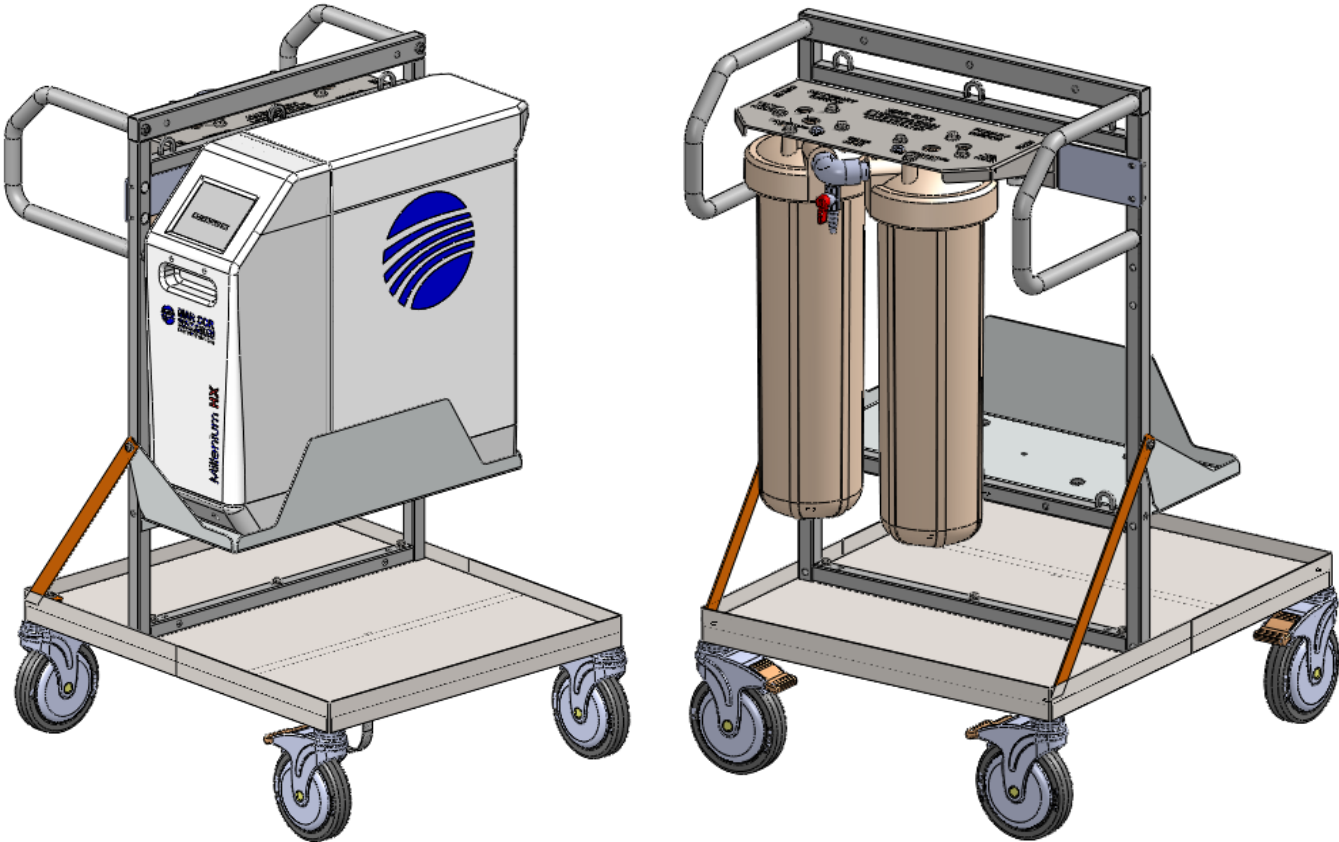


**Mar Cor Purification**

**M2 Portable Ergonomic RO Cart Operation & Maintenance Manual**





**M2 Portable Ergonomic RO Cart  
Operation & Maintenance Manual**

**TABLE OF CONTENTS**

	<b>Page</b>
<b>CHAPTER ONE: GENERAL INFORMATION</b>	<b>1</b>
Section 1.1    General Overview	1
1.2    The Operator's Manual	3
1.3    Symbols	3
<b>CHAPTER TWO: SYSTEM INFORMATION</b>	<b>4</b>
Section 2.1    Safety	4
2.2    Utility Requirements	4
2.3    Feedwater Requirements	4
<b>CHAPTER THREE: INITIAL SETUP</b>	<b>5</b>
Section 3.1    Cart	5
3.2    Filter	5
3.3    Carbon Tanks	5
3.4    Reverse Osmosis Machine	5
<b>CHAPTER FOUR: PREVENTIVE MAINTENANCE</b>	<b>6</b>
<b>CHAPTER FIVE: SUPPLIES/REPLACEMENT PARTS</b>	<b>7</b>
<b>CHAPTER SIX: DRAWINGS/ILLUSTRATIONS</b>	<b>8</b>
Section 6.1    Weights	8
6.2    Portable RO Options	8
6.3    Filter Options	9
6.4    Dimension Information	10





**CHAPTER ONE:**  
**GENERAL INFORMATION**

**1.1 General Overview**

The M2 Portable Ergonomic RO Cart as shown in Figure 1 is a compact solution to moving the pre-treatment and RO required to treat individual patients in acute and home settings. The M2 cart will efficiently carry a Mar Cor Purification (MCP) Portable Reverse Osmosis (RO) system, cartridge type prefilter, and pretreatment tanks.

The M2 cart is constructed of carbon steel and stainless steel. The finish applied includes a pretreatment process for increased corrosion resistance with an off-white powder coat finish.

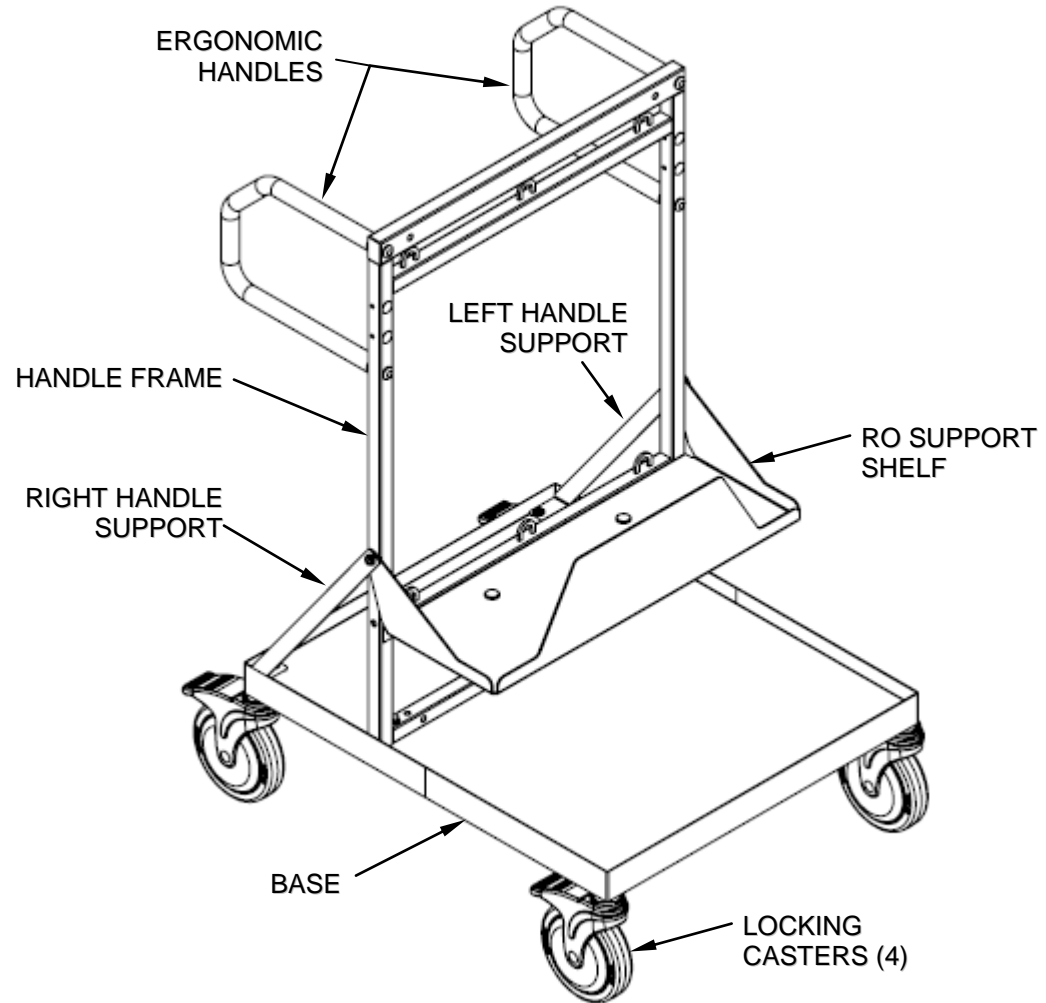
**Features:**

The M2 Portable RO CART can carry the following:

- A Portable RO System. A MCP Portable RO System provides efficient, economical reverse osmosis purification for medical applications (hemodialysis) in-acute and home settings. It is registered as a medical device with the FDA. The RO's monitoring, instrumentation and product water quality meets or exceeds the standards recommended by the Association for the Advancement of Medical Instrumentation (AAMI). Each portable RO is capable of removing all classes of water contaminants except dissolved gasses. Dissolved ionic contaminants are removed at a rate of 97-99%. Dissolved organics larger than 300 Daltons and suspended matter including organics, inorganics and microorganisms are rejected equally or greater, for example; Millenium Millenium HX, WRO 300 or WRO 300 H.
- Cartridge type filter housings can accommodate sediment or carbon filters.
- Carbon (GAC) tanks protect the RO membranes from being damaged by chlorine/chloramines and remove lower molecular weight dissolved organics from RO water. These are available in semi-automatic control valve exchange head styles and as plain portable exchange, either purchase or rental. A carbon block filtration system is also available.



**Components:**



**FIGURE 1**



## 1.2 The Operator's Manual

This manual has been prepared to provide the operator with information regarding the installation, use, maintenance, and troubleshooting of the M2 Portable Ergonomic RO cart.

**CAUTION:** When used as a medical device, Federal law restricts this device to sale by or on the order of a physician. Per 21 CFR 801.109(b)(1).

## 1.3 Symbols



**Caution Risk of Electric Shock**



**Caution, Risk of Danger**



## **CHAPTER TWO: SYSTEM INFORMATION**

### **2.1 Safety**

Read This Manual:

The operation manual should be fully read and understood prior to system operation. Use this manual for future reference or training.



Electrical:

Care should be given when plugging in any equipment associated with the cart. Plugs should be removed from wall outlet during servicing. Do not use any extension cord for operation. Use only with a grounded outlet.



Labeling:

Do not remove any system labels. All labels are important and necessary for understanding system operation.

### **2.2 Utility Requirements**

All electrical components operate on single-phase power.

### **2.3 Feedwater Requirements**

**NOTE:** Consult the Operating Manual for the RO Machine for further requirements.





## **CHAPTER THREE: INITIAL SETUP**

**NOTE:** Be sure to read through this list to understand the design of the cart.

### **3.1 Cart**

- The cart is designed with (4) swivel casters.
- The front and rear wheels are free swivel wheels that lock, allowing for easy positioning in tight areas.
- All casters have an individual foot brake to lock the cart in place.

### **3.2 Prefilter**

- An optional single feed water cartridge pre-filter and housing is available to remove particles larger than 5 microns for use with carbon tank applications.
- The M2 Cart has provisions for a second filter housing that can accommodate sediment or carbon filters.

### **3.3 Carbon Filters**

Carbon block filtration kit or carbon tanks are designed for placement on the operator side of the ergonomic M2 cart for easy access. For carbon tanks follow these steps:

- After the initial rinsing of carbon tanks, (see Pretreatment Equipment Manual) connect tubing line from supply to first carbon tank inlet.
- Connect tubing line from first carbon tank outlet to inlet of second carbon tank.
- Connect feed water line and pressurize the system.
- Rinse the system for approximately 15 minutes.

### **3.4 Reverse Osmosis Machine**

- Place the RO Machine on the support platform opposite the handle side of the cart.
- Connect the tubing from the prefilter housing to the inlet (i.e., feed) port fitting on the RO.
- Connect power to the RO.

**NOTE:** Consult the specific RO's Operating and Maintenance Manuals for further instructions.



#### **CHAPTER FOUR: PREVENTIVE MAINTENANCE**

- Make sure the wheels are clean and free of any debris to keep them operating smoothly.
- The cart can be wiped down with a mild cleaner.
- Routinely check to make sure that all locking brackets and devices are tight and secure.
- Consult specific RO machine's Operating Manual for information about performing maintenance on the RO.
- Consult the necessary Pretreatment Operation Manual for information about performing maintenance on the pretreatment equipment. (I.e. carbon block filters, carbon tanks, etc.)



**CHAPTER FIVE: SUPPLIES/REPLACEMENT PARTS**

Supplies and replacement parts are available from Mar Cor Purification by calling...  
1-800-633-3080

**M2 PORTABLE ERGONOMIC RO CART**  
**SPARE PARTS LIST**

**NOTE: Part Numbers are subject to change and should be verified when ordering spare parts.**

<b>PART NO.</b>	<b>DESCRIPTION</b>
3025784	STATIC STRAP
3025799	ERGONOMIC HANDLE, 1" DIA, TUBE FORMED
3025800	M2, UPRIGHT HANDLE FRAME
3027459	6" CASTER, ANTISTATIC
3027705	LEFT SUPPORT BRACKET
3027706	RIGHT SUPPORT BRACKET
3027858	KIT,PREFILTER,ERGO CART



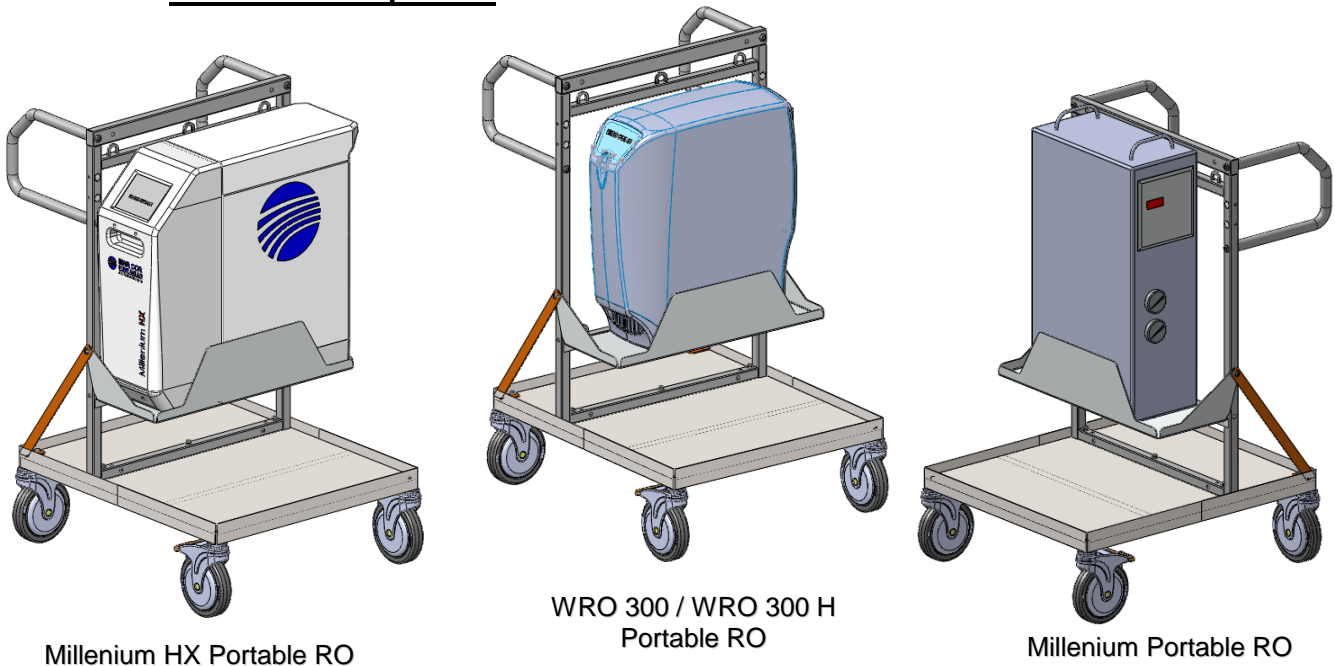
**CHAPTER SIX: DRAWINGS/ILLUSTRATIONS**

**6.1 Weights**

**M2 ERGONOMIC CART OPERATIONAL WEIGHT MATRIX**  
 ( \*WEIGHTS ARE APPROXIMATE)

DESCRIPTION	WEIGHT* (EA)
<b>M2 CART, BASE WEIGHT</b>	57 LBS
<b>RO UNIT OPTIONS :</b>	
MILLENIUM	55 LBS
MILLENIUM HX	75 LBS
WRO 300	63 LBS
WRO 300 H	72 LBS
<b>CARBON BLOCK FILTER SYSTEM (REPLACES CARBON TANK)</b>	60 LBS
<b>CARBON TANK OPTIONS : (1 OR 2 TANKS FIT THE M2 CART)</b>	
6" DIA x 18" HIGH, QTY 1	25 LBS
8" DIA x 18" HIGH, QTY 1	40 LBS
6" DIA x 35" HIGH, QTY 1	40 LBS
8" DIA x 35" HIGH, QTY 1	75 LBS

**6.2 Portable RO Options:**



Millenium HX Portable RO

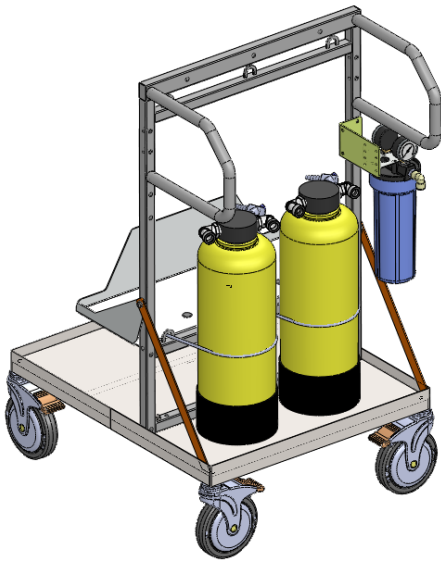
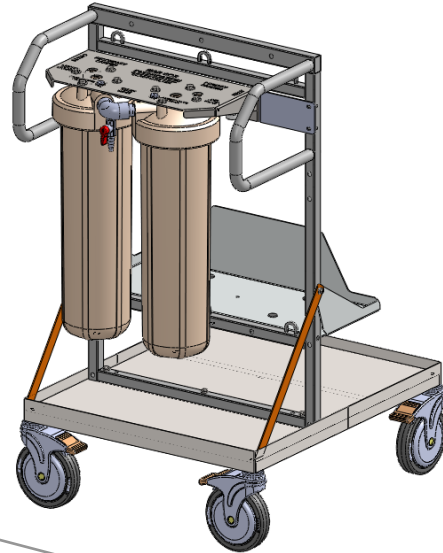
WRO 300 / WRO 300 H  
 Portable RO

Millenium Portable RO



**6.3 Filter Options:**

M2 CART WITH CARBON BLOCK FILTER KIT.

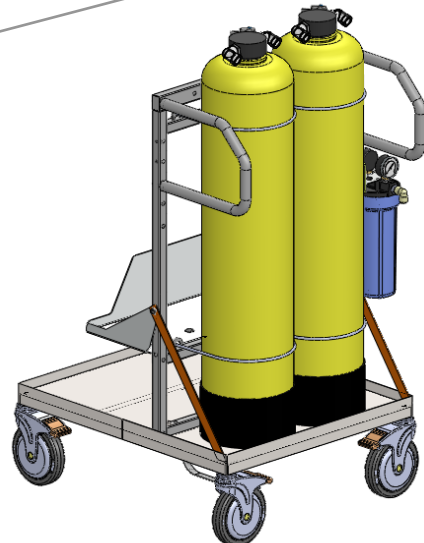


M2 CART WITH 6" x 18"  
 CARBON TANKS SHOWN.  
 OPTIONAL 6" x 35" SIZE  
 COMPATIBLE.

OPTIONAL PREFILTER SHOWN.

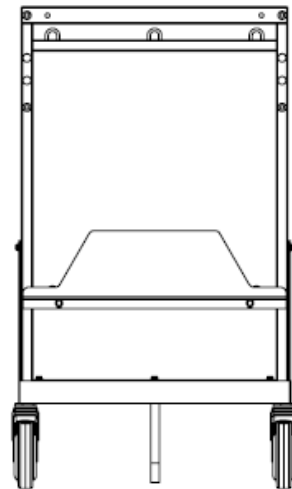
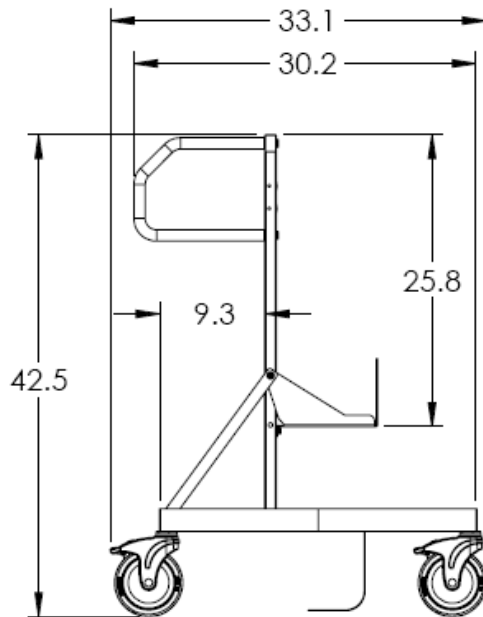
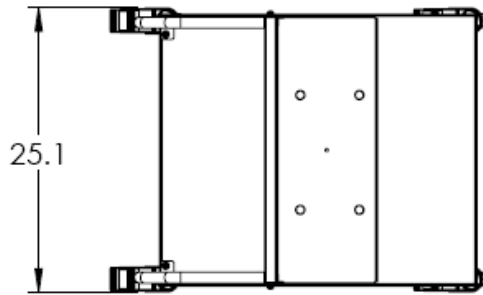
M2 CART WITH 8" x 35"  
 CARBON TANKS SHOWN.  
 OPTIONAL 8" x 18" SIZE  
 COMPATIBLE

OPTIONAL PREFILTER SHOWN.





**6.4 Dimension Information:**





Call **(800-633-3080)** for additional information or visit [www.mcpur.com](http://www.mcpur.com).

---



14550 28<sup>th</sup> Avenue N.  
Plymouth, MN 55447  
USA  
Ph: 800-633-3080  
FAX: 763-210-3868