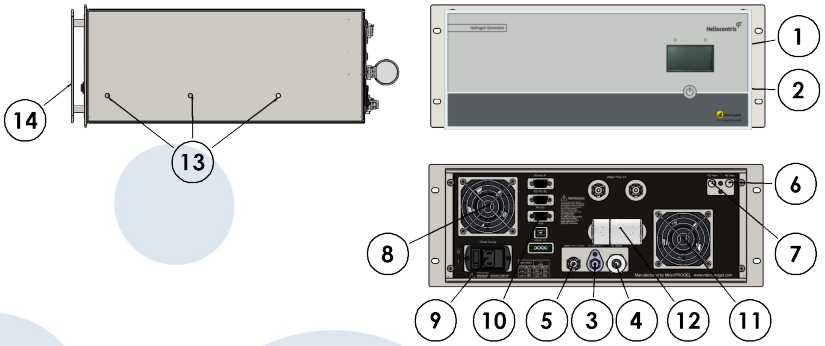
HG Rack Series



The HG Rack Series series generators use an electrolytic cell with polymeric membrane (PEM) to produce pure hydrogen. The innovative gas drying system is completely maintenance-free and allows continuous operation, 24 hours a day. The exclusive, electronically-controlled gas/liquid separator, automatic checking for internal leaks whenever starting the unit, and constant control of operating parameters guarantee maximum safety.
Up to 20 units can be connected in parallel.
The touch-screen LCD interface provides simple and user-friendly management of all functions on the unit.



1 Touch-screen LCD 128x64 pixel
2 START/STOP button
3 Hydrogen Outlet 1/8" Compression Fitting
4 Hydrogen purge 1/4" BSPP female
5 Water feed connector for filling the tank
6 Hydrogen vent
7 Oxygen vent
8 Cooling fan air outlet
9 Power connection and switch
10 I/O connectors: RS485 – RS232 – USB – Digital I/O
11 Cooling fan air intake
12 Water filter
13 Holes for sliding rails
14 Front handles

Main Applications

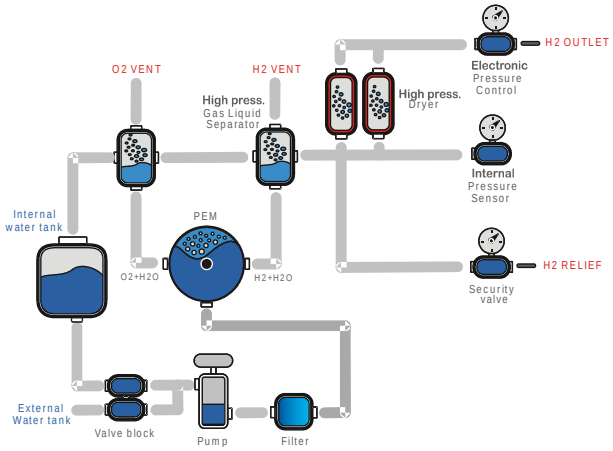
- Carrier gas for GC and GS-MS
- ICP-MS collision gas
- Flame ionization detector feed gas (FID)
- Refilling metal hydride tanks for use with fuel cells

Main Features

- **Available Flow-rates:**
  up to 4000 cc/min
- **Outlet pressure:**
  up to 16 bar/232 psi
- **Hydrogen purity:**
  >99.99999%
- **Drying system:**
  Nearly maintenances-free system for continuous 24-hour operation
- **Internal water tank:**
  1.1 litres, with electronic level control and "Autorefill" from external tank, included as standard
- **Dimensions:**
  Standard 19" 4U (40 cm deep)/5U (56 cm deep) Rack
- **Weight:**
  22 to 32 kg (depending on the model)
- **Certification:**
  CE, ISO9001

Heliocentris Academia International GmbH - Rudower Chaussee 30, 12489 Berlin, Germany
Mail: sales@heliocentrisacademia.com
Web: www.heliocentrisacademia.com

Principle diagram



Hydrogen is produced from deionized water using a polymeric membrane (PEM). No acid or alkaline solutions are used. The drying stage requires no maintenance. A two-column drying system with automatic regeneration ensures the maximum grade of hydrogen purity.

Models	K00-1306 HG 30	K00-1303 HG 72	K00-1304 HG 198	K00-1312 HG 240
General data				
Electrolytic cell	PEM technology			
H2 purity	>99.99999%			
Outlet pressure	16 bars/232psi			
H2 flow rate cc/min (max)	600	1200	3300	4000
Communication				
RS232	X	X	X	X
RS485	X	X	X	X
USB	X	X	X	X
Software functions				
Parallel mode capability	X	X	X	X
Fill canister function	X	X	X	X
Water				
Quality	Deionized, ASTM II, <0.1uS			
Supply pressure (Min)	0 bar (0 psi)			
Supply pressure (Max)	0,5 bar (7,25 psi)			
Supply flow-rate (min,max)	0.2 l/min, 1.5 l/min			
Internal tank capacity	1.1 l			
External tank capacity	5 or 10 l			
Electrical data				
Power supply connection type	IEC320-C14			
Power supply voltage	100-240Vac 50/60Hz		180-246Vac 50/60Hz	
Installed power (max)	450W	560W	1920W	
Fuse rating 5x20mm	6.3A 250VAC		10A 250VAC	
Dimensions	19" RACK 4U – 48 cm deep		19" RACK 5U – 56 cm deep	
Net weight (water tank empty)	22 kg	25 kg	29 kg	32 kg
Connections				
Hydrogen outlet	1/8" compression fitting			
Water	Quick release push-in fitting			

Accessories:

Deionizer Water Filter HG30/HG72	*L90-0010*
Deionizer Water Filter HG198/HG240	*L90-0011*

Heliocentris

MHS – Metal Hydride Storage Canisters

Compact and safe hydrogen storage at low pressure

The metal hydride storage canisters from Heliocentrisallow safe and compact storage of relatively large amountsof hydrogen at low pressures.

Heliocentris' metal hydride storage canisters can store a multiple amount of hydrogen in comparison to a pressure storage at low pressure.

The metal hydride storage canisters are available in two different dimensions with storage capacities of 200 Nl and 800 Nl hydrogen at 16 bar filling pressure. The MHS 200 storage complies with the Art. 4.3 and the MHS 800 with the category 1 of the pressure equipment directive lowering the barriers of hydrogen usage in contrast to pressure storage devices.



MHS 200
Art.-Nr.
K00-0648

MHS 800
Art.-Nr.
K00-0650

Technology

The Heliocentris metal hydride storages are equipped with a low temperature AB_2 metal alloy on a TiMn base:

- absorb the hydrogen in the alloy lattice after adsorption at the surface
- can store hydrogen at high volume- and low weight density (ideal for stationary application)
- has a low plateau pressures at about room temperature
- has a low thermal conductivity

The canister is designed as a passive surface cooled system. Heat ducting can be applied by the user with air ventilation or water cooling.

Temperature Handling

The nominal parameters of the canister are defined for a canister surface temperature of 20°C.
The absorption/ desorption performance of the storage can be sensitively influenced by thermalizing the canister surface by:

- cooling the storage surface for absorption (filling) by water or air with 5 ... 20°C
- heating the storage surface for a continuously desorption by water or air with 20 ... 50°C
- usage of the ambient air with passive or active ventilation

Integration, Usage and Safety

An integrated quick coupling allows an easy and safe connection to an individual hydrogen source.
The storage is equipped with a pressure and temperature relief valve to avoid dangerous conditions.

06/2026

Heliocentris Academia International GmbH - Rudower Chaussee 30, 12489 Berlin, Germany
Mail: sales@heliocentrisacademia.com
Web: www.heliocentrisacademia.com

Heliocentris

Perfect fit for our HG

Water purification systems

K00-1323 (WP5) / K00-1324 (WP10)

The LNI water purification systems are able to supply purified water for instrumental and analytical purposes matching requirements of every modern laboratories. Conductivity of obtained water does not exceed 0.05 µS/cm, so it is applicable for PN-EN ISO 3696:1999, ASTM, CLSI, FP standards.

The system is the ideal water purification system for AAS, ICP/MS, IC, HPLC, GC instrumental analyses. Our demineralizers are equipped with a microprocessor control and measurement system. The LCD interface provides simple and user-friendly management of all functions on the unit.

Main Applications

- **AAS** - Atomic Absorption Spectrometry
- **IC, ICP/MS** - Ion Chromatography / Inductively Coupled Plasma Mass Spectrometry
- **HPLC** - High Performance Liquid chromatography
- **GC** - Gas chromatography

Main Advantages

- ✔ Water purified in this device fits the PN-EN ISO 3696:1999 standard for class II purity, and microbiological/ physicochemical FP requirements for purified production water
- ✔ Powered by: tap water
- ✔ Efficiency: 5 -12 l/h
- ✔ Purified water intake speed: 1-2 l/min.
- ✔ Conductivity < 0,05 µS/cm
- ✔ Particle filtration: ≥ 1 µm
- ✔ Low maintenance
- ✔ Reduced foot print



Heliocentris Academia International GmbH - Rudower Chaussee 30, 12489 Berlin, Germany
Mail: sales@heliocentrisacademia.com
Web: www.heliocentrisacademia.com

Heliocentris

Specifications

Models:	K00-1323 (WP5)	K00-1324 (WP10)
General information		
Production capacity	5-7 L/h	10-12 L/h
Feed water flow rate	1-2 L/min	
Conductivity	< 0.05 µS/cm	
Water outlet pressure (Max)	3.5 bar (50.7 psi) (flow-dependent)	
Outlet pressure regulator	None	
Dimensions (W x D x H)	27 x 49 x 65 cm	
Weight	37 kg	
Housing	Powder-coated steel, corrosion-resistant	
Water purification levels		
Sediment filtration	≥ 1 µm	
Module	Integrated (sediment-carbon-softening)	
Demineralization	Mixed ion exchange	
Osmosis	Reverse	
Feed water parameters		
Conductivity	< 1200 µS/cm	
Pressure	> 3.0 bar (43.5 psi)	
Hardness	< 250 mg $CaCO_3$/L (< 14°dH)	
Fe	< 0.2 mg/L	
Electrical data		
Supply voltage	100-240 VAC (±10%) - 50/60 Hz	
Power	200 W	
Fuse	4A (250Vac – T) – 5x20mm	
RS-485	Standard (for service)	
Connections		
Water feed	Quick fitting for tube 1/4”	
Water outlet(s)	Quick fitting for tube 6mm	
Water tank outlet	Quick fitting for tube 6mm	
Water drain outlet	Quick fitting for tube 1/4”	

Ordering codes

Water purification systems

K00-1323	Demineralizer 5L
K00-1324	Demineralizer 10L

Consumables

K00-1323 (WP5)

K00-1329	Prefilter 5 µm
	Module 1 (Granulated Activated Carbon)
K00-1327	Module 2 (Ion exchange module)

K00-1324 (WP10)

K00-1329	Prefilter 5 µm
	Module 1 (Granulated Activated Carbon)
K00-1324	Module 3 (Ion exchange module)

06/2026

Heliocentris Academia International GmbH - Rudower Chaussee 30, 12489 Berlin, Germany
Mail: sales@heliocentrisacademia.com
Web: www.heliocentrisacademia.com

Heliocentris