

Enclosure accessories – drains and breathers

ECD series

Cl. I, Div. 1 & 2, Groups B, C, D
Cl. II, Div. 1, Groups E, F, G
Cl. II, Div. 2, Groups F, G
Cl. III

II 2 G Ex d IIB + H₂ (ECD Type 4X)
Explosionproof
Dust-ignitionproof

6E

Applications:

ECD drains and breathers are installed in enclosures or conduit systems to:

- Provide ventilation to minimize condensation
- Drain accumulated condensate
- At least one breather should be used with each drain
- A breather is installed in top of enclosure or upper section of conduit system
- Standard drain is installed in bottom of enclosure or in lower section of conduit system
- Universal breather or drain functions as a breather when mounted at the top of an enclosure, or as a drain when mounted in the bottom of an enclosure
- Combination breather and drain is used in those applications where the use of a top mounted breather is not practical due to limited space; or in offshore and marine installations where moisture may enter the enclosure through the breather located on top of enclosure
- Drains and breathers are installed in hubs or drilled and tapped openings

Features:

ECD284, ECD384, ECD385 and ECD15 universal drains and breathers have:

- Patented labyrinth design, suitable for use in Class I, Divisions 1 & 2, Groups C, D and Class II, Divisions 1 & 2, Groups F, G areas
- Capability to pass 50 cc of water per minute and 0.2 cubic feet of air per minute at atmospheric pressure
- ECD15 and ECD385 each have a well inside the inner, threaded end to provide for accumulation of sediment without clogging when used as a drain

Standard ECD drains and breathers have:

- Thread-in-thread design, suitable for use in Class I, Divisions 1 & 2, Groups C, D; Class II, Division 1, Groups E, F, G; Class II, Division 2, Groups F, G; and Class III areas
- ECD11 and ECD13 have capability to pass 25 cc of water per minute and .05 cubic feet of air per minute at atmospheric pressure
- ECD387 and ECD16 are a unique thread-in-shaft design for use in Class I, Divisions 1 & 2, Groups B, C, D; Class II, Division 1, Groups E, F, G; Class II, Division 2, Groups F, G; and Class III areas; the ECD387 and ECD16 can pass 15 cc of water per minute; the ECD16 can pass .01 cubic feet of air per minute
- ECD1 N4D average drain rate is 13.5 cc per minute

^A Shorter overall length than ECD15 and ECD385. For use in confined spaces, such as panelboard assemblies.

Features (continued):

Combination ECD breather and drain:

- Provides ventilation to minimize condensation and drains accumulated condensate – two functions performed by a single device installed in the bottom of an enclosure or conduit system
- Has the capability to pass 25 cc of water per minute and .10 cubic feet of air per minute at atmospheric pressure
- Thread-in-thread and labyrinth design, suitable for use in Class I, Divisions 1 & 2, Groups C, D; Class II, Divisions 1 & 2, Groups F, G; and Class III areas

Certifications and compliances:

NEC/CEC:

ECD16, ECD387, ECD-N4D, ECD-N4B

- Class I, Divisions 1 & 2, Groups B, C, D
- Class II, Division 1, Groups E, F, G
- Class II, Division 2, Groups F, G
- Class III
- IP46 (ECD-N4D and ECD-N4B only)
- IIB + Hydrogen (ECD-N4D and ECD-N4B only)

ECD11, ECD13

- Class I, Divisions 1 & 2, Groups C, D
- Class II, Division 1, Groups E, F, G
- Class II, Division 2, Groups F, G
- Class III

ECD18, ECD384, ECD15, ECD385

- Class I, Divisions 1 & 2, Groups C, D
- Class II, Division 1, Groups F, G
- Class II, Division 2, Groups F, G
- Class III

ECD284

- Class I, Divisions 1 & 2, Group C, D
- Class II, Division 1, Groups F, G
- Class II, Division 2, Groups F, G

UL standard:

- UL1203

CSA standard:

- C22.2 No. 30

Type 4X:

- ECD-N4D and ECD-N4B only

ATEX:

- ATEX certificate #ITS07ATEX15639U

Standard materials:

- ECD11, ECD15, ECD284, ECD384, ECD385, ECD16, ECD-N4D, ECD-N4B, ECD387 – stainless steel
- ECD13 – stainless steel with aluminum cap
- ECD18 – stainless steel with neoprene tube



ECD11



ECD15



ECD18



ECD13



ECD16



ECD1 N4D

Ordering information:

Type 4X drain and breather

Size	Cat. # Drain	Cat. # Breather
3/8"	ECD38 N4D	ECD38 N4B
1/2"	ECD1 N4D	ECD1 N4B

Standard drain and breather

Size	Cat. # Drain	Cat. # Breather
3/8"	ECD387	
1/2"	ECD11	ECD13

Universal drain or breather

Size	Cat. #
1/4"	ECD284 ^A
3/8"	ECD384 ^A
3/8"	ECD385
1/2"	ECD15
1/2"	ECD16

Combination drain or breather

Size	Cat. #
1/2"	ECD18



Typical installation

1. At least five full threads of drain or breather must be engaged in matching female thread, taper tapped in accordance with NEMA/EEMAC Standard FB-1, Type NTC or National Bureau of Standards Handbook H28, Part II, Table 7.6.
2. Breathers and drains can be factory installed on various explosionproof equipment. See Options section on applicable equipment pages for suffixes.

Enclosure accessories – drains and breathers

CD series

Applications:

CD drains are for use in conduit systems to:

- Drain accumulated condensate
- Provide ventilation to minimize condensation

Drains are installed in hubs or drilled and tapped openings.

Certifications and compliances:

- UL standard: 514B

Standard materials:

- Bodies and nuts – steel or aluminum
- Screen – stainless steel

Standard finish:

- Steel – electrogalvanized with chromate treatment

Options:

Description

- Copper-free aluminum construction **SA**

Suffix



Ordering information:

Size	Cat. #
1/2"	CD1
3/4"	CD2

Enclosure accessories – drains and breathers

Redapt DPE series

Cl. I, Zone 1, Ex e II
IECEX/ATEX
NEMA 4X
IP66

6E

Features:

- International Ex approvals
- IP66, CSA enclosure type (NEMA) 4X
- Available in two thread lengths: 10mm two drain holes or 15mm three drain holes
- Available in brass, stainless steel and glass-filled nylon
- Metric and NPT threads available

Certifications and compliances:

Code of protection categories:

- ATEX: I M2/II 2 GD, Ex e I/II Mb Gb, Ex tb IIIC Db IP66; nylon: II2GD, Ex e IIGb Ex tb IIIC Db IP66
- IECEX: Ex e I/II C Mb/Gb, Ex tb IIIC Db IP66; nylon: Ex e IIC Gb, Ex tb Db IP66
- EAC: ExeIU nylon, ExeIIU IP66
- CSA: Class I, Zone 1, Ex e II IP66, CSA 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: CSA standard C22.2 No. 0-M, CSA standard C22.2 No. 0.5, CSA standard C22.2 No. 94, CAN/CSA E79-7-95, UL2279

Certificate details:

- ATEX: ITS16 ATEX101338X
- IECEX: IECEX ITS 16.0014X
- EAC: TR RU C-GB.GB06.B.00106
- CSA: 185887-2500003408 (LR106084)

Standard materials:

- Brass CZ121
- 316 stainless steel
- Aluminum
- Glass-filled nylon

Plating options:

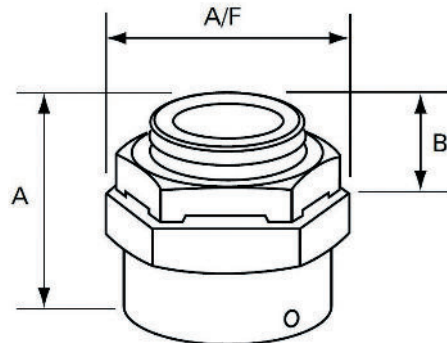
- Electroless nickel
- Zinc
- Others on application

Temperature ratings:

- Metallic body dependent on filter and seal material
- Nylon body: -50°C to +125°C, unless limited by filter material
- HDPE filter: -50°C to 85°C
- Metallic filter dependent on body and interface material
- Nitrile: -30°C to +100°C (supplied as standard)



Dimensions (in inches):



Size	A/F	Minimum overall length (A)	Minimum thread length (B)
M20	1.13	0.91	0.39
M25	1.37	0.91	0.39
M32	1.63	0.91	0.39
1/2" NPT	1.13	1.10	0.59
3/4" NPT	1.37	1.10	0.59
1" NPT	1.63	1.10	0.59

Enclosure accessories – drains and breathers

Redapt DPE series

Cl. I, Zone 1, Ex e II
IECEX/ATEX
NEMA 4X
IP66

6E

Ordering information:

Part number example
DPE3029S3

DP **E** **3** **0** **29** **S3**

Certification	
E	Exe I and IIC

Material	
1	Brass
3	Stainless steel
4	Glass-filled nylon ^A

Plating	
0	Unplated
1	Electroless nickel
2	Zinc

Thread type	
04	M20
05	M25
06	M32
29	½" NPT
30	¾" NPT
31	1" NPT

Thread length	
S1	10mm, 2 holes, with castellated locknut
S2	10mm, 2 holes, without castellated locknut
S3	15mm, 3 holes, with castellated locknut
S4	15mm, 3 holes, without castellated locknut

Note: NPT threaded breather/drains are only available in S3 and S4 options.

^A Glass-filled nylon version is only available in S3 and S4 options, and is supplied complete with a brass castellated locknut.

Enclosure accessories – drains and breathers

Redapt BDU series

IECEX/ATEX
IP66

6E

Features:

- Provides method of draining moisture within enclosures
- Allows air within enclosure to breathe with surrounding atmosphere
- International Ex approvals
- IP66
- Available in brass and stainless steel
- Metric and NPT threads available

Certifications and compliances:

Code of protection categories:

- ATEX: I M2, II 2 GD, Ex e I/IIC Mb Gb, Ex d I/IIC Mb Gb, Ex tb IIIC Db IP6X
- IECEX: Ex e I/IIC Mb Gb, Ex d I/IIC Mb Gb, Ex tb IIIC Db IP6X

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: ITS16 ATEX101338X
- IECEX: IECEX ITS 16.0014X

Standard materials:

- Brass CZ121
- 316 stainless steel

Plating options:

- Electroless nickel
- Zinc
- Others on application

Temperature ratings:

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

- Nitrile: -20°C to +80°C
- EPDM: -30°C to +125°C
- Neoprene: -20°C to +100°C
- Viton: -5°C to +150°C
- Silicone: -30°C to +150°C (supplied as standard)
- Fluorosilicone: -50°C to +150°C

Ordering information:

Part number example

BDU3004D1

BD **U**

Certification

U Exd I and IIC & Exe I and IIC

3 **0**

Material

1 Brass
3 Stainless steel

Plating

0 Unplated
1 Electroless nickel
2 Zinc

04

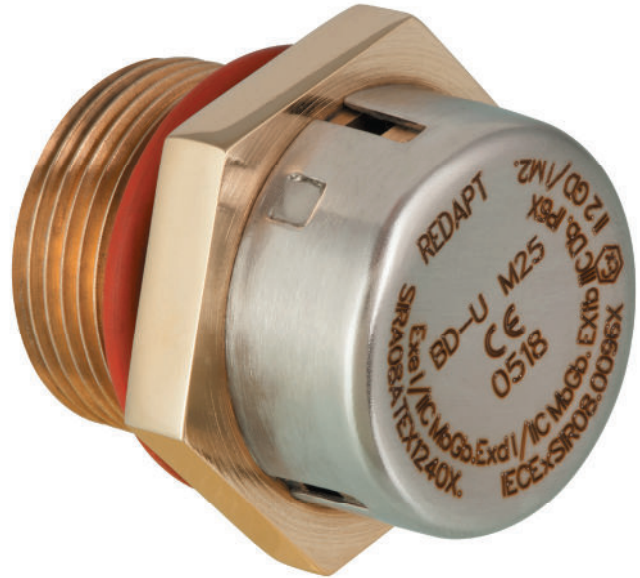
Thread type

04 M20
05 M25
29 ½" NPT
30 ¾" NPT

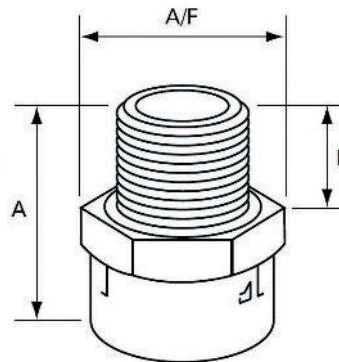
D1

O-ring material

D0 No o-ring
D1 Silicone
D2 Fluorosilicone
D3 Viton
D4 EPDM
D5 Neoprene
D6 Nitrile



Dimensions (in inches):



Size	Hex A/F	Overall length (A)	Male thread length (B)
M20	1.06	1.22	0.63
M25	1.25	1.22	0.63
½" NPT	1.06	1.38	0.79
¾" NPT	1.25	1.38	0.79

Drainage plug

Thread 1	Diameter	Length 1	Length 2	Cat. #
M25 x 1.5	30.00	19.00	4.50	GHG 960 1927 R0105

All dimensions in millimeters.

PTB01 ATEX 1128X Ex 1126 Exe II.

Material is polyamide.

Breathing and drainage plug

Thread 1	Cat. #
M25 x 1.5	GHG 960 1954 R0002

All dimensions in millimeters.

SIRA 99 ATEX 3050 U Ex 1126 Exe II.

Material is glass-filled polyamide.