



Certificate of Compliance

Certificate: 1398692

Master Contract: 215681

Project: 80094112

Date Issued: 2023-05-04

Issued To: Bifold Fluidpower Limited
Broadgate
Oldham Broadway Business Park
Chadderton, Manchester, OL9 9XA
United Kingdom

Attention: Andy Gillespie

The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US or with adjacent indicator 'US' for US only or without either indicator for Canada only.



Issued by: Bhas Nanavati
Bhas Nanavati

PRODUCTS

Class - 3228-02 VALVE Actuators - For Hazardous Locations,

Class - 3228-82 VALVE Actuators - For Hazardous Locations - Certified to US Standards

Class I, Division 1, Groups B, C, D for both Canada and U.S.A. (Type 77)

Class I, Division 1, Groups B, C, D for Canada (Type 27)

Ex d IIC

Class I, Zone 1, AEx d IIC

Explosionproof Solenoid Valve Operators, FP Series, Type:

FP-87L (14W), FP-87A (8W), FP-87D (5.7W), FP-87C (3.5W), FP-97C (3W), FP-97D (5.7W), FP-97E (2W), FP-97F (1.5W), and



Certificate: 1398692
Project: 80094112

Master Contract: 215681
Date Issued: 2023-05-04

Explosionproof Solenoid Valve Operators, Type 27 and Type 77 Series, (Max 14W),

Rated 24Vdc, 50Vdc, 110Vac/dc, 120Vac/dc, 220Vac/dc or 240Vac/dc, maximum 8W; Enclosure Type 4X (IP66 and IP67)

T6 (T_{amb} -60°C to +40°C) or

T5 (T_{amb} -60°C to +55°C) or

T4 (T_{amb} -60°C to +90°C);

(Operation ambient is dependent upon O-ring type)

Rated 24Vdc, 110Vdc, 120Vac Rectified, maximum 14W; Enclosure Type 4X (IP66 and IP67)

T6 (T_{amb} -60°C to +40°C) or

T5 (T_{amb} -60°C to +55°C) or

T4 (T_{amb} -60°C to +90°C);

(Operation ambient is dependent upon O-ring type)

Conditions Of Acceptability

1. Wiring terminals are marked or the device is provided with suitable wiring diagrams to indicate connection, unless the proper wiring connections are plainly evident.
2. Information for the proper operation of the device is provided with the device.
3. A valve intended to be mounted in a defined position in order to function properly shall be plainly marked to indicate how it is to be mounted, or directions for mounting shall be provided with each valve.
4. The Solenoid Valve Operator Type 27 is not permitted for use in Division 1 in the United States
5. Solenoid Valve Operator Type 27 is to be used with aluminum valves only.
6. For equipment marked with Division and Zones classifications, a conduit seal is required within 50mm of the enclosure.



Certificate: 1398692
Project: 80094112

Master Contract: 215681
Date Issued: 2023-05-04

APPLICABLE REQUIREMENTS

Standard	Description
CSA Std. C22.2 No. 30-M1986	Explosion-Proof Enclosures for Use in Class I Hazardous Locations
CSA Std. C22.2 No. 139-19	Electrically Operated Valves- Fourth Edition
CSA Std. C22.2 No. 94.1-07	Enclosures for Electrical Equipment, Non-Environmental Considerations – First Edition
CSA Std C22.2 No. 94.2-20	Enclosures for Electrical Equipment, Environmental Considerations - First Edition
CAN/CSA Std. C22.2 No. 60079-0:11	Explosive atmospheres — Part 0: Equipment — General requirements
CAN/CSA Std. C22.2 No. 60079-1-11	Explosive atmospheres — Part 1: Equipment protection by flameproof enclosures “d”
UL 50	UL Standard for Safety Enclosures for Electrical Equipment, Non-Environmental Considerations - Twelfth Edition
UL 50E	UL Standard for Safety Enclosures for Electrical Equipment, Environmental Considerations - Third Edition
UL 429 (Ed. 7)	Electrically Operated Valves
UL 1203, Ed.4	UL Standard for Safety Explosion-Proof and Dust-Ignition-Proof Electrical Equipment for Use in Hazardous (Classified) Locations - Fifth Edition
UL 60079-0, Ed. 5	UL Standard for Safety Explosive atmospheres – Part 0: Equipment – General requirements - Fifth Edition;
UL 60079-1, Ed. 6	UL Standard for Safety Explosive Atmospheres – Part 1: Equipment Protection by Flameproof Enclosures “d” - Sixth Edition;



Certificate: 1398692
Project: 80094112

Master Contract: 215681
Date Issued: 2023-05-04

MARKINGS

The manufacturer is required to apply the following markings:

- Products shall be marked with the markings specified by the particular product standard.
- Products certified for Canada shall have all Caution and Warning markings in both English and French.

Additional bilingual markings not covered by the product standard(s) may be required by the Authorities Having Jurisdiction. It is the responsibility of the manufacturer to provide and apply these additional markings, where applicable, in accordance with the requirements of those authorities.

The products listed are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US (indicating that products have been manufactured to the requirements of both Canadian and U.S. Standards) or with adjacent indicator 'US' for US only or without either indicator for Canada only.

The Type 27 Solenoid Valve Operator is not permitted to be marked for use in Class I, Division 1 for the United States.

The following markings (as applicable) are applied permanently:

- manufacturer's name, trademark, tradename or other recognized symbol of identifying the manufacturer
- valve catalogue number or type designation
- maximum operating pressure differential or the maximum rated pressure for typical fluids, air, water, light oil
- holding amperes, volt amperes or watts (watts are permitted only if the current does not exceed 1 ampere)
- rated voltage
- intended frequency or direct current (dc)
- number of phases if other than single phase
- time rating if other than continuous
- rating of contacts, if contacts are provided for external loads (N/A)
- the month and year of manufacture; Date coding, serial number or equivalent may be used.
- Hazardous location designation, Class I, Groups B, C, D and also Zone 1 and 2 for Canada Ex d IIC, also for U.S.A., Aex d IIC
- The maximum external temperature or the code number (varies with operating ambient Tamb)
- The enclosure Type 4X (IP66)
- "Seal Not Required" or equivalent for FP Series, Type 27 (Canada only) and Type 77 for installation in Divisions
- The warning words: - "SEAL REQUIRED WITHIN 50mm OF ENCLOSURE" and "SCELLEMENT REQUIS A MOINS DE 50mm" or equivalent, for all equipment marked for installation in Zones.
- Applicable to the Solenoid Valve Operator Type 27 - As per the NEC, equipment rated for use in a Zone 1, IIC atmosphere may be marked 'Class I, Division 2, Groups B, C, D' along with the appropriate temperature class.
- The following cautions or equivalent are shown at or near the point where field connections are made, as the temperature in the supply connection compartment exceed 60°C as applicable:
"USE SUPPLY WIRE SUITABLE FOR AT LEAST "90°C/105°C/150°C" and
"EMPLOER DES FILS D'ALIMENTATION QUI CONVIENNENT POUR AU MOINS
"90°C/105°C/150°C"



Certificate: 1398692
Project: 80094112

Master Contract: 215681
Date Issued: 2023-05-04

-
- The maximum “ON” period and the minimum “OFF” period shall be marked if a operation is other than continuous.
 - The “OFF” position of manual-switching means shall be clearly marked “OFF”, unless the construction or application of the switch is such that marking is unnecessary.

Notes:

Products certified under Class C322802, C322882 have been certified under CSA’s ISO/IEC 17065 accreditation with the Standards Council of Canada (SCC). www.scc.ca





Supplement to Certificate of Compliance

Certificate: 1398692

Master Contract: 215681

The products listed, including the latest revision described below, are eligible to be marked in accordance with the referenced Certificate.

Product Certification History

Project	Date	Description
80094112	2023-05-04	Evaluation to update CSA Report 1398692 to address Findings Letter due to internal audit from CSA project 70174668, addition of new solenoid encapsulating material, addition of manual override option, Update report for addition of component option for adapter bush and adjusting rod, addition of Type 27 aluminum solenoid operator, update CSA C22.2 No. 94.2 based on Enclosures Notice No. 73, and update CSA C22.2 No. 139 as per CSA Signal Sensing and Controls Informs No. 30.
70192472	2018-11-14	FIR Follow-up: Evaluation to update 1398692 (last project 2709136) to add alternate Adjusting Rod is P/N: 66-5-68-0, and Terminal Plate is P/N: 0-S 0252.
70174668	2018-10-30	Update to report 1398692-2527725 to address findings in 2017-303-UkDa in editions 5 and 6. Evaluation and assessment to the latest standards: CSA C22.2 No 139 & UL 429.
2709136	2014-07-25	Update of report 1398692- 2527725 to include minor updates
2527725	2013-02-21	Update to report 1398692 to remove notes and make minor drawing and report revisions.
2115395	2009-06-12	Update to Report 1398692 to include minor construction changes to include alternate adapter bushing, rotating (FP-77) solenoid housing to the FP series of valves and tamper proof locking device for the armature.
1839620	2007-03-01	Update CSA report 1398692; alternative 14 watt coil for FP series, solenoid valve operators.
1584676	2004-10-14	Update Report 1398692; additional testing to confirm marking "seal not required"
1398692	2004-03-08	CSAc_us Class I, Division 1, Groups B,C & D; Includes Witness Test trip