



KARANDIKAR LABORATORIES

Gas Testing for Non-Sparking Ex “nA” and Increased Safety Ex”e” Machines:

In what could be deemed as an important development, **Karandikar Laboratories Pvt Ltd**, becomes one of India's first Test Laboratories to have developed Special Electrical Testing facility for **Non-Sparking Ex ‘nA’** and **Increased Safety Ex ‘e’** Machines.

Set-up and working under direct guidance of Baseefa, UK, approved by **(PESO)** Petroleum & Explosive safety Organization, Nagpur and **(BIS)** Bureau of Indian Standards, KLPL can now providing an accessible yet authoritative testing services.

What do the latest standards require?

The latest IS / IEC standards lay down, construction, test and marking procedures for Rotating Electrical Machines with special emphasis on risk assessment and gas environment tests for rotor and stator designs.

Depending on the risk factors identified in the assessment tables, testing may have to be performed separately for rotors and stators. Alternatively machine could be constructed so as to allow special measures to be employed such as use of space heater, and / or special measures like provision of pre start ventilation / purging.

Keeping in view the above test requirements, KLPL have developed Test Facilities for:

1. **Steady State Ignition Test** (IS/IEC 60079-7(Cls 6.2.3.1.3) & [IS/IEC 60079-15: 2005 Cls.33.14.2.3]
2. **Impulse Ignition Test** [IS/IEC 60079-7 (Cls 6.2.3.1.4) & [IS/IEC 60079-15: 2005 Cls. 33.14.2.4]
3. **Ignition tests of high voltage machines** (Cls. 33.14.1.1) of [IS/IEC 60079-15:2005 & Cls. 6.2.3.2 of IS/IEC 60079-7: 2006]

Possible Advantages:

- A possible alternative towards performing these tests involves, in the majority of cases, equipping the motor with provision for **pre-start ventilation**. This means investing in a higher capacity air compressor, piping, and a ventilation control unit. It also requires an additional operation – ventilation – every time the motor is started.
- Indian Motor Manufacturers can now offer Increased Safety, Ex “e” Machines in line with the latest requirements of IS/IEC standards.

Most importantly, this development would pave the way in ensuring compliance with safety requirements, since testing is the only way to ensure that equipments are really safe.

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