APPENDIX A – atmosFIR Product datasheet

Protea
technology leadership
in measurement solutions

PRODUCT DATASHEET: atmosFIR^{w}

atmosFIR^{w}

Wall-mounted multigas analyser for ambient air and process monitoring

AtmosFIR is the latest generation of gas analyser technology from Protea. The atmosFIR system improves upon previous FTIR technology and represents one of the most cost-effective and flexible analytical products on the market today.

atmosFIR® has been designed to give a complete measurement sysyem with embedded touchscreen controller. At the heart of atmosFIR® is a high-resolution, robust and proven FTIR spectrometer offering high signal throughput, low-noise and long lifetime of components. atmosFIR® has been developed to incorporate the latest improvements and advantages in technology, including:

- Low cost of ownership and maintenance
- Robust and light, including the latest in fabrication materials
- AtmosFIR combines an FTIR analyser with an in-built sampling system and embedded PC controller for a complete system.

These advantages come with the benefit of improved performance over existing products, due to the new small, robust, high resolution interferometer with low noise measurement. AtmosFIR is fitted with a sensitive DTGS detector, operating at ambient temperature without need for liquid nitrogen or other cooling. Protea continues to offer our powerful in-house software suite, training and support, so that the user is able to achieve the best performance out of the product. PLS algorithms offer great advantages over more traditional chemometrics.

Multi-component, multi-range FTIR gas analyser with embedded touchscreen controller

Measure 1000's of gases with single unit

No-limit on number of gas measurements at once, using powerful PLS algorithms

Data can be downloaded and re-analysed offline for new gases

Specific Applications for atmosFIR®:

- Ambient Air Testing
- Workplace Exposure Limit Measurement
- Hospital and Medical Department air testing
- Online Process Measurement
- Siloxane Measurements
- EX Installation for Flammable Gas monitoring

Hardware Specifications

Double-pivot interferometer with increased robustness. Permanently aligned optics, giving repeatable measurements and high light throughput.		
Resolution	1cm^{-1}, 2cm^{-1}, 4cm^{-1}, 8cm^{-1} typical resolutions, variable on application : 0.5cm^{-1} available as special	
Optics:	Zinc Selenide beam splitter (non-hygroscopic)	
Spectral Range:	485 - 8500cm^{-1}	
Reference laser:	Solid state laser (no scheduled maintenance required). Long lifespan (10 years) compared with HeNe laser	
Source:	Mid-IR source, with electronic stabilization for long lifespan	
Detector:	DTGS with signal sampling at 24-bit ADC	
Sample Cell:	Materials: Ni-coated Al cell. Proprietary alloy mirror substrate with multi-layer coating. Volume: 300ml Pathlength: 4.2m standard pathlength. 6m available as special Temperature: 40°C standard for ambient air. 60°C standard for process applications	
On-board Sampling system:	Pre-cell filter for extra protection against dust Automated Zero Purge valve, with flow control No need for separate pre-analyser sample conditioning box	Alarm relays Sample Signal Output 4-20mA outputs (optional)
Weight	24kg	
Dimensions	500 x 500 x 300	
Supply	100 - 250 V / 50-60 Hz	
Consumption	250W	

www.protea.ltd.uk

Call us on: +44(0)1270 872 000

PD-121 : October 2015

Protea Limited. 101 The Courtyard, Radway Green Venture Park, Radway Green, Crewe, Cheshire, CW2 5PR.