

PROBAG Series



mikropore

High-Capacity Industrial Liquid Filter Bags



Gradient Depth Felts &
High-Precision Monofilament Meshes



Advanced Fiber-Lock Shield



Broad Chemical &
Thermal Compatibility



Zero-Bypass Welded
Seam Technology



MIKROPORE FILTRATION TECHNOLOGIES LLC

Advanced Engineering Overview

The PROBAG Series integrates multiple engineering disciplines into a single filter bag platform, delivering superior particle capture, extended service life, and reliable sealing integrity across demanding industrial liquid filtration applications. Each design element addresses a specific failure mode common in conventional bag filters.

- **Graded-Density Depth Filtration**

PROBAG felt media feature a progressive density gradient from the upstream face to the downstream surface. Coarse outer layers capture large particulate without premature blinding, while increasingly fine inner layers achieve target efficiency ratings down to 1 micron. This architecture maximizes dirt-holding capacity, reduces differential pressure buildup, and extends bag life by 2-3x compared to uniform-density felts.

- **Fiber-Lock Surface Treatment & Molded Collar Sealing**

A proprietary thermal calendering process bonds surface fibers to the media matrix, preventing fiber migration and downstream contamination. Combined with precision-molded sealing collars (available in PP, PE, steel ring, and flange configurations), the system delivers a positive seal against the filter housing — eliminating bypass at the bag-to-housing interface.

- **Automated Thermal Welding – Zero-Bypass Seams**

All longitudinal and bottom seams are joined by automated ultrasonic or thermal welding, eliminating needle holes inherent in sewn construction. The result is a monolithic seam with no bypass paths, ensuring that 100% of process fluid passes through the filter media. Critical for applications where even trace unfiltered leakage is unacceptable.

- **Multi-Media Versatility: PP · PET · Nylon · Nomex**

The PROBAG platform supports four core media families to match application chemistry and temperature:

- Polypropylene (PP) — Excellent acid/alkali resistance up to 90 °C
- Polyester (PET) — Superior abrasion resistance, continuous service to 150 °C
- Nylon Mesh — Precision monofilament for reusable, cleanable applications
- Nomex (Aramid) — High-temperature service to 204 °C for hot oils and solvents

Applications & Material Characteristics

Selecting the optimal filter media requires matching material properties to process chemistry, temperature, particle morphology, and flow regime. The following guide summarizes PROBAG media families and their primary application domains to support efficient specification.

- **Needle-Felt Depth Media (PP / Polyester)**
High void volume melt-blown matrix engineered for bulk sludge capture, gelatinous particles, and maximum dirt-holding capacity. The graded-density structure traps progressively finer solids through the media depth, extending service intervals and reducing differential pressure buildup in high-loading applications.
- **Monofilament Mesh Media (Nylon / Stainless Steel)**
Precision-woven structure with fixed square openings providing exact surface screening at defined micron ratings. Ideal for rinsing loops, coarse particle classification, and reusable filtration cycles. The rigid monofilament construction resists deformation under pressure surges, maintaining consistent pore geometry throughout service life.
- **High-Temperature Specialties (Nomex / Aramid)**
Ruggedized aramid matrix designed to maintain stable tensile strength and dimensional pore integrity in continuous chemical or oil streams up to 200 °C. Resistant to hydrolysis and oxidative degradation, these media serve hot solvent recovery, thermal oil polishing, and high-temperature process water applications where standard PP/PET media would fail.

Typical High-Flux Industrial Applications

Chemical & Surface Treatment

Filtration of technical solvents, acids, alkalis, paint coatings, electroplating baths, and chemical intermediates. Ensures process purity and protects downstream equipment from abrasive or reactive particulate.

Water & Wastewater Refining

Cooling tower loops, municipal water, industrial process water, and pre-filtration protection upstream of Reverse Osmosis (RO) membranes. Reduces fouling index and extends membrane service life.

Food & Industrial Fluids

Clarification of edible oils, technical lubricants, resins, process cooling liquids, and industrial wash water. Meets hygiene requirements with FDA-compliant media options.

Specifications & Selection Configurator

Use the standard size configurations and part number matrix below to specify the correct PROBAG filter bag for your application.

Combine media type, micron rating, bag size, collar style, and assembly method into a single ordering code.

Standard Industry Size Configurations

- Size 1: φ 180 mm × 430 mm (High Flow)
- Size 2: φ 180 mm × 810 mm (Double Capacity – Industry Standard)
- Size 3: φ 105 mm × 230 mm (Compact)
- Size 4: φ 105 mm × 380 mm (Medium)
- Size 5: φ 150 mm × 560 mm (Specialized Commercial)

Part Number / Selection Configurator

Series Code	Filter Media Type	Micron Rating	Bag Industry Size	Collar / Ring Seal	Assembly
PBG (PROBAG)	PP = Polypropylene Felt PE = Polyester Felt NY = Nylon Monofilament NX = Nomex High-Temp 316 = SS316L Wire Mesh	001 = 1.0 μm 003 = 3.0 μm 005 = 5.0 μm 010 = 10 μm 050 = 50 μm 100 = 100 μm	SZ1 = Size 1 Bag SZ2 = Size 2 Bag SZ3 = Size 3 Bag SZ4 = Size 4 Bag SZ5 = Size 5 Bag NSZ = Non-Standard	PPR = Polypropylene Ring PER = Polyester Ring NLR = Nylon Ring STR = Carbon Steel Ring SSR = Stainless Steel Ring WOR = Without Collar/Ring	W = Fully Welded S = Stitched Seam

Ordering Example

PBG-PP-005-SZ2-PPR-W (PROBAG Series, Polypropylene Felt Media, 5.0 μm retention rating, Industry Size 2 Bag, Polypropylene Plastic Ring Collar, 100% Fully Welded construction).



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