



P9235

SPECTROANALYSER

APPLICATIONS

- ◆ Measurement of trace amounts of nitrogen in high purity argon production and user systems
- ◆ Quality control of high purity/ultra high purity argon cylinders

FEATURES

- ◆ 0-100 mV and 4-20 mA recorder outputs
- ◆ High and low level alarm contacts
- ◆ Analyser electronic self check facility
- ◆ Design eliminates background interference

DESCRIPTION

The Cussons Spectroanalyser 3 has been developed to measure low concentrations of nitrogen as an impurity in certain rare gases, and has found particular applications with high purity argon. The instrument has ranges of both 0-10 & 0-100 vpm with a sensitivity of less than 1 vpm.

The analyser is based on a specially designed Pyrex quartz ionisation cell in which the sample gas flow is ionised in a high voltage alternating electrical field with consequential emission of light. A narrow spectral band corresponding to one of the specific light emission wavelengths of nitrogen is filtered by a narrow band-pass composite interference filter and then detected by a photomultiplier tube.

Features of the design include voltage stabilisation of the ionisation cell and a light chopper coupled with a phase detection amplifier to eliminate background and other interfering signals. An adjustable high and low alarm circuit is incorporated which will trigger if the nitrogen content of the sample gas transgresses the values set by the user. Analogue outputs are provided.

The instrument is of modular design, the chopper, filter, photomultiplier tube and the optical switch being located in a light-tight aluminium housing forming part of the optical assembly.

TECHNICAL SPECIFICATION

Ranges:	0-10 vpm and 0-100 vpm Nitrogen in Argon
Display:	Analogue meter
Limit of detection:	Less than 1 vpm
Sensitivity:	Less than 1 vpm
Zero drift:	Less than 0.1 vpm per °C
Cycle/response time:	Continuous/90% within 60 secs
Accuracy:	Depending on calibration gas available as it is a comparative method that is employed
Sample flow rate:	2 litres per minute
Sample inlet temperature:	10°C minimum, 30°C max.
Sample inlet pressure:	Optimum 0.35 to 1.05 bar g; maximum 3.5 bar g
Sample outlet pressure:	Maximum 0.15 bar g
Sample pipework:	6mm or 1/4 OD stainless steel and PTFE
Analogue output:	4-20 mA and 0-100 mV
Alarm contacts:	Adjustable high and low alarms with both normally open and closed voltage free contacts rated at 250V, 5A, AC non inductive
Electrical supply:	110/220V, 60 Hz or 220/240V, 50 Hz single phase
Dimensions & weight:	Suitable for 19" rack mounting 483mm wide, 500mm deep, 222mm high, 31 Kg nett