

# CABLE GLANDS FOR ARMoured CABLES

Explosion Proof Electrical Equipment



Ex Cable Glands

**Installation:** hazardous areas - Zone 1 / 2 (Gases) - Zone 21 / 22 (Dusts)  
**Classification:** Group II - Category 2G 2D

**PAP**



|                     | CABLE GLANDS                                                                                     |                                                                                  |                                                                                                                      |                                                                                  |                                                       |
|---------------------|--------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------------------------------------------------|
|                     | ATEX 94/9/EC                                                                                     | IEC Ex                                                                           | INMETRO                                                                                                              | GOST-R (RTR/RTN)                                                                 | GOST-K                                                |
| EXECUTION           | Ⓜ II 2 G Ex e IIC<br>Ⓜ II 2 G Ex d IIC<br>Ⓜ II 2 D Ex tD A21                                     | Ex e IIC Gb<br>Ex d IIC Gb<br>Ex tb IIIC Db                                      | Ex e IIC Gb<br>Ex d IIC Gb<br>Ex tb IIIC Db                                                                          | Ex e IIC Gb<br>Ex d IIC Gb<br>Ex tb IIIC Db                                      | Ex e IIC Gb<br>Ex d IIC Gb<br>Ex tb IIIC Db           |
| AMBIENT TEMPERATURE | -40°C ÷ +90°C (1)<br>-60°C ÷ +180°C (2)                                                          | -40°C ÷ +90°C (1)<br>-60°C ÷ +180°C (2)                                          | -40°C ÷ +90°C (1)<br>-60°C ÷ +180°C (2)                                                                              | -40°C ÷ +90°C (1)<br>-60°C ÷ +180°C (2)                                          | -40°C ÷ +90°C (1)<br>-60°C ÷ +180°C (2)               |
| PROTEC. DEGREE      | IP66/68                                                                                          | IP66/68                                                                          | IP66/68                                                                                                              | IP66/68                                                                          | IP66/68                                               |
| CERTIFICATE REF.    | INERIS 07 ATEX 0001X                                                                             | IECEx INE 13.0018X                                                               | CEPEL 12.2177X                                                                                                       | POCC IT. ME92.B02924                                                             | No. 07/43-269                                         |
| RULES OF COMPLIANCE | EN 60079-0:2004;<br>EN 60079-1:2004;<br>EN 60079-11:2006;<br>EN 61241-0:2004;<br>EN 61241-1:2004 | IEC 60079-0:2011;<br>IEC 60079-1:2007;<br>IEC 60079-7:2006;<br>IEC 60079-31:2008 | ABNT NBR IEC 60079-0:2008;<br>ABNT NBR IEC 60079-1:2007;<br>ABNT NBR IEC 60079-7:2008;<br>ABNT NBR IEC 60529-0:2009; | GOCT P M3K 60079-0:2011;<br>GOCT P M3K 61241-0:2007;<br>GOCT P M3K 61241-1:2004; | GOCT P 51330.0/1/8/14-99<br>GOCT P M3K 61241-1-1-2002 |

(1) EDPM-60 INTERNAL RUBBER RINGS - (2) SILICON-60 INTERNAL RUBBER RINGS

|      | ATEX / IECEx / GOST |   |   |    |    |    |
|------|---------------------|---|---|----|----|----|
| Zone | 0                   | 1 | 2 | 20 | 21 | 22 |
|      |                     | X | X |    | X  | X  |

|      | NEC 505 |   |   |
|------|---------|---|---|
|      | Class I |   |   |
| Zone | 0       | 1 | 2 |
|      |         | X | X |

|          | NEC 500 |   |          |   |           |   |
|----------|---------|---|----------|---|-----------|---|
|          | Class I |   | Class II |   | Class III |   |
| Division | 1       | 2 | 1        | 2 | 1         | 2 |
|          |         | X | X        | X | X         | X |

## Mechanical characteristics

|                     |                                                                        |
|---------------------|------------------------------------------------------------------------|
| Body / cap          | OT-58 marine brass (ON) - AISI-316L stainless steel (IX)               |
| Finishes            | full nickel plating treatment (brass material only)                    |
| Rubber rings        | EDPM rubber- 50-60 shore hardness - Silicon rubber - 60 shore hardness |
| O-ring              | silicon rubber - 60 shore hardness                                     |
| Skid washer         | nylon 6                                                                |
| Chamber for sealing | OT-58 marine brass ("R" version only)                                  |

## APPLICATION

- FOR STEEL WIRE ARMoured CABLES (SWA) FOR STEEL TAPE ARMoured CABLES
- DOUBLE COMPRESSION TYPE FOR INDOOR AND OUTDOOR USE
- PROVIDED ARMOUR CLAMPING USING CLAMPING ARRANGEMENTS SUITABLE FOR ALL ARMOUR WIRE/BRAID TYPES
- DOUBLE COMPRESSION - UNDER ARMOUR AND OVERALL OF ARMOUR CABLE ( INNER AND OUTER SEALING )
- SEALING WITH PROPER RESIN INTO "CHAMBER OF SEALING" ( ON BARRIER TYPE VERSION "R" ONLY )

## ON REQUEST ACCESSORIES:

- Locknuts, Gaskets, PVC Shrouds, Earthing Tags, Sealing (See ACCESSORI bulletin)

# PAP Cable gland selection table

| CODE           | SIZE | ENTRY THREAD SIZE |   |           |   |             |   | DIA. UNDER ARMOUR |             | OUTER SHEATH DIA. |             | HEXAGON<br>⌀ | MATERIAL                           |      |       |
|----------------|------|-------------------|---|-----------|---|-------------|---|-------------------|-------------|-------------------|-------------|--------------|------------------------------------|------|-------|
|                |      | METRIC            |   | NPT       |   | UNI ISO 228 |   | min<br>[mm]       | max<br>[mm] | min<br>[mm]       | max<br>[mm] | [mm]         |                                    | (3)  |       |
| (1)            |      | (2)               |   | (2)       |   | (2)         |   |                   |             |                   |             |              |                                    |      |       |
| PAP#<br>PAP-R# | 00*  | ISO-M20           | M | 1/2"NPT   | N | 1/2"        | G | 4,0               | 7,0         | 10,0              | 15,0        | 24,0         | NICKEL PL.BRASS<br>STAINLESS STEEL | ON   |       |
|                |      |                   |   |           |   |             |   | 7,0               | 10,0        |                   |             |              |                                    | IX   |       |
| PAP#<br>PAP-R# | 01   | ISO-M20           | M | 1/2"NPT   | N | 1/2"        | G | 5,5               | 8,0         | 10,0              | 15,0        | 32,0         | NICKEL PL.BRASS<br>STAINLESS STEEL | ON   |       |
|                |      |                   |   |           |   |             |   | 8,0               | 10,5        |                   |             |              |                                    | IX   |       |
|                |      |                   |   |           |   |             |   | 10,5              | 13,0        | 14,0              | 19,0        |              |                                    |      |       |
| PAP#<br>PAP-R# | 02   | ISO-M25           | M | 3/4"NPT   | N | 3/4"        | G | 10,5              | 13,0        | 15,0              | 20,0        | 36,0         | NICKEL PL.BRASS<br>STAINLESS STEEL | ON   |       |
|                |      |                   |   |           |   |             |   | 13,0              | 15,5        |                   |             |              |                                    | 19,0 | 24,0  |
|                |      |                   |   |           |   |             |   | 15,5              | 18,0        |                   |             |              |                                    |      |       |
| PAP#<br>PAP-R# | 03   | ISO-M32           | M | 1"NPT     | N | 1"          | G | 15,0              | 18,0        | 20,0              | 26,0        | 45,0         | NICKEL PL.BRASS<br>STAINLESS STEEL | ON   |       |
|                |      |                   |   |           |   |             |   | 18,0              | 21,0        |                   |             |              |                                    | 25,0 | 31,0  |
|                |      |                   |   |           |   |             |   | 21,0              | 24,0        |                   |             |              |                                    |      |       |
| PAP#<br>PAP-R# | 04   | ISO-M40           | M | 1 1/4"NPT | N | 1 1/4"      | G | 21,0              | 24,0        | 26,0              | 32,0        | 53,0         | NICKEL PL.BRASS<br>STAINLESS STEEL | ON   |       |
|                |      |                   |   |           |   |             |   | 24,0              | 27,0        |                   |             |              |                                    | 31,0 | 37,0  |
|                |      |                   |   |           |   |             |   | 27,0              | 30,0        | 34,0              | 40,0        |              |                                    |      |       |
| PAP#<br>PAP-R# | 05   | ISO-M50           | M | 1 1/2"NPT | N | 1 1/2"      | G | 24,0              | 27,0        | 30,0              | 37,0        | 61,0         | NICKEL PL.BRASS<br>STAINLESS STEEL | ON   |       |
|                |      |                   |   |           |   |             |   | 27,0              | 30,0        |                   |             |              |                                    | 36,0 | 43,0  |
|                |      |                   |   |           |   |             |   | 30,0              | 33,0        | 40,0              | 47,0        |              |                                    |      |       |
|                |      |                   |   |           |   |             |   | 33,0              | 36,0        |                   |             |              |                                    |      |       |
| PAP#<br>PAP-R# | 06   | ISO-M63           | M | 2"NPT     | N | 2"          | G | 36,0              | 39,0        | 42,0              | 48,0        | 71,0         | NICKEL PL.BRASS<br>STAINLESS STEEL | ON   |       |
|                |      |                   |   |           |   |             |   | 39,0              | 42,0        |                   |             |              |                                    | 47,0 | 53,0  |
|                |      |                   |   |           |   |             |   | 42,0              | 45,0        | 50,0              | 56,0        |              |                                    |      |       |
| PAP#<br>PAP-R# | 07   | ISO-M75           | M | 2 1/2"NPT | N | 2 1/2"      | G | 42,0              | 45,0        | 52,0              | 58,0        | 84,0         | NICKEL PL.BRASS<br>STAINLESS STEEL | ON   |       |
|                |      |                   |   |           |   |             |   | 45,0              | 48,0        |                   |             |              |                                    | 58,0 | 64,0  |
|                |      |                   |   |           |   |             |   | 48,0              | 51,0        | 61,0              | 67,0        |              |                                    |      |       |
|                |      |                   |   |           |   |             |   | 51,0              | 54,0        |                   |             |              |                                    |      |       |
| PAP#<br>PAP-R# | 08   | ISO-M90           | M | 3"NPT     | N | 3"          | G | 52,0              | 56,0        | 65,0              | 72,0        | 101,0        | NICKEL PL.BRASS<br>STAINLESS STEEL | ON   |       |
|                |      |                   |   |           |   |             |   | 56,0              | 59,0        |                   |             |              |                                    | 71,0 | 78,0  |
|                |      |                   |   |           |   |             |   | 59,0              | 62,0        | 74,0              | 81,0        |              |                                    |      |       |
|                |      |                   |   |           |   |             |   | 62,0              | 65,0        |                   |             |              |                                    |      |       |
|                |      |                   |   |           |   |             |   | 65,0              | 68,0        |                   |             |              |                                    |      |       |
| PAP#<br>PAP-R# | 09   | ISO-M100          | M | 4"NPT     | N | 4"          | G | 60,0              | 68,0        | 81,0              | 88,0        | 126,0        | NICKEL PL.BRASS<br>STAINLESS STEEL | ON   |       |
|                |      |                   |   |           |   |             |   | 68,0              | 74,0        |                   |             |              |                                    | 96,0 | 104,0 |
|                |      |                   |   |           |   |             |   | 74,0              | 80,0        | 96,0              | 104,0       |              |                                    |      |       |
|                |      |                   |   |           |   |             |   | 80,0              | 86,0        |                   |             |              |                                    |      |       |
|                |      |                   |   |           |   |             |   | 86,0              | 92,0        |                   |             |              |                                    |      |       |

## CABLE GLAND ORDERING EXAMPLES

|      |    |   |    |
|------|----|---|----|
| PAP# | 01 | M | ON |
| PAP# | 03 | N | IX |

\*NOTE: 00 SIZE WITH ISO-M16 OR 3/8"NPT - 3/8"ISO-228 BODY, ON REQUEST

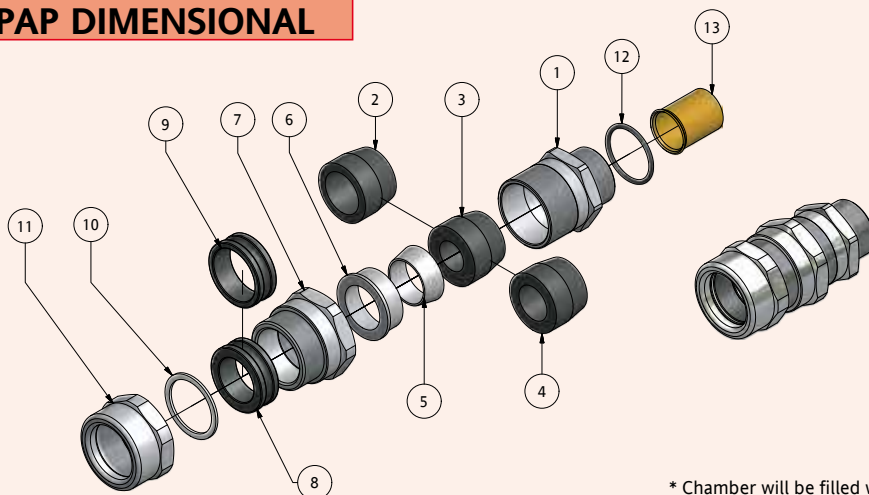
= PAP#01MON (NON-BARRIER CABLE GLAND NICKEL PLATED BRASS ISO-M20 THR.)

= PAP#03NIX (NON-BARRIER CABLE GLAND STAINLESS STEEL 1"NPT THR.)

## LEGEND

|     |                        |                                                                            |
|-----|------------------------|----------------------------------------------------------------------------|
| (1) | CABLE GLAND TYPE/MODEL | PAP# = NON-BARRIER CABLE GLAND - PAP-R# = BARRIER CABLE GLAND              |
| (2) | THREADING              | M = ISO METRIC pitch 1,5mm - N = NPT (ANSI/ASME B1.20.1) - G = UNI ISO-228 |
| (3) | CABLE GLAND MATERIAL   | ON = NICKEL PLATED MARINE BRASS - IX = AISI-316L STAINLESS STEEL           |

## PAP DIMENSIONAL



|       |                                         |
|-------|-----------------------------------------|
| 1     | BODY                                    |
| 2-3-4 | INNER SEALING RING FOR ARMOURED CABLE   |
| 5     | ARMOUR CLAMPING CONE                    |
| 6     | ARMOUR CLAMPING RING FOR ARMOURED CABLE |
| 7     | GLAND BARREL                            |
| 8-9   | OUTER SEALING RING                      |
| 10    | ANTI RUBBING WASHER                     |
| 11    | GLAND NUT                               |
| 12    | O-RING (ONLY FOR METRICAL)              |
| 13    | CHAMBER FOR SEALING ("R" VERSION ONLY)  |

\* Chamber will be filled with sealing when cable gland is completely assembled.

**REMARK:** Due to the development of the national and international specifications and of the technology, the above technical characteristics showed on this bulletin can be considered as binding on our confirmation only.