



## PAR series

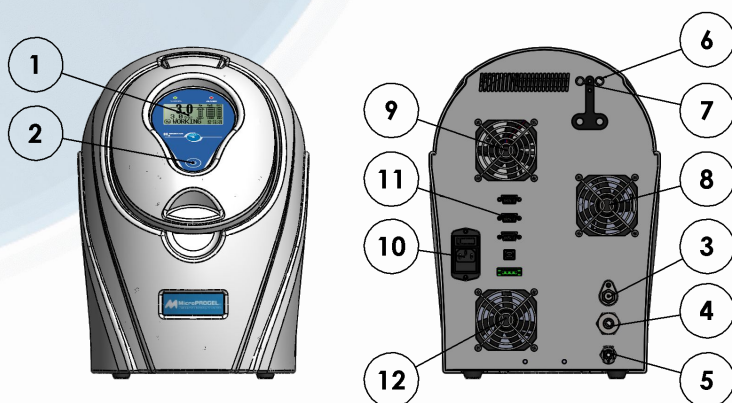
### H2 GENERATOR DESK

The PAR series generators use an electrolytic cell with polymeric membrane (PEM) to produce pure hydrogen. The innovative gas drying system requires no maintenance because these series of generators is provided with a programmable internal regeneration.

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
- 4 Hydrogen purge
- 5 Water feed connector for filling/emptying the tank
- 6 Hydrogen vent
- 7 Oxygen vent
- 8 Dryer cooling fan
- 9 Cooling fan air outlet
- 10 Power connection and switch
- 11 I/O connectors: RS485 – RS232 – USB – Digital I/O
- 12 Cooling fan air intake

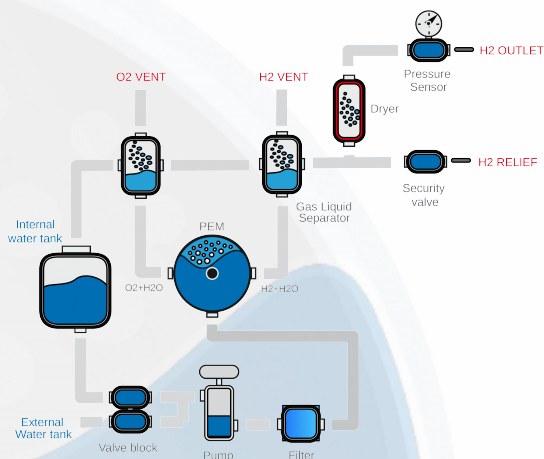
#### Main Applications

- 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 1000 cc/min
- **Outlet pressure:**  
up to 16 bars
- **Hydrogen purity:**  
>99.9999%
- **Drying system:**  
Molecular sieve column with built-in regeneration system
- **Internal water tank:**  
2.3 litres, with electronic level control and “Autorefill” from external tank (optional)
- **Dimensions:**  
30x43x42(H)
- **Weight:**  
15 to 18.5 kg (depending on the model)
- **Certification:**  
CE, ISO9001

## Principle diagram



Hydrogen is produced from distilled water using a polymeric membrane (PEM). No acid or alkaline solutions are used.

The drying column does not need replacing, it is regenerated automatically by activating a special cycle, lasting around 3 hours.

Regeneration needs to be performed every three to twelve months, depending on the quantity of hydrogen produced.

Models	PAR.H2.120	PAR.H2.180	PAR.H2.260	PAR.H2.400	PAR.H2.500	PAR.H2.1000
General data						
Electrolytic cell	PEM technology					
H2 purity	>99.9999% <sup>1</sup>					
Outlet pressure	12 bars (174 psi) / (16 bars/232 psi optional)					
H2 flow rate cc/min (max)	120	180	260	400	500	1000
Dimensions	30x43x42 (H) cm					
Net weight (no water in tank)	15 kg					18.5 kg
Communication						
RS232	X	X	X	X	X	X
RS485	X	X	X	X	X	X
USB	X	X	X	X	X	X
LAN	Optional					
Software functions						
Parallel mode	X	X	X	X	X	X
Automatic tank refill	X	X	X	X	X	X
Fill canister	X	X	X	X	X	X
Water						
Quality	Deionized, ASTM II, <0,1uS					
Supply pressure (Min)	0.2 bars (1.4 psi)					
Supply pressure (Max)	1 bar (14 psi)					
Supply flow-rate (Min, Max)	0.2 l/Min, 1.5 l/min					
Internal tank capacity	2.3 l					
Electrical data						
Type of connection	IEC320-C13					
Power supply voltage	100-240 Vac 50/60Hz					
Installed power (Max)	280W			560W		
Fuse rating (5 x20 mm)	4A 250VAC			6.3A 250VAC		
Connections						
Hydrogen outlet	1/8” compression fitting					
Water	Quick release push-in fitting					

<sup>1</sup> Referred to O<sub>2</sub> dew point < -70°C. It may depends on the ambient temperature and the number of hours of work of the dryer