THE LINDE GROUP

HiQ® Hydrogen Carrier Gas Generator.

Background

In gas chromatography (GC), hydrogen offers important advantages over helium and nitrogen in terms of speed analysis, sensitivity and resolution. However, laboratory location and safety concerns sometime conflict with the storage and use of high pressure hydrogen cylinders. HiQ® hydrogen laboratory gas generators are the economical alternative. Offering gas purity up to 99.9999%, silent operation, and supply pressure up to 10.5 barg (155 psig). HiQ® hydrogen generators have been designed to meet the highest quality and reliability standards.

Description

HiQ® Hydrogen Carrier generators employ the latest in Polymer Electrolyte Membrane (PEM) technology and exclusive no maintenance PSA auto-drying technology and cascading capability for on-site production of gaseous high purity hydrogen up to 99.9999%. No caustic solution is needed, and the small contained volume (<40 ml) makes the HiQ® Hydrogen Carrier generator safe for operation in any laboratory. An auto shut-off procedure places the unit in standby in the event of an internal error, and selectable alarms allow you to be notified whenever operating conditions vary from the set point. The log file can easily be downloaded to a PC via the USB interface to make the traceability and diagnostics more efficient.

With a small footprint of 16 x 35 cm the HiQ® Hydrogen Carrier generator saves space. It is compatible to all major voltages and power supplies.

Functioning Hydrogen Principle

The internal pump forces distilled water to flow from the external water reservoir to the PEM electrolysis cell; mixed with oxygen, a by-product of electrolysis, the water returns to the reservoir. On the way to the cell, the water is filtered, then deionised through a special cartridge and its conductivity measured. The humid hydrogen then passes through the membrane and is dried by a gas liquid separator and then by a static dryer. Dry hydrogen is then passed through a high performance purification module based on a PSA principle, where the final pressure is regulated by a proportional valve.

Laboratory Applications

With its small size, trouble free operational and low maintenance environment, the HiQ® Hydrogen Carrier generator is the ideal source of hydrogen as a fuel gas for flame tools, carrier gas application such as GC and GC-MS (Mass Spectrometry), or as a source of pure hydrogen in plasma chambers and other isolated environments.

Specifications

HiQ® H_2-CARRIER-100	Flowrate: 100 ml/min
HiQ® H_2-CARRIER-160	Flowrate: 160 ml/min
HiQ® H_2-CARRIER-250	Flowrate: 250 ml/min
HiQ® H_2-CARRIER-400	Flowrate: 400 ml/min
HiQ® H_2-CARRIER-500	Flowrate: 500 ml/min
HiQ® H_2-CARRIER-700	Flowrate: 700 ml/min
HiQ® H_2-CARRIER-900	Flowrate: 900 ml/min

external floor water tank 5L for models 100 to 500 + water tubing and 1 deionisation cartridge included

external floor water tank 10L for models 700 to 900 + water tubing and 1 deionisation cartridge included

Hydrogen purity:	99.9999% / 6.0
Electrolysis cell:	Solid Polymer Membrane type (PEM)
Auto Drying System:	No maintenance system (exclusive design)
Delivery pressure:	20-155 psig / 1.4-10.5 barg
Safety:	Auto shut-off / low internal volume of H_2 gas (<40 ml)
User interface:	Set points, system status, user parameter / Touch screen / LCD graphic display
Remote command:	USB / download of the logfile possible
Cascading:	up to 10 units (if the option is installed)
Water:	Deionised or distilled <10 uS conductivity
Dimensions (cm):	16 x 35 x 39 (W x D x H) (without external water tank)
Shipping Dim (cm):	41 x 51 x 50 (W x D x H)
Power requirements:	230V/50Hz - 230V/60Hz - 115V/60Hz - 100V/60Hz

H_2 flow rate (Nml/min) (max):	100	160	250	400	500	700	900
Net weight (kg):	16	16	16	19	19	21	23
Shipping weight (kg):	19	19	19	22	22	24	26
Power consumption (Watt):	120	170	220	260	280	395	480

Options and Accessories

Cascading interface

Remote command software including CD and USB cable

Table water tank 5L (7 x 33 x 33) in stead of the external floor water tank

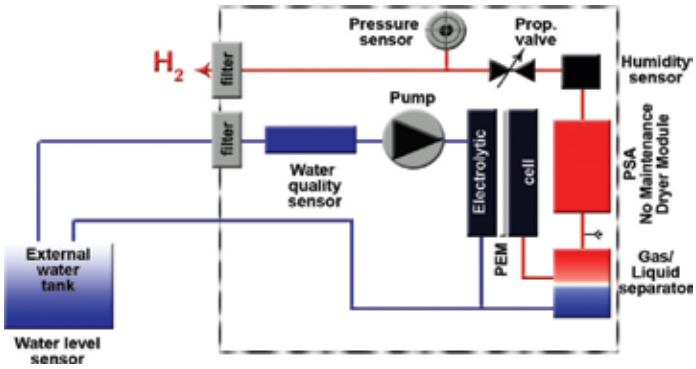
Additional 5L floor water tank (14 x 18 x 40)

Additional 10L floor water tank (18 x 22 x 47)

Additional 5L floor water tank, fully equipped, 1.5m tubes

Additional 10L water tank, fully equipped, 1.5m tubes

HiQ® Hydrogen Carrier generator in principal



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