

The Purest Hydrogen on the Planet



APPLICATIONS

- GaN epitaxy
- SiC epitaxy
- Crystal growth
- Photovoltaic production
- III/V and II/VI MOCVD processes
- Polysilicon manufacturing
- Carbon nanotubes
- LCD display processes
- Silicon & compound semi

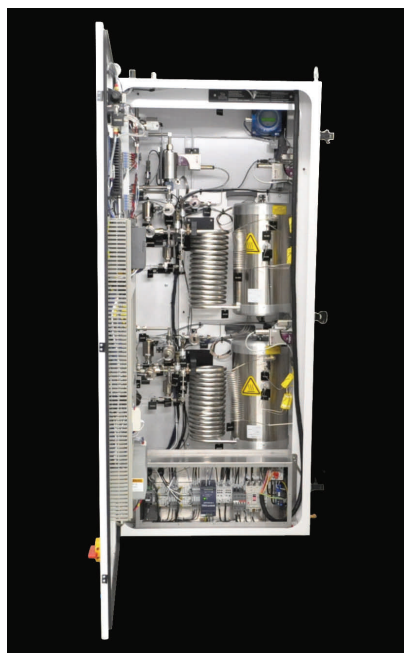
Power + Energy micro-channel palladium purifiers produce the purest hydrogen on the planet. All P+E purifiers use patented micro-channel palladium membrane technology to remove all impurities to parts per trillion levels. The PE9000MZ Series purifiers provide a durable gas purifier for any flow and any inlet gas source.

KEY FEATURES

- Ultra-pure hydrogen from any source
- Flow rates from 5-160 Nm³/hr.
- < 100 ppt O₂, H₂O, CO₂, CO, N₂, CH₄, NMHC
- Patented palladium micro-channel technology
- Low power consumption
- Low H₂ vent flow rate
- Smallest footprint—minimal side and no back clearance required
- Available in one (MZ1) or two (MZ2) cell configurations
- 50 different sizes to match your flow rate and pressure specifications

Palladium Advantages

- Only hydrogen passes through to the pure side—the purest gas
- Every impurity is removed—no exceptions
- Unlimited lifetime—no regeneration or vessel replacement
- Separates pure H₂ from source gas with ppm or % level impurities



PE9000MZ2 interior

STANDARD FEATURES

- Purity Certificate of Performance
- Class I, Div 2 design
- CE and ATEX compliant
- ASME U-stamp pressure vessels
- Battery backup for control system
- Inlet pressure regulator
- Inlet particle filter
- Separate purge for AC power and controls
- H₂ sensor
- Type-Z N₂ purge
- Pure gas sample port
- PLC with color touch screen display
- Alarm history and data storage
- Ethernet connection

OPTIONS

- Hydrogen Bypass
- Inlet mass flow meter
- Alarm light tower
- Forced air purge of process cabinet

Utility	Requirement
Hydrogen Input	300 psig (20.4 Barg) >99.95% 1/2" VCR
Nitrogen Input	70-90 psig (4.8-6.2 Barg) 99.95% recommended 1/4" VCR
Instrument Air	Air or N ₂ 70-90 psig (4.8-6.2 Barg) 1/4" VCR
Z-Purge	Air or N ₂ 70-100 psig (4.8-6.9 Barg) 1/4" VCR 25 slpm typical
UPH (Ultra Pure Hydrogen) Output	99.9999999% H ₂ 1/2" VCR
Bleed Gas Output	1-2% of rated flow Atmospheric pressure 1/4" VCR
Helium Leak Check Input	80-200 psig (5.4-13.6 Barg)
Power	200-240 VAC 50/60 Hz 2-16 kW Peak (startup) 0.7-4 kW average
Control Power	100-240 VAC 50/60 Hz
Exhaust Duct	6" (152mm) 133 scfm flow
Dimensions	38"W x 25"D x 76"H (971 x 661 x 1949mm)
Clearance	Front: 36" (914mm) Sides: 3" (76mm) min Back: 0" (0mm)
Weight	750-900 lbs (340-409 kg)