1 **EU-TYPE EXAMINATION CERTIFICATE**

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

3 Certificate Number: **Sira 10ATEX1351U** Issue: **4**

4 Component: **Breather-Drain Series KB_B, KB_D, KBQA & KDB**
Flame Arrestor Series KB_FA Breather-Drain Series KBQA

5 Applicant: **Killark Division of Hubbell Inc.(Delaware)**

6 Address: 2112 Fenton Logistics Park Blvd.,
Fenton Missouri 63026
United States of America

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

8 CSA Group Netherlands B.V. notified body number 2813 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 IEC 60079-0:2018 EN 60079-1:2014 EN 60079-31:2014

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:

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

II 2G
Ex db IIB + H2 Gb
Ta = -50°C to +60°C

Breather-Drain KBQA Metric & KDB

II 2G
Ex db IIB Gb
Ta = -50°C to +60°C

Flame arrestors series KB_FA, and KBQA (NPT & Metric)

II 2D
Ex tb IIIC Db IP66
Ta = -50°C to +60°C

Signed: James May
Title: Director of Operations

PRODUCTS RvA C 652

SCHEDULE

EU-TYPE EXAMINATION CERTIFICATE

Sira 10ATEX1351U
Issue 4

13 **DESCRIPTION OF COMPONENT**

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 center. 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
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
075 = ¾ 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.

Variation 2 – This variation introduced the following change:

i. The certificate holders address was changed:

From:	To:
3940 Dr. Martin Luther King Drive	2112 Fenton Logistics Park Blvd.,
Saint Louis	Fenton
Missouri 63113	Missouri 63026
USA	USA

Variation 3 - This variation introduced the following changes:

i. Breather Drain series KB1B renamed from KB1B to **KB_B.**
ii. Breather Drain series KB1D renamed from KB1D to **KB_D**
iii. Breather Drain series KBM covered under **KB_B** and **KB_D.**
iv. Flame Arrestor series KB1FA and KBM20FA renamed from KB1FA and KBM20FA to **KB_FA**
v. KBQA NPT and Metric are breather drains only and not flame arrestors.
vi. Minor (non technical) drawing amendments to drawings to reflect the changes above, none of which affect compliance with the standards listed.
vii. Following appropriate assessment for the existing products to demonstrate compliance with the latest technical knowledge: EN 60079-0:2012/A11:2013 was replaced by EN IEC 60079-0:2018 The marking was amended accordingly.

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated 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: • EC-Type Examination Certificate in accordance with 94/9/EC updated to EU-Type Examination Certificate in accordance with Directive 2014/34/EU. *(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.)* • The introduction of Variation 1.
2	15 October 2019	0641	Transfer of certificate **Sira 10ATEX1351U** from Sira Certification Service to CSA Group Netherlands B.V.
3	26 February 2020	R8000451A	The introduction of Variation 2
4	20 May 2022	R80096933A	The introduction of Variation 3

15 **SCHEDULE OF LIMITATIONS**

General:

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

Breather-Drain Series KB_B, KB_D, KDB

i. The maximum recorded surface temperature:
Series KDB: 184.8ºC (Gas Group IIB)
Series KB_B or KB_D: 225.96ºC (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: 104.52ºC
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: 150.7ºC (Gas Group IIB+H2)
KBQA Metric: 109.8ºC (Gas Group IIB)
ii. The maximum permitted enclosure volume is 28L.
iii. For “Ex tb” application, the service temperature for Metric threads is -50 ºC to +80 ºC and NPT threads is -50 ºC to +200 ºC.
iv. Ingress Protection: IP 66.

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 CSA Group Netherlands B.V. 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

Certificate Annexe

Certificate Number: **Sira 10ATEX1351U**

Component: **Breather-Drain Series KB_B, KB_D, KBQA & KDB**
Flame Arrestor Series KB_FA

Applicant: **Killark Division 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 KB1FA2813 & KBM20FA2813x 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 KB1FA2813 & KBM20FA2813x 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

Issues 2 and 3. No new drawings were introduced.

Issue 4

Drawing	Sheets	Rev.	Date (Stamp)	Title
C-22624	1 of 1	C	6 Apr 2022	KDB SERIES
C-22626	1 of 1	E	6 Apr 2022	ATEX/IECEx KB1FAxxxx & KBM20FAxxxxx SERIES FLAME ARRESTORS
C-22625	1 of 1	D	6 Apr 2022	ATEX/IECEx ASSEMBLY FOR KB1 & KBM20 SERIES BREATHER/DRAIN
C-16753	2 of 3	G	6 Apr 2022	STANDARD & ATEX/IECEx KB1 SERIES BREATHER/DRAIN SUBASSEMBLY DRG
C-16753	3 of 3	C	6 Apr 2022	STANDARD & ATEX/IECEx CERTIFIED KBM20 SERIES BREATHER/DRAIN SUBASSEMBLY DRG.
B-20851	1 of 1	C	6 Apr 2022	STANDARD & ATEX/IECEx CERTIFIED KDB SERIES BREATHER/DRAIN SUB-ASSEMBLY

Certificate Annexe

Certificate Number: **Sira 10ATEX1351U**

Component: **Breather-Drain Series KB_B, KB_D, KBQA & KDB**
Flame Arrestor Series KB_FA

Applicant: **Killark Division of Hubbell Inc.(Delaware)**

Drawing	Sheets	Rev.	Date (Stamp)	Title
B-22166	1 of 2	D	6 Apr 2022	STANDARD & ATEX/IECEx CERTIFIED KBxFAxx SERIES FLAME ARRESTOR - (NPT & METRIC) ASSY.
25912	1 of 1	C	6 Apr 2022	KBQA (1/2" NPT) DRAIN/BREATHER-FLAME ARRESTOR
25913	1 of 1	B	6 Apr 2022	KBQA (M20) DRAIN/BREATHER-FLAME ARRESTOR
25920	1 of 1	C	6 Apr 2022	KBQA (3/4" NPT) DRAIN/BREATHER-FLAME ARRESTOR
25921	1 of 1	C	6 Apr 2022	KBQA (M25) DRAIN/BREATHER-FLAME ARRESTOR