HANS™
Premium Water

HANS Quad RO Specifications

Operating Specifications

Water Temp	2 - 35 deg (C)
Ambient Temp	2 - 48 deg (C)
Feed Pressure	30-60 PSI dynamic (system should be regulated to 60 PSI static max for best performance)
Power	220V 60Hz 15 Amp dedicated GFCI
TDS	< 3000 PPM
Max Output Pressure	65 PSI
Max Op. Pressure	200 PSI (pump/elements only)
Max Output Flow*	> 60 LPM
Recovery**	Up to 95%

Dimensional Specifications

Weight	175 Kg
Exterior Dimensions	740mmW x 990mmL x 130mmH

Electronics

AC Inlets (1)	220V @ 15 Amp 60 Hz EU 220V/50 Hz
Pressure Sensors (3)	Inlet, outlet, pump outlet
TDS Measurements (3)	Inlet, outlet, pump
Flow Sensors (2)	Inlet, outlet
Temp. Sensors (3)	Water, pump, electronic
Wireless Comm.	2 Way capable
Firmware	Wi-Fi update capable/USB port

Membranes (4)

Membrane Elements	(4) - 6” x 40” 280 sq ft per element; 1,120 sq ft total

Pump/Tank

Pump	3HP; 48v DC; Variable speed
Surge Tank	10” OD; 100 PSI PRV

Software

Encryption	TLS 1.2
Load Settings	15 Amp 220V
Batch/Continuous	Unit will change reject and recirculation rates based on continuous or batch operation
Reject/Flush	Automatically adjusted by software
Recirculation/Flush	Algorithm-controlled
Setup Screens for:	Iron, hardness, pH, chlorine or chloramine

Inlet Water Requirements

Hardness	< 342 PPM
Iron	< 2 PPM
TDS	< 3000 PPM
Bacteria	0.3 CFU/mL <
Slime-Forming Bacteria	50 CFU/mL
Sulfate-Reducing Bacteria	< 5 CFU/mL
Iron Bacteria	< 8 CFU/mL
TOC	< 3 mg/L
Tannins	< 10 alpha units
pH	5 - 9
Chromium Hexavalent	30 PPB
Lead	150 PPB
Nitrate	30 mg/L
Nitrite	3 mg/L
Silica	30 mg/L
Silt	SDI < 5
Turbidity	1 NTU
Trihalomethanes (THMs)	0.45 mg/L
Flouride	7.8 mg/L
Arsenic	50 PPB
Chloroform	300 mg/L
PFOs	16,000 PPT
PFOAs	8,000 PPT
Aluminum	0.05 mg/L
Barium	10 mg/L

* > 16 GPM based on the following conditions: 77 deg F water temp; < 500 TDS; 50 PSI inlet; 35 PSI outlet ** Up to 95% recovery based on use of multiple units and inlet TDS <350

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ATS WATER TECHNOLOGY

RO with up to 95% recovery rate

The HANS Quad RO

- Real-time remote data
- Self-adjusts to maintain output
- Low energy consumption
- Small footprint
- Modular scalability

HANS™
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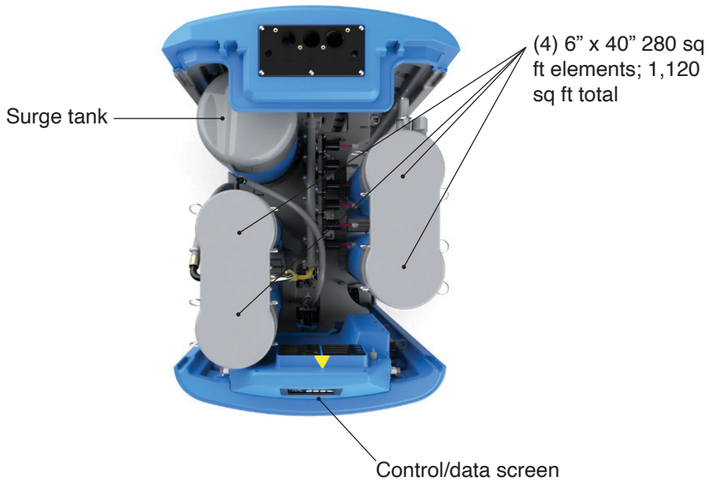
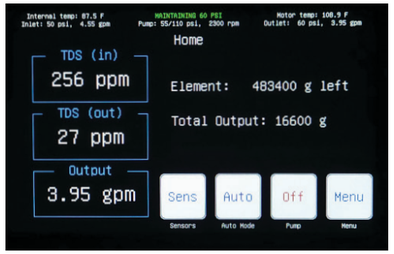
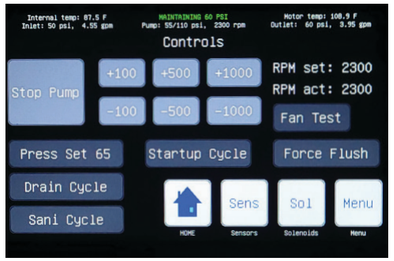
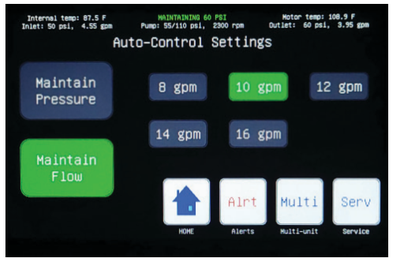
Modular, scalable, intelligent

HANS™ has reinvented every component used to treat water — from the redundant pump to reverse osmosis elements — into intelligent, efficient, space-saving devices. They are designed to work together in modular, scalable systems to meet every need.









Features

- Flow rates up to 60 LPM*
- TDS levels up to 3,000
- Recovery rates up to 95%**
- 4 large high-efficiency 6040 elements; 1,120 sq ft total area
- Small foot print – 991mmL x 711mmW x 1346mm H
- Outdoor-compatible – UV protection on all exterior parts
- Low energy requirements – 220v 15A
- Variable-speed DC drive pump for true on-demand usage
- Does not require secondary storage tank
- Can run multiple units in parallel for higher-flow applications
- Fully automated system with screen and app alerts
- OTA capable software updates
- Pretreatment required

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RO with up to 95% recovery rate

The HANS Quad RO is the biggest disruption in water treatment in 50 years. It uses internal recirculation technology and parallel water feed to save water and money. Its modular design makes it easy to service without shutting down the whole system. The chart below shows how the HANS Quad RO stacks up against other makes.

RO System Comparison	HANS Quad RO	Competitors
Waste Water	Recirculation technology allows for recovery rates as high as 95% and waste water rates as low as 5%.	50% maximum water recovery.
Energy Consumption	DC drive, load-following pump, along with HE elements, allow for minimal energy use at all times.	Single-speed AC pumps use up to 50% more power.
Redundancy	Modularity makes redundancy a designed-in feature.	Complete duplication of equipment requied for redundancy.
WI-FI	System monitored online with status and alerts sent to mobile device. Software updates are done with the push of a button.	Usually optional with limited capabilities.
Fully Automated Controls	Automated control of reject flow, outlet pressure, outlet flow without turning knobs.	Most operations and settings require manual setup and mainenance.
Automatic Pressure or Flow Control	Variable-speed pump allows system to maintain set pressure, or to maintain set flow rate.	Single-speed pump that is either on or off with no settings.
Recirculation	Automated internal recirculation standard on each unit.	Manually adjusted external recirculation can only be set as high as the last element in the series can handle.
Architecture	System elements run in parallel. This means that all elements treat the same water quality, allowing for higher recovery rates.	Elements run in series. This means that the first element in the series gets dirtier faster.
Service	Modularity allows a unit to be taken offline for service while the others continue to run.	Service requires entire system to be shut down.
Integration/compatibility of components	Fully engineered modular components are designed to integrate easily and work together seamlessly, including pre-treatment, post-treatment and pump units.	A hodgepodge of suppliers that are not designed to work together and require complex plumbing. Even minor service issues requires shut down of entire system.

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