

Millenium HX

Hot Water Disinfectable Portable RO



Opportunity

- Home hemodialysis offer patients an opportunity to maintain quality of life
- Shorter, more frequent, dialysis improves patient health and stability

Problem

- Current portable water treatment systems are not optimally designed to support home hemodialysis
 - Difficult for patients to operate
 - Difficult to disinfect
 - Power requirements challenge home AC
 - Noise levels inhibit patient comfort
 - Lack integration with the kidney machine

Design Objective

Design a portable water purification system that provides a reliable supply of AAMI grade water, operates easily and quietly in the home environment, integrates seamlessly with the dialysis system and provides automated, consistent disinfection.

Current Mar Cor Portables



MHX Heat



WRO H Heat



Millenium Cold



WRO Cold

Key Features of MHX

- Consistent and reliable product water that meets AAMI standards.
- Environmentally friendly design includes high water recovery, low energy costs.
- Preprogrammed automatic heat disinfect cycle with system generated heated product quality water @ 80°C.
- Simple to use controls within a color LCD display.
- Internet compatible for remote monitoring and troubleshooting.
- Self contained troubleshooting screens and functions
- Isolated Heat Disinfection Capability
- Remote Monitoring of process critical screens
- Modular design for easy serviceability.
- Compatible with industry standard cleaning, disinfection and storage chemicals.
- Quiet 50 decibels operation.

General Information

Specifications:

- Water Production: 0.50 gpm (1.89 lpm) (1892 cc/min) @ 77°F
- Temperature Range: 40 - 100°F
- Inlet PSI: 15 – 100 PSI
- Operating PSI: ~ 150 PSI @ 77°F
- Recovery: ~ 50%

- Electrical: *120V/240V, 60/50HZ, 1PH
- *Rating (quiescent): 0.2 amps
- *Rating (normal): 3 amps
- *Rating (heat cycle): 5 amps

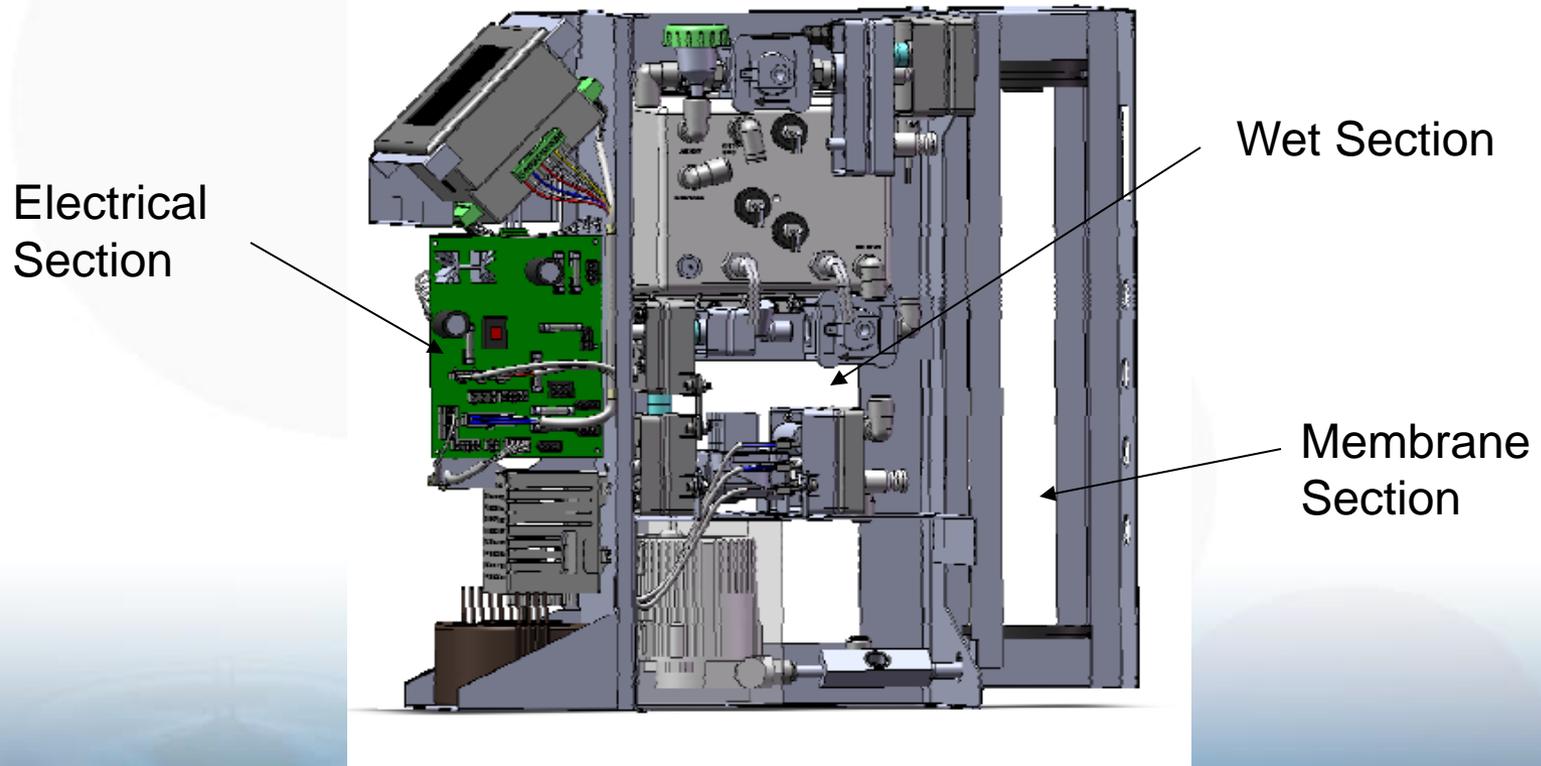
- Dimensions: ~ 8"W x 20"D x 25"H
- Weight: ~70 lbs

General Information

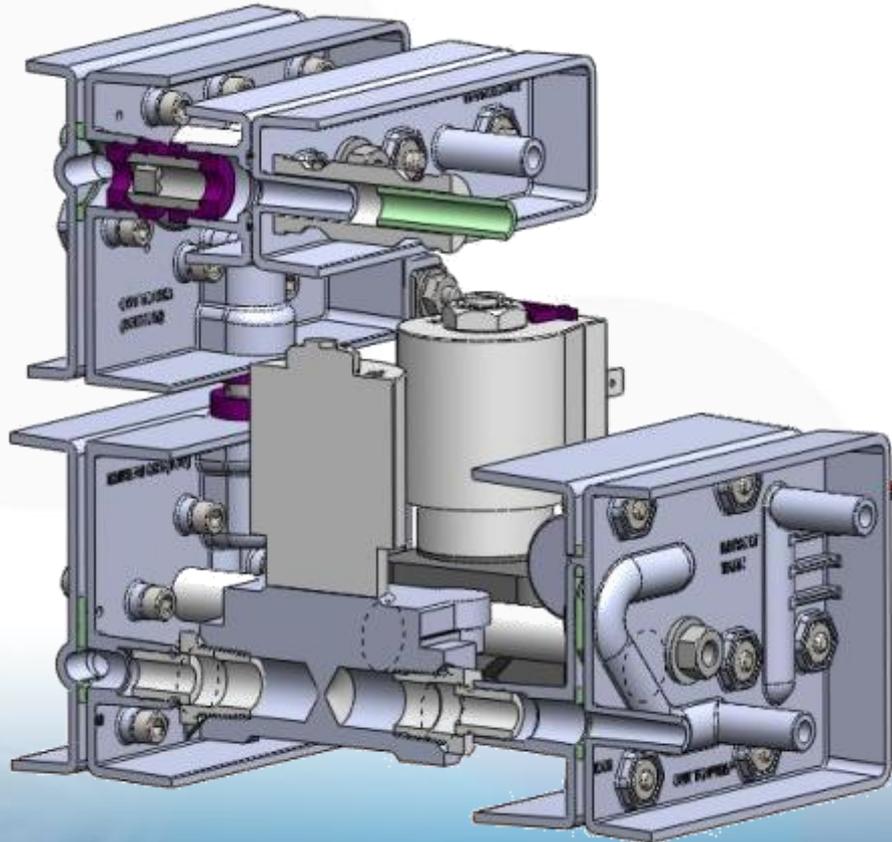
Specifications:

- Membrane: spiral wound, vinyl wrap heat tolerant design with a 95-99% rejection rate
- Controller: PLC & HMI Single Processor Package...
 - Displaying Key Operating Parameters
 - Audible and visual alarm indications
- Heat Disinfection Cycle: ~ 3 hours
- Chemical Cleaning Cycle: ~ 2-1/2 hours

Machine Internals



Manifold Block Assemblies



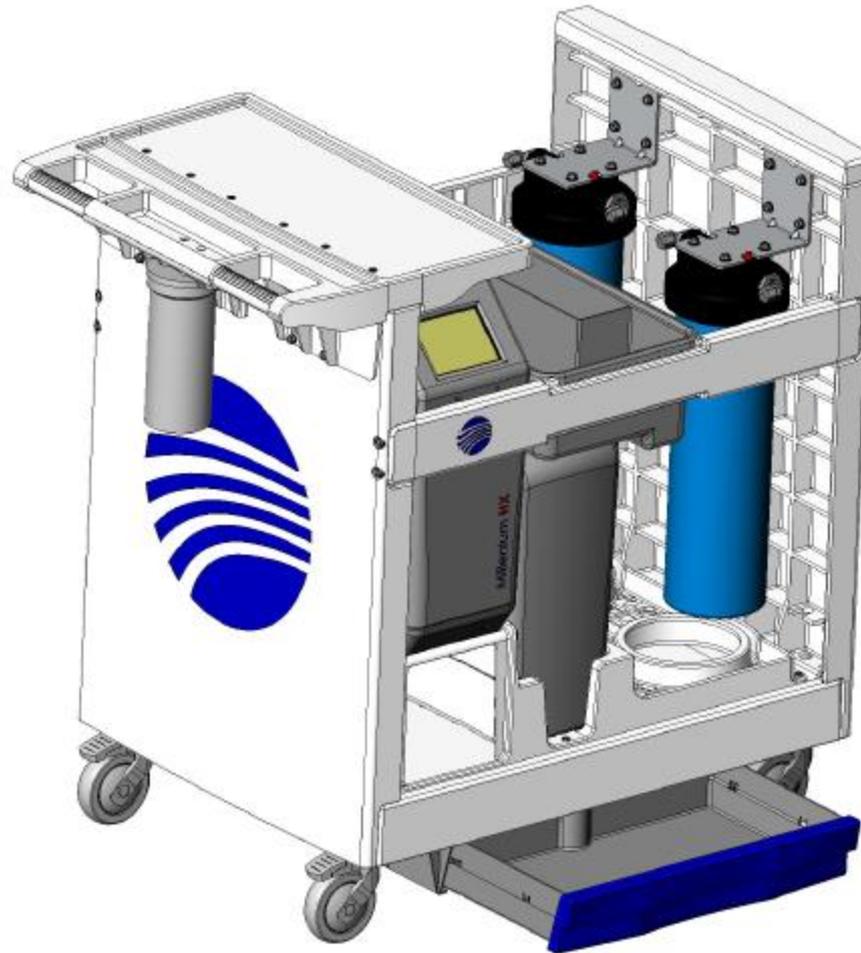
HMI Controller

On screen instructions



Chemical Mode Screen

MHX on a cart



Summary

- The MHX is an ideal water purification product to be used in a HD setting because it is:
 - Easy to use
 - Safe
 - Quiet
 - Pre-programmed with hot water & chemical application cycles to insure bacteria control
 - Able to be remotely monitored (Option)