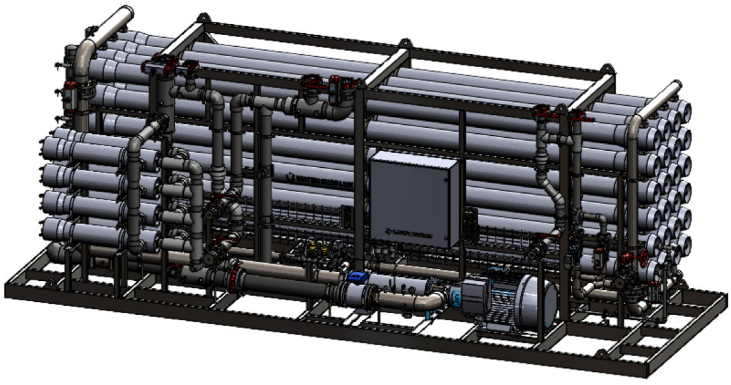
ImpactRO™

WATER SURPLUS
POWERED BY HAWKINS

ImpactRO™ Series

40-900 GPM High Efficiency RO Systems



Product Overview

ImpactRO™ is a multi-patented Reverse Osmosis system that offers a series of breakthrough improvements compared to traditional RO systems. Our High-Efficiency Design Protocol implements six integrated improvements that overcome deficits in the design and operation of standard brackish ROs. These include our NanoStack membranes, which deliver full flux recovery, and our NanoScope monitoring system, which allows ImpactRO to predict, prevent and reverse membrane fouling.

INTELLIGENT INTERVENTIONS

NanoStack™ Membranes
Engineered with a bioinspired polymer whose hydrophilic properties reduce scale adhesion and repel foulants (see separate datasheet).

NanoScope™ Monitoring
ImpactRO's patented monitoring system not only tracks RO performance at previously imperceptible levels, but also uses predictive analytics to predict, prevent and reverse membrane fouling.

Feed-Forward Design
Evenly balances flux across every RO stage, protecting the first stage from fouling and the third from scaling.

Membrane Micro-Disruptions
Intermittent bursts of water that clean membranes online during operation by disrupting the concentration polarization layer.

Intermittent Variable Recovery
Automated system rebalancing to avoid fouling, (even during changing feed water conditions) achieved with calculated modulations of the concentrate recovery valve.

Single-Point CIP
ImpactRO reduces offline cleaning by 70%, so it requires only a single CIP—one that allows you to clean each stage easily and independently.

Operating Parameters

- Operating Pressure: 100–450 psig
- Nominal Recovery: 87–95%
- Operating Temperature: 40–90° F
- Minimum Inlet Pressure: 30 psig

Materials of Construction

- Skid Frame: Stainless steel
- Membrane Elements: Thin-film composite
- Membrane Housings: FRP
- Low pressure piping: Sch 80 PVC
- High pressure piping: Sch 10 304SS

Standard Features

- 8" × 40" NanoStack fouling-resistant membrane elements
- 1-micron full depth pre-filter housings
- Allen Bradley MicroLogix 1200 PLC
- Premium efficiency pump and motor with Variable Frequency Drive (VFD)
- NEMA-4 electrical enclosures

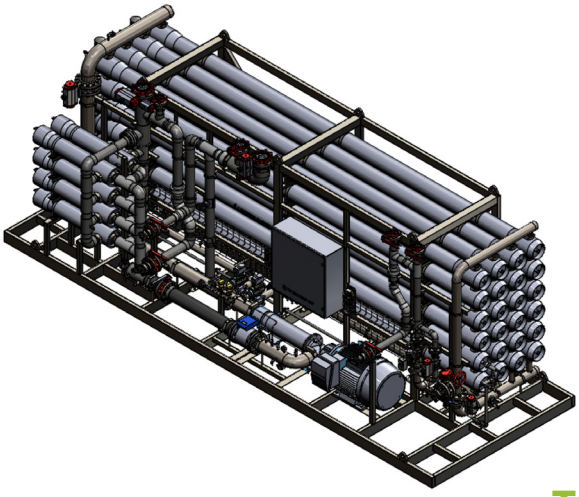
Optional Features

- Standard membrane elements
- pH/ORP monitors
- All stainless steel tubing
- Membrane clean-in-place systems
- Pretreatment chemical injection systems
- Cloud-based monitoring with daily reports
- Sanitary valves and instruments

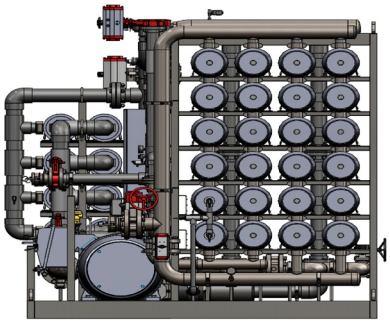
Specifications (ImpactRO™)

Model Number	Permeate Capacity (GPM)	Membrane Element (Quantity)	Inlet Piping Connection (Inches)	Permeate Piping Connection (Inches)	Pump Rating (HP)	Overall Dimensions (L × W × H, Inches)
IRO-3M-BW012	40-50	12	2	2	10-20	150 x 41 × <96
IRO-3M-BW018	60-75	18	3	2	20-25	150 x 50 × <96
IRO-4M-BW040	130-170	40	3	3	40-50	210 x 50 × <96
IRO-6M-BW048	160-200	48	3	3	50-60	290 x 60 × <120
IRO-6M-BW072	240-300	72	4	4	75-100	290 x 60 × <120
IRO-6M-BW108	360-450	108	6	6	125-150	290 x 84 × <120
IRO-6M-BW144	475-600	144	6	6	150-200	290 x 120 × <120
IRO-6M-BW180	600-750	180	8	6	200-250	290 x 138 × <120
IRO-6M-BW216	700-900	216	10	8	250-300	290 x 150 × <120

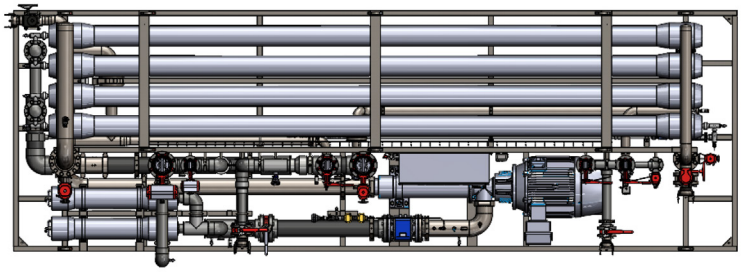
Front View



Side View



Top View



Notes

1. Full customization available based on water quality, application and available footprint.
2. Pump rating, system array, and flux rates will vary based on membrane selection and feed water quality and temperature.
3. Requires minimum of 48" additional length on each end of the skid for membrane removal.
4. Feedwater to RO system must be free of chlorine and pre-conditioned by softening or antiscalant injection to prevent membrane scaling.

REVISED: 2025-09