

HercoTherm

Heat Disinfection for HercoPur RO units

Fully automatic thermal disinfection with individually adjustable heating intervals, heating times, temperature holding times and cooling-down period.

Preventative thermal disinfection

Automatic device for preventive thermal disinfection of the permeate ringmain and the dead zone-free double-hose connections for connection to the dialysis machines, heating up to 95°C.

The HercoTherm unit consists of orbital welded stainless steel piping with dead-zone free heating elements separated from purified water and a circulation pump for constant distribution of temperature in the complete system. The unit also incorporates ringmain pressure and temperature control with over-limit safety features to ensure maximum regulation.

Ready to Use

Outputs for signal transmission to the dialysis rooms during heat disinfection. Quick interruption of the heat disinfection process in case of emergency dialysis possible. Cooling down of the ringmain is adaptable to site requirements.

TGA registered and certified in accordance to MDD class IIb as per EC regulation to annex III of council directive No. 93/42/EWG



HercoTherm

Heat Disinfection for HercoPur RO units

Space saving concept

The HercoTherm is an extension of the HercoPur reverse osmosis system, located at the rear of the HercoPur RO unit. The HercoTherm enables automatic preventative thermal disinfection (Between 80 oC and 90 oC) of the entire purified water system, including the RO membranes, permeate ringmain and dead-zone free double-hose adaptors that connect directly to the dialysis machines.

Operational flexibility for microbial compliance

The HercoTherm unit is designed with heating elements strategically installed to ensure the ringmain temperature is always maintained between 80°C-90°C. This prevents the thermal disinfection cycle from exceeding the selected hours, regardless of ringmain length.

Disinfection can be adapted to:

- thermal disinfect the RO membranes only
- thermal disinfect the ringmain only
- thermal disinfect the hose connection to dialysis machines
- thermal disinfect both the RO and the ringmain

The disinfection process can be manually or automatically controlled and monitored by the 7" HMI microprocessor controller, located on the HercoPur RO unit.

Fully automatic heat disinfection with individually adjustable heating intervals, heating times, temperature holding times and cooling-down period.

Outputs for signal transmission to the dialysis rooms during heat disinfection.

Quick interruption of the heat disinfection process in case of emergency dialysis possible.

Ready to connect unit consisting of:

- rugged, durable stainless steel tubing
- designed without dead zones
- circulation pump for homogeneous distribution of the temperature within the whole system
- overflow valve to control the ringmain pressure within the set maximum value
- cooling down of the ring main with programmable amount of water depending on the site conditions

Programmable micro processor control including:

- LCD full graphic display and keypad
- pre selection of interval-, heat up- and hold time including cool down control and fully automated computer operation
- emergency interruption control anytime
- monitoring of each heating element by PT 100 including over temperature protection and minimum temperature monitoring
- pressure monitoring for minimum and maximum of the permeate ring main

Volt free outputs for:

- collective alarm
- report for the treatment rooms during thermal disinfection

Technical Data	HercoTherm 9	HercoTherm 18
Electrical connection	3ph 415 VAC, 50Hz	3ph 415 VAC, 50Hz
Power consumption	9 kW	18kW
Thermal disinfection temperature	80°C - 90°C	80°C - 90°C
Hot water withdrawal. Maximum	70 L/hr	150 L/hr
Height	1700mm	1700mm
Width	910mm	910mm
Depth	220mm	220mm

HercoPur RO

Two Pass Reverse Osmosis HP units

Thermal disinfectable, two pass Reverse Osmosis unit for consumption-based production of demineralised, ultrapure water for Renal Dialysis

Reduction of operating costs

Due to permanent regulation of waste water quantity. 2nd RO can be completely waste water free.

Ready to Use

With TGA registration and certification according to MDD 93/42/EEC, Annex II excluding (4), classification as medical product class II b.

High operational safety

Two pass technology consists of two series connected Reverse Osmosis units. This guarantees the highest quality of pure water ensuring consistent operational safety.

100% redundancy

The twin pass Reverse Osmosis units can be operated independently without downtime, delivering 100% redundancy.



The complete reverse osmosis unit, including the modules, is heat disinfectable at a temperature of up to 90°C

HercoPur RO

Two Pass Reverse Osmosis HP units

- **Dead zone free construction** including membrane elements
- **Rugged, durable stainless steel piping** on stainless steel base frame
- **Series arrangement** of thin film membrane modules with tangential flow and vortex grid in order to **avoid biological and mineral deposit formation on the membrane surface**. This also ensures a better pure water quality and a longer service life of the modules.
- **Sample valves without dead zones** at the beginning and at the end of the ringmain
- **Interval-flushing programs** (flushing with water and rinsing with permeate in order to avoid deposit formation on the membrane surface)
- **Chemical disinfection**
- **Thermal disinfection**, time intervals selectable according to site requirements
- **Leakage detection system** for RO units with distribution ringmain
- **Over temperature and over pressure protection** of the loop with pressure regulator
- **Fully automatic, selectable interval flushing** of the system during idle times
- **Week timer** for programming production and idle times according to site requirements
- **Water economiser, quadruplicate-acting through:**
 - a) consumption-based controller
 - b) concentrate recirculation
 - c) concentrate adjustment during partial utilisation of the capacity, for recovery optimisation
 - d) permeate recirculation
- **Selection button for automatic switchover of operating mode:**
 - a) both Reverse Osmosis Units connected in series
 - b) only Reverse Osmosis Unit 1 in operation
 - c) only Reverse Osmosis Unit 2 in operation

Controller for reverse osmosis units Diatron 5500

Microprocessor control system for fully automatic performance monitoring of dialysis water treatment units.

HercoPur RO assembly includes:

7" touchscreen, LEDs for service and malfunction, main processor, watchdog for internal system monitoring, SD card slot for storing log data, parameters and calibration data, input/output unit with removable single terminals for connection of probes and actuators, LAN interface for connecting to a network, USB port for software updates and storage of log data on a USB stick

HercoPur RO with HercoTherm assembly includes:

Sub processor, watchdog for internal system monitoring, input/output unit with removable single terminals for connection of probes and actuators, intuitive user guidance via touch screen, automatic operation via week timer with 8 freely adjustable dialysis and 4 heat disinfection programs, clear graphical display of the set periods of dialysis and thermal disinfection, adjustable prolongation of the dialysis time during the running dialysis operation for the current day e.g. at delays due to emergency dialyses, integrated control and monitoring of the heat disinfection for reverse osmosis system/ permeate loop/ permeate loop + dialysis machines/ reverse osmosis system + permeate loop/ reverse osmosis system + permeate loop + dialysis machine, diagnostic menu for the individual check of the inputs and outputs, lifetime logging of all measurement data and faults on the integrated SD card, download possibility of log data in CSV format via the integrated USB interface to an external USB drive.

Thus, a simple further processing and evaluation of the log data via Excel is possible. Optional worldwide remote monitoring and operation via TeamViewer.

The units are designed for a maximum TDS of 1,000 mg/l, a water temperature of 15°C, a maximum colloidal index of 3 and free permeate outlet. Under these conditions, the units still reach designed flow after three years of operation. The permeate recovery depends on the raw water quality and the type of pre-treatment.

HP5500D P/H		500	750	1000	1250	1500	2000	2500	3000	3500	4000	4500
Permeate Flow	l/h	500	750	1000	1250	1500	2000	2500	3000	3500	4000	4500
Salt Rejection	%	98 - 99.8										
Recovery	%	75-90										
Voltage	V/Hz	3ph 415 V/50 Hz										
Motor power RO	kW	9.4					22.2					
Motor power thermal disinfection	kW	12.0					18.0					
Pre-fusing RO	A	25					50					
Pre-fusing hot san	A	63										
Height	mm	1820					2030					
Width	mm	1480			1640		1800			2620		
Depth	mm	780					940					
Depth inc HercoTherm unit	mm	985					1190					
Weight	kg	520	540	580	620	660	740	1200	1250	1300	1350	1400

Conductivity Range 0.5 - 50µS/cm. Operating Pressure Max. 25bar. Feed Water Pressure Min./Max. 2/6bar. Feed Water Temperature Min./Max. 5/25°C. Ambient Temperature Min./Max. 5/30°C.