

# Ultrafiltration System Series UF

## Features:

- For removal of particulate matters down to 0.01 micron, bacteria and viruses
- Low fouling Hydrophilic Polyvinylidene fluoride (H-PVDF) hollow fiber membrane with nominal pore diameter 0.01 micron
- Simple, vertical, modular design allows low cost, compact systems
- Can be periodically back washed and air scoured to improve performance and extend operating life by removing the fouling layer
- Excellent filtration performance with high flux up to 120 m<sup>3</sup>/hr
- Outside-In flow configuration that allows for less plugging, higher solids loading and less energy.
- Factory tested to insure the quality
- 1 Year Warranty



Model UFA-40

## Ultrafiltration

Ultrafiltration is a pressure driven membrane separation process that removes suspended or particulate matter (including colloids & silt) from water. Ultrafiltration is more reliable than conventional multimedia filtration that removes approx. 10 micron or larger matter. Ultrafiltration also efficiently removes bacteria and most viruses.

Ultrafiltration systems eliminate the need for clarifiers and multimedia filters. Standard design is based on a UF module with outside-in flow configuration which allows for less plugging, higher solids loading, higher flow area and easy cleaning.

## Module and Membrane

Ultrafiltration module utilizes a double-walled hollow fiber PVDF membrane which has a very small nominal pore diameter of 0.01  $\mu\text{m}$  that allows for removal of all particulate matter, bacteria and most viruses and colloids. Despite the small pore diameter, the membrane has a very high porosity resulting in a flux similar to that of micro-filtration (MF) and can effectively replace MF in most cases.

## Applications

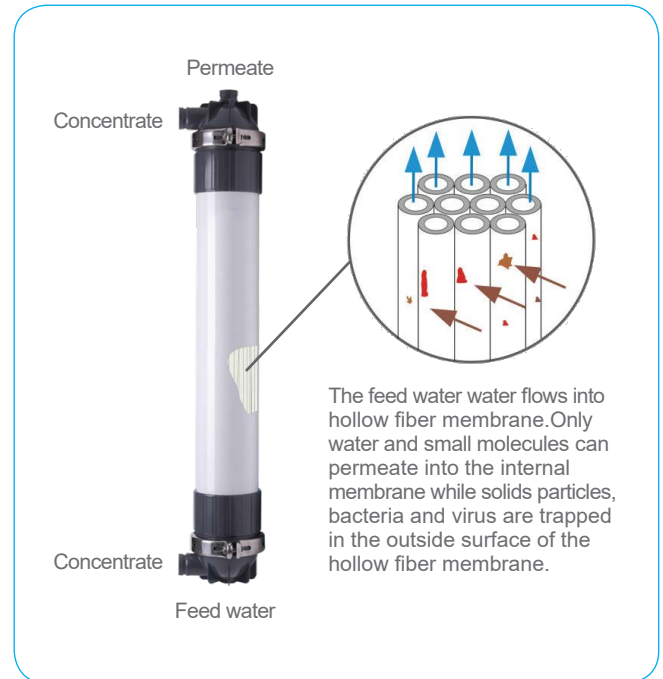
- RO pretreatment
- Disinfection of drinks, water, mineral water
- Disinfection and concentration of food and beverage
- Separation and purification of dairy products, bio-pharmaceutical
- Wastewater treatment

## System

System designed with ultrafiltration use an outside-in flow configuration which allows for less plugging, higher solids loading, higher flow area and easy cleaning. The primary flow design is dead-end filtration but the module can be operated using a concentrate bleed. Dead-end filtration uses less energy and has a lower operating pressure than the concentrate bleed, therefore reducing operating costs.

Standard system includes:

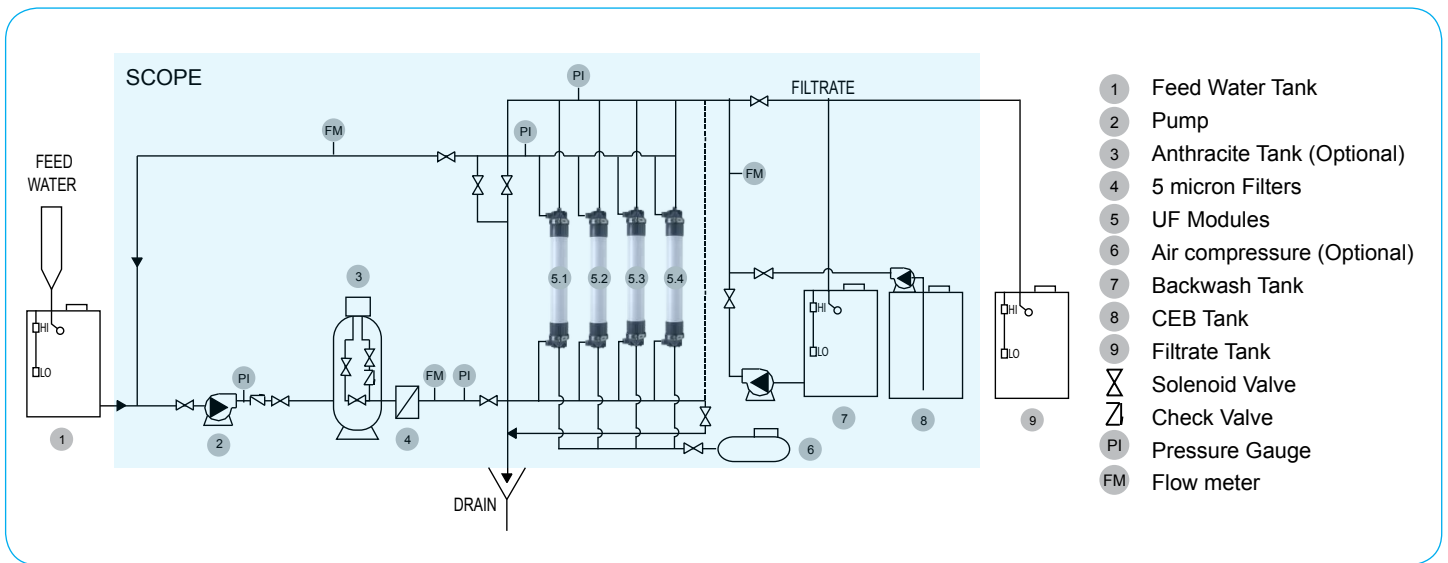
- 316SS Booster pump
- 5 micron filters, 5x40"
- Hollow Fiber Modules
- Automatic valves for feed backwashing
- Solenoid valve for air scour for O/I UF
- Flow meter: Filtrate and Backwash
- Pressure gauges
- 316SS Backwash pump
- Backwash tank
- CEB tanks with dosing pump
- Control panel



## Operation specification

- Power supply: 460V/3Ph/60Hz
- Turbidity < 50 max. 300 NTU
- TSS < 50 max. < 100 mg/L
- TOC < 10 max. < 40 mg/L
- COD max. < 60 mg/L
- pH 6-9 (2-11 cleaning)
- Temperature 25°C (max. 40 °C)
- Cl<sub>2</sub> 0.5 ppm (2,000 cleaning)
- Backwash frequency 20-60 minutes

## Flow Diagram



Model UC160

Model UB200

Model UA200

UF Module Specification	Model UC160	Model UB200	Model UA200
Membrane material	Hydrophilic PVDF		
Membrane Area	24 m <sup>2</sup>	34 m <sup>2</sup>	49 m <sup>2</sup>
Dimension	6.5 x 55 inch	8 x 55 inch	8 x 60 inch
Filtrate flux @ 25 °C	35-100 L/m <sup>2</sup> /hr		
Flow range	1 m <sup>3</sup> /hr	2 m <sup>3</sup> /hr	3 m <sup>3</sup> /hr
Max operating pressure	2.1 bar		
Max operating air scour flow	12 Nm <sup>3</sup> /hr		
Flow configuration	Outside-in, dead end		
Expected filtrate turbidity	≤ 0.1 NTU		
Expected filtrate SDI	≤ 2.5		



Model UFA-40

Ordering information						
Model	Flow Rate m <sup>3</sup> /hr	UF Module	Numbers of UF Module	Line size (inch)	Dimension L x D x H (cm)	Approx weight (kg)
UFC-1	1	UC-160	1	1.5	100 x 75 x 190	100
UFC-2	2	UC-160	2	1.5	100 x 75 x 190	150
UFC-3	3	UC-160	3	1.5	100 x 75 x 190	190
UFC-4	4	UC-160	4	1.5	100 x 75 x 190	250
UFB-4	8	UB-200	4	2	150 x 75 x 190	300
UFB-8	16	UB-200	8	2	150 x 75 x 190	450
UFB-12	24	UB-200	12	2	200 x 75 x 190	500
UFB-16	32	UB-200	16	2	250 x 75 x 190	550
UFB-20	40	UB-200	20	2	300 x 75 x 190	600
UFA-16	48	UA-200	16	4	450 x 75 x 290	2,000
UFA-20	60	UA-200	20	4	500 x 75 x 290	2,800
UFA-24	72	UA-200	24	4	600 x 75 x 290	3,000
UFA-28	84	UA-200	28	6	700 x 75 x 290	3,550
UFA-32	96	UA-200	32	6	750 x 75 x 290	4,000
UFA-36	108	UA-200	36	6	1,000 x 75 x 290	4,550
UFA-40	120	UA-200	40	6	1,150 x 75 x 290	5,050

Design, specification and materials subject to change without notice.

# Options



## Media Filters and Softeners

Anthracite : for Sediment Removal  
Manganese Green Sand : For Stain Removal  
Activated Carbon : for Organics Removal  
Resin : for Hardness Removal



## Microfiltration Systems

Multi-Cartridge Filter and Housings provide a high quality solution for high-volume microfiltration up to 825 m<sup>3</sup>/hr. Ideal for use in post-filtration and more. SS304 or FRP housings fit standard 40" filter cartridges. Filters cartridges are nominal micron rating 1-50 micron.



## RO Systems

- Series PRO48, capacity of 1.5 - 3.0 m<sup>3</sup>/hr
- Series PRO88, capacity of 6 -18 m<sup>3</sup>/hr



## Booster Pumps

For boosting the constant pressure to the filter tanks and offering smooth filtration and high efficiency. Consists of single or double pumps , diaphragm pressure tank, pump controller with pressure switch or float switch.



## Ozone Systems

- Ozone can literally oxidize material in water 3,200 times faster than chlorine
- Ozone is the best choice for bacterial disinfection and inactivation of viruses.
- Ozone can precipitates iron, manganese, sulfides, nitrites and organometallics.
- Ozone can oxidize organics causing color, taste and odor problems, some detergents and pesticides, phenols, VOCs, turbidity control and micro flocculation of soluble organics.

Please request more information

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