

## **Gas Chromatography Instrument Model Analyte 2900a**

Netel, specialist in Gas liquid chromatography for last three decades serving Indian and world markets for multiple Gas Liquid Chromatography applications. Industries covered are Pharmaceutical, Environment, Petrochemical, Research, Chemical, Agrochemicals.

Netel has introduced Latest version Advanced Gas Chromatography Model Analyte 2900A with Dual Flame Ionization Detectors and two nos. Split/Split-less injection ports. Electronic pressure controller (EPC) provides excellent performance with capillary columns. Each channel allows complete electronic pressure control that includes carrier gas, split adjustment & combustion gases namely hydrogen and air for flame ionization detector.

Specifications:

### **Column Oven:**

- Size: [H] 290 mm X [w] 280 mm, X[D] 160mm
- Volume: 13.8 Ltrs.
- Temperature: 5°C above the ambient temperature to 500 °C
- Ramp rate: 0.1 °C to 50°C per minute
- No. of ramps: 10
- Cooling rate: 300 °C to 50 °C within 7 minutes at 25 °C room temperature
- Temperature Gradient: 2°C max (on 200 mm Dia. Circumference, 40 mm from the sensor)
- Temperature Accuracy: +-1% of set value from 50 °C to 500 °C
- Heated Zones: 5 Independent Heated Zone up to 400 °C for individual control of Injectors, detectors, oven

### **Pneumatics:**

Electronic pressure controller (EPC) provides excellent performance with capillary columns. Each channel allows complete electronic pressure control that includes carrier gas, split adjustment & combustion gases namely hydrogen and air for flame ionization detector.

- Split /Split-less Injector: Pressure range 0 to 450 kpa. Constant Pressure or constant flow settable.
- Pressure program: Provided
- Correction Factor: Maintains the constant flow or average linear velocity during oven heating

**Injection System:**

- Two Split/split-less (capillary column) injectors. With constant pressure or constant flow mode and pressure program.
- Temperature range settable up to 400 °C. in the step of 1°C.

**Detectors:**

- Higher sensitivity flame ionization detector
- requires no makeup gas due to unique zero dead volume design Temperature range settable up to 400 °C. in the step of 1 °C.
- Dynamic range  $10^7$
- Sensitivity equivalent to 3pg C/sec of toluene/nonane.
- Polarization: --240 V DC.

**Display:**

- 80 Characters (20 X 4 lines) Vacuum Florescent Display.

**Keyboard:**

- 32 Keys for setting of the parameters & eight status LED. indications PC control communication with one RS 232.
- 4 External event control relay output.
- 2 Logic inputs and 2 logic outputs

**Features:**

- Advance electronics architecture based on latest micro controllers Injectors and Detectors settings
- Up to 8 Channel Programmable Pressure controllers, each allowing accurate and precise electronic pressure regulation for carrier gas, Hydrogen. Air and Split settings
- Designed for high level application in Pharma, Oil & Gas, Environmental, Agriculture, and Research
- PC controlled
- Gas Saver Capabilities
- Weight: Approximately 37 Kg

## **Gas Chromatography Instrument model Chromlite 3000M**

- NETEL Gas Chromatograph Model Chrome Lite GC 3000A with single Flame Ionization Detector, with one packed and one Split/ Split-less injection port.
- Electronic pressure controller (EPC) provides excellent performance with capillary columns.
- 3 Independent Heated Zones up to 400 °C for individual control of Injector, Detector and Oven.
- Higher sensitivity flame ionization detector requires no make up gas due to unique zero dead volume design.
- 32 Keys for setting of the parameters & eight status L.E.D. indications including oven ramp status.
- PC control communication with RS 232.
- Optional attachments, head space sampler & auto liquid sampler with CFR compliant chromatography integrator

## Gas Chromatography Instrument model Michro-9100

### Features:

- Modular GC
- Keyboard Control of GC
- Storage of ten methods for GC parameters
- Read a flow technique
- Keyboard control carrier gas switch over dedicated capillary injector
- Auto cooling by flap
- five ramps, six plateaus in single method
- Control of 2 external heated zones and 3 programmable relays
- Dual FID amplifiers
- Remote flame ignitor
- Dual fath TCD
- Auto zero facility
- Audible ready signal
- Protection circuit for column & TCD filament
- Choice of several detectors (FID, TCD, ECD, NPD, FPD ETC.)

### Column Oven:

- **Dimensions** : 25W x 15D x 35H cms
- **Volume**: 13 Litres
- **Temperature stability**:  $\pm 0.1^{\circ}\text{C}$
- **Operating Temperature**: Ambient to  $400^{\circ}\text{C}$  in
- **Range**: steps of  $0.1^{\circ}\text{C}$
- **Option**: Upgradable to  $500^{\circ}\text{C}$
- **Cooling speed**:  $250^{\circ}\text{C}$  to  $50^{\circ}\text{C}$  in 5 mins. (at  $20^{\circ}\text{C}$  ambient temp.) including stabilisation time
- **Overheat protection**: Protection circuit activates at  $20^{\circ}\text{C}$  over set temp. at the step of  $50^{\circ}\text{C}$

### Temperature Programmer:

- **Isothermal Temp. range:** Ambient to 400° C in, steps of 0.1°C
- **Max. Ramp Rate Programming:** Up to 150°C at 30°C/mm. Up to 250°C at 20°C/mm. Up to 325°C at 15°C/mm. Up to 400°C at 10°C/min.
- **Number of Ramps:** 5 max. (Hold the ramp rate at any time) 999 mm.
- **Max. Programme length:** 999 mm.

### Injection System:

- Single or Dual vertical injectors with Split Split less
- converters for 1/4", 1/8 or capillary columns
- Operating temp. range: Ambient to 400°C in steps of 0.1°C
- Dedicated port for capillary columns

### Pneumatic System:

- Keyboard-operated carrier gas change over system
- Pressure switch cut off mains power in case of
- depletion of carrier gas flow
- Differential flow controllers (DFC) for carrier gas with digital readout

### Detector:

#### Flame Ionisation Detector:

- **Design:** Forced air diffusion
- **Mode:** Single or dual column with dual amplifier
- **Operating temp. range:** Ambient to 400°C
- **Sensitivity:** >0.017 coulombs/gm.
- **Dynamic range:** 10<sup>7</sup>
- **FID amplifier:** Max. Sensitivity 5 x 10Amp. Ranges :1,10,100,1000
- **Noise:** Below 1 x 10<sup>13</sup> Amp

### **Thermal Conductivity Detector:**

- **Design:** Dual path, 4. filaments
- **Filaments:** Tungsten-Rhenium
- **Mode:** Dual column
- **Operating temp. range:** Ambient to 400°C in steps of 0.1°C
- **Filament current:** 0-400m Arrange
- **Temperature stability:**  $\pm 0.1^\circ\text{C}$
- **Sensitivity:** 3500 ml.mv l mg at 80°C temperature (resistance)
- **Electronics:** Full- Bridge (constant temperature resistance), mode, with filament temp.
- **Filament temp.:** 150-450°C In steps of 75°C

### **Specification:**

- **Size:** 76W x 540 x 58 H cms
- **Weight:** 86 kgs. (approx.)
- **Power requirement:** 220V, 50 Hz, 2kw