

Vacuum Dewpoint Module (SDAS multi compatible)



Vacuum Drying

Scotia have developed an instrumentation package capable of monitoring and recording the critical measurements required during Vacuum Drying of pipelines and spool pieces.

The unit consists of a Vacuum Dewpoint Module (VDM) coupled with a Scotia Data Acquisition System (SDAS).

Since all measurement devices are Intrinsically Safe and are linked to the controller outside the zoned area via Zener barriers, the measurement unit could be used in a zone 0 area.

The unit is housed in two enclosures with all interconnecting leads, controls and 17" flat screen monitor. The supplies for the sensors are provided from the SDAS and the input voltage is universal and filtered.

The package is contained in three transit cases, comprising a control unit, a dew point unit and all reels, cables, transmitters and measuring equipment required for the various configurations.

The software is a Scotia Instrumentation Ltd database solution.



The main parameters monitored during Vacuum Drying are:

- Pressure in the range 0-1600mbarA in three stages to10mbarA FS.
- Dewpoint in the range -80 + 20°C
- Ambient temperature -20 + 80°C
- Subsea temperature -10 + 40°C (optional)



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Specifications

VDM

Supply	Derived from the main supply.
Type	Panametrics MTS5
Sensor	Aluminium oxide with thermistor.
Range	-110°C to +60°C
Accuracy	± 2°C from -65°C to + 60°C ± 3°C from -110°C to - 66°C
Repeatability	± 0.5°C from -65°C to + 60°C ± 1.0°C from - 110°C to - 66°C
Temperature Accuracy	-30°C to + 70°C +or- 0.5°C
Analogue output Resolution	4-20mA = -80°C to +20 °C dp +or- 0.5%

Transmitters

Vacuum	Druck PTX 600 series
Range	1) 1.6 barA 2) 250 mbarA
Accuracy	0.08% FS (eg 250mbar T'mitter at1mbar accuracy is 0.2mbar)
Safety rating	Certified to EEx ia gas group IIC/T4
Vacuum (very low pressure)	Baratron 430 transmitter range10 mbarA
Accuracy	0.5% of reading. (eg at 1mbar accuracy is 0.005 mbar)
Accuracy	0.1% FS
Temp. Effect	0.02% of span per °C
Safety rating	Certified to EEx ia gas group IIC
Barriers	Zener Transmission barriers/ Galvanic barriers.

SDAS

Input Sensor	as above
Excitation voltage	24V fused @ 125mA
Temperature probe	Pt100 (4 wire)
Temperature resolution	0.1°C
Temperature accuracy	0.2°C
Logging interval	One second and upwards
Uncertainty in measurement	Sensor + 0.0001%
Resolution	One part in 60000
Monitor	17", LCD.
Keyboard	PS/2
Mouse	PS/2
User interface	Two x USB One x Fire wire
Alarm Option	Internal voltage free contact and socket.
Input Voltage	90 to 264Vac, 50 or 60Hz
Input Current	2.1A @ 110Vac, 1.1A @ 230Vac
System operating temperature	-10°C to +40°C
Internal cooling	Constant positive airflow.
Case size	Width 320 Height 180 Depth 430
Weight	6.7kg

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