



Gas Chromatograph GC-2014

High quality results at low cost

The GC-2014 chromatograph is a Shimadzu development in the field of gas chromatography, combining the best qualities of the popular GC-14 and GC-2010 models. The GC-2014 chromatograph is designed to work with both capillary and packed columns and is ideal for routine analysis.

The GC-2014 allows for simultaneous installation of capillary and packed columns, up to 3 different types of injectors and up to 4 independently temperature-controlled detectors, allowing the user to configure the system for virtually any application. The chromatograph provides digital control of gas flows when working with both capillary and packed columns.

Features of the GC-2014 model

- Excellent reproducibility and sensitivity -efficiency due to the special design of the injectors and automatic control of the speeds and pressures of gas flows;
- Digital Electronic Control of Gas Carrier Flows (AFC) up to a pressure of 970 kPa;
- Ensuring a constant linear mode carrier gas velocity and high flow splitting capability when analyzing with capillary columns;
- Compactness with a large thermostat volume (15.8L);
- Highly sensitive detectors with high data collection speed (polling frequency up to 250 Hz);
- Fast cooling thermostat;
- Large built-in 16-line LCD display showing the current chromatogram and instrument operating parameters;
- Self-diagnostic and validation functions, including tracking and storing information about the history of the device, analysis conditions and deviations from the set parameters, changes in analysis programs and errors;
- Control and management of data and results analyses using the intuitive LabSolution (GC version) software, which is part of the LabSolution system for chromatography.

Technical specifications

Column thermostat

- operating temperature range: (room +10 °C) ~ 400 °C
(using liquid CO₂(optional) from -50 °C to 400 °C);
- temperature program: up to 20 steps;
- heating speed, 230 V model: 60 °C/min up to 150 °C;
40 °C/min up to 250 °C;
20 °C/min up to 380 °C;
15 °C/min up to 400 °C;
- cooling rate: from 300 °C to 50 °C - 6 min (at room temperature 25 °C);
- thermostat volume 15.8 l.

Detectors

- flame ionization (FID);
- electronic capture with a microcamera (ECD);
- thermionic detector (TID);
- flame photometric detector (FPD);
- thermal conductivity detector (katharometer) with a micro camera (DTP).

It is possible to install up to 4 detectors of different types. Flame-ionization detectors are equipped with automatic ignition and re-ignition functions in the event of flame combustion cessation. The maximum temperature of detectors is 400 °C (for PFD 350 °C).

Injectors

The following types of injectors can be used:

- injector for working with capillary columns in "split/splitless" modes;
- injector for packed columns;
- injector for wide capillary columns.

All injectors are equipped with electronic control of gas flows and pressures. Up to 3 injectors can be installed. Maximum temperature 400 °C.

For stuffed columns

- flow rate: 0–100 ml/min;
- 7 flow rate programming stages: from (-400) ml/min to 400 ml/min;
- automatic flow control when programming the thermostat temperature.

For capillary columns

- operating pressure range: 0–970 kPa;
- carrier gas flow rate through the injector: 0–1200 ml/min;
- flow division factor: 0–9999;
- 7 stages of programming the carrier gas flow through the column;
- automatic flow control (AFC) in constant carrier gas velocity mode.

Dimensions: 400*690*607 mm.

Weight: near 48 kg (depending on the configuration).



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