

nCHROM 2000

GAS CHROMATOGRAPH

Continuous analysis of ultra-high purity Argon to ppb levels



The ISATEC nCHROM 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 . The interactive touch screen uses an easy-to-use user interface for guided functionality.

The instrument 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.

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.

KEY FEATURES:

- Argon Discharge Detector (ADD)
- Sensitivity to low ppb levels
- Accuracy to $\pm 0.5\%$ 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

TYPICAL APPLICATIONS:

- ✓ Air Separation Units
- ✓ Industrial Gas Production
- ✓ Semiconductor Industry
- ✓ N4, N5 and N6 Grade Argon production

TECHNICAL SPECIFICATIONS

Detector	Argon Discharge Detector (ADD)
Repeatability	< 0.5 % of range
Linearity	10 ³
Accuracy	±0.5% full scale
Sensitivity	Gas dependent
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 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