

nCHROM 3000

GAS CHROMATOGRAPH

%, ppm and ppb analysis using Flame Ionisation Detector (FID)



The ISATEC nCHROM 3000 GC uses the industry proven **Flame Ionisation Detector (FID)** for the measurement of Hydrocarbons in a various gas streams. *This detector allows measurements from % down to ultra-low ppb levels.* The presence of hydrocarbons is detected by burning the sampled gas in an air-hydrogen flame. Burning just pure hydrogen with air produces only trace amounts of ionisation. On the contrary, the presence of hydrocarbons in the sampled gas, when burnt with an air-hydrogen mix, causes high levels of ionisation. The ionisation occurs a result of the carbon atoms present in the sampled gas. The level of ionisation is proportional to the number of carbon atoms within the sample.

With a quick start up time and fast detector response, operation of the ISATEC nCHROM 3000 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 are 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. The minimal gas consumption provides an economical platform with a low cost of ownership and long-life span.

KEY FEATURES:

- Flame Ionisation Detector (FID)
- Electronic Pressure & Flow Management System
- Sensitivity to ppb levels
- Accuracy to $\pm 0.5\%$ Full Scale
- Fast Detector Response: < 0.5 seconds (90%)
- Ideal for analysis of Hydrocarbons
- Versatile & Robust Detector design
- Cost Effective and Reliable
- Large Colour 6.5" LCD Touch Screen
- Long Term Stability & Sensitivity
- Fully Automated Use
- Electropolished Stainless Steel Tubing
- Integrated Configurable Alarms System
- Packed, Micro-Packed & Capillary 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 during maintenance and servicing

TYPICAL APPLICATIONS:

- ✓ Air Separation Units
- ✓ Food and Beverage
- ✓ Natural Gas Analysis
- ✓ Methane and Non-Methane Applications
- ✓ Refineries

TECHNICAL SPECIFICATIONS

Detector	Flame Ionisation Detector (FID)
Sensitivity	< 10 ppb of CH ₄
Linearity	10 ⁶
Accuracy	±0.5% full scale
Temperature Range	Operating: 30-45°C Ambient: +10°C to +30°C
Range	< 10 ppb to 100% (Application Dependent)
Detector Response Time	< 0.5 seconds (90%)
Noise	10 µV maximum, depending on operating parameters
Warm up Time	1 Hour (Typical)
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): <5ppm H ₂ O free from C _n H _m 20-40mL/min
Support Gases	Air: 300 mL/min <5ppm H ₂ O H ₂ : 30mL/min <5ppm H ₂ O, C _n H _m <1ppm
Sample Gas	10 - 500 ml/min flow (200ml/min flow recommended)
Actuator Gas	Clean Dry Air @ 3 Bar (300 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