

3M™ Series NB Filter Bags

Polypropylene Felt and Polyester Felt Bags

3M Purification Inc. offers a line of Size #1 and #2 polypropylene felt and polyester felt filter bags in grades ranging from 1 to 200 µm in various collar/media configurations (see ordering guide) with the following important benefits:

- **Inside-Outside Flow Configuration**, resulting in the capture of contaminants on the inside
- **Ease of Handling**: bags are collapsible
- **Ability to handle viscous fluids**
- **Low unit cost**



Meeting the most demanding customer specifications, the 3M™ Series NB Filter Bags are highly reliable with predictable and repeatable performance. Features include:

Media Migration Control

Media migration is controlled through thermal treatment of the exterior surface of the filter media and the use of state-of-the-art procedures to properly weld the media seams and affix the media to the collar.

Proper Sealing

Proper sealing of the bag in the filter housing is necessary for prevention of fluid bypass and subsequent contamination of the downstream fluid. 3M Series NB filter bags are offered in both plastic and metal ring sealing collar versions. For plastic collar versions, the filter bag media is welded to a specially designed plastic collar for proper sealing of the 3M Series NB bags in most conventional bag housings. The plastic collar incorporates an ergonomically designed handle allowing for easy removal of the filter bag from the filter housing. For ease of identification and traceability, the handles include an engraving with micron grade and manufacturing lot information. Ring collar versions use a galvanized steel ring for sealing the 3M Series NB filter bag in the housing. These versions are appropriate for use in most filter bag housings that will not accept the plastic collar version.

Materials/Construction

Each felt filter bag grade is manufactured from high performance fibers selected based on extensive media performance testing. No adhesives, binders or silicone are used in the media manufacturing process. All polypropylene grades and specific polyester grades use materials that are listed for food contact per 21 CFR. The quality management system associated with the manufacturing of the 3M Series NB Filter Bags is ISO 9001:2008 certified.

Markets Served
Industrial
Chemicals
Coatings
Hydrocarbon & Refining
Electronics
Food & Beverage*
Pharmaceutical & Healthcare*

* Metal ring version is not recommended

Features & Benefits

Controlled Media Specifications

- Predictable performance for desired filter effluent quality
- Manufacturing processes do not include the use of silicone or adhesives

Specially Designed Sealing Collars

- Proper sealing into most filter bag manufacturers' housings
- Handle designs allow for insertion of bag accessories (displacement balloons, magnets..)
- Grade and lot information included for identification and traceability

Welded Side Seams And Thermal Treated Exterior Surfaces

- Control of fiber migration and subsequent downstream fluid contamination



Dimension	#1 Size	#2 Size
Filter Diameter	7 in / 17.8 cm	
Filter Length	17 in / 43.2 cm	32 in / 81.3 cm

Chemical	Compatibility Rating	
	Polypropylene	Polyester
Strong Acids	Excellent	Good
Weak Acids	Excellent	Excellent
Strong Alkalis	Excellent	Poor
Weak Alkalis	Excellent	Fair
Solvents	Fair	Good

Operating Conditions	Media	
	Polypropylene	Polyester
Maximum Operating Temperature	180 °F (82 °C)	300 °F (149 °C)
Maximum Recommended Flow Rate (gpm/lpm)**	#1 Size 90 gpm (340 lpm)	
	#2 Size 180 gpm (681 lpm)	
Maximum Forward Differential Pressure	35 psid @ 68°F (2.4 bar @ 20°C)	
Recommended Change-out Differential Pressure	20 psid (1.4 bar)	
CFR Compliant	All polypropylene component materials and specific grades of the polyester versions are listed for food contact per 21 CFR 177.1630	

*Thermal and chemical resistance data presented in this brochure is for guidance only. Factors such as duration, degree of concentration of a substance in a fluid and temperature should also be considered. For each application, the chemical compatibility of the galvanized steel ring should be tested under application conditions such as time, temperature, and environment.

**For aqueous solutions (1 cps) based on maintaining clean pressure drop (media only) of <2 psid (0.14 bar).

3M™ Series NB Polypropylene Felt & Polyester Felt Filter Bag Ordering Guide

Filter Designation	Nominal Removal Rating	Material (Media)	Bag Size	Collar Type
NB - Nominal Bag	0001 - 1 µm ¹ 0005 - 5 µm 0010 - 10 µm 0025 - 25 µm 0050 - 50 µm 0100 - 100 µm 0200 - 200 µm	PPS - Polypropylene Felt EES - Polyester Felt	1 - Size #1	C - Plastic Collar ² R - Galvanized Steel Ring
			2 - Size #2	

¹ Only available in plastic collar version
² Polypropylene collar used for PPS bags. Polyester collar used for EES bags.

Filter Designation	Nominal Removal Rating	Material (Media)	Bag Size	Collar Type
NB - Nominal Bag	0001 - 1 µm 0005 - 5 µm 0010 - 10 µm 0025 - 25 µm	FES - Polyester Felt (21 CFR)	1 - Size #1	C - Plastic Collar ³ Ring
			2 - Size #2	

³ Polyester collar used for FES bags.

To aid bag installation, an optional bag installation tool is available, order part number 6042931

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 INC. BE RESPONSIBLE FOR DAMAGES OF ANY NATURE WHATSOEVER RESULTING FROM THE USE OF OR RELIANCE UPON INFORMATION.**

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