

Sion Technology  
4210 GC System

Sion 4210 GC  
Version Z.10.11  
Power on successful



A grid of control buttons for the GC system. The buttons are arranged in two rows. The top row includes buttons for 'Flow', 'Pressure', 'Flow', 'Cell Offset', and 'Monitor'. The bottom row contains a grid of buttons for 'Flow', 'Pressure', 'Cell 1', 'Cell 2', 'Cell 3', 'Cell 4', 'Cell 5', 'Cell 6', 'Cell 7', 'Cell 8', 'Cell 9', and 'Cell 10'.

# Gas Chromatograph

- Sion 4210 GC -

 *Sion* Technology  
Make it possible

# Gas Chromatograph Instrument

## - Sion 4210 GC -

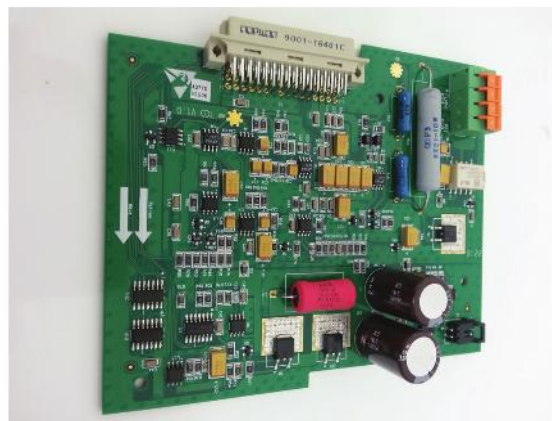
- The GC instrument has higher level features and performance than other devices sold in the market
- The instrument can contain up to two inlet ports and three detectors simultaneously with a simple, effective interface for full, comfortable operation
- The instrument can also hold up to four sampling units for gases including heating as well as an MSD detector interface connection
- The range of detectors that may be assembled is great and everything is according to the customer's requirements
- The instrument can serve as an excellent solution for laboratories in many different areas including pharmaceuticals, chemistry, petrochemicals, food, research, development, etcetera
- Sion has joined with leading companies abroad for the development and production of the instrument
- Sion is also developing the software interface to control the instrument and data processing software



# Instrument Electronic Flow Control

- Sion 4210 GC -

- Up to 31 EPC channels for control of flow and pressure to inlet ports, detectors, and various auxiliary gases.
- Pressure control precision to 0.01 PSI.
- Atmospheric pressure compensation sensor to set off the instrument's location and installation changes.
- Up to three pressure or flow changes that may be controlled as a function of time in every run.
- All inlet port gases and the detectors are completely controlled electronically.
- One may choose, at any given moment, the auxiliary gases and the carrier gases (He, N<sub>2</sub>, H<sub>2</sub>, and Ar).
- At every inlet port one may choose control of the pressure or flow of the gases.
- With the instrument, one may receive the gas flow in a column or pressure from the moment column data are introduced to the instrument and control them.



# Automatic Injection Unit

## - Sion 5210 GC -

Equipped with a touch screen for full control in injection methods and injection order.

Easy and comfortable to operate.

Simple installation with every existing GC instrument.

Aesthetic , innovative design with excellent performance  
High quality automation

With high stability and maximum precision

### Technical Data:

- Supports a broad range of syringes - 1, 5, 10, 25, 50, 100, 250, 500  $\mu$ l
- Tray with up to 16 samples.
- Two different solvents to rinse the syringe.
- Injection volume 0.1 - 250  $\mu$ l ( Syringe dependable).
- It is possible to keep up to 16 different injection methods in the sampler.
- Possible to inject up to 99 repeats from each sample.
- Up to 20 rinses per inject from each solvent in each injection.
- Viscosity delay for each sample is 0 ~ 120 sec.
- Delay before and after injection for each sample is 0 ~ 300 sec.



# Supported Detectors and Technical Data

▶(FID)  
Flame  
Ionization  
Detector

▶(TCD)  
Thermal  
Conductivity  
Detector

▶(ECD)  
Electron  
Capture  
Detector

▶(FPD)  
Flame  
Photometric  
Detectors

▶(MSD)  
Mass  
Selective  
Detector

## ECD

- ▶ Electronic Flow control.
- ▶ Equipped with anode purge to Prevent Contamination.
- ▶ Up to 400 °C operating Temperature.
- ▶ Makeup gas types: Argon/5% methane, Nitrogen.
- ▶ Radioactive source: 15 m Curie 63Ni.
- ▶ MDL: <0.04 Pico g/sec lindane.
- ▶ Dynamic range: >10<sup>4</sup> with lindane.

## FPD

- ▶ Electronic pressure / flow control.
- ▶ Up to 250 °C operating Temperature.
- ▶ MDL: <20 Pico g S/sec, <0.9 Pico g P/sec with Dodecane thiol / Tri butyl phosphate Mixture.
- ▶ Selectivity: 10<sup>5</sup> grS / grC, 10<sup>6</sup> grP / grC.
- ▶ Dynamic range: >10<sup>3</sup> S, 10<sup>4</sup> P with Dodecane thiol / Tri butyl phosphate Mixture.

## FID

- ▶ Electronic pressure Flow control.
- ▶ Available for packed or capillary Columns.
- ▶ Up to 450 °C operating Temperature. FID Flame-out detection.
- ▶ MDL: <5 Pico graham carbon/sec as Propane using N2 carrier.
- ▶ Linear dynamic range: <±10%, 10<sup>7</sup> with N2 carrier.
- ▶ Possible Data acquisition rate: up to 200 Hz.

## TCD

- ▶ Electronic pressure Flow control.
- ▶ 400 °C maximum operating Temperature.
- ▶ MDL: <400 Pico graham propane/mL He Carrier.
- ▶ Linear dynamic range: 10<sup>5</sup> (± 5%).





# Types of Inlet Ports Supported by the Instrument

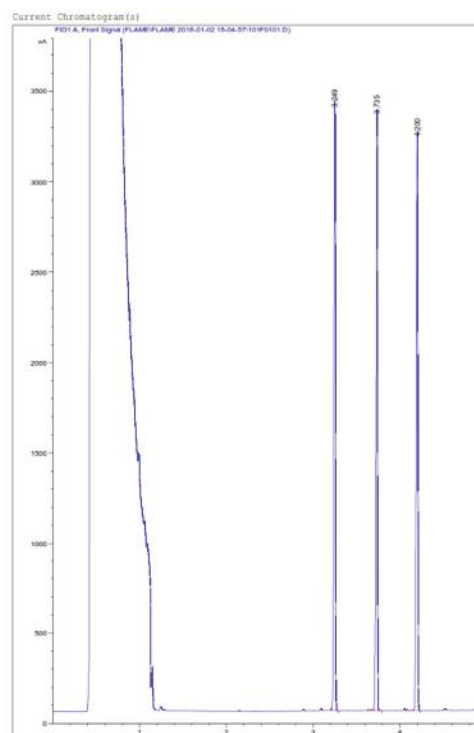
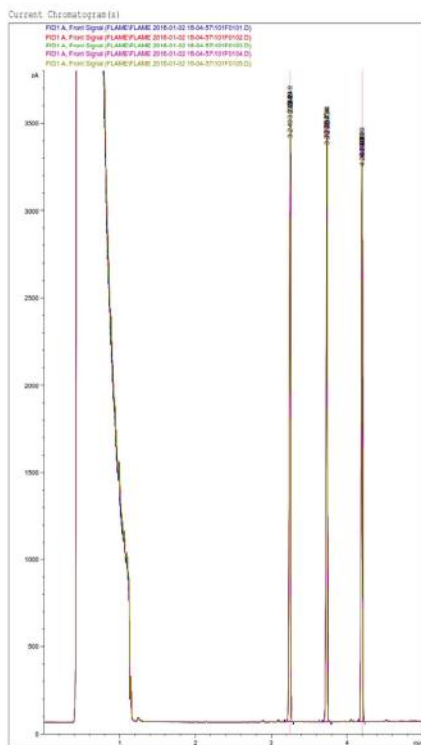
Packed injection port – (Packed)

Split/splitless capillary inlet – (S/SL)

Cool Injection System – (CIS)



Service drawer for storage of regular care equipment



# Technical Data for Inlet Ports

## CIS

- › Electronic pressure/flow control.
- › Up to 600 °C operating temperature.
- › Two temperature program ramps.
- › Temperature ramp rates  
0.1–720 °C/min.
- › Pressure setting range: 0–100 psi.
- › Total flow setting range: 0–200 mL/min N<sub>2</sub>;  
0–1,000 mL/Min H<sub>2</sub> or He.
- › Cryogenic cooling fluid: LN<sub>2</sub> (Down to -160 °C) or  
LCO<sub>2</sub>(Down to -65 °C).

## Packed

- › Electronic pressure / Flow control.
- › Up to 400 °C operating temperature.
- › Pressure setting range: 0–100 psi.
- › Total flow setting range:  
0–100 mL/min.
- › Adapters included for 1/4-in, 1/8-in.  
packed columns And 0.530-mm  
capillary columns.

## Communication

- › Lan Interface

## S/SL

- › Electronic pressure/ flow control.
- › Up to 400 °C operating temperature.
- › Pressure setting range: 0–100 psi.
- › Total flow setting range: 0–200  
mL/min N<sub>2</sub>; 0–999 mL/min H<sub>2</sub> or He.





MAKE IT  
POSSIBLE

Sion Technology