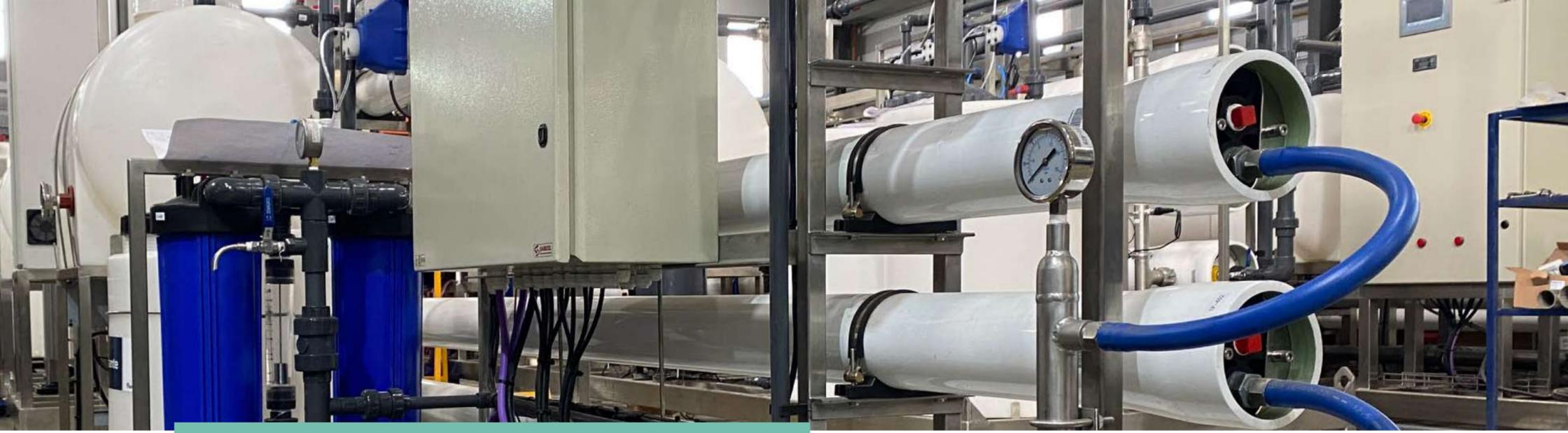


# Reverse Osmosis

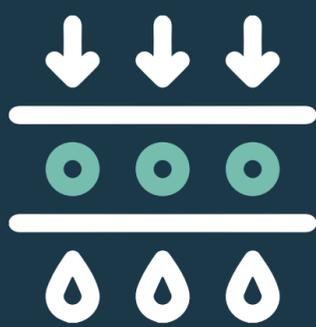
Series 400

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# Reverse Osmosis

**Reverse Osmosis** is a **highly effective water purification process to reject minerals and ions dissolved in water.** This process, which is used in a variety of applications, is based on the principle of membrane separation, where a semipermeable membrane acts as a barrier to retain dissolved impurities and allows purified water to pass through.



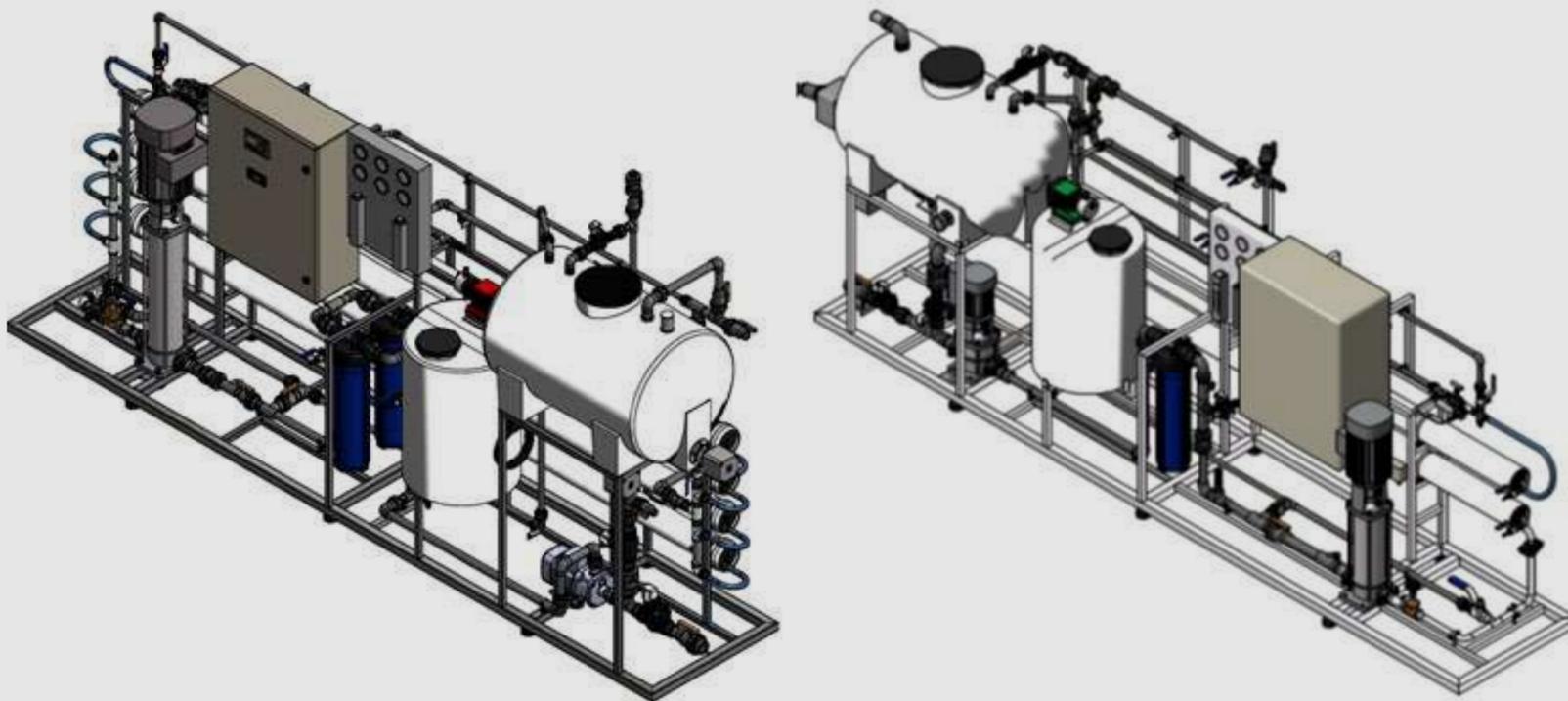
The Reverse Osmosis process consists of pumping water at high pressure through a semipermeable membrane, which allows the passage of water and rejects macromolecules and ionized dissolved species (mineral salts).

**Industrial Water Treatment**  
- Reuse

**Municipal Water**

**Wastewater Treatment**  
- Demineralization  
- Desalination

The Reverse Osmosis system offers high efficiency in removing a wide variety of contaminants from water, including dissolved solids, organic compounds, heavy metals, chemicals and other unwanted species.



# Advantages of Reverse Osmosis

## Process Water Purification:

High effectiveness in removing impurities, chemicals and contaminants from water, making it an ideal choice for process water purification in various industrial applications.

## Water reuse and savings:

Can be used to treat and recycle wastewater, allowing its reuse in industrial processes, which helps alleviate concerns associated with the acquisition of fresh water and wastewater treatment.

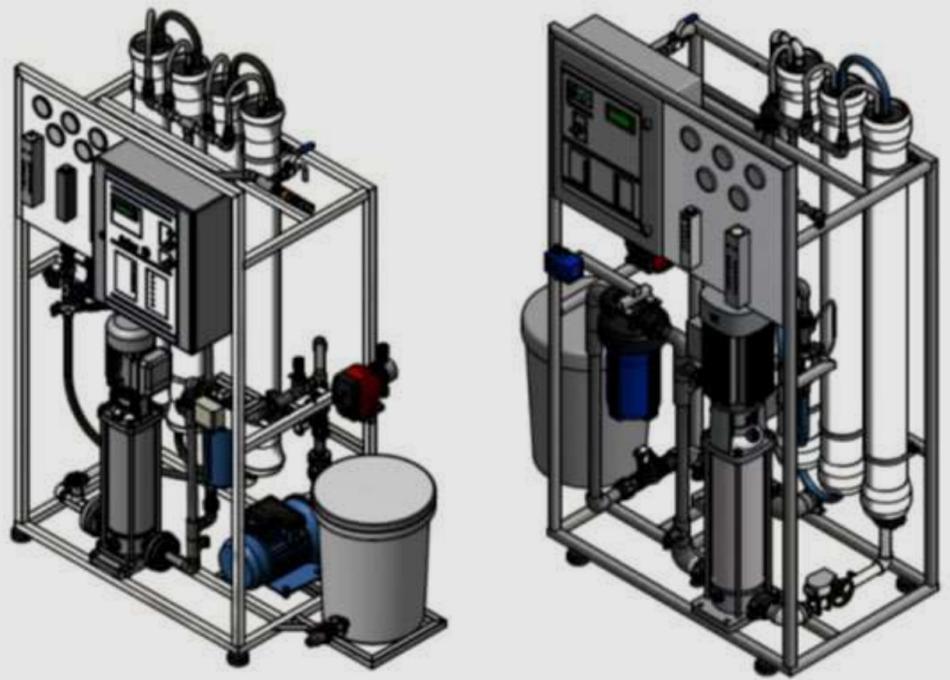
## Contaminant removal:

Can be adapted to address specific contaminants through proper membrane selection and system design. This provides flexibility and efficiency in removing specific contaminants to meet industry standards and requirements.

## Applications

- Beverage water treatment
- Water reuse
- Seawater desalination
- Production of demineralized water for industrial processes
- Purification of treated • wastewater
- Municipal drinking water
- Fluoride and arsenic removal

**Reverse Osmosis Series  
400 Production  
Range: .73 GPM up to  
13.2 GPM**



# Reverse Osmosis **Series 400**

**Developed specifically for flow rates under 20 gallons per minute, the UTK-400 Series stands out as a line of reverse osmosis equipment that guarantees robustness and optimization in each operation.** The 400 Series offers designs with the latest energy-saving membrane technology, providing exceptional performance in removing dissolved salts, particles, organic compounds, minerals, solids and other impurities from water.

This system can be equipped with media pre-filters, chemical dosing systems (pre-chlorination, anti-scaling, dechlorination, post-chlorination and post-pH) and are mounted on a self-supporting structure constructed of stainless steel.



**Our standard Reverse Osmosis systems are carefully designed to facilitate after-sales support efficiently, in addition, each systems can be integrated with other standard solutions (depth filters, activated carbon filters, dosing systems) according to the need of each application.**

# Highlights:



## **Compact and high performance:**

Equipment designed to occupy minimal space, without compromising production capacity.



## **State-of-the-art technology:**

They incorporate the latest energy-saving membranes, ensuring efficient operation and reduced consumption.



## **Robust and durable design:**

High quality and durable materials to ensure long service life and reliable performance, even in demanding industrial environments.



## **Easy installation and maintenance:**

Designed for user comfort, offer simple installation and easy maintenance, optimizing plant efficiency.

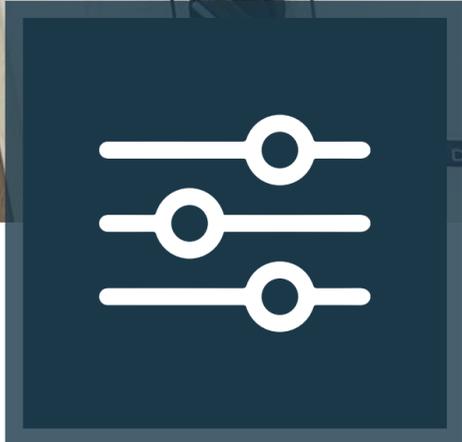


# Standard Features



- Self-supporting structure constructed of stainless steel
- Cartridge filter for sediment retention
- High pressure pump
- Inlet solenoid valve
- Permeate and concentrate local read flow meters
- Low pressure switch
- Pressure gauges for prefiltration, membrane feed and concentrate
- Membrane with 99.5% salt rejection
- FRP high pressure membrane housing
- High pressure hoses with quick connect fittings





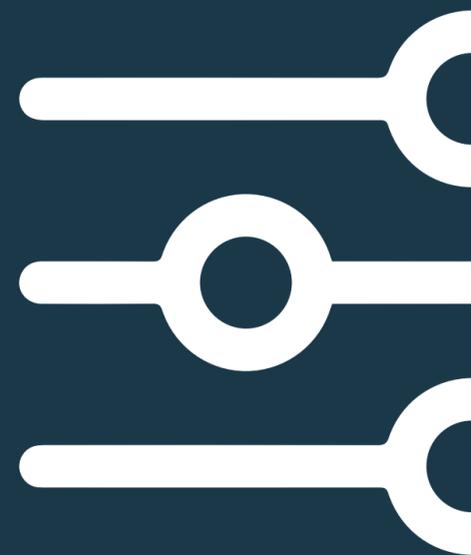
# Instrumentation and Control



- Microprocessor based controls.
- Digital conductivity meter in permeate.
- Visual alarms for low pressure, motor failure.

## Optional components according to application

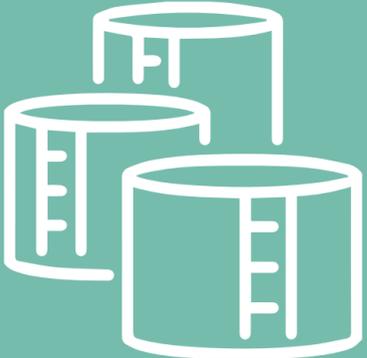
- Bacteriological protection by ultraviolet radiation
- Chemical dosing
- Pretreatment by multimedia filtration
- Activated carbon filtration
- Ion exchange
- Automatic flush
- Recirculation of concentrate to minimize waste
- Treated water blending system
- Digital conductivity meter for blended waters
- PLC control
- Integrated Clean In Place Unit (CIP)
- Permeate flush
- Sanitary construction





# Clean In Place Unit (CIP)

Guaranteeing greater efficiency in performance, our Reverse Osmosis solutions incorporate a fully integrated CIP unit, which represents an advantage over other options on the market, since it does not allow faster to cleaning in a repeatable way, avoiding the use of any external hoses or pumps for cleaning.



## Permeate Flush

Upon startup or shutdown, permeate is used to flush the membranes. This flushing process greatly reduces the likelihood of membrane fouling which promotes longer time between cleanings. In addition, the flush also reduces corrosion and scale potential in the system by flooding the system with low conductivity water.

# Key Benefits CIP



Minimizes corrosion in systems with high concentrations of chlorides in the feed (pitting).



Cleans the surface of the membranes.



Prevents biological activity by leaving the habitat with a low nutrient content.

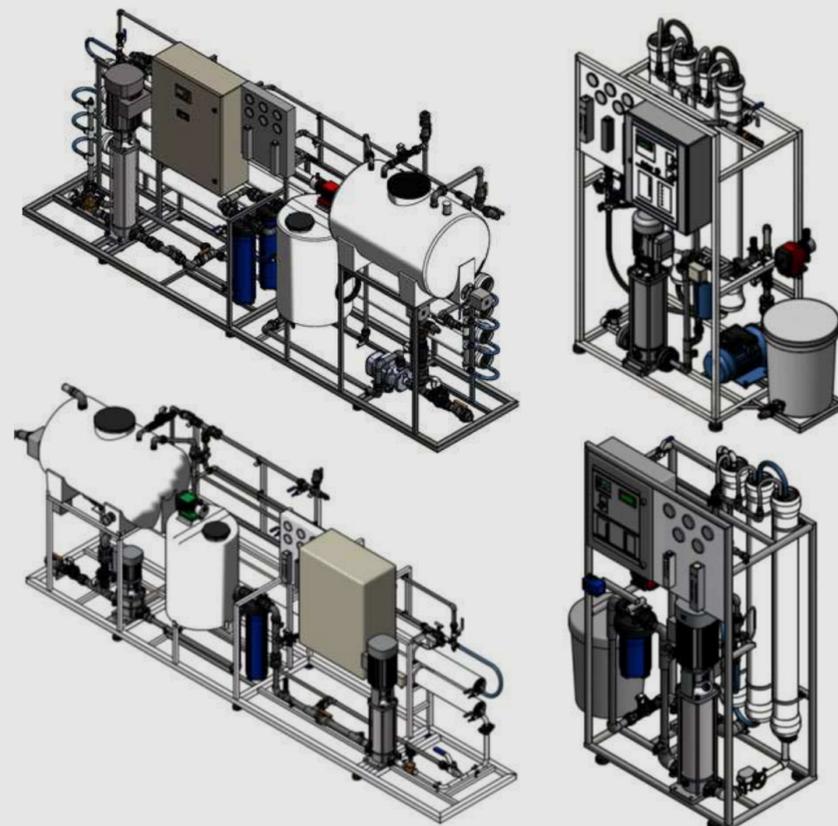


Eliminates discards of demineralized water due to increased conductivity in the start-up.



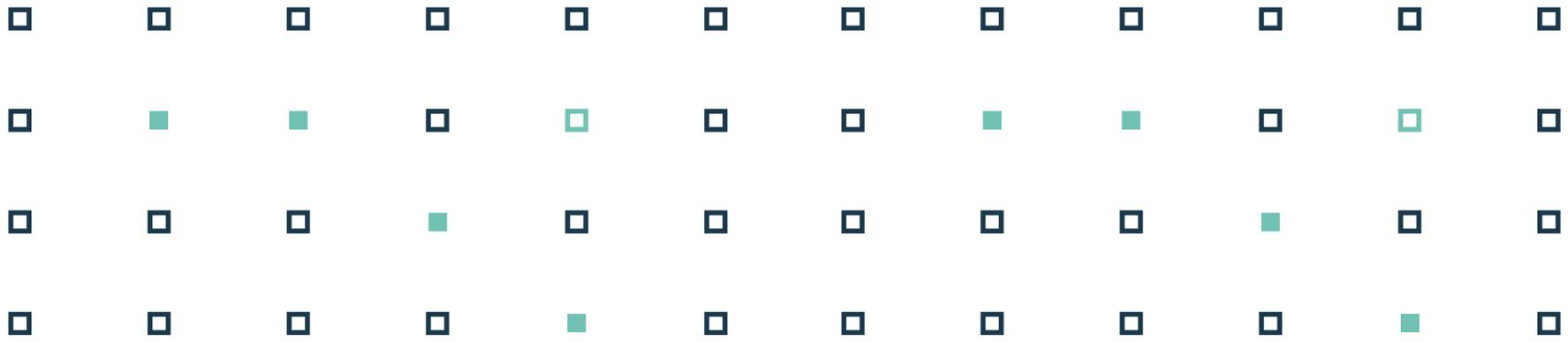
# Reverse Osmosis

## Series 400



Model	Amount of Membrane (4*)	Production		Recovery	Dimensions			Weight (lbs)	Power (hp)
		GPD	GPM		Long (in)	Broad (in)	High (in)		
UTK-401 A	1	1,500	1.1	20%	27.5	31.5	70.9	258	1.5
UTK-401 B	1								1.1
UTK-402 A	2	3,000	2.2	35%	27.5	31.5	70.9	271	1.5
UTK-402 B	2								1.1
UTK-403 A	3	5,000	3.3	45%	35.4	31.5	70.9	280	2.2
UTK-403 B	3								1.1
UTK-404 A	4	6,000	4.4	50%	35.4	31.5	70.9	291	2.2
UTK-404 B	4								1.5
UTK-406 A	6	9,500	6.6	60%	131.9	31.5	70.9	258	2.2
UTK-406 B	6								1.5
UTK-409 A	9	14,000	9.9	70%	131.9	31.5	70.9	258	3
UTK-409 B	9								2.2
UTK-412 A	12	19,000	13.2	60%	131.9	31.5	70.9	258	4
UTK-412 B	12								3
UTK-415 A	15	24,000	16.5	70%	131.9	31.5	180	258	4
UTK-415 B	15								3

**Model A:** High Rejection Membranes  
**Model B:** Low Energy Membranes



Value from Water

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