novaCHROM 2000

Gas Chromatograph

Continuous Analysis of Ultra High Purity Argon to ppb levels

Following on from the success of the AGC Series 100 Argon GC, AGC Instruments introduces the new NovaCHROM 2000 GC. The NovaCHROM 2000 is a culmination of years of experience in high sensitivity Gas Chromatography specific for the Analysis of impurities in an Argon Matrix Gas. It utilises the latest advanced technologies to provide our customers with the precise results they require with the ease of use and support features they expect.

The NovaCHROM 2000 uses an industry proven method of analysis for the quality control of Argon Gas: the Argon Discharge Detector (ADD). Measured Impurities to ppb levels are: H_2, O_2, N_2, CH_4, CO and CO_2 . Minimal training is required as the interactive touch screen uses an easy-to-use user interface for guided functionality. This enables the operator to achieve guaranteed applications with ease and ensures that the NovaCHROM 2000 GC provides a top class service to you at all times.

1/8" Stainless Steel VCR compression fittings are combined with electropolished 1/16" stainless steel tubing throughout. Vici Valco high purity rotary valves are enclosed in a purge box to prevent air leakages. This guarantees a contamination free environment that will provide excellent stability, sensitivity and a long working life.

Features

- Argon Discharge Detector (ADD)
- Sensitivity to low ppb levels
- Accuracy to ±0.5% full scale
- Quick Detector Response time of < 0.5 seconds (90%)
- Large Colour 6.5" LCD Touch Screen
- Long Term Stability & Sensitivity
- Fully Automated Use
- Electropolished Stainless Steel Tubing
- Integrated Configurable Alarms System
- Electronic Pressure Control of Carrier Gas
- Packed Columns for Maximum Sensitivity
- Independent Column Ovens with individual Temperature Control
- Integrated Diagnostics System
- Full Control by TrendVision PLUS Software
- Increased Connectivity with both USB, RS-232 and RS-485
- Drop Down Front Panel for easy access to electronics

AGC INSTRUMENTS
Gas Chromatography since 1965

www.agc-instruments.com

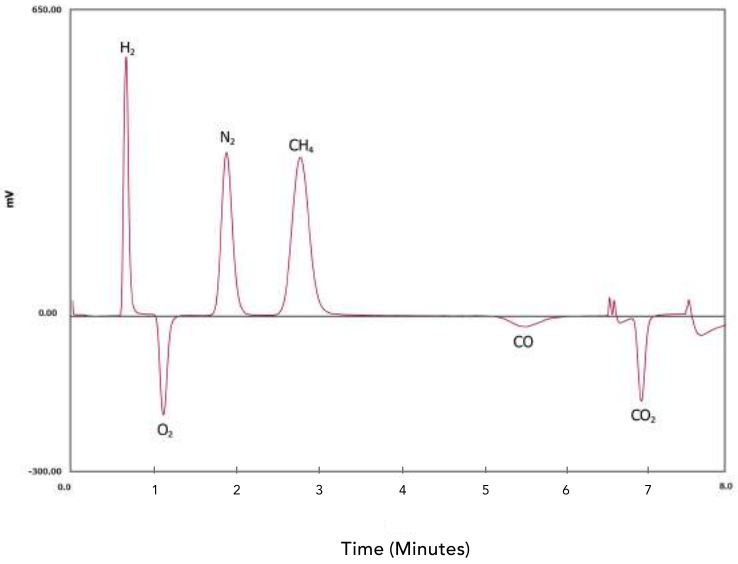
Principle Of Operation

The NovaCHROM 2000 Gas Chromatograph uses a high energy electromagnetic field through which the gas passes, thus producing an ionising effect. This process transforms the gas to a plasma state and a by-product of this is the emission of photons of light. As the sample component elutes from the column, the light intensity is altered and this light emission can be monitored by a sensitive, tuned photo-diode. The output from the photo diode is converted to a millivolt signal which can be measured on a data capture system, such as the AGC TrendVision PLUS Chromatography Software.

The large colour touch screen provides the interface for a fully automated system that is easy-to-use with a depth of functionality. It offers excellent control of the many features which enable the precise monitoring of your application. With a quick start up time, fast detector response and superior attributes such as the Electronic Pressure Control (EPC) System** for sample and carrier gases, operation of the NovaCHROM 2000 is swift, precise and straightforward. Moreover, the packed columns with their independent column ovens and individual temperature controllers also maintain exceptional stability, accuracy and repeatability.

Servicing and maintenance is trouble-free with a drop-down front panel for easy access to the electronic components and our unique column infrastructure, which can regenerate in-situ, providing you with seamless operations. Using Argon as its carrier gas, coupled with low gas consumption, the NovaCHROM 2000 provides an economical platform with a low cost of ownership and long life span.

The Integrated Diagnostics and Configurable Alarms Systems pinpoint any areas which require attention to allow swift identification and resolution of any process issues. With these features, the NovaCHROM 2000 can operate unattended for long periods of time. This makes this GC Platform very versatile and robust to meet the exacting needs of your operation. Furthermore, communication to a Control Room or DCS is made easy via 4-20mA, Profibus, Modbus and RS-485 protocols.



Sample Chromatogram

TrendVision PLUS Software

TrendVision PLUS is the most recent release of the well recognised Chromatography Data Capture Software from AGC Instruments. Specifically designed for this market, it has been developed following careful consultation with our customers so that it is easy to use and set up.

Rugged industrial level modular and scalable hardware is used with an Embedded Windows Operating System. Once your system is installed, usage in the daily environment is very easy with minimal training required. It encompasses all the important functions required in this demanding gas analysis environment, enabling many standard features to be easily applied with the end products of excellent chromatography results and straightforward reporting.

TrendVision PLUS provides a unified chromatography method whereby all settings are contained in a single method, including event tables, calibration tables and integration settings. In addition, this software enables our GC systems to run in a fully unattended mode. It can also take control of our GC systems and automatically perform the required analysis using the pre-programmed methods. This is coupled with the ability to send results back to a DCS or control room using fieldbus protocols or traditional 4-20 mA signalling. If On-Line operation is not required then the software runs equally well in its Stand-Alone mode with the same functionality and ease of use.

Please consult with our specific brochure for this Software.

Typical Applications:

- Air Separation Units
- Industrial Gas Production
- N4, N5, & N6 Grade Argon Production
- Aerospace & Aviation Industry
- Semiconductor Industry
- Nuclear Industry
- Shielding Gases
- Glass Industry

Specification

Detector	Argon Discharge Detector (ADD)
Repeatability	< 0.5 % of range
Linearity	10^3
Accuracy	±0.5% full scale
Sensitivity	See Table Below
Temperature Range	Operating: 30-45°C Ambient: +10°C to +30°C
Typical Range	0 - 10 ppm, (Other Ranges Available upon Request)
Detector Response Time	< 0.5 seconds (90%)
Noise	< ± 0.005% Full Scale
Drift (24 Hour)	< 40 ppb
Warm up Time	1 Hour (Typical)
Power	230 V AC / 50 Hz or 115V AC / 60Hz, 300W
Configurations	19" 5U Rack, Bench Top or Wall Mount
Dimensions	Rack/Bench: 19" (483mm) (W) x 5U (219mm) (H) x 22" (564mm) (D)
Weight	25 kg
Interface	6.5" LCD Colour Display with LED backlight and resistive touch screen
Carrier Gas	7 Bar (700 KPa) pressure, Ultra high purity N6.0 Argon (Ar), 38ml/min flow
Electronic Gas Control **	5-10 Bar input: Controls Carrier Gas Output from 0-5 bar
Sample Gas	10 - 500 ml/min flow (200ml/min flow recommended)
Actuator Gas	3 Bar (300 KPa) pressure
Valves	Vici Valco high purity rotary valves enclosed in purge box
Standard Fittings	1/8" Stainless Steel VCR compression fittings with 1/16" stainless steel tubing
Ovens	Independent Column Ovens with individual temperature control (Regeneration in-situ)
Alarms	Detector, System, Flow, Maintenance
Outputs	TrendVision PLUS provides mA or Profibus/Modbus and RS - 485 connectivity

Sensitivity *

H_2	O_2	N_2	CH_4	CO	CO_2
10 ppb	20 ppb	15 ppb	15 ppb	200 ppb	25 ppb

*Other Applications Possible
** Subject to system design/configuration

Company Profile

AGC Instruments

AGC Instruments is a leading manufacturer of Gas Analysis Solutions to all users requiring a Quality Control or identification of their gas stream. We have over 50 years experience in providing our customers with their "Total Gas Analysis Solutions". We work closely with all customers to ensure they obtain the analytical solution that meets their needs and a system that is easy to use and understand. All AGC distributors are extremely experienced and factory trained to the highest standards, offering you a complete after sales support service.

The wide range of Detectors available can be customised to measure unique gas streams and we place an emphasis on the continuous development of our analytical solutions. Our worldwide reach with strategic partners ensures that you have peace of mind and after sales care that are important to your operations.

AGC INSTRUMENTS
Gas Chromatography since 1965

nqa ISO 9001 Registered Quality Management
UKAS MANAGEMENT SYSTEMS 015

Aftersales Care

AGC Instruments are committed to providing and maintaining quality systems from customer liaison to technical knowledge through to System Design and Delivery. We believe that our After Sales Support to the customer is one of the most important services we can offer. Each Distributor has been carefully selected and trained to ensure our customers receive the best possible service. Furthermore, online customer support and direct support are available to deliver a comprehensive support package.

Range of Detectors

Discharge Ionisation Detector	DID	1000
Argon Discharge Detector	ADD	2000
Flame Ionisation Detector	FID	3000
Thermal Conductivity Detector	TCD	4000
Flame Photometric Detector	FPD	5000
Photometric Ionisation Detector	PID	6000
Electron Capture Detector	ECD	7000

For further information please contact:

AGC Headquarters
Unit 2, Shannon Free Zone West,
Shannon, Co. Clare, V14 PX03, Ireland
T: +353 61 471632 F: +353 61 471042
E: sales@agc-instruments.com

www.agc-instruments.com