410 - NH_3 to NO Converter module

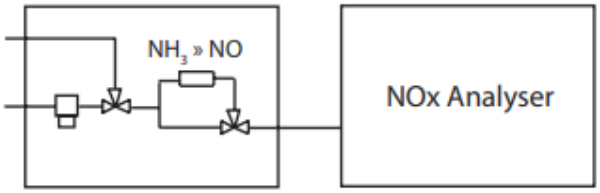
In addition to reference method gas analysers, Signal Group also manufactures a full range of sample handling, calibration and test instruments; making Signal Group a one-stop-shop for emissions monitoring equipment.

Ammonia measurement overview

It is possible to measure ammonia, NH_3, using a variety of detection techniques. As NH_3 is highly soluble in water, cold techniques such as infra-red measurement are generally unsuitable for hot applications. In cooling and drying a heated a sample, the NH3 will readily be lost during the sample conditioning process. For this reason, Signal Group would recommend the use of a high efficiency converter of NH_3 to NO in conjuction with a heated Chemiluminescence detector. The design in stainless steel utilised in Signal Group's ammonia converters have an efficiency of at least 80%.

410 Ammonia converter

The Signal Group 410 Converter uses stainless steel to convert NH_3 and NO_2 to NO. This can be used with an NO analyser to measure NH_3+NO_2+NO. If this converter is then bypassed the analyser can be used to measure NO, or ideally with a NO_2 converter to measure NOx (NO+NO_2), and from this value for NH_3, NO_2 and NO can all be derived. In this arrangement the selection of converter and bypass is operated via a switch on the front panel and the NH3 value calculated manually.



This setup is mainly used in laboratory type applications where levels of the gases being measured are fairly stable. As it can take up to several minutes to get an accurate reading for each measurement, to then derive the individual values for NH_3, NO_2 and NO, this method is not very suitable for fast changing concentrations. It does not provide true real-time measurement. However, it is the simplest and most cost-effective solution for hot measurement of NH_3.

SPECIFICATION

RANGE:
0-10,000ppm

EFFICIENCY:
80-90%

CONVERTER MATERIAL:
Platinum or Alumina

CONVERTER TEMPERATURE:
750ºC

***SAMPLE SYSTEM TEMPERATURE:**
200ºC

HEATED FILTER TYPE:
Quick release via rear panel. Hydrocarbon free. Fibreglass 0.5 micron.

CALIBRATION GAS:
Appropriate level of NH3 in balance of air not nitrogen.

MAINS VOLTAGE:
220V/240V/50Hz
110V/120V/60Hz

POWER:
750 watts

DIMENSIONS:
19" rack, 3U high, 133(h) x 190(w) x 490(d) mm

WEIGHT:
10kg

**Sample System comprises - heated filter and NH_3 calibration solenoid valve.*

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