



UNITED KINGDOM CONFORMITY ASSESSMENT

1 **UK TYPE EXAMINATION CERTIFICATE**

2 Component intended for use in a Product or Protective System for use in Potentially Explosive Atmospheres
UKSI 2016:1107 (as amended) – Schedule 3A, Part 1

3 Certificate Number: **CSAE 21UKEX1194U** Issue: **0**

4 Product: **Breather-Drain Series KB1B, KB1D, KBM & KDB, Flame Arrestor Series
KB1FA & KBM20FA, Flame arrestor Breather-Drain KBQA**

5 Manufacturer: **Killark, A Div. of Hubbell. (Delaware)**

6 Address: **2112 Fenton Logistics Park Blvd., Fenton, Missouri 63026 USA**

7 This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8 CSA Group Testing UK Limited, Approved Body number 0518, in accordance with Regulation 42 of the Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016, UKSI 2016:1107 (as amended), certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Schedule 1 of the Regulations. The examination and test results are recorded in the confidential reports listed in Section 14.2.

9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0:2012/A11:2013 EN 60079-1:2014 EN 60079-31:2014

Except in respect of those requirements listed at Section 16 of the schedule to this certificate. The above standards may not appear on the UKAS Scope of Accreditation, but have been added through flexible scope of accreditation, which is available on request.

10 The sign "U" placed after the certificate number indicates that this certificate must not be mistaken for a certificate intended for an equipment or protective system. This partial certification may be used as the basis for certification of an equipment or protective system. Any limitations are listed in Section 15.

11 This UK TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. Further requirements of the Regulations apply to the manufacturing process and supply of this product. These are not covered by this certificate.

12 The marking of this product shall be in accordance with Regulation 41 and include the following:



Refer to the schedule

Name: J A May
Title: Director of Operations



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CSA Group Testing UK Ltd., Unit 6 Hawarden Industrial Park, Hawarden, CH5 3US, UK
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SCHEDULE

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MARKING

Models: Breather-Drains Series KB1B
Models: Breather-Drains Series KB1D
Models: Breather-Drains Series KBM
Models: Flame-arrestor KBOA NPT

Models: Breather-Drains Series KDB
Models: Flame-arrestor KBQA Metric

Models: Flame-arrestor KBOA NPT & Metric
Models: Flame-arrestor series KB1FA, KBM20FA



II 2G
Ex db IIB + H2 Gb



II 2G
Ex db IIB Gb



II 2GD
Ex tb IIIC Db

13 DESCRIPTION OF PRODUCT

The Flame Arrestor Series KB1FA & KBM20FA 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 is provided in four different thread configurations:

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

The Breather-Drain Series KB1B, KB1D, KBM & 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 s e 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 KB1B, KB1D & KBM 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:

Type designation	Type of Male Thread	Type designation	Type of Male Thread
KB1BCEN	1/2 " NPT	KDB-375CEN	3/8" NPT
KB1DCEN	1/2 " NPT	KDB-1CEN	1/2" NPT
KBM20BCEN	M20	KDB-M16CEN	M16
KBM20DCEN	M20	KDB-M20CEN	M20
KDB-250CEN	1/4" NPT		

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The Flame Arrestor 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 s e 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 KBQA Series is provided with the thread configurations shown in the table below:

Type designation	Type of Male Thread	Type designation	Type of Male Thread
KBQAxxxM20	M20	KBQAxxx050	1/2 " NPT
KBQAxxxM25	M25	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 = Z

8 = Electroless Nickel

IV = Thread Form

M20 = M20 Metric

M25 = M25 Metric

050 = 1/2 h NPT

075 = 3/4 h NPT

Incorporated amendments

The product description includes the following applicable amendments, only amendments directly applicable to UKCA certification have been included in this list.

The amendments are numbered to include a reference to the previous ATEX variation at which these were introduced.

- 1a Addition of the Series KBQA flame-arrestor breather-drains for "Ex db" and Ex "tb" applications, the description was amended accordingly.
- 1b assessment to demonstrate compliance with the requirements of the latest standards,

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1c Minor drawings amendments, revised Sinter pore/density, none of which affect compliance with the standards listed.

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Reports and Certificate History

Issue	Date	Report number	Comment
0	06 July 2021	R80076763A	The release of the prime certificate.

15 SCHEDULE OF LIMITATIONS

15.1 General:

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

15.2 Breather-Drain Series KB1B, KB1D, KBM & KDB:

- i. The maximum recorded surface temperature:
Series KDB: 184.8°C (Gas Group IIB)
Series KB1D: 225.96°C (Gas Group IIB+H2)
Series KB1F: 41.6°C (Gas Group IIB+H2)
- ii. The maximum permitted enclosure volume is 160L.
- iii. Ingress Protection: IP 44

15.3 Flame Arrestor Series KB1FA & KBM20FA:

- i. The maximum recorded surface temperature:
KB1FA: 104.52°C
KBM20FA: 224.4°C
- ii. The maximum permitted enclosure volume is 160L.
- iii. Ingress Protection: IP 66 and IP 65.

15.4 Flame arrestor Breather-Drain KBQA:

- 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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16 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS (REGULATIONS SCHEDULE 1)

In addition to the Essential Health and Safety Requirements covered by the standards listed in Section 9, all other requirements are demonstrated in the relevant reports.

17 PRODUCTION CONTROL

17.1 Holders of this certificate are required to comply with production control requirements defined in Schedule 3A, as applicable, and CSA Group Testing UK Regulations for Certificate Holders

17.2 The manufacturer shall provide with each Ex component a declaration stating the following:

- Compliance with the certificate conditions
- Confirmation of material, maximum bubble test pore size and density
- Special mounting instructions for IP ratings



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Certificate Annexe

Certificate Number: CSAE 21UKEX1194U
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 Manufacturer: Killark, A Div. of Hubbell. (Delaware)

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Drawing	Sheets	Rev.	Date (Stamp)	Title
25912	1 of 1	A	06 Dec 17	KBQA (1/2" NPT) Drain/Breather/Flame Arrestor
25913	1 of 1	A	06 Dec 17	KBQA (M20) Drain/Breather/Flame Arrestor
25920	1 of 1	A	06 Dec 17	KBQA (3/4" NPT) Drain/Breather/Flame Arrestor
25921	1 of 1	A	06 Dec 17	KBQA (M25) Drain/Breather/Flame Arrestor
B-20851	1 of 1	B	17 Jan 11	Standard & ATEX/IECEX Certified KDB Series Breather/Drain Sub-Assembly
B-22166	1 of 1	B	17 Jan 11	Standard & ATEX/IECEX Certified KBxFaxx Series Flame Arrestor – (NPT & Metric) Assy.
C-16753	2 of 3	F	06 Dec 17	Standard & ATEX/IECEX Certified KB1 Series Breather/Drain Assembly Drg.
C-16753	3 of 3	B	06 Dec 17	Standard & ATEX/IECEX Certified KBM20 Series Breather/Drain Assembly Drg.
C-22624	1 of 1	A	17 Jan 11	KDB Series
C-22625	1 of 1	C	06 Dec 17	ATEX/IECEX Assembly For KB1 & KBM20 Series Breather/Drain
C-22626	1 of 1	C	06 Dec 17	ATEX/IECEX KB1FA2813 & KBM20FA2813x Series Flame Arrestors
25912	1 of 1	B	23 Jun 21	KBQA (1/2" NPT) Drain/Breather/Flame Arrestor
25920	1 of 1	B	23 Jun 21	KBQA (3/4" NPT) Drain/Breather/Flame Arrestor
25921	1 of 1	B	23 Jun 21	KBQA (M25) Drain/Breather/Flame Arrestor
B-22193	1 of 1	D	23 Jun 21	ATEX/IECEX Markings for KDB – 250CEN Series breather/ drain bodies.
C-22624	1 of 1	B	23 Jun 21	KDB Series
C-22626	1 of 1	D	23 Jun 21	ATEX/IECEX KB1FA2813 & KBM20FA2813x Series Flame Arrestors

