

PSH Series Hydrogen Purifiers



Johnson Matthey, the industry leader in point-of-use and bulk palladium membrane based hydrogen purifiers offers the PSH Series bulk hydrogen purifier. The PSH Series are a cost effective, single system solution for hydrogen flows up to 60 Nm³/hr designed to meet the ever increasing demands of the semiconductor industry. The PSH Series utilizes Johnson Matthey's patented V-purge technology to ensure quick start-up and rapid removal of hydrogen during power failure and other alarm conditions.

Features:

- Palladium membrane technology
- Purifies gas to <1ppb O₂, H₂O, CO, CO₂, N₂ and THC
- Accepts inlet gas 99.9% or better
- Catalytic pre-purifier to protect against oxygen impurity spikes
- Automatic nitrogen purge during power loss or alarm utilizing JM's patented V-Purge technology
- Compact single cabinet design for installation in Class 1 Division II environment (Z-purged control cabinet)
- PLC controlled with touch screen HMI interface

Options:

- Automatic or manual hydrogen by-pass line
- Inlet mass flow meter
- Outlet pressure transducer
- Automatic bleed flow control (requires mass flow meter option)
- RS 485 Network communications
- Battery backed controls (UPS)
- Hydrogen sensor
- Separate electrical enclosure
- Outdoor mechanical enclosure
- Ducted enclosure



Johnson Matthey
Gas Purification Technology

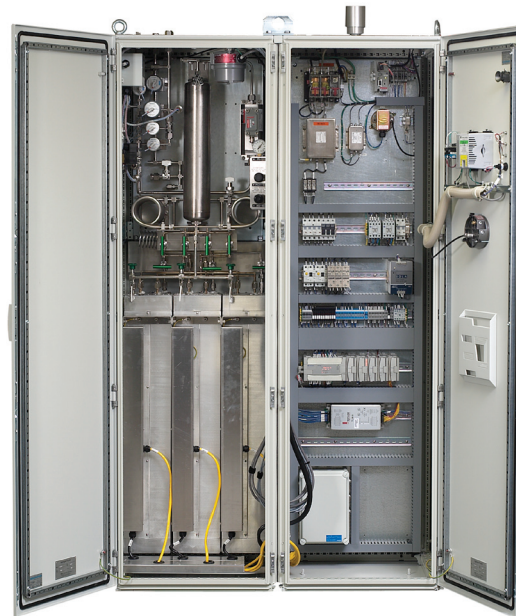
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Specifications

Parameter		PSH-10, PSH-20, PSH-30	PSH-40, PSH-50, PSH-60
Hydrogen	Flow Rate	PSH-10 10 Nm ³ /hr PSH-20 20 Nm ³ /hr PSH-30 30 Nm ³ /hr	PSH-40 40 Nm ³ /hr PSH-50 50 Nm ³ /hr PSH-60 60 Nm ³ /hr
	Pressure	85 - 360 psig (6 -25 barg)	85 - 360 psig (6 -25 barg)
Dimensions	Width (mm)	47" (1204)	71" (1803)
	Depth (mm)	20" (505)	20" (505)
	Height (mm)	80" (2035)	80" (2035)
Electrical Power	Voltage - Phase - Frequency	240 VAC -1 - 50/60	240 VAC -1 - 50/60
	Average / Peak Power	PSH-10 2 / 4.5 kW	PSH-40 5 / 10.8 kW
		PSH-20 3 / 6.6 kW	PSH-50 6 / 12.9 kW
		PSH-30 4 / 8.7 kW	PSH-60 7 / 15 kW
Purge Gas (During V-Purge)	Pressure	80 ± 10 psig (5.5 ± 0.7 barg)	80 ± 10 psig (5.5 ± 0.7 barg)
	Flow Rate (Nm ³ /hr)	0.3 nominal, 5 minutes @ 4 during full purge	0.6 nominal, 5 minutes @ 8 during full purge
	Purity (concentration)	99%	99%
Bleed Hydrogen	Flow Rate (Nm ³ /hr)	0.5 to 1.2 nominal	1.0 to 2.24 nominal
Pneumatic Supply	Gas	Dry Air or Nitrogen	Dry Air or Nitrogen
	Pressure	90 ± 10 psig (6.2 ± 0.7 barg)	90 ± 10 psig (6.2 ± 0.7 barg)
Hydrogen Vent	During V-Purge	Atmospheric pressure 70 slpm peak	Atmospheric pressure 70 slpm peak



Control panel includes a PLC with color touch screen interface and continuous monitoring of the purged electrical bay to assure safety compliance.



Inside view shows separate mechanical and electrical systems.



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