

1 **UK-TYPE EXAMINATION CERTIFICATE**

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres  
UKSI 2016:1107 (as amended) – Schedule 3A, Part 1**

3 UK-Type Examination Certificate Number: **SGS23UKEX0170X Issue 0**

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

8 SGS United Kingdom Ltd. (formerly SGS Baseefa Ltd.), Approved Body number 1180, in accordance with Regulations 42 and 43 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 a confidential report identified in the revision table at item 20.

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 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 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 Customer Reference No. **1688**

Project File No. **21/0540**

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M POWNEY  
CERTIFICATION MANAGER  
On behalf of SGS United Kingdom Limited

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## Schedule

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### Certificate Number SGS23UKEX0170X – Issue 0

#### 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 operator assembly. The solenoid operator 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 Item 20 – 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
13	LVD type requirements
14	Overloading of equipment (protection relays, etc.)
21(1)	External effects
21(2)	Aggressive substances, etc.

**19 Drawings and Documents**

Other than for Issue 0, Drawings and Documents that are introduced at a new edition of the certificate are marked with an asterisk symbol:

Number	Sheet	Issue	Date	Description
0-SL0011	1	7	17/11/23	24 & 74 Solenoid Label
Baseefa09ATEX0040X				

All drawings are common to Baseefa09ATEX0040X and IECEx BAS 09.0012X and are held on the latter.

**20 Certificate History**

Certificate No.	Date	Comments
SGS23UKEX0170X Issue 0	2 February 2024	<b>Prime Certificate</b> <b>Report Number: GB/SGS/ExTR23.0141/00</b> <b>Project Number: 21/0540</b> <b>Original issue of the certificate</b>
For drawings applicable to each issue, see original of that issue.		