



COMBINE HYDROGEN/ ZERO AIR GAS GENERATOR SERIE H2-ZA



This unit can provide both hydrogen gas and zero grade air to FID detectors on Gas Chromatographs .

Hydrogen gas is produced from deionised water using a Proton Exchange Membrane Technology. Zero air is produced by purifying compressed air sourced from the air network to a total hydrocarbon concentration of < 0.05 ppm (measured as methane).

An interchangeable top panel allows for direct mounting of the three models of H2 generator (needs only to specific the H2 model). Units are complete systems with highly reliable components engineered for easy installation, operation, and long term performance.

APPLICATIONS :

- *Fuel gas and air Flame Ionization Detectors
- *Flame Photometric Detectors
- *Total Hydrocarbon Analyzers.

Benefits and Savings

■ Improved chromatograph result

The reduction of hydrocarbons on zero air part, including methane to < 0.05 ppm decreases the background noise level and gives the baseline much better stability, considerably increasing detector sensitivity and ensuring precise analytical results.

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.

■ Save money

The unit only requires connection to a suitable socket and to external source of compressed air for the zero air part. The investment can be paid back in less than one year.

■ Improved safety

The very limited internal volume (less than 50 ml for H2) 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

An interchangeable top panel allows for direct mounting of the three models of H2 generator (needs only to specific the H2 model)

FOR ZERO AIR PART :

- flow available : 1,5 - 3 - 6 L/min
- HC < 0.05 ppm
- CO < 0.05 ppm
- External clean and dry air compressor required at maxi. 7 bar

FOR HYDROGEN PART :

- 3 models available : ND-H2, PAR-H2 and WM-H2 series
- Flow rate available : 120,180, 260, 400, 500, 650, 800, 900 and 1000 cc/min depending on H2 models
- PEM technology
- Pressure up to 12 bar
- Patented gas/water separator electronically controlled
- LCD touch screen :real time outlet pressure, water quality, water level, auto diagnostics with alarms
- Remote PC monitoring in standard via RS232 or RS485 to interface the unit with customer's PC software
- Water tank protected and filtered
- Remote wireless display control in option
- Auto refill included in standard

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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.

The drying system is different following the model used :

- ND-H2 Series : the desiccant cartridge is easy to remove for replacement or for refilling
- PAR-H2 Series : used a single column dryer with programmable automatic regeneration via an integrated calendar
- WM-H2 Series : no desiccant cartridge maintenance is required : used a double column dryer with automatic regeneration

Zero Air part use three steps to transform ambient air into analytical grade air.

Step 1: Pre-filtration.

The external oil-free compressor delivers air through a high efficiency filter that traps any particles that may damage the system. The filter has an automatic purge and traps oil, water and any other particles larger than 5 microns in size.

Step 2: HC and CO trapping.

The air leaving the filter enters a high-temperature platinum catalyser, which through oxidation eliminates hydrocarbon molecules down to < 0.05 ppm.

Step 3: Final filtration.

A high-efficiency filter is used to prevent any kind of particles from entering the instrument.

Technical Specifications

ZERO AIR SPECIFICATIONS

ZA Models	ZA-1500	ZA-3000	ZA-6000
Flow rate (cc/min)	1500	3000	6000
Total HC out	< 0.05 ppm		
Total CO out	< 0.05 ppm		
Pressure out	@ 5 bar		

HYDROGEN SPECIFICATIONS

H2 Models	ND-H2 Séries	PAR-H2 Séries	WM-H2 Séries
Flow rate (cc/min)	120,180, 260, 400	120,180, 260, 400, 500, 650, 800, 900	120,180, 260, 400, 500, 650, 800, 900, 1000
Purity	> 99.9995%	> 99.9999%	> 99.99999%
Max. Pressure	@ 12 bar		
Internal water tank	2.3 liters with autorefill included		
Temperature range	From 5°C to 35°C		
LCD touch screen	Resolution 128x64 touch screen (operating parameters, system status, alarms)		
Communication ports	RS-232, RS-485, USB, LAN in serie for PAR-H2 , WM-H2 and in option for ND-H2		
In option	- Remote wireless display control - Possible to working in parallal mode		
Water quality	Deionised or distilled > 10MΩ		
Dimensions (L x H x P)	40x63x53 cm		
Outlet port	1/8 Swagelock		
Weight	From 20 to 35kg depends of model		
Power consumption	From 200W to 800W depend of model		

	Flow rate	Flow rate		Flow rate	Flow rate		Flow rate	Flow rate
H2/AIR 120-1.5	120 cc/min	1.5 L/min	H2/AIR 120-3	120 cc/min	3.0 L/min	H2/AIR 120-6	120 cc/min	6.0 L/min
H2/AIR 180-1.5	180 cc/min	1.5 L/min	H2/AIR 180-3	180 cc/min	3.0 L/min	H2/AIR 180-6	180 cc/min	6.0 L/min
H2/AIR 260-1.5	260 cc/min	1.5 L/min	H2/AIR 260-3	260 cc/min	3.0 L/min	H2/AIR 260-6	260 cc/min	6.0 L/min
H2/AIR 400-1.5	400 cc/min	1.5 L/min	H2/AIR 400-3	400 cc/min	3.0 L/min	H2/AIR 400-6	400 cc/min	6.0 L/min
H2/AIR 500-1.5	500 cc/min	1.5 L/min	H2/AIR 500-3	500 cc/min	3.0 L/min	H2/AIR 500-6	500 cc/min	6.0 L/min
H2/AIR 650-1.5	650 cc/min	1.5 L/min	H2/AIR 650-3	650 cc/min	3.0 L/min	H2/AIR 650-6	650 cc/min	6.0 L/min
H2/AIR 800 -1.5	800 cc/min	1.5 L/min	H2/AIR 800 -3	800 cc/min	3.0 L/min	H2/AIR 800 -6	800 cc/min	6.0 L/min
H2/AIR 900-1.5	900 cc/min	1.5 L/min	H2/AIR 900-3	900 cc/min	3.0 L/min	H2/AIR 900-6	900 cc/min	6.0 L/min
H2/AIR 1000-1.5	1000 cc/min	1.5 L/min	H2/AIR 1000-3	1000 cc/min	3.0 L/min	H2/AIR 1000-6	1000 cc/min	6.0 L/min



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