

Chambergard™ Fast Vent Diffusers

*Reduce particles and vent times in
load lock and transfer chambers*

Chambergard™ fast vent diffusers are the choice to reliably increase system throughput by minimizing load lock vent cycle time. These diffusers provide rapid venting to atmosphere without disturbing or adding particles to wafers in the chamber. They combine the flow characteristics of a diffuser with a high efficiency filter to increase efficiency and throughput.

FEATURES & BENEFITS

- Entegris' industry-leading, patented, sintered nickel technology in a compact diffuser unit provides superior performance in all applications
- Removal of particles greater than 0.003 μm from incoming gas minimizes defects on wafers
- Easy installation/retrofit into existing tools with minimal downtime (including load lock chambers, cooling chambers, transfer chambers and process chambers)
- Manufactured, tested and packaged in a clean room to assure product cleanliness at time of installation
- Rapid vent, gentle flow to atmosphere decreases cycle time, increases throughput and OEE
- Robust and efficient, Chambergard diffusers are rated at 100,000 cycles before changeout
- Available worldwide through Entegris' global infrastructure



SPECIFICATIONS

Materials:

	FV-16ST	FV-25ST	FV-25LT FV-25LTHF	FV-40T	FV-NBBW FV-NBLBW FV-NBMVCR FV-NBLMVCR	FV-NBLTBW
Diffuser element	Patented, sintered nickel membrane filter					
Housing	316L stainless steel					
Surface finish internal	≤32 µin Ra					
O-ring	Fluoroelastomer					None
O-ring size	2-117	2-123		2-224	2-117	
O-ring groove ID	20.3 mm (0.80")	29.8 mm (1.17")		44 mm (1.73")	20.3 mm (0.80")	
O-ring groove OD	26.4 mm (1.04")	35.9 mm (1.41")		52.1 mm (2.05")	26.4 mm (1.04")	
O-ring groove depth		1.9 mm (0.07")		2.6 mm (0.10")	1.9 mm (0.07")	

	BGN-NFLT	FV-40D	FV-50DI	FV-100D	FV-75
Diffuser element	Patented, sintered nickel membrane filter				
Housing	316L stainless steel				
Surface finish internal	≤32 µin Ra				
O-ring	None	Fluoroelastomer			None
O-ring size		2-224	2-229	2-246	
O-ring groove ID		44 mm (1.73")	59.9 mm (2.36")	122.4 mm (4.82")	
O-ring groove OD		52.1 mm (2.05")	67.9 mm (2.67")	114.3 mm (4.50")	
O-ring groove depth		2.6 mm (0.10")			

SPECIFICATIONS (CONTINUED)

Connections:

	FV-16ST	FV-25ST	FV-25LT FV-25LTHF	FV-40T	FV-NBBW FV-NLBW FV-NBMVCR FV-NBLMVCR	FV-NBLTBW
Inlet	¼" VCR® compatible male gasket seal fitting				¼" VCR compatible male gasket seal fitting, or butt weld fitting	20 mm long by ¼" OD butt weld tube stub
Outlet	ISO NW-16	ISO NW-25		ISO NW-40	ISO NW-16	None
Bulkhead mounting compatible with standard ISO bulkhead clamps						

	BGN-NFLT	FV-40D	FV-50DI	FV-100D	FV-75	
Inlet	½" VCR compatible male gasket seal fitting	¼" VCR compatible male gasket seal fitting			¼" VCR compatible female gasket seal fitting	
Outlet	None	ISO NW-40	ISO NW-50	ISO NW-100 bolt through	None	
Bulkhead mounting compatible with standard ISO bulkhead clamps						

Operating Conditions:

	FV-16ST	FV-25ST	FV-25LT FV-25LTHF	FV-40T	FV-NBBW FV-NLBW FV-NBMVCR FV-NBLMVCR	FV-NBLTBW
Maximum inlet pressure with outlet to vacuum	7 bar (100 psi)					
Maximum differential pressure	8 bar (115 psi)					
Maximum operating temperature	100°C (212°F) with o-ring 400°C (752°F) with no o-ring					
Warranty	5 years or 100,000 cycles					

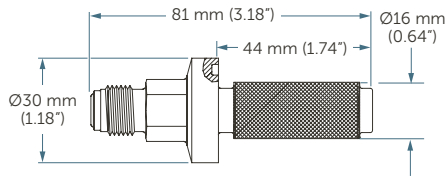
	BGN-NFLT	FV-40D	FV-50DI	FV-100D	FV-75
Maximum inlet pressure with outlet to vacuum @ 100°C (212°F) max.	4.1 bar (60 psi)	3 bar (45 psi)	2 bar (30 psi)	2.5 bar (35 psi)	1.4 bar (20 psi)
Maximum differential pressure @ 100°C (212°F) max.	5.2 bar (75 psid)	4 bar (60 psi)	3 bar (45 psi)	3.5 bar (50 psi)	2.4 bar (35 psid)
Maximum operating temperature	100°C (212°F)	100°C (212°F) with o-ring 400°C (752°F) with no o-ring			
Warranty	5 years or 100,000 cycles				

Performance:

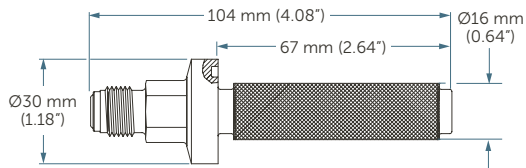
Downstream cleanliness	Cleanliness <0.03 particles/liter (<1 particle/ft³) >0.01 µm at rated flow ≥0.003 µm
Removal rating	≥0.003 µm
Reliability	100,000 cycle reliability at maximum rated inlet pressure at 25°C (77°F)

DIMENSIONS

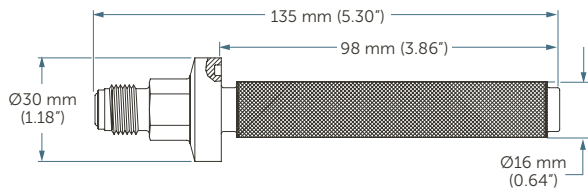
FV-16ST



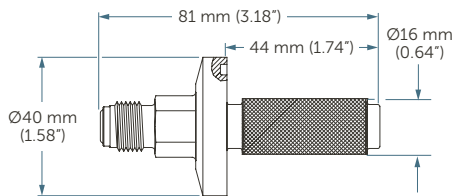
FV-NBMVCR



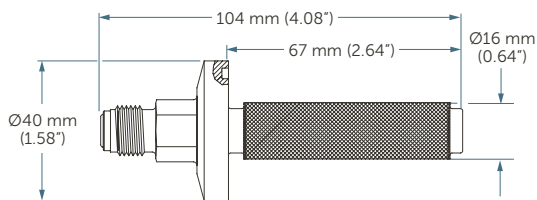
FV-NBLMVCR



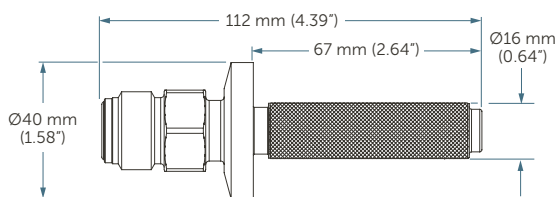
FV-25ST



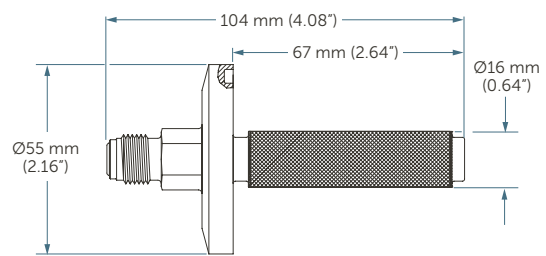
FV-25LT – ¼" VCR Fitting



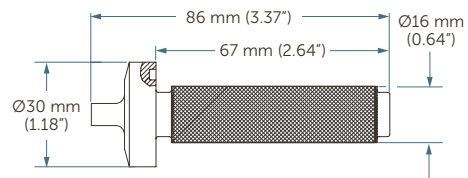
FV-25LTHF – ½" VCR Fitting



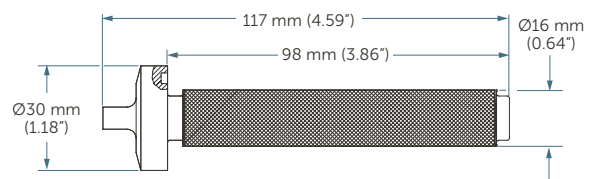
FV-40T



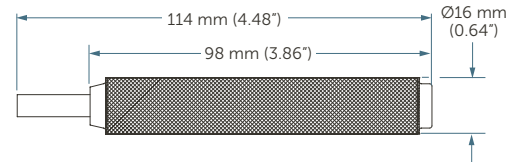
FV-NBBW



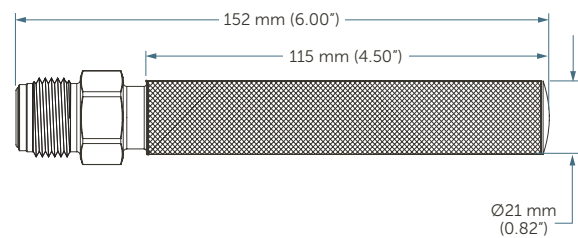
FV-NBLBW



FV-NBLTBW

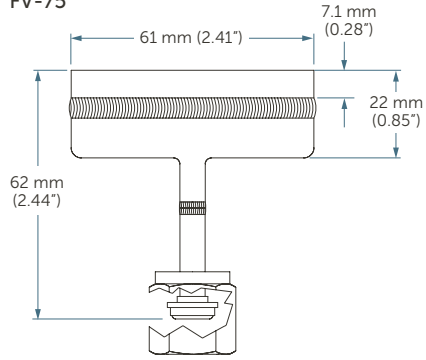


BGN-NFLT

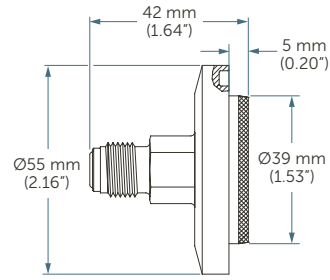


DIMENSIONS (CONTINUED)

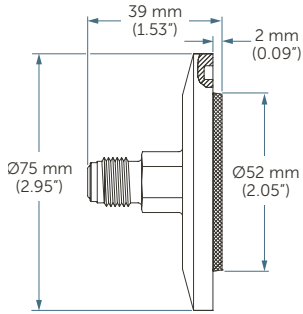
FV-75



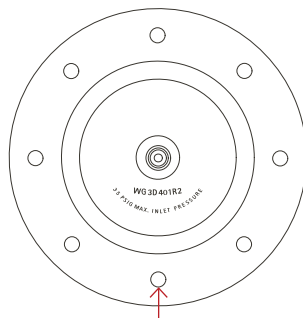
FV-40D



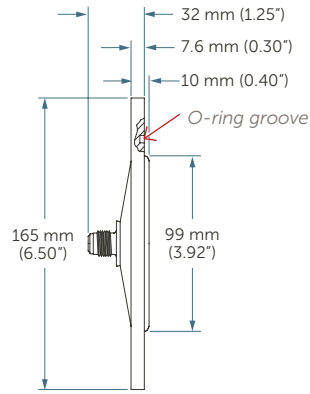
FV-50DI



FV-100D

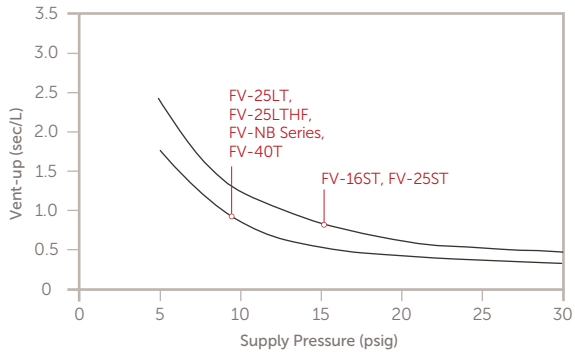


8.7 mm (0.344") dia
8 through holes equally
spaced on a 145.0 mm
(5.709") dia bolt circle

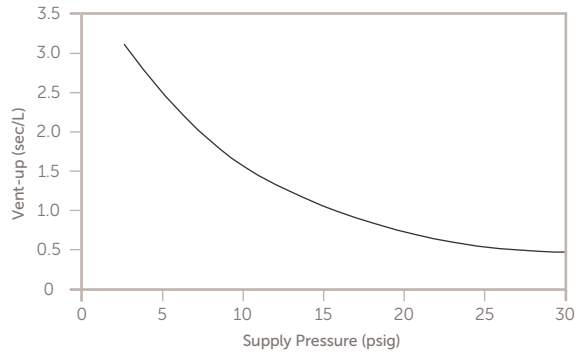


PERFORMANCE DATA

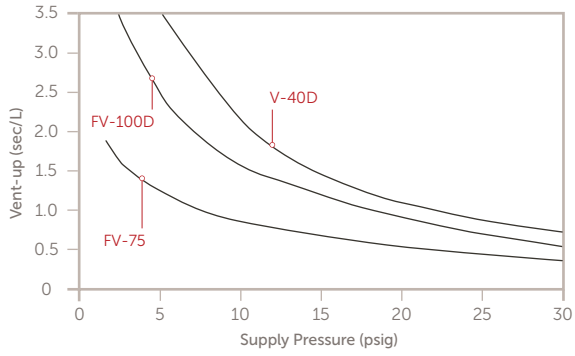
FV-16ST, FV-25ST, FV-25LT, FV-25LTHF, FV-NB Series, FV-40T Vent-up Rate



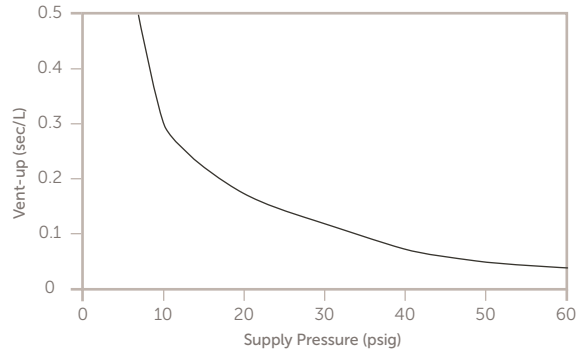
FV-50DI Vent-up Rate



FV-40D, FV-75, FV-100D Vent-up Rate



BGN-NFLT Vent-up Rate



ORDERING INFORMATION

Part number	Product description
WG3D 16T R2	FV-16ST Diffuser
WG3D 25S R2	FV-25ST Diffuser
WG3D 25L R2	FV-25LT Diffuser
WG3D 25L R4	FV-25LTHF Diffuser
WG3D 40T R2	FV-40T Diffuser
WG3D 40D R2	FV-40D Diffuser
WG3D 50D R2	FV-50DI Diffuser
WG3D 401 R2 Connector Kit: P71917 (bolts and washers)	FV-100D Diffuser
WG3D BGN RR4	BGN-NFLT Diffuser
WG3D 22B W2	FV-NBBWDiffuser
WG3D 35B W2	FV-NBLBWDiffuser
WG3D 228 R2	FV-NBMVCR Diffuser
WG3D 350 R2	FV-NBLMVCR Diffuser
WG3D 3LB W2	FV-NBLTBW Diffuser
S12 P134 R5	FV-75 Diffuser

FOR MORE INFORMATION

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

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