

# Hydrogen gas generator

« *Serie MB.H2* »

The Hydrogen gas is produced from deionised water using the **exclusive 100% titanium Proton Exchange Membrane (PEM)** technology for H<sub>2</sub>, which provides a very high reliability, new longer life and better purity.

**The MB.H2 series use a unique drying membrane, maintenance free**, which allow to dry the H<sub>2</sub> gas and increase the purity. The automatic checking for internal leaks whenever starting the unit and constant control of operating parameters, guarantee maximum safety.

The touch screen LCD interface provides simple and user-friendly management of all functions on the unit.

#### Applications :

- GC-FID    • GC-FPD    • GC-NPD    • GC-TCD
- Hydrogenation    • Fuel cell
- ICP-MS    • THA



## BENEFITS AND SAVINGS

### > Improved chromatograph result

The use of hydrogen as a carrier gas allows lower temperature elution, thus extending the life of the chromatograph column. Hydrogen as a carrier gas is faster and more sensitive than the more-expensive helium. Run time savings of 25% to 35% without a decline in resolution.

### > Increased laboratory efficiency

A constant, uninterrupted gas supply of guaranteed purity eliminates interruptions of analyses to change cylinders and reduces the amount of instrument re-calibrations required.

### > Improved safety

The very limited internal volume (less than 50 ml) allows safe use of the gas generators where the use of cylinders is risky or prohibited. The application of tested safety technologies stops the unit in the event of leaks or malfunctions

### > Simple installation

Gas generators can be installed in the laboratory, on or under a bench, eliminating the need for long gas lines from cylinders secured elsewhere.

## STANDARD FEATURES

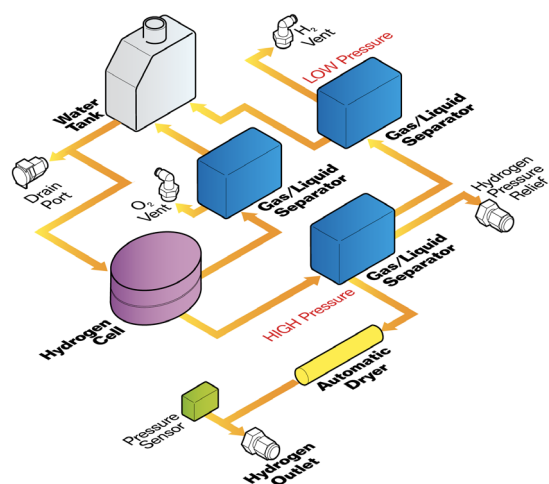
- MB.H2 models available : 100, 160, 250, 300, 400, 500, 600 cc/min
- MB.H2 Purity > 99.9996%
- Pressure up to 11 bar (160 psi)
- Exclusive 100% titanium electrolytic cell : longer life/ better purity of gas
- LCD touch screen with indication in real time : H<sub>2</sub> outlet pressure, H<sub>2</sub> flow rate, water quality, water level, system status with auto-diagnostics of breakdown with alarms
- Remote PC monitoring and diagnostic analysis via USB to interface the unit with customer's PC software (allow to carry out checks and maintenance effectively, only via a remote connection)
- Automatic checking for internal leaks to guarantee maximum safety
- Capabilities allowing to work in cascading mode
  - Higher flow rates up to 6 L/min
  - Automatic flow compensation in the event of unplanned down-time
  - Continuous operation for critical applications

## OPERATING PRINCIPLE

Hydrogen is produced using distilled or deionised water from hydrolysis, through a polymer membrane.

Electrolytic dissociation separates the water into its two main components : hydrogen ready for analytical use, and oxygen that is released into the air. No acid nor alkaline solutions are used in the hydrogen generation cycle.

MB.H2 Series use a unique drying membrane: no dessiccant cartridge required.



| Models                       | MB.H2.100  | MB.H2.160 | MB.H2.250 | MB.H2.300 | MB.H2.400 | MB.H2.500 | MB.H2.600 |
|------------------------------|--|-----------|-----------|-----------|-----------|-----------|-----------|
| <b>Generals Informations</b> |  |           |           |           |           |           |           |
| H2 flow rate - cc/min        | 100  | 160       | 250       | 300       | 400       | 500       | 600       |
| H2 purity                    | > 99.9996 % (O2 < 1 ppm, dewpoint H2O < -30°C (-22°F))   |           |           |           |           |           |           |
| Delivery pressure            | 1 - 11 bar (14 - 160 psi)  |           |           |           |           |           |           |
| H2 dryer                     | Unique drying membrane, maintenance free   |           |           |           |           |           |           |
| Internal water tank          | 2.3 liters   |           |           |           |           |           |           |
| Temperature range            | From 5 - 35°C (41 - 95°F) and humidity 80% to 25°C (77°F)  |           |           |           |           |           |           |
| LCD touch screen             | Touch screen (operating parameters, system status, alarms) with LED indicators (Power on/off; ready or errors) |           |           |           |           |           |           |
| Water quality                | Deionised, ASTM II, < 0.1 µS Conductivity  |           |           |           |           |           |           |
| Dimensions (W x H x D)       | 23 x 48 x 37 cm (9" x 19" x 14.5")   |           |           |           |           |           |           |
| Outlet port                  | 1/8 Swagelock  |           |           |           |           |           |           |
| Weight (kg/lbs)              | 17 / 37  |           |           |           |           | 18 / 39   |           |
| Power consumption            | 280 W  |           |           |           |           | 450 W     |           |
| Power supply                 | 110 - 120 V 50 Hz / 220 - 240 V 60 Hz  |           |           |           |           |           |           |
| <b>Communication</b>         |  |           |           |           |           |           |           |
| USB/PC Control               | In series  |           |           |           |           |           |           |
| RS232/RS485                  | Option   |           |           |           |           |           |           |
| <b>Special functions</b>     |  |           |           |           |           |           |           |
| Cascading mode               | Option   |           |           |           |           |           |           |
| Automatic water tank refill  | Option   |           |           |           |           |           |           |
| Certification                | CE, CSA, FCC   |           |           |           |           |           |           |

**Gold Service**  
Satisfaction Guaranteed

The products are guaranteed 12 months. Beyond, your investment continues to be supported by our maintenance program "Gold Service". Our world class technical assistance offers Programmed preventive maintenance to ensure optimal performance of your Gas generator F-DGSi and a priority intervention in case of failure.

F-DGSi

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