

# PG PLUS FID TOWER HYDROGEN + ZERO AIR GENERATOR



www.vicidbs.com

DETECTOR GRADE



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## DESCRIPTION

The VICI DBS® PG Plus FID Tower combines the reliability of the hydrogen generator with a zero air generator into one compact package. The FID Tower can be installed next to the GC and it's small size preserves valuable bench space. This simple but effective instrument can supply all your FID detector grade gas requirements. Designed as a hazard free alternative to high pressure cylinders, all that is required is deionized water, compressed air and a standard electrical supply for weeks of continuous operation.

Utilizing the VICI DBS proprietary prepared field proven PEM (Proton Exchange Membrane) incorporated inside a 100% titanium cell provides superior generator performance and cell longevity. The unique high pressure permeation membrane drying system eliminates the requirement for desiccant cartridges along with the associated downtime and cost. Innovative software control allows unrivaled operational performance and safety as well as the additional options of remote networking and cascading for built in redundancy.

With a maximum output capacity of 600 mL/min, one generator can supply up to 14 GCs. The compact design allows the generator to be installed directly in the laboratory eliminating the requirement for long gas lines and guaranteeing the delivery of high purity gas to your instruments.

A sophisticated control system connected to an easy to use touch screen control continuously monitors the vital operating parameters to ensure safe and consistent performance. Built in sensors will shut the generator down if internal/external leaks are present, contaminated water, low water or over pressure. This is why VICI DBS generators meet the strict safety guidelines to be certified for CE, FCC, MET (UL and CSA compliant).

Compressed air is prefiltered and then purified using a state of the art combined heated catalyst module. The zero grade air is free from total hydrocarbons to <0.1 ppm, making it ideal for all FID applications. These levels assure a low signal to noise ratio, ensuring a flat and stable baseline.



### INCREASE EFFICIENCY

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



### ENHANCE PERFORMANCE

Gas generators can be installed in the laboratory close to the instrument, eliminating the need for long gas lines from external cylinder supplies. A constant guaranteed high purity gas supply improves stability and ensures greater reproducibility of results.

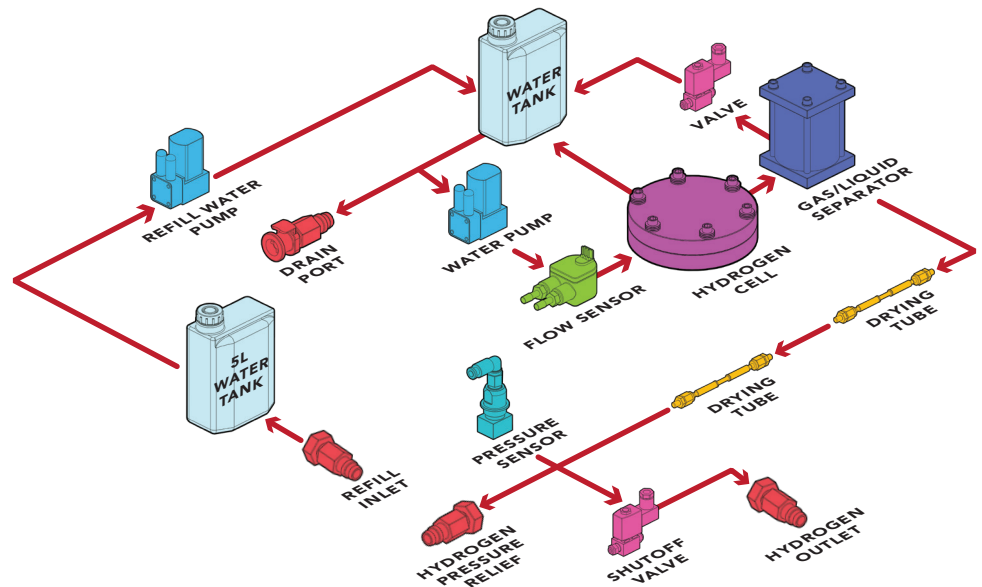


### IMPROVE SAFETY

Gas is produced on demand, which allows for the safe use of the hydrogen generator when cylinders are prohibited or regarded as potentially dangerous. Sophisticated easy to use software control and full alarm capability, including for hydrogen leaks, gives the user full control of the gas supply.

## OPERATING DIAGRAM

Hydrogen is produced from the hydrolysis of deionized water across a PEM (proton exchange membrane), housed in a 100% titanium cell. The output hydrogen is dried via a dual stage process, a gas liquid separator and a unique dual high performance permeation dryer. In addition to water all the generator requires is a standard connection and supply of electricity for a continuous 24/7 supply of high purity hydrogen. Consumable items are limited to the replacement of a deionizer bag every six months.





## FEATURES

Produces a continuous supply of detector grade hydrogen & zero air | Compact space saving design preserves valuable bench space | On-demand supply 24/7 | H<sub>2</sub> flow rate: 100 to 600 mL/min | Zero Air flow rate: 1.8 or 5 L/min | H<sub>2</sub> Purity: >99.9996% zero air purity, 0.1 ppm of hydrocarbons | Pressure: 11 barg (160 psig) | Proprietary 100% titanium cell technology | Unique permeation membrane drying system | USB connectivity | 2-year complete cell and product warranty | Easy to install, operate and maintain



## BENEFITS

Eliminates dangerous high pressure cylinders helping to keep your employees safer | Frees up valuable bench space | Removes the logistics, inconvenience, downtime and costs of a cylinder system | Flow capacity and purity to match your specific instrument demands | Ideal for all GC detector applications | Meets and exceeds the requirements for the most demanding GC applications | Superior hydrogen production with reliable long life cell | Minimal maintenance - low cost of ownership | PC monitoring for maintenance, diagnostics and remote connection | Peace of mind | Improve your laboratory work flow and productivity



## OPTIONS

Zero air flow options: 1.8 L/min or 5 L/min | I/O board | Remote control software (RS232 or USB) | Cascading hardware



## APPLICATIONS

### GC APPLICATIONS

- GC-FID fuel gas
- GC-NPD plasma gas
- GC-FPD fuel gas

### ANALYZER APPLICATIONS

- Total hydrocarbon analyzer (THA) fuel gas

### OTHER LAB APPLICATIONS

- Hydrogenation reactors
- Hydrogen fuel cells

## ORDERING INFORMATION (for best service, please call to discuss your application before placing your order).

### PG PLUS 100 FID TOWER

**DB-FTHG100-EU** 230-240V/50-60Hz  
**DB-FTHG100-US** 115V/60Hz  
**DB-FTHG100-JP** 100V/60Hz

### PG PLUS 160 FID TOWER

**DB-FTHG160-EU** 230-240V/50-60Hz  
**DB-FTHG160-US** 115V/60Hz  
**DB-FTHG160-JP** 100V/60Hz

### PG PLUS 250 FID TOWER

**DB-FTHG250-EU** 230-240V/50-60Hz  
**DB-FTHG250-US** 115V/60Hz  
**DB-FTHG250-JP** 100V/60Hz

### PG PLUS 300 FID TOWER

**DB-FTHG300-EU** 230-240V/50-60Hz  
**DB-FTHG300-US** 115V/60Hz  
**DB-FTHG300-JP** 100V/60Hz

### PG PLUS 500 FID TOWER

**DB-FTHG500-EU** 230-240V/50-60Hz  
**DB-FTHG500-US** 115V/60Hz  
**DB-FTHG500-JP** 100V/60Hz

### PG PLUS 600 FID TOWER

**DB-FTHG600-EU** 230-240V/50-60Hz  
**DB-FTHG600-US** 115V/60Hz  
**DB-FTHG600-JP** 100V/60Hz

MODELS & SPECS	PG PLUS 100 FID TOWER	PG PLUS 160 FID TOWER	PG PLUS 250 FID TOWER	PG PLUS 300 FID TOWER	PG PLUS 500 FID TOWER	PG PLUS 600 FID TOWER
H2 Flow mL/min	100	160	250	300	500	600
Purity	>99.9996%					
Dew point at 7 barg (100 psig)	-25°C (-13 °F)					
Outlet pressure barg (psig)	0.5 to 11 (7 to 160)					
Technology	PEM (Proton Exchange Membrane) - 100% Titanium cell					
Drying system	Regenerative Permeation Membrane					
Deionized water quality	Minimum < 1 micro S/cm @ 25°C - 1 Mohm-cm @ 25°C - ASTM II Recommended < 0.2 microS/cm @ 25°C - 5 Mohm-cm @ 25°C - ASTM II					
Internal water tank (liters)	5					
Safety	Automatic shut down - internal/external hydrogen leak, overpressure and low water					
Display	Touch screen with operating parameters, system status and safety alarms					
LED indicators	Power on/off, system ready, errors					
Interface	USB mod A					
Electrical supply	110-120V 60Hz / 220-240V 50Hz					
Power consumption (watts)	65	85	115	133	180	280
Dimensions mm (in)	140W x 490H x 580D (5.5W x 19H x 22.8D)					
Weight kg (lbs)	22 (48.5)		23 (50)		24 (53)	
Shipping dimensions mm (in)	770W x 590H x 410D (30.3W x 23.2H x 16.1D)					
Shipping weight kg (lbs)	26 (57)		27 (59.5)		28 (62)	
Operating temp °C (°F)	15 to 35 (59 to 95)					
Outlet connection	1/8" Compression					
Certification	CE, FCC, MET (UL and CSA compliant)					
OPTIONS						
Cascading	Up to 10 units – built in redundancy for guaranteed up-time					
Interface	RS232/RS485, external contacts, PC control and intranet					

### CHOOSE YOUR ZERO AIR FLOW RATE

Zero Air is built into the PG Plus FID Tower and you have two choices for flow rates. When ordering, be sure to select the Zero Air flow rate best suited to your needs.

ZERO AIR FLOW OPTIONS	DB-FT-1800	DB-FT-5000
Flow mL/min	1800	5000
Purity - hydrocarbons + CO	<0.1 ppm	
Inlet pressure barg (psig)	4.5 to 10 (65 to 145)	
Inlet air quality	Clean dry compressed air ISO8573-1:2010 Class 1.2.1	
Max outlet pressure barg (psig)	5 (73)	
Max HC in	100 ppm	
Max CO in	50 ppm	