CERTIFICATE OF CONFORMITY

1. **HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT PER US REQUIREMENTS**
2. **Certificate No:** **FM18US0089X**
3. **Equipment:** **EX23 Series Twin Solenoids**
   (Type Reference and Name) **Electric Solenoid Valve Actuators**
4. **Name of Listing Company:** **Schienle Magnettechnik + Elektronik GmbH**
5. **Address of Listing Company:** **In Oberwiesen 3**
   88682 Salem-Neufrach
   Germany
6. The examination and test results are recorded in confidential report number:

   3063965 dated 24th April 2018

7. FM Approvals LLC, certifies that the equipment described has been found to comply with the following Approval standards and other documents:

   FM Class 3600:2022, FM Class 3615:2022, FM Class 3616:2022, FM Class 3810:2018, ANSI/UL 61010-1:2012, ANSI/ISA 60079-0:2013, ANSI/UL 60079-1:2015, ANSI/ISA 60079-31:2015 and ANSI/IEC 60529:2004

8. If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to specific conditions of use specified in the schedule to this certificate.
9. This certificate relates to the design, examination and testing of the products specified herein. The FM Approvals surveillance audit program has further determined that the manufacturing processes and quality control procedures in place are satisfactory to manufacture the product as examined, tested and Approved.
10. Equipment Ratings:

    Explosionproof for use in Class I, Division 1, Groups C and D; Dust-Ignitionproof for use in Class II, Division 1, Groups E, F and G and Class III, Divisions 1 and 2; Flameproof AEx db IIB T4 for Class I, Zone 1; Protection by Enclosure AEx tb IIIC T135C for Zone 21; for an ambient temperature range of Ta = -40°C to +70°C; hazardous (classified) locations, with ingress protection IP66/IP67.

Certificate issued by:

J.E. Marquedant
VP, Manager - Electrical Systems

30 March 2023
Date

To verify the availability of the Approved product, please refer to www.approvalguide.com

THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE

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SCHEDULE

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11. The marking of the equipment shall include:

Cl.I Div.1 Gp C,D T4; Cl.II Div.1 Gp E,F,G T4; Cl.III Div 1&2

Cl.I Zone 1, AEx db IIB T4; Zone 21, AEx tb IIIC T135°C

-40°C ≤ T_{amb} ≤ +70°C; IP66/67

12. **Description of Equipment:**

General – The EX23 Series Twin Solenoids are electrical devices used for actuating hydraulic valves for use in hazardous locations. The equipment employs two independent conductive coils that each use electrical energy to hold a metallic shaft open or closed in order to control the movement of process fluids and gases. The solenoids are always fixed with means for fastening the solenoids to a valve body.

Construction – The EX23 Series Twin Solenoids consist of two machined steel blocks fastened together to form an explosionproof and dust-ignitionproof enclosure. One steel block has a ½ NPT or M20x1.5 threaded wiring entry for conduit connection and a metric stopping plug that acts as a cover and allows the user to make field wiring terminal connections. The other block connects to the first block and houses the twin coils and forms cylindrical joints with the actuator shafts. The blocks are held together and form a flange joint that is secured by four fasteners. The solenoid enclosures offer integral grounding provisions both internal and external to the enclosure.

Ratings – The ambient temperature range of the EX23 Series Twin Solenoids is -40°C to 70°C for process medium temperatures up to 70°C. The rated Maximum Working Pressure (MWP) is up to 50 bar (725 psi). The nominal input voltage is 12 or 24 VDC depending on the model code option chosen, with a maximum power output of 23 Watts.

EX23 049 B 23W a b DC 2 H c Twin Solenoid

a = Coil 1 Input Voltage: B (12Vdc) or C (24Vdc).
b = Coil 2 Input Voltage: B (12Vdc) or C (24Vdc).
c = Variant (Wiring Entry): 01 (1/2 NPT) or 02 (M20x1.5)

13. **Specific Conditions of Use:**

1. *To keep the temperature class, the solenoid may only be operated in combination with a valve block with minimum volume according to the operating instructions. The maximum ambient as well as process medium temperatures of +70°C must not be exceeded.*
2. *Flame path repair is not possible. Contact manufacturer.*
3. *Contact manufacturer if enclosure fasteners are damaged.*
4. *Potential electrostatic charging hazard – clean only with damp cloth. Refer to manual for additional guidance.*

14. **Test and Assessment Procedure and Conditions:**

This Certificate has been issued in accordance with FM Approvals US Certification Requirements.

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15. **Schedule Drawings**

A copy of the technical documentation has been kept by FM Approvals.

16. **Certificate History**

Details of the supplements to this certificate are described below:

Date	Description
24th April 2018	Original Issue.
30th March 2023	Supplement 1: Report Reference: – RR236192 dated 30th March 2023. Description of the Change: Qualified additional option with M20x1.5 metric entry; minor editorial updates to labels and instructions, mainly for UKCA. Updated standard editions which did not require additional testing.

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