

Increased safety (Exe) breather drains (metallic) – DP-E Series

Technical specification

Redapt DP-E series of Exe breather drains provide a method of preventing moisture build-up within a hazardous area approved enclosure whilst ensuring the integrity and Ex approval of the installation is maintained.

They allow for air within an enclosure to breathe with the surrounding atmosphere helping to prevent condensation and any potential damage to sensitive electric/electronic equipment housed within. All whilst maintaining an IP66 rating of the enclosure it is installed in.

Designed for hazardous area applications, Redapt's DP-E series of breather drains are certified to protection concept Exe "Increased Safety" for use in Zone 1 and Zone 2 applications. Also certified Ex tb "dust tight" for use in Zone 21 & 22 applications.



Type DP-E

Certifications and compliances



Code of protection categories

| | |
|---------------|--|
| ATEX: | I M2/II 2 GD, Ex e I/II Mb Gb, Ex tb IIIC Db |
| IECEC: | Ex e I/II C Mb/Gb, Ex tb IIIC Db |
| CSA: | Ex eb IIC Gb IP66 CII Zn 1 AEx eb IIC Gb Enclosure Type 4X (NEMA 4X) |

Compliance standards

| | |
|---------------|---|
| ATEX: | EN 60079-0, EN 60079-7, EN 60079-31 |
| IECEC: | IEC 60079-0, IEC 60079-7, IEC 60079-31 |
| CSA: | C22.2 No. 0-10, CAN/CSA C22.2 NO. 18.3-12, CAN/CSA C22.2 No. 60079-0, CAN/CSA C22.2 No. 60079-7, CAN/CSA C22.2 NO. 94-M91 ANSI/UL 514B, ANSI/UL 60079-0 ANSI/UL 60079-7, ANSI/UL 50 |

Certificate details

| | |
|-----------------|--------------------------|
| ATEX: | ITS16ATEX101338X |
| IECEC: | IECEX ITS 16.0014X |
| CSA: | CSA00CA1033919X |
| EAC: | EAC RU C-GB.M062.B.06227 |
| INMETRO: | NCC 18.0165 X |

Ingress protection (IP):

IP66 when fitted in accordance to manufacturer's instructions.

Plating options

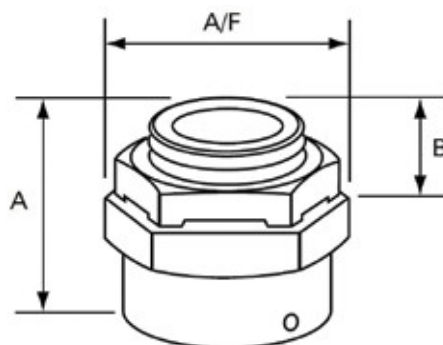
Electroless nickel
Zinc
Others on application

Threadforms

Metric
NPT

Dimensions

| Size | A/F | Overall length (A) | Thread length (B) |
|--------|-------|--------------------|-------------------|
| M20 | 28.60 | 23.00 (min.) | 10.00 (min.) |
| M25 | 34.90 | 23.00 (min.) | 10.00 (min.) |
| M32 | 41.30 | 23.00 (min.) | 10.00 (min.) |
| ½" NPT | 28.60 | 28.00 (min.) | 15.00 (min.) |
| ¾" NPT | 34.90 | 28.00 (min.) | 15.00 (min.) |
| 1" NPT | 41.30 | 28.00 (min.) | 15.00 (min.) |



Temperature

Dependent on filter and seal O-ring

| | |
|-----------------|---------------------------------------|
| HDPE filter: | -50°C to 80°C |
| Nitrile: | -30°C to +80°C (supplied as standard) |
| EPDM: | -50°C to +100°C |
| Neoprene: | -40°C to +80°C |
| Viton: | -20°C to +180°C |
| Silicone: | -60°C to +180°C |
| Fluorosilicone: | -60°C to +130°C |

Increased safety (Exe) breather drains (metallic) – Product coding

| Product | DIGITS 1 & 2 |
|---------------------------------|--------------|
| Increased Safety BREATHER DRAIN | DP |

| Certification | DIGIT 3 |
|---------------|---------------|
| E | Exe I and IIC |

| Material | DIGIT 4 |
|----------|-----------------|
| 1 | Brass |
| 3 | Stainless steel |
| 5 | Aluminum |

| Plating | DIGIT 5 |
|---------|--------------------|
| 0 | Unplated |
| 1 | Electroless nickel |
| 2 | Zinc |

| DIGITS 6 & 7 |
|--------------|
| Thread type |
| 04 M20 |
| 05 M25 |
| 06 M32 |
| 29 1/2" NPT |
| 30 3/4" NPT |
| 31 1" NPT |

| DIGITS 8 & 9 | | |
|---------------|---------------|-------------------|
| Thread length | Hole position | Castellated I/nut |
| S1 10mm | 2 Holes | With |
| S2 10mm | 2 Holes | Without |
| S3 15mm | 3 Holes | With |
| S4 15mm | 3 Holes | Without |

Alternative threadforms, material & plating on application.

Example

| Digits 1&2 | Digit 3 | Digit 4 | Digit 5 | Digits 6&7 | Digits 8&9 | | | | | |
|----------------|---------------|-----------------|----------|------------|------------|----------|---|-----------|---|-----------|
| DP | - | E | - | 3 | - | 0 | - | 04 | - | S1 |
| Breather drain | Exe I and IIC | Stainless steel | Unplated | M20 | 10mm | | | | | |

Notes:

- NPT threaded breather drains are only available in S3 and S4 options.
- Default option is S3 / D1

Thread dimension chart

ISO metric

BS 3643 1.5mm pitch

| Size | Major dia. | TPI |
|-------------|------------|-------|
| M12 | 11.97 | 16.93 |
| M16 | 15.97 | 16.93 |
| M20 | 19.97 | 16.93 |
| M25 | 24.97 | 16.93 |
| M32 | 31.97 | 16.93 |
| M40 | 39.97 | 16.93 |
| M50 | 49.97 | 16.93 |
| M63 | 62.97 | 16.93 |
| M75 | 74.97 | 16.93 |
| 2.0mm pitch | | |
| M80 | 79.97 | 12.70 |
| M85 | 84.97 | 12.70 |
| M90 | 89.97 | 12.70 |
| M100 | 99.97 | 12.70 |
| M110 | 109.97 | 12.70 |
| M120 | 119.97 | 12.70 |

Alternate ISO pipe thread designations

| | |
|--------|--|
| UK | BSP Parallel or Taper BS2279 (BS21) |
| Europe | G (Parallel) GK (Taper) R (Parallel) RK (Taper) |
| Japan | PF (Parallel) JISB 303 |
| CIS | K mpy (Taper) |

NPT

ANSI ASME B1.20.1

| Size | Pipe dia. | TPI |
|------|-----------|-------|
| ½" | 21.34 | 14.00 |
| ¾" | 26.67 | 14.00 |
| 1" | 33.40 | 11.50 |
| 1¼" | 42.16 | 11.50 |
| 1½" | 48.26 | 11.50 |
| 2" | 60.33 | 11.50 |
| 2½" | 73.03 | 8.00 |
| 3" | 88.90 | 8.00 |
| 3½" | 101.60 | 8.00 |
| 4" | 114.30 | 8.00 |

PG

DIN 40430

| Size | Major dia. | TPI |
|--------|------------|-------|
| PG7 | 12.50 | 20.00 |
| PG9 | 15.20 | 18.00 |
| PG11 | 18.60 | 18.00 |
| PG13.5 | 20.40 | 18.00 |
| PG16 | 22.50 | 18.00 |
| PG21 | 28.30 | 16.00 |
| PG29 | 37.00 | 16.00 |
| PG36 | 47.00 | 16.00 |
| PG42 | 54.00 | 16.00 |
| PG48 | 59.30 | 16.00 |

BSP ISO pipe thread

ISO R/7; UNI 6125

| Size | Pipe Dia. | TPI |
|------|-----------|-------|
| ⅝" | 16.66 | 19.00 |
| ½" | 20.96 | 14.00 |
| ¾" | 26.44 | 14.00 |
| 1" | 33.25 | 11.00 |
| 1¼" | 41.91 | 11.00 |
| 1½" | 47.80 | 11.00 |
| 2" | 59.61 | 11.00 |
| 2½" | 75.18 | 11.00 |
| 3" | 87.88 | 11.00 |

ET imperial conduit

BS31

| Size | Major dia. | TPI |
|------|------------|-------|
| ⅝" | 15.88 | 18.00 |
| ¾" | 19.05 | 16.00 |
| 1" | 25.40 | 16.00 |
| 1¼" | 31.75 | 16.00 |
| 1½" | 38.10 | 14.00 |
| 2" | 50.80 | 14.00 |
| 2½" | 63.50 | 14.00 |
| 3" | 76.20 | 14.00 |

Thread dimension substitution chart

| Metric | NPT (or NPS) | PG | BSP ISO Pipe | ET |
|------------|--------------|----------|--------------|-----|
| M16 | – | 7, 9 | – | ⅝" |
| M20 | ½" | 11, 13.5 | ½" | ¾" |
| M25 | ¾" | 16 | ¾" | 1" |
| M32 | 1" | 21 | 1" | 1¼" |
| M40 | 1¼" | 29 | 1¼" | 1½" |
| M50 | 1½" | 36 | 1½" | 2" |
| M63 | 2" | 42, 48 | 2" | 2½" |
| M75 | 2½" | – | 2½" | 3" |
| M90 x 2.0 | 3" | – | 3" | – |
| M100 x 2.0 | 3½" | – | – | – |
| M110 x 2.0 | – | – | – | – |
| M120 x 2.0 | – | – | – | – |



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