

# Industrial Ultrafiltration Systems

Capacity: 10,080 to 1,094,400 GPD

UF  
SERIES

Ultrafiltration (UF) 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. Pure Aqua UF treatment systems are designed to produce clean, purified water from different water sources, including reclaimed, rivers, lakes, industrial ponds, wells, and seawater.



Pure Aqua supplies a full line of standard and fully customizable Ultrafiltration systems, all of which are engineered using advanced 3D computer modeling and process design software.

## Standard Features

- ◆ High-strength, hollow-fiber membranes
- ◆ Stainless steel backwash pump
- ◆ Automatic screen filter
- ◆ Schedule 80 PVC piping
- ◆ PLC control panel
- ◆ Automatic backwash
- ◆ NEMA 12 enclosure
- ◆ Digital flowmeter
- ◆ Power coated carbon steel skid
- ◆ Liquid filled pressure gauges (panel mount)
- ◆ Electrically actuated valves

## Available Options

- ◆ Chemically enhanced backwash (CEB)
- ◆ Feed/backwash oxidizer (dosing system)
- ◆ Membrane cleaning skid (CIP)
- ◆ 380-415V/3Ph/50Hz power supply
- ◆ Turbidity monitor
- ◆ Stainless steel multi-stage feed pump
- ◆ Feed pump VFD
- ◆ Filtrate (backwash) tank air compressor
- ◆ Pressure transducers
- ◆ Air scour
- ◆ Duplex 2205 or SS 316 automatic screen filter

## Advantages of Ultrafiltration

- ◆ Low fouling UF modules
- ◆ UF outside-in flow configuration allows for less plugging and higher solids loading, higher flow area and easier cleaning
- ◆ Simple, vertical, modular, and compact design
- ◆ High removal efficiency of bacteria & viruses
- ◆ Excellent filtration performance with high flux
- ◆ High chemical resistance and temperature tolerance for effective membrane cleaning

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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.

## Operation Specifications

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

## Applications

- 💧 RO pretreatment
- 💧 Drinking water treatment
- 💧 Process separation or recovery
- 💧 Tertiary wastewater or surface water treatment



2 x UF-6 (Twin UF System)

Model #	Filtrate Reclaimed Water Flux: 24 GFD		Filtrate Surface Water Flux: 35 GFD		Filtrate Seawater Flux: 48 GFD		Filtrate Ground Water Flux: 53 GFD		Number of UF Modules
	GPD	M <sup>3</sup> /D	GPD	M <sup>3</sup> /D	GPD	M <sup>3</sup> /D	GPD	M <sup>3</sup> /D	
UF-1	10,080	38	16,992	64	23,760	90	27,360	104	1
UF-2	20,160	76	33,984	129	47,520	180	54,720	207	2
UF-3	30,240	114	50,976	193	71,280	270	82,080	311	3
UF-4	40,320	153	67,968	257	95,040	360	109,440	414	4
UF-6	60,480	229	101,952	386	142,560	540	164,160	621	6
UF-8	80,640	305	135,936	515	190,080	720	218,880	829	8
UF-10	100,800	382	169,920	643	237,600	899	273,600	1,036	10
UF-12	120,960	458	203,904	772	285,120	1,079	328,320	1,243	12
UF-14	141,120	534	237,888	901	332,640	1,259	383,040	1,450	14
UF-16	161,280	611	271,872	1,029	380,160	1,439	437,760	1,657	16
UF-18	181,440	687	305,856	1,158	427,680	1,619	492,480	1,864	18
UF-20	201,600	763	339,840	1,286	475,200	1,799	547,200	2,071	20
UF-24	241,920	916	407,808	1,544	570,240	2,159	656,640	2,486	24
UF-30	302,400	1,145	509,760	1,930	712,800	2,698	820,800	3,107	30
UF-32	322,560	1,221	543,744	2,058	760,320	2,878	875,520	3,314	32
UF-40	403,200	1,526	679,680	2,573	950,400	3,598	1,094,400	4,143	40

**PURE AQUA, INC.**<sup>®</sup>

Water Treatment and Reverse Osmosis Systems

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