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 (ECD15)
II 2 G Ex d IIB + Hydrogen (ECD Type 4X Series)
Explosionproof
Dust-Ignitionproof

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
- A "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, Division 1 & 2, Groups C,D and Class II, Division 1 & 2, Groups F,G areas
- Capability to pass 50 cc of water per minute and 0.2 cubic feet or 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, Division 1 & 2, Groups C,D; Class II, Division 1, Groups E,F,G; Class II, Division 2, Groups F,G and Class III areas
- ECD 11, 13 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, Division 1 & 2, Groups B,C,D; Class II, Division 1, Groups E,F,G; Class II, Division 2, Groups F,G; Class III areas. The ECD387 and ECD16 can pass 15cc of water per minute. The ECD16 can pass .01 cubic feet of air per minute

"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
- Have 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, Division 1 & 2, Groups C and D; Class II, Division 1 & 2, Groups F and G; and Class III areas

Certifications and Compliances:

- NEC/CEC:
  ECD 16, ECD387, ECD-N4D, ECD-N4B –
  Class I, Division 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, ECD281 –
  Class I, Division 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, Division 1 & 2, Groups C, D
  Class II, Division 1, Groups F, G
  Class II, Division 2, Groups F, G
  Class III
  IP42 IIB (ECD 15 only)
  ECD284 –
  Class I, Division 1 & 2, Group C, D
  Class II, Division 1, Groups F, G
  Class II, Division 2, Groups F, G
- UL Standard: 1203
- CSA Standard: C22.2 No. 30
- Type 4X: ECD-N4D and ECD-N4B
- ATEX Certificate # ITS07ATEX15639U

Standard Materials:

- ECD11, ECD15, ECD281, ECD284, ECD384, ECD385 – stainless steel
- ECD13 – stainless steel with aluminum cap
- ECD16, ECD-N4D, ECD-N4B – stainless steel
- ECD387 – stainless steel
- ECD18 – stainless steel with neoprene tube

Size Ranges:

- ¼" to ½"

Breather

Drain

Typical installation of drain and breather in a combination motor starter

1. At least 5 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. These breathers and drains can be factory installed on various explosion-proof equipment. See options on applicable equipment pages for suffixes to be used.

ECD11

ECD13

ECD15

ECD16

ECD18

Ordering Information

ECD "Type 4X"

Drain and Breather

Size	Drain Cat. #	Breather Cat. #
⅜	ECD38 N4D	ECD38 N4B
½	ECD1 N4D	ECD1 N4B

ECD "Standard"

Drain and Breather

Size	Drain Cat. #	Breather Cat. #
¼	ECD281	
⅜	ECD387	
½	ECD11	ECD13

ECD "Universal"

Drain or Breather

Size	Cat. #
¼	ECD284†
⅜	ECD384†
⅜	ECD385
½	ECD15
½	ECD16

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

ECD "Combination"

Drain or Breather

Size	Cat. #
½	ECD18

6E Enclosure Accessories - Drains and Breathers

CD Series / ACD NEMA 4X Series

Applications:

CD Series 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:

- CD bodies and nuts – steel or aluminum
- CD screen – stainless steel

Standard Finishes:

- Steel – electrogalvanized with chromate treatment.

Options:

Description	Suffix
Copper-free aluminum construction	**SA**

Ordering Information

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

ACD Series NEMA 4X Breather/Drain

ATEX and CENELEC Range

I M2 II 2GD, E Exe I & II (Stainless Steel & Brass only)
II 2GD, E Exe II (Nylon version)
CSA Cl. I, Div. 2, Groups A, B, C, D, Exe II

Enclosure Type 4X
IP66

Applications:

- For use in enclosures to provide a method to effectively drain moisture while allowing the enclosure to breathe.

Features:

All NEMA 4X breather/drains offer:

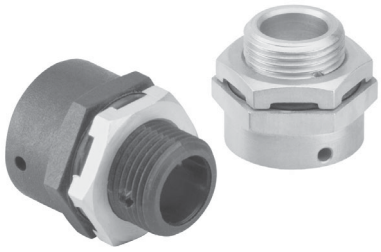
- Castellated locknuts that allow moisture to pass between the enclosure and the locknut to the drain holes in the fitting.
- Available in brass, stainless steel (Type 316) or 30% glass filled nylon.
- Captive "O" ring on recess of the face of the breather/drain to optimize ingress protection.
- ATEX and CSA Certified for worldwide market acceptance.
- Available with metric or NPT threads.

Certifications and Compliances:

- SIRA 99 ATEX 3050U
- I M2 II 2GD, E Exe I & II (Stainless Steel & Brass only)
- II 2GD, E Exe II (Nylon only)
- CSA Class I, Division 2, Groups A, B, C & D, Exe II
- Enclosure Type 4X
- IP66

Operating Temperature:

- –50°C to +85°C



Ordering Information

Entry Method	Material	Cat. #
M20	Brass	**ACDPEB/M20/15**
M20	Stainless Steel	**ACDPES/M20/15**
M20	Nylon	**ACDPEN/M20/15**
M25	Brass	**ACDPEB/M25/15**
M25	Stainless Steel	**ACDPES/M25/15**
M25	Nylon	**ACDPEN/M25/15**
1/2"	Brass	**ACDPEB/050NPT/15**
1/2"	Stainless Steel	**ACDPES/050NPT/15**
3/4"	Brass	**ACDPEB/075NPT/15**
3/4"	Stainless Steel	**ACDPES/075NPT/15**

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 (ECD15)
II 2 G Ex d IIB + Hydrogen (ECD Type 4X Series)
Explosionproof
Dust-Ignitionproof

Applications:

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  Provide ventilation to minimize condensation
  Drain accumulated condensate
- At least one breather should be used with each drain
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- 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, Division 1 & 2, Groups C,D and Class II, Division 1 & 2, Groups F,G areas
- Capability to pass 50 cc of water per minute and 0.2 cubic feet or 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, Division 1 & 2, Groups C,D; Class II, Division 1, Groups E,F,G; Class II, Division 2, Groups F,G and Class III areas
- ECD 11, 13 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, Division 1 & 2, Groups B,C,D; Class II, Division 1, Groups E,F,G; Class II, Division 2, Groups F,G; Class III areas. The ECD387 and ECD16 can pass 15cc of water per minute. The ECD16 can pass .01 cubic feet of air per minute

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- Have 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, Division 1 & 2, Groups C and D; Class II, Division 1 & 2, Groups F and G; and Class III areas

Certifications and Compliances:

- NEC/CEC:
  ECD 16, ECD387, ECD-N4D, ECD-N4B –
  Class I, Division 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, ECD281 –
  Class I, Division 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, Division 1 & 2, Groups C, D
  Class II, Division 1, Groups F, G
  Class II, Division 2, Groups F, G
  Class III
  IP42 IIB (ECD 15 only)
  ECD284 –
  Class I, Division 1 & 2, Group C, D
  Class II, Division 1, Groups F, G
  Class II, Division 2, Groups F, G
- UL Standard: 1203
- CSA Standard: C22.2 No. 30
- Type 4X: ECD-N4D and ECD-N4B
- ATEX Certificate # ITS07ATEX15639U

Standard Materials:

- ECD11, ECD15, ECD281, ECD284, ECD384, ECD385 – stainless steel
- ECD13 – stainless steel with aluminum cap
- ECD16, ECD-N4D, ECD-N4B – stainless steel
- ECD387 – stainless steel
- ECD18 – stainless steel with neoprene tube

Size Ranges:

- ¼" to ½"

Breather

Drain

Typical installation of drain and breather in a combination motor starter

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ECD11

ECD13

ECD15

ECD16

ECD18

Ordering Information

ECD "Type 4X"

Drain and Breather

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⅜	ECD38 N4D	ECD38 N4B
½	ECD1 N4D	ECD1 N4B

ECD "Standard"

Drain and Breather

Size	Drain Cat. #	Breather Cat. #
¼	ECD281	
⅜	ECD387	
½	ECD11	ECD13

ECD "Universal"

Drain or Breather

Size	Cat. #
¼	ECD284†
⅜	ECD384†
⅜	ECD385
½	ECD15
½	ECD16

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

ECD "Combination"

Drain or Breather

Size	Cat. #
½	ECD18

6E Enclosure Accessories - Drains and Breathers

CD Series / ACD NEMA 4X Series

Applications:

CD Series 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:

- CD bodies and nuts – steel or aluminum
- CD screen – stainless steel

Standard Finishes:

- Steel – electrogalvanized with chromate treatment.

Options:

Description	Suffix
Copper-free aluminum construction	**SA**

Ordering Information

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

ACD Series NEMA 4X Breather/Drain

ATEX and CENELEC Range

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CSA Cl. I, Div. 2, Groups A, B, C, D, Exe II

Enclosure Type 4X
IP66

Applications:

- For use in enclosures to provide a method to effectively drain moisture while allowing the enclosure to breathe.

Features:

All NEMA 4X breather/drains offer:

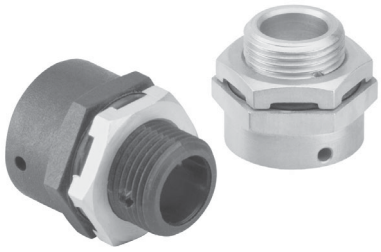
- Castellated locknuts that allow moisture to pass between the enclosure and the locknut to the drain holes in the fitting.
- Available in brass, stainless steel (Type 316) or 30% glass filled nylon.
- Captive "O" ring on recess of the face of the breather/drain to optimize ingress protection.
- ATEX and CSA Certified for worldwide market acceptance.
- Available with metric or NPT threads.

Certifications and Compliances:

- SIRA 99 ATEX 3050U
- I M2 II 2GD, E Exe I & II (Stainless Steel & Brass only)
- II 2GD, E Exe II (Nylon only)
- CSA Class I, Division 2, Groups A, B, C & D, Exe II
- Enclosure Type 4X
- IP66

Operating Temperature:

- –50°C to +85°C



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M20	Nylon	**ACDPEN/M20/15**
M25	Brass	**ACDPEB/M25/15**
M25	Stainless Steel	**ACDPES/M25/15**
M25	Nylon	**ACDPEN/M25/15**
1/2"	Brass	**ACDPEB/050NPT/15**
1/2"	Stainless Steel	**ACDPES/050NPT/15**
3/4"	Brass	**ACDPEB/075NPT/15**
3/4"	Stainless Steel	**ACDPES/075NPT/15**

