

## Technical Data Sheet: TDS 3A

### DIF 900 RTU - ACID GASES

This tube is designed for passively monitoring airborne acid gases such as Hydrogen fluoride, Hydrogen chloride, Nitric acid, Hydrogen bromide, Phosphoric acid and Sulfuric acid (HF, HCl, HNO<sub>3</sub>, HBr, HPO<sub>4</sub> and H<sub>2</sub>SO<sub>4</sub>).



**Description:** Acrylic tube fitted with green and white thermoplastic rubber caps. The colored cap contains the absorbent. A one-micron porosity filter is fitted to prevent particulate ingress.

The concentrations of fluoride, chloride, nitrate, bromide, phosphate and sulfate ions are quantitatively determined by Ion Chromatography with reference to a calibration curve derived from the analysis of standard solutions (ISO Accredited Methods).

Suitable for carrying out spatial or localized assessments of Acid Gases in ambient air or workplace monitoring.

**Tube Dimensions:** 71.0mm length x 11.0mm internal diameter.

**Recommended Exposure Periods:** 2 –4 weeks.

**Air Velocity:** Influence of wind speed <10% between 1.0 and 4.5 msec<sup>-1</sup> (based on original data). No influence when filter is fitted.

**Storage:** Store in a dark, cool environment preferably between 5-10°C.

**Shelf Life:** 12 weeks from preparation date.

**Desorption Efficiency:** d = 0.98 (determined using N.I.S.T. Standard Analytes).

**Limit of detection:**

- HCl – less than 3.5  $\mu\text{g m}^{-3}$  over a 4-week exposure period.
- HF – less than 0.5  $\mu\text{g m}^{-3}$  over a 4-week exposure period.
- HBr – less than 2.0  $\mu\text{g m}^{-3}$  over a 4-week exposure period.
- H<sub>3</sub>PO<sub>4</sub> – less than 2.5  $\mu\text{g m}^{-3}$  over a 4-week exposure period.
- NO<sub>3</sub> – less than 2.0  $\mu\text{g m}^{-3}$  over a 4-week exposure period.
- H<sub>2</sub>SO<sub>4</sub> – less than 2.0  $\mu\text{g m}^{-3}$  over a 4-week exposure period.

**Specific values available upon request.**

**Analytical Expanded Measurement Uncertainty:** Available upon request.

**Working range:** 4 – 200  $\mu\text{g m}^{-3}$ .

**Relevant Standards:** BS EN 13528 Parts 1-3 : 2002/3.

**Special Factors:** Potential interference from acidic aerosol particles.