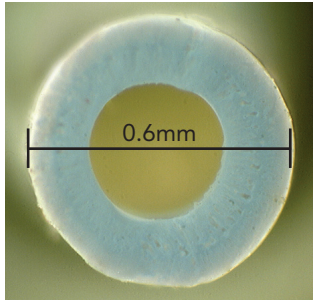


Hollow Fiber Membranes

A powerful ultrafiltration solution



Enlarged end view of the hollow fiber membrane



Hollow fiber membranes can be assembled into bundles

Ultrafiltration on steroids

SpinTek's advanced Hollow Fiber (HF) Membrane technology is a simple, powerful ultrafiltration solution. SpinTek's HF membranes provide a high surface area that allows you to create compact filtration systems with space saving advantages and higher filtration rates.

Formulations

SpinTek is currently in production of hollow fiber membranes for a variety of applications including use in the Sparkle drinking water system. SpinTek hollow fiber membranes are currently available in Polysulfone and Polyethersulfone. Both polymers are available with standard 50,000 NMWC or 100,000 NMWC cutoffs, though smaller or larger cutoffs can be formulated depending upon the application.

Fiber Diameters

The standard diameters are 1.2 mm OD, 0.8 mm OD (available October 2007) and 0.6 mm OD (available October 2007). Other sizes are available based upon custom tooling for a specific size. Lead time is typically 12 weeks for a custom size using current formulas.

Fiber Lengths and Configurations:

Hollow fibers are available as continuous rolls or can be pre-cut to length. They are also available wet or fully dry for potting. The maximum straight length of cut fibers with no bends from manufacturing is:

- 1.2 mm OD is available up to 72" (1829 mm)
- 0.8 mm OD is available up to 72" (1829 mm)
- 0.6 mm OD is available up to 60" (1524 mm)

Hollow Fiber

KEY BENEFITS

- Uses cost-effective, high-performance Membrane Ultrafiltration Technology
- Low fouling system suffers little degradation of performance between maintenance periods over months of use
- Human powered. A complete flexible system that doesn't rely on dubious electric delivery in outlying developing regions. Can be converted to solar or animal power
- Little maintenance. This is an important factor in remote locations with limited technical support
- Combination of technologies. HF, carbon filter, and ion exchange filter eliminate virtually all contaminants while providing fresh drinking water source from 150 to 200 gallons per hour
- Easy to transport, install and maintain

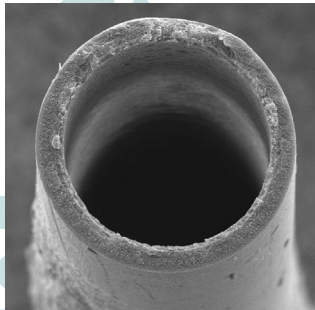


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Hollow fiber membranes placed in a rigid perforated casing



The Sparkle System transforms dirty, disease laden water into contaminant-free potable water.

Potting Services

SpinTek can provide potted modules up to 4.5" (114 mm) as a single module without interspacing of fiber sections.

Fiber Performance

Clean water fluxes are listed below at a TMP of 30 psig (308 kPa) using distilled water at 77°F (25°C).

100,000 NMWC	70 gfd	119 lmh
50,000 NMWC	50 gfd	85 lmh

Operating pH:

2-12

Maximum Operating Temperature:

150°F (66°C)

Maximum Operating Pressure:

100 psig (695 kPa)

SPECIFICATIONS

Material	PS, PES, PAN, PVDF
Available Fiber ID/OD (mm):	0.8/1.2 , 0.4/0.6
Rating:	100,000 MWCO
Pure Water Flux:	80 GFD
Max. Operating Temperature:	150 °F
Max. Operating Pressure:	100 PSI
pH Range:	2-12

Hollow

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**SpinTekfiltration**
Advancing the flow of industry