



Karandikar Laboratories



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TYPE EXAMINATION REPORT Electrical Equipment for Explosive Atmospheres

- 01
02
- 03 TE Report Number: **KLPL/Ex/17-069X** Dated – 6th July 2017
- 04 Electrical Equipment: **FLAMEPROOF SWITCH,
MODEL NO: - FE SERIES**
- 05 Manufacturer: **Kaustubha Udyog (Orion instruments)**
06 Address: **36/1/1, Shed No.1, Near Old Lokmat Press,
Sinhagad Road, Pune - 411 041**
- 07 This equipment and any acceptable variation thereto are specified in the schedule to this TE Report and the documents therein referred to.
- 08 *Karandikar Laboratories Pvt. Ltd.* certifies that this equipment has been found to comply with requirements of the following standards relating to the design and construction of electrical equipment for explosive gas atmospheres.
This TE Report was issued as verification that a sample, representative of production, was assessed and tested and found to comply with the IS / IEC standards listed below.
- IS/IEC 60079-0: 2011 IS/IEC 60079-1: 2007 IS/IEC 60079-31: 2008
IS/IEC 60529: 2001**
- 09 The Evaluation and Test results are recorded in KLPL's confidential report No.
KLPL / Ex / KU-17/001 Dated: 6th July 2017.
- 10 The sign **X** if placed after the TE Report number; indicates that the equipment is subject to special conditions of safe use specified in the schedule to this TE Report.
- 11 This TE Report **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the above listed standards.
- 12 The marking of the component shall include the following:

**Ex d IIC T6 Gb (-20°C ≤ T_a ≤ +60°C)
Ex tb IIIC T85°C Db**



Atul Marathe

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Atul Marathe – Technical Manager

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Karandikar Laboratories Pvt. Ltd.

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Date: 6th July 2017

SCHEDULE

13. General Information:

The equipment is a FFLAMEPROOF SWITCH, MODEL NO: FE SERIES. The equipment mainly consists of a top cover, body and operating rod. Top cover and body are made from Aluminium Alloy LM 6 material. Alternate material can be Grey Cast iron (FG 260) or Stainless Steel. The minimum wall thickness of the equipment observed on cover is 4 mm and on body it is 6 mm. The main body has "O" ring of size Ø3.5 mm made of viton rubber for providing weatherproofness IP66. The enclosure cover is fixed to the enclosure body through a threaded joint with threads size of M100 X 2P. The cover is secured mechanically by M3 X 4L grub screw. One pressure setting screw is provided on side wall of enclosure at bottom side which is forming threaded joint with threads size of M30 X 1.5P. One operating rod which is passing through this pressure setting screw forms cylindrical joint. The various pressure capsules are separated from vented column and flameproof enclosure by pressure tight membrane. Name plate is screwed on cover and displays the required product information.

The internal gross volume of the equipment is 480 CC (Approx.) and net volume is 300 CC (Approx.).

Cable Entries

The equipment is provided with maximum two cable entries of size M20 X 1.5P, alternatively ½" NPT and ¾" NPT threads can be provided. Cable entry has a threaded axial length of 21.5 mm. The cable entry port when mated with Exd IIC certified cable gland will form a flamepath meeting the requirements of the standard.

Earthing:

Two external earth points of the size M4 X 10L is provided with clamp and lock washers on main body and one internal earth point of the size M3 X 10L is inside the main body with clamp and lock washer. The terminals are suited for conductors of a cross-section of 4 mm².

14. Model Designation:

MODEL No.	Name	Rating
FE SERIES	Flameproof Switch	Voltage: 250 VAC Current : 15 Ampere





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15. Electrical Rating:

Voltage : 250 VAC,
Current : 15 Ampere.

16. Temperature Class:

Considering the maximum ambient of +60°C the requested temperature class of "T6" is acceptable.

17. LIST OF ATTACHED DRAWING:

Drawing Number	Sheet	Rev.No	Date	Description
A44 KL 001	01 of 03	02	30.03.2017	Flameproof Enclosure for "FE" Series Pressure, Pressure Difference, Temperature, Compound and Vacuum Switches
A44 KL 001	02 of 03	02	30.03.2017	Flameproof Enclosure for "FE" Series Pressure, Pressure Difference, Temperature, Compound and Vacuum Switches
A44 KL 001	03 of 03	02	30.03.2017	Flameproof Enclosure for "FE" Series Pressure, Pressure Difference, Temperature, Compound and Vacuum Switches

18. Specific Condition of Use:

- The manufacturer has maintained more stringent gap than required by the standard. User must refer to manufacturer before carrying out any repairs or refurbishment to the equipment. The gap specified in this report and certification drawing must never be exceeded.

19. Routine Tests

- The Flameproof Switch, Model No: FE SERIES has not been subjected to 4 times overpressure test and hence manufacturer needs to conduct routine pressure test at **11.5 bar on Flameproof Switch, Model No: FE SERIES** in accordance with clause 16.2 of IS/IEC 60079-1:2007.

END OF DOCUMENT



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