

GPS8 Nitrogen Gas Purifiers

Efficient bulk gas removal of H_2O , O_2 , CO , CO_2 , and H_2 impurities

Entegris GPS8 auto regenerable bulk gas purifiers efficiently remove multiple impurities with high reliability, low cost, and high performance.

Entegris has drawn on years of experience in ultra-high purity (UHP) piping design, advanced process material analysis, and state-of-the-art integrated control systems to develop this family of purifiers to meet the needs of low capital cost, high reliability, and high performance.

STANDARD FEATURES

- Fully automated microprocessor controller
- Human machine interface (HMI)
- Electric gas preheaters
- Closed-loop temperature controls
- Standard customer interface connections:
 - Alarm relay: Fail-safe relay contacts allow remote detection of alarm/warning condition
 - Gas relay: Fail-safe relay indicating purifier status
 - Remote contact shutdown: Allows remote shutdown of the purifier
- All metal enclosure with doors
- Inlet and outlet pressure transducers
- All-Welded hydrogen blending station
- High temperature hardware interlock
- Over pressurization safety system
- Ground fault for equipment protection (GFEP)
- Emergency off (EMO) button



Optimized design with flow rates up to 833,333 slpm.

OPTIONAL FEATURES

- Inlet and outlet isolation valves
- Internal inlet mass flow meter
(Available for flows $\leq 6000 \text{ Nm}^3/\text{hr}$)
- External inlet mass flow meter
(Available for flows $\geq 6600 \text{ Nm}^3/\text{hr}$ only)
- Air cooled heat exchanger for regeneration exhaust gas
(for flows 200 to $350 \text{ Nm}^3/\text{hr}$)
- Water cooled heat
(Available for flows 400 to $20,000 \text{ Nm}^3/\text{hr}$)
- Auto or manual bypass
- Particle filter
- Separate control power
- MODBUS® data communication port
- Purifier hold down brackets
- Uninterruptible power supply (UPS)
- Instrument air management system
- System backup column
(Available for flows of 200 to $6000 \text{ Nm}^3/\text{hr}$)

APPLICATIONS

- Semiconductor
- Data storage
- Flat panel display
- LED
- Solar

FEATURES & BENEFITS

Dual adsorption processing	Provides ultra-high purity gas for semiconductor applications
Two adsorber vessels alternate between purify and regeneration modes	Provide continuous purification in a single process
Optimized design	Provides sub-ppb performance in small footprints with flow rates up to 833,333 slpm (50,000 Nm ³ /hr)

SPECIFICATIONS

PURIFIER MODEL				
DIMENSIONS	H	W	D	WEIGHT
PS8-MGS10 - PS8-MGS40	138 cm	80 cm	40 cm	<110 kg
PS8-MGS50 - PS8-MGS60	168 cm	87 cm	61 cm	<180 kg
PS8-MGS90 - PS8-MGS120	165 cm	100 cm	70 cm	<300 kg
GPS8-MGT200 - GPS8-MGT300	216 cm	170 cm	127 cm	<1,500 kg
GPS8-MGT400 - GPS8-MGT1400	216 cm	229 cm	170 cm	<2,300 kg
GPS8-MGT1500 - GPS8-MGT3000	241 cm	279 cm	193 cm	<5,600 kg
GPS8-MGT3500 - GPS8-MGT6000	272 cm	325 cm	264 cm	<7,100 kg
GPS8-MGT6600 - GPS8-MGT12500	272 cm	376 cm	270 cm	<8,500 kg
GPS8-MGT13000 - GPS8-MGT20000	272 cm	457 cm	270 cm	<9,500 kg
Outdoor Enclosure Options (OPAL) Factory Regenerable Bulk Gas Purifiers (PS14)	For outdoor installation, see our outdoor enclosure options Ambient temperature weld gas or temporary purification			
Gas purified	N ₂			
Impurities removed to <1 ppb	H ₂ O, O ₂ , CO, CO ₂ , H ₂			

ANALYTICAL SPECIFICATIONS

IMPURITY	STANDARD INLET PURITY ¹	STANDARD OUTLET PURITY ^{1, 2}
O ₂	<2.0 ppm	<0.1 ppb
CO	<1.0 ppm	<0.1 ppb
CO ₂	<0.5 ppm	<0.1 ppb
H ₂	<2.0 ppm	<0.15 ppb
H ₂ O	<5.0 ppm	<0.1 ppb
TOC (>C ₅ as C, H ₈)	–	<1.0 ppt ³
Acids (as SO ₂)	–	<1.0 ppt ³
Bases (as NH ₃)	–	<5.0 ppt ³
Refractory Compounds (as HMDSO)	–	<1.0 ppt ³

¹ Consult factory for non-standard inlet or outlet purity requirements.

² Tested to <1ppbv at the factory. Gas purity levels indicated will be achieved after the purifier has performed two regenerations per adsorber bed after on-site commissioning.

³ Not tested at the factory.

FLOW RATES	Nm ³ /hr	slpm
PS8-MGS10 - PS8-MGS40	10 – 40	167 – 667
PS8-MGS50 - PS8-MGS60	50 – 60	833 – 1,000
PS8-MGS90 - PS8-MGS120	90 – 120	1,500 – 2,000
GPS8-MGT200 - GPS8-MGT300	200 – 300	3,333 – 5,000
GPS8-MGT400 - GPS8-MGT1400	400 – 1,400	6,667 – 23,324
GPS8-MGT1500 - GPS8-MGT3000	1,500 – 3,000	24,990 – 49,980
GPS8-MGT3500 - GPS8-MGT6000	3,500 – 6,000	58,310 – 99,960
GPS8-MGT6600 - GPS8-MGT12500	6,600 – 12,500	109,956 – 208,250
GPS8-MGT13000 - GPS8-MGT20000	13,000 – 20,000	216,580 – 333,200
Maximum pressure drop	<0.7 bar (70 kPa)	

Note: Purifiers are gas specific and should only be used for the gas indicated.

FOR MORE INFORMATION

Please call your Regional Customer Service Center today to learn what Entegris can do for you. Visit [entegris.com](https://www.entegris.com) and select the [Contact Us](#) link to find the customer service center nearest you.

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