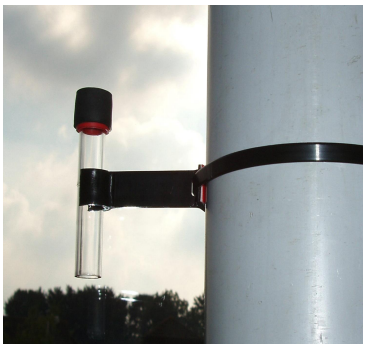
Technical Data Sheet : TDS 2

DIF 150 RTU - NITRIC OXIDE (NO)

This tube is designed for passively monitoring gaseous airborne Nitric Oxide



The NO/NO2 diffusion tube system consists of a two tube pack.

1. A conventional Nitrogen Dioxide tube containing a TEA/Water absorbent in a closed red cap.
2. A Nitrogen Dioxide tube where the TEA/Water absorbent grid is fitted into a red open cap. Placed onto this open cap is a black plastic cap containing oxidising granules.

Both tubes are exposed in parallel by removing the white plastic cap and placed in the monitoring position. During exposure, nitrogen oxide (NO /NO2) is taken up into the tube, the NO passes through the TEA/ Water absorbent into the oxidising granules and the NO2 is absorbed by the TEA/Water.
The NO is oxidised to NO2 and is back diffused into to the TEA/Water. The conventional tube just absorbs NO2.
The concentrations of Nitrite ions and hence NO2 chemically adsorbed are quantitatively determined by U.V. / Visible Spectrophotometry with reference to a calibration curve derived from the analysis of standard nitrite solutions.

When analysed both tubes are measured for weight (ug) of Nitrate collected on each tube, using the standard formula the concentration NO2 is calculated.. The difference between the two concentrations is reported as Nitric Oxide (NO)

Tube Dimensions : 71.0mm length x 11.0mm internal diameter
Absorbent : 20% Triethanaolamine / DeIonised Water

Recommended Exposure Periods : 2 –4 weeks

Uptake Rate : 68.8 x 10^{-6} m^3 hr^{-1}

Air Velocity : Influence of Wind Speed < 10% between 1.0 and 4.5 $msec^{-1}$ (* based on original data)

Storage : Store in a dark, cool environment between 5-10 degrees centigrade

Shelf Life : 12 weeks from preparation date

Desorption Efficiency : d = 0.98 (determined using N.I.S.T. Standard Analytes)
L.O.D. : 0.11ppb (0. 21ugm^3) over a 2 week exposure period

Relevant Standards : BS EN 13528 Parts 1-3 : 2002/3 BS EN 838 :1996

Special Factors : Potential interference from Nitrous Acid , Peroxy Acetyl Nitrate, which could increase levels of nitrate.