



GATEKEEPER® HYDROGEN GAS PURIFIERS

Cost-effective, environmentally friendly gas purification



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Overview

Available for low- and high-flow point-of-use applications, GateKeeper® hydrogen gas purifiers are designed for use with H₂ and H₂/inert gas mixtures. The purifiers remove O₂, CO, CO₂ and H₂O to sub-ppb (parts-per-billion) levels.

Features and Benefits

Cost-effective

- Regenerable for low cost of ownership
- Gas purification improves process consistency, increases product yields and lengthens tool life
- Transforms low-purity gas into UHP grade, reducing process costs

Environmentally Friendly

- Regenerable – eliminates disposal issues

Process Protection

- Consistently delivers ultrapure gas
- Guards against bulk gas purifier breakthrough, impurity spikes from liquid storage tanks, cylinder changeouts and unexpected contaminants in the process
- Does not release hydrocarbons that may contaminate the process
- Low pressure drop across purifiers
- CE certified to the Pressure Equipment Directive (PED) and manufactured in an ISO 9001:2000 facility
- Backed by global service and support staff

Safe and Simple to Use

- Easy to install
- Uses ambient temperature purification technology – no power or heat required
- No moving parts

General Specifications

Materials of construction:	316L stainless steel, electropolished 10 Ra, except for the 45M model (Cr-Mo steel, SA 372, Grade F, Class 70)	
Gases purified:	H ₂ , H ₂ /inert gas mixtures	
Outlet purity:	<1 ppb O ₂ , CO, CO ₂ , H ₂ O; the 45M model is <100 ppb for all contaminants	
Outlet particle filtration:	30KF to 75KF, 300KF to 10MH	0.003 µm 316L stainless steel
	100KF	0.003 µm nickel
	45M	20 µm 316L stainless steel
Media:	Nickel metallic/metal oxide	
Maximum differential pressure:	1379 kPa (200 psid)	
Minimum operating pressure:	101 kPa (14.7 psia)	
Leak rating:	30KF to 10MH	1 × 10 ⁻⁹ atm cc/sec
	45M	1 × 10 ⁻³ atm cc/sec
Maximum inlet challenge of contaminant to maintain product efficiency:	10 ppm (parts-per-million)	
Lifetime:	One year at nominal flow rate with 1 ppm inlet challenge of H ₂ O	
Maximum operating temperature:	65°C (149°F)	

Operating Specifications

Model	Maximum Flow Rate (SLPM)	Nominal Flow Rate (SLPM)	Maximum Operating Pressure Purifier Only ¹	Maximum Operating Pressure Purifier with Options ²	Pressure Drop ³
35KF	1	0.75	19995 kPa (2900 psig)	1724 kPa (250 psig)	3.4 kPa (0.5 psid)
70KF	3	2	19995 kPa (2900 psig)	1724 kPa (250 psig)	4.8 kPa (0.7 psid)
100KF	20	3	6895 kPa (1000 psig)	1724 kPa (250 psig)	27.6 kPa (4 psid)
300KF	50	3	4826 kPa (700 psig)	1724 kPa (250 psig)	34.5 kPa (5 psid)
500KF	60	18	4826 kPa (700 psig)	1724 kPa (250 psig)	48.3 kPa (7 psid)
500KFHP	60	18	19995 kPa (2900 psig)	19995 kPa (2900 psig)	48.3 kPa (7 psid)
700KF	120	26	4826 kPa (700 psig)	1724 kPa (250 psig)	48.3 kPa (7 psid)
2500KH	300 (1/4")	91	1724 kPa (250 psig)	1724 kPa (250 psig)	17.2 kPa (2.5 psid)
	500 (1/2")	91	1724 kPa (250 psig)	1724 kPa (250 psig)	17.2 kPa (2.5 psid)
10MH	1000	320	1724 kPa (250 psig)	1724 kPa (250 psig)	^{1/2"} - 62 kPa (9 psid) ^{3/4"} - 36.5 kPa (5.3 psid)
45M ⁴	5000	950	20684 kPa (3000 psig)	20684 kPa (3000 psig)	<655 kPa (<95 psid)

Drop-in Replacements for Waferpure® Purifiers

30KF (Micro)	1	0.5	19995 kPa (2900 psig)	1724 kPa (250 psig)	3.4 kPa (0.5 psid)
75KF (Mini-XL)	5	2	19995 kPa (2900 psig)	1724 kPa (250 psig)	10.3 kPa (1.5 psid)
300KF (Megaline)	50	9	4826 kPa (700 psig)	1724 kPa (250 psig)	34.5 kPa (5 psid)

¹ Do not use under vacuum. Minimum pressure should be 1 atm (14.7 psia). ² Pressure limited by standard valves, higher pressures available; please consult your local sales representative. ³ Pressure drop at maximum flow rate and 90 psig (620 kPa) inlet pressure. For a detailed pressure drop curve and other pressures or flows, please consult your local sales representative or visit www.entegris.com. ⁴ Model only available for countries that recognize ASTM US standards and certifications; not CE certified; not a UHP product. All product information is subject to change without notice.

Facility Specifications

Model	Fitting Sizes	Configuration (inlet/outlet)	Approximate Weight	Length	Diameter	Fitting Offset
35KF	1/4" face seal	male/male	0.3 kg (0.66 lb)	8.4 cm (3.31")	3.8 cm (1.5")	Centered
70KF	1/4" face seal	male/male	0.4 kg (0.88 lb)	11.4 cm (4.5")	3.8 cm (1.5")	Centered
100KF	1/4" face seal	male/male	0.5 kg (1.1 lb)	8.4 cm (3.31")	15.2 cm (6") ⁵	1.12 cm (0.44")
300KF	1/4" face seal	male/male	1.8 kg (4 lb)	20.8 cm (8.2")	5.1 cm (2")	Centered
500KF	1/4" face seal	male/male	1.6 kg (3.5 lb)	20.2 cm (7.94")	7.6 cm (3")	Centered
500KFHP	1/4" face seal	male/male	2.5 kg (5.5 lb)	25.4 cm (10")	7.6 cm (3")	Centered
700KF	1/4" face seal	male/male	1.6 kg (3.5 lb)	25.4 cm (10")	7.6 cm (3")	Centered
2500KH	1/4" face seal	male/male	9.5 kg (20.9 lb)	43.9 cm (17.3")	10.2 cm (4")	Centered
	1/2" face seal	male/male	9.5 kg (20.9 lb)	44.7 cm (17.6")	10.2 cm (4")	Centered
10M	1/2" face seal	female/male	27 kg (59.5 lb)	97.4 cm (38.36")	15.2 cm (6")	Centered
	3/4" face seal	female/female	41 kg (90.3 lb)	143.3 cm (56.4")	15.2 cm (6")	Centered
45M	1/2" NPT	female/female	360 kg (794 lb)	147.3 cm (58")	24.4 cm (9.6")	Centered

Drop-in Replacements for Waferpure Purifiers

30KF (Micro)	1/4" face seal	male/male	0.3 kg (0.66 lb)	8.4 cm (3.31")	3.8 cm (1.5")	0.97 cm (0.38")
75KF (Mini-XL)	1/4" face seal	male/male	0.4 kg (0.88 lb)	12.7 cm (5")	3.8 cm (1.5")	0.97 cm (0.38")
300KF (Megaline)	1/4" face seal	male/male	1.8 kg (4 lb)	20.8 cm (8.2")	5.1 cm (2")	Centered

⁵ Height

Options

Model	Isolation Valves	GC 300 Manifold	3 Valve Bypass Manifold	5 Valve Bypass Manifold	Moisture Break-through Indicator
35KF	Yes		Yes	Yes	Yes
70KF	Yes		Yes		Yes
100KF					Yes
300KF	Yes	Yes			Yes
500KF	Yes		Yes	Yes	Yes
500KFHP					Yes
700KF	Yes				Yes
2500KH	Yes		Yes	Yes	Yes
10MH	Included		Yes		Yes
45M					

⁶ 1/2" Purifier only. ⁷ 1/4" Purifier only. ⁸ External to purifier for models 30KF-700KF.

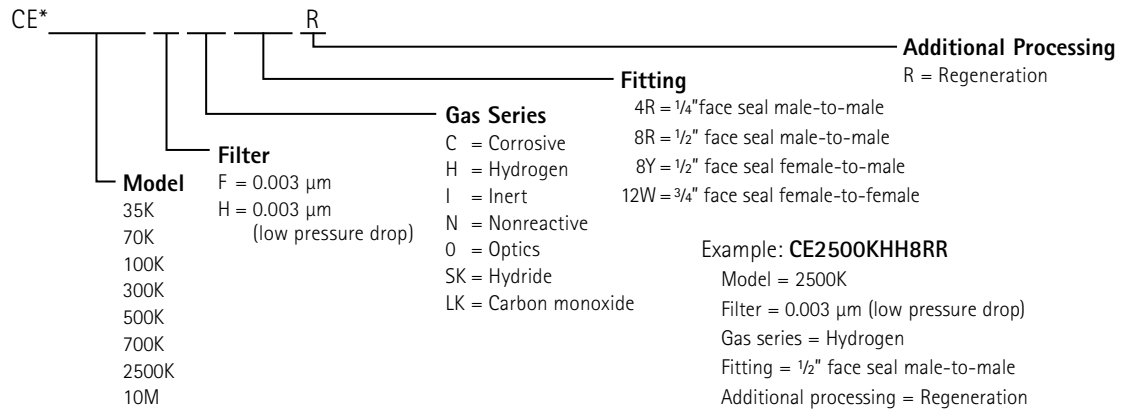
Options (continued)

Model	Isolation Valves	GC 300 Manifold	3 Valve Bypass Manifold	5 Valve Bypass Manifold	Moisture Break-through Indicator
Drop-in Replacements for Waferpure Purifiers					
30KF (Micro)	Yes		Yes	Yes	Yes
75KF (Mini-XL)	Yes				Yes
300KF (Megaline)	Yes	Yes			Yes

Ordering Information

GateKeeper Gas Purifiers

Part Number



*For all models except 45M. To order 45M: 45MH

Note: Not all models are available with all gas series or fittings; contact your salesperson for more information.

Note: For Entegris replacement, specify 30K, 75K or 300K for model.

Note: This product is considered a dangerous good for shipping purposes under IATA/ICAO regulations.

For detailed product information including dimension drawings, pressure drop curves, safety information, regeneration service and for help selecting a purifier and determining purifier lifetimes, please visit our website at www.entegris.com. Go to Products>Purification>Gas Purification



All products with the exception of the 45M model meet CE Directive 97/23/EC requirements.

Contact Customer Service to learn about our regeneration service.

For More Information

Please call your Regional Customer Service Center today to learn what Entegris can do for you. Visit www.entegris.com and select the Customer Service link for the center nearest you.

Terms and Conditions of Sale

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