



**1 EU-TYPE EXAMINATION CERTIFICATE**

**2 Component intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU**

**3 Certificate Number:** **Sira 10ATEX1351U** **Issue: 1**

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

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

**6 Address:** 3940 Dr. Martin Luther King Drive, St. Louis, Missouri 63113, USA

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

8 Sira Certification Service, notified body number 0518 in accordance with Articles 17 and 21 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this component has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of a component intended for use in potentially explosive atmospheres given in Annex II to the Directive.

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, with the exception of those listed in the schedule to this certificate, has been assured by compliance with the following documents:

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

The above list of documents may detail standards that do not appear on the UKAS Scope of Accreditation, but have been added through Sira's flexible scope of accreditation, which is available on request.

10 The sign 'U' is placed after the certificate number to indicate that the product assessed is a component and may be subject to further assessment when incorporated into equipment. Any limitations of use are listed in the schedule to this certificate.

11 This EU-Type Examination Certificate relates only to the design and construction of the specified component. If applicable, further requirements of this Directive apply to the manufacture and supply of this component.

12 The marking of the component shall include the following:

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



II 2G  
Ex db IIB + H2 Gb

**Models: Breather-Drains Series KDB**  
**Models: Flame-arrestor KBQA Metric**  
Ex db IIB Gb

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



II 2GD  
Ex tb IIIC Db

Project Number 70082083

C Ellaby  
Deputy Certification Manager

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**SCHEDULE**

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**13 DESCRIPTION OF COMPONENT**

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 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 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		

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 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.



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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 = Zinc

8 = Electroless Nickel

IV = Thread Form

M20 = M20 Metric

M25 = M25 Metric

050 = 1/2 inch NPT

075 = 3/4 inch NPT

**Variation 1** - This variation introduced the following changes:

- i. Addition of the Series KBQA flame-arrestor breather-drains for "Ex db" and Ex "tb" applications, the description was amended accordingly.
- ii. 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, EN 60079-0:2009 was replaced by EN 60079-0:2012/A11:2013, EN 60079-1:2007 was replaced with EN 60079-1:2014, and EN 60079-31:2009 was replaced with EN 60079-31:2014 the markings in section 12 were updated accordingly.
- iii. 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.

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## SCHEDULE

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#### 14.2 Associated Sira Reports and Certificate History

Issue	Date	Report number	Comment
0	17 January 2011	R23604A/00	The release of the prime certificate.
1	19 December 2017	R70082083A	This Issue covers the following changes: <ul style="list-style-type: none"><li>• EC-Type Examination Certificate in accordance with 94/9/EC updated to EU-Type Examination Certificate in accordance with Directive 2014/34/EU. <i>(In accordance with Article 41 of Directive 2014/34/EU, EC-Type Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20 April 2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Variations to such EC-Type Examination Certificates may continue to bear the original certificate number issued prior to 20 April 2016.)</i></li><li>• The introduction of Variation 1.</li></ul>

#### 15 SCHEDULE OF LIMITATIONS

##### 15.1 General:

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

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

- 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)
- The maximum permitted enclosure volume is 160L.
- Ingress Protection: IP 44

##### 15.3 Flame Arrestor Series KB1FA & KBM20FA:

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

##### 15.4 Flame arrestor Breather-Drain KBQA:

- The maximum recorded surface temperature:
  - KBQA NPT: 150.7°C (Gas Group IIB+H2)
  - KBQA Metric: 109.8°C (Gas Group IIB)
- The maximum permitted enclosure volume is 28L.
- 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.
- Ingress Protection: IP 66.

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16 **ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II (EHSRs)**

The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in the reports listed in Section 14.2.

17 **CONDITIONS OF MANUFACTURE**

17.1 The use of this certificate is subject to the Regulations Applicable to Holders of Sira Certificates.

17.2 Holders of EU-Type Examination Certificates are required to comply with the conformity to type requirements defined in Article 13 of Directive 2014/34/EU.

17.3 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

# Certificate Annexe



Certificate Number: **Sira 10ATEX1351U**  
 Component: **Breather-Drain Series KB1B, KB1D, KBM & KDB  
 Flame Arrestor Series KB1FA & KBM20FA  
 Flame arrestor Breather-Drain KBQA**  
 Applicant: **Killark, A Div. of Hubbell Inc. (Delaware)**

## Issue 0

Drawing No.	Sheets	Rev.	Date (Sira Stamp)	Title
B-22166	1 of 1	B	17 Jan 11	Standard & ATEX/IECEX Certified KBxFAxx Series Flame Arrestor – (NPT & Metric) Assy.
C-22626	1 of 1	A	17 Jan 11	ATEX/IECEX KB1FAxxxx & KBM20FAxxxxx Series Flame Arrestors
C-22624	1 of 1	A	17 Jan 11	KDB Series
B-20851	1 of 1	B	17 Jan 11	Standard & ATEX/IECEX Certified KDB Series Breather/Drain Sub-Assembly
C-16753	3 of 3	A	17 Jan 11	Standard & ATEX/IECEX Certified KBM20 Series Breather/Drain Assembly Drg.
C-16753	2 of 3	E	17 Jan 11	Standard & ATEX/IECEX Certified KB1 Series Breather/Drain Assembly Drg.
C-22625	1 of 1	A	17 Jan 11	ATEX/IECEX Assembly For KB1 & KBM20 Series Breather/Drain

## Issue 1

Drawing	Sheets	Rev.	Date (Sira Stamp)	Title
C-22626	1 of 1	C	06 Dec 17	ATEX/IECEX KB1FAxxxx & KBM20FAxxxxx Series Flame Arrestors
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-22625	1 of 1	C	06 Dec 17	ATEX/IECEX Assembly For KB1 & KBM20 Series Breather/Drain
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

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