



CHAMBERGARD™ FAST VENT DIFFUSERS

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



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Overview

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.

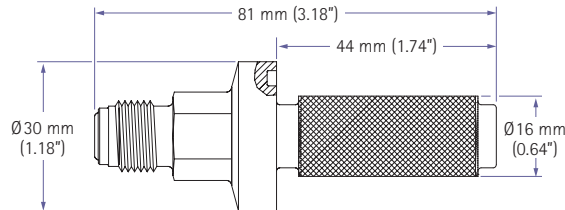
- Easy installation/retrofit into existing tools with minimal downtime (including load lock chambers, cooling chambers, transfer chambers and process chambers)
- Manufactured, tested, and packaged in a clean-room to assure product cleanliness at time of installation
- Rapid vent, gentle flow to atmosphere 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

Features and Benefits

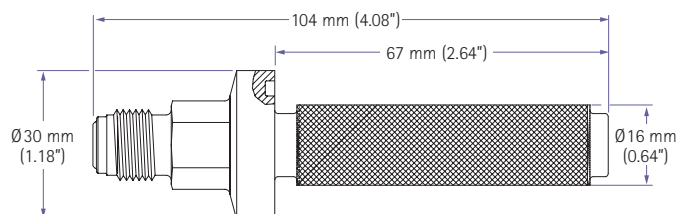
- Entegris' industry-leading, patented, sintered nickel technology in a compact diffuser unit provides superior performance in all applications
- Removal of particles greater than 0.003 μm from incoming gas minimizes defects on wafers

Dimensions

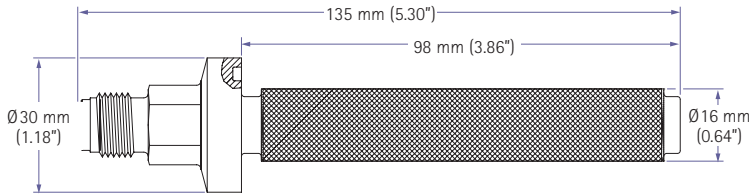
FV-16ST



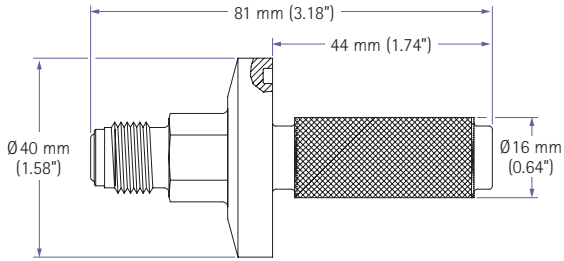
FV-NBMVCR



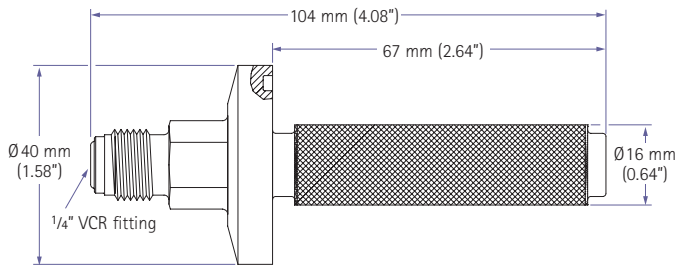
FV-NBLMVCR



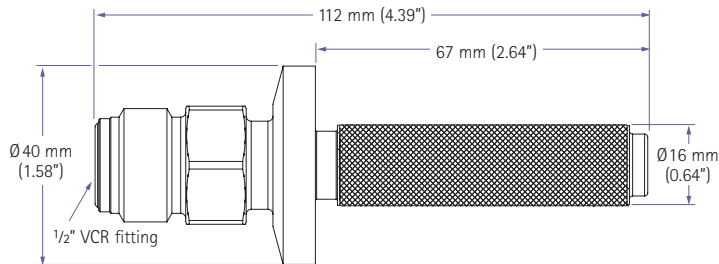
FV-25ST



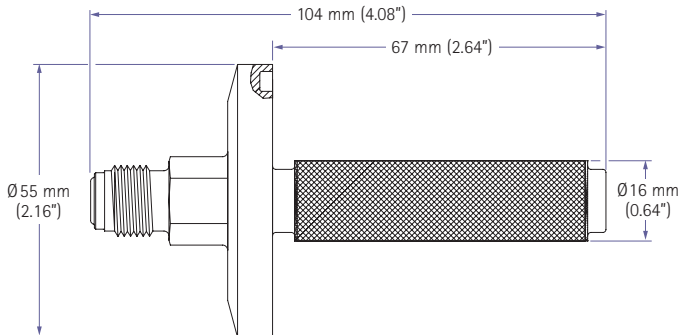
FV-25LT – 1/4" VCR® Fitting



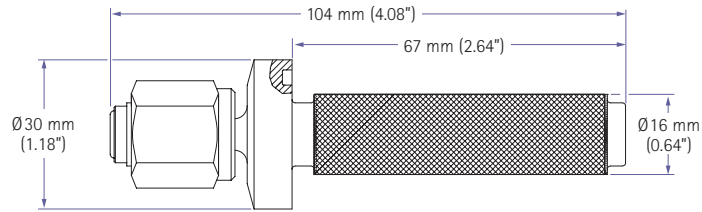
FV-25LTHF – 1/2" VCR Fitting



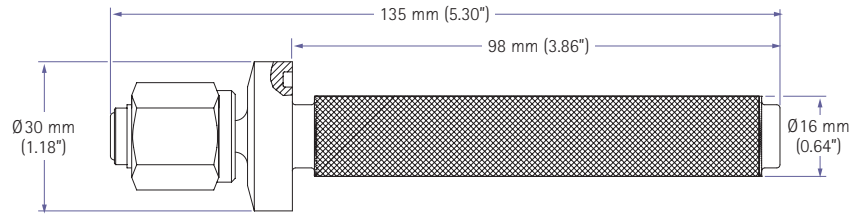
FV-40T



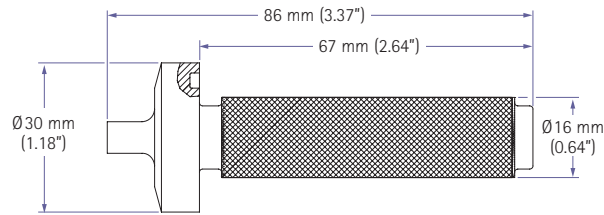
FV-NBFVCR



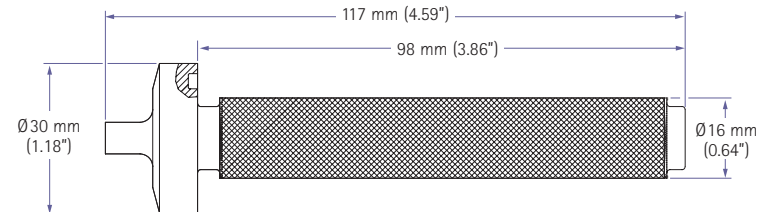
FV-NBMVCR



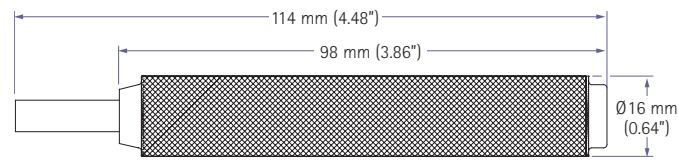
FV-NBBW



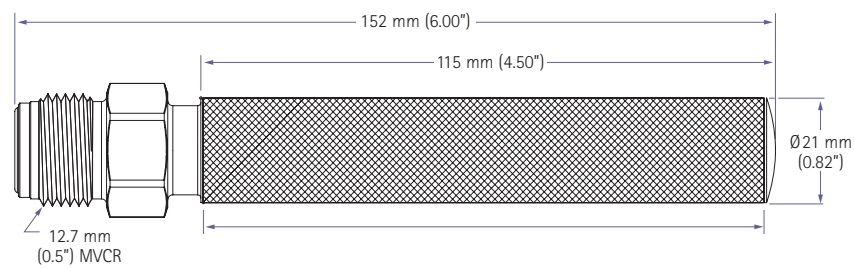
FV-NBLBW



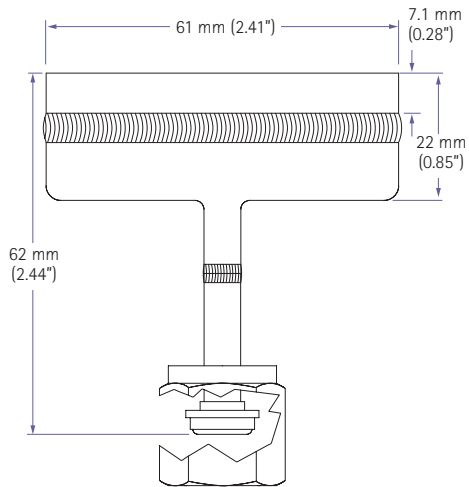
FV-NBLTBW



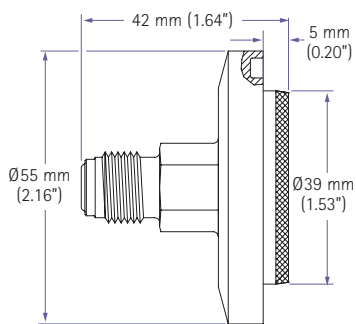
BGN-NFLT



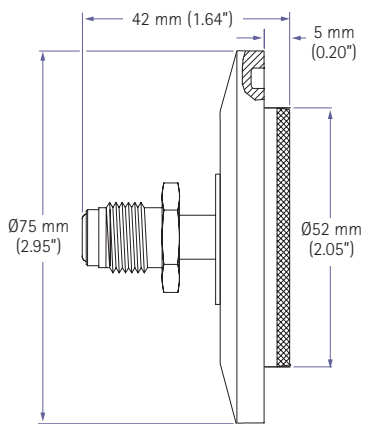
FV-75



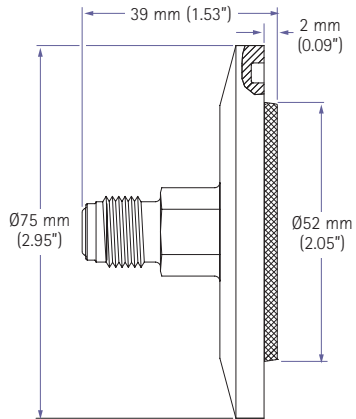
FV-40D



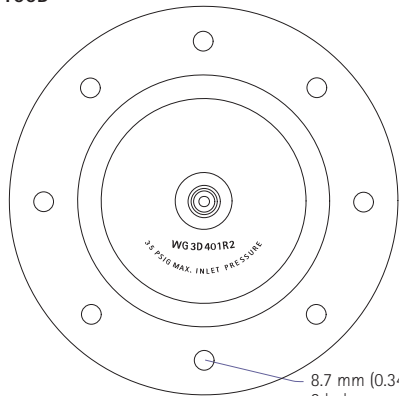
FV-50D



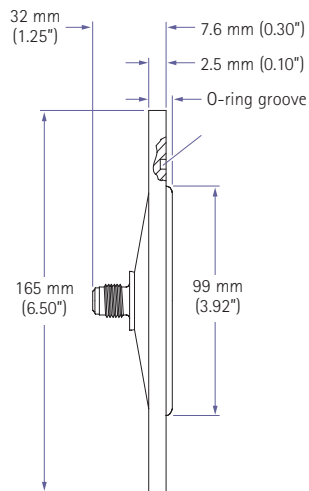
FV-50DI



FV-100D



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



Specifications

Materials

	FV-16ST	FV-25ST	FV-25LT FV-25LTHF	FV-40T	FV-NBBW FV-NBMVCR FV-NBFVCR	FV-NBLBW FV-NBLMVCR FV-NBLFVCR	FV-NBLTBW	BGN-NFLT	FV-40D	FV-50D FV-50DI	FV-100D	FV-75
Diffuser element	Patented, sintered nickel membrane filter											
Housing	316L stainless steel											
Surface finish internal	≤32 µm Ra											
O-ring	Fluoroelastomer						None	Fluoroelastomer			None	
O-ring size	2-117	2-123	2-224	2-117	2-224	2-229		2-246				
O-ring groove ID	20.3 mm	29.8 mm	44 mm	20.3 mm	44 mm	59.9 mm		122.4 mm				
O-ring groove OD	26.4 mm	35.9 mm	52.1 mm	26.4 mm	52.1 mm	67.9 mm		114.3 mm				
O-ring groove depth	1.9 mm		2.6 mm	1.9 mm	2.6 mm							

Connections

	FV-16ST	FV-25ST	FV-25LT FV-25LTHF	FV-40T	FV-NBBW FV-NBMVCR FV-NBFVCR	FV-NBLBW FV-NBLMVCR FV-NBLFVCR	FV-NBLTBW	BGN-NFLT	FV-40D	FV-50D FV-50DI	FV-100D	FV-75
Inlet	1/4" VCR compatible male gasket seal fitting				1/4" VCR compatible male or female gasket seal fitting, or butt weld fitting		20 mm butt weld tube stub	1/2" compatible male gasket seal fitting	1/4" VCR compatible male gasket seal fitting			
Outlet	ISO NW-16	ISO NW-25	ISO NW-40	ISO NW-16	None			ISO NW-40	ISO NW-50	ISO NW100 bolt through	Inline	
	Bulkhead mounting compatible with standard ISO bulkhead clamps							Bulkhead mounting compatible with standard ISO bulkhead clamps				

Performance

Downstream cleanliness:	Cleanliness less than 0.03 particles/liter (<1 particle/ft ³) greater than 0.01 µm at rated flow
Removal rating:	≥0.003 µm
Reliability:	100,000 cycle reliability at maximum rated inlet pressure at 25 °C (77 °F)

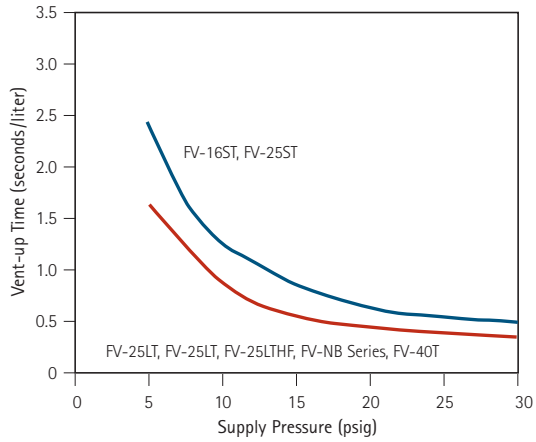
Operating Conditions

	FV-16ST	FV-25ST	FV-25LT FV-25LTHF	FV-40T	FV-NBBW FV-NBMVCR FV-NBFVCR	FV-NBLBW FV-NBLMVCR FV-NBLFVCR	FV-NBLTBW	BGN-NFLT	FV-40D	FV-50D FV-50DI	FV-100D	FV-75
Maximum inlet pressure with outlet to vacuum	7 bar (100 psi)							4.1 bar (60 psi)	3 bar (45 psi)	2 bar (30 psi)	2.5 bar (35 psi)	5 bar (20 psi)
Maximum differential pressure	8 bar (115 psid)							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) with o-ring 400 °C (752 °F) with no o-ring							100 °C (212 °F)	100 °C (212 °F) with o-ring 400 °C (752 °F) with no o-ring			
Warranty	5 year or 100,000 cycles											

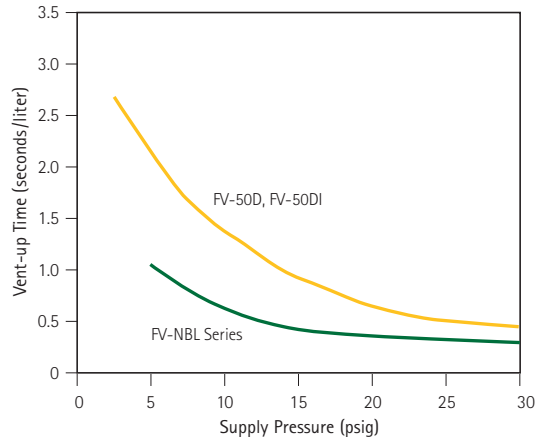
*1.4 bar (20 psi) inlet with outlet to vacuum

Performance Data

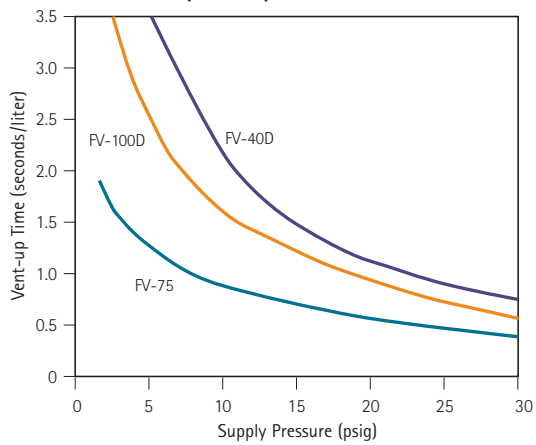
FV-16ST, FV-25ST, FV-25LT, FV-25LTHF, FV-NB Series, FV-40T Flow Rates



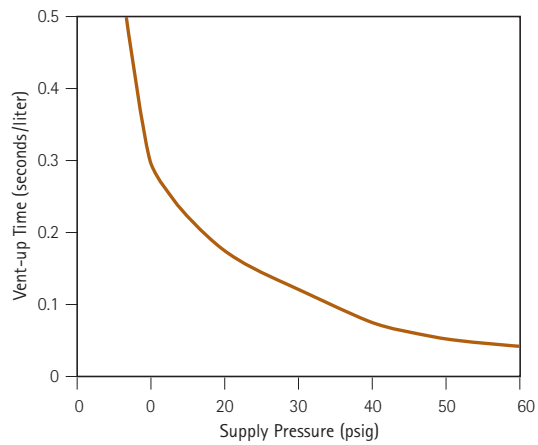
FV-NBL Series, FV-50D, FV-50DI Flow Rates



FV-40D, FV-75, FV-100D Flow Rates



BGN-NFLT Flow Rate



Ordering Information

Product Description	Part Number
FV-16ST Diffuser	WG3D 16T R2
FV-25ST Diffuser	WG3D 25S R2
FV-25LT Diffuser	WG3D 25L R2
FV-25LTHF Diffuser	WG3D 25L R4
FV-40T Diffuser	WG3D 40T R2
FV-40D Diffuser	WG3D 40D R2
FV-50D Diffuser	WG3D 205 R2
FV-50DI Diffuser	WG3D 50D R2
FV-100D Diffuser	WG3D 401 R2 Connector Kit: P71917 (bolts and washers)
BGN-NFLT Diffuser	WG3D BGN RR4
FV-NBBWDiffuser	WG3D 22B W2
FV-NBLBWDiffuser	WG3D 35B W2
FV-NBMVCR Diffuser	WG3D 228 R2
FV-NBLMVCR Diffuser	WG3D 350 R2
FV-NBFVCR Diffuser	WG3D 228 F2
FV-NBLFVCR Diffuser	WG3D 350 F2
FV-NBLTBW Diffuser	WG3D 3LB W2
FV-75 Diffuser	S12 P134 R5

For More Information

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