

3M Separation and Purification Sciences Division Data Sheet

3M[™] 500 Series High Performance Liquid Filter Bags

522A/

522D

308

6600

522A/

522D

2.5

1.5

0.9

< 0.7

< 0.7



The 3M[™] 500 series multi-layer, high efficiency filter bags are designed for use in fluid applications with high contaminant removal requirements. The bags utilize 3M polypropylene microfiber media. In addition to providing for high particle removal efficiency, the media also has a high capacity for trace oil removal. 3M 500 Series bags are offered in a Size #2 configuration in four micron grades; 2.5, 5.0, 15, and 48µm (at 99% Particle Removal Efficiency).

3M 500 series bags feature a bypass & transport construction design which provides for efficient contaminant loading throughout the various bag media layers. In the design (refer to Figure 1), bypass holes are cut into the initial filter media layers ("A") to help prevent premature blinding. In conjunction, transport media layers ("B") are used to distribute fluid flow evenly through the filter. The final filter media layers ("C") provide a uniform barrier for final particle filtration.

This unique filter construction results in optimum contaminant loading capacity while maintaining design particle removal efficiencies. 3M 500 Series bags contain up to 38 square feet of usable filter media compared with 4 to 5 square feet for most standard single layer filter bags.

Using a unique wrapped design and a stainless steel bottom clamp, the need for sewn seams is eliminated. The bags incorporate the use of a stainless steel ring collar for sealing in the filter housing. No adhesives, binders or silicone are used in the manufacturing process. All media grades use materials that are listed for food contact per 21 CFR. The quality management system associated with the manufacturing of the 3M 500 Series bags is ISO 9001:2012 certified.

525A/

525D

489

5800

525A/

525D

5.0

3.0

1.5

1.0

<1.0

Product Model Number

Product Model Number

527A/

527D

755

5800

527A/

527D

15

9

8

7

4

529A/

529D

860

3200

529A/

529D

48

35

30

22

8

A	I -
8	
A	-
3	20404
A	
8	
A 2	
в	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
c 🚄	
0	
c	

Figure 1. 3M[™] 500 Series Design

Dirt Loading: 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 is the dry weight gain of the bag.

Oil Loading: The mineral oil loading capacities represent weight gains after 24 hours of soaking in a mineral oil solution, removing the bags, and draining (by hanging) for 15 minutes.

Efficiency: The 3M 500 series high performance filter bags are rated using a silica test challenge in water at 25 gpm ($5.7m^3$ /hour). The results reported are typical initial efficiencies taken within ten minutes of the start of the test and are cumulative data.

Applications

Process Waters	Ground/Reclaimed/ Storm/Waste Waters		
Oil Production (Injection & Produced Waters, Completion Fluids)	Refining (Amine, Final Product)		
Machining (Coolants, Plating Solutions)	Food & Beverage		

Features & Benefits

Table 1: Loading Capacity

Table 2: Particle Removal

Efficiency (micron)

Efficiency @ 99%

Efficiency @ 95%

Efficiency @ 90%

Efficiency @ 75%

Efficiency @ 50%

Dirt — grams at 25 gpm (5.6 cu m/hr)

Mineral Oil — grams at saturation

Higher Contaminant Capacity (vs. conventional single layer bags)

Reduced bag change-out frequency

Unique bypass and transport design in a wrapped construction

- Efficient contaminant loading throughout filter layers
- No sewn seams

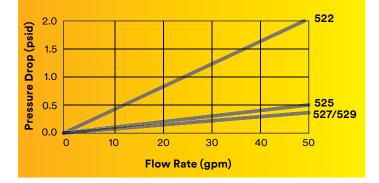
Use of 3M microfiber polypropylene filter media

- High particle removal efficiencies throughout filter life
- Ability to remove trace oils
- Broad chemical compatibility

FDA Compliant

• Compatible in applications requiring direct food contact in food and beverage processing per 21 CFR





Product Specifications

Pressure Drop: 3M[™] 500 Series High Performance Filter Bags have low initial pressure drop (ΔP) in water as the chart indicates. The chart includes the pressure drop of a typical single vessel to assist filter system sizing.

Operating Conditions						
Maximum Operating Temperature	180°F (82°C)					
Recommended Flow (in water)	25 gpm (5.7cu m/hour)					
Suggested Maximum Flow (in water)	50 gpm (11cu m/hour)					
Suggested Maximum Differential Pressure	35 psid (2.4 bar)					

Model Number	Micron Rating Initial Efficiency @ 99%	Part Number	Length	Outer Diameter	Bags per Case
522A	- 2.5 micron	70-0203-0342-9	#2 size: 32 in. (81cm)	7 in. (18cm)	4
522D		70-0202-8656-6			
525A	5.0 micron	70-0202-8655-8			
525D		70-0202-8654-1			
527A	- 15 micron	70-0203-0341-1			
527D		70-0202-8652-5			
529A	- 48 micron	70-0202-8651-7			
529D		70-0202-8650-9			

Notes: "A" versions use 7.03" diameter stainless steel ring. "D" versions use 7.00" diameter stainless steel ring (European version).

PLEASE NOTE: The Ordering Guide above is for reference only. Not all combinations are available. Please consult with your 3M Representative to determine the appropriate part number for your application.

Technical Information

The technical information, guidance, and other statements contained in this document or otherwise provided by 3M are based upon records, tests, or experience that 3M believes to be reliable, but the accuracy, completeness, and representative nature of such information is not guaranteed. Such information is intended for people with knowledge and technical skills sufficient to assess and apply their own informed judgment to the information. No license under any 3M or third party intellectual property rights is granted or implied with this information.

Product Selection and Use

Many factors beyond 3M's control and uniquely within user's knowledge and control can affect the use and performance of a 3M product in a particular application. As a result, customer is solely responsible for evaluating the product and determining whether it is appropriate and suitable for customer's application, including conducting a workplace hazard assessment and reviewing all applicable regulations and standards (e.g., OSHA, ANSI, etc.). Failure to properly evaluate, select, and use a 3M product and appropriate safety products, or to meet all applicable safety regulations, may result in injury, sickness, death, and/or harm to property.

Warranty, Limited Remedy, and Disclaimer

Unless a different warranty is specifically stated on the applicable 3M product packaging or product literature (in which case such warranty governs), 3M warrants that each 3M product meets the applicable 3M product specification at the time 3M ships the product. 3M MAKES NO OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR ARISING OUT OF A COURSE OF DEALING, CUSTOM, OR USAGE OF TRADE. If a 3M product does not conform to this warranty, then the sole and exclusive remedy is, at 3M's option, replacement of the 3M product or refund of the purchase price.

Limitation of Liability

Except for the limited remedy stated above, and except to the extent prohibited by law, 3M will not be liable for any loss or damage arising from or related to the 3M product, whether direct, indirect, special, incidental, or consequential (including, but not limited to, lost profits or business opportunity), regardless of the legal or equitable theory asserted, including, but not limited to, warranty, contract, negligence, or strict liability.



3M Purification Inc. 3M Separation and Purification Sciences Division 400 Research Parkway Meriden, CT 06450 USA

Phone 1-800-243-6894 1-203-237-5541 Fax 1-203-630-4530 Web 3Mpurification.com Your local distributor: