

Chromatec Hydrogen Generators



Chromatec Hydrogen generators intentionally designed for gas chromatography applications.

Laboratory hydrogen generators produce high purity hydrogen using just a bidistilled water and electricity. This type of hydrogen generators involves technology of Polymer Electrolyte Membrane (PEM) electrolysis, which became the most popular in laboratory hydrogen generators thanks to safety, ease of use and reliability.

Chromatec Hydrogen generators line of models varies in productivity and hydrogen purity grade. All models are suitable to deliver hydrogen to flame detectors, high purity models (HPM) are recommended to use hydrogen as a carrier gas. Chromatec Hydrogen generators design is a combination of simplicity and utility, everything what you need to produce hydrogen for flame detectors or as a carrier gas in GC, nothing superfluous.

Crystal Ultra model provides the best hydrogen purity grade with minimized downtime for maintenance thanks to automatic regeneration of mol.sieve traps.

Key features:

- The most common PEM technology
- Easy to install and to use
- Truly achievable maximum flow rate for routine operation
- Catalytic oxygen removal system incorporated in HPM models reduces O₂ content down to 2 ppm.
- For Crystal Ultra model, extra PSA trap unit provides up to 99.9999% hydrogen purity with minimum impurities (O₂ < 0.2 ppm, N₂ < 0.5 ppm, CO₂ < 0.1 ppm, CO&CH₄ < 0.01 ppm) as well as takes no time for maintenance thanks to automatic regeneration of traps.
- Water refilling without turning off and Auto-loading water for Crystal Ultra model
- Two independent output fittings for flame detectors and carrier gas lines
- Cost-saving solutions

Application range:

- Fuel gas for gas chromatography detectors: FID, NPD, FPD/PFPD, CCD, SCD
- Carrier gas for gas chromatography
- Fuel gas for gas analyzers based on FID, SCD detectors
- Suitable for GC-MS: HPM model with additional purifiers
- Crystal Ultra model suitable as carrier gas for MSD

Technical Specification:

Model	Flow Rate		Max Delivery pressure		Purity*	Water consumption**, hours	Power consumption, W
	L/h	ml/min	kPa	psi			
10.600	10	167	600	58	99.995 %	100	140
10.600 HPM	10	167	600	58	99.999 %	100	300
16.600	16	267	600	87	99.995 %	62	300
16.600 HPM	16	267	600	87	99.999 %	62	400
25.600	25	417	600	87	99.995 %	40	300
25.600 HPM	25	417	600	87	99.999 %	40	400
Crystal Ultra	16	300	400	58	99.9999 %	480***	450

* - refers to total impurities content at dry gas. Water Vapor for Crystal Ultra model -71 °C Dewpoint

** - at full filling 0.8L reservoir.

*** - with water auto loading from external canister of 10 L capacity.

Environmental Conditions:

Ambient Operating Temperature:	from 10 to 35°C
Relative humidity:	not more than 80 %
Storage Temperature:	from -50 °C to 50°C
Power Requirements:	~220V ±10%, 50±1Hz (standard euro plug SCZ-1)
Power consumption:	See table above

Other specification:

Dimensions: (WxDxH):	230 mm x 580 mm x 440 mm
for Crystal Ultra - Main unit:	215 mm x 550 mm x 450 mm
PSA unit:	120 mm x 550 mm x 450 mm
Weight:	20 kg (PSA unit for Crystal Ultra: 15 kg)
Feed Water requirement	Deionized water, 6 MOhm
Output fittings	1/8"

Consumables:

- Replaceable traps kit for Hydrogen generators (10 L/h), P/N 560-1010
- Replaceable traps kit for Hydrogen generators (16, 25 L/h), P/N 560-1011
- Ionite filter, P/N 560-1004

Related products:

- Water Purification system, P/N 451-0701
- Hydrogen leak detector, P/N 451-0711

Safety and Certification:

Products designed and manufactured under regulations of GOST R ISO 9001 quality standard.
At electromagnetic compatibility hydrogen generators meets the requirements of IEC 61010-1, CE-certified as a part of chromatograph "Chromatec-Crystal 9000"
Hydrogen generators certified as a part of bundle system on the basis of Chromatograph "Chromatec-Crystal 5000" according to TS 9443-004-12908609-99.

Information and technical specification in this publication are subject to change without notice.



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