



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Ex COMPONENT CERTIFICATE

Certificate No.: **IECEX CSA 10.0007U**

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Certificate history:

Status: **Current**

Issue No: 3

[Issue 2 \(2020-02-26\)](#)

[Issue 1 \(2017-12-20\)](#)

[Issue 0 \(2010-11-11\)](#)

Date of Issue: 2022-05-27

Applicant: **Killark Division of Hubbell, Inc. (Delaware)**
2112 Fenton Logistics Park Blvd., Fenton
Missouri 63026
United States of America

Ex Component: Breather-Drain and Flame Arrestor

This component is NOT intended to be used alone and requires additional consideration when incorporated into other equipment or systems for use in explosive atmospheres (refer to IEC 60079-0).

Type of Protection: **Ex db, Ex tb**

Marking: Ex db IIB +H2 Gb

Breather-Drain Series KB_B, KB_D; Flame Arrestor Series KB_FA; Breather-Drain KBQA NPT

Ex db IIB Gb

Breather-Drain KBQA Metric & KDB

Group II: Ta = -50°C to +60°C;

Ex tb IIIC Db

Flame arrestors series KB_FA; Breather Drain Series KBQA (NPT & Metric);

Group III: Ta = -50°C to +80°C (Flame arrestors series, KB_FA and Breather Drain series KBQA Metric)

Ta = -50°C to +200°C (Breather Drain series model KBQA NPT)

Approved for issue on behalf of the IECEx
Certification Body:

Dave Magee

Position:

Senior Director of Operations, Toronto

Signature:
(for printed version)

Date:
(for printed version)

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.



Certificate issued by:

CSA Group
178 Rexdale Boulevard
Toronto, Ontario M9W 1R3
Canada





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Manufacturer: **Killark Division of Hubbell, Inc. (Delaware)**
2112 Fenton Logistics Park Blvd., Fenton
Missouri 63026
United States of America

Manufacturing locations: **Killark Division of Hubbell, Inc. (Delaware)**
2112 Fenton Logistics Park Blvd.,
Fenton
Missouri 63026
United States of America

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEX Quality system requirements. This certificate is granted subject to the conditions as set out in IECEX Scheme Rules, IECEX 02 and Operational Documents as amended

STANDARDS :

The component and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

[IEC 60079-0:2017](#) Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

[IEC 60079-1:2014-06](#) Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition:7.0

[IEC 60079-31:2013](#) Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
Edition:2

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:

A sample(s) of the component listed has successfully met the examination and test requirements as recorded in:

Test Reports:

[CA/CSA/ExTR10.0007/00](#)
[CA/CSA/ExTR19.0026/00](#)

[CA/CSA/ExTR10.0007/01](#)

[CA/CSA/ExTR10.0007/02](#)

Quality Assessment Report:

[GB/SIR/QAR16.0021/05](#)



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Ex Component(s) covered by this certificate is described below:

See Annex attached to this certificate for details.

SCHEDULE OF LIMITATIONS:

General:

- i. Joints are not intended to be repaired.
- ii. Service temperature is -50 °C to +60 °C.

Breather-Drain Series KB_B, KB_D, KDB :

- i. The maximum recorded surface temperature:
Series KDB: 184.8°C (Gas Group IIB)
Series KB_B or KB_D: 225.96 °C (Gas Group IIB+H2)
- ii. The maximum permitted enclosure volume is 160L.
- iii. Ingress Protection: IP 44.

Flame Arrestor Series KB_FA

- i. The maximum recorded surface temperature:
KB_FA: 104.52°C
- ii. The maximum permitted enclosure volume is 160L.
- iii. Ingress Protection: IP 66 and IP 65.

Breather-Drain KBQA Series:

- i. The maximum recorded surface temperature:
KBQA NPT: 150.7°C (Gas Group IIB+H2)
KBQA Metric: 109.8°C (Gas Group IIB)
- ii. The maximum permitted enclosure volume is 28L.
- iii. For "Ex tb" application, the service temperature for Metric threads is -50 °C to +80 °C and NPT threads is -50 °C to +200 °C.
- iv. Ingress Protection: IP 66.



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Issue 1 (CSA Project 151933- 70082084):

Addition of the Series KBQA flame-arrestor breather-drains for “Ex db” and Ex “tb” applications.

Following appropriate assessment for the existing products (Breather-Drain Series KB1B, KB1D, KBM and KDB; Flame Arrestor Series KB1FA, KBM20FA) to demonstrate compliance with the latest technical knowledge, IEC 60079-0:2007 Ed. 5 was replaced by IEC 60079-0:2011 Ed. 6, IEC 60079-1:2007 Ed. 6 was replaced with IEC 60079-1:2014 Ed. 7, and IEC 60079-31:2009 Ed. 1 was replaced with IEC 60079-31:2013 Ed. 2. The markings were updated accordingly.

Minor drawings amendments, none of which affect compliance with the standards listed.

Issue 2 (CSA Project 151933- 80004511):

The certificate holder’s address was changed:

From: 3940 Dr. Martin Luther King Drive, Saint Louis, Missouri 63113 USA

To: 2112 Fenton Logistics Park Blvd., Fenton, Missouri 63026, USA

Issue 3 (CSA Project 151933-80096933):

1. Breather Drain series KB1B renamed from KB1B to **KB_B**
2. Breather Drain series KB1D renamed from KB1D to **KB_D**
3. Breather Drain series KBM covered under **KB_B** and **KB_D**
4. Flame Arrestor series KB1FA and KBM20FA renamed from KB1FA and KBM20FA to **KB_FA**
5. KBQA NPT and Metric are breather drains only and not flame arrestors.
6. Minor (non technical) drawing amendments to drawings to reflect the changes above, none of which affect compliance with the standards listed.
7. Correct the typo of KBD series to **KDB series**
8. Following appropriate assessment for the existing products to demonstrate compliance with the latest technical knowledge:
IEC 60079-0:2011 Ed. 6 was replaced by IEC 60079-0:2017 Ed. 7

Annex:

[Annex to IECEx CSA 10.0007U Issue 03.pdf](#)



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EQUIPMENT:

The product description is amended as follow where the alterations are shown in **BOLD**.

The Flame Arrestor Series **KB_FA** are used in enclosures where gas analyzers and electro/pneumatic/hydraulic equipment are installed within the enclosure. The flame arrestor prohibits the passage of flame into or out of a flame proof enclosure.

The flame arrestor consists of a metallic body, approximately 2-3/8 in. long and externally threaded on both ends for threading into an enclosure, and internally threaded on one end. A sintered bronze element is permanently captured in the non-threaded internal opening of the main body by a press fit and mechanical tabs. A retaining nut is screwed over the shorter threaded portion of the body. This retaining nut is permanently attached to the body with a #6 – 32 set screw which is cemented in place.

The Flame arrestor series KB_FA has been separately tested against the requirements of IEC 60529 and it meets IP66/65.

The flame arrestor is provided in four different thread configurations:

Series	Type designation	Type of Male Thread	Type of Female Thread
KB_FA	KB1FA25	1/2 " NPT	1/4 " NPT
	KB1FAM16	1/2 " NPT	M16
	KBM20FA25	M20	1/4 " NPT
	KBM20FAM16	M20	M16

The Breather-Drain Series **KB_B, KB_D, KDB**, when installed in the top of an enclosure, act as a breather by stabilizing the atmospheric pressure inside the enclosure. When installed in the bottom of an enclosure it acts as a drain since it allows the discharge of accumulated water due to internal condensation.

The Breather-Drain consists of a metallic body, externally threaded on one end for threading into an enclosure, and internally threaded on one end. A sintered bronze element is permanently captured in the non-threaded internal opening of the main body by a press fit and mechanical tabs. The **KB_B, KB_D**, series are provided with a metallic cap which has a 0.185 in. diameter hole through the centre. The cap is secured to the body by a 9/32 in. long drive screw.

The Breather-Drain is provided with the thread configurations shown in the table below:

Series	Type designation	Type of Male Thread
KB_B	KB1BCEN	1/2 " NPT
KB_D	KB1DCEN	1/2 " NPT
KB_B	KBM20BCEN	M20
KB_D	KBM20DCEN	M20
KDB	KDB-250CEN	1/4" NPT
KDB	KDB-375CEN	3/8" NPT
KDB	KDB-1CEN	1/2" NPT



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Series	Type designation	Type of Male Thread
KDB	KDB-M16CEN	M16
KDB	KDB-M20CEN	M20

The Breather-Drain Series KBQA, when installed in the top of an enclosure, act as a breather by stabilizing the atmospheric pressure inside the enclosure. When installed in the bottom of an enclosure it acts as a drain since it allows the discharge of accumulated water due to internal condensation. The sintered element prohibits the passage of flame into or out of a flameproof enclosure. The KBQA Series consists of a solid metallic body, externally threaded on one end for threading into an enclosure. The sintered bronze element is permanently captured in the non-threaded internal opening of the main body by a press fit and mechanical tabs.

The breather drains series KBQA has been separately tested against the requirements of IEC 60529 and it meets IP66.

The KBQA Series is provided with the thread configurations shown in the table below:

Series	Type designation	Type of Male Thread
KBQA	KBQAxxxM20	M20
	KBQAxxxM25	M25
	KBQAxxx050	1/2 " NPT
	KBQAxxx075	3/4 " NPT

KBQA Series Nomenclature:

KBQA	AL	0	M20
I	II	III	IV

I – Series Designator

II – Material Type

AL = Aluminum

NB – Nickel-plated Brass

S4 = 304 Stainless Steel

S6 = 316 Stainless Steel

III – Plating

0 = Unplated

1 = Nickel

2 = Zinc

8 = Electroless Nickel

IV = Thread Form

M20 = M20 Metric

M25 = M25 Metric

050 = ½ inch NPT



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075 = 3/4 inch NPT



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- ii. The maximum permitted enclosure volume is 160L.
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Flame Arrestor Series **KB_FA**:

- i. The maximum recorded surface temperature:
KB_FA: 104.52°C
- ii. The maximum permitted enclosure volume is 160L.
- iii. Ingress Protection: IP 66 and IP 65.

Breather-Drain KBQA **Series**:

- i. The maximum recorded surface temperature:
KBQA NPT: 150.7°C (Gas Group IIB+H2)
KBQA Metric: 109.8°C (Gas Group IIB)
- ii. The maximum permitted enclosure volume is 28L.
- iii. For "Ex tb" application, the service temperature for Metric threads is -50 °C to +80 °C and NPT threads is -50 °C to +200 °C.
- iv. Ingress Protection: IP 66.