

CERTIFICATE OF CONFORMITY



1. HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT PER US REQUIREMENTS
2. Certificate No: FM22US0075X
3. Equipment: U79F Solenoid Control Group Equipment Models 15010...,
(Type Reference and Name) 15020..., 15030... and 15040...
4. Name of Listing Company: Biffi Italia SRL
5. Address of Listing Company: Strada Biffi 165
Fiorenzoula D'Arda Piacenza I-29017
Italy
6. The examination and test results are recorded in confidential report number:

0X9A6.AE dated 17th May 1994
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 3810:2021,
ANSI/UL 61010-1:2012; ANSI/UL 60079-0:2020; ANSI/UL 60079-1:2015; ANSI/NEMA 250:2008
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.

Certificate issued by:



J.E. Marquedant
VP, Manager - Electrical Systems

13 January 2023

Date

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

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FM Approvals LLC. 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA
T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: information@fmapprovals.com www.fmapprovals.com



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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:

Flameproof for Class I, Zone 1, AEx db IIC; Explosionproof for Class I, Division 1 & 2, Groups C and D; Dust-ignitionproof for Class II, Division 1 & 2, Groups E, F, and G; and Dust-ignitionproof for Class III, Division 1 & 2, hazardous (classified) locations.

The maximum ambient temperature rating for Division ratings is 65°C. The ambient temperature range for Zone ratings is -60°C to +50°C (for T5, max 10W), -60°C to +85°C (for T4, max 10W), -60°C to +65°C (for T4, greater than 10W up to 24W) & -60°C to +85°C (for T3, greater than 10W up to 24W).

Indoor / outdoor rating Type 4.

11. The marking of the equipment shall include:

Class I, Zone 1, AEx db IIC T5 Ta= -60°C to 50°C; T4 Ta= -60°C to 85°C (For Power rating less than 10W)
Class I, Zone 1, AEx db IIC T4 Ta= -60°C to 65°C; T3 Ta= -60°C to 85°C (For Power rating more than 10W)

Class I, Division 1 & 2, Groups C, D; T4 Ta = 65°C
Class II, Division 1 & 2, Groups E, F, G; T4 Ta = 65°C
Class III, Division 1 & 2; T4 Ta = 65°C
Type 4

12. **Description of Equipment:**

The Solenoid Control Group equipment is for controlling actuators from local or remote locations. The actuators operate valves in process control applications.

The Solenoid Control Group equipment consist of a terminal enclosure and up to four solenoid housings (no solenoids or terminal enclosures are included for local control Solenoid Control Group configurations) which are interconnected via an explosionproof stainless steel tube design. Each solenoid housing contains a solenoid coil that gets wired to a terminal strip located in the terminal enclosure via the stainless-steel tubing. The solenoid wiring leads in the stainless-steel tubing are insulated using the protective (double) insulation method.

Four different types of terminal enclosures, two large (15030 & 15040) and two small (15010 & 15020), are available depending on equipment configuration. These terminal enclosures are cast from aluminum alloy. The enclosure models 15010 & 15030 consist of a base and thread-on cover, while the enclosure models 15020 & 15040 each has a selector switch mounted to the cover which in turn bolts to the base. The small size enclosures contain ½ and 1 inch NPT conduit openings, while the large size enclosure contains 1 ½ and 2 inch NPT conduit openings for field wiring connections.

Depending on solenoid coil selection, the solenoid housings are available in two sizes, small and large. Explosionproof characteristics for both size solenoid housings are similar. Components for the solenoid housings are cast aluminum and fabricated steel or stainless-steel materials.

Outdoor protection is provided for only Solenoid Control Group equipment which include either of the small size

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terminal enclosures as part of its configuration. Outdoor protection for the terminal enclosures is provided by O-rings located between the cover and base and between the selector switch shaft and cover. The solenoid housing portion of the Solenoid Control Group equipment in which either of the small size terminal enclosures are used, are mounted in either an “A” or “B” size aluminum alloy enclosure which provides outdoor protection. A “C” size steel enclosure which is used to house the solenoid housings in which the large terminal enclosure is part of the enclosure does not provide outdoor protection and is therefore not rated for outdoor use.

Ratings - Supply voltage for the Solenoid Control Group equipment depends on the solenoid coil selection. The solenoid coils are available with supply voltage ratings of 12/24/48/115/125/220 Vdc, 110/220 Vac 50Hz or 120/240 Vac 60Hz. Each of these solenoid coils versions are available with a power rating of 10, 17 or 24 W.

Model Code Structure

U79F-a-b. Solenoid Control Group.

a = Size Code 000, 020, 101, 102, 103, 104, 105*, 106*, 121, 122, 123, 124, 201, 202, 203, 204, 205*, 206*, 221, 222, 223, 224, 305*, 306*, 405* and 406* [Size codes followed by an asterisk (*) are not Enclosure Type 4].

b = Voltage and wattage ratings 000-009, 100-109, 200-209 and 300.

13. Specific Conditions of Use:

1. For any repair to the Flamepath joints, contact the manufacturer.
2. The quality of the screws, for models 15020 and 15040, must be higher or equal to class A4 grade 70 with yield strength higher or equal to 450 N/mm².

14. Test and Assessment Procedure and Conditions:

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

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
17 th May 1994	Original Issue of Approval.
13 th January 2023	Supplement 1: Report Reference: – PR462672 dated 13 th January 2023. Description of the Change: Addition of Zone Ratings and certificate issuance in new format.

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