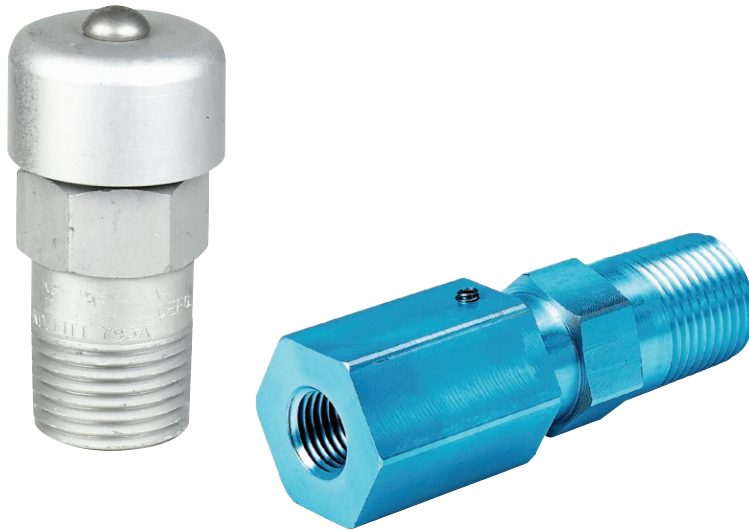




## KB/KD SERIES DRAIN & BREATHERS

### NON-ATEX and IEC Ex certified

**Class I, Div. 1 & 2, Groups B<sup>Ⓢ</sup>, C, D**  
**Class I, Zones 1 & 2, Groups IIB + H2<sup>Ⓢ</sup>**

**Class II, Div. 1 & 2, Groups E, F, G**  
**Class III, Type 3**

**II 2G Ex db IIB+H2<sup>Ⓢ</sup> T226C Gb IP44**  
**Ta = -50°C to +60°C**



LISTED - File E10514



Certified - File LR11716



Certified File 25215



IEC Ex CSA 10.0007U



SIRA 10ATEX1351U

## KB SERIES FLAME ARRESTOR

### ATEX/IEC Ex Certified

**Class I, Div. 1 & 2, Groups B<sup>Ⓢ</sup>, C, D**  
**Class I, Zones 1 & 2, Groups IIB + H2<sup>Ⓢ</sup>**

**Class II, Div. 1 & 2, Groups E, F, G**  
**Class III, Type 3, 4<sup>Ⓢ</sup>**



**II 2G Ex db IIB+H2 T4A Gb tb IIIC Db IP66**

**Ta = -50°C to +60°C**



Certified - File LR11716



IEC Ex CSA 10.0007U



SIRA 10ATEX1351U

<sup>Ⓢ</sup> See chart on next page for suitability

## FEATURES-SPECIFICATIONS

The KB flame arrestor provides a means to connect gas analysis equipment and electro pneumatic devices' piping or tubing through the wall of an explosion proof or flame proof enclosure with volume up to 160 liters

### KB/KD SERIES DRAIN & BREATHERS

#### Body Material

- Aluminum with optional stainless steel or brass available for special orders.

#### Volume

- For use in enclosures with a maximum internal volume to 9526 cubic inches or 160 liters.

### KB SERIES FLAME ARRESTOR

#### BODY MATERIAL

- 6061-T6 series aluminum provided as standard. Optional stainless steel or brass for special orders.

#### Specifications

- Air flow = 83 + 15 / -25 SCFH at 5PSI
- Pressure drop = 1.3 PSI at 100 PSI
- Maximum flow pressure = 800 PSI
- Volume = For use in enclosures with a maximum internal volume of 9526 cubic inches or 160 liters.



## FITTINGS

# KDB/KB SERIES

## DRAINS / BREATHERS / FLAME ARRESTORS



KDB-1

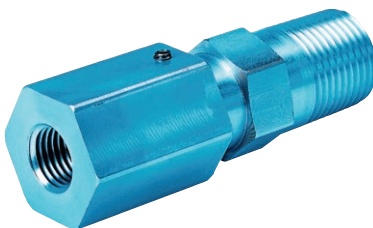
KB1B

KB1D

### KB/KD SERIES DRAIN & BREATHERS

| CATALOG NUMBER              | THREAD SIZE | BODY MATERIAL   | THIRD PARTY    | SUITABILITY USA                            | THIRD PARTY | SUITABILITY CANADA          | THIRD PARTY | SUITABILITY ATEX/IEC Ex |
|-----------------------------|-------------|-----------------|----------------|--------------------------------------------|-------------|-----------------------------|-------------|-------------------------|
| KB1B BREATHER               | 1/2 NPT     | ALUMINUM        | UL, FM & CSAus | CLASS I GROUPS B, C & D                    | c CSA       | CLASS I GROUPS C & D        |             |                         |
| KB1D DRAIN                  | 1/2 NPT     | ALUMINUM        | UL, FM & CSAus | CLASS I, ZONES 1 & 2 GR IIB+H <sub>2</sub> | c CSA       | CLASS I, ZONES 1 & 2 GR IIB |             |                         |
| KB1BCEN BREATHER            | 1/2 NPT     | ALUMINUM        | CSAus          | CLASS II GROUPS E, F, & G                  | c CSA       | CLASS II GROUPS E, F & G    | SIRA/CSA    | II 2 G Ex d IIC         |
| KB1DCEN DRAIN               | 1/2 NPT     | ALUMINUM        | CSAus          | CLASS III ENCL TYPE 3                      | c CSA       | CLASS III ENCL TYPE 3       | SIRA/CSA    | T226C Gb IP44           |
| KBM20BCEN BREATHER          | M20         | ALUMINUM        | CSAus          |                                            | c CSA       |                             | SIRA/CSA    |                         |
| KBM20DCEN DRAIN             | M20         | ALUMINUM        | CSAus          |                                            | c CSA       |                             | SIRA/CSA    |                         |
| KDB-1 DRAIN / BREATHER      | 1/2 NPT     | STAINLESS STEEL | UL, FM & CSAus | CLASS I GROUPS C & D                       | c CSA       | CLASS I GROUPS C & D        |             |                         |
| KDB-250 DRAIN / BREATHER    | 1/4 NPT     | ALUMINUM        | CSAus          | CLASS I, ZONES 1 & 2 GR IIB                | c CSA       | CLASS I, ZONES 1 & 2 GR IIB |             |                         |
| KDB-375 DRAIN / BREATHER    | 3/8 NPT     | ALUMINUM        | CSAus          | CLASS II GROUPS E, F & G                   | c CSA       | CLASS II GROUPS E, F & G    |             |                         |
| KDB-250CEN DRAIN / BREATHER | 1/4 NPT     | ALUMINUM        | CSAus          | CLASS III ENCL TYPE 3                      | c CSA       | CLASS III ENCL TYPE 3       | SIRA/CSA    | II 2 G Ex d IIB         |
| KDB-375CEN DRAIN / BREATHER | 3/8 NPT     | ALUMINUM        | CSAus          |                                            | c CSA       |                             | SIRA/CSA    | T3 Gb IP44              |
| KDB-M16CEN DRAIN / BREATHER | M16         | ALUMINUM        | CSAus          |                                            | c CSA       |                             | SIRA/CSA    |                         |

© Warning – not for use in acetylene atmosphere

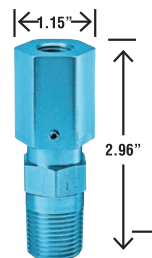
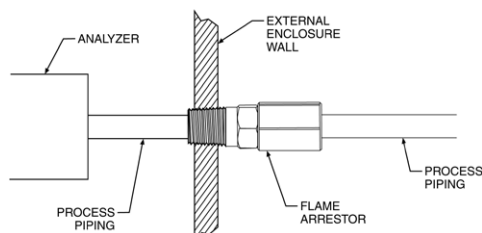


### KB SERIES FLAME ARRESTOR

| CATALOG NUMBER | EXTERNAL HUB THREAD SIZE | INTERNAL & EXTERNAL PROCESS PIPING THREAD SIZE | THIRD PARTY | SUITABILITY USA                            | THIRD PARTY | SUITABILITY CANADA          | THIRD PARTY | SUITABILITY ATEX/IEC Ex |
|----------------|--------------------------|------------------------------------------------|-------------|--------------------------------------------|-------------|-----------------------------|-------------|-------------------------|
| KB1FA25        | 1/2 NPT                  | 1/4 NPT                                        | CSAus       | CLASS I GROUPS B, C & D                    | c CSA       | CLASS I GROUPS C & D        | SIRA/CSA    | II 2 G Ex d IIC         |
| KB1FA25SS6     | 1/2 NPT                  | 1/4 NPT                                        | CSAus       | CLASS I, ZONES 1 & 2 GR IIB+H <sub>2</sub> | c CSA       | CLASS I, ZONES 1 & 2 GR IIB |             | T3 Gb IP66              |
|                |                          |                                                |             | CLASS II GROUPS E, F, & G                  |             | CLASS II GROUPS E, F & G    |             |                         |
|                |                          |                                                |             | CLASS III TYPE 3 & 4                       |             | CLASS III TYPE 3 & 4        |             |                         |
| KB1FAM16       | 1/2 NPT                  | M16                                            | CSAus       | CLASS I GROUPS B, C & D                    | c CSA       | CLASS I GROUPS C & D        | SIRA/CSA    | II 2 G Ex d IIC         |
| KBM20FA25      | M20                      | 1/4" NPT                                       | CSAus       | CLASS I, ZONES 1 & 2 GR IIB+H <sub>2</sub> | c CSA       | CLASS I, ZONES 1 & 2 GR IIB |             | T3 Gb IP65              |
| KBM20FA25SS6   | M20                      | 1/4" NPT                                       | CSAus       | CLASS II GROUPS E, F & G                   | c CSA       | CLASS II GROUPS E, F & G    | SIRA/CSA    |                         |
| KBM20FAM16     | M20                      | M16                                            |             | CLASS III TYPE 3                           | c CSA       | CLASS III TYPE 3            | SIRA/CSA    |                         |
| KBM20FAM16SS6  | M20                      | M16                                            |             |                                            |             |                             |             |                         |

© Warning – not for use in acetylene atmosphere

### TYPICAL INSTALLATION





## KB DRAINS / BREATHERS



### DRAINS / BREATHERS

When installed in the top or side wall of the enclosure it acts as a breather. When installed in the bottom of the enclosure the fitting allows moisture to drain out of the enclosure.

#### Features

Made of 6061 Aluminium or 316 stainless steel with internal nickel plated brass sinter flame arrestor.

#### Volume

For use in enclosures with a maximum internal volume to 9526 cubic inches (160 liters). See note for additional restriction.



KB1-4X



KB1B



KB1D



KBQA

| CAT. NO.     | TYPE                | BODY MATERIAL | THREAD SIZE | USA              | USA SUITABILITY                                                                                                                                                                | ENVIRO-<br>MENTAL | CANADA | CANADA<br>SUITABILITY                                                                                                                                                                                 | ENVIRO-<br>MENTAL | IEC Ex /<br>ATEX | IEC Ex ATEX<br>SUITABILITY                                                                                                                                     | ENVIRO-<br>MENTAL |  |  |  |  |  |  |  |  |  |  |  |  |
|--------------|---------------------|---------------|-------------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--|--|--|--|--|--|--|--|--|--|--|--|
| KB1B         | Drain               | Aluminum      | 1/2" NPT    | UL, FM,<br>CSAus | Class I Groups BCD<br>Class I Zone 1 & 2<br>IIB+H2<br>Class II Groups EFG<br>Class III Service<br>Temperature -25°C<br>to +40°C (KBQA see<br>note for Group B<br>Applications) | Type 3            | CSA    | Class I Groups CD<br>Class I Zone 1<br>& 2 IIB<br>Class II Groups<br>EFG<br>Class III<br>Service<br>Temperature -50°C<br>to +40°C (KBQA =<br>-50°C to +60°C.<br>See note for Group<br>B Applications) | Type 3            | N/A              | N/A                                                                                                                                                            | N/A               |  |  |  |  |  |  |  |  |  |  |  |  |
| KB1D         | Drain               |               |             |                  |                                                                                                                                                                                |                   |        |                                                                                                                                                                                                       |                   | CSA /<br>SIRA    | Ex db IIB+H2 Gb<br>Ex db IIB Gb<br>Ex tb IIIC Db<br>Ambient<br>Temperature -50°C<br>to +60°C (KBQA =<br>-60°C to +200°C.<br>See note for IIB+H2<br>limitation) | IP44              |  |  |  |  |  |  |  |  |  |  |  |  |
| KB1BCEN      | Breather            |               |             |                  |                                                                                                                                                                                |                   |        |                                                                                                                                                                                                       |                   |                  |                                                                                                                                                                |                   |  |  |  |  |  |  |  |  |  |  |  |  |
| KB1DCEN      | Drain               |               |             |                  |                                                                                                                                                                                |                   |        |                                                                                                                                                                                                       |                   |                  |                                                                                                                                                                |                   |  |  |  |  |  |  |  |  |  |  |  |  |
| KB1DSS6CEN   | Drain               | 316 SS        | M20         | CSAus            |                                                                                                                                                                                | Type 3            |        |                                                                                                                                                                                                       |                   |                  |                                                                                                                                                                |                   |  |  |  |  |  |  |  |  |  |  |  |  |
| KBM20BCEN    | Breather            | Aluminum      |             |                  |                                                                                                                                                                                |                   |        |                                                                                                                                                                                                       |                   |                  |                                                                                                                                                                |                   |  |  |  |  |  |  |  |  |  |  |  |  |
| KBM20DCEN    | Drain               |               |             |                  |                                                                                                                                                                                |                   |        |                                                                                                                                                                                                       |                   |                  |                                                                                                                                                                |                   |  |  |  |  |  |  |  |  |  |  |  |  |
| KBM20BSS6CEN | Breather            |               |             |                  |                                                                                                                                                                                |                   |        |                                                                                                                                                                                                       |                   |                  |                                                                                                                                                                |                   |  |  |  |  |  |  |  |  |  |  |  |  |
| KBM20DSS6CEN | Drain               | 316 SS        |             |                  |                                                                                                                                                                                |                   |        |                                                                                                                                                                                                       |                   |                  |                                                                                                                                                                |                   |  |  |  |  |  |  |  |  |  |  |  |  |
| KBQAAL0050*  | Drain /<br>Breather | Aluminum      | 1/2" NPT    | CSAus            |                                                                                                                                                                                | Type 3, 4<br>& 4X |        |                                                                                                                                                                                                       | Type 3, 4<br>& 4X | N/A              | N/A                                                                                                                                                            | IP66              |  |  |  |  |  |  |  |  |  |  |  |  |
| KBQAS60050*  |                     | 316 SS        |             |                  |                                                                                                                                                                                |                   |        |                                                                                                                                                                                                       |                   |                  |                                                                                                                                                                |                   |  |  |  |  |  |  |  |  |  |  |  |  |
| KB1-4X       | Drain /<br>Breather | Aluminum      | 1/2" NPT    | UL, CSAus        |                                                                                                                                                                                | Type 3, 4<br>& 4X |        |                                                                                                                                                                                                       | Type 3, 4<br>& 4X | N/A              | N/A                                                                                                                                                            | N/A               |  |  |  |  |  |  |  |  |  |  |  |  |
| KB1-4XS6     |                     | 316 SS        |             |                  |                                                                                                                                                                                |                   |        |                                                                                                                                                                                                       |                   |                  |                                                                                                                                                                |                   |  |  |  |  |  |  |  |  |  |  |  |  |

\*The KBQA is for use in Class I Group B and Ex db IIB+H2 areas for enclosures with maximum volumes of 1709 in<sup>3</sup> (28 liters). In larger enclosures the KBQA is suitable for Class I Group C and Ex db IIB areas.



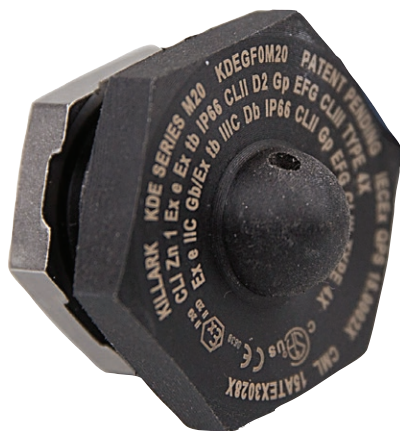
## FITTINGS

# KDE SERIES

## KDE SERIES DRAIN BREATHER



KDES60M20



KDEGF0M20



Class I, Div. 2, Groups A, B, C, D  
Class I, Zone 1 & 2, Ex e / AEx e IIC,  
A/Ex tb  
Class II, Div. 1<sup>①</sup> & 2, Groups E, F, G  
Class III, Ambient Temperature Range  
-55°C to +80°C  
Enclosure Type 3, 4 & 4X IP66

2714851

Ex II 2 G D CE 0518

Ex e IIC Gb

Ex tb IIIC Db IP66

Ta = -55°C to +80°C



IEEx 15.0154X

CML 15ATEX3028X

IECEX QPS 15.0002X

<sup>①</sup> Class II Div. 1 Canada only, Div. 2 in the U.S.

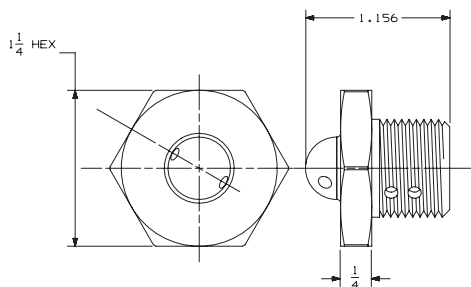
## FEATURES-SPECIFICATIONS

### Features

- Silicone o-ring supplied as standard and suitable for use in a -55°C to +80°C temperature range.
- Variety of thread sizes ½ & ¾ NPT, ½ & ¾ NPSM, M20 & M25.
- Available in 316 stainless steel, aluminum and 30% glass filled nylon.
- Internal 316 stainless steel locknut supplied as standard. When tightened to the proper torque the joint makes a hose down tight seal for type 4, 4X & IP66 application.

### Materials

- 316 stainless steel, brass, aluminum or 30% glass filled nylon.
- Internal locknut 316 stainless steel.
- High temp silicone o-ring



KDE pairs well with  
USF/SJIC Enclosures

| MATERIAL / CATALOG NUMBER |                        |           |                     |           |                     |
|---------------------------|------------------------|-----------|---------------------|-----------|---------------------|
| ENTRY THREAD SIZE & TYPE  | GLASS FILLED PA6 NYLON | ALUMINUM  | 316 STAINLESS STEEL | BRASS     | NICKEL PLATED BRASS |
| M20                       | KDEGF0M20              | KDEAL0M20 | KDES60M20           | KDEBR0M20 | KDEBR1M20           |
| M25                       | KDEGF0M25              | KDEAL0M25 | KDES60M25           | KDEBR0M25 | KDEBR1M25           |
| 1/2" NPT                  | KDEGF0050              | KDEAL0050 | KDES60050           | KDEBR0050 | KDEBR1050           |
| 3/4" NPT                  | KDEGF0075              | KDEAL0075 | KDES60075           | KDEBR0075 | KDEBR1075           |

Note: Other thread forms and materials available upon request.



## KBQA SERIES DRAIN BREATHER



**Class I, Div. 1 and 2, Groups B, C, D**  
**Class I, Div. 1 and 2, Groups B\*, C, D**  
**Class I, Zone 1, AEx d IIB+H2 Gb**  
**Class II, Div. 1 and 2, Groups E, F, G**  
**Zone 22, AEx tb IIIC Db, IP66**  
**Class III**  
**Ambient Temperature Range -50°C to +60°C**  
**Enclosure Type 3,4 4X and IP66**  
**File LR11716**



**II 2 G D**  
**Ex db IIB+H2 Gb**  
**Ex tb IIIC Db IP66**  
**Service Temperature Range -50°C to +60°C**  
**SIRA 10ATEX1351U**  
**IECEx CSA 10.0007U**

*\* Enclosures having a maximum volume of 28L*

## FEATURES-SPECIFICATIONS

A drain fitting provides the valuable means to prevent the water produced from condensation from building up inside of an enclosure. When installed in the bottom of an enclosure the KBQA allows water to drain continuously out of the enclosure. The KBQA when installed in the top or sides of the enclosure acts as a breather allowing air to flow in. The air flow prevents a vacuum from forming inside the enclosure which can impede the flow of the built up water through the drain.

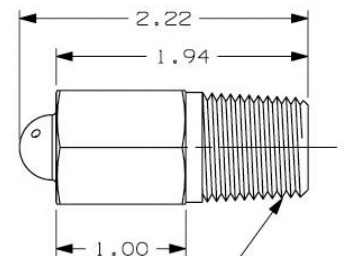
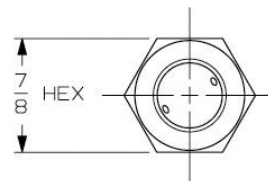
### Features

- Supplied standard with a 1/2" NPT thread.

### Materials

- The external body is offered in two materials, 6061-T6 aluminum and 316 stainless steel for the Type 4X rating.
- The internal sintered arrester is nickel plated brass.

| CATALOG NUMBER | MATERIAL            |
|----------------|---------------------|
| KBQAAL0050     | 6061-T6 Aluminum    |
| KBQAS60050     | 316 Stainless Steel |



1/2-14 NPT  
THREAD SPEC.  
PER ANSI B1.20.1