	Ø 16 Ø 24 Ø 25 Ø 29 Ø 33 Ø 36 Ø 38 Ø 42
1 2 2 4 5 7 7 9	2 x 1,30 2 x 1,50		M16x1,5 M24x1,5 M25x1,5 M33x1,5 M36x1,5 M38x1,5 M42x1,5	Ø 16 Ø 24 Ø 25 Ø 29 Ø 33 Ø 36 Ø 38 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*

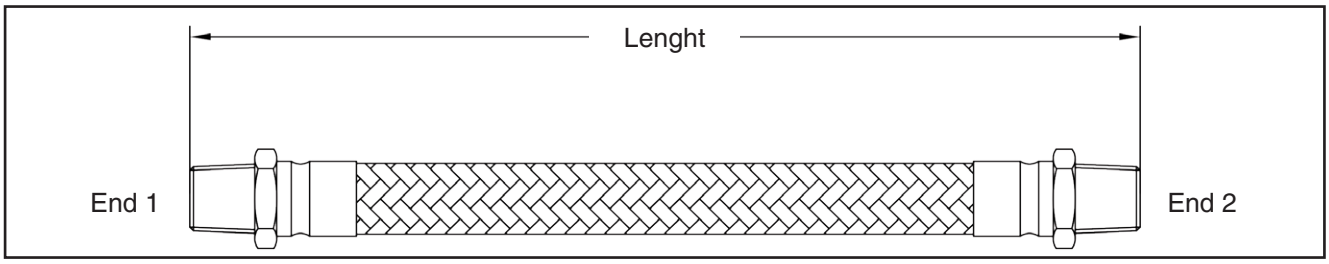
Flexible conduits are used for connecting misaligned equipments or equipments subjected to vibrations, such as electrical motors. They are suitable for installation of lighting fixtures and in alternative to rigid conduits when they are difficult to install. SP series flexible conduits have a good flexibility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

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 IP66/67	
	CE 0722 Ex II 2 GD Ex d IIC Gb Ex tb IIIC Db IP66/67	
Certification:	ATEX CESI 00 ATEX 048U	
	IECEx IECEx CES 14.0011U	All IEC Ex and TR CU certification data can be downloaded at www.cortemgroup.com
	TR CU AVAILABLE	
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

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 ¼" ÷ 4"	
		SPH - SPG - SPZ	Ex d IIC	Stainless steel	/	1/2" ÷ 1"	-55°C +150°C
Revolving fitting	B..	SPN - SPI - SPY - SPD SPP - SPE - SPT	Ex d IIB	Stainless steel	Galvanized steel	1/2" ÷ 1"	-20°C +60°C
				Galvanized steel	Galvanized steel	1 ¼" ÷ 4"	
		SPN - SPI - SPY - SPD SPP - SPE - SPT	Ex d IIB	Stainless steel	Stainless steel	1/2" ÷ 1"	-55°C +60°C
	R..	SPRN - SPRI - SPRY - SPRD SPRP - SPRE - SPRT	Ex d IIC	Stainless steel	Galvanized steel	1/2" ÷ 1"	-20°C +60°C
				Galvanized steel	Galvanized steel	1 ¼" ÷ 4"	
		SPRN - SPRI - SPRY - SPRD SPRP - SPRE - SPRT	Ex d IIC	Stainless steel	Stainless steel	1/2" ÷ 4"	-55°C +60°C
	RB..	SPRN - SPRI - SPRY - SPRD SPRP - SPRE - SPRT	Ex d IIC	Stainless steel	Stainless steel	1/2" ÷ 4"	-55°C +150°C



End 2 \ End 1		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

SPH	1	6	G
MODEL	SIZE	LENGHT	MATERIAL

Flexible conduits: lenghts and method of protection		
Lenght (mm)		Mathod 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

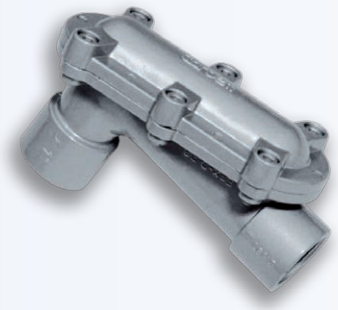
Thread hubs GAS UNI ISO 7/1

Size	1	2	3	4	5	6	7	8	9	10
Thread	1/2"	3/4"	1"	1 ¼"	1 ½"	2	2 ½"	3"	3 ½"	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:

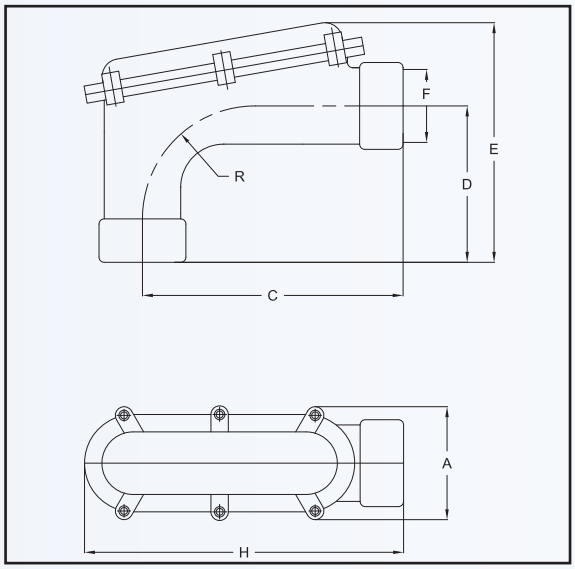
- *The flexible conduits and related fittings can be welded only by the manufacturer that certifies the method of protection*
- *Welded fittings: from 1/2 "to 1" stainless steel - from 1 1/4 "to 4" galvanized steel*
- *Revolving fittings: galvanized steel*
- *Flexible conduit with spiralled sheath : stainless steel*
- *Standard in galvanised steel (example code SPH56**G**)*
- *Available also in stainless steel (example code SPH56**S**)*
- *Available also with NPT thread (example code SPH3**N**10G)*
- *Available also with ISO thread ISO (example code SPH3**I**4G)*

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.



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
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



SELECTION TABLE OF LBH OPEN ELBOWS

Code In aluminium	Thread	Dimensions in mm						Weight
	F	A	H	C	D	E	R	Kg
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 ¼" ISO 7/1	100	230	175	83	155	50	1,277
LBH5	1 ½" 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 ½" 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

LBH	4	N
MODEL	SIZE	THREAD

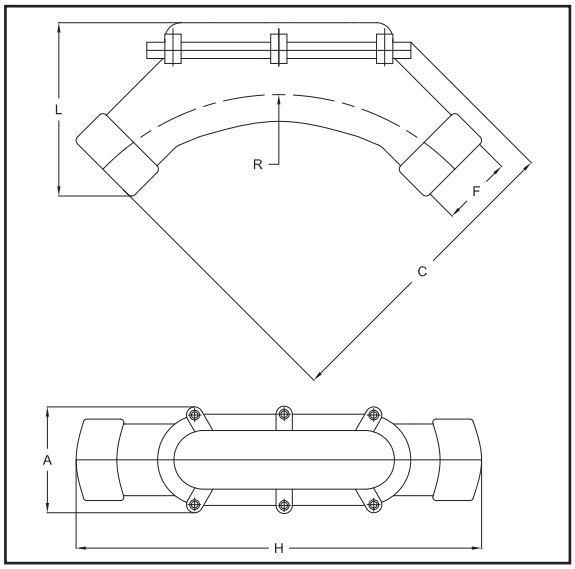
TECHNICAL NOTES:

- *Available also with NPT thread (example code LBH3**N**)*
- *Available also with ISO7/1RP thread (example code LBH2**C**)*
- *Available also with ISO METRIC thread (example code LBH4**I**)*
- *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.

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
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



SELECTION TABLE OF LBHS OPEN ELBOWS

Code In 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 ¼" ISO 7/1	105	400	288	145	260	1,539
LBHS5	1 ½" ISO 7/1	105	400	288	145	260	1,481
LBHS6	2" ISO 7/1	120	495	348	165	315	2,297
LBHS7	2 ½" 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

LBHS	4	N
MODEL	SIZE	THREAD

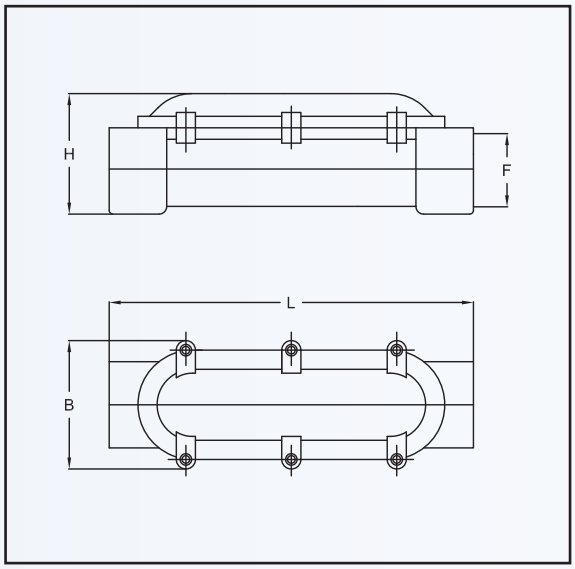
TECHNICAL NOTES:

- *Available also with NPT thread (example code LBHS3**N**)*
- *Available also with ISO METRIC thread (example code LBHS4**I**)*

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
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



SELECTION TABLE OF EKC PULLING BOXES

Code In 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 ¼" ISO 7/1	87	240	99	1,211
EKC5	1 ½" ISO 7/1	87	240	99	1,135
EKC6	2" ISO 7/1	112	298	105	1,745
EKC7	2 ½" 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

EKC	4	N
MODEL	SIZE	THREAD

TECHNICAL NOTES:

- *Available also with NPT thread (example code EKC3**N**)*
- *Available also with ISO METRIC thread (example code EKC4**I**)*

BC rigid conduits

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

Installation: EN 60079.14	zone 1 - zone 2 (Gas)
Standards:	EN 60079-0, EN 60079-1
Standard construction:	UNI 7683 galvanised steel conduit Standard bar lenght: 6 meters Plastic couplings for thread protection ISO7/1 thread
Upon request:	Thread NPT: (example code 1108001**N**) 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 ¼" ISO 7/1
1108005V	1 ½" ISO 7/1
1108006V	2" ISO 7/1
1108007V	2 ½" ISO 7/1
1108008V	3" ISO 7/1
1108010V	4" ISO 7/1

DB...A aluminium bushing

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 ¼" ISO 7/1	0,025
DB5A	1 ½" ISO 7/1	0,032
DB6A	2" ISO 7/1	0,046
DB7A	2 ½" 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 ¼" ISO 7/1	0,025
DB5PVC	1 ½" ISO 7/1	0,032
DB6PVC	2" ISO 7/1	0,046
DB7PVC	2 ½" 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 aluminium bushings with earth screw

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 sheat.
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 ¼" ISO 7/1	0,033
DBT5A	1 ½" ISO 7/1	0,040
DBT6A	2" ISO 7/1	0,054
DBT7A	2 ½" 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 ¼" ISO 7/1	Galvanised steel	0,052
MC5G	1 ½" ISO 7/1	Galvanised steel	0,285
MC6G	2" ISO 7/1	Galvanised steel	0,335
MC7A	2 ½" ISO 7/1	Aluminium	0,797
MC8A	3" ISO 7/1	Aluminium	0,887
MC10A	4" ISO 7/1	Aluminium	1,119

DL metal locknuts

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 ¼" ISO 7/1	Galvanised steel	0,037
DL5A	1 ½" ISO 7/1	Aluminium	0,027
DL6A	2" ISO 7/1	Aluminium	0,034
DL7A	2 ½" 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
DL1PXEP	PG7	0,003
DL2PXEP	PG9	0,004
DL3PXEP	PG11	0,005
DL4PXEP	PG13,5	0,005
DL5PXEP	PG16	0,006
DL6PXEP	PG21	0,006
DL7PXEP	PG29	0,009
DL8PXEP	PG36	0,013
DL9PXEP	PG42	0,019
DL10PXEP	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"	-

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

GF saddles

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

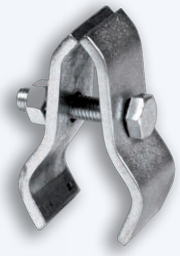
Standard construction:	Galvanised steel or aluminium
Upon request:	Stainless steel (example code GF3S)

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 ¼"	0,087
GF5G	1 ½"	0,115
GF6G	2"	0,156
GF7A	2 ½"	0,158
GF8A	3"	0,215
GF10A	4"	0,284
GF12A	5"	-

MP conduit clamps

MP clamps are used for mounting cable conduits in paralell 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 ¼"	0,53
MP5	1 ½"	0,59
MP6	2"	-
MP7	2 ½"	-
MP8	3"	-
MP10	4"	-

ELFIT®

ELectrical FITtings for Hazardous Areas

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

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 03 ATEX 032U	
	IECEx IECEx CES 15.0012U	All IEC Ex and TR CU certification data can be downloaded at www.cortemgroup.com
	TR CU AVAILABLE	
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

MECHANICAL FEATURES

Body and lid: Low copper content aluminium alloy. Screw-on lid with safety fastening grub screw
Gasket: Acid/hydrocarbon-resistant silicone, located between body and lid
Entries: GAS Rp UNI ISO 7/1 thread
Certification label: Adhesive label located on lid for size 6 and 9 boxes; on body for size 4
Bolts and screws: Stainless steel
Earth screws: Stainless steel. On inside and outside of body complete with anti-rotation brackets
Corrosion Resistance: 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)

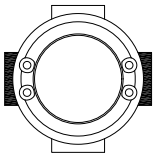
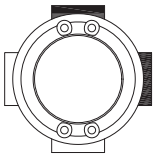
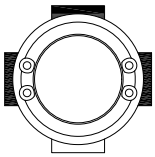
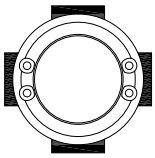
ACCESSORIES AVAILABLE ON REQUEST/ SPECIAL REQUESTS

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

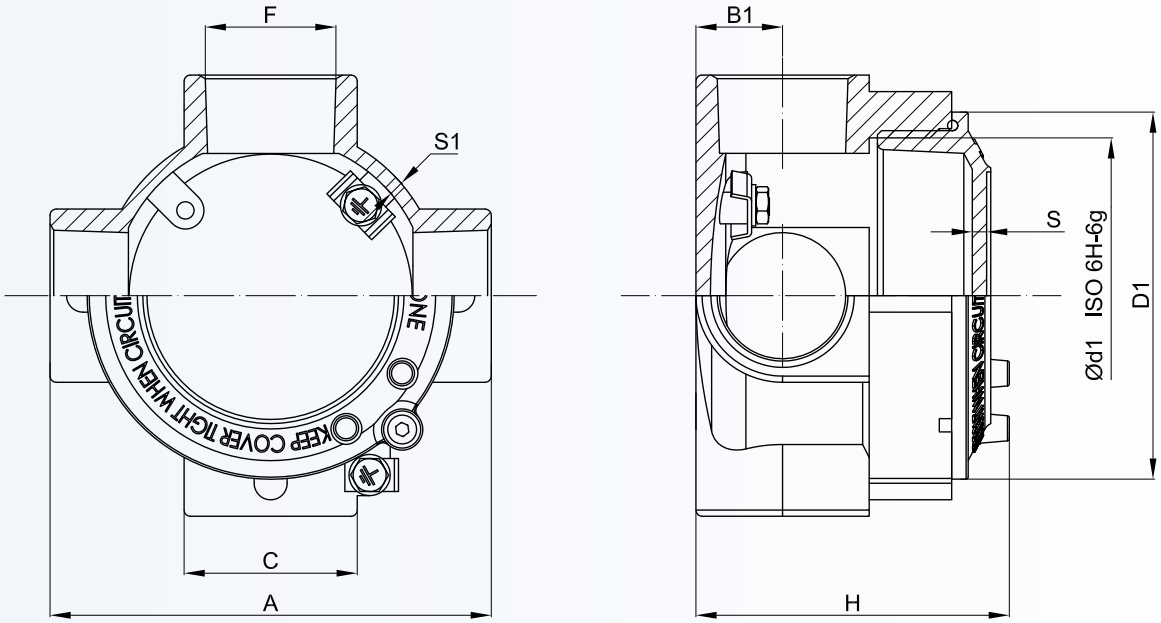
Other threads:
- NPT threads ANSI B1.20.1 (Ex. SC26.1**N**)
- GAS UNI ISO 228 thread (Ex. SC26.1**C**)
- Metric threads ISO 261/965 (Ex. SC26.1**I**)

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

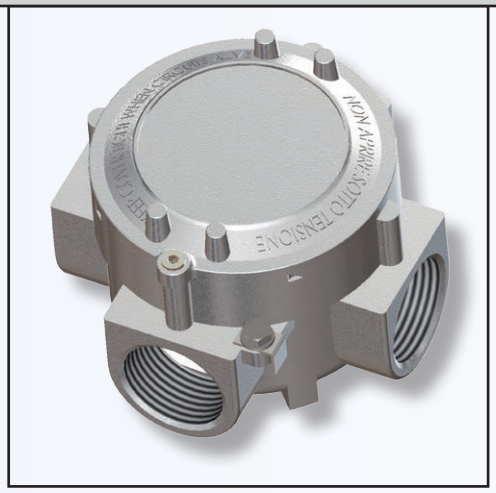
S SERIES ENCLOSURE SELECTION CHART

Code	Position of entries	GAS UNI ISO 7/1	Model	Outside dimensions mm A	D1	H	C	B1	Inside dimensions mm Ød1	S	S1	Weight kg
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

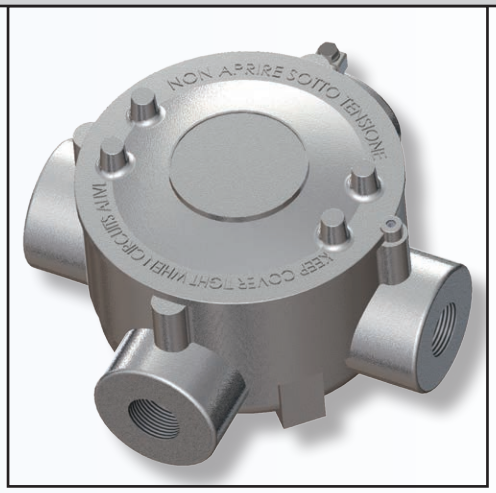
DIMENSIONAL DRAWING



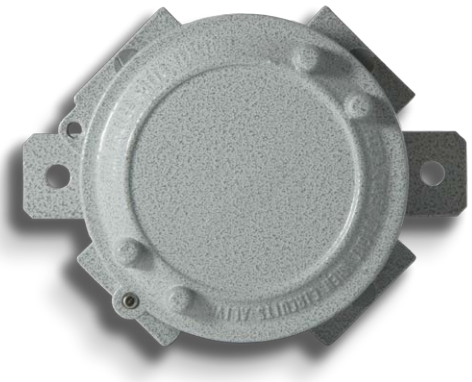
MODEL A



MODEL B



Code	MODEL	F GAS UNI ISO 7/1	Outside dimensions mm A	D1	H	C	B1	Inside dimensions mm Ød1	S	S1	Weight 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

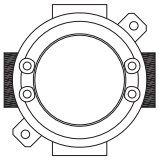
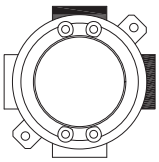
MOUNTING BRACKETS: Galvanized steel for SSC. Aluminium for SF.

Other features are identical to S series boxes

ACCESSORIES AVAILABLE ON REQUEST/ SPECIAL REQUESTS

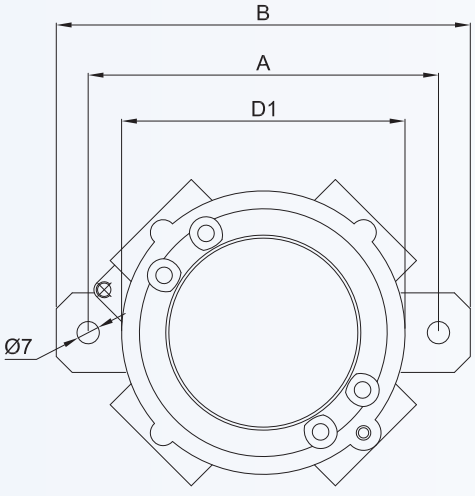
See S series boxes

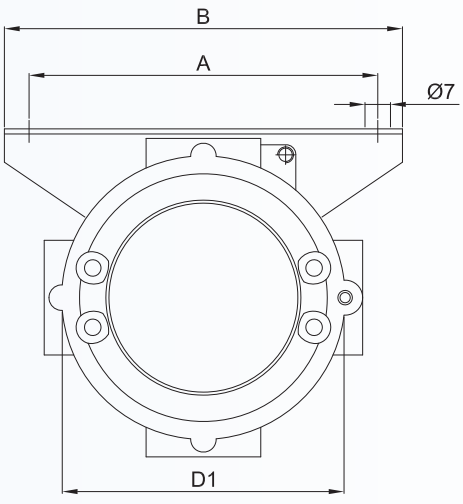
SF... SSC... SERIES ENCLOSURE SELECTION CHART

Code	Position of entries	GAS UNI ISO 7/1 F	Outside dimensions mm D1	A	B	Weight kg
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 F	Outside dimensions mm D1	A	B	Weight kg
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

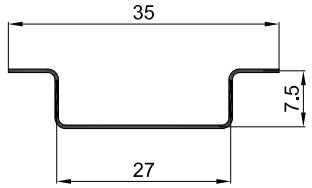
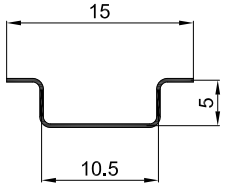
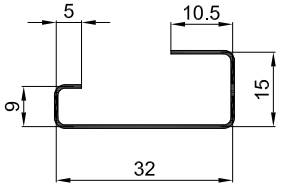
CHART 1

Ex d IIC rated terminal strips			
Ambient temperature	Terminal material	Temperature class	Maximum surface temperature
-20°C +40°C -40°C +40°C	Polyamide (PA)	T6	T85°C
-20°C +65°C -40°C +65°C	Melamine (KrG) Wemid Stamin (KrS)	T5	T100°C
-20°C +150°C -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 -40°C +40°C	Polyamide (PA)	T6	T85°C
-20°C +65°C -40°C +65°C	Melamine (KrG) Wemid Stamin (KrS)	T5	T100°C
-20°C +80°C -40°C +80°C	Melamine (KrG) Stamin (KrS) Ceramic (Steatite)	T4	T135°C

MOUNTING RAILS (as per standard IEC 60715)				
Terminal manufacturer	Terminal code	ENCLOSURE TYPE		
		S.1 - SB 14-24	S.1 - SB 16-26-36	S.1 - SB 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

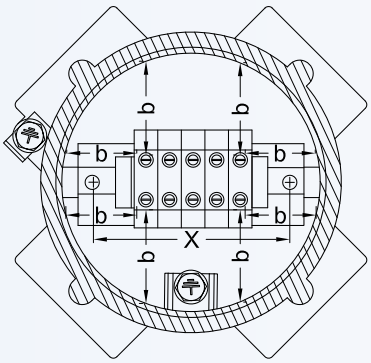
Top hat profile PR/3/AC	*Top hat profile PR/2/AC*	*DIN profile PR/DIN/AC*
		

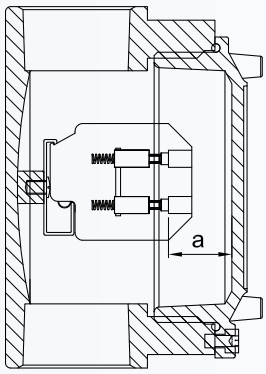
Marking: CE 0722 Ex II 2 GD - Ex d IIC T6, T5, T3 - Ex tD A21- IP66/67

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 at 150°C	8	10.5	17	20	24	40	65	88	150
Maximum current density (A/mm^2) 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 at 150°C	10	12.5	20	24	30	48	75	105	175
Maximum current density (A/mm^2) 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				



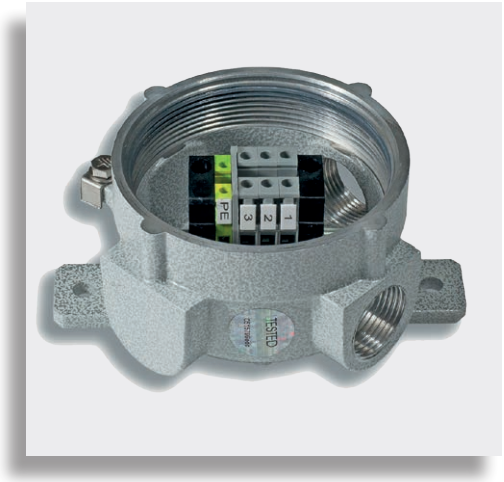


Enclosure code SFL-36.1 with 3 x AKZ-2.5 terminals and 1 x AKE2.5 earth terminal

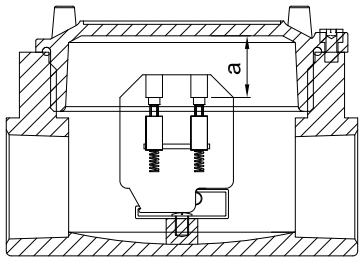
Marking: CE 0722 Ex II 2 GD - Ex e II T6, T5, T3 - Ex tD A21- IP66/67

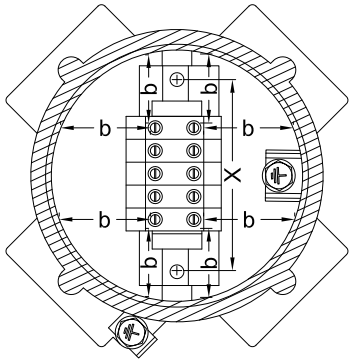
Ex e IIC rated enclosures		*CROSS-SECTIONAL AREA AND MAXIMUM NUMBER OF TERMINALS*														
Enclosure type	**Size**	**1,5**			**2,5**			**4**			**6**			**10**		
		Tab 1	Tab 2	Tab 3	Tab 1	Tab 2	Tab 3	Tab 1	Tab 2	Tab 3	Tab 1	Tab 2	Tab 3	Tab 1	Tab 2	Tab 3
S.1 - SB	14-24	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-
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 at 150°C	5,5			7,5			12			14			17		
Maximum current density (A/mm^2) 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 MAXIMUM NUMBER OF TERMINALS*					
Enclosure 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	40			65		
	at 65°C at 150°C	29			47		
Maximum current density (A/mm^2) 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 ≤ 400
Tab 2 for operating voltage U ≤ 500
Tab 3 for operating voltage U ≤ 630

Minimum distances for **Ex e IIC** rated enclosures with terminals

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

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

TERMINAL MANUFACTURER	TERMINAL CODE	ENCLOSURE TYPE				CONDUCTOR CROSS-SECTIONAL AREA sq mm
		SB - S.1 14 - 24	SB - S.1 16 - 26 - 36	S.1 29 - 39 59 - 69	SB 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

Body and lid: Low copper content aluminium alloy. Screw-on lid with safety fastening grub screw and steel chain so the lid cannot be misplaced

Gasket: Acid/hydrocarbon-resistant NBR, located between body and lid

Entries: Standard NPT thread

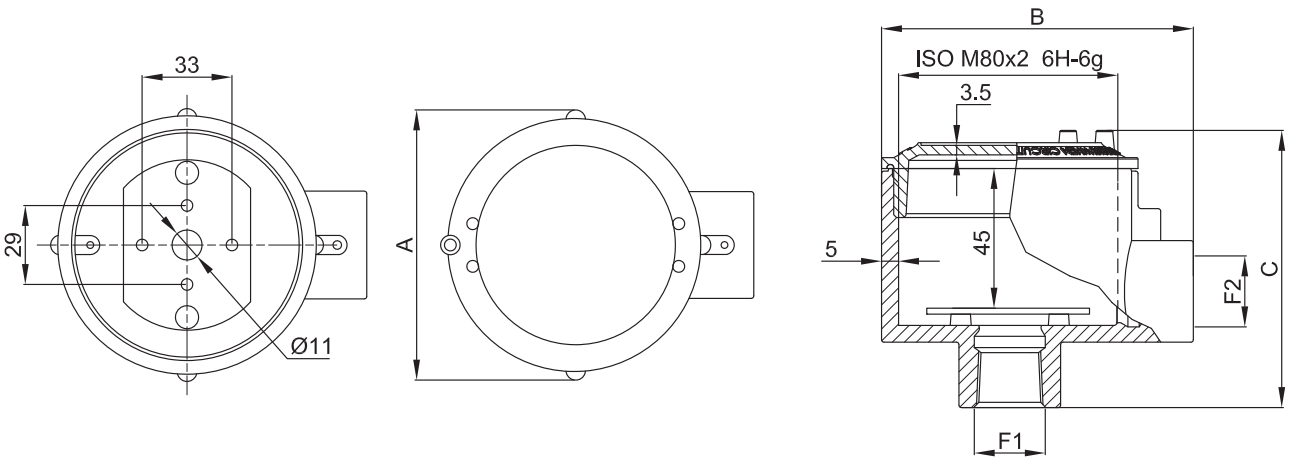
Certification label: Adhesive label located on inside of lid

Bolts and screws: Stainless steel

Earth screws: Stainless steel. On inside and outside of body complete with anti-rotation brackets

Corrosion Resistance: 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

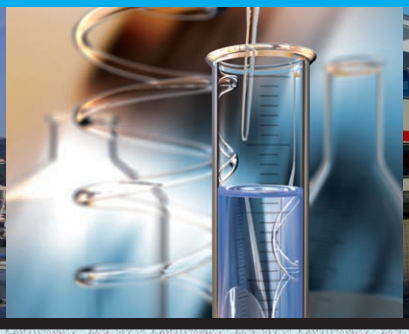


Code	Outside dimensions mm			Entry Ø		Weight
	A	B	C	F1	F2	kg
SWS16	100	115	100	1/2" NPT	1/2" NPT	
SWS26	100	115	100	3/4" NPT	3/4" NPT	
SWS26/21	100	115	100	1/2" NPT	3/4" NPT	
SWS16/20	100	115	100	1/2" NPT	ISO M20	
SWS26/12	100	115	100	3/4" NPT	1/2" NPT	

ELFiT®

ELectrical FITtings for Hazardous Areas

Weather proof series

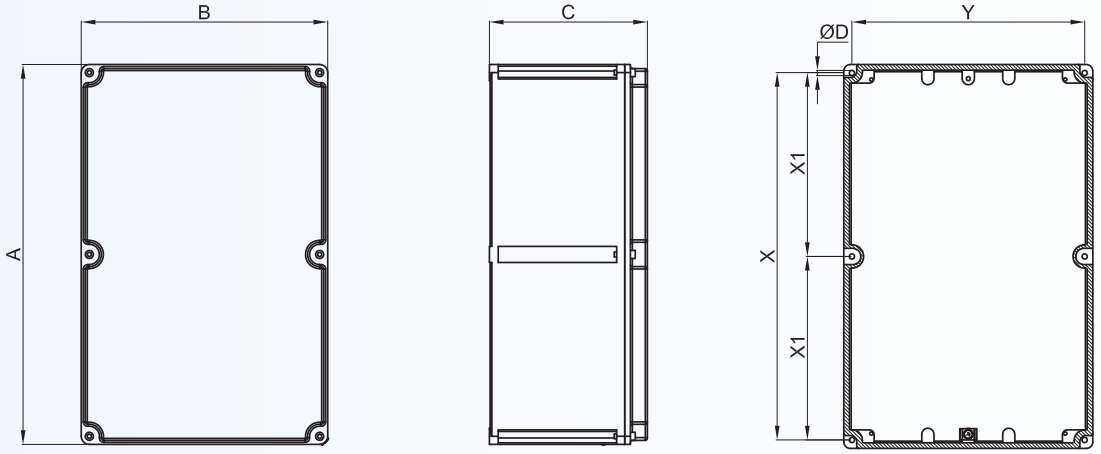



CS... CSG... series junction boxes are made from aluminium alloy and given an electrostatically applied epoxy coating containing stainless steel particles that is then baked at 200°C. This treatment ensures good UV as well as thermal stability, providing mechanical impact resistance and excellent resistance 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:	IK10
Standards:	IEC 60529

ALUMINIUM ENCLOSURES SELECTION CHART

Code	Outside dimensions			Fixing				Weight
	A	B	C	X	Y	X1	ØD	Kg
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



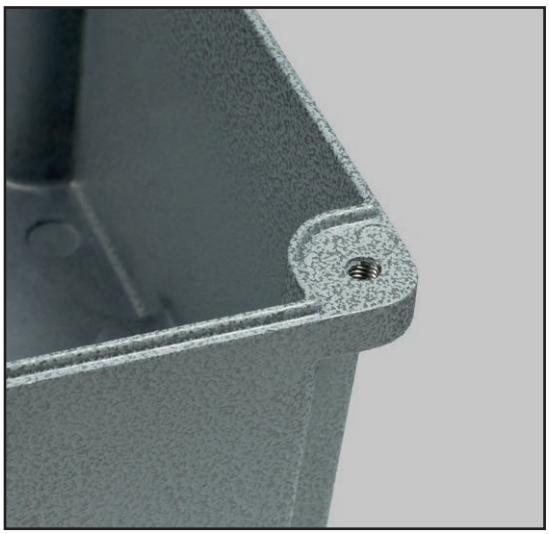
ACCESSORIES UPON REQUEST

ILLUSTRATION	DESCRIPTION	MODEL	SIZE A	SIZE B	CODE
	Internal mounting plates Thickness 25/10 Aluminium Galvanized steel (B...-229AC) Stainless steel (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 CS/CSG302318	285	180	**B32-229**
		CS/CSG473018	453	254	**B43-229**
		CS/CSG623018	603	249	**B63-229**
		CSG606018	532	532	**B60-229**

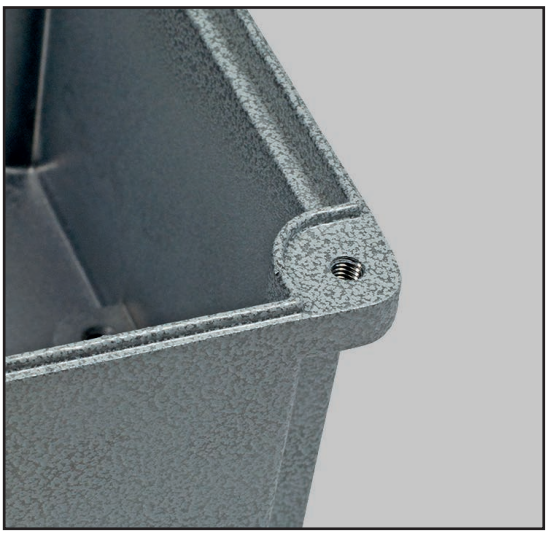
ILLUSTRATION	DESCRIPTION	MODEL	CHARACTERISTICS	CODE
	Breather and drain valve	Thread diameter ISO 7-R 3/8"	Material: stainless steel	**ECD-210S**
	Hinges (2 per enclosure)	Low lid enclosures	Material: stainless steel	**B-0105**
		High lid enclosures		**B-0106**
	Hinges (2 per enclosure)	SAG606018	Material: 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

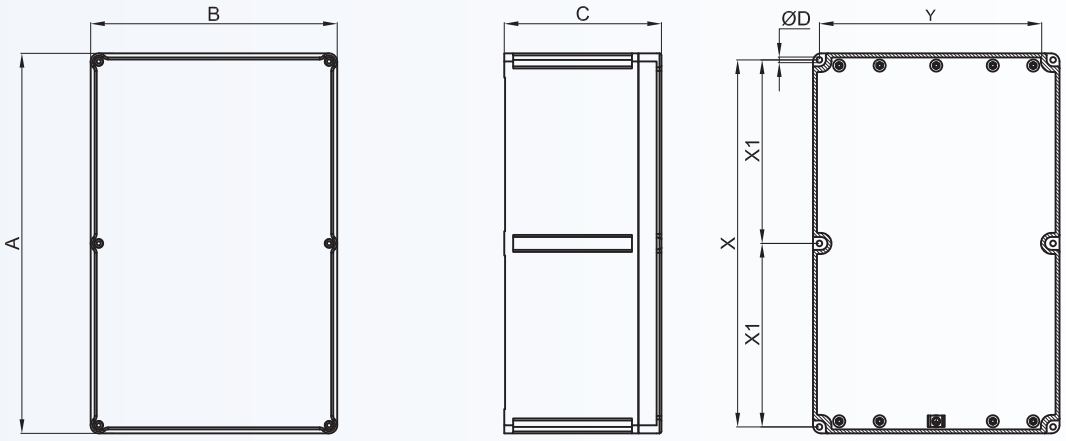


CS/P series junction boxes are made from fibreglass-reinforced polyester. Because they are highly resistant to contamination from fuel oils and mechanical shock, in addition to being lightweight and practical, they can be installed in all industrial plants. The enclosures have special holes made in the 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:	IK10
Standards:	IEC 60529

POLYESTER ENCLOSURES SELECTION CHART

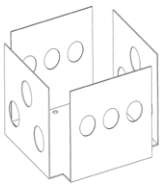
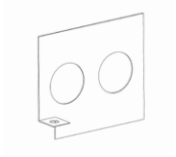
Code	Outside dimension			Fixing				Weight
	A	B	C	X	Y	X1	ØD	Kg
CS090907/P	90	90	73	74	74	-	6,5	0,30
CS111108/P	110	110	83	94	94	-	6,5	0,40
CS171108/P	170	110	83	154	94	-	6,5	0,80
CS141410/P	147	147	100	131	131	-	6,5	1,00
CS301410/P	305	147	110	285	127	-	6,5	1,90
CS302310/P	305	230	110	285	210	-	6,5	2,50
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 A	SIZE B	CODE
	Internal mounting plates Thickness 2.5mm Aluminium Galvanized steel (B...-229AC) Stainless steel (B...-229IN)	CS090907/P	82	48	**B09-229**
		CS111108/P	100	68	**B11-229**
		CS141410/P	137	105	**B14-229**
		CS171108/P	159	67	**B17-229**
		CS301410/P	285	97	**B31-229**
		CS302310/P CS302318/P	285	180	**B32-229**
		CS473018/P	453	254	**B43-229**
		CS623018/P	603	249	**B63-229**

ILLUSTRATION	DESCRIPTION	MODEL	CHARACTERISTICS	CODE
	Breather and drain valve	Thread diameter ISO 7-R 3/8"	Material: stainless steel	**ECD-210S**
	Hinges (2 per enclosure)	Low lid enclosures	Material: stainless steel	**B-0105**
		High lid enclosures		**B-0106**
	Through earth connection	M8	Material: stainless steel	**K-0307/1**
		M6		**K-0307/2**
	Brass continuity plates for earthing	For models and codes see the following scheme		**B-...**

CONTINUITY PLATES

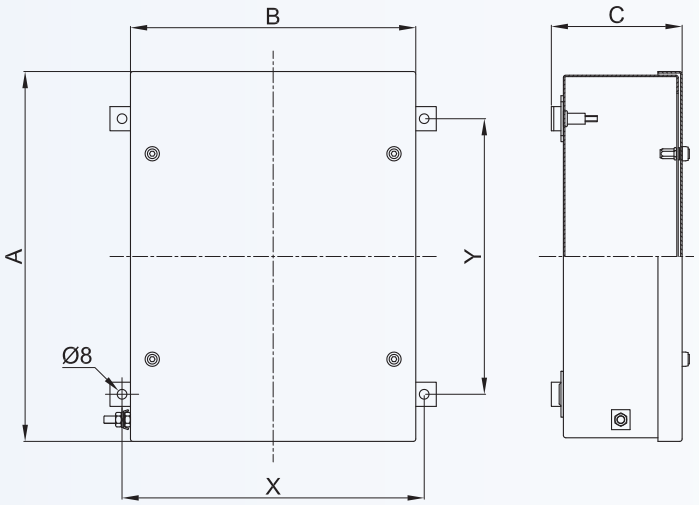
	Continuity plate for all four enclosure sides	Continuity plate for single enclosure side	
			
Enclosure	Plate code	Plate code	
		Long side	Short side
SA090907/P	B-388	B-455	
SA111108/P	B-389	B-456	
SA141410/P	B-390	B-457	
SA171108/P	B-391	B-458	B-456
SA301410/P	B-392	B-459	B-457
SA302310/P	B-393	B-459	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

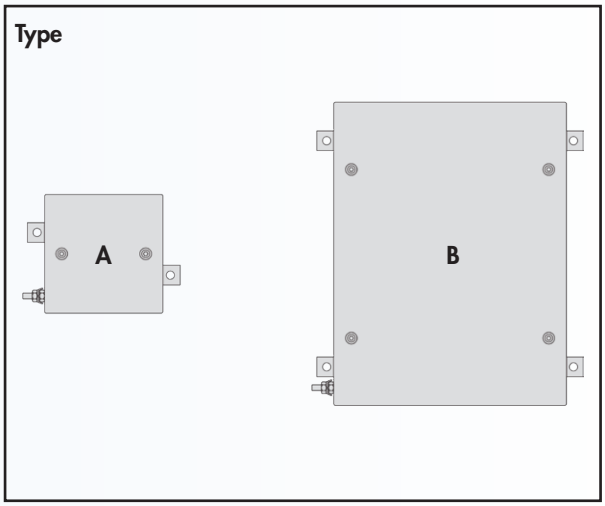
Economic junction boxes, are used as pulling or junction boxes in areas where there is no danger of explosion, but it is required a specific protection to prevent the entry of solids and liquids. They are stainless steel made and can be installed in chemical and off-shore plants and where is a strong 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			Weight
	A	B	C	X	Y	ØD	Kg
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	



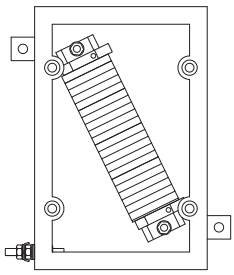


ACCESSORIES UPON REQUEST

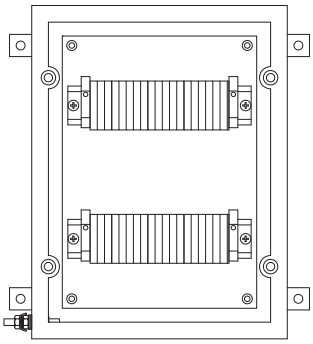
ILLUSTRATION	DESCRIPTION	MODEL	SIZE A	SIZE B	CODE
	Internal mounting plates Stainless steel	CTBEW121208	60	60	**B12-484**
		CTBEW151509	90	90	**B15-484**
		CTBEW191910	130	130	**B19-484**
		CTBEW221513	170	90	**B22-484**
		CTBEW262610 CTBEW262616 CTBEW262620	200	200	**B26-484**
		CTBEW301410	245	85	**B303-484**
		CTBEW302310	145	175	**B302-484**
		CTBEW303010 CTBEW303016 CTBEW303020	245	245	**B30-484**
		CTBEW382610 CTBEW382616 CTBEW382620	320	200	**B38-484**

ILLUSTRATION	DESCRIPTION	MODEL	CHARACTERISTICS	CODE
	Breather and drain valve	Thread diameter ISO 7-R 3/8"	Material: stainless steel	**ECD-210S**

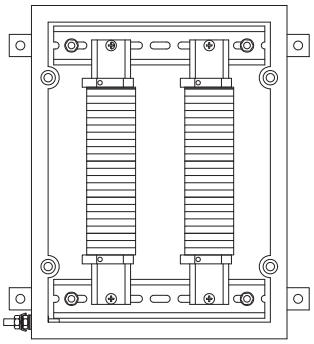
INSTALLATION EXAMPLE OF INSIDE TERMINAL BLOCKS



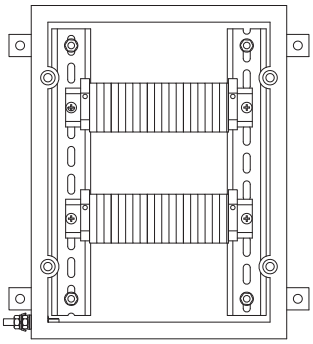
Diagonally and directly installed on internal inserts for greater amount of terminal blocks on small enclosures



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.

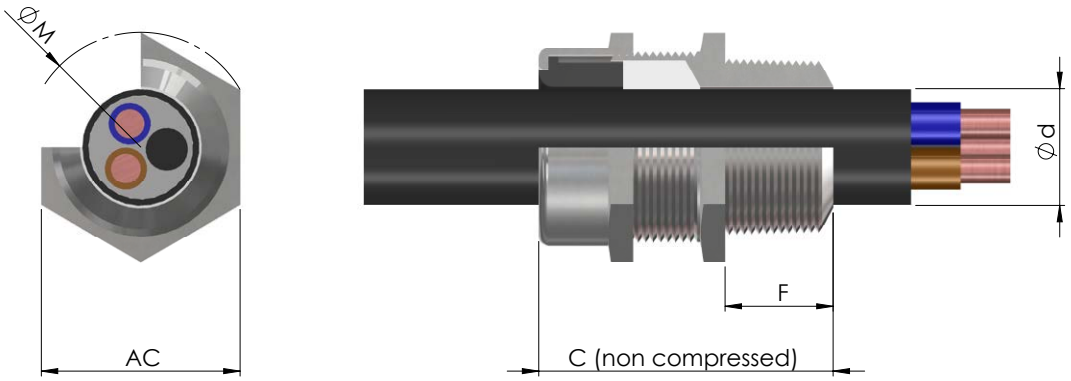
Standard construction:	Nickel-plated brass Sealing ring in silicone material Compression ring in plastic material ISO 7/1, NPT and isometric threads
Degree of protection:	IP66/67
Standards:	IEC 60529 / IEC 529

ACCESSORIES UPON REQUEST

Locknuts	ISO thread	Nichel-plated brass	Galvanized steel	Stainless steel	Shrouds in black PVC	Code
	M16x1,5	**DL01IB**	**DL01IG**	**DL01IS**		**PGA1F**
	M20x1,5	**DL1IB**	**DL1IG**	**DL1IS**		**PGA1F**
	M25x1,5	**DL2IB**	**DL2IG**	**DL2IS**		**PGA2R**
	M32x1,5	**DL3IB**	**DL3IG**	**DL3IS**		**PGA3**
	M40x1,5	**DL4IB**	**DL4IG**	**DL4IS**		**PGA4**
	M50x1,5	**DL5IB**	**DL5IG**	**DL5IS**		**PGA5**
	M63x1,5	**DL6IB**	**DL6IG**	**DL6IS**		**PGA6R**

Earthing rings in nichel-plated brass *	For ISO threads	Nichel-plated brass	Stainless steel	Stainless steel idented washers *	Code	**RE...** series adaprtors and reducers
	M16x1,5	**A0131IB**	**A0131IS**		**RDI01IS/A4**	
	M20x1,5	**A1311IB**	**A1311IS**		**RDI1IS/A4**	
	M25x1,5	**A2312IB**	**A2312IS**		**RDI2IS/A4**	
	M32x1,5	**A3313IB**	**A3313IS**		**RDI3IS/A4**	
	M40x1,5	**A4314IB**	**A4314IS**		**RDI4IS/A4**	
	M50x1,5	**A5315IB**	**A5315IS**		**RDI5IS/A4**	
	M63x1,5	**A6316IB**	**A6316IS**		**RDI6IS/A4**	

* For different threading contact our sales office.



CABLE GLANDS SELECTION CHART

Code Nichel-plated brass	Thread	Dimensions in mm				Range	Weight
		AC	ØM	F	C	Ød min-max Below armour	Kg
TEV01B	3/8" ISO7/1	24	28	15	44	5 - 10	0,062
TEVL1B	1/2" ISO7/1	24	28	18	47	5 - 10	0,071
TEV1B	1/2" ISO7/1	24	28	18	47	7 - 12	0,070
TEV2B	3/4" ISO7/1	32	37	18	48,5	12 - 18	0,104
TEV3B	1" ISO7/1	40	47	22	59,5	18 - 24	0,172
TEV4B	1 ¼" ISO7/1	48	56	22	60	24 - 30	0,252
TEV5B	1 ½" ISO7/1	53	62	24	64	30 - 35	0,316
TEV6B	2" ISO7/1	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

TEV	6	I	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 TEV1**S**)*
- *Available also in galvanized steel (sample code TEV1**G**)*

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.

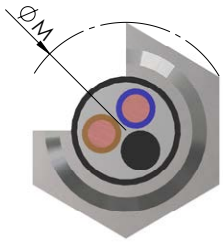
Standard construction:	Nickel-plated brass Sealing ring in silicone material Compression ring in plastic material ISO 7/1, NPT and isometric threads
Degree of protection:	IP66/67
Standards:	IEC 60529 / IEC 529

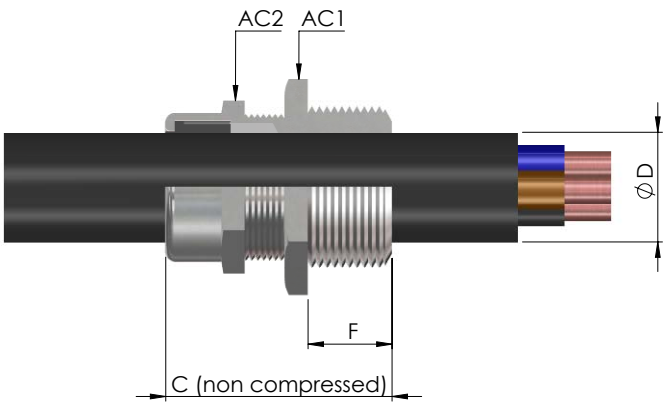
ACCESSORIES UPON REQUEST

Locknuts	Thread ISO	Nichel-plated brass	Galvanized steel	Stainless steel	Shrouds in black PVC	Code
	M16x1,5	**DL01IB**	**DL01IG**	**DL01IS**		**PGA1F**
	M20x1,5	**DL1IB**	**DL1IG**	**DL1IS**		**PGA1F**
	M25x1,5	**DL2IB**	**DL2IG**	**DL2IS**		**PGA2R**
	M32x1,5	**DL3IB**	**DL3IG**	**DL3IS**		**PGA3**
	M40x1,5	**DL4IB**	**DL4IG**	**DL4IS**		**PGA4**
	M50x1,5	**DL5IB**	**DL5IG**	**DL5IS**		**PGA5**
	M63x1,5	**DL6IB**	**DL6IG**	**DL6IS**		**PGA6R**

Earthing rings in nichel-plated brass *	For ISO threads	Nichel-plated brass	Stainless steel	Stainless steel idented washers	Code	RE... series adaprtors and red**ucers**
	M16x1,5	**A0131IB**	**A0131IS**		**RDI01IS/A4**	
	M20x1,5	**A1311IB**	**A1311IS**		**RDI1IS/A4**	
	M25x1,5	**A2312IB**	**A2312IS**		**RDI2IS/A4**	
	M32x1,5	**A3313IB**	**A3313IS**		**RDI3IS/A4**	
	M40x1,5	**A4314IB**	**A4314IS**		**RDI4IS/A4**	
	M50x1,5	**A5315IB**	**A5315IS**		**RDI5IS/A4**	
	M63x1,5	**A6316IB**	**A6316IS**		**RDI6IS/A4**	

* For different threading contact our sales office.





CABLE GLANDS SELECTION CHART

Code Nichel-plated brass	Thread	Dimensions in mm					Range	Weight
		AC1	AC2	ØM	F	C	Ød min-max 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 ¼" ISO7/1	48	40	56	22	59,5	18 - 24	0,310
TEVL5B	1 ½" 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 ¼" NPT	48	40	56	26	63,5	18 - 24	0,310
TEVL5NB	1 ½" 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

TEVL	6	I	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 REVL1**S**)*
- *Available also in galvanized steel (sample code REVL1**G**)*

TEVD series watertight cable glands for amoured cables

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

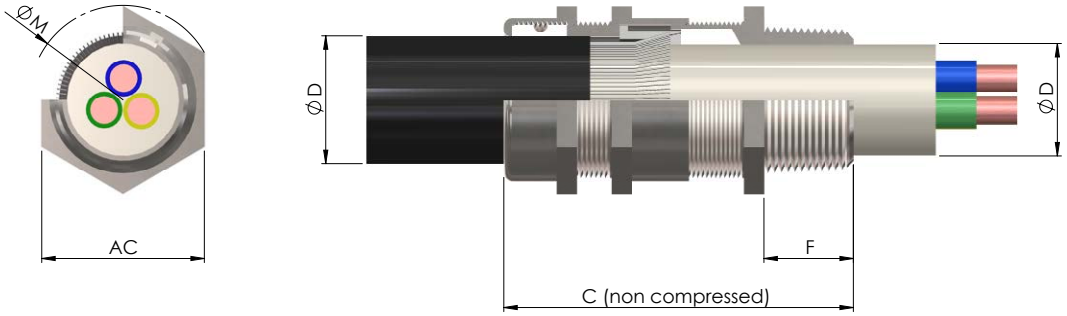
Standard construction:	Nickel-plated brass Sealing ring in silicone material Compression ring in plastic material ISO 7/1, NPT and isometric threads
Degree of protection:	IP66/67
Standards:	IEC 60529 / IEC 529

ACCESSORIES UPON REQUEST

Locknuts	Thread ISO	Nichel-plated brass	Galvanized steel	Stainless steel	Shrouds in black PVC	Code
	M16x1,5	**DL01IB**	**DL01IG**	**DL01IS**		**PGA1F**
	M20x1,5	**DL1IB**	**DL1IG**	**DL1IS**		**PGA1F**
	M25x1,5	**DL2IB**	**DL2IG**	**DL2IS**		**PGA2R**
	M32x1,5	**DL3IB**	**DL3IG**	**DL3IS**		**PGA3**
	M40x1,5	**DL4IB**	**DL4IG**	**DL4IS**		**PGA4**
	M50x1,5	**DL5IB**	**DL5IG**	**DL5IS**		**PGA5**
	M63x1,5	**DL6IB**	**DL6IG**	**DL6IS**		**PGA6R**

Earthing rings in nichel-plated brass *	For ISO threads	Nichel-plated brass	Stainless steel	Stainless steel idented washers	Code	RE... series adaprtors and red**ucers**
	M16x1,5	**A0131IB**	**A0131IS**		**RDI01IS/A4**	
	M20x1,5	**A1311IB**	**A1311IS**		**RDI1IS/A4**	
	M25x1,5	**A2312IB**	**A2312IS**		**RDI2IS/A4**	
	M32x1,5	**A3313IB**	**A3313IS**		**RDI3IS/A4**	
	M40x1,5	**A4314IB**	**A4314IS**		**RDI4IS/A4**	
	M50x1,5	**A5315IB**	**A5315IS**		**RDI5IS/A4**	
	M63x1,5	**A6316IB**	**A6316IS**		**RDI6IS/A4**	

* For different threading contact our sales office.



CABLE GLANDS SELECTION CHART

Code Nichel-plated brass	Thread	Dimensions in mm				Range		Thickness armour standard	Thickness armour on request	Weight
		AC	ØM	F	C	Ød min-max Below armour	ØD min-max External sheat of cable			Kg
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 ¼" ISO7/1	48	56	22	89	24 - 30	31 - 37	0.2 - 1.2	1.2 - 2.0	0,406
TEVD5B	1 ½" 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 ¼" NPT	48	56	26	93	24 - 30	31 - 37	0.2 - 1.2	1.2 - 2.0	0,406
TEVD5NB	1 ½" 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

TEVD	6	I	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 TEVD1**S**)*
- *Available also in galvanized steel (sample code TEVD1**G**)*
- *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.

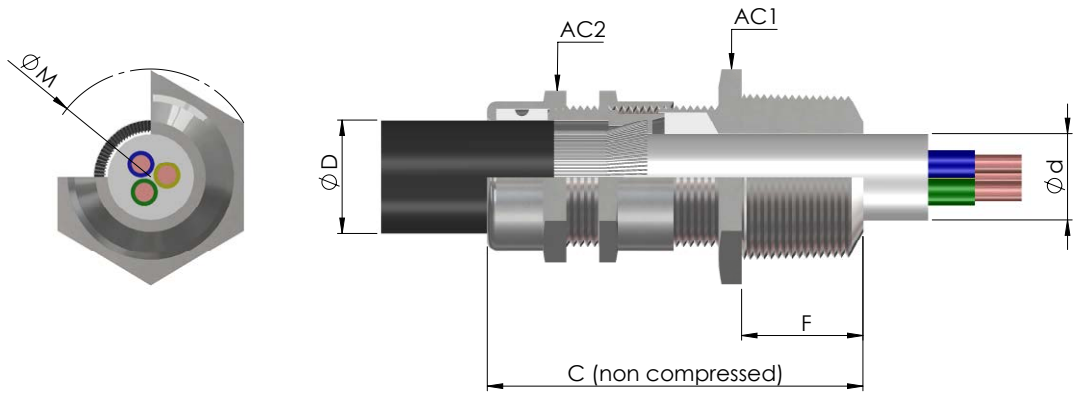
Standard construction:	Nickel-plated brass Sealing ring in silicone material Compression ring in plastic material ISO 7/1, NPT and isometric threads
Degree of protection:	IP66/67
Standards:	IEC 60529 / IEC 529

ACCESSORIES UPON REQUEST

Locknuts	ISO thread	Nichel-plated brass	Galvanized steel	Stainless steel	Shrouds in black PVC	Code
	M16x1,5	**DL01IB**	**DL01IG**	**DL01IS**		**PGA1F**
	M20x1,5	**DL1IB**	**DL1IG**	**DL1IS**		**PGA1F**
	M25x1,5	**DL2IB**	**DL2IG**	**DL2IS**		**PGA2R**
	M32x1,5	**DL3IB**	**DL3IG**	**DL3IS**		**PGA3**
	M40x1,5	**DL4IB**	**DL4IG**	**DL4IS**		**PGA4**
	M50x1,5	**DL5IB**	**DL5IG**	**DL5IS**		**PGA5**
	M63x1,5	**DL6IB**	**DL6IG**	**DL6IS**		**PGA6R**

Earthing rings in nichel-plated brass *	For ISO threads	Nichel-plated brass	Stainless steel	Stainless steel idented washers	Code	RE... series adaprtors and **reducers**
	M16x1,5	**A0131IB**	**A0131IS**		**RDI01IS/A4**	
	M20x1,5	**A1311IB**	**A1311IS**		**RDI1IS/A4**	
	M25x1,5	**A2312IB**	**A2312IS**		**RDI2IS/A4**	
	M32x1,5	**A3313IB**	**A3313IS**		**RDI3IS/A4**	
	M40x1,5	**A4314IB**	**A4314IS**		**RDI4IS/A4**	
	M50x1,5	**A5315IB**	**A5315IS**		**RDI5IS/A4**	
	M63x1,5	**A6316IB**	**A6316IS**		**RDI6IS/A4**	

* For different threading contact our sales office.



CABLE GLANDS SELECTION CHART

Code Nichel-plated brass	Thread	Dimensions in mm					Range		Thickness armour standard	Thickness armour on request on request	Weight Kg
		AC1	AC2	ØM	F	C	Ød min-max Below armour	ØD min-max 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 ¼" ISO7/1	48	40	56	22	86,5	18 - 24	24 - 31	0.2 - 0.9	0.9 - 1.6	0,406
TEVDL5B	1 ½" 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 ¼" NPT	48	40	56	26	90,5	18 - 24	24 - 31	0.2 - 0.9	0.9 - 1.6	0,406
TEVDL5NB	1 ½" 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

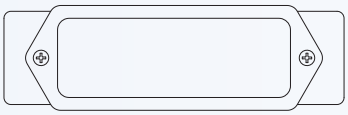
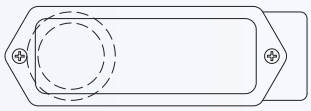
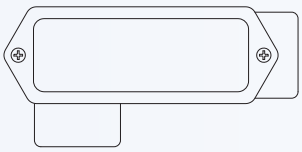
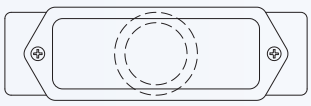
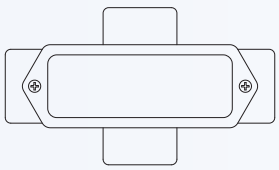
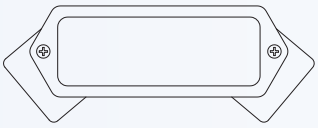
TEVDL	6	I	B
MODEL	SIZE	THREAD	MATERIAL

TECHNICAL NOTES:

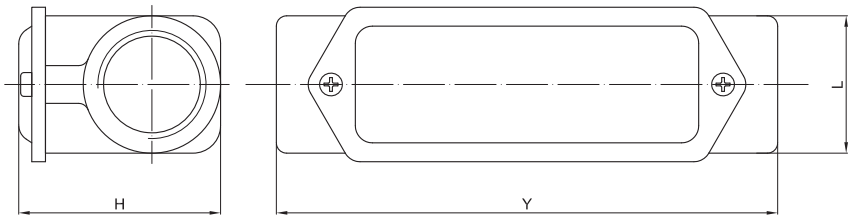
- *For cylindrical threads (ISO metric) it is supplied the silicone O-ring for the IP seal already assembled on cable gland*
- *Available also in stainless steel (sample code TEVDL1**S**)*
- *Available also in galvanized steel (sample code TEVDL1**G**)*
- *Inside gasket for cables with increased armour*

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.

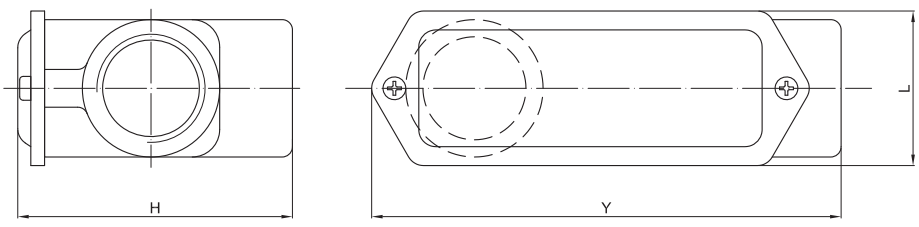
Standard construction:	Body and cover in aluminium alloy Galvanized steel bolts and screws Elastomer gasket
Degree of protection	IP 65
Standards:	IEC 60529
On request:	Other threads Coating Stainless steel screws

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

PULLING BOXES SELECTION CHART					
Box type	Thread	Dimensions in mm			Weight
		Y	L	H	Kg
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 ¼" ISO228/1	171	62	71	0,417
C57	1 ½" ISO228/1	171	62	71	0,372
C67	2" ISO228/1	204	76	83	0,514
C77	2 ½" 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

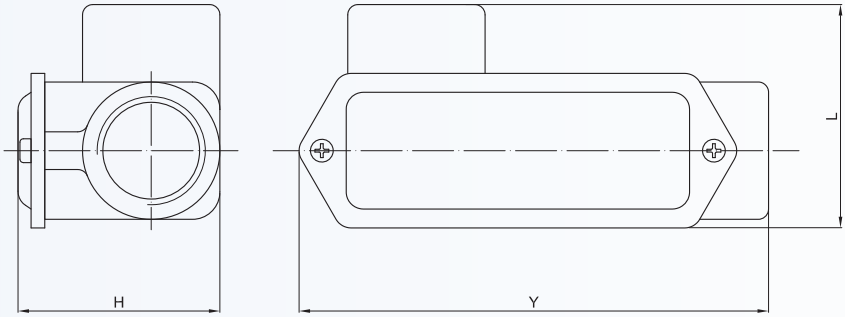


PULLING BOXES SELECTION CHART					
Box type	Thread	Dimensions in mm			Weight
		Y	L	H	Kg
LB17	1/2" ISO228/1	117	40	65	0,172
LB27	3/4" ISO228/1	117	40	65	0,159
LB37	1" ISO228/1	137	45	78	0,236
LB47	1 ¼" ISO228/1	163	62	89	0,427
LB57	1 ½" ISO228/1	163	62	89	0,387
LB67	2" ISO228/1	190	76	108	0,541
LB77	2 ½" 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



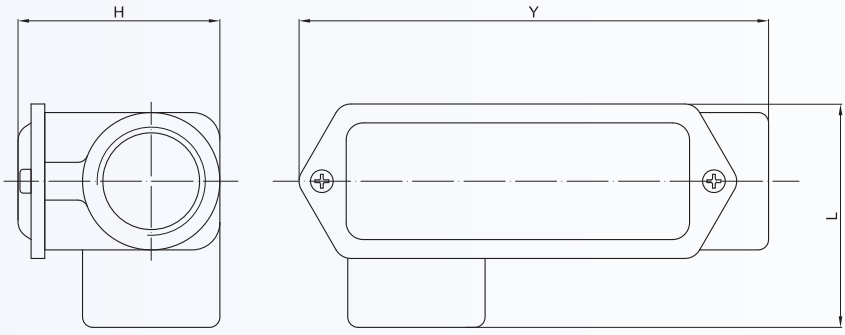
PULLING BOXES SELECTION CHART

Box type	Thread	Dimensions in mm			Weight
		Y	L	H	Kg
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 ¼" ISO228/1	163	76	71	0,414
LL57	1 ½" ISO228/1	163	76	71	0,381
LL67	2" ISO228/1	190	94	83	0,522
LL77	2 ½" 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



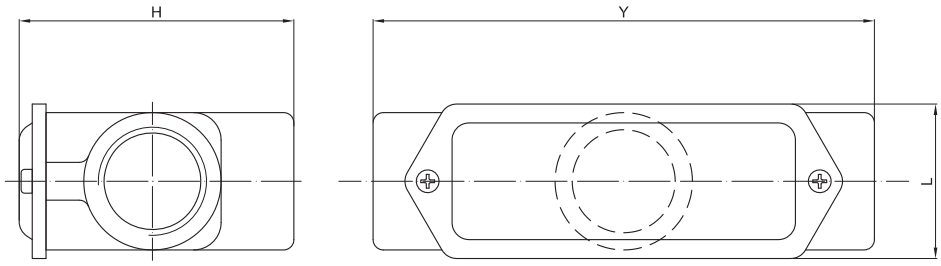
PULLING BOXES SELECTION CHART

Box type	Thread	Dimensions in mm			Weight
		Y	L	H	Kg
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 ¼" ISO228/1	163	76	71	0,414
LR57	1 ½" ISO228/1	163	76	71	0,381
LR67	2" ISO228/1	190	94	83	0,522
LR77	2 ½" 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



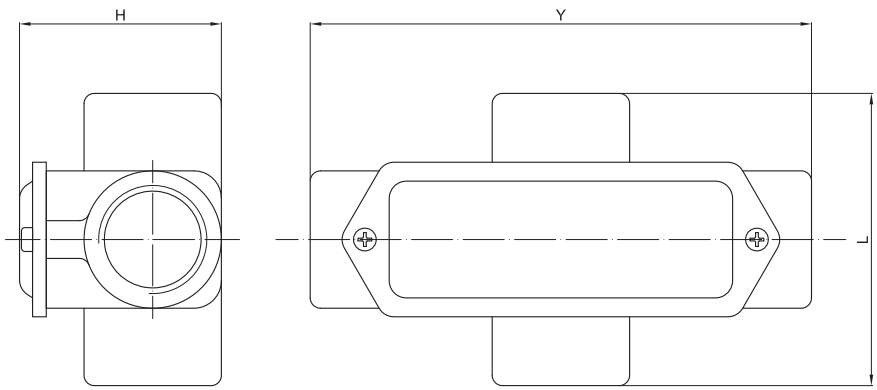
PULLING BOXES SELECTION CHART

Box type	Thread	Dimensions in mm			Weight
		Y	L	H	Kg
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 ¼" ISO228/1	171	62	89	0,488
TB57	1 ½" ISO228/1	171	62	89	0,416
TB67	2" ISO228/1	204	76	108	0,607
TB77	2 ½" 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



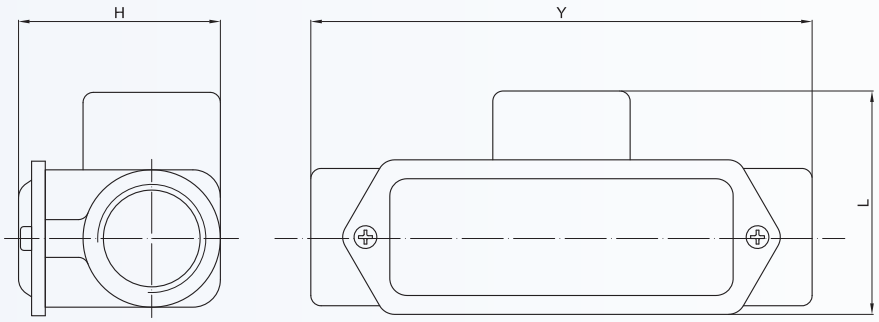
PULLING BOXES SELECTION CHART

Box type	Thread	Dimensions in mm			Weight
		Y	L	H	Kg
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 ¼" ISO228/1	171	96	71	0,532
X57	1 ½" ISO228/1	171	96	71	0,428
X67	2" ISO228/1	204	118	83	0,623
X77	2 ½" 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
		Y	L	H	Kg
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 ¼" ISO228/1	171	78	71	0,473
T57	1 ½" ISO228/1	171	78	71	0,410
T67	2" ISO228/1	204	96	83	0,560
T77	2 ½" 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
		Y	L	H	Kg
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 ¼" ISO228/1	182	103	71	0,523
LU57	1 ½" ISO228/1	182	103	71	0,456
LU67	2" ISO228/1	211	118	83	0,639
LU77	2 ½" ISO228/1	310	156	115	2,498
LU87	3" ISO228/1	310	156	115	1,961

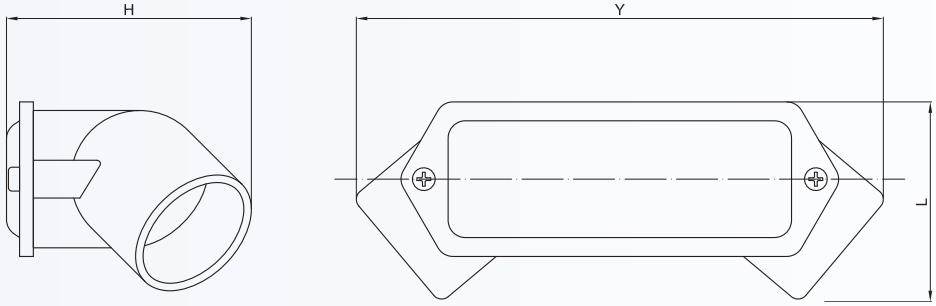
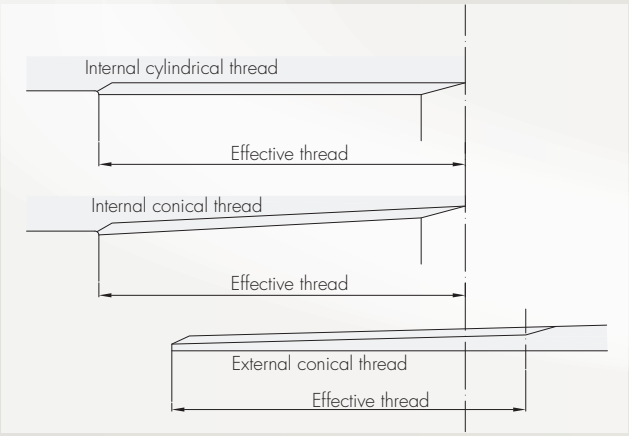


TABLE OF THREAD CORRELATION

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

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

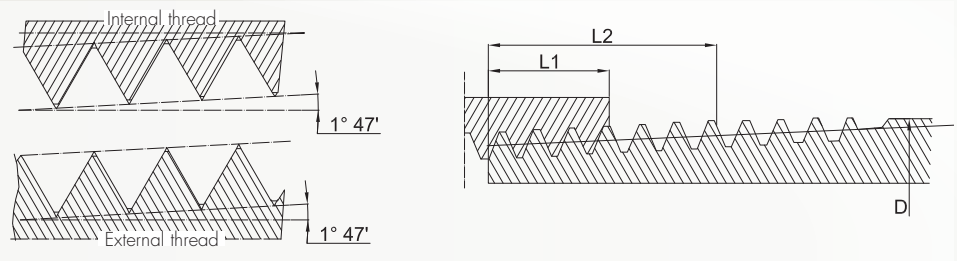


Example of indication in accordance with UNI ISO 7/1
Example with thread from 1 1/4"

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

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

	**Zone 0**	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.	**Zone 1**	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.	**Zone 2**	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.
	**Class I, Division 1**				**Class I, Division 2**	
	> 1.000 h/year		**10 ÷ 1.000 h/year**		**Class 0,1 ÷ 10h/year**	

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

	**Zone 20**	Area in which an explosive atmosphere is present permanently or for long periods or often, in the shape of clouds of dusts.	**Zone 21**	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.	**Zone 22**	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.
	**Class II, Division 1**				**Class II, Division 2**	
	> 1.000 h/year		**10 ÷ 1.000 h/year**		**Class 0,1 ÷ 10h/year**	

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.

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.

	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

The subgroups are:
• IIIA: flammable particles; solid particles, fibers included, with nominal sizes > 500 µm;
• IIIB: non-conductive dust; finely divided solid particles, with nominal sizes ≤ 500 µm, with electrical resistivity > 103 Ωm;
• IIIC: conductive dust; finely divided solid particles, with nominal sizes ≤ 500 µm, with electrical resistivity ≤ 103 Ωm.
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).

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

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] — Ø 50

2 Protected against solid bodies greater than 12 [mm] — Ø 12

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

4 Protected against solid bodies greater than 1 [mm] — Ø 1

5 Protected against dust

6 Totally protected against dust

2 nd 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

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

* 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
AlSi10Mg(a)	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
AlSi12(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 A.

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:

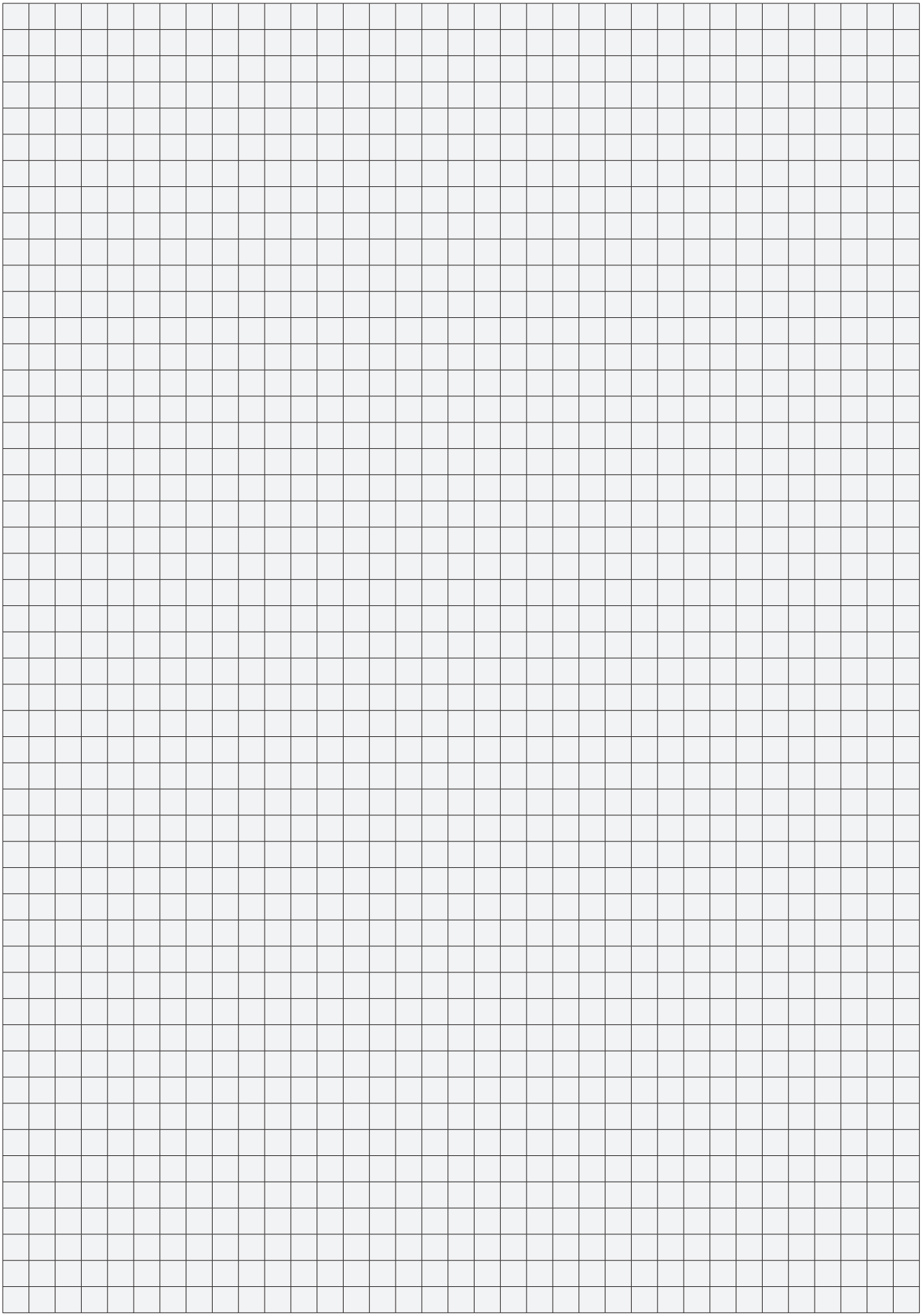
- AISI 304 It's a founder of austenitic stainless steels. It has good corrosion resistance and good mechanical characteristics. Used in the pharmaceutical and food industries.
- AISI 304L It differs from AISI 304 for the low carbon content (C≤0,03%), which considerably increases the resistance to corrosion. 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 ≤ 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.



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