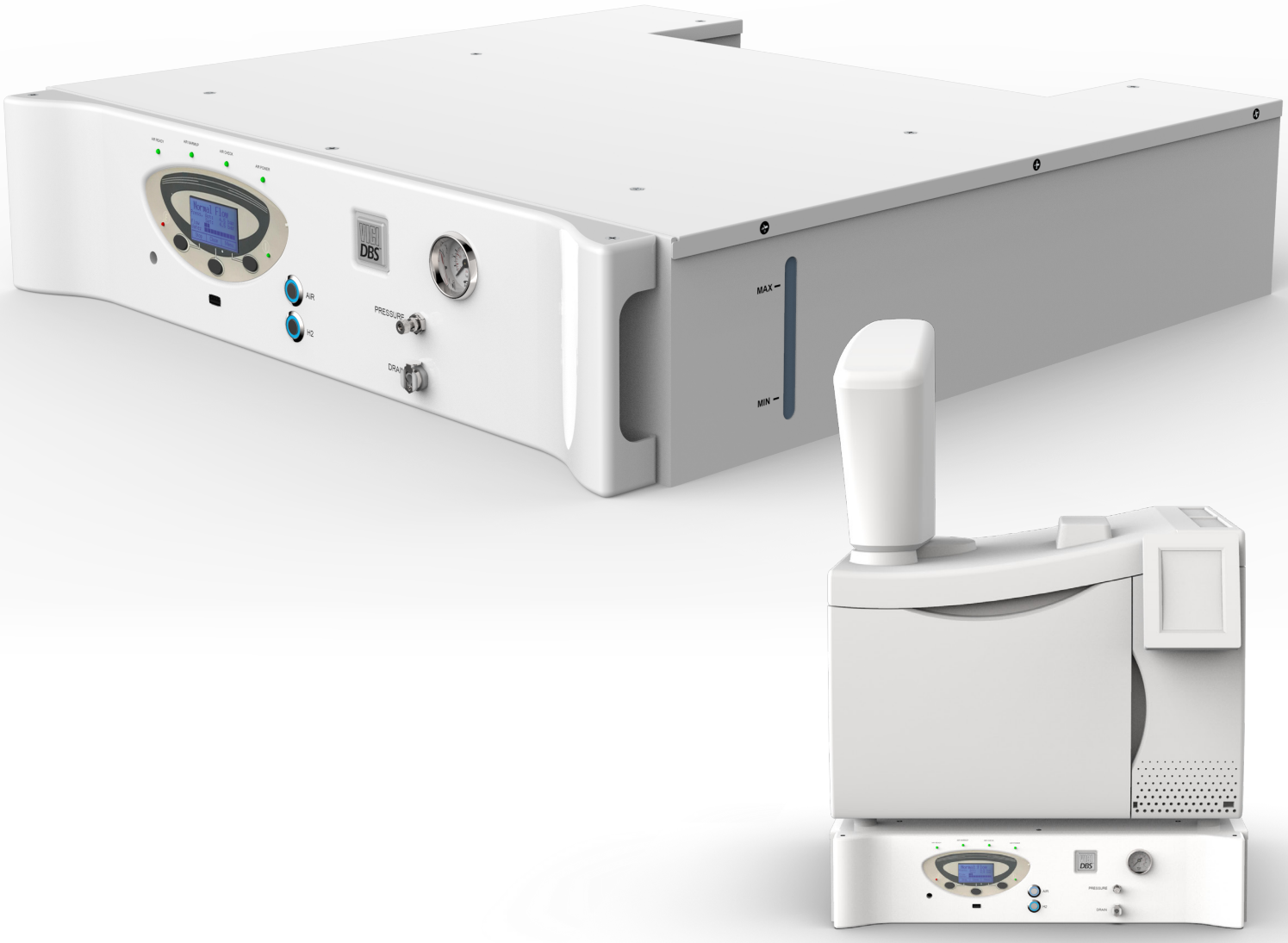
NM PLUS FID STATION
H2 + ZERO AIR GENERATOR

VICI DBS®
www.vicidbs.com

CARRIER GRADE

Scantec Nordic
Analys & Mätteknik
031 336 90 00 • www.scantecnordic.se



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DESCRIPTION

The VICI DBS® NM Plus FID Station is a unique instrument that combines the reliability of the hydrogen generator with a zero air generator into one compact package. The FID Station can be installed under the GC taking up no additional bench space. This simple but effective instrument can supply all your carrier gas and FID 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.

Innovative software control allows unrivaled operational performance and safety as well as the additional options of auto water feed, remote networking and cascading for built in redundancy. With a maximum output capacity of 1350 mL/min, one generator can supply up to 32 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 GC.

A sophisticated control system connected to an easy to use touch screen continuously monitors vital operating parameters to ensure a 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 the VICI DBS generators meet the strict safety guidelines to be certified for CE, FCC, and MET (UL and CSA compliant).

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 RESULTS

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

IMPROVE SAFETY

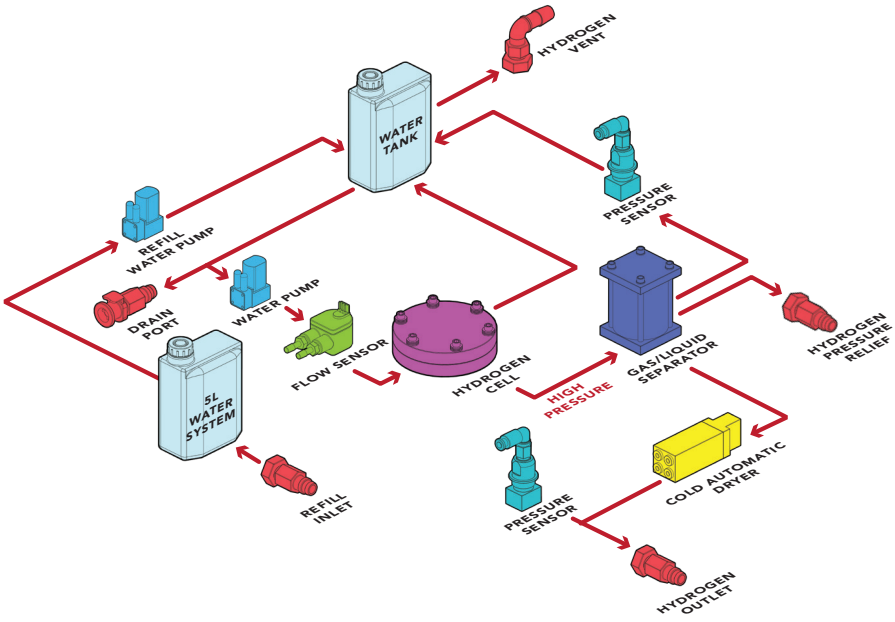
Gas is produced on demand, which allows for the safe use of the hydrogen generator when cylinders are prohibited or regarded as potentially dangerous. Sophisticated software control and full alarm capability, including for hydrogen leaks, gives the users full control of the gas supply.

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.

OPERATING DIAGRAM

Hydrogen is produced from the hydrolysis of deionized water across a PEM (proton exchange membrane), housed in a 100% titanium cell. The resultant hydrogen is dried via a dual stage process, a gas liquid separator and a unique cold static automatic dryer. In addition to water all that 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 hydrogen | Compact and robust design to accommodate up to 80 kg (176 lbs.) top loading - suits all GC manufactures | Space saving design, the GC sits directly on top of the generator | On-demand supply 24/7 | H2 Flow rate: 100 to 1350 mL/min & zero air up to 5 L/min | H2 Purity: +99.99996% & zero air <0.1 ppm THC | Pressure: 11 barg (160 psig) | Proprietary 100% titanium cell technology | Unique permeation membrane drying system | Cold dual dynamic regeneration dryer | 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 bench space | Removes the logistics, inconvenience, downtime and costs of a cylinder system | Flow capacity to match your specific instrument demands | Ideal for all GC and GC/MS applications | Meets and exceeds the requirements for the most demanding GC applications | Superior hydrogen production with reliable long life cell | Minimal maintenance - no desiccant cartridge to change | PC Monitoring for maintenance, diagnostics and remote connection | Peace of mind | Improve your laboratory work flow and productivity

APPLICATIONS

GC APPLICATIONS

- GC carrier gas
- GC/MS carrier gas
- GC fuel gas
- GC-ELCD & Hall ELCD reaction gas

SPECTROSCOPY APPLICATIONS

- ICP-MS Collision cell reaction gas

ANALYZER APPLICATIONS

- Total Hydrocarbon Analyzer (THA) fuel gas
- Chemisorption/Physisorption measurement gas

OTHER APPLICATIONS

- Chemical vapor deposition instrumentation (CVD)
- Plasma cleaning instrumentation (UCP)
- High efficiency process gas
- Hydrogenation reactors
- Hydrogen fuel cells
- Weather balloon filling
- Electronic nose (eNose)
- 3-D chromatography

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

NM PLUS 100 FID STATION	
DB-FNM100-EU	230-240V/50-60Hz
DB-FNM100-US	115V/60Hz
DB-FNM100-JP	100V/60Hz

NM PLUS 300 FID STATION	
DB-FNM300-EU	230-240V/50-60Hz
DB-FNM300-US	115V/60Hz
DB-FNM300-JP	100V/60Hz

NM PLUS 600 FID STATION	
DB-FNM600-EU	230-240V/50-60Hz
DB-FNM600-US	115V/60Hz
DB-FNM600-JP	100V/60Hz

NM PLUS 1000 FID STATION	
DB-FNM1000-EU	230-240V/50-60Hz
DB-FNM1000-US	115V/60Hz
DB-FNM1000-JP	100V/60Hz

NM PLUS 1350 FID STATION	
DB-FNM1350-EU	230-240V/50-60Hz
DB-FNM1350-US	115V/60Hz
DB-FNM1350-JP	100V/60Hz

MODELS & SPECS	NM PLUS 100 FID STATION	NM PLUS 300 FID STATION	NM PLUS 600 FID STATION	NM PLUS 1000 FID STATION	NM PLUS 1350 FID STATION
Flow mL/min	100	300	600	1000	1350
Purity	+99.99996%				
Dewpoint at 7 barg (100 psig)	-73 °C (-103°F)				
Outlet pressure barg (psig)	1.4 to 11 (20 to 160)				
Technology	PEM (proton exchange membrane) - 100% titanium cell				
Drying system	No maintenance cold dual dynamic regeneration system				
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)	7				
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 50 Hz				
Power consumption (watts)	90	150	300	400	450
Dimensions mm (in)	690W x 150H x 680D (27W x 6H x 26.7D)				
Weight kg (lbs)	41 (90)	42 (92.5)	43 (95)	44 (97)	45 (99)
Shipping dimensions mm (in)	890W x 385H x 800D (35W x 15.1H x 31.4D)				
Shipping weight kg (lbs)	47 (103)	48 (106)	49 (108)	50 (110)	51 (112)
Operating temp °C (°F)	15 to 35 (59 to 95)				
Outlet connection	1/8" Compression				
Certification	CE, FCC, MET (UL and CSA compliant)				

OPTIONS

Zero air option 1.8 L/min or 5 L/min | I/O board | Remote control software (RS232 or USB) | Cascading hardware (standard or high purity) | FID-station MS extension | Auto water refill

CHOOSE YOUR ZERO AIR FLOW RATE

Zero Air is built into the NM Plus FID Station 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-FH-1800	DB-FH-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	