

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. With our global infrastructure we can provide Chambergard fast vent diffusers to meet your needs worldwide.



FEATURES & BENEFITS

Industry-leading, patented, sintered nickel technology in a compact diffuser unit	Provides superior performance in all applications
Removal of particles greater than 0.0015 µm from incoming gas	Minimizes defects on wafers
Easy installation/retrofit into existing tools	Minimizes downtime (including load lock chambers, cooling chambers, transfer chambers and process chambers)
Manufactured, tested and packaged in a cleanroom	Assures product cleanliness at time of installation
Rapid vent, gentle flow to atmosphere	Decreases cycle time, increases throughput and OEE
Rated at 100,000 cycles before changeout	Robust and efficient

SPECIFICATIONS

Materials:

	FV-16ST	FV-25ST	FV-25LT	FV-40T	FV-NBMVCR	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")	

	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	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-40T	FV-NBMVCR	FV-NBLTBW
Inlet	1/4" VCR® compatible male gasket seal fitting				1/4" VCR compatible male gasket seal fitting, or butt weld fitting	20 mm long by 1/4" 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						

	FV-40D	FV-50DI	FV-100D	FV-75
Inlet	1/4" VCR compatible male gasket seal fitting			1/4" VCR compatible female gasket seal fitting
Outlet	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-40T	FV-NBMVCR	FV-NBLTBW
Maximum inlet pressure with outlet to vacuum	7 bar (100 psig)					
Maximum differential pressure	8 bar (115 psid)					
Maximum operating temperature	100°C (212°F) with O-ring					400°C (752°F) with no O-ring
Warranty	2 years*					

*after shipment date

	FV-40D	FV-50DI	FV-100D	FV-75
Maximum inlet pressure with outlet to vacuum @ 100°C (212°F) max.	3 bar (45 psig)	2.5 bar (35 psig)	2.5 bar (35 psig)	1.4 bar (20 psig)
Maximum differential pressure @ 100°C (212°F) max.	4 bar (60 psid)	3 bar (45 psid)	3.5 bar (50 psid)	2.4 bar (35 psid)
Maximum operating temperature	100°C (212°F) with O-ring			400°C (752°F) with no O-ring
Warranty	2 years*			

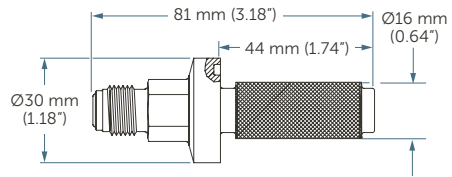
*after shipment date

Performance:

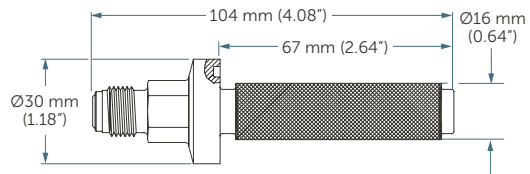
Downstream cleanliness	Cleanliness <0.03 particles/liter (<1 particle/ft ³) >0.01 µm at rated flow
Removal rating	≥0.0015 µm
Reliability	100,000 cycle reliability at maximum rated inlet pressure at 25°C (77°F)

DIMENSIONS

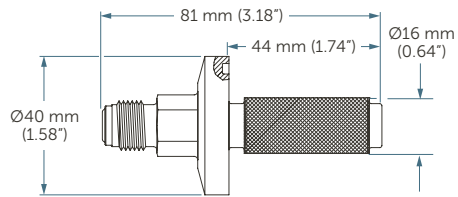
FV-16ST



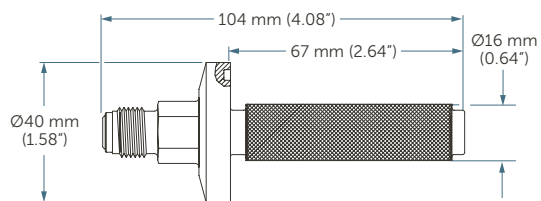
FV-NBMVCR



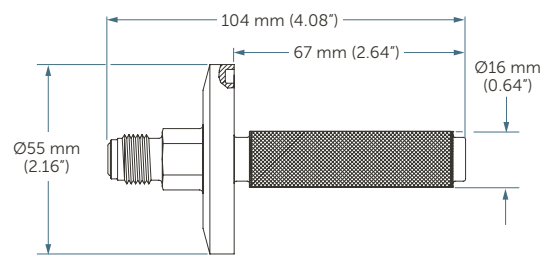
FV-25ST



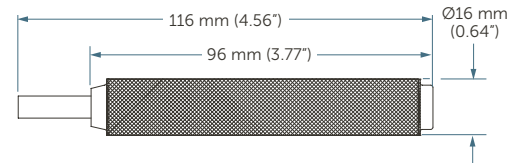
FV-25LT – 1/4" VCR Fitting



FV-40T

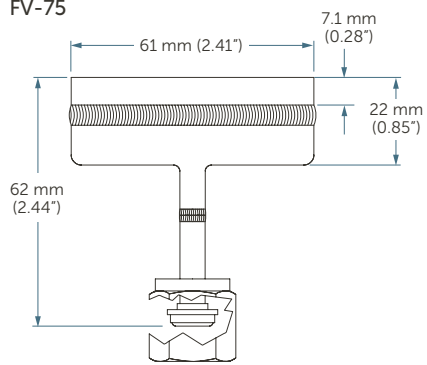


FV-NBLTBW

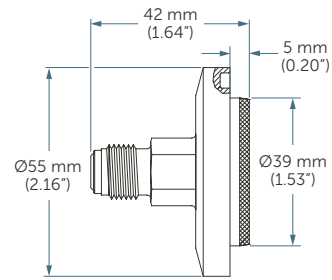


DIMENSIONS (CONTINUED)

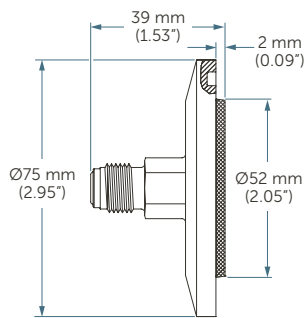
FV-75



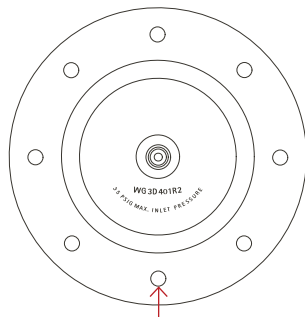
FV-40D



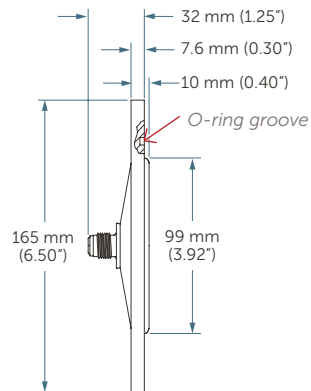
FV-50DI



FV-100D

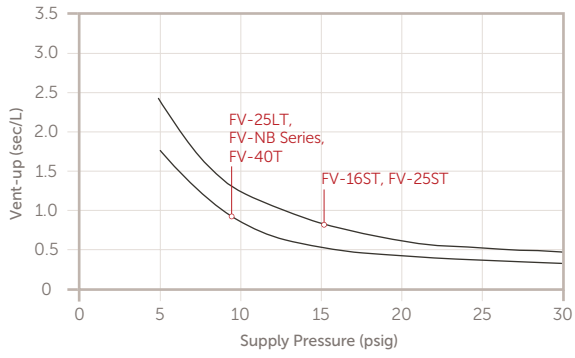


8.7 mm (0.344") dia
8 through holes equally
spaced on a 145.0 mm
(5.709") dia bolt circle

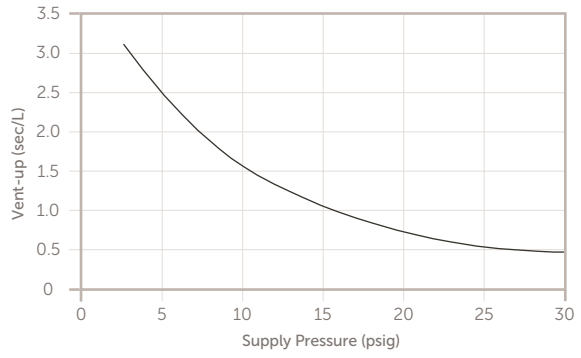


PERFORMANCE DATA

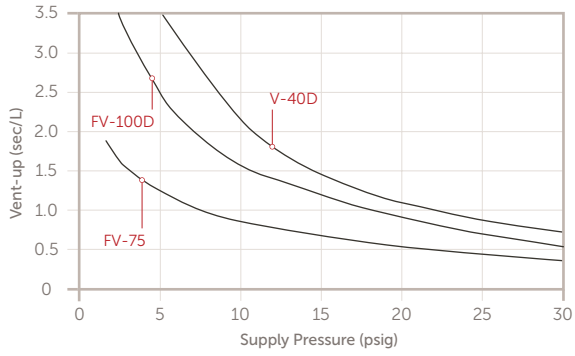
FV-16ST, FV-25ST, FV-25LT, FV-NB Series, FV-40T Vent-up Rate



FV-50DI Vent-up Rate



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



ORDERING INFORMATION

Part number	Product description
WG3D16TR2	FV-16ST Diffuser
WG3D25SR2	FV-25ST Diffuser
WG3D25LR2	FV-25LT Diffuser
WG3D40TR2	FV-40T Diffuser
WG3D40DR2	FV-40D Diffuser
WG3D50DR2	FV-50DI Diffuser
WG3D401R2 Connector Kit: P71917 (bolts and washers)	FV-100D Diffuser
WG3D228R2	FV-NBMVCR Diffuser
WG3D3LBW2	FV-NBLTBW Diffuser
S12P134R5	FV-75 Diffuser

FOR MORE INFORMATION

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