

 Specification of the chromatograph «Crystallux-4000M»

Parameter	Value
FID detection limit	-2×10^{-12} gC/sec for heptane
TCD detection limit	-1×10^{-9} g/ml for heptane
ECD detection limit	-2×10^{-14} g/sec for γ -BHC
FPD detection limit	-1×10^{-13} gP/sec for metafose -1×10^{-12} gS/sec for metafose
NPD detection limit	-3×10^{-14} gP/sec for metafose -5×10^{-13} rN/c gN/sec for azobenzene
PID detection limit HID detection limit MSD – relation to signal/noise	-5×10^{-13} g/sec for benzene -2×10^{-13} gC/sec for methane not less 50:1 for injecting 1×10^{-12} g/ml octaftornaftaline
Column temperature	from -100 till +400 °C
Temperature setting scale	0,1 °C
Temperature stability	0,03 °C
Temperature programming speed	from 0,1 till 120 °C/min.
Maximum number of isotherms	5
Thermostat column cooling speed from from 400 till 100 °C	5 min.
Carrier-gas consumption	from 0,5 till 100 ml/min.
Carrier-gas pressure	От 0,001 till 0,35 MPa
Dimensions (width × depth × height)	570×445×405 mm
Weight	33 kg
Maximum power consumption (in the steady)	900 VA



*Chromatography
separates
molecules*

*But unites
people*

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«CRYSTALLUX-4000M»



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Gas chromatograph «Crystallux-4000M»

Chromatographic complex "Crystallux-4000M" is an effective solution for routine tasks and also for carrying out serious chromatographic research works. Our aim was to create a device with high reliability, optimal working characteristics and flexibility with minimal complexity of integration and maintenance. Our GC favorably differs by high returns with minimal investments and low cost of ownership.



Intuitive software makes working easy even for novice operators. Gas chromatograph is fully automated: gas flows control, work of detectors control, sample injection, protection from user mistakes, all that reduces the requirements for qualification of user and makes the system more stable. Besides this "Crystallux-4000M" is characterized by easy technical service due to clever design and in-built diagnostic possibilities.

Modular system makes maintenance of device easy and allows to redirect the chromatograph for solution of other analytical tasks.

Possibilities of chromatograph "Crystallux-4000M":

- Wide range of installed detectors: FID, TCD (katharometer), ECD, FPD, PID, TID, helium detector, TCD, single-quadrupole mass-selective detector
- 9 independent heating zones that ensure excellent flexibility during production of analytical system
- Installation of any 3 detectors
- Installation of any 3 injectors
- Big volume of column thermostat (up to 19l) that gives freedom of actions during creation of complex analytical systems and simplifies maintenance
- Universal and specialized injectors (for column injection, for transformer oil analysis, etc.)
- Presence of autosampler also for equilibrium vapor analysis
- Installation of up to 2 operated valves
- Possibility of installation of up to 2 automated valves with independent heating

- Electronic control of gas flows ensures simplicity of pressure and consumption control in comparison with traditional manual systems
- Cryostatting option of column thermostat also without usage of consumable coolant
- Presence of specialized modification with protection from aggressive sample components
- Installation of sensor display allows the user to control the system and also gives information about performed analysis and about device condition
- Stability of work in case of poor power quality
- Quick output to operating mode due to the improved design of heaters

Implementation of chromatographic complex "Crystallux-4000M":

- Analysis of atmosphere air for the content of halogen-containing and aroma compounds, hydrogen oxides and etc.;
- Analysis of production exhaust of working area on containing boundary, unboundary, and aroma hydrocarbons, hydrogen oxides and etc.;
- Analysis of toxicity for food products packages, building materials;
- Analysis of mine air for content of constant gases, hydrogen oxides and hydrocarbons;
- Analysis of quality of vegetable and animal oils, dairy produce margarines, spreads, detection of falsification;
- Analysis of biological liquids and tissues of human body for contents of alcohol, drugs, medicaments and poison substances;
- Analysis of gas environment of nuclear power stations;
Analysis of products of blast furnaces, purity of gases, used in metallurgy;
- Analysis of products of chemical and oil-chemical industry;
- Analysis of transformer oil for content of dissolved gases, water, antioxidant admixtures, furanic origins;
- Analysis of products of color industry;
- Analysis of quality of tobacco industry;
- Analysis of winematerials for content of ethanol and other admixtures;
- Analysis of propellents, aerosols, coolagents;
- Analysis of adsorbed gases in soil for geoligit researches of oils and gase.
- Composition and quality analysis of natural gas, incidental gas, dissolved gas and gas condensate with evaluation of heating ability, relative and total density, pressure of saturated steam;
- Detailed and group analysis of the gasoline with evaluation of octane number, density, fraction composition, saturated steam pressure, etc.;
- Oil and gas analysis on content of and sulfur-hydrogen and mercaptane and other sulphides;
- Analysis of toxic admixtures in alcohol drinks, perfume, drugs, analysis of originality;
- Analysis of water for the content of volatile halogen-containing and aroma compounds, acetone, methanol, hydrocarbons, etc.;
- Analysis on content of pesticides and other toxicants in water, soil, food;