

The Purest Hydrogen On The Planet

saes
group

SAES Pure Gas

making **innovation happen**, together



Applications

- LED device manufacturing
- Silicon Carbide (SiC) epitaxy
- Crystal growth
- Photovoltaic production
- III/V and II/VI MOCVD processes
- Polysilicon manufacturing
- Carbon nanotubes
- LCD display processes
- Silicon & compound semi
- Fuel cells

SAES Pure Gas micro-channel palladium purifiers (formerly from **Power+Energy**) produce the purest hydrogen on the planet. These purifiers use patented micro-channel palladium membrane technology to remove all impurities to part-per-trillion levels. All palladium purifiers provide a durable purifier for any flow and any inlet gas source. This compact design provides the purest hydrogen for point-of-use or area gas purification.

Key Features

- Ultra-pure hydrogen from any source
- High flow capacity up to 1,010 slpm (65 Nm³/hr)
- <100 ppt O₂, H₂O, CO₂, CO, N₂, CH₄, NMHC
- Patented palladium micro-channel technology
- Lowest power consumption
- Smallest footprint - minimal side/back clearance
- 25 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
- Easy to verify performance with in-situ helium leak test

Micro-Channel Palladium Purifiers



Standard Features

- PLC with HMI color touchscreen
- Inlet 0.5 μ particle filter
- CE compliant
- Automatic N₂ purge
- H₂ sensor with alarm
- Inlet and outlet pressure sensor
- Alarm history and data storage
- Helium leak test port

Optional Features

- Deoxo catalyst pre-purifier
- Inlet mass flow meter
- MODBUS communication port
- Z-Purge of electrical bay
- Auto or manual bypass
- Separate control power
- Larger 5.7" HMI color touchscreen
- Purifier hold down brackets

Feature	Specification
Flow Rate	17 - 1,010 slpm (1 - 65 Nm ³ /hr.)
Maximum Inlet Pressure	300 psig (20.7 Barg)
Inlet Purity	99.95% typical
Outlet Purity	99.9999999% <1 ppb O ₂ , H ₂ O, CO, CO ₂ , N ₂ , CH ₄ , NMHC, Inerts
N ₂ Purge	72 - 98 psig (5 - 6.8 Barg)
Instrument Air & Z-Purge	Air or N ₂ 95 - 140 psig (6.6 - 9.7 Barg)
Power	200 - 240 VAC 50/60 Hz 1.6 - 4.8 kW
Dimensions	30"W x 19"D x 36"H (762 x 483 x 922 mm)
Weight	< 331 lb (< 150 kg)

Model Number	Maximum Flow Rate (slpm)	Maximum Flow Rate (Nm ³ /hr.)
PS7-PD1-05	77	5
PS7-PD1-10	155	10
PS7-PD1-15	233	15
PS7-PD1-20	311	20
PS7-PD1-25	389	25
PS7-PD1-30	466	30
PS7-PD1-35	544	35
PS7-PD1-40	621	40
PS7-PD1-45	699	45
PS7-PD1-50	776	50
PS7-PD1-55	854	55
PS7-PD1-60	932	60
PS7-PD1-65	1,010	65

Selected sizes shown above, other models available to closely match required flow rate



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The Technology of Pure Gas

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