

# amcUltraFlow

## Cartridges-Variou Membrane Filters



The electronics-grade **amcUltraFlow** cartridge filters are specifically designed for top performance filtration and are manufactured under a clean environment. There are three different filter elements to choose from: modified hydrophilic polyethersulfone, hydrophobic melt blown polypropylene, and hydrophobic polytetrafluoroethylene to meet today's most stringent electronics industry filtration requirements, including filtration of DI water, weak acids/bases, organic solvents, oxidizing agents, and strong chemicals.

**amcUltraFlow** cartridge filters offer high flow rate, high particle retention and longer life time, leading to low pressure drops, fewer filter change outs, cleaner process water and chemicals for electronics filtration process.

### Performance Advantages

Various filter elements with various pore sizes of cartridge filters to choose from

The filter elements and structural components of the cartridge are fusion-welded, and thoroughly flushed with solvents during manufacturing, eliminating unnecessary extractables from the cartridge during filtration process

100% integrity tested for **amcUltraFlow** PES and **amcUltraFlow** PTFE

### Typical Applications

Fine chemical manufacture and distribution: acids, bases, etchants, solvents, photoresists

Point-of-use chemical filtration: recirculation of wet-etch systems, rinse baths

Polymer filtration

Process gases and compressed air

Ultrapure water filtration

### Specifications

#### Materials of Construction

Filter Media:

**amcUltraFlow** PES: Pleated single layer of hydrophilic polyethersulfone

**amcUltraFlow** PES-A: Pleated single layer of proprietary asymmetrical hydrophilic polyethersulfone

**amcUltraFlow** PP: Pleated multiple layers of hydrophobic melt blown polypropylene

**amcUltraFlow** PTFE: Pleated single layer of unsupported hydrophobic polytetrafluoroethylene

Support Material: Polypropylene

Structure Components: Polypropylene

Sealing Technology: Thermal bonding

#### Dimensions

Nominal Length: 10 inch (26.0 cm)

Diameter: 83 mm

#### Nominal Pore Size

**amcUltraFlow** PES: 0.03, 0.1, 0.2, 0.45, 1.2  $\mu\text{m}$

**amcUltraFlow** PES-A: 0.03, 0.1, 0.2, 0.45, 1.2  $\mu\text{m}$

**amcUltraFlow** PP: 0.2, 0.45, 1, 3, 5, 10, 30, 60  $\mu\text{m}$

**amcUltraFlow** PTFE: 0.05, 0.1, 0.2, 0.45, 1, 5  $\mu\text{m}$

#### Typical Effective Filtration Area

**amcUltraFlow** PES: 1.6 m<sup>2</sup>/10 inch

**amcUltraFlow** PES-A: 1.6 m<sup>2</sup>/10 inch

**amcUltraFlow** PP: >0.8 m<sup>2</sup>/10 inch

**amcUltraFlow** PTFE: 1.7 m<sup>2</sup>/10 inch

#### Maximum Operating Temperature

80°C at 30 psi (2.1 bar)

#### Maximum Differential Pressure

60 psi (4.1 bar) at ambient temperature

#### Resistivity Recovery within 18 Mega-ohm

≤120 L/10 inch length (at 1 L/min flow rate)

#### Cleanliness

**amcUltraFlow** PES: <5 particles/mL (>0.2  $\mu\text{m}$  particle after 5 minutes  
18 m $\Omega$  water flush at 5 L/min flow rate)

**amcUltraFlow** PES-A: <5 particles/mL (>0.2  $\mu\text{m}$  particle after 5 minutes  
18 m $\Omega$  water flush at 5 L/min flow rate)

**amcMaxFlow** PTFE: <10 particles/100 mL (>0.5  $\mu\text{m}$  particle after 30 minutes  
18 m $\Omega$  water flush at 5 L/min flow rate after alcohol wetting)

#### Retention Efficiency

**amcUltraFlow** PES:

0.03  $\mu\text{m}$ : >99.9% (retention of 0.055  $\mu\text{m}$  PSL beads)

0.1  $\mu\text{m}$ : >99.999% (retention of 0.198  $\mu\text{m}$  PSL beads)

0.2  $\mu\text{m}$ : >99.999% (retention of 0.460  $\mu\text{m}$  PSL beads)

0.45  $\mu\text{m}$ : >99.9% (retention of 0.830  $\mu\text{m}$  PSL beads)

1.2  $\mu\text{m}$ : >99.99% (retention of 2.0  $\mu\text{m}$  PSL beads)

**amcUltraFlow** PES-A:

0.03  $\mu\text{m}$ : >99.9% (retention of 0.055  $\mu\text{m}$  PSL beads)

0.1  $\mu\text{m}$ : >99.999% (retention of 0.198  $\mu\text{m}$  PSL beads)

0.2  $\mu\text{m}$ : >99.999% (retention of 0.460  $\mu\text{m}$  PSL beads)

0.45  $\mu\text{m}$ : >99.9% (retention of 0.830  $\mu\text{m}$  PSL beads)

1.2  $\mu\text{m}$ : >99.99% (retention of 2.0  $\mu\text{m}$  PSL beads)

**amcUltraFlow** PP:

0.2  $\mu\text{m}$ : >99% (retention of 0.3  $\mu\text{m}$  AC fine dust)

0.45  $\mu\text{m}$ : >99% (retention of 0.6  $\mu\text{m}$  AC fine dust)

1  $\mu\text{m}$ : >99% (retention of 1.5  $\mu\text{m}$  AC fine dust)

3  $\mu\text{m}$ : >99% (retention of 5  $\mu\text{m}$  AC fine dust)

5  $\mu\text{m}$ : >99% (retention of 9  $\mu\text{m}$  AC fine dust)

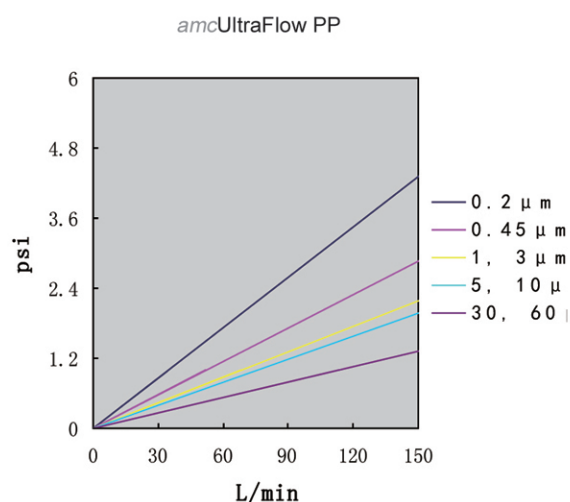
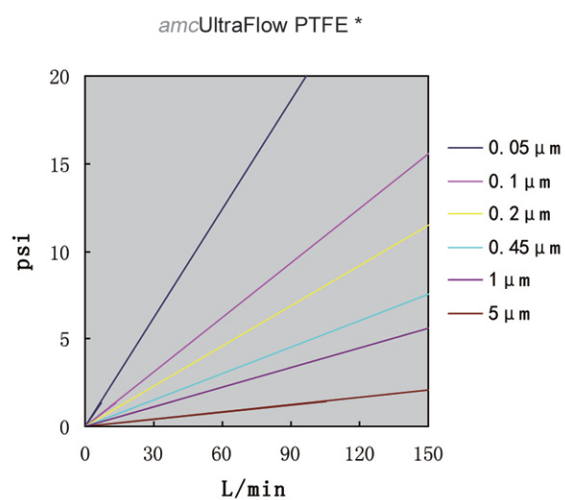
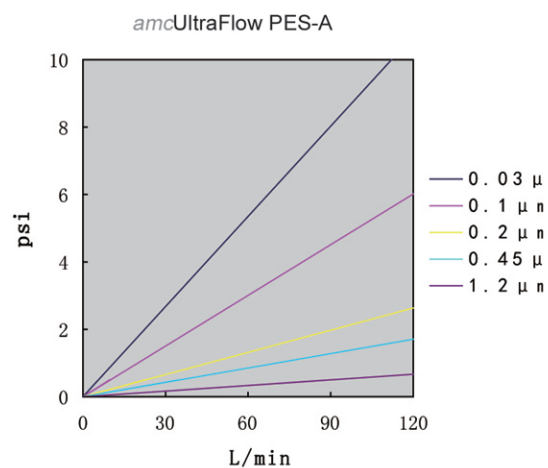
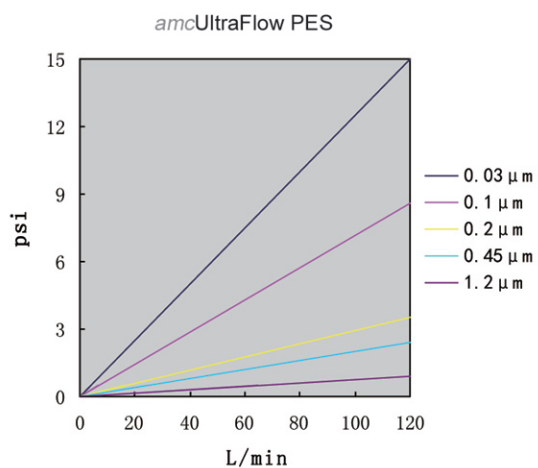
10  $\mu\text{m}$ : >99% (retention of 15  $\mu\text{m}$  AC fine dust)

30  $\mu\text{m}$ : >99% (retention of 40  $\mu\text{m}$  AC fine dust)

60  $\mu\text{m}$ : >99% (retention of 70  $\mu\text{m}$  AC fine dust)

Cartridge Configuration : 226/Flat

## Typical Water Flow Rates (10 inch length)



\*After alcohol rinse followed by water flush

## Cartridge Ordering Information

amcUltraFlow PES	U	F	S	■	■	F	◆	▲
amcUltraFlow PES-A	U	F	A	■	■	F	◆	▲
amcUltraFlow PP	U	F	P	■	■	F	◆	▲
amcUltraFlow PTFE	U	F	T	■	■	F	◆	▲

■ Rated Pore Size	PES	03	0.03 μm
		10	0.1 μm
		20	0.2 μm
		45	0.45 μm
		12	1.2 μm
	PES-A	03	0.03 μm
		10	0.1 μm
		20	0.2 μm
		45	0.45 μm
		12	1.2 μm
	PP	92	0.2 μm
		94	0.45 μm
		01	1 μm
		03	3 μm
		05	5 μm
		10	10 μm
		30	30 μm
		60	60 μm
	PTFE	50	0.05 μm
		10	0.1 μm
		20	0.2 μm
		45	0.45 μm
		01	1 μm
		05	5 μm

◆ Nominal Length	1	10 inch (26.0 cm)
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▲ Seal Material	S	Silicone
	V	Viton
	E	Ethylene Propylene
	F	FEP Encapsulated