



# ENDOTOXIN-RETENTIVE (LOOP) FILTERS Operation Manual



**Manufactured With Pride  
In The USA**

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## 1.0 RESTRICTIONS ON USE

Federal law restricts this device for sale by or on the order of a physician when used as a water treatment device for hemodialysis.

## 2.0 THEORY OF OPERATION

The Endotoxin-Retentive Filters are the final purification process prior to distribution of the product water. They are sub-micron filters with the ability to remove bacteria and endotoxin. The filters are enclosed in an opaque housing to inhibit the proliferation of algae. Water flows through the filter, which traps bacteria and endotoxin.

## 3.0 INSTALLATION

Locate and install the Endotoxin-Retentive Filter assembly on or near the wall.

Inlet water supply piping should be equal or greater than the inlet piping on the ultra-filtration header.

Outlet piping from the ultra filter should be equal or greater than the outlet pipe on the ultra-filtration **outlet**.

Follow all local plumbing codes.

If you have selected a multi-cartridge version, ensure that all filters are always installed. Failure to do so will result in water bypassing the filter, which could lead to patient harm.

## 4.0 MONITORING:

Monitor and record the pressure drop across the filters daily for a delta pressure of less than 15 psi.

Test samples of pre- and post-filter water for bacteria and endotoxin when the filter is installed and whenever the specific type of filter is changed. Results should indicate that bacteria and endotoxin are reduced as stated by the manufacturer of the filter cartridge.

AmeriWater recommends that Endotoxin-Retentive Filters must be changed at least every 12 months or when delta pressures exceed 15 PSI.

**WARNING: ENDOTOXIN-RETENTIVE FILTERS ARE ESSENTIAL TO PATIENT SAFETY AND SHOULD NEVER BE BYPASSED OR REMOVED DURING TREATMENT!**

## 5.0 HEAT DISINFECTION:

AmeriWater offers several options for systems that will use heat for disinfection:

0021035 – Single 20” Endotoxin Filter, ¾” Inlet and Outlet

0021036 – Single 20” Endotoxin Filter, 1” Inlet and Outlet

0021037 – Dual 20” Endotoxin Filters, 1” Inlet and Outlet

0021038 – Quad 20” Endotoxin Filters, 1.5” Inlet and Outlet

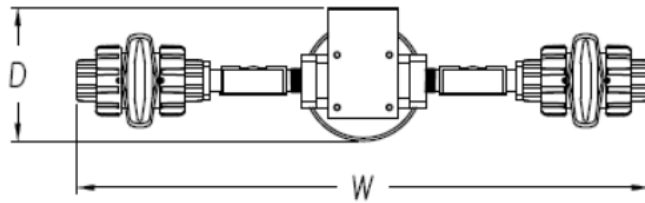
These have been specifically designed with heat disinfection in mind. Failure to use one of these with a heat disinfection system will lead to a breakdown of the materials and a potential hazard to the patient.



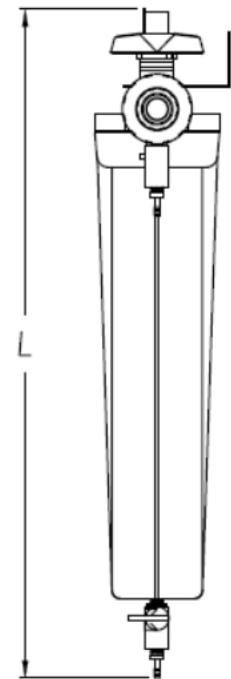
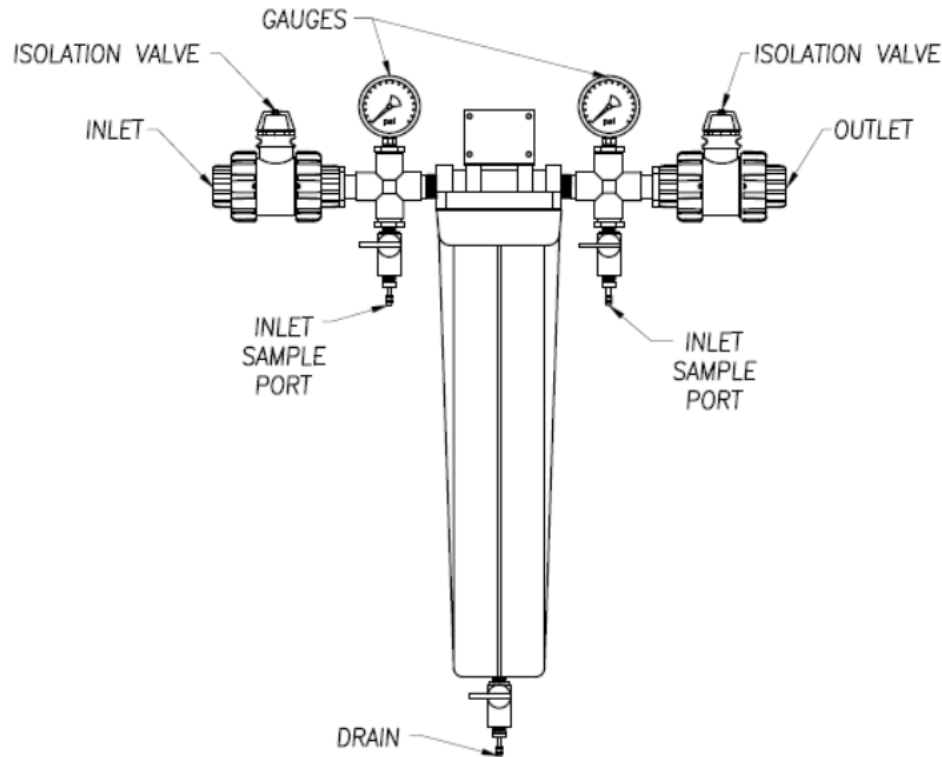
**This symbol indicates a possible hot surface. Touching parts of any system showing this label should be avoided during a heat disinfection cycle. Failure to do so could lead to burns.**

## 6.0 SYSTEM DRAWINGS

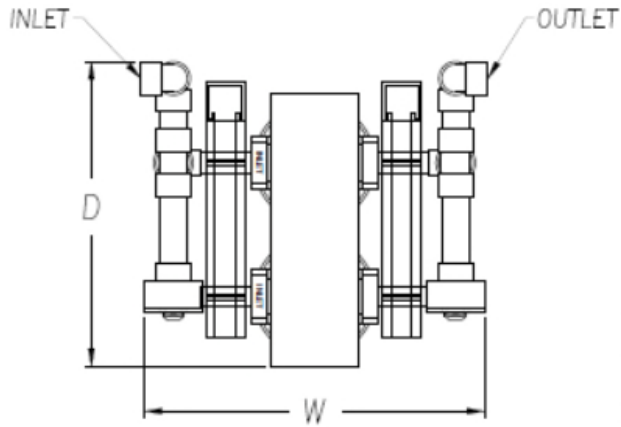
### SINGLE POLYETHELENE ENDOTOXIN-RETENTIVE FILTER HOUSING



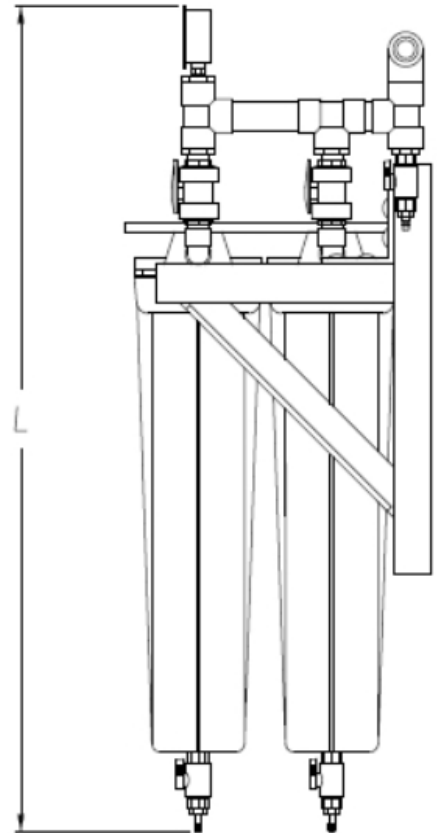
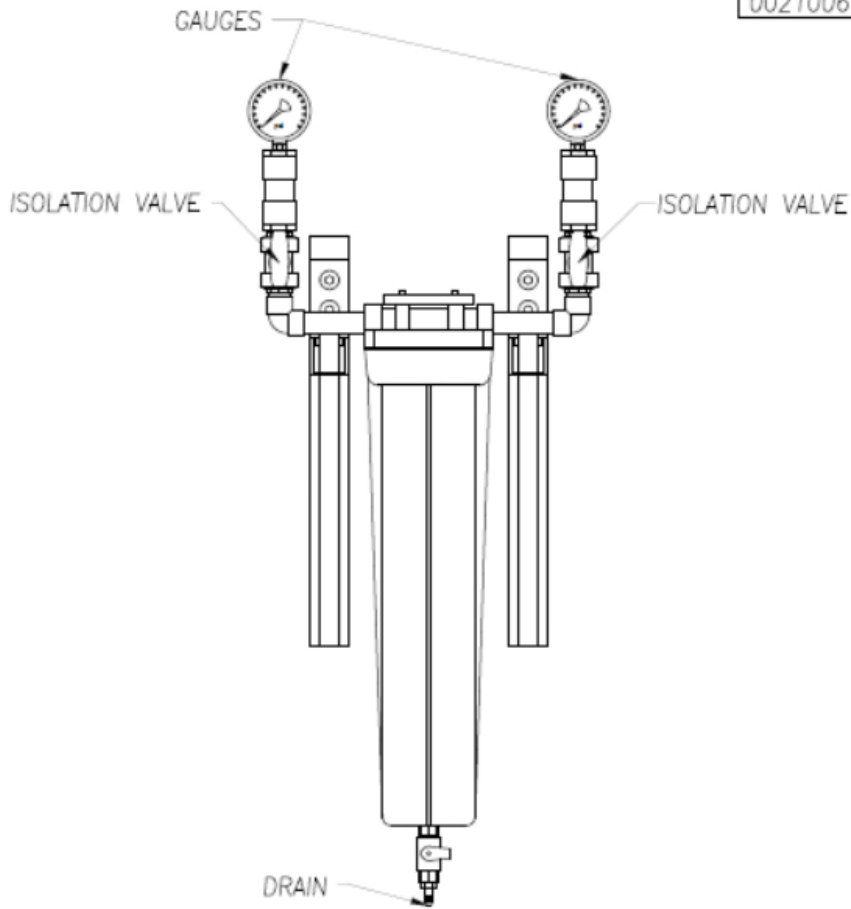
MODEL	L	W	D	INLET/OUTLET
0021000	23"	23"	6"	0.5" SOC OR NPT
0021001	23"	23"	6"	0.75" SOC OR NPT
0021003	30.5"	23"	6"	0.75" SOC OR NPT
0021005	30.5"	23"	6"	1.0" SOC OR NPT



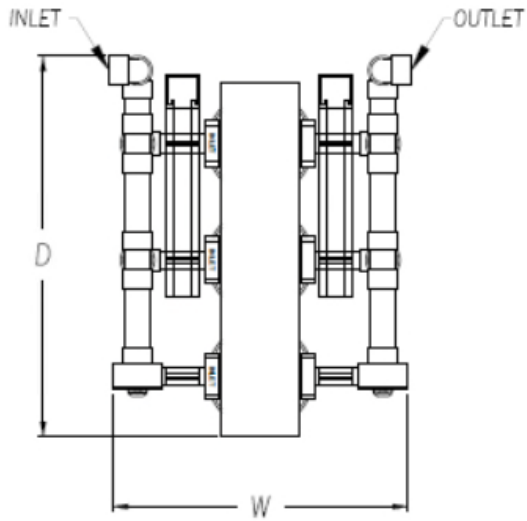
# DUAL POLYETHELENE ENDOTOXIN-RETENTIVE FILTER HOUSING



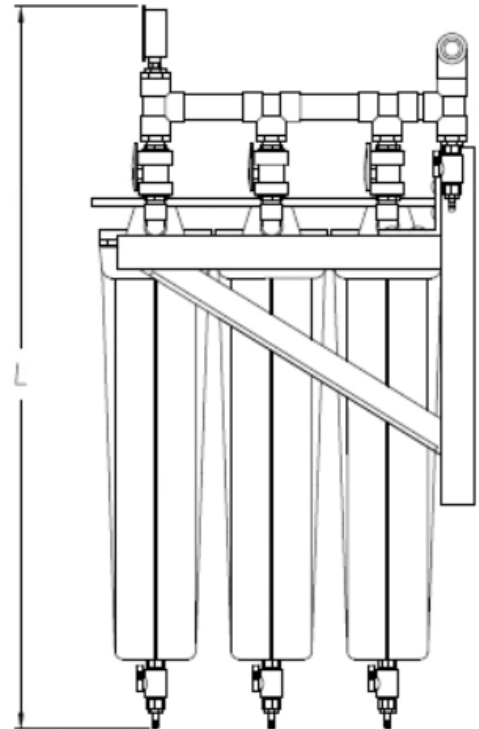
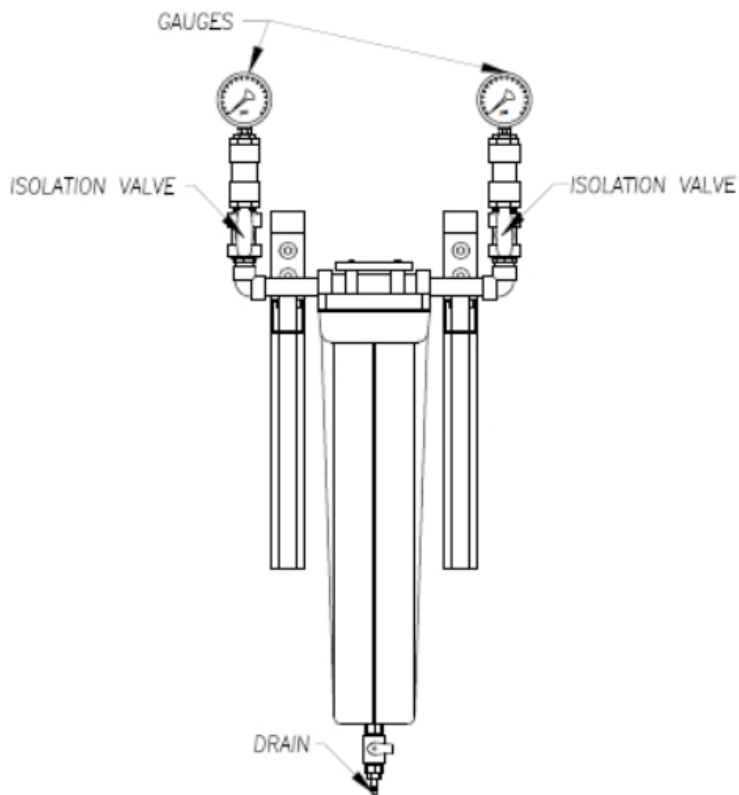
MODEL	L	W	D	INLET/OUTLET
0021002	24.5"	15.5"	17.1"	0.75" NPT
0021004	35.0"	15.5"	17.1"	0.75" NPT
0021006	35.0"	15.5"	17.1"	1.0" NPT



# TRIPLE POLYETHYLENE ENDOTOXIN-RETENTIVE FILTER HOUSING

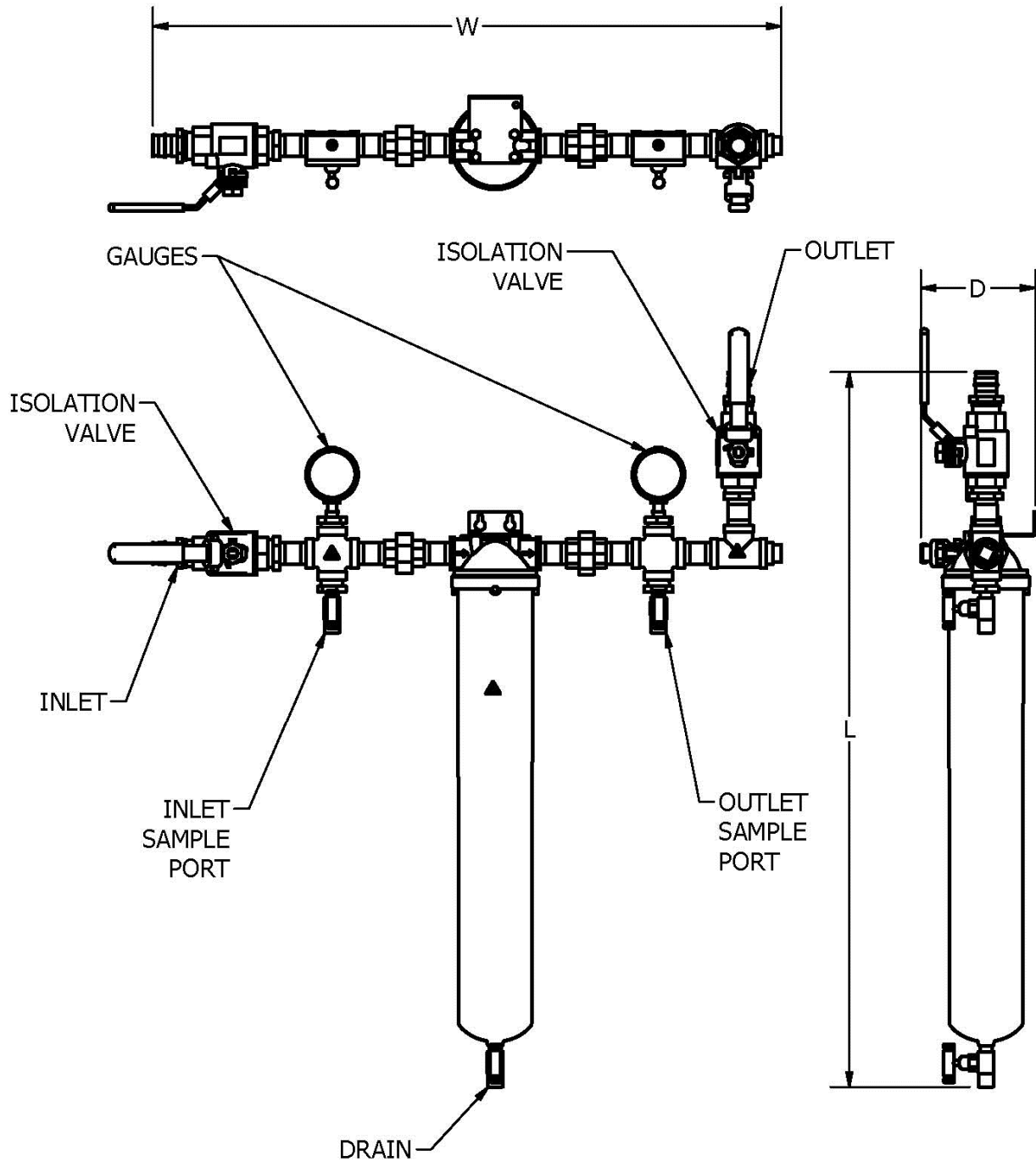


MODEL	L	W	D	INLET/OUTLET
0021007	36.5"	15.5"	19.0"	1.0" NPT



SINGLE STAINLESS STEEL ENDOTOXIN-RETENTIVE FILTER HOUSING FOR HEAT DISINFECTION

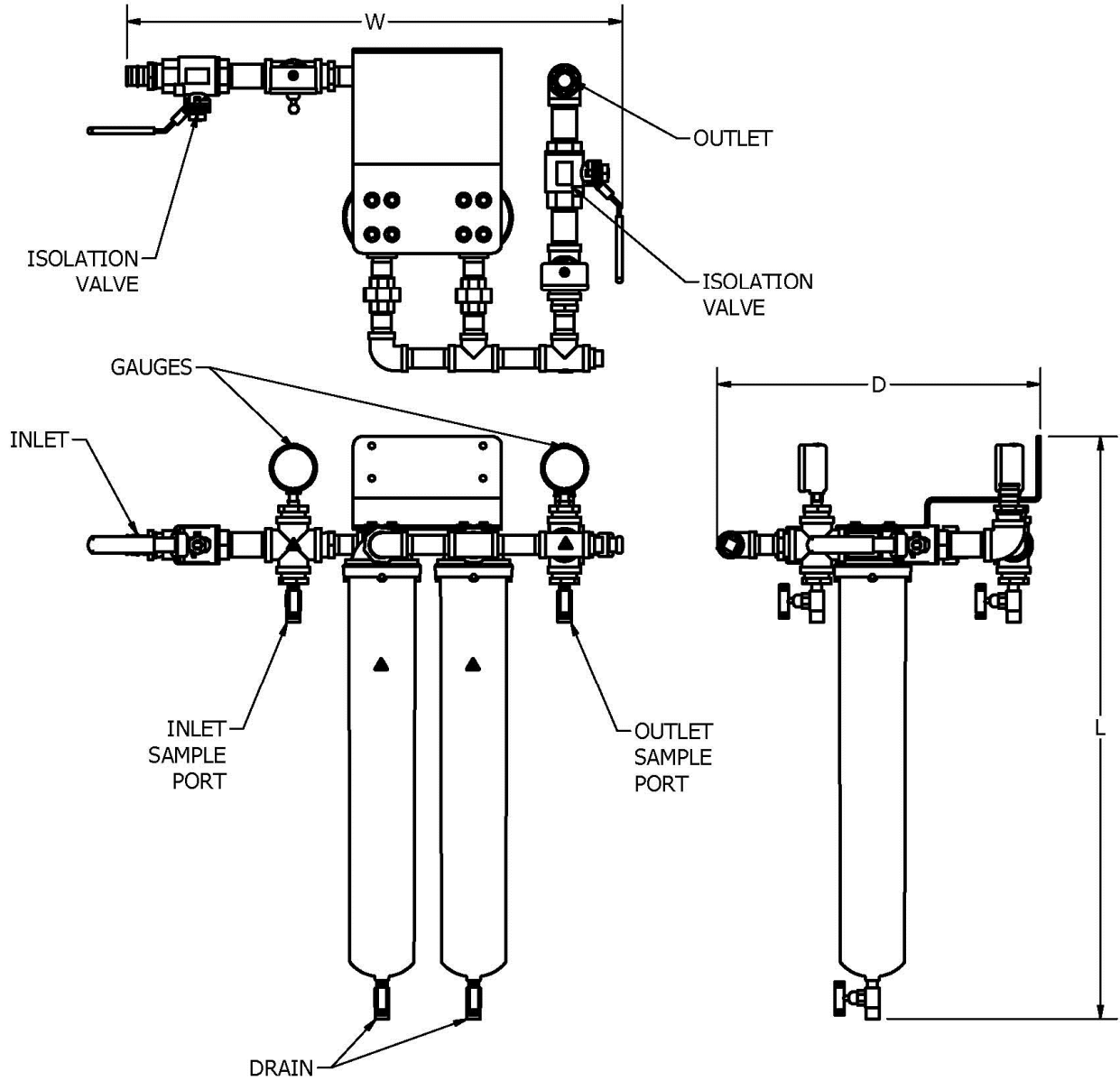
Model	L	W	D	Inlet / Outlet
0021035	35.5"	31.0"	6.0"	0.75 NPT or PEX Barb
0021036	35.5"	31.0"	6.0"	1.0 NPT or PEX Barb





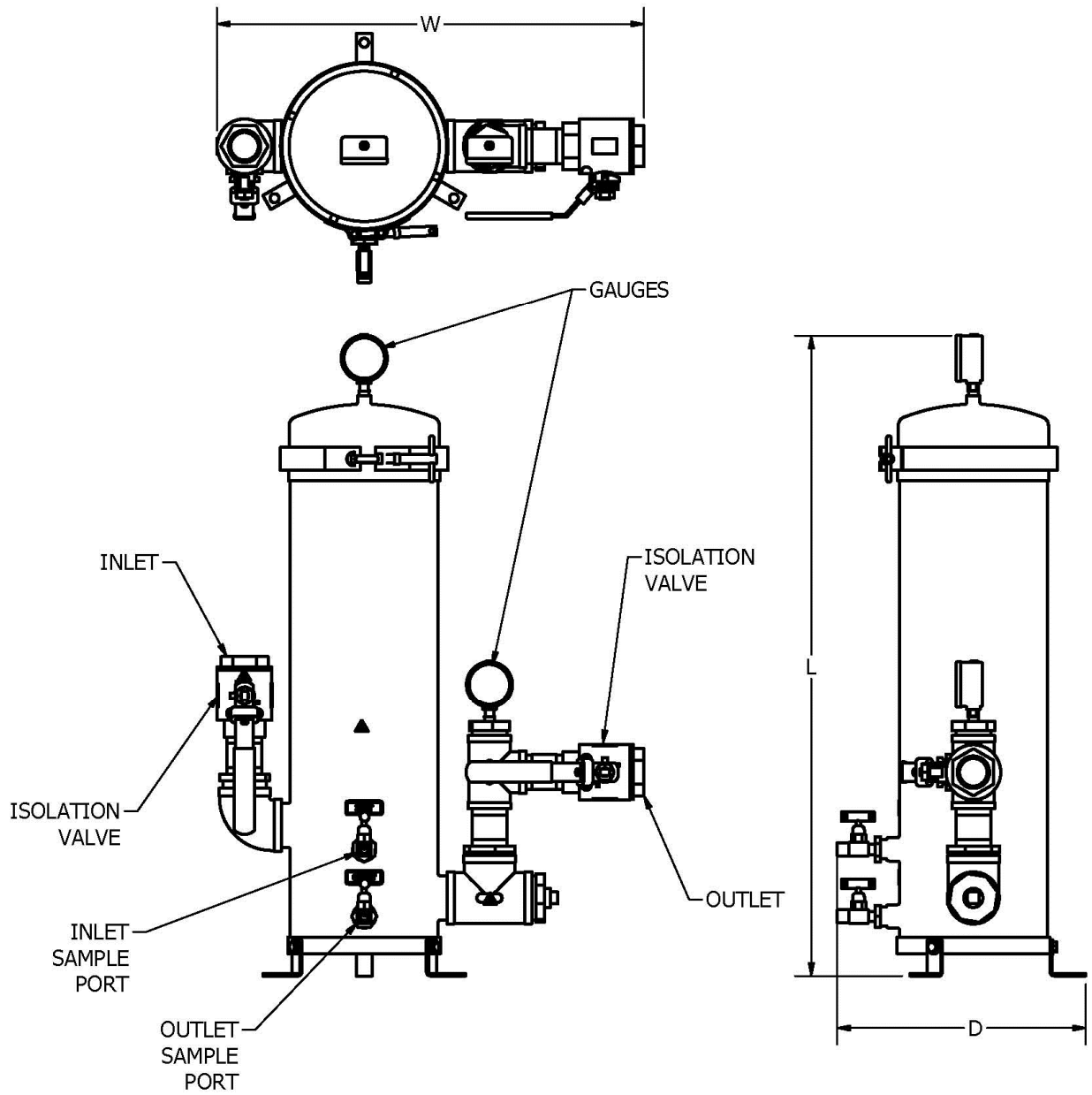
DUAL STAINLESS STEEL ENDOTOXIN-RETENTIVE FILTER HOUSING FOR HEAT DISINFECTION

Model	L	W	D	Inlet / Outlet
0021037	35.5"	28.0"	18.0"	1.0 NPT or PEX Barb



QUAD STAINLESS STEEL ENDOTOXIN-RETENTIVE FILTER HOUSING FOR HEAT DISINFECTION

Model	L	W	D	Inlet / Outlet
0021038	35.5"	24.0"	14.5"	1.5 or 1.25 NPT



## 7.0 SPARE PARTS LIST

Part #	Name
041002	Sample Port – Plastic
041-0125	0.5” True Union Ball Valve - Plastic
041531806	0.75” True Union Ball Valve - Plastic
041-0133	1.0” True Union Ball Valve – Plastic
044-0109	0.75” NPT Stainless Steel Ball Valve*
044-0110	1.0” NPT Stainless Steel Ball Valve*
044-0113	1.5” NPT Stainless Steel Ball Valve*
42-0048	Sample Port – Stainless Steel*
43530710	Pressure Gauge, 0-100PSI
43-0031	Pressure Gauge, 0-100 PSI*
21SPH-12-222	Filter Housing, 2.5 X 12” – Plastic
21540116	Filter Housing, 2.5 X 20” – Plastic
21720548	Filter Housing Wrench for Plastic Sumps
21-0021	Filter Housing Wrench for 21-0022 Housing*
21-0022	Housing, 2.5 X 20”, Stainless Steel*
21-0042	Housing, Multi-Cartridge, (4) 20 Filters*

Note: Only parts with \* in their description are suitable for use with heat disinfection systems.

## 8.0 CONSUMABLE PARTS LIST

### SPECIFICATIONS

Model	Connection	For Housing	Maximum Flow (GPM)
20-3045	222 O-Ring	12”	5
20-3046	222 O-Ring	20”	10

The Pall cartridges, offered exclusively from AmeriWater, incorporate a patented covalent charge modified highly asymmetric hydrophilic polysulfone membrane, which provides retention of fine particles smaller than the membranes 0.2 micron rating.

### FEATURES:

- Materials of Construction: Polypropylene, Polysulfone.
- Hydrophilic media requires no pre-wetting.
- Extended life – cleanable, compatible with disinfection by PAA or heat.
- Patented highly asymmetric membrane provides higher flow rates at lower pressure drops (5 GPM at 2.4 PSI  $\Delta P$  per 10” length).
- Three times the endotoxin retention of comparable products on the market.
- QUALITY ASSURED: Validated for use in dialysis water systems.
- FDA clearance under AmeriWater 510K for Water Purification Systems.