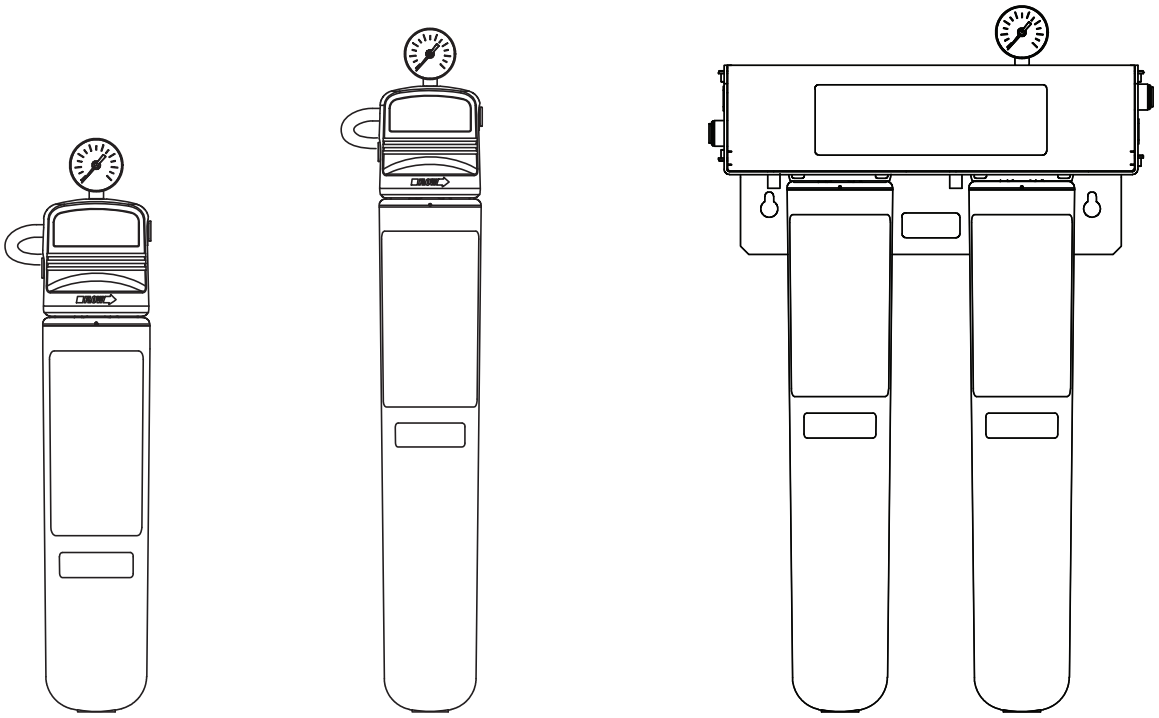
ArcticPure®
Water Filter System

Installation, Operation and Maintenance Manual
This manual is updated as new information and models are released. Visit our website for the latest manual.



Thank you for selecting a Manitowoc ArcticPure filter system. With proper installation, care and maintenance, your new Manitowoc filter system will provide you with many years of reliable and economical performance.

Part Number: 8014623 Rev02 07/22

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Section 1
General Information

Model Numbers

This manual covers the following models:

Model #	Range	Claims	Replacement Cartridge
AR-10000 14,000 gal (53,000 liter) capacity	For ice machines 0 - 600 lbs (0 - 272 kg)	Chlorine taste and odor reduction, scale inhibition	K00338
AR-20000 20,000 gal (75,700 liter) capacity	For ice machines 601 - 1,000 lbs (273 - 453 kg)	Chlorine taste and odor reduction, scale inhibition	K00339 (1)
AR-40000 40,000 gal (151,400 liter) capacity	For ice machines 1,001 - 2,500 lbs (454 - 1134 kg)	Chlorine taste and odor reduction, scale inhibition	K00339 (2)
AR-Pre	For use in conjunction with AR-10000, AR-20000, AR-40000	Sediment reduction	K00337

Specifications

Model #	Specifications	Flow Rate
AR-10000	Pressure: 25 - 125 psi (172 - 862 kPa) Temperature: 40 - 100°F (4 - 38°C) Connections: 3/8" JG Micron Rating: 1.0	.75 gpm (2.84 lpm)
AR-20000	Pressure: 25 - 125 psi (172 - 862 kPa) Temperature: 40 - 100°F (4 - 38°C) Connections: 3/8" JG Micron Rating: 1.0	.75 gpm (2.84 lpm)
AR-40000	Pressure: 25 - 125 psi (172 - 862 kPa) Temperature: 40 - 100°F (4 - 38°C) Connections: 3/8" JG Micron Rating: 1.0	1.5 gpm (5.68 lpm)
AR-Pre	Pressure: 25 - 125 psi (172 - 862 kPa) Temperature: 40 - 100°F (4 - 38°C) Connections: 3/8" JG Micron Rating: 5.0	NA

Owner Warranty Registration Card

The warranty card can be found inside the product box containing your new ArcticPure® water filter system. Warranty coverage begins the day your new system is installed. Complete and mail the OWNER WARRANTY REGISTRATION CARD as soon as possible to validate the installation date.

If the OWNER WARRANTY REGISTRATION CARD is not returned, Manitowoc® will use the date of sale to the Manitowoc distributor as the first day of warranty for your new filter system.

Warranty Coverage - General

The following Warranty outline is provided for your convenience. For a detailed explanation, read the warranty bond shipped with each system. Contact your local Manitowoc representative or Manitowoc Ice if you need further warranty information.

Important

This product is intended exclusively for commercial applications. No warranty is extended for personal, family or household uses.

PARTS/LABOR

Manitowoc warrants the ArcticPure® filter systems against defects in materials and workmanship on the housing, hardware, bracket and fittings, under normal use and service for three (3) years from the date of original installation. Labor required to repair or replace defective components is covered for three (3) years from the date of the original installation.

EXCLUSIONS

The following items are not included in the ArcticPure® system(s) warranty coverage:

- Wear items such as filter cartridges or o-rings.
- Normal maintenance or adjustments as outlined in this manual.
- Repairs due to unauthorized modifications to the filter system or use of non-standard parts without prior written approval from Manitowoc Ice.
- Damage caused by improper installation of the filter system or the ice machine, electrical supply, water supply or drainage, or damage caused by floods, storms or other acts of God.
- Premium labor rates due to holidays, overtime, etc.; travel time; flat rate service call charges; mileage and miscellaneous tools and material charges not listed on the payment schedule. Additional labor charges resulting from the inaccessibility of equipment are also excluded.
- Parts or assemblies subjected to misuse, abuse, neglect or accidents.
- Damage or problems caused by installation, and/or maintenance procedures inconsistent with the technical instructions provided in this manual.

Authorized Warranty Service

To comply with the provisions of this warranty, a refrigeration service company, qualified and authorized by your Manitowoc distributor, or a Contracted Service Representative must perform the warranty repair.

Important

If the dealer you purchased the ArticPure® system from is not authorized to perform warranty service, contact your Manitowoc distributor or Manitowoc Ice for the name of the nearest authorized service representative.

Service Calls

Normal maintenance and/or adjustments as outlined in this manual are not covered by the warranty. If you have followed the procedures in the Troubleshooting section of this manual, and the filter system still does not perform properly, call your authorized service company.

Safety Notices

DEFINITIONS

⚠ DANGER

Indicates a hazardous situation that, if not avoided, will result in death or serious injury. This applies to the most extreme situations.

⚠ Warning

Indicates a hazardous situation that, if not avoided, could result in death or serious injury.

⚠ Caution

Indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.

Notice

Indicates information considered important, but not hazard-related (e.g. messages relating to property damage).

NOTE: Indicates useful, extra information about the procedure you are performing.

Section 2
Installation

General

These instructions are provided to assist the qualified installer. Check your local Yellow Pages for the name of the nearest Manitowoc distributor, or call Manitowoc Ice for information.

The ArcticPure® water filtration systems are designed to reduce coarse and fine particulate matter from the incoming potable water supply. Chlorine will be reduced in the water so as not to adversely affect the ice produced or the equipment components. Scale inhibitor is automatically fed into the water to inhibit the formation of scale on water solenoids and evaporator plates. The NSF seal on these products is recognized worldwide as a sign that the product to which it is affixed complies with the public health requirements.

- DO NOT install on line pressure above 125 psi (862 kPa).
- DO NOT install on hot water line. Maximum temperature allowed is 100°F (38°C).
- DO NOT install in direct sunlight.
- DO NOT reverse connections. The system must be installed with the inlet and outlet as labeled.
- DO NOT install ArcticPure® filter systems in locations where they can be damaged by other free-standing equipment.
- PROTECT from freezing.
- INSTALLATION must comply with existing state or local plumbing codes.

This piece of equipment is made in America and has American sizes on hardware. All metric conversions are approximate and vary in size.

Safety

Always follow these safety precautions when installing and operating the water filter system.

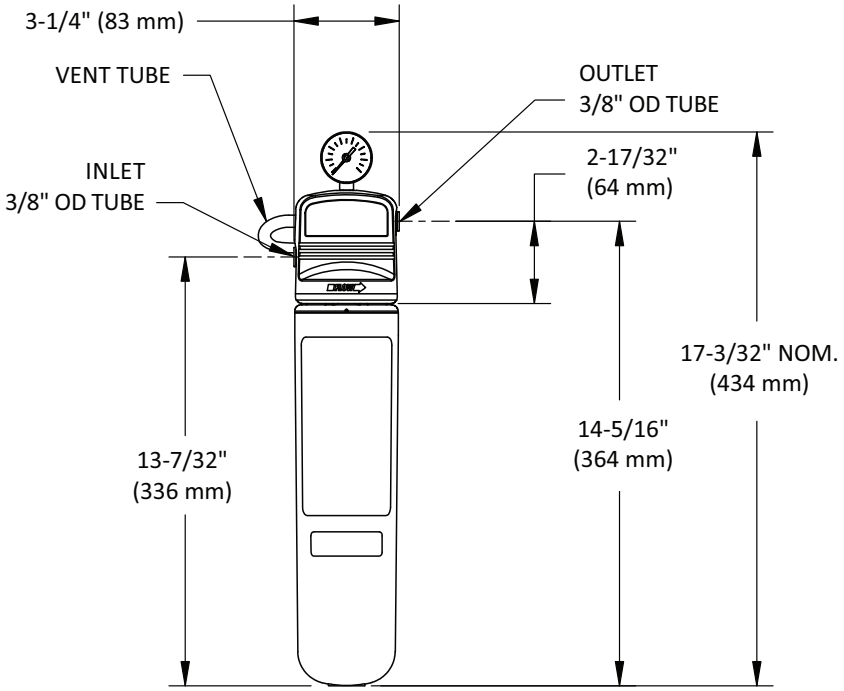
⚠Warning

DO NOT use with water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after the system.

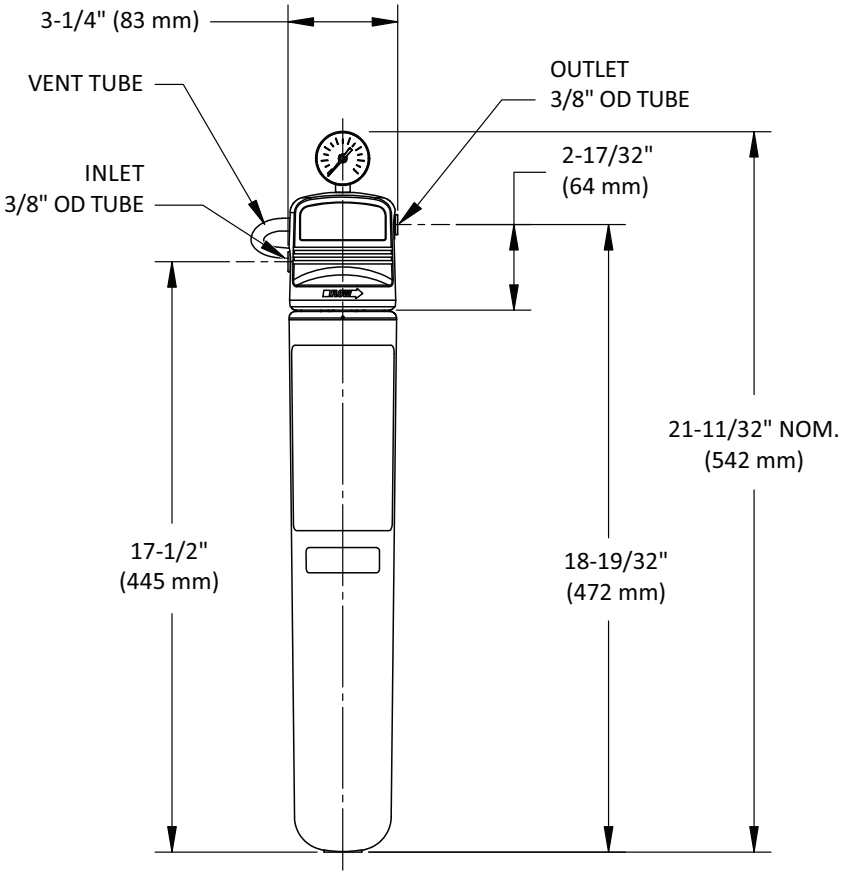
Notice

DO NOT use a torch or other high temperature sources near filter or cartridge.

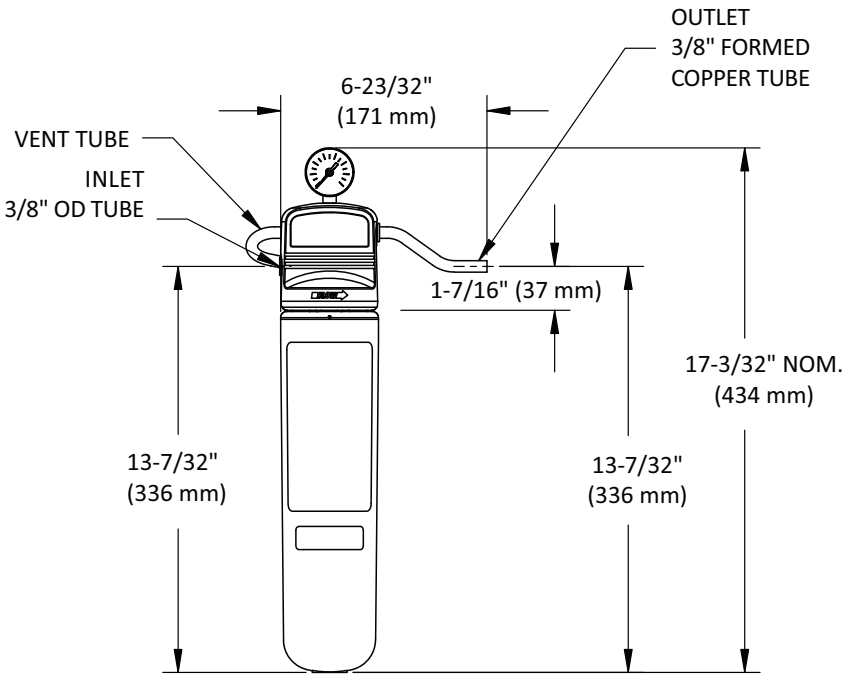
Dimensions & Exploded Views



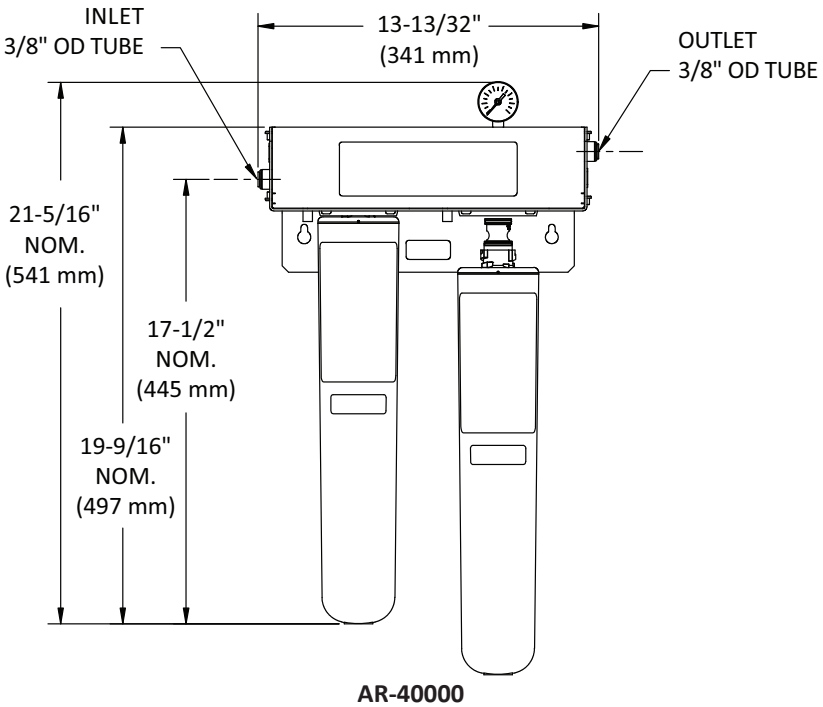
AR-10000



AR-20000



AR-Pre



AR-40000

Location

ArcticPure® water filtration systems should be located on the incoming cold water line and preferably away from heavy traffic areas. The system should be mounted on a wall or structure that will support the weight of the system when filled with water.

Notice

This product is designed for cold water use only (less than 100°F [38°C]). Passing hot water through this product may seriously damage filter housings and/or cartridges and affect warranty coverage.

ArcticPure® systems may be used with metal or non-metallic piping systems.

NOTE: Any non-metallic fittings used in the installation must be of adequate rating for the line pressure.

Water Service

All ArcticPure® systems come with 3/8" John Guest connections on the inlet and outlet ports.

John Guest connections are suitable for use with the following tubing:

- Polyethylene
- Nylon
- Polyurethane
- Seamless Brass (soft)
- Seamless Copper (soft)
- Seamless Mild Steel (soft)

Notice

DO NOT use with hard metal tubing such as:

- Stainless steel
- Chrome plated copper
- Hard metal polished tubing

ASSEMBLY - AR-10000/AR-20000

NOTE: The head/bracket will be packed separately from the filter cartridge in the product box.

1. Locate position to mount the filter system. Be sure to leave enough clearance (a minimum of 2" [5 cm] beneath the filter cartridge length is recommended) to allow for cartridge changeout.
2. Mark and drill mounting holes.
3. Mount filter head, using key hole slots in the mounting bracket.
4. Remove the protective cap from the cartridge.
5. Inspect the cartridge and o-rings for damage. See Recommended Replacement Parts List in Section 3 if replacement is required.
6. Lubricate o-rings with food grade lubricant.
7. With the product label facing to the left, insert the cartridge into the filter head. Rotate 1/4 turn to the right to secure. Product label will face forward.

ASSEMBLY - AR-40000

NOTE: The manifold cover will be packed separately from the manifold. The filter cartridges will be packed separately in the product box.

Locate position to mount the filter system. Be sure to leave enough clearance (a minimum of 2" [5 cm] beneath the filter cartridge length is recommended) to allow for cartridge changeout.

1. Use a level under the mounting bracket to be sure that the system hangs evenly.
2. Mark and drill the top and bottom mounting holes.
3. Install bottom mounting fasteners and mount the manifold, using the key hole slots in the mounting bracket.
4. Install top mounting fastener.
5. Install manifold cover, using the 4 sheet metal screws provided.
6. Remove the protective cap from each cartridge.
7. Inspect each cartridge and all o-rings for damage. See Recommended Replacement Parts List in Section 3 if replacement is required.

8. Lubricate o-rings with food grade lubricant.

> **⚠Caution**
>
> DO NOT use petroleum jelly.

9. With the product label facing to the left, insert a cartridge into the filter head. Rotate 1/4 turn to the right to secure. Product label will face forward. Repeat for the remaining cartridge.

Installation - AR-10000/AR-20000 & AR-40000

Shut off the incoming water supply.

For John Guest Fitting Installation:

NOTE: Please review the following recommendations before installing the water lines.

- Tubing must be 3/8" O.D., (.371 - .376).
- Cut the tube square. The outside diameter must be free of score marks.
- Burrs and sharp edges must be removed prior to installation.

NOTE: Use a tube insert for thin-walled plastic tubing.

To install water lines into the inlet/outlet ports:

1. Insert water line tubing into the inlet port fitting.

> **Notice**
>
> The fitting will grip before it seals. Tubing must be pushed into the tube stop to prevent leaks.

2. Pull on the tubing to be sure it is secure. If the tubing releases, refer to the Troubleshooting section of this manual to reinstall.
3. Repeat for the outlet port fitting. Connect outlet water line to the potable water connection on the ice machine.

NOTE: For water-cooled machines, be sure that the filter system only feeds the potable water connection.

Installation - AR-Pre

NOTE: If the AR-Pre is being retrofitted to an existing ArcticPure® system, shut off the incoming water supply, relieve the filter pressure by removing the existing filter cartridge(s), and disengage the water inlet line. A small quantity of water will be vented directly behind the cartridge body.

1. Draw a minimum 8" (20.3 cm) level line to the left of the primary filter system bracket from the center of the lower left mounting screw.
   A. For installation to an AR-10000/AR-20000 system, mark the first hole for the AR-Pre on the level line 4.5" (11.4 cm) from the center of the lower left mounting fastener on the primary system.
   B. For installation to an AR-40000 system, mark the first hole for the AR-Pre on the level line 5.5" (13.9 cm) from the center of the lower left mounting screw on the primary system.
2. Mark and drill the mounting holes for the AR-Pre.
3. Insert the precut copper tubing into the outlet fitting of the AR-Pre head.
4. Insert opposite end of the tubing into the inlet fitting of the primary filter assembly.

> **Notice**
>
> The fitting will grip before it seals. Tubing must be pushed into the tube stop to prevent leaks.

5. Pull on the tubing to be sure it is secure. If the tubing releases, refer to the Troubleshooting section of this manual to reinstall.
6. Align the prefilter mounting keyhole slots with the predrilled holes.
7. Install mounting screws and tighten.
8. Insert incoming water line into the inlet port of the AR-Pre. Follow notes and steps 1-3 under “Installation - AR-10000/AR-20000/AR-40000”.
9. Remove the protective cap from the cartridge.

10. Inspect the cartridge and o-rings for damage. See Recommended Replacement Parts List if replacement is required.

> **⚠ Caution**
>
> DO NOT use petroleum jelly.

11. Lubricate o-rings with food grade lubricant.
12. With the product label facing to the left, insert the cartridge into the filter head. Rotate 1/4 turn to the right to secure. Product label will face forward.

Installation Checklist

- ☐ Have the min.-max. water temperature and pressure been checked? (Refer to “General”)
- ☐ Has the filter system been installed away from heavy traffic areas?
- ☐ Is the system installed securely to the mounting surface?
- ☐ Has the water supply line been checked for suitability? (Refer to “Water Service”)
- ☐ Have the water supply lines been securely installed into the inlet/outlet ports? (Refer to “Installation - AR-10000/ AR-20000 & AR-40000”)

Start-Up Procedure

1. Turn on the incoming water supply.
2. Check for leaks. If the connections are leaking, refer to the Troubleshooting section of this manual to reinstall.

NOTE: System should be flushed for 2 minutes to remove trapped air and carbon fines (5 minutes for AR-Pre).

To set the pressure gauge:

- Rotate the red follower needle clockwise until it contacts the black pressure needle on the low side.
- The red follower needle will now record the lowest water pressure when the filter system is in use.

NOTE: The filter pressure will decrease as the cartridge life decreases.

Changing Cartridges

ArcticPure® cartridges will need to be changed for one or more of the following reasons:

- The filter has trapped water-borne sediment and the water flow has stopped or water pressure through the filter has dropped below 20 psi (138 kPa).
- The maximum life of the carbon filter has been reached and the filter will no longer reduce chlorine to acceptable levels.
- The scale inhibitor has been completely dissolved and hard scale build-up may accelerate.

It is recommended that ArcticPure® filter cartridges be changed out:

- Every 6 months or when water pressure through the system drops below 20 psi (138 kPa), whichever occurs first.

To change the filter:

1. Rotate the cartridge 1/4 turn to the left. The cartridge should easily release. Dispose of used cartridge.

> **Important**
>
> ArcticPure® systems are equipped with internal shut-off valves. It is not necessary to shut off the incoming water supply during cartridge changeout.

2. Remove the protective cap from the cartridge.
3. Inspect the cartridge and o-rings for damage. See Replacement Parts list if replacement is required.
4. Lubricate o-rings with food grade lubricant.

> **⚠ Caution**
>
> DO NOT use petroleum jelly.

5. With the product label facing to the left, insert the cartridge into the filter head. Rotate 1/4 turn to the right to secure. Product label will face forward.

Section 3
Troubleshooting

Important

Please use Troubleshooting Chart to repair system. If system still does not work properly, contact Manitowoc Service for assistance.

Troubleshooting Chart

Problem	Cause	To Correct
No water through filter system	Water to filter system shut off	Turn on water supply
	Filter cartridges plugged	Replace filter cartridges — See “Changing Cartridges”
Low water flow through filter	System below 20 psi	Restore system pressure
		Repair water supply to filter
	Filter cartridges plugged	Replace filter cartridges — See “Changing Cartridges”
Water leak on water inlet/outlet	Water line ends are damaged	Trim water line to remove damaged area — See “Repairing Inlet/Outlet Connections”
	O-ring in filter head is damaged	Replace o-ring — See “Changing Cartridges”
Water leak between head and filter cartridge	Damaged o-ring on filter cartridge	Replace o-ring — See “Changing Cartridges”

Repairing Inlet/Outlet Connections

A leak may occur at the inlet/outlet connections because of defective tubing. To repair:

1. Turn off incoming water supply and depressurize system by removing the filter cartridge(s).
2. Disconnect the water line by pushing the collet squarely against the face of the fitting.
3. Pull the tubing to release.
4. To repair the connection, cut off at least 3/8" (6.4 mm) from the end of the tubing. Tubing ends must be cut square to ensure a positive seal.
5. Refer to notes and instructions under “Installation - AR-10000/AR-20000/AR-40000” to reconnect the water line.

Recommended Replacement Parts List

Part Number	Description
K00337	AR-Pre CartridgeAR
K00338	AR-10000 Cartridge
K00339	AR-20000 Cartridge
7601973	John Guest Collet
7601983	John Guest O-Ring

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