

HG PRO M (LN) *series*

PEM Hydrogen generator

H₂

Main Applications

- Carrier gas for GC and GS-MS
- GC-FID / GC-NPD / GC-FPD
- THA
- Gas sensing
- Fuel cell
- CVD

Main advantages

- ✓ New long life multilayer PEM cell
- ✓ Easy use
- ✓ High flow rate up to 20 L/min
- ✓ High pressure up to 16 Bar (232 psi)
- ✓ RS-232/485 and USB standard
- ✓ Auto refill standard
- ✓ High purity: 99.99999%
- ✓ Dryer with no maintenance
- ✓ Safety routine and self monitoring
- ✓ High pressure GLS electronically controlled (patented)

The HydroGen series **HG PRO M** can generate up to 20 L/min of Hydrogen with purity better than 99.99999% and pressure up to 16 Bar (232 psi). The HG PRO M includes a new long life multilayer electrolytic cell with polymeric membrane (PEM) using ultra pure water. No acid or alkaline solutions are used.

The two-column PSA drying system with automatic regeneration ensures the maximum grade of hydrogen purity. It is completely maintenance-free. The HG PRO M series provides the ideal Hydrogen for many applications, such as CVD, Central Laboratory Supply and other applications in need for reliable supply of UHP. The on-board CPU constantly controls the operating parameters to guarantee full safety. The touch-screen LCD interface provides simple and user-friendly management of all functions on the unit.



Specifications



Model: HG PRO	4M	4M LN	8M	8M LN	16M	16M LN	20M	20M LN
General data								
Electrolytic cell	PEM technology							
Drying system	PSA (Pressure Swing Adsorption) / TSA (Thermal Swing Adsorption)							
H2 purity ^[1]	>99.99999%							
Dew-point ^[2]	-75°C (-103 °F)	- 80 °C (-112°F)	-75°C (-103 °F)	- 80 °C (-112°F)	-75°C (-103 °F)	- 80 °C (-112°F)	-75°C (-103 °F)	- 80 °C (-112°F)
Outlet pressure	12 Bar (174 psi) / 16 Bar (232 psi) (optional)							
H2 flow-rate (Max)	4 SLPM at 21°C, 1 Bar		8 SLPM at 21°C, 1 Bar		16 SLPM at 21°C, 1 Bar		20 SLPM at 21°C, 1 Bar	
Dimensions (W x H x D)	45 x 66 x 66.5 cm				51 x 69 x 83 cm			
Net weight (no water)	60 kg	61 kg	62 kg	63 kg	86 kg	88 kg	88 kg	90 kg
N ₂ content	-	< 1 ppm	-	< 1 ppm	-	< 3ppm	-	< 3ppm
Communication								
RS-232 / USB / RS-485 / Digital I/O					Standard			
LAN					Optional			
Software functions								
Parallel mode					Ready on board			
Fill Hydride canister					Standard			
Water								
Quality Required					Deionized, ASTM II, <0.1uS			
Supply pressure for autorefill (Max)					0.1 Bar (1.45 psi), 0.5 Bar (7.25 psi)			
Flow rate (Max) ^[3]					0.6 L/min			
Internal tank capacity					12 L			
Electrical data								
Power connection	IEC320-C14		IEC-C20		Power cable pre-connected with 16A plug			
Power supply voltage ^[6]	Single-phase 180~264VAC 50/60 Hz				Three-phases 4-wires (+ one ground wire) / Y 340~530VAC 50/60 Hz			
Power Consumption ^[4]					5.6 kWh/Nm ³			
Nominal power at max flow (Max)	1.92 kW)		3.32 kW		8 kW		8 kW	
Unit protection system	Fuse 10A (5x20mm) (250VAC-T)		Fuse 16A (10x38mm) (500VAC-T-class CC)		Magneto-thermic switch			
Connections								
Hydrogen outlet	1/8" compression fitting				¼" VCR (see Options)			
Water					Quick release push-in fitting			
Vent(s)					1/4" BSPP female thread (push-in fitting for tube 10mm)			
Operating/storage conditions								
Working / Storage Temperature					5-35°C (41-95°F) ^[5] / 1-50°C (34-122°F)			
Humidity (Max)					70% (Non condensing)			
Noise	< 52 dB(A) @ 1m front				< 55 dB(A) @ 1m front			
Heat value (BTU/h) ^[4]	1100 to 4600		2200 to 5700		4400 to 8000		5500 to 9000	
IP rating					IP20			
Pollution degree rating					2 (with no aromatic compounds)			
Altitude					< 2000m			

(1) Referred to O₂

(2) Atmospheric Dew Point (ADP)

(3) Referred to the water flow rate during refill process

(4) In relation to PEM Cell conditions

(5) With temperature > 35°C (> 95°F) the H₂ purity could be less

(6) Adding the suffix ".2" or ".3" to the standard code of 16M and 20M series, the device will be configured for power supply voltage: Three-phase 3-wires (+ one ground wire) / Δ196~305VAC 50/60 Hz

Ordering codes

Gas Generators

6920.30.004	HG PRO 4M
6920.30.004.1	HG PRO 4M LN
6920.30.008	HG PRO 8M
6920.30.008.1	HG PRO 8M LN
6920.30.016	HG PRO 16M
6920.30.016.1	HG PRO 16M LN
6920.30.016.2	HG PRO 16M 3P
6920.30.016.3	HG PRO 16M LN 3P
6920.30.020	HG PRO 20M
6920.30.020.1	HG PRO 20M LN
6920.30.020.2	HG PRO 20M 3P
6920.30.020.3	HG PRO 20M LN 3P

Consumable

6930.30.000	Deionizer water filter for HG PRO M
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Options

6930.00.067	Outlet port 6mm for HG PRO M series
6930.00.071	Outlet port 1/4" for HG PRO M series



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