



**GENERAL INFO**

**COMMERCIAL / INDUSTRIAL WATER FILTRATION**

Ultrafiltration (UF) is a type of membrane filtration in which hydrostatic pressure forces water against a semi-permeable membrane. Ultrafiltration uses hollow fibres of membrane material and the feed water flows either inside the shell, or in the lumen of the fibres. Suspended solids and solutes of high molecular weight are retained, while water and low molecular weight solutes pass through the membrane. Ultrafiltration is not fundamentally different from reverse osmosis, microfiltration or Nano filtration, except in terms of the size of the molecules it retains. The primary removal mechanism is size exclusion.

**SYSTEM SPECIFICATIONS AND PERFORMANCE DATA**

**FEATURES & BENEFITS**

Model Number	<b>UF10</b>
Maximum Flow	<b>45 Lpm @ 414kPa (12 GPM at 60 psi)</b>
Continuous Flow Rate	<b>38 Lpm</b>
Operating Pressure	<b>350-690kPa</b>
Min/Max Temperature	<b>1-37 Degrees °C</b>
Inlet/Outlet Connection	<b>1"</b>
Drain Connection	<b>5/8"</b>
Flush Valve Pipe Size	<b>3/4"</b>
Electrical supply	<b>240V, 50Hz uninterrupted GPO</b> (weather protected)

- Reduces suspended solids, turbidity, colloids & tannin
- Certified and tested to remove bacteria, virus & cysts
- Size-exclusion filtration as opposed to media depth filtration
- Good and constant quality of the treated water in terms of particle and microbial removal
- Flow rate of up to 45 Lpm
- Automatic daily backwash
- 0.02 micron filtration
- 1 Year Warranty<sup>^</sup>

<sup>^</sup>1 year replacement parts and labour.

## WHAT DOES UF REMOVE FROM WATER?

**A.** Ultrafiltration (UF) is used to remove essentially all colloidal particles (0.001 to 1.0 microns) (1 micron = 1/1000 of a mm) from water and some of the largest dissolved contaminants. UF is very effective in removing colloids, bacteria, tannins, pyrogens, proteins, and macromolecules larger than the membrane pore size from water. The pore size in a UF membrane is mainly responsible for determining the type and size of contaminants removed. The UF10 membrane pore size is approximately 0.02 micron.

**B.** UF membranes are used where essentially all colloidal particles (including most pathogenic organisms) must be removed, but most of the dissolved solids may pass through the membrane without causing problems downstream or in the finished water. UF will remove most turbidity from water. Low molecular-weight organics and ions such as sodium, calcium, magnesium chloride, and sulphate are not removed by UF Membranes. Because only high-molecular weight species are removed, the osmotic pressure differential across the UF Membrane surface is negligible. Low applied pressures are therefore sufficient to achieve high flow rates from an Ultrafiltration membrane.

**C.** Where bacteria is an issue, Ultraviolet sterilisation is recommended for final stage filtration.

## MAINTENANCE SCHEDULE

Regular maintenance is critical for the ongoing performance of the UF10 system & for maximizing the life of the UF fibers.

The 3 maintenance parameters are as follows:

- Daily backwash (auto)
- Weekly flush (manual)
- Monthly TankSafe flush (manual)

## PREFILTRATION OPTIONS



### SFS Series

An automatic sediment reduction system rated at 1-5 micron



### MP Series / PL Series

A pleated washable sediment cartridge recommended at 5 micron

## MINIMUM WATER QUALITY REQUIREMENTS

- Pre-filtration 5 microns or less.
- Chlorine: 1.0 ppm Maximum for continuous flow (Up to 2000 ppm for cleaning only)
- Iron: Less than 0.30 ppm
- Manganese: Less than 0.05 ppm
- pH 3 to 11
- Silt Density Index: Less than 6.0
- Clay, Tannin and Colloids: Subject to particle analysis.

## POST FILTRATION OPTIONS



### RI Series

Ultraviolet Sterilisation