



PYROTENAX

Pyro MI Fire Survival Cable

Compression Ring Type Glands For use with all Pyro MI Wiring Cables and
Heating Cable Cold Leads – Safe Use and Fitting Instructions

CERTIFICATE Nos.	CSANe 23ATEX1132X C €0598
CODE	Ex II 2G 1D Ex db IIC Gb Ex ta IIIC Da Ta = -20°C to 450°C

Instructions

1. The Compression Ring Type Glands are supplied with the components assembled to fit the cable sizes as indicated on the Gland Nut.
 2. Compression Ring Type Gland components manufactured from brass to BS2874 Grade CZ121.
 3. The Compression Ring Type Gland is only certified for use on the cable sizes as indicated on the Gland Nut. The cable sizes are shown on the table overleaf or are indicated using the alternative marking convention mentioned above.
 4. Installation shall be carried out by suitably trained personnel in accordance with e.g. IEC/EN 60079-14.
 5. Inspection and maintenance of this equipment shall be carried out by suitably trained personnel in accordance with IEC/EN 60079-17.
 6. A damaged gland shall be replaced with a complete new gland. This work shall be carried out by suitably trained personnel.
 7. If the Compression Ring Type Glands are likely to come into contact with aggressive substances, then it is the responsibility of the user to take suitable precautions to prevent them being adversely affected. It is essential to replace any cable covering removed to facilitate termination, by wrapping over the exposed gland and cable sheath with two full half laps of adhesive electrical insulating tape up to the entry position. This is then covered by the gland shroud. (Corrosive environments/aggressive substances e.g. acidic liquids or gases).
 8. Optional nVent sealing washers (green fibre or PTFE) may be used to provide sealing to IP66 with M20 and M25 metric threads. When using these washers the gland is rated for ambient temperatures -60°C to 140°C. It is recommended that sealing washers be replaced if glands are dis-assembled during routine maintenance work after a period in service.
 9. In Ex d flameproof applications, glands must have a minimum of 8 threads engaged.
 10. Perpendicularity: +/-1° or 0,2 mm at the outer edge of the gland, whichever is smaller.
 11. Earth tag should be installed inside of the enclosures.
 12. Only use nVent RAYCHEM locknuts or types recommended by the manufacturer.
 13. Gland torque:
 - Gland wrench tight for the threaded holes
 - Lock nut wrench tight for the unthreaded holes
 - Back nut torque is 34 Nm.
 14. Maximum surface roughness of enclosures : Non-metallic enclosure: Ra 6,4 µm, better than 3,2 µm is recommended. Metallic enclosure: Ra 0.38 µm (grain 240) recommended.
 15. Thread tolerance class for Ex d is 6H or better for the enclosure.
 16. In order to avoid any galvanic corrosion, contact nVent to consult compatibility of enclosure material with the gland.
- ⚠ The purchaser should make the manufacturer aware of any external effects or aggressive substances that the equipment may be exposed to.
- ⚠ The cable glands shall only be used for fixed installations, the cables must be fixed to prevent pulling or twisting.

Specific Conditions of use (denoted by X after the certificate number)

The cable gland shall not be used where the temperature, at the point of mounting, is outside the range -20°C to 450°C. However, the user/installer shall address the following issues:

- The gland is normally used with a cable seal that will govern the upper temperature limit.
- If the gland is used above 250°C, then the user/installer shall confirm with the manufacturer that the cable and the cable seal are both suitable for the intended application.

The limits on diameters are shown in the table below:

Nominal Cable Diameter	Maximum Diameter Limit	Minimum Diameter Limit
Above 5.0 mm / 0.197 inch	+0.23 mm / 0.009 inch	+0.10 mm / +0.004 inch

Design options

Each one of four metric entry thread forms, M20, M25, M32 and M40, can accommodate various sizes of copper sheathed, mineral insulated cable. This is achieved by enlarging the minor bore of the gland body and nut, and introducing another size sensitive, compression ring. The combinations are as follows:

RGM Gland Size 20, with M20 x 1.5 entry thread form

Gland Type No.	To Suit Cable Diameter ± 0.5 mm
2L1	5.1
2L1.5	5.7
2L2.5	6.6
2L4	7.7
3L1	5.8
3L1.5	6.4
3L2.5	7.3
4L1	6.3
4L1.5	7.0
4L2.5	8.1
2H1.5	7.9
2H2.5	8.7
2H4	9.8
2H6	10.9
3H1.5	8.3
3H2.5	9.3
3H4	10.4
4H1.5	9.1
4H2.5	10.1
5L1.5	10.1

RGM Gland Size 32, with M32 x 1.5 entry thread form

Gland Type No.	To Suit Cable Diameter ± 0.5 mm
2H10	12.7
3H10	13.6
4H6	12.7
4H10	14.8
4H16	17.3

RGM Gland Size 20, with M20 x 1.5 entry thread form

Gland Type No.	To Suit Cable Diameter ± 0.5 mm
1H2.5	5.3
1H4	5.9
1H6	6.4
1H10	7.3
1H16	8.3
1H25	9.6
1H35	10.7

RGM Gland Size 32, with M32 x 1.5 entry thread form

Gland Type No.	To Suit Cable Diameter ± 0.5 mm
1H25	9.6
1H35	10.7
1H120	16.8
1H150	18.4
1H185	20.4
2H25	17.1
12H1.5	14.1
12H2.5	15.6

RGM Gland Size 25, with M25 x 1.5 entry thread form

Gland Type No.	To Suit Cable Diameter ± 0.5 mm
2H4	9.8
2H6	10.9
2H10	12.7
2H16	14.7
3H2.5	9.3
3H4	10.4
3H6	11.5
3H10	13.6
3H16	15.6
4H2.5	10.1
4H4	11.4
4H6	12.7
4H10	14.8
5L1.5	10.1
7H1.5	10.8
7H2.5	12.1
7L1	7.6
7L1.5	8.4
7L2.5	9.7

RGM Gland Size 40, with M40 x 1.5 entry thread form

Gland Type No.	To Suit Cable Diameter ± 0.5 mm
2H16	14.7
3H16	15.6
4H16	17.3

RGM Gland Size 25, with M25 x 1.5 entry thread form

Gland Type No.	To Suit Cable Diameter ± 0.5 mm
1H10	7.3
1H16	8.3
1H50	12.1
1H70	13.7
1H95	15.4

RGM Gland Size 40, with M40 x 1.5 entry thread form

Gland Type No.	To Suit Cable Diameter ± 0.5 mm
1H50	12.1
1H240	23.3
2H25	17.1
3H25	18.2
4H25	20.1
19H1.5	16.6

Degree of Ingress of Protection (IP)

In some installations, for example damp and dusty conditions or in potentially explosive atmospheres, it is necessary to specify a minimum IP Rating for enclosures and to ensure that it is maintained when cable entries into the enclosures are affected.

Recommendations as to how this may be achieved should be available from the enclosure/apparatus manufacturer or supplier. Based on experience, the following information is offered for general guidance.

Plain Hole Entries

A rating of IP66 may be achieved with Pyro MI Glands with and without a sealing washer. However, certain characteristics of the enclosure can adversely affect the IP rating, e.g. surface finish, variations in wall thickness, dimensional tolerances and quality of entry hole. nVent recommends the use of sealing washers.

The plain clearance hole in the Ex enclosure shall have a diameter of not more than 0.7 mm greater than the nominal diameter of the gland entry thread diameter.

Threaded Entries

A rating of IP66 may be achieved with Pyro MI Glands tightened in the recommended manner (with and without sealing washer). The entry hole should have threads of medium fit tolerance (a thread sealant is not normally required unless conditions of Note 14 apply).

When performing maintenance requiring removal of gland from enclosure, it is recommended that IP sealing washers be replaced.

Fitting Instructions

Before installation:

1. Perform visual inspection of glands for scratches or damage, including threads. Ensure surface of cable where gland will seal to sheath is clean. If gland is contaminated: disassemble, clean, and visually inspect contaminated parts.
2. Slide the complete ring type gland onto the cable sheath before terminating the cable.
3. Assemble the completed termination into the terminal box entry.
4. Secure the gland body into the equipment by screwing it into a threaded entry by means of a spanner on the hexagon of the gland body.
5. Locate the seal pot in the desired position and fully tighten the back nut to swage down the compression ring onto the cable sheath. This secures the cable into the application.
6. Perform visual inspection of gland after tightening back nut and check for cracks, deformation / out-of-round.

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