

nCHROM 5000

GAS CHROMATOGRAPH

ppm to low ppb SULPHUR analysis using a Flame Photometric Detector



The ISATEC nCHROM 5000 GC contains the latest GC technology based around the industry proven double **Flame Photometric Detector (FPD)**. *This sulphur selective detector is ideal for characterising and quantifying a wide range of low-level sulphur species in gaseous streams.*

The ISATEC nCHROM 5000GC detects and identifies individual sulphur species as opposed to total sulphur values and there is no interference from matrix gases which occurs in spectrometry analysers. Multiple column ovens, with heated valves to eliminate cold spots, are combined with passivated tubing to maximise sensitivity and achieve ultra-low ppb levels. As a result, quick analysis times are achieved of between one to five minutes typically.

All systems are constructed using pipework not exceeding 1/8" in diameter and using only Swagelok® stainless steel fittings. The flow paths are contamination free and allow a fresh sample to reach the detector with speed. This is coupled with the ability to purge the valves and column ovens with an inert gas. Teflon tubing and heated lines are employed where necessary as well as flame-off and flow restrictor safety features.

The ISATEC nCHROM 5000 GC can be used with Natural Gas and ATEX versions are available upon request.

KEY FEATURES:

- Double Flame Photometric Detector (FPD)
- Ideal for the analysis of Sulphurous species such as H₂S, COS, CS₂, Mercaptans and Sulfides
- Sensitivity to low ppb levels
- Accuracy Example: 0.01 ppm of 2.55ppm H₂S in Natural Gas
- Fast Detector Response: < 0.5 seconds (90%)
- Versatile & Robust Detector design
- Cost Effective and Reliable
- Electropolished Stainless Steel Tubing passivated for Sulphur
- Teflon Tubing & Heated Lines depending on application
- Packed, Micro-Packed & Capillary Columns for Maximum Sensitivity
- Multiple Column Ovens with individual temperature control, heated gas sampling & column switching valves to eliminate cold spots
- Electronic Pressure & Flow Management System
- Long Term Stability & Sensitivity
- Automated use with large colour 6.5" LCD Touch Screen
- Integrated Configurable Alarms System
- 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 during maintenance
- Built-in Safety Features such as Flame-Off Protection...etc.

TYPICAL APPLICATIONS:

- ✓ Energy (Natural Gas/LPG)
- ✓ Food and Beverage
- ✓ Process Control
- ✓ Special Gases Industry (UHP Gases)
- ✓ Environment (Air Monitoring)

TECHNICAL SPECIFICATIONS

Detector	Double Flame Photometric Detector (FPD)
Sensitivity	< 20 pg S/sec for Thiophene (Sulphur Mode)
Linearity	10 ³ (Sulphur Mode)
Accuracy Examples	0.01 ppm Standard Deviation on 2.55 ppm H ₂ S in Natural Gas 0.02 ppm Standard Deviation on 1.62 ppm COS in Natural Gas
Minimum Detectable Level	< 10 ppb
Range	ppb to low ppm (Application Dependent)
Detector Response Time	< 0.5 seconds (90%)
Warm up Time	1 Hour (Typical)
Temperature Range	Operating: 30°C to 45°C Ambient: 10°C to 30°C
Power	230 V AC / 50 Hz or 115V AC / 60Hz, 300W
Configurations	19" 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	Nitrogen (N ₂), Helium (He), Argon (Ar): <5 ppm H ₂ O free from CnHm 20-40 mL/min
Support Gases	H ₂ N5.0 or N6.0 (Application dependent) Synthetic Air or Purified Air (THC free)
Sample Gas	500 ml/min flow (200ml/min flow recommended)
Actuator Gas	Clean Dry Air @ 4.5 Bar (450 KPa) pressure
Electronic Gas Management	5-10 Bar input: Controls Carrier Gas Output from 0-5 bar
Valves	Vici Valco high purity rotary valves
Standard Fittings	1/8" Stainless Steel with Swagelok fittings
Output Signal	0-1 V
Columns	Packed, Micro-Packed and Capillary columns available
Ovens	Independent Column Ovens with individual temperature control (Regeneration in-situ)
Alarms	Detector, System, Flow, Maintenance, Temperature, Pressure
Outputs	TrendVision PLUS provides mA or Profibus/Modbus and RS - 485 connectivity