

Application Data Sheet



System Gas Chromatograph

N₂O/CO/CO₂/CH₄ analysis system (ECD/FID) Nexis GC-2030NCCC2 GC-2014NCCC2

This method provides for the determination of nitrous oxide (N2O), in atmospheric air, by gas chromatography (GC) with Electron Capture Detector (ECD) using Porapak-N and HayeSep-D packed column. A total of 5 valves and 7 columns are used in this GC system. Sample is introduced into two sample loops. In the first channel, N2O is separated by the HayeSep-D column and detected by ECD. In the second channel, the first Porapak-N column is a pre-column used to cut the above C2 compounds. The second Porapak functions to separate CO/CH4 and CO2. The final separation of CO and CH4 are performed by a MS-13X column. CO2 moves through the Porapak-Q and bypasses the Mol-Sieve 13X. CO, CH4 and CO2 are directed to a methanizer and are reduced to CH4 by means of nickel catalyst and detected by flame ionization detector (FID). The system includes LabSolutions GC workstation software. Since large amount of O2 gas affects life time of methanizer catalyst, O2 gas needs to be removed by additional 6 port valve.

Analyzer Information

System Configuration:

Five valves / seven packed columns with one ECD detector and one FID detector

Sample Information: N2O, permanent gas

Concentration Range:

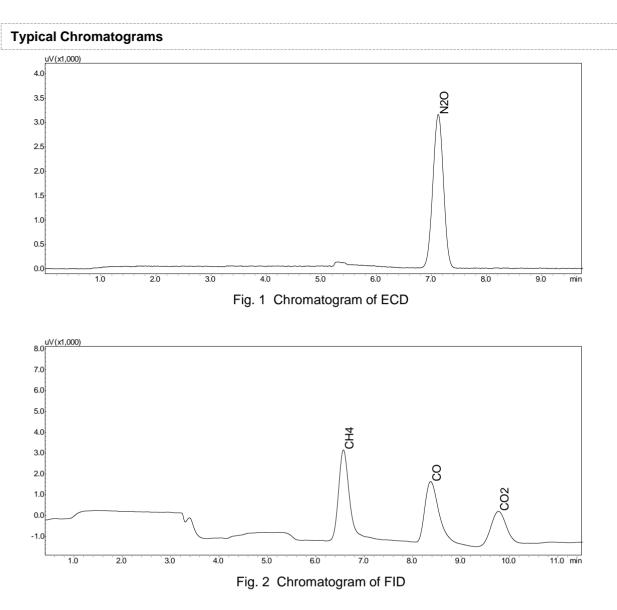
No.	Name of Compound	Concentration Range		Detector
		Low Conc.	High Conc.	Detector
1	CH3COCH3	5ppm	500ppm	FID
2	Propylene aldehyde	5ppm	500ppm	FID

Detection limits may vary depending on the sample. Please contact us for more consultation.

System Features

· Versatile software easy GC system operation

- •One ECD/ one FID channel
- Good repeatability





Shimadzu Corporation

www.shimadzu.com/an/

For Research Use Only. Not for use in diagnostic procedures. The content of this publication shall not be reproduced, altered or sold for any commercial purpose without the written approval of Shimadzu. The information contained herein is provided to you "as is" without warranty of any kind including without limitation warranties as to its accuracy or completeness. Shimadzu does not assume any responsibility or liability for any damage, whether direct or indirect, relating to the use of this publication. This publication is based upon the information available to Shimadzu on or before the date of publication, and subject to change without notice.

First Edition: November, 2017