

# 3M Purification



3M™ 500 series high performance liquid filter bag incorporates the bypass and transport layer design that maximizes the amount of surface area in each bag. The result is a filter designed to improve performance and reduce operating costs. The filter contains up to 3.5 square metres of usable filter media. Compare this with only 0.4 square metres for most competitive filter bags and 0.06 square metres for most competitive cartridges.

To make use of this entire surface area, 3M 500 series liquid filter bag is constructed using the Bypass/Transport concept, specially designed bypass holes are cut into certain areas of the filter media to prevent premature blinding of the filter. In conjunction with the bypass design, a second media called a transport layer helps to distribute fluid flow evenly through the filter. The outer layers of the filter provide a highly uniform barrier for final particle filtration. This construction results in very high dirt loading capacity, even at high flow rates. There are no sewn seams used in any of the filtering layers, thus allowing high filtration efficiencies for fine particles.

The Bypass/Transport filter technology is manufactured in a filter bag form to provide additional operational advantages:

- Changeout time – easier and faster, less labour required
- Bag compressibility – easier and less costly disposal
- Contaminant captured inside the bag – easier handling

## Materials of Construction

### Filter Media:

Melt blown polypropylene microfibre filter media provides high particle removal efficiency for high quality filtration with broad chemical compatibility.

No silicone is intentionally used in materials of construction or in manufacturing.

The raw materials composing these filters are FDA compliant according to CFR Title 21.

### Ring and Bottom Clamp:

Stainless Steel

# 3M™ 500 Series

## High Performance Liquid Filter Bags

### Applications

Prefilters or final filters for:

• Acids and bases	• Groundwater clean-up
• Amines	• Machine coolants
• Carbon beds	• Makeup water
• Completion fluids	• Organic solvents
• Deep wells	• Photo chemicals
• Desalination	• Plating solutions
• DI resins	• RO membranes
• Glycol	• Storm Water

### Performance Data

#### Loading Capacity

Product Model Number	522	525	527	529
Dirt - grams at 95 lpm	308	489	755	980
Dirt - grams at 190 lpm	215	430	645	925
Mineral oil - grams at saturation	4725	5025	6675	3595

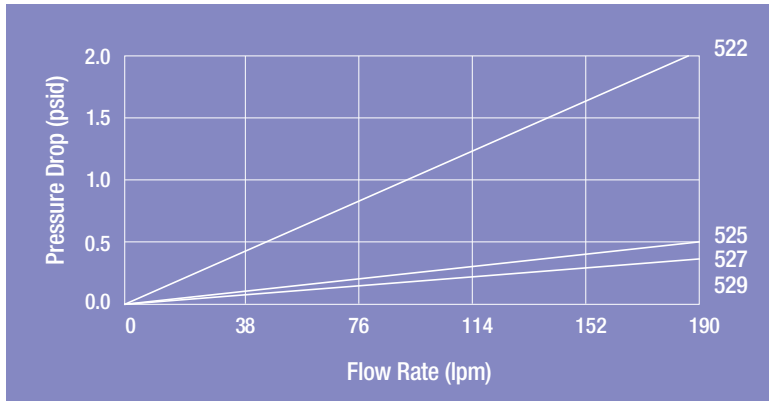
**Loading:** The data above shows typical loading capacities of the different micron rated filters. Loading capacity is determined by challenging a filter with a dispersion of silica test dust in water at the recommended flow rate. Pressure drop is monitored and testing is terminated at 35 psid (2.4 bar). The loading capacity reported is the dry weight gain of the bag.

#### Particle Removal Efficiency (microns)

Model Number	522	525	527	529
Efficiency @99%	2.5	5.0	15	48
Efficiency @95%	1.5	3.0	9	35
Efficiency @90%	0.9	1.5	8	30
Efficiency @75%	<0.7	1.0	7	22
Efficiency @50%	<0.7	<1.0	4	8

**Efficiency:** The Series 500 High Performance Filter Bags are rated using a silica test challenge in water at 95 lpm. The results reported are typical initial efficiencies taken within ten minutes of the start of the test and are cumulative data.





**Pressure Drop:** The 3M™ 500 series high performance filter bags have low initial pressure drop (psid) in water as the chart indicates. The chart includes the pressure drop of a typical single vessel to assist you in sizing your filter system.

**Operating Conditions:**

Maximum Operating Temperature:	82°C
Recommended Flow (in water):	95 lpm
Suggested Maximum Flow (in water):	190 lpm
Maximum Differential Pressure:	35 psid (2.4 bar)

**Product Specifications**

Model Number	Micron Rating Initial Efficiency	Part Number	Length Outer	Diameter	Cartridges per Case
522	2.5 micron @ 99%	70-0708-1218-8	#2 size: 32 in (81 cm)	7 in (18 cm)	4
525	5.0 micron @ 99%	70-0702-3335-1			
527	15 micron @ 99%	70-0702-3168-6			
529	48 micron @ 99%	70-0702-3338-5			

**Important Notice**

The information described in this literature is accurate to the best of our knowledge. A variety of factors, however, can affect the performance of the Product(s) in a particular application, some of which are uniquely within your knowledge and control. INFORMATION IS SUPPLIED UPON THE CONDITION THAT THE PERSONS RECEIVING THE SAME WILL MAKE THEIR OWN DETERMINATION AS TO ITS SUITABILITY FOR THEIR USE. IN NO EVENT WILL 3M PURIFICATION BE RESPONSIBLE FOR DAMAGES OF ANY NATURE WHATSOEVER RESULTING FROM THE USE OF OR RELIANCE UPON INFORMATION.

It is your responsibility to determine if additional testing or information is required and if this product is fit for a particular purpose and suitable in your specific application.

**Limitation of Liability**

3M Purification Pty Limited will not be liable, to the extent permitted by law, for any loss or damage from the use of the Product(s), whether direct, indirect, special, or consequential, regardless of the legal theory asserted, included warranty, contract, negligence or strict liability.



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