



# ENDOTHERM MODULAR COMPACT DUPLEX RO SYSTEM DATA SHEET



## Reliable, cost-effective duplex reverse osmosis (RO) water purification systems for large Centralised Endoscopy and Sterile Services Departments.

The EndoTherm Modular is a range of duplex RO systems designed to meet the water quality standards of HTM01-06, HTM01-01, ISO15883, AS/NZ 4187 and AAMI ST108. This modular and upgradeable range can be set to operate at ambient or elevated temperatures (user adjustable) with automatic thermal sanitisation taking place out of hours.

All models can be electric and/or steam heated. A combination of reverse osmosis, ultra-violet disinfection, sub-micron filtration and constant recirculation all work together to maintain maximum water quality at a range of dispense rates matched to single or multiple decontamination equipment needs.

The HMI (human machine interface) full colour, touch-screen display allows for PIN secure access levels, simple maintenance procedures and displays real-time graphical data. Compact, pre-assembled and skid mounted, EndoTherm Modular units are fast and easy to install, commission and validate. PureCare service contract options are available as well as access to our remote diagnostics monitoring programs.

*An EndoTherm Modular compact duplex RO System*



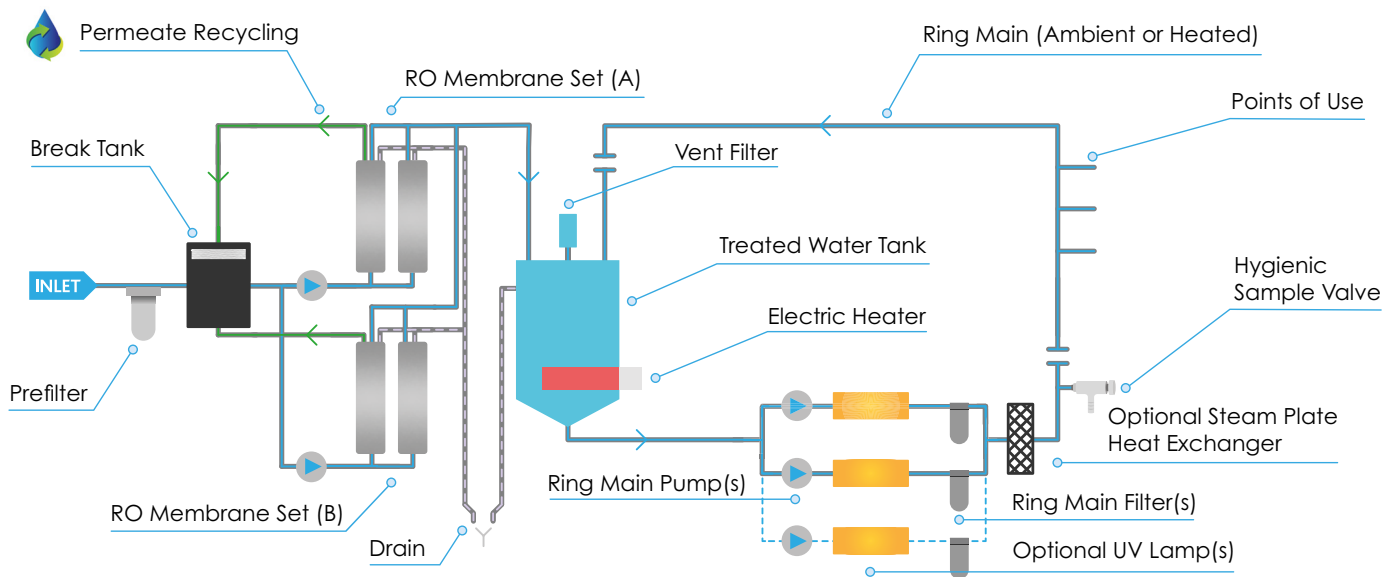
## FEATURES & BENEFITS

- Designed to feed multiple endoscopy washers, instrument washers and autoclaves
- Duplex high-efficiency RO systems for maximum resilience with up to 2,400 lph outputs
- Option of electric and/or steam heating
- Prefabricated, skid mounted modular system means quick installation and less downtime
- Thermal sanitisation to >80°C automatically out of hours
- Water can recirculate at elevated temperatures to all points of use if required
- Designed to comply with HTM01-06, HTM01-01, ISO15883, AS/NZ 4187, AAMI ST108
- Range of dispense rates up to 500 lpm for rapid filling and shorter wash cycles
- Distribution loops available in orbitally welded stainless steel
- Selection of high-capacity stainless steel tank sizes to buffer demand
- Hygienic sample valve with easy access to validate and verify product water quality
- PLC controller with colour touch screen HMI for easy system programming
- Removable USB memory stick for data logging system performance and sanitisations
- Twin pass RO models also available
- PureCare RemoteView - remote diagnostic monitoring as standard
- Full system design service with project management on every installation
- Comprehensive service maintenance and support



Remote wall-mounted alarm indicator

## SYSTEM FLOW DIAGRAM



Each system is based on four prefabricated modules for fast installation and optimum use of available space. The size of these modules is selected based on the decontamination equipment to be fed:

### Module 1: Duplex RO system

- Either single or twin pass designs
- Three single pass models and two twin pass options available
- RO Membranes sets (A) and (B) can have 1-6 membranes on each

### Module 2: Stainless steel treated water tank

- Four capacities available: 500, 1000, 1500, 2000 litre

### Module 3: Recirculation skid

- Various re-circulation options available: 120, 240, 360, 500 lpm flow rates
- Optional UV Lamp(s) available for systems running at ambient temperatures for endoscopy

### Module 4: Optional steam plate heat exchanger

# TECHNICAL SPECIFICATION

## Treated Water Specification - All models

Conductivity	<30 $\mu\text{S}/\text{cm}$
Bacteria	<1 CFU/100ml
Endotoxin	<0.25 EU/ml
Particles	<0.2 $\mu\text{m}$

## Feed Water Quality - All models

Hardness ( $\text{CaCO}_3$ )	<50 mg/l
Free Chlorine ( $\text{Cl}_2$ )	<0.4 mg/l
Iron/Manganese (Fe/Mn)	<0.05 mg/l
Feedwater Pressure	2.5-6.0 bar
Max Conductivity	<1400 $\mu\text{S}/\text{cm}$
Silica ( $\text{SiO}_2$ )	<30 mg/l



## PRODUCT SPECIFICATION - RO OUTPUT OPTIONS

Module 1	-	900	1800	2400
Single Pass	l/hr	900*	1800*	2400*
Twin Pass Option	l/hr	-	500*	1000*
Typical RO Recovery Rate	%	75	75	75
**Dimensions: Depth	mm	800	1070	1250
**Dimensions: Width	mm	600	600	600
**Dimensions: Height	mm	1840	1840	1840
Shipping Weight	Kg	260	290	330
Inlet Connection	BSP	3/4" BSPM		2" Solvent
Electrical Supply	-	3ph+N+E, 415V, 20A		
Power Consumption	kW	4	7	7
Noise Level	dBA	< 70	< 70	< 70

\*Production Rate at >15°C

\*\*Options available for large or small electrical panel (dimensions for smaller units displayed)

## PRODUCT SPECIFICATION - TANK OPTIONS

Module 2	-	500	1000	1500	2000
Tank Capacity	l	500	1000	1500	2000
*Dimensions: Depth	mm	1180	1180	1530	1530
*Dimensions: Width	mm	730	730	780	980
*Dimensions: Height	mm	1360	2055	2055	2055
Shipping Weight	Kg	152	175	225	254
Inlet Connection	BSP	1	1	1	1
Ringmain Connection Return (Triclamp)	inch	1.5	1.5	1.5	1.5
Electrical Heater Size	kW	18-36	18-36	72-120	72-120

\*Options available for large or small electrical panel (dimensions for smaller units displayed)

## PRODUCT SPECIFICATION - RO DELIVERY PUMP OPTIONS

		18 kW Heater		36 kW Heater	
Module 3	-	2 Pump	3 Pump	2 Pump	3 Pump
Maximum Flow Rate	l/min	120	240	120	240
Dimensions: Depth	mm	890	1150	980	1300
Dimensions: Width	mm	800	800	800	800
Dimensions: Height	mm	1250	1250	1250	1250
Shipping Weight	Kg	155	200	240	300
Ringmain Connection (Triclamp)	inch	1.5	2	1.5	2
Noise Level	dBA	<70	<70	<70	<70
Maximum Electrical Load	Amps	40	40	72	72
Electrical Connection	3 phase	63A Commando Socket	63A Commando Socket	80A Isolator	80A Isolator

The electrical supply required will depend on the specific tank heater option selected:

Tank Size	Heater	Electrical Connection	Load
500L or 1000L	18 kW	Requires 63A Commando Socket	40A
500L or 1000L	36 kW	Requires 80A Isolator	72A

Larger tanks and heater options are available upon request.

## PRODUCT SPECIFICATION - OPTIONAL PLATE HEAT EXCHANGER

Module 4 (Optional)	-	120	240	360	500
Maximum Flow Rate	l/min	120	240	360	500
*Dimensions: Depth	mm	1000	1000	1000	1000
*Dimensions: Width	mm	1100	1100	1100	1100
*Dimensions: Height	mm	750	750	1000	1000
Shipping Weight	Kg	150	175	200	250
Ringmain Connection (Triclamp)	inch	1.5	2.0	2.5	3.0
Steam Supply	Kg/hr (2-4 Bar)	150	300	425	585

\*Options available for large or small electrical panel (dimensions for smaller units displayed)

## ABOUT ENVIROGEN

Envirogen is a leading international provider of water and wastewater treatment solutions. We solve complex challenges relating to water availability and quality, and help our customers to increase productivity, reduce costs and meet environmental and sustainability targets.

We do this through offering:

- Best in class water and wastewater treatment and process filtration technology
- Expertise in design, project management and engineering
- Market-leading manufacturing and servicing capabilities



### UK HEADQUARTERS

Envirogen Group  
Unit 9, Wimsey Way, Alfreton Trading Estate  
Alfreton, Derbyshire, DE55 4LS  
T: +44 (0) 1773 441029  
E: [enquiries@envirogengroup.com](mailto:enquiries@envirogengroup.com)

### EUROPEAN HEADQUARTERS

Envirogen Technologies bv  
Penningweg 71, 1507 DG Zaandam, The Netherlands  
T: +31 75 204 7200  
E: [NLinfo@envirogengroup.com](mailto:NLinfo@envirogengroup.com)

### NORTH AMERICAN HEADQUARTERS

Envirogen Technologies  
2627 Chestnut Ridge Road, Suite 200  
Kingwood, TX 7733  
T: 713.979.9142  
E: [info@envirogen.com](mailto:info@envirogen.com)

We have a network of regional sales and service teams worldwide:

**UK and Europe:** UK, The Netherlands, Germany, France, Italy.

**USA:** Texas, Tennessee, New Jersey, California, Nevada.

For further details, visit our website or contact our main office locations above.

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