

# GateKeeper® Hydride Gas Purifiers

*Cost-effective, environmentally  
friendly gas purification*

Available for low- and high-flow point-of-use applications, GateKeeper® hydride gas purifiers are designed for use with  $\text{NH}_3$ ,  $\text{AsH}_3$ ,  $\text{PH}_3$ ,  $\text{SiH}_4$ , and  $\text{GeH}_4$ . The purifiers remove  $\text{O}_2$ ,  $\text{CO}_2$ ,  $\text{H}_2\text{O}$ , and oxidation byproducts to sub-ppb (parts-per-billion) levels.

## FEATURES & BENEFITS

<b>Cost-effective</b>	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
<b>Environmentally friendly</b>	Regenerable – eliminates disposal issues
<b>Process protection</b>	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
<b>Safe and simple to use</b>	Easy to install
	Uses ambient temperature purification technology – no power or heat required
	No moving parts



## SPECIFICATIONS

Materials of construction	316L stainless steel, electropolished 10 Ra	
Gases purified	NH <sub>3</sub> , AsH <sub>3</sub> , PH <sub>3</sub> , SiH <sub>3</sub> , GeH <sub>4</sub>	
Outlet purity	<1 ppb O <sub>2</sub> , CO <sub>2</sub> , H <sub>2</sub> O (<12 ppb in NH <sub>3</sub> )	
Outlet particle filtration	30KF to 10MH	0.003 µm 316L stainless steel
Media	Inorganic	
Leak rating	1 × 10 <sup>-9</sup> atm cc/sec	
Maximum inlet challenge of contaminant to maintain product efficiency	10 ppm (parts-per-million)	
Maximum operating conditions	Maximum operating pressure: 101 kPa (14.7 psia)  Maximum differential pressure: 1379 kPa (200 psid)  Maximum operating temperature: 65°C (149°F)	
Lifetime	One year at nominal flow rate with 1 ppm inlet challenge of moisture	

## OPERATING SPECIFICATIONS

Model	Maximum flow rate	Nominal flow rate	Maximum operating pressure – purifier only <sup>1</sup>	Maximum operating pressure – purifier with options <sup>2</sup>	Pressure drop <sup>3</sup>
35KF	1 slpm	0.75 slpm	19995 kPa (2900 psig)	1724 kPa (250 psig)	3.4 kPa (0.5 psid)
70KF	3 slpm	1.35 slpm	19995 kPa (2900 psig)	1724 kPa (250 psig)	4.8 kPa (0.7 psid)
100KF	20 slpm	2.8 slpm	6895 kPa (1000 psig)	1724 kPa (250 psig)	27.6 kPa (4 psid)
300KF	50 slpm	8 slpm	4826 kPa (700 psig)	1724 kPa (250 psig)	34.5 kPa (5 psid)
500KF	60 slpm	15 slpm	4826 kPa (700 psig)	1724 kPa (250 psig)	48.3 kPa (7 psid)
700KF	120 slpm	20 slpm	4826 kPa (700 psig)	1724 kPa (250 psig)	48.3 kPa (7 psid)
2500KH	300 (¼") slpm	75 slpm	1724 kPa (250 psig)	1724 kPa (250 psig)	17.2 kPa (2.5 psid)
	500 (½") slpm	75 slpm	1724 kPa (250 psig)	1724 kPa (250 psig)	17.2 kPa (2.5 psid)
10MH	1000 slpm	290 slpm	1724 kPa (250 psig)	1724 kPa (250 psig)	½" – 62 kPa (9 psid) ¾" – 36.5 kPa (5.3 psid)

### Drop-in replacements for Waferpure® purifiers

30KF (Micro)	1 slpm	0.75 slpm	19995 kPa (2900 psig)	1724 kPa (250 psig)	3.4 kPa (0.5 psid)
75KF (Mini-XL)	5 slpm	1.35 slpm	19995 kPa (2900 psig)	1724 kPa (250 psig)	10.3 kPa (1.5 psid)
300KF (Megaline)	50 slpm	8 slpm	4826 kPa (700 psig)	1724 kPa (250 psig)	34.5 kPa (5 psid)

<sup>1</sup> Do not use under vacuum. Minimum pressure should be 1 atm (14.7 psia).

<sup>2</sup> Pressure limited by standard valves, higher pressures available; please consult your local sales representative.

<sup>3</sup> Pressure drop at maximum flow rate and 620 kPa (90 psig) inlet pressure. For a detailed pressure drop curve and other pressures or flows, please consult your local sales representative or visit [www.entegris.com](http://www.entegris.com).

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 lbs)	8.4 cm (3.31")	3.8 cm (1.5")	Centered
70KF	1/4" face seal	Male/male	0.4 kg (0.88 lbs)	11.4 cm (4.5")	3.8 cm (1.5")	Centered
100KF	1/4" face seal	Male/male	0.5 kg (1.1 lbs)	8.4 cm (3.31")	15.2 cm (6") <sup>1</sup>	1.12 cm (0.44")
300KF	1/4" face seal	Male/male	1.8 kg (4 lbs)	20.8 cm (8.2")	5.1 cm (2")	Centered
500KF	1/4" face seal	Male/male	1.6 kg (3.5 lbs)	20.2 cm (7.94")	7.6 cm (3")	Centered
700KF	1/4" face seal	Male/male	1.6 kg (3.5 lbs)	25.4 cm (10")	7.6 cm (3")	Centered
2500KH	1/4" face seal	Male/male	9.5 kg (20.9 lbs)	43.9 cm (17.3")	10.2 cm (4")	Centered
	1/2" face seal	Male/male	9.5 kg (20.9 lbs)	44.7 cm (17.6")	10.2 cm (4")	Centered
10MH	1/2" face seal	Female/male	27 kg (59.5 lbs)	97.4 cm (38.36")	15.2 cm (6")	Centered
	3/4" face seal	Female/female	41 kg (90.3 lbs)	143.3 cm (56.4")	15.2 cm (6")	Centered

### Drop-in replacements for Waferpure purifiers

30KF (Micro)	1/4" face seal	Male/male	0.3 kg (0.66 lbs)	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 lbs)	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 lbs)	20.8 cm (8.2")	5.1 cm (2")	Centered

<sup>1</sup> Height

## OPTIONS

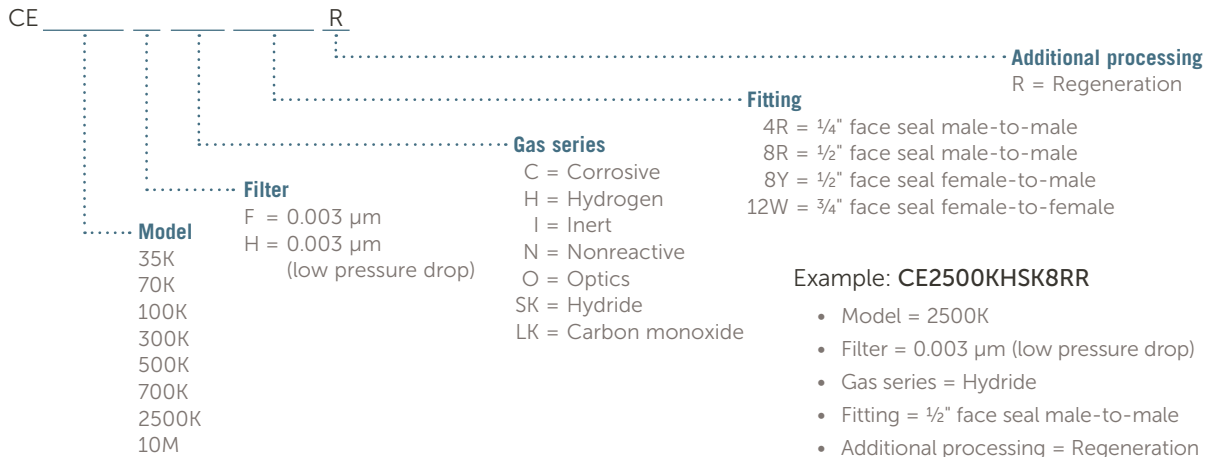
Model	Isolation valves	GC 300 manifold	3 valve bypass manifold	5 valve bypass manifold
35KF	Yes	—	Yes	Yes
70KF	Yes	—	Yes	—
100KF	—	—	—	—
300KF	Yes	Yes	—	—
500KF	Yes	—	Yes	Yes
700KF	Yes	—	—	—
2500KH	Yes	—	Yes	Yes
10MH	Included	—	Yes	—

### Drop-in replacements for Waferpure purifiers

30KF (Micro)	Yes	—	Yes	Yes
75KF (Mini-XL)	Yes	—	—	—
300KF (Megaline)	Yes	Yes	—	—

## ORDERING INFORMATION

GateKeeper Hydride Gas Purifiers: part number



### Notes:

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

For Entegris replacement, specify 30K, 75K, or 300K for all models.

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

All products 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 [entegris.com](http://entegris.com) and select the [Contact Us](#) link to find the customer service center nearest you.

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