

1 **EU - TYPE EXAMINATION CERTIFICATE**

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 2014/34/EU**

3 EU - Type Examination Certificate **Baseefa09ATEX0040X – Issue 8**
Number:

3.1 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. Supplementary Certificates to such EC-Type Examination Certificates, and new issues of such certificates, may continue to bear the original certificate number issued prior to 20 April 2016.

4 Product: **Type 24 and 74 Solenoid Operator**

5 Manufacturer: **Bifold Fluidpower Limited**

6 Address: **Broadgate, Oldham Broadway Business Park, Chadderton, Oldham, Greater
Manchester, OL9 9XA United Kingdom**

7 This re-issued certificate extends EC Type Examination Certificate No. Baseefa09ATEX0040X to apply to product designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

8 SGS Fimko Oy, Notified Body number 0598, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, 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 Annex II to the Directive.

8.1 The original certificate was issued by SGS Baseefa Ltd (UK Notified Body 1180). It, and any supplements previously issued by SGS Baseefa Ltd have been transferred to the supervision of SGS Fimko Oy (EU Notified Body 0598). The original certificate number is retained.

The examination and test results are recorded in confidential Report No. See Certificate History

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

**EN IEC 60079-0: 2018 EN IEC 60079-7: 2015/A1: 2018 EN 60079-18: 2015/A1: 2017 IEC 60079-31: 2022: Ed 3
EN ISO 80079-36: 2016 EN ISO 80079-37: 2016**

except in respect of those requirements listed at item 18 of the Schedule.

10 If the sign “X” is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of Use specified in the schedule to this certificate.

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

12 The marking of the product shall include the following:

⊕ II 2GD Ex eb h mb IIC T* Gb Ex h tb IIIC T120°C Db Tamb -25°C to +°C IP 66/67** (for * and ** see description)

SGS Fimko Oy Customer Reference No. **1688**

Project File No. **21/0540**

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Mikko Välimäki
SGS Fimko Oy

13 **Schedule**

14 **Certificate Number Baseefa09ATEX0040X – Issue 8**

15 **Description of Product**

There are two types:
Type 24 and 74 Solenoid Operator.

The Type 24 Solenoid Operator consists of an aluminium main housing and cover. The Type 74 Solenoid Operator consists of a stainless steel main housing and cover. Both the Type 24 and 74 incorporate a female threaded hole for cable gland entry, an optional bracket lug and an M4 external earth mounting (including washers). The threaded cable gland entry may be M20 x 1.5 or ½”NPT 14TPI. When the NPT option is used the thread size is to be marked on the housing face.

The Solenoid Operator is rated up to 50VDC. The Temperature Class, Power Level and maximum ambient temperature are shown in the table below and the apparatus is marked in accordance with these parameters.

Equipment Marking Variations			
Temperature Classification (T*)	Maximum ambient temperature (**°C)	Power Level Limit (Watts)	Thermal Fuse Limit (°C)
T3	+55	≤ 3W	+146
T3	+45	≤ 4.5W	+146
T3	+40	≤ 6.8W	+146
T4	+50	≤ 4W	+126

Note: Only solenoids with a 126°C thermal fuse will be rated as T4

The top of the main housing it is fitted with a cover and a rubber O-ring seal is fitted between these two components. The lid is mounted to the main housing by four off M4 socket head cap screws. The lid incorporates two types of mechanical override facility, Spring Return Manual Override and Detented Manual Override. The lid has a groove around its collar housing a spring clip which retains the stainless steel certification label. The base of the main housing is fitted with a stainless steel adaptor bush. A rubber o-ring seal and stainless steel washer between these two components maintains the IP rating of the enclosure. The exposed/connection end of the adaptor bush varies to suit different hydraulic/pneumatic valve mountings. The adaptor bush is also fitted with a clear silicone protective tube.

Within the lower internal area of the main housing there is the solenoid assembly. The solenoid assembly consists of a magnetic iron coil holder and soft magnetic iron armature. The coil holder and armature surround the adjusting rod (including stainless steel spring) and coil assembly. As the adjusting rod passes through the bore of the adaptor bush there is a stainless steel retaining washer and rubber o-ring seal. The adjusting rod is secured into the armature by a stainless steel socket screw, nut and spring washer.

The coil assembly consists of a moulded glass filled nylon bobbin that is wound with copper wire and insulation tape, with entry tag for supply lead wire connection. The coil winding incorporates a diode and thermal fuse. The assembled bobbin is then fully encapsulated in glass filled nylon with the supply leads ready for termination.

The coil assembly is seated into the holder. Within the upper area of the main housing there is a terminal plate assembly. The terminal plate assembly consists of a stainless steel circular plate that has two mounting holes, a central clearance hole for the adjusting rod fixing and a raised tab. This plate is fitted with a Weidmuller MK3 terminal block with 2 way entry. The plate is also fitted with a stainless steel M4 internal earth mounting (including washers). The terminal plate assembly is mounted on two stainless steel support pillars with nylon retaining sleeves that vary in length depending on the override option of the solenoid operator. The plate assembly is secured through the support pillars into the coil holder by two stainless steel M3 (variable length) cheese head screws.

When required, the solenoid operator may be fitted with 2 bonded magnets in the coil housing to provide a ‘Latch Energised’ option or 2 bonded magnets on the terminal plate to provide the ‘Tamper Proof’ option.

16 Report Number

See Certificate History.

17 Specific Conditions of Use

1. The supply circuit shall be fitted with a fuse capable of meeting a 1500Amp short circuit current.
2. Termination to the Weidmuller MK3 terminal block shall be in accordance with TUV Certificate TUV18ATEX8209U.

18 Essential Health and Safety Requirements

In addition to the Essential Health and Safety Requirements (EHSRs) covered by the standards listed at item 9, the following are considered relevant to this product, and conformity is demonstrated in the report:

Clause	Subject
1.2.7	LVD type requirements
1.2.8	Overloading of equipment (protection relays, etc.)
1.4.1	External effects
1.4.2	Aggressive substances, etc.

19 Drawings and Documents

Updated drawings submitted for this issue of certificate:

Number	Sheet	Issue	Date	Description
0-GA0026	1	4	06/12/23	Coil Winding & Encapsulation Detail
0-GA0131	1	5	13/09/23	General Assembly (Flexible PCB for Ex e mb Solenoid)
0-SL0011	1	7	17/11/23	24 & 74 Solenoid Label

New drawings submitted for this issue of certificate:

Number	Sheet	Issue	Date	Description
0-SC0036	1	0	25/11/21	24 & 74 Solenoid General Assembly

Current drawings which remain unaffected by this issue:

Number	Sheet	Issue	Date	Description
200-1422	5	1	30/09/16	General Assembly – Model ‘Type 24 & 74’ Latch Energised and Tamper Proof Options

Superseded/Obsolete drawings:

Number	Sheet	Issue	Date	Description
* 200-1422	1	1	30/09/16	General Assembly
* 200-1422	2	1	30/09/16	General Assembly - Manual Override Options
* 200-1422	3	1	30/09/16	General Assembly – Housing Detail/Dimensions
** 200-1422	4	D	30/03/12	ATEX Label

Note: The obsolete drawings (*) are replaced by 0-SC0036 and (**) is replaced by 0-SL0011.

All drawings are common to SGS23UKEX0170X and IECEx BAS 09.0012X and are held on the latter.

20 Certificate History

Certificate No.	Date	Comments
Baseefa09ATEX0040X	19 March 2009	The release of the prime certificate. The associated test and assessment is documented in Test Report No's GB/BAS/ExTR09.0026/00 and 07(C)0356.
Baseefa09ATEX0040X/1	9 September 2011	Amended designation for the solenoid housing material. No report.
Baseefa09ATEX0040X/2	16 April 2012	To permit minor modifications to the certification label. Certification report GB/BAS/ExTR12.0106/00 refers.
Baseefa09ATEX0040X/3	15 February 2013	To permit the marking to include the IECEx Conformity Mark and the Baseefa IECEx Conformity Mark License number 003. To note a change of company address. Certification report GB/BAS/ExTR13.0049/00 refers.
Baseefa09ATEX0040X/4	11 September 2013	To decrease the rating of the internal thermal fuse of the solenoid assembly from 140°C to 126°C to allow a temperature class of T4, at power levels up to 4W. To increase the maximum ambient for variants operating at 4W or less to +50°C. Certification report GB/BAS/ExTR13.0172/00 refers.
Baseefa09ATEX0040X/5	20 March 2014	Change to the marking of the equipment to clarify the ambient temperature ranges and the temperature class. Only solenoids with a 126°C fuse will be rated as T4. To include several minor changes to the moulded bobbin used in the equipment. To delete 0-GA0132 from the list of drawings. Certification report GB/BAS/ExTR14.0055/00 refers.
Baseefa09ATEX0040X/6	29 July 2014	To permit existing information to be replaced by the revised certificate holders address. No report.
Baseefa09ATEX0040X Issue 7	20 October 2016	To change the name of the electrical apparatus to Type 24 and 74 Solenoid. To introduce a new variant rated at 4.5 Watts, in an ambient of up to +45°C with a T3 temperature class. Certification report GB/BAS/ExTR16.0274/00 refers.
Baseefa09ATEX0040X Issue 8	2 February 2024	To add a new encapsulant. To confirm the current design meets the requirements of EN IEC 60079-0: 2018, EN IEC 60079-7: 2015/A1: 2018, EN 60079-18: 2015/A1: 2017, IEC 60079-31: 2022: Ed 3 (latest technical knowledge), EN ISO 80079-36: 2016 and EN ISO 80079-37: 2016, in respect to the differences of EN 60079-0: 2006, EN 60079-7: 2007, EN 60079-18: 2004, EN 61241-1: 2004, EN 13463-1: 2001 and EN 13463-5: 2003, including the revision of the equipment marking in accordance with these standards. To update Specific Condition of Use Number 2 to show the new ATEX certificate number for the Weidmuller MK3 terminal block. Certification report GB/SGS/ExTR23.0141/00 refers.
For drawings applicable to each issue, see original of that issue.		