

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



Type DP-E

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.

## Materials

- Brass CZ121
- 316 stainless steel
- Aluminium

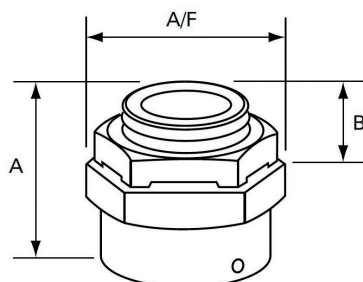
## Threadforms

- Metric
- NPT

## Plating options

- Electroless nickel
- Zinc
- Others on application

## 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.)      |

For M16 dimensions please contact our customer service team.

## Technical specifications

### Code of protection categories

ATEX: I M2/II 2 GD, Ex e I/II Mb Gb, Ex tb IIIC Db

IECEX: Ex e I/II Mb/Gb, Ex tb IIIC Db

CSA: Ex eb IIC Gb IP66 Cl I Zn 1 AEx eb IIC Gb Enclosure Type 4X (NEMA 4X)

### Compliance standards

ATEX: EN 60079-0, EN 60079-7, EN 60079-31

IECEX: 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

IECEX: IECEX ITS 16.0014X

EAC: RU C-GB.M1062.B.06227

CSA: CSA00CA1033919X

INMETRO: NCC 18.0165 X

### Temperature

Dependent on filter and O-ring seal

Metallic body: -60°C to +200°C, without an O-ring seal

### Filter options:

HDPE filter: -50°C to 85°C

Metal filter: dependent on interface material

### Interface O-ring Material options:

Nitrile: -30°C to +80°C (supplied as standard with HDPE filter version)

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

### Ingress protection (IP):

IP66 when fitted in accordance to manufacturer's instructions.

### Part number:

Please refer to part numbering system below

[Download certificates and documents here](#)

# Increased safety (Exe) breather drains (metallic) - Product coding

| Product                            | Digits 1 & 2 |
|------------------------------------|--------------|
| Increased Safety<br>BREATHER DRAIN | <b>DP</b>    |

| Certification | Digit 3       |
|---------------|---------------|
| <b>E</b>      | Exe I and IIC |

| Material | Digit 4         |
|----------|-----------------|
| 1        | Brass           |
| <b>3</b> | Stainless steel |
| 5        | Aluminium       |

| Plating  | Digit 5            |
|----------|--------------------|
| <b>0</b> | Unplated           |
| 1        | Electroless nickel |
| 2        | Zinc               |

| Digits 6 & 7  |
|---------------|
| Thread type   |
| <b>04</b> 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 |
| <b>S1</b> - HDPE filter 10mm | 2 Holes       | With              |
| S2 - HDPE filter 10mm        | 2 Holes       | Without           |
| S3 - HDPE filter 15 mm       | 3 Holes       | With              |
| S4 - HDPE filter 15mm        | 3 Holes       | Without           |
| M1 - Metallic filter 10mm    | 2 Holes       | With              |
| M2 - Metallic filter 10mm    | 2 Holes       | Without           |
| M3 - Metallic filter 15 mm   | 3 Holes       | With              |
| M4 - Metallic filter 15mm    | 3 Holes       | Without           |

## Example

| Digits 1 & 2   | Digit 3       | Digit 4         | Digit 5    | Digits 6&7  | Digits 8 & 9 |
|----------------|---------------|-----------------|------------|-------------|--------------|
| <b>DP</b>      | <b>- E</b>    | <b>- 3</b>      | <b>- 0</b> | <b>- 04</b> | <b>- S1</b>  |
| 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

# Thread dimension chart

## ISO metric

### BS 3643 1.5mm pitch

| Size | Major dia. | TPI   |
|------|------------|-------|
| 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 |

## NPT

### ANSI/ASME B1.20.1

| Size   | Pipe dia. | TPI   |
|--------|-----------|-------|
| 1/2"   | 21.34     | 14.00 |
| 3/4"   | 26.67     | 14.00 |
| 1"     | 33.40     | 11.50 |
| 1 1/4" | 42.16     | 11.50 |
| 1 1/2" | 48.26     | 11.50 |
| 2"     | 60.33     | 11.50 |
| 2 1/2" | 73.03     | 8.00  |
| 3"     | 88.90     | 8.00  |
| 3 1/2" | 101.60    | 8.00  |
| 4"     | 114.30    | 8.00  |

## PG

### BS 3643 1.5mm pitch

| 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 |

## Alternate ISO pipe thread designations

### BS 3643 1.5mm pitch

|        |  |
|--------|--|
| UK     | <b>BSP</b> Parallel or Taper<br>BS2279 (BS21)                                  |
| Europe | <b>G</b> (Parallel) <b>GK</b> (Taper)<br><b>R</b> (Parallel) <b>RK</b> (Taper) |
| Japan  | <b>PF</b> (Parallel) JIS B 303   |
| CIS    | <b>K mpy</b> (Taper)   |

## BSP ISO pipe thread

### ISO R/7; UNI 6125

| Size   | Pipe Dia. | TPI   |
|--------|-----------|-------|
| 3/8"   | 16.66     | 19.00 |
| 1/2"   | 20.96     | 14.00 |
| 3/4"   | 26.44     | 14.00 |
| 1"     | 33.25     | 11.00 |
| 1 1/4" | 41.91     | 11.00 |
| 1 1/2" | 47.80     | 11.00 |
| 2"     | 59.61     | 11.00 |
| 2 1/2" | 75.18     | 11.00 |
| 3"     | 87.88     | 11.00 |

## ET imperial conduit

### BS31

| Size   | Major dia. | TPI   |
|--------|------------|-------|
| 5/8"   | 15.88      | 18.00 |
| 3/4"   | 19.05      | 16.00 |
| 1"     | 25.40      | 16.00 |
| 1 1/4" | 31.75      | 16.00 |
| 1 1/2" | 38.10      | 14.00 |
| 2"     | 50.80      | 14.00 |
| 2 1/2" | 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     | -            | 5/8"   |
| M20        | 1/2"         | 11, 13.5 | 1/2"         | 3/4"   |
| M25        | 3/4"         | 16       | 3/4"         | 1"     |
| M32        | 1"           | 21       | 1"           | 1 1/4" |
| M40        | 1 1/4"       | 29       | 1 1/4"       | 1 1/2" |
| M50        | 1 1/2"       | 36       | 1 1/2"       | 2"     |
| M63        | 2"           | 42, 48   | 2"           | 2 1/2" |
| M75        | 2 1/2"       | -        | 2 1/2"       | 3"     |
| M90 x 2.0  | 3"           | -        | 3"           | -      |
| M100 x 2.0 | 3 1/2"       | -        | -            | -      |
| M110 x 2.0 | -            | -        | -            | -      |
| M120 x 2.0 | -            | -        | -            | -      |

# Part numbering system

## Codes

| Page No.                     | Product   | Digits 1 & 2                      |
|------------------------------|-----------|-----------------------------------|
| <b>Adaptors and reducers</b> |           |                                   |
| 14-17                        | <b>AD</b> | Adaptor                           |
| 14-17                        | RD        | Reducer                           |
| 18                           | TA        | Swivel - in-line male to female   |
| 18                           | TC        | Swivel - in-line female to female |
| 18                           | TD        | Swivel - in-line male to male     |
| 18                           | TP        | Swivel - 90° male to female       |
| 18                           | TQ        | Swivel - 90° female to female     |
| 18                           | TR        | Swivel - 90° male to male         |
| 19                           | AY        | 'Y' adaptor                       |
| 20                           | AT        | 'T' adaptor                       |
| 21                           | AR        | 90° adaptor                       |
| 22                           | AM        | Male to male adaptor              |
| 23                           | AF        | Female to female adaptor          |
| 24-25                        | DB        | Insulated adaptor                 |
| <b>Stopping Plugs</b>        |           |                                   |
| 26-27                        | PD        | Dome head plug                    |
| 28                           | PA        | Type A plug                       |
| 28                           | PB        | Type B plug                       |
| <b>Breather Drains</b>       |           |                                   |
| 31                           | DP        | Breather drain (Exe)              |
| 32                           | BD        | Breather drain (Exde)             |
| <b>Other products</b>        |           |                                   |
| 34                           | UN        | Union - male to female            |
| 34                           | UF        | Union - female to female          |
| 35                           | AE        | Earth lead adaptor                |

| Certification | Digit 3                       |
|---------------|-------------------------------|
| <b>U</b>      | Exd I and IIC & Exe I and IIC |
| D             | Exd I and IIC                 |
| E             | Exe I and IIC                 |
| F             | Industrial (marked product)   |

| Material | Digit 4            |
|----------|--------------------|
| <b>1</b> | Brass              |
| 2        | Mild steel         |
| 3        | Stainless steel    |
| 4        | Glass filled nylon |
| 5        | Aluminium          |
| 6        | Nylon 6            |
| 7        | Red fibre          |

| Plating  | Digit 5            |
|----------|--------------------|
| 0        | Unplated           |
| <b>1</b> | Electroless nickel |
| 2        | Zinc               |
| 6        | Chromated          |

## Example

| Digits 1 & 2 | Digit 3         | Digit 4  | Digit 5       | Digits 6 & 7    | Digits 8 & 9 |
|--------------|-----------------|----------|---------------|-----------------|--------------|
| <b>AD</b>    | <b>U</b>        | <b>1</b> | <b>1</b>      | <b>29</b>       | <b>04</b>    |
| Adaptor      | Exd/e certified | Brass    | Nickel-plated | 1/2" NPT (male) | M20 (female) |

Always quote male thread first.