

Hydrogen generators

NM-H₂



The NM-H₂ series hydrogen generators use the latest polymer electrolyte membrane (PEM) technology to produce high purity hydrogen.

The exclusive "No Maintenance" gas column dryer regeneration system eliminates all down time for maintenance that is typical of other systems on the market, guaranteeing the best hydrogen purity at all times.

THE NM-H₂ SERIES GENERATORS ARE IDEAL FOR:

- Ionization flame detector (FID)
- Carrier gas for GC and GC-MS
- Fast GC
- Collisions in ICP-MS
- Small fuel-cell cylinder refills

Benefits

Improved chromatograph results

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.

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.

Savings

Hydrogen gas generators avoid the need for expensive installation of gas pipelines from the cylinder storerooms to the labs, as well as the need to repeatedly change the bottles.

Longer analytical column life

The use of hydrogen as a carrier gas allows lower temperature elution, thus extending the life of the chromatograph column.

Lab productivity

Continuous operation 24 hours a day allows maximum lab productivity, cutting dead time for gas bottle changeover and maintenance of the drying system.

Specifications

Models available: 100, 160, 250, 300, 500, 600, 1000 cc/min.

Purity: 99.99999%

Outlet pressure: adjustable by electronic controller up to 10 bar

Full microprocessor control

LCD display interface: real time outlet pressure, water quality, autodiagnosics with alarms

*H₂ leak detectors, water level and quality sensors
Extremely low noise operation: no pumps are used*

Easy and quick use: no caustic solution used and automatic dryer regeneration

Certification: CE & CSA

ATEX certified

NM-H₂ hydrogen generators

Operating diagram

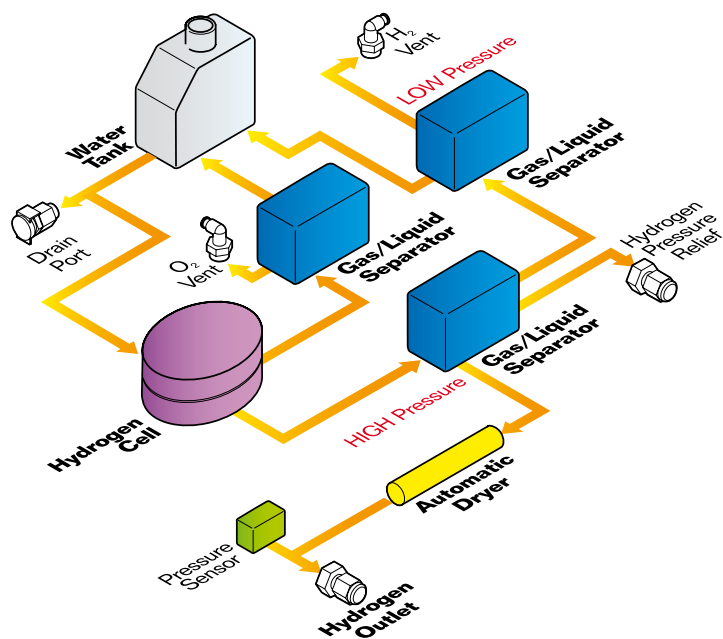
Hydrogen is produced using distilled or deionized water from hydrolysis, through a polymer membrane.

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.

The patented automatic drying system ensures the maximum grade of hydrogen purity.

The exclusive cascading option allows up to 10 units to be connected in series, producing flow-rates of up to 10 litres!



Models and characteristics

Models	NM-H ₂ -100	NM-H ₂ -160	NM-H ₂ -250	NM-H ₂ -300	NM-H ₂ -500	NM-H ₂ -600	NM-H ₂ -1000
Flow (cc/min.)	100	160	250	300	500	600	1000
Technology	polymer electrolyte membrane (PEM)						
Dryer	exclusive dual automatic regeneration system						
Purity	99.99999%						
Outlet pressure	1-155 psig/0.1-10 barg						
Internal volume	< 50 ml at max pressure						
Display	operating parameters, system status, alarms						
LED indicators	power on/off, system ready, errors						
Options	RS 232C or RS 485, Autorefill, external contacts, PC control						
Cascading	NO	NO	YES	YES	YES	YES	YES
Water quality	deionized or demineralized						
Power	110 - 220 V 50 - 60 Hz						
Dimensions (cm)	230W x 430H x 353D						
Connections	1/8 Swagelok						
Weight (kg)	17	17	17	17	18	18	20
Certification	CE - CSA - ATEX						

Hydrogen gas generators

PG-H₂



The PG-H₂ hydrogen generators use the latest polymer electrolyte membrane (PEM) technology to produce pure hydrogen.

The PG-H₂ series generators are ideal for:

- Ionization flame detector (FID)
- Carrier gas for GC e GC-MS
- Collisions on ICP-MS
- Small fuel-cell cylinder refills

Benefits

Improved chromatograph results

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.

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.

Savings

Hydrogen gas generators avoid the need for expensive installation of gas pipelines from the cylinder storerooms to the labs, as well as the need to repeatedly change the bottles.

Longer analytical column life

The use of hydrogen as a carrier gas allows lower temperature elution, thus extending the life of the chromatograph column.

Lab productivity

Continuous operation 24 hours a day allows maximum lab productivity, cutting dead time for gas bottle changeover and maintenance of the drying system.

Specifications

Models available: 100, 160, 250, 300, 500, 600 cc/min.

Purity: 99.9999%

Outlet pressure: adjustable by electronic controller up to 7 bar

Full microprocessor control

LCD display interface: real time outlet pressure, water quality, autodiagnosics with alarms

H₂ leak detectors, water level and quality sensors

Extremely low noise operation: no pumps are used

Easy and quick use: no caustic solution used and simple dryer regeneration

*Certification: CE & CSA
ATEX certified*

PG-H₂ hydrogen generators

Operating diagram

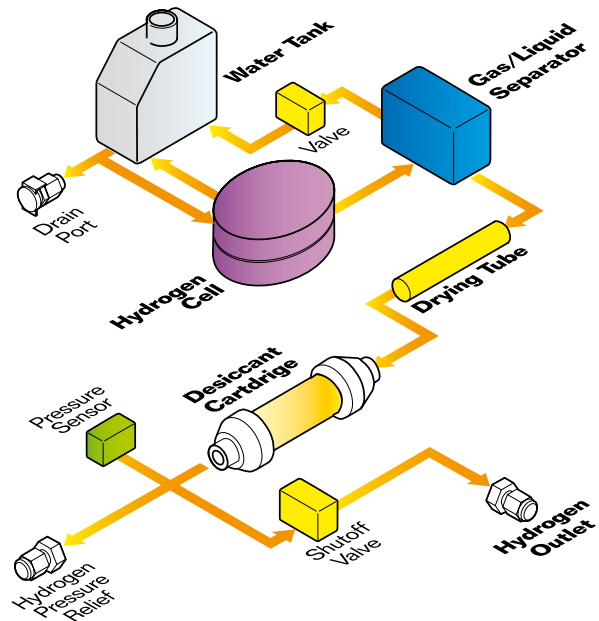
Hydrogen is produced using distilled or deionized water from hydrolysis, through a polymer membrane.

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.

The drying filter is easy to remove for regeneration; a signal is shown on the display when filter regeneration is required.

The exclusive cascading option allows up to 10 units to be connected in series, producing flow-rates of up to 10 litres!



Models and characteristics

Models	PG-H ₂ -100	PG-H ₂ -160	PG-H ₂ -250	PG-H ₂ -300	PG-H ₂ -500	PG-H ₂ -600
Flow cc/min.	100	160	250	300	500	600
Membrane	polymer electrolyte membrane (PEM)					
Purity	99.9999%					
Outlet pressure	1-105 psig / 0.1-7 barg					
Internal volume	< 50 ml at max pressure					
Display	operating parameters, system status, alarms					
LED indicators	power on/off, system ready, errors					
Options	RS232C or RS485, Autorefill, external contacts, PC control					
Cascading	NO	NO	YES	YES	YES	YES
Water quality	deionized or demineralized					
Power	110 - 220V 50 - 60Hz					
Dimensions (cm)	230W x 430H x 353D					
Connections	1/8 swagelock					
Weight (kg)	17	17	17	17	18	18
Certification	CE - CSA - ATEX					