

## Brief Instructions

ENG

# Barrier Cable Glands, Metal, for armored cables CG.BA.\* for non-armored cables CG.BN.\*

Pepperl-Fuchs SE  
Lilienthalstrasse 200  
69307 Mannheim, Germany  
Tel. +49 621 776-0  
Fax +49 621 776-1000

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## Validity

Specific processes and instructions in this instruction manual require special provisions to guarantee the safety of the operating personnel.

## Target Group, Personnel

Responsibility for planning, assembly, commissioning, operation, maintenance, and dismantling lies with the plant operator.

The personnel must be appropriately trained and qualified in order to carry out mounting, installation, commissioning, operation, maintenance, and dismantling of the device. The trained and qualified personnel must have read and understood the instruction manual.

## Reference to Further Documentation

Observe laws, standards, and directives applicable to the intended use and the operating location. Observe Directive 1999/92/EC in relation to hazardous areas.

The corresponding datasheets, manuals, declarations of conformity, EC-type-examination certificates, certificates, and control drawings if applicable support this document. You can find this information under [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com).

## Intended Use

The metal cable glands type CG.B\* can be used indoor and outdoor in Zone 1, Zone 2, Zone 21 and Zone 22 hazardous areas. Barrier glands incorporate a compound filled chamber sealing around the individual cores of a cable in order to maintain the flameproof integrity of the equipment.

CG.BA.\* are intended for use with armored cables providing a combined flameproof seal and environmental seal on the outer and inner sheath of the cable. Typical armors which can be clamped are steel wire armor (SWA), steel wire braided (SWB), steel tape armor (STA), pliable wire armor (PWA) and aluminum wire armor (AWA).

CG.BN.\* are intended for use with non-armored elastomer and plastic insulated cables providing a combined flameproof seal and environmental seal on the outer sheath of the cable.

## Remarks on Assembly

For non-threaded enclosures it is recommended to use flat washer gaskets (e.g. fiber washer of Klingersil type C-4400 or similar, or chloroprene or silicone washer gaskets) between screw-in component and the enclosure.

For threaded enclosures both fiber washers or O-rings can be used.

## Requirements for Cables and Connection Lines

In order to guarantee the mechanical characteristics of the glands, an additional clamping of the cables has to be ensured by appropriate clamping outside of the gland and of the enclosure.

Please refer to below cable preparation drawing for details on dismantling and preparing steel wire armored, braided and tape shielded cables for installation.

## Mounting and Installation

Observe the installation instructions according to IEC/EN 60079-14.

Observe the safety datasheet according to Commission Regulations (EU) No 453/2010 and No 2015/830.

If you intend to install the device or enclosure in areas that may be exposed to aggressive substances, ensure that the stated surface materials are compatible with these substances. If required, contact Pepperl+Fuchs for further information.

Prepare the cables as shown in the picture below.

### Epoxy compound preparation:

Always wear the supplied gloves when handling this epoxy compound. The components are supplied in a two-part package. Mix these in the ratio of 1:1 until both colors have blended in one. Roll and fold the material during mixing in order to obtain an even blend. Install the mixed compound within 15 minutes. After this time it will begin to stiffen. Store the compound at ambient temperatures above 20 °C. Should the compound come in contact with the skin clean it off immediately with skin cleaner, it is not allowed to dry on the skin. Do not mix and install the compound at ambient temperatures below 4 °C due to extended curing periods.

### Installation of CG.BA.\*:

Strip the insulation of the cable and cut the cores in length. Ensure that the bare armor is not longer than the grounding cone (4). Put the cable through pressure nut (8), seal insert (7), gland body (6) and swivel braid ring (5). Loosen the armor and push it onto the armor cone (4). Separate the cable cores and surround them with epoxy compound in the length of the barrier tube (3). Start at the beginning of the common insulation. Push all wrapped cable cores together and remold them in a diameter which will fill the barrier tube (3). Push the barrier tube (3) over the prepared cores and fit it on the armor cone (4).

Clean off all overflowing epoxy material. The barrier tube (3) has to be filled up with epoxy compound completely. Assemble gland body basis (1) and gland body (6) while distributing the armor evenly over the surface of the armor cone (4) so it will be clamped securely by the swivel braid ring (5). Assemble gland body (6) and pressure nut (8). Tighten all screw joints with the specified torques. Disassemble the cable gland and clean barrier tube (3), armor cone (4) and both gland bodies (6) + (1) from leaked epoxy compound.

Attention: Do not move the cable cores for a minimum of 4 hours.

After a minimum of 4 hours assemble the cable gland as described above. Tighten all screw threads with the specified torque.

### Installation of CG.BN.\*:

Strip the insulation of the cable and cut the cores in length. Put the cable through pressure nut (8), seal insert (7) and gland body (6). Separate the cable cores and surround them with epoxy compound in the length of the barrier tube (3). Start at the beginning of the common insulation. Push all wrapped cable cores together and remold them in a diameter which will fill the barrier tube (3). Push the barrier tube (3) over the prepared cores and fit it on the pressure ring (9).

Clean off all overflowing epoxy material. The barrier tube (3) has to be filled up with epoxy compound completely. Assemble gland body basis (1), gland body (6) and pressure nut (8). Tighten all screw joints with the specified torques. Disassemble the cable gland and clean barrier tube (3) and both gland bodies (6) + (1) from leaked epoxy compound.

Attention: Do not move the cable cores for a minimum of 4 hours.

After a minimum of 4 hours assemble the cable gland as described above. Tighten all screw threads with the specified torque.

## IP Protection Method Mode for Ex d / Ex e

### Tapered NPT threads:

In order to guarantee the specified IP66 / IP68 rating when using NPT threads, sealant agent (Loctite 577 or similar) shall be applied on at least two full threads before fitting the gland to the box. In any case pay attention to guarantee the metallic continuity.

### Ex d enclosures and tapered NPT threads:

Assemble through a threaded hole. The enclosure wall has to be thick enough to engage at least 5 full threads.

### Ex d enclosures and metric threads:

Assemble through a threaded hole with O-ring on the thread outside of the enclosure. The enclosure wall has to be thick enough to engage at least 5 full threads.

### Ex e enclosures, metric threads and tapered NPT threads:

Tighten with locknut inside and fiber washer gasket on the thread outside of the enclosure. In case of O-ring it has to be positioned between fiber washer and screw head. An enclosure wall thickness of minimum 1.5 mm has to be respected.

## Operation, Maintenance, Repair

Observe IEC/EN 60079-17 for maintenance and inspection.

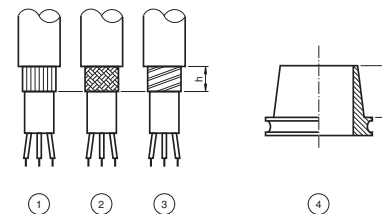
If there is a defect, always replace the device with an original device.

Do not modify or manipulate the device.

## Delivery, Transport, Disposal

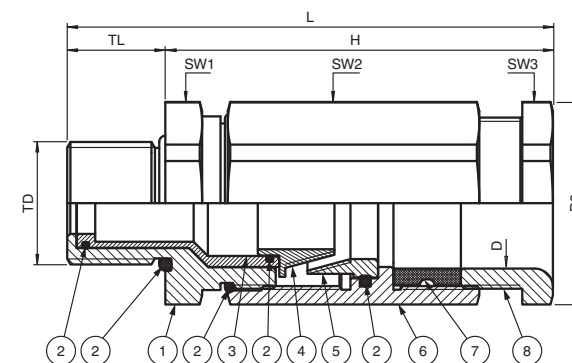
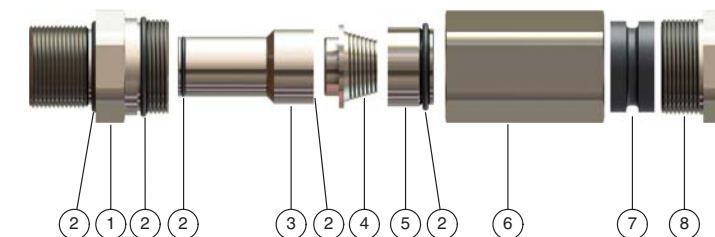
Disposing of device and packaging must be in compliance with the applicable laws and guidelines of the respective country.

## Preparation of Cable for Installation

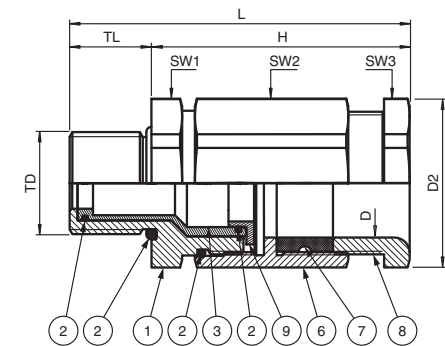
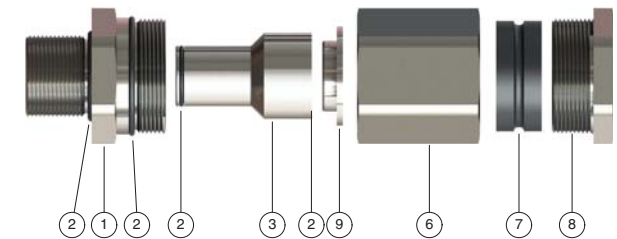


Legend	
1	Steel wire armor
2	Braided shield
3	Metal tape shield
4	Armor cone (CG.BA)
h	Length of armor unsheathing = h1 + 2 mm max.
h1	Height of armor cone, see (4) in dimensions drawing

## Dimensions and Assembly CG.BA\*



## Dimensions and Assembly CG.BN\*



Legend - details and values see data table	
1	Gland body basis
2	O-Ring
3	Barrier tube
4	Armor cone (CG.BA.*)
5	Swivel braid ring (CG.BA.*)
6	Gland body
7	Seal insert
8	Pressure nut
9	Barrier pressure ring bushing (CG.BN.*)
D	Clamping range, cable sheath diameter
D2	Width across corners
H	Length outside enclosure
L	Total length
SW*	Width across flats
TD	Thread size
TL	Thread length
	Barrier details in data table
CQ	Max. number of cores
DS	Core cross-section, single-core cable
DM	Total core cross-section, multi-core cable
CC	Max. total core cross-section area

