

Industrial Nanofiltration Systems

Capacity: 190,000 to 855,000 GPD

**NF-500
SERIES**

Pure Aqua's nanofiltration is a membrane filtration process used most often with low total dissolved solids water such as surface water and fresh groundwater, with the purpose of softening (polyvalent cation removal) and removal of disinfection by-product precursors such as natural organic matter and synthetic organic matter. Nanofiltration is also becoming more widely used in food processing applications such as dairy, for simultaneous concentration and partial (monovalent ion) demineralization.



NF-256K-6680

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

Standard Features

- ◆ Powder coated carbon steel frame
- ◆ 8" TFC spiral wound membranes
- ◆ Stainless steel multi-stage pump with TEFC motor
- ◆ FRP membrane housing
- ◆ 5 micron cartridge prefilter
- ◆ 460V/3ph/60Hz power requirement
- ◆ PLC based control panel
- ◆ Programmable time delay and set points
- ◆ Status indicators
- ◆ Motor starter
- ◆ NEMA 12 enclosure
- ◆ Low pressure switch
- ◆ High pressure switch
- ◆ Liquid filled pressure gauges
- ◆ Permeate conductivity monitor
- ◆ Permeate & concentrate flow meters

Available Options

- ◆ Remote monitor/control option
- ◆ Feed water conductivity monitor
- ◆ Membrane cleaning skid
- ◆ Automatic hourly flush
- ◆ Feed/permeate blending
- ◆ 220V or 380-415V/3ph/50 or 60Hz
- ◆ Product tank level switch
- ◆ Feed pH controller with sensor
- ◆ Feed ORP controller with sensor
- ◆ Flow totalizer
- ◆ Chemical dosing systems
- ◆ Media and iron prefiltration systems
- ◆ UV sterilization systems
- ◆ Water softeners
- ◆ Post RO systems
- ◆ Containerized NF systems

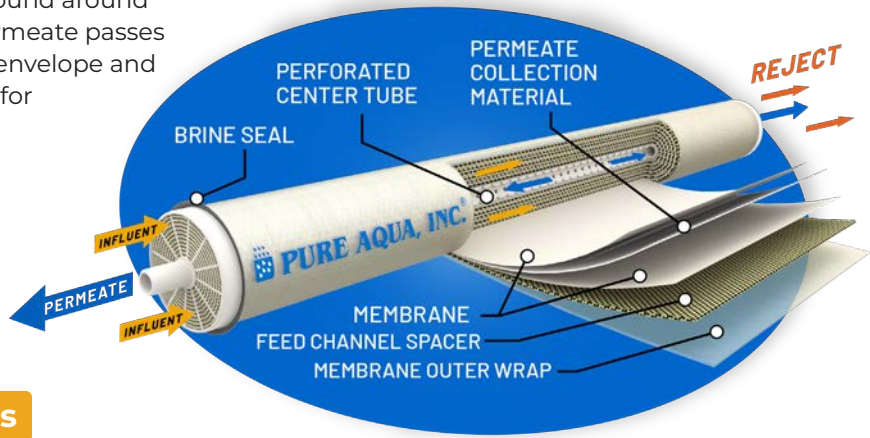
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The spiral membrane is constructed from one or more membrane envelopes wound around a perforated central tube. The permeate passes through the membrane into the envelope and spirals inward to the central tube for collection.

The layers of the membrane envelope are detailed in the diagram to the right.



Operation Specifications

- Max. feed water temperature: 42°C
- Feed water pressure: 20 to 50 psi
- Operating pressure: 80 to 125 psi
- H₂S must be removed
- Turbidity should be removed
- Max. iron content: 0.05 ppm
- Feed water TDS: 0-1,000 ppm
- Equipment upgrade for higher TDS values
- Hardness over 1 GPG requires antiscalant dosing
- pH tolerance range: 3-11
- Max. Silica Tolerance: 60 ppm @ 60% recovery
- Operate at higher TDS by lowering recovery

Model #	Permeate Flow Rate		Quantity of 8" Membranes	Motor Rating at 1,000 ppm 60Hz (HP)	Approx. Weight (lbs)	Dimensions L"xW"xH"
	GPD	M ³ /D				
NF-190K-4780	190,000	719	28	25	4,700	310x45x85
NF-213K-5680	213,750	809	30	25	4,850	275x45x80
NF-256K-6680	256,500	971	36	25	5,050	275x65x80
NF-304K-7680	304,000	1,151	42	30	5,200	275x65x80
NF-342K-8680	342,000	1,294	48	30	5,750	275x75x80
NF-389K-9680	389,500	1,474	54	40	6,250	275x75x80
NF-427K-10680	427,500	1,618	60	40	7,500	275x75x80
NF-475K-11680	475,000	1,798	66	50	8,500	275x75x80
NF-522K-11780	522,500	1,978	77	50	8,750	310x85x100
NF-570K-13780	570,000	2,157	91	60	9,250	310x85x100
NF-665K-14780	665,000	2,517	98	60	9,650	310x85x100
NF-760K-16780	760,000	2,877	112	75	10,200	310x85x100
NF-855K-18780	855,000	3,236	126	75	10,650	310x85x100

Note: The above information is to be confirmed after providing detailed water analysis. Nanofiltration systems are the same as RO systems, and must have good pretreatment and antiscalant dosing systems.

Pure Aqua also supplies: Custom Engineered Solutions, Multimedia Pretreatment, Activated Carbon Pretreatment, Water Conditioning, Chemical Dosing Systems, Ultraviolet (UV) Sterilizers and Ozonation Systems.

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