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Karandikar Laboratories



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TYPE EXAMINATION REPORT Electrical Apparatus for Explosive Atmospheres

03 TE Report Number: **KLPL/Ex/12-034X** Dated. **14th June 2012**

04 Electrical Apparatus: **Variable Area Flowmeter Enclosure
(Model No.: R-300/D)**

05 Manufacturer: **Spink Controls**
06 Address: C-2/3, Udyog Vihar Industrial Estate,
Vithalwadi (W) 421003, Dist Thane, Maharashtra, INDIA.

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 apparatus 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: 2004

IS/IEC 60079-1: 2007

IS/IEC 60529: 2001

09 The Evaluation and Test results are recorded in KLPL's confidential report number **KLPL / Ex / SPC-12/001 Dated 14th June 2012.**

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 Equipment shall include the following:

Ex d IIB T4 IP67



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R.K. Paranjpe
R.K. Paranjpe - Director

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Karandikar Laboratories Pvt. Ltd.

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SCHEDULE

13. General Information:

The equipment is a VARIABLE AREA FLOW METER Model No.-R-300/D. The Body and covers are made of Aluminium alloy LM6 with magnesium content less than 0.1%. The cover is having a toughened glass cemented with Araldite 2011 Epoxy Paste Adhesive and supported by thin sheet of Bakelite and MS Circlip

The enclosure cover is fitted with enclosure forming a spigot joint and terminal box cover are fitted on body forming a threaded flame path and have "O" Ring made of Neoprene Rubber for providing weatherproofness at the end of the threads.

Warning cum name Plate of Aluminium is pasted on body by using Araldite 2011 sealant. The minimum wall thickness of the enclosure is 4 mm. Locking Screw of size M3 X 8 is provided on cover as a locking arrangement with body.

All Metric fasteners are made from High Tensile Carbon Steel (Class 8.8) as per ISO 965, having tensile strength of 800 Mpa. and are provided with appropriate spring washers. The distance around blind holes has been maintained as 5mm minimum.

Flow measuring electronic circuit and sensor are fitted inside the enclosure.

The gross volume of the enclosure is 1160 cc (Approx.) and net volume is 1046 CC.(Approx.)

Cable Entries

One cable entry of size M20 X 1.5P has been provided on terminal enclosure. The entry will meet the flameproof requirements of the standard when mated with Exd certified cable glands. Unused entries if any need to be plugged by appropriately Exd certified Stopping plugs only.

14. Model Designation:

Model. Number	Product	Rating
R- 300 / D	Variable Area Flowmeter Enclosure	9-24 VDC, 4-20mA

15. Temperature Class:

The requested ambient temperature is -20°C to +40°C while the maximum process temperature is 120°C as specified by the customer. Temperature rise tests conducted in accordance to clause 26.5.1 of IS/IEC60079-0:2004 indicate a temperature rise qualifying for T4 temperature class.

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16. Electrical Rating:

Flow Measuring Electronic circuit and sensor are designed to work at a current of 4-20mA and voltage of 9-24 VDC.

17. Drawings:

Number	Sheet	Rev.	Date	Description
SC/2012/5a	1 of 3	1.6	08.04.2012	VARIABLE AREA FLOWMETER ENCLOSURE MODEL – R-300/D
SC/2012/5b	2 of 3	1.6	08.04.2012	VARIABLE AREA FLOWMETER ENCLOSURE MODEL – R-300/D
SC/2012/5c	3 of 3	1.6	08.04.2012	VARIABLE AREA FLOWMETER ENCLOSURE MODEL – R-300/D

18. Special Conditions of Safe Use:

- Manufacturer has maintained more stringent gaps than those specified by the standard. User to refer to manufacturer before carrying out any repairs to the enclosure

19. Routine Tests:

- The enclosure has not been subjected to 4 times overpressure test and hence manufacturer needs to conduct routine pressure test at **11.0 bar** on the Flow Meter housing in accordance with clause 16.2 of IS / IEC 60079 -1: 2007.

END OF DOCUMENT



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