

Vacuum Protection Filters

VACU-GUARD™

Protecting your employees, equipment and work area from harmful contaminants is more important than ever. For maximum safety, choose the Whatman VACU-GUARD family of products. These easy-to-use, in-line filter devices meet OSHA Standard 1910.1030 for bloodborne pathogens, helping to confine and isolate infectious materials in vacuum systems.

The VACU-GUARD in-line filter device offers excellent protection for vacuum pumps and aspiration systems and minimizes harmful pump exhaust fumes. VACU-GUARD features a hydrophobic PTFE membrane which retains 99.99% of all airborne particles $\geq 0.1 \mu\text{m}$ and aqueous aerosols up to a maximum pressure of 0.9 bar. The polypropylene housing is lightweight, making it ideal for in-line applications. It is available in 50 mm diameter with 1/4"-3/8" hose barb and in 60 mm diameter with 3/8"-1/2" hose barbs.

Features and Benefits

- Retains aqueous aerosols preventing corrosion and vacuum pump repairs
- Retains bacteria and viruses
- Suitable for use as a pump inlet and outlet filter to reduce hazardous vacuum pump exhaust

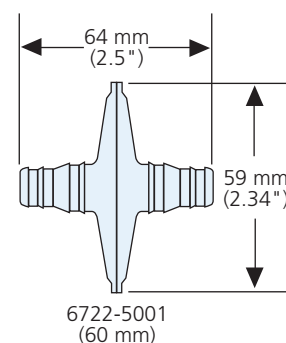
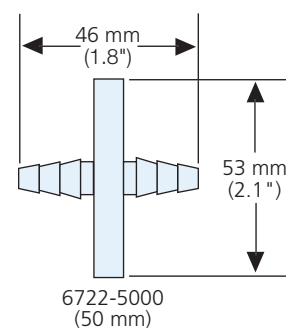
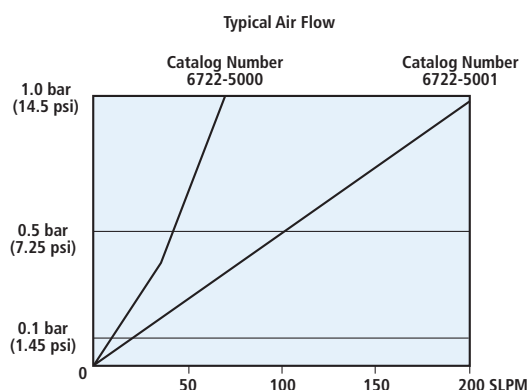
Applications

- Vacuum pump protection
- Prevents corrosion
- Eliminates a potential health hazard from the work place



Air Flow Rate	SLPM*	SLPM*
0.14 bar (2 psi)	15	28
0.28 bar (4 psi)	27	54
0.41 bar (6 psi)	38	83
0.69 bar (10 psi)	53	139
0.96 bar (14 psi)	65	194

* SLPM: Standard liters per minute.



Typical Data

Housing	Polypropylene	
Maximum Pressure	1 bar (15 psi)	
Filtration Media	PTFE	
Connections	6722-5000 (50 mm) 6722-5001 (60 mm)	6-10 mm (1/4"-3/8") SB (Stepped Barb) 10-12 mm (3/8"-1/2") SB (Stepped Barb)
Retentions	Aqueous Solutions: Particulates in Air:	up to 0.9 bar (14 psi) 0.1 μm 99.99%

Ordering Information

Catalog Number	Description	Media	Filtration Area	Pore Size (μm)	Diameter (mm)	Quantity/Pack
6722-5000	VACU-GUARD	PTFE	16 cm^2	0.45	50	10
6722-5001	VACU-GUARD	PTFE	25 cm^2	0.45	60	10

Whatman®

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VACU-GUARD 150™

VACU-GUARD 150 is an in-line capsule device designed to protect vacuum pumps and minimize harmful pump exhaust fumes. The devices contain a choice of chemical trap with the additional feature of a hydrophobic PTFE membrane which retains 99.99% of airborne particles $\geq 0.1 \mu\text{m}$ and aqueous aerosols. Solvent solutions with low surface tension will pass through this filter. Chemical trap options include the following:

Activated Carbon

Produced from lignite coal and acid washed after steam activation, creates pores of molecular dimensions within the carbon particle and produces a material with extremely high internal porosity and surface area. Activated carbon is a powerful absorbent ideally suited to remove impurities and odors from gases. Mesh size is 12–20.

Molecular Sieve

A crystalline alkali metal aluminosilicate with a three-dimensional interconnecting network structure of silica and alumina tetrahedral, it is widely used for the removal of water from gases and will absorb molecules with a size of less than 4\AA . Mesh size is 8–12.

Desiccant

Anhydrous calcium sulfate is prepared from natural gypsum and impregnated with calcium chloride. The desiccant is neutral, stable and chemically inactive towards reagents other than water. It can dry gases flowing at high speed because of its superior absorption of water and does not shrink, expand or disintegrate in use. With the addition of calcium chloride the desiccant changes from blue to pink as the limit of absorption is reached. Mesh size is 8.



Features and Benefits

- Designed for in-line use with stepped barb connections for 10–12 mm ID hose. Generally installed on pump inlet
- Use as a back up between a cold trap and the pump to protect against vapors if the cold trap fails

Applications

- Vacuum pump protection
- Activated carbon removes organic vapors and radioactive particles
- Molecular sieve for use with organic and alkaline air streams
- Desiccant for use with high velocity acidic air streams
- Eliminates a potential health hazard from the work place

Typical Data

Product	VACU-GUARD 150 Activated Carbon	VACU-GUARD 150 Desiccant	VACU-GUARD 150 Molecular Sieve
Chemical Trap Media	Activated Carbon	Anhydrous Calcium Sulfate	Silico Aluminate Zeolite
Filter Media	PTFE	PTFE	PTFE
Surface Area or Weight	82000 m ²	318 g	363 g
Flow Rates (SLPM)*			
0.1 bar (1.45 psi)	210	280	250
0.5 bar (7.25 psi)	450	600	570
Maximum Operating Pressure			
dry gas	60 psi	60 psi	60 psi
wet gas	14 psi	14 psi	14 psi

* SLPM=Standard liters per minute. Differential pressure.

Note: As with any chemical reaction, care should be used to determine the safety and usefulness of VACU-GUARD 150 products prior to routine use. For example, the molecular sieve rapidly heats up when exposed to water.

Ordering Information

Catalog Number	Description	Media	Quantity/Pack
6722-1001	VACU-GUARD 150	Activated Carbon/PTFE	1
6722-1002	VACU-GUARD 150	Desiccant/PTFE	1
6722-1003	VACU-GUARD 150	Molecular Sieve/PTFE	1