



LNI Schmidlin SA

The innovative  swiss made products



H₂ CARRIER

HYDROGEN GENERATOR

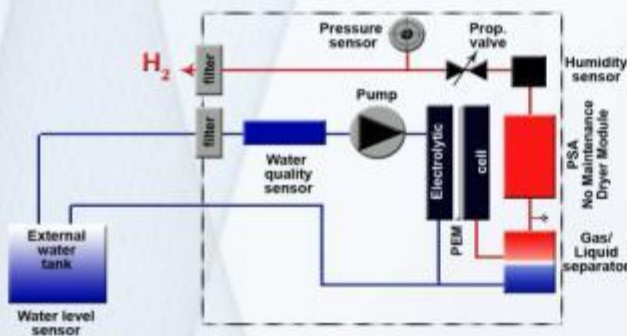
The H₂-CARRIER Hydrogen Pure Gas Generators from LNI SCHMIDLIN SA employ the newest PEM membrane technology available for electrolytic production of pure hydrogen gas, including exclusive no-maintenance PSA auto-drying technology and cascading capabilities. Only pure water, either distilled or deionized, is required to provide trouble free long-term operation. The small contained volume (<40 ml) makes the H₂-CARRIER safe for operation in spaces where hydrogen cylinder are restricted. An auto shut off procedure places the unit in standby in the event of an internal error, and selectable alarms allow the user to be informed whenever operating conditions vary from the set point. No caustic solution is needed. The log file can easily be downloaded to a PC via the USB interface to make the traceability and diagnostics more efficient.



Functioning principle:

NEW-TECH LINE

The internal long life pump forces the distilled water to flow from the external water tank to the PEM electrolysis cell; mixed with Oxygen, a by-product of electrolysis, the water returns to the tank. On the way to the cell, the water is filtered, deionized through a special cartridge and its conductivity is measured. The humid hydrogen goes through the membrane and is first dried by the gas liquid separator and then by a static Dryer (No maintenance). Then the hydrogen' pressure level is measured and regulated at a constant set pressure (10.5 bar) by a feedback of current to the cell. Dry hydrogen is going then through a no maintenance high performance purification module, based on PSA principle. The final pressure is regulated by a proportional valve.

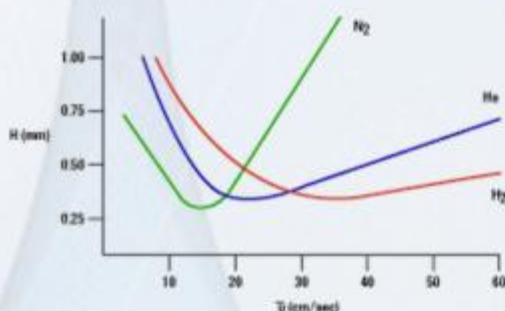


THE APPLICATIONS

LABORATORY

The H₂-CARRIER is ideal for operation with gas analyzers, as fuel gas for flame tools, **all kind of carrier Gas application**, like GC and GC-MS (Mass Spectrometry), or as a source of pure hydrogen in plasma chambers and other isolated environments.

The carrier gas linear velocity or flow rate directly influences retention time and efficiency. The proper selection and setting of the carrier gas are essential to obtain the best analysis times, efficiency and reproducibility. Hydrogen gives the best result of the three common carrier gases, and the H₂ van Deemter curve is very flat. Hydrogen results in the shortest analysis times.



Using H₂ as carrier gas will give you :

- Better resolution
- Higher peaks
- Faster analysis time

Other Hydrogen applications are for:

- Carrier Gas for GC-FID / GC NPD / GC-TCD
- Fuel Gas for GC-FID / GC-FPD / THC / Sulfur Analysers
- Reaction Gas GC-ELCD / GC-HALL
- Hydrogenization process

SPECIFICATIONS

H2-CARR-100 Flowrate : 100 ml/min
H2-CARR-160 Flowrate : 160 ml/min
H2-CARR-250 Flowrate : 250 ml/min

H2-CARR-400 Flowrate : 400 ml/min
H2-CARR-500 Flowrate : 500 ml/min
H2-CARR-700 Flowrate : 700 ml/min
H2-CARR-900 Flowrate : 900 ml/min

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
 Fitting: 1/8" for the H₂ outlet
 Safety: Auto shut-off / low internal volume of H₂ 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: Deionized or distilled < 10 uS conductivity
 Dimensions [cm] : 16x35x39 (WxDxH) (without external water tank) / Shipping Dim [cm] : 41x51x50 (WxDxH)
 Power requirements: 230V/50Hz - 230V/60Hz - 115V/60Hz - 100V/60Hz

H2 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

ARTICLES, OPTIONS AND SPARE PARTS

6710 02 01X H2-CARR-100
 6710 02 02X H2-CARR-160
 6710 02 03X H2-CARR-250
 6710 02 04X H2-CARR-400
 6710 02 05X H2-CARR-500
 6710 02 07X H2-CARR-700
 6710 02 09X H2-CARR-900

Where X=0 for 230V/50Hz or 230V/60Hz
 X=2 for 115V/60Hz
 X=4 for 100V/60Hz

*external floor water tank 5L for models 100 to 500
 external floor water tank 10L for models 700 to 900
 + water tubing and 1 deionisation cartridge included*

OPTIONS and ACCESSORIES :

6710 01 110 Cascading interface
 6710 01 111 Remote command software including CD and USB cable
 6710 01 210 Table water tank 5L (7x33x33) in stead of the external floor water tank
 6710 01 100 Additional 5L floor water tank (14x18x40)
 6711 01 102 Additional 10 L floor water tank (18x22x47)
 6710 01 105 Additional 5L floor water tank, fully equipped, 1.5m tubes
 6711 01 107 Additional 10L floor water tank, fully equipped, 1.5m tubes

SPARE PARTS and CONSUMABLES for maintenance :

6711 01 110 Deionisation cartridge (1 pce) for H₂
 6711 01 120 H₂ Set of filters (for Air, Hydrogen and water line)
 6711 01 131 New H₂ cell (standard exchange)
 6711 01 032 New H₂ cell



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