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Bharat Heavy Electricals Limited, Bhopal
A.C. MACHINES ENGG. DIVISION

Annexure - I to PI No. 240430668

Specification for EEx'p' System for Purge & Leakage Control
of Clean Air Inside Pressurized Enclosure

Description of Motor

Motor for hazardous area Zone-1/2, Gas Group IIC, Temp. Class T3 as per Standard IS/ IEC:60079-2.

Ambient Conditions

Ambient temperature : 55°C (Max.)
Humidity : 90% (Max.)

Pressurization Parameters (Adjustable)

- Duration of purge cycle : 15.0 - 60.0 minutes (pre set 20 minutes)
- Nominal purge rate : 25 to 120.0 lps (pre set at 100 lps)
- Minimum enclosure overpressure : 0.8 - 25 mbar (pre set at 0.8 mbar)
- Nominal leakage rate : 1 to 50.0 lps (pre set at 15 lps)
- Max. enclosure pressure : 10 - 25 mbar (pre set at 15 mbar)

Parameters Available on Display Unit

- Elapsed purge time
- Cabinet / enclosure pressure
- Set values of other parameters

Parameter of available Instrument Air

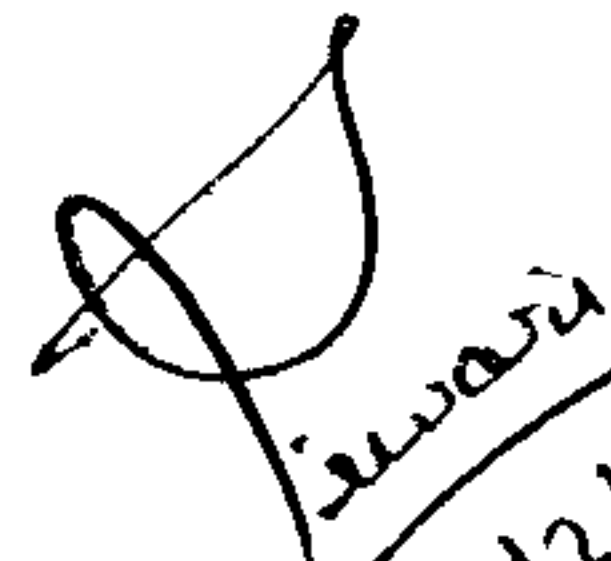
- Nominal air inlet pressure available : 5.0 bar
- Minimum air inlet pressure : 3.0 bar
- Design pressure of air system : 10.0 bar

Interface between Air System, EEx'p' System & Motor

- Air inlet flange size to EEx'p' system : Flange R 1 1/2"
- Air outlet to motor : R 1" internal
- Power supply to EEx'p' system : 110 V AC, 1ph, 50 Hz with UPS

Scope of Supply (Each System)

- Pressurization Control System with minimum hazardous protection of all electrical components (including connection boxes and EEx'p' system enclosure) should be EEx'd' as per IS/IEC:60079-1 and suitable for operation in Zone-1/2, Gas Group IIC.


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- Outlet Valve (Pneumatically operated)
- Contacts -
 - 1 No. for 'Ready to Start' with complete redundancy
 - 1 No. for 'Purge in progress'
 - 1 No. for 'Purging successfully ended'
 - 1 No. for 'Purge failure'
- Pressure Regulator with Gauge for inlet pressure
- Air Filter at inlet to EEx'p' system for suspended particles of size greater than 5 microns
- Air flow Meter at inlet
- 4 Nos. Brass Nipples for connection to measurement points of cabinet pressure & purge flow pressure
- Mating Flange, Gaskets and necessary hardware for Air Inlet Flange.

Documents and Certificates

- 10 copies of Catalogue and O&M Manual with offer
- The certificate of compliance to relevant IS / IEC for use of Pressurization System in Zone-1, Gas Group IIC, Temp. class T3 hazardous area from Statutory Agencies like PTB / ATEX, CIMFR / CCOE along with delivery.
- The certificate of factory testing as per relevant standards and type test approval from Statutory Agencies at order stage.

J. J. J.
20/3/14

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