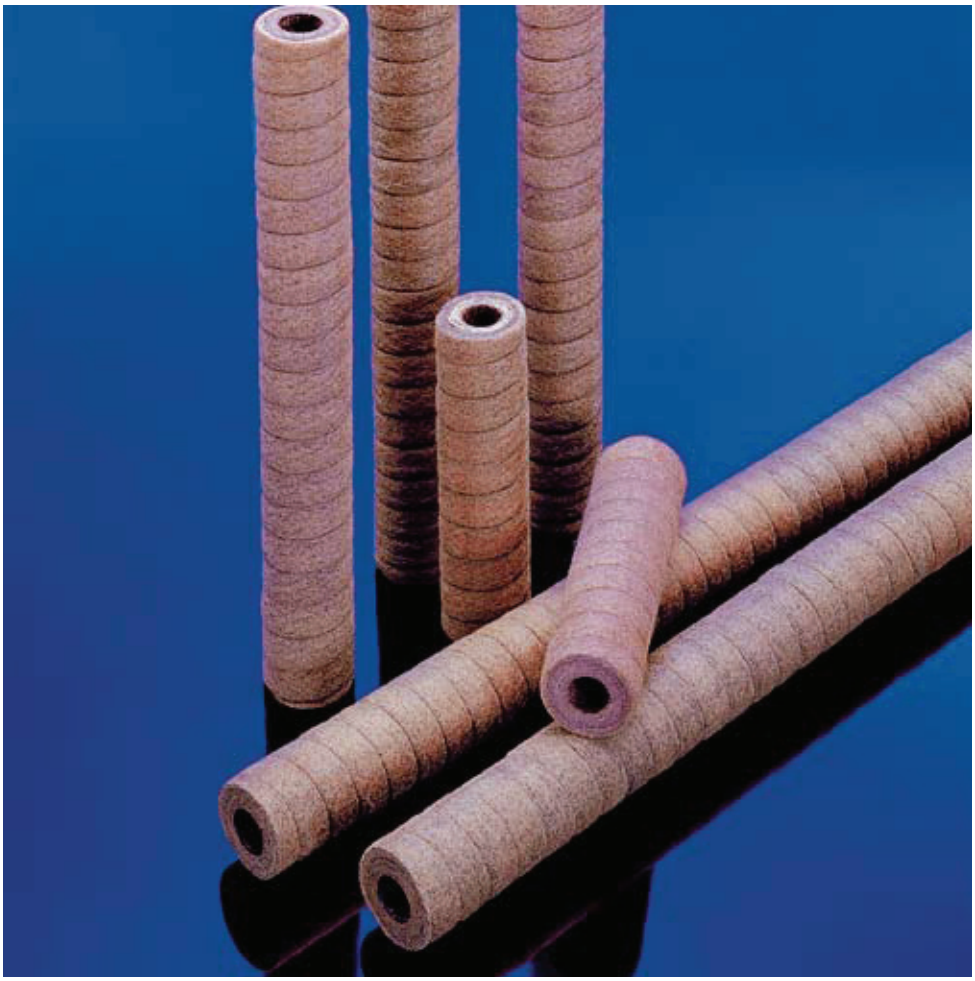
Matrix RBGC Filter Cartridges

A Patented Breakthrough in Resin Bonded Cartridge Design

Matrix RBGC cartridges have a unique, proprietary two-stage filtration design to maximize particle retention and service life in viscous fluid filtration applications. An outer, spiral, prefilter wrap, made from a fiber blend of polyester and acrylic, increases cartridge strength and eliminates residual debris associated with conventional or machined and grooved, resin bonded cartridges.

RBGC filter cartridges are available in eight differentiated removal ratings of 2µm, 5µm, 10µm, 25µm, 50µm, 75µm, 125µm and 150µm pore sizes to meet a wide range of performance requirements.



Benefits

- Outer, spiral wrap collects large particles and agglomerates, while inner layers control particle removal at rated size
- Outer wrap increases surface area and eliminates loose debris and contamination caused by machined products
- Extra-long acrylic fibers provide added strength, resist breakage and migration common with competitive “short fiber” cartridges
- Available with optimal single-open-end seals (222 o-ring with flat cap) in ABS or nylon
- Phenolic resin impregnation strengthens cartridge for use with high viscosity fluid
- Withstands pressure surges up to 150 psid across cartridge (depending on fluid temperature)
- One-piece construction eliminates bypass concerns with multilength cartridges and eases change out
- Silicone-free construction ensures no contamination to adversely affect adhesion properties of coatings

Applications

- Paints
- Printing Inks
- Adhesives
- Resins
- Emulsions
- Chemical Coatings
- Organic Solvents
- Plasticizers
- Waxes
- Oilfield Fluids
- Process Water
- Petroleum Products

MATRIX SEPARATIONS

ENGINEERING **YOUR** SUCCESS.

Matrix RBGC Filter Cartridges

Specifications

Materials of Construction:

1st stage Pre-filter wrap: Polyester/Acrylic long staple fiber blend
2nd stage Final Filter wrap: Acrylic long staple fiber
Fibers impregnated with Phenolic Resin

Type of Construction:
Coreless, one-piece, rigid resin bonded fibrous matrix

Maximum Recommended Operating Conditions:

Flow Rate: 5 gpm per 10 in length (18.9 lpm per 254 mm length)
Temperature: 250°F (121°C)
Maximum Recommended Change Out ΔP: 50 psid (3.5 bar)
Recommended Maximum Differential Pressure:
Cartridge Pressure Resistance:
150 psid (10 bar) @ 70°F (21°C)
125 psid (8.6 bar) @ 100°F (38°C)
90 psid (6.2 bar) @ 150°F (65°C)
65 psid (4.5 bar) @ 180°F (82°C)
25 psid (1.7 bar) @ 250°F (121°C)

Particle Removal Ratings:

2µm, 5µm, 10µm, 25µm, 50µm, 75µm, 125µm and 150µm

Dimensions, in (mm):

Outside Diameter: 2-9/16 in (65)
Inside Diameter: 1-1/8 in (28.6)
Lengths: Nominal, 10, 20, 30 and 40 in lengths

Environmental/Chemical Compatibility:

Classified as a nonhazardous material
- Incinerable (8000 BTU/lb)
- Crushable and shredable
- Certified silicone-free
- Suitable for weak acids and bases (pH 5-9)
- Unsuitable for oxidizing agents
- Not recommended for FDA applications

End Adapters:

None on double open end style
ABS (Acrylonitrile Butadiene Styrene) for most applications
Nylon (NTC) for aromatic solvents

RBGC Flow Factors

Rating (µm)	Flow Factors
2	*0.08*
5	*0.04*
10	*0.02*
25	*0.012*
50	*0.01*
75	*0.006*
125	*0.0013*
150	*0.0010*

RBGC Length Factors

Length (in)	Length Factor
9	*1.0*
10	*1.0*
19	*2.0*
20	*2.0*
29	*3.0*
30	*3.0*
39	*4.0*
40	*4.0*

Flow Rate and Pressure Drop Formulas

$$\text{Flow Rate (gpm)} = \frac{\text{Clean } \Delta P \times \text{Length Factor}}{\text{Viscosity} \times \text{Flow Factor}}$$

$$\text{Clean DP} = \frac{\text{Flow Rate} \times \text{Viscosity} \times \text{Flow Factor}}{\text{Length Factor}}$$

1. Clean ΔP is PSI differential at start.
2. Viscosity is centistokes. Use Conversion Tables for other units.
3. Flow Factor is ΔP/GPM at 1 cks for 10 in (or single).
4. Length Factors convert flow or ΔP from 10 in (single length) to required cartridge length.

Ordering Information

RBGC [ ] **A** — [ ]

Cartridge Code	Micron Rating (µm)	Standard OD	Length (code)	Length (in)	Length (series)
RBGC = ResinBond Series	2	2 1/2	9.8	9-3/4	248
	5		10	10	254
	10		19.5	19-1/2	495
	25		20	20	508
	50		29.3	29-1/4	743
	75		30	30	762
	125		39	39	961
	150		39	39	991
			40	40	1016

Specifications are subject to change without notification.

MATRIX SEPARATIONS