

# Flameproof (Exd/Exe) breather drains - BD-U Series



Type BD-U

Redapt BD-U series of Exd “Flameproof” and Exe “Increased Safety” breather drains has a primary function of effectively draining any water present within the enclosure.

Alongside draining water, it also allows air in the enclosure to breathe with the surrounding atmosphere, minimizing moisture build-up; preventing condensation and potential damage to sensitive electric/electronic equipment housed within. Approved to the latest international standards, Redapt explosion-proof breather drains can be supplied with ATEX and IECEx hazardous area certificates.

## Materials

- Brass CZ121
- 316 stainless steel

## Plating options

- Electroless nickel
- Zinc
- Others on application

## Threadforms

- Metric
- NPT\*

*Note: remove O-ring for NPT thread to thread engagement*

## Dimensions

Size	Hex A/F	Overall length (A)	Male thread length (B)
M20	27.00	31.00	16.00
M25	31.75	31.00	16.00
½" NPT	27.00	35.00	20.00
¾" NPT	31.75	35.00	20.00

## Technical specification

### Code of Protection Categories

ATEX: I M2, II 2 GD, Ex eb I/IIC Mb Gb, Ex d IIC Mb Gb, Ex tb IIIC Db

IECEx: Ex eb I/IIC Mb/Gb, Ex d IIC Mb/Gb, Ex tb IIIC Db

### Compliance Standards

ATEX: EN 60079-0, EN 60079-1, EN 60079-7, EN 60079-31

IECEx: IEC 60079-0, IEC 60079-1, IEC 60079-7, IEC 60079-31

### Certificate Details

ATEX: ITS16ATEX101338X

IECEx: IECEx ITS 16.0014X

EAC: RU C-GB.MIO62.B.06227

INMETRO: NCC 18.0165 X

### Temperature

Temperature range dependent on O-ring used (supplied on metric only)

### Interface O-ring material options:

Nitrile: -30°C to +80°C

EPDM: -50°C to +100°C

Neoprene: -40°C to +80°C

Viton: -20°C to +180°C

Silicone: -60°C to +180°C (supplied as standard for metric only)

Fluorosilicone: -60°C to +130°C

The maximum temperature is limited to +150°C

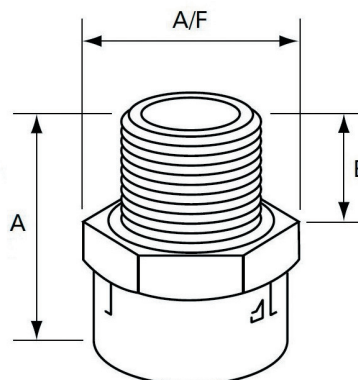
### Ingress protection (IP):

IP66 when fitted in accordance to manufacturer’s instructions (for bottom application only)

### Part number:

Please refer to part numbering system below

[Download certificates and documents here](#)



# Flameproof (Exd/Exe) breather drains - Product coding

Product	Digits 1 & 2
Flameproof BREATHER DRAIN	<b>BD</b>

Certification	Digit 3
<b>U</b>	Exd I and IIB +H2 and Exe I and IIC

Material	Digit 4
1	Brass
<b>3</b>	Stainless steel

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

Digits 6 & 7
Thread type
<b>04</b> M20
05 M25
29 1/2" NPT
30 3/4" NPT

Digits 8 & 9
O-ring
D0 no O-ring
<b>D1</b> Silicone
D2 Fluorosilicone
D3 Viton
D4 EPDM
D5 Neoprene
D6 Nitrile

## Example

Digits 1 & 2	Digit 3	Digit 4	Digit 5	Digits 6 & 7	Digits 8 & 9
<b>BD</b>	- <b>U</b>	- <b>3</b>	- <b>0</b>	- <b>04</b>	- <b>D1</b>
Breather drain	Exd I and IIC and Exe I and IIC	Stainless steel	Unplated	M20	Silicone O-ring

# 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 BS2279 (BS21)
Europe	<b>G</b> (Parallel) <b>GK</b> (Taper) <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.