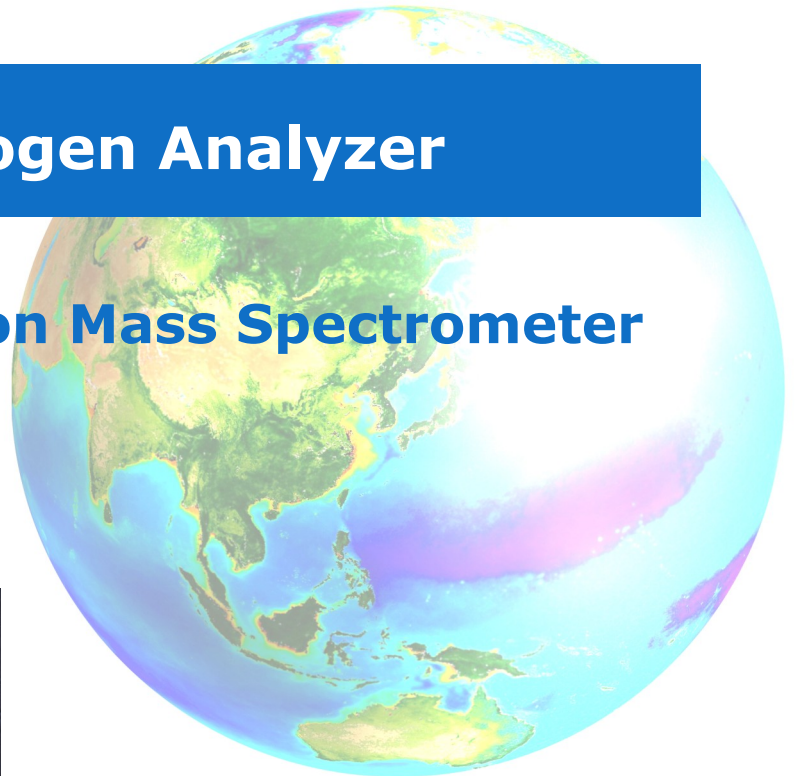
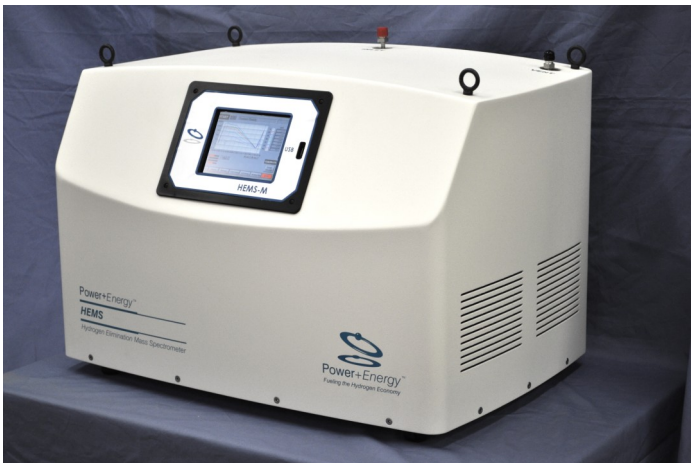


# HEMS Hydrogen Analyzer

## Hydrogen Elimination Mass Spectrometer



The Power+Energy HEMS Hydrogen Analyzer is a full spectrum instrument with limits of detection per impurity as low as 1 part-per-trillion\*. The analyzer is self-calibrating and, with a short analytical cycle time, can be used as an on-line impurity monitor. The compact package and automatic operation make it easy to use for quick sample verification at multiple points.

### SAMPLE ANALYSIS

HEMS-T analysis of a Power+Energy H<sub>2</sub> purifier output

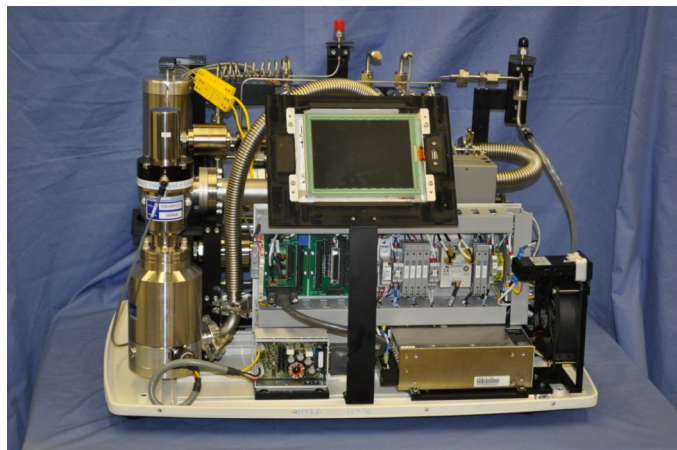
Impurity	Value (ppb)	LDL (ppb)
CH <sub>4</sub>	0.091	0.001
H <sub>2</sub> O	0.001	0.001
N <sub>2</sub> , CO	0.059	0.001
O <sub>2</sub>	0.001	0.001
CO <sub>2</sub>	0.004	0.001

The HEMS (hydrogen elimination mass spectrometer) analyzer uses P+E's patented palladium diffusion technology combined with advanced quadrupole mass spectrometry.

Compared to other analyzers, HEMS offers detection of the broadest range of impurities in a compact enclosure with automated operation at an affordable cost.

\*depends on model

# HEMS Hydrogen Analyzer



## STANDARD FEATURES

- Internal reference zero gas generation
- RGA chamber for analysis
- Automatic operation
- Touch screen data display

## APPLICATIONS

- LED device manufacturing
- Photovoltaic production
- GaN and SiC power semiconductors
- Polysilicon manufacturing
- Silicon device manufacturing
- LCD display processes
- Hydrogen fueling stations
- Hydrogen generation
- Packaged hydrogen certification



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## MODELS

- HEMS T** ppt detection for UHP analysis
- HEMS B** ppb detection for HP analysis
- HEMS M** ppm/ppb detection for fueling applications requiring SAE J2719/ISO14687-2 certification

Feature	Specification
H2 Inlet Purity HEMS T HEMS B HEMS M	99.99999% 99.999% 99.97%
Detection Limit	HEMS-T: 1 ppt HEMS-B: 100 ppt HEMS-M: 1000 ppt
Response Time	10 min (typical)
Operating Condition	10C–40C
Analysis Flow Rate	2,000 sccm (max)
Inlet Pressure	165 psig (11.4 Barg) max
Communications	USB Ethernet, RS-232 available
Instrument Air	70-90 psig (4.8-6.2 Barg)
Connection Type Vent connection	1/4" MVCR inlet/outlet House scrubber
Power	100-240 VAC 50/60 Hz
Dimensions	28"W x 18.5"D x 20"H (711 x 470 x 508 mm)
Weight	162 lbs (73.6 kg)