

Culligan[®]

AQUA-CLEER[®]
DRINKING
WATER
SYSTEM

OWNERS GUIDE

This system is intended for use on potable water supplies. Do not use where water is microbiologically unsafe or with water of unknown quality.

Check with your public works department for applicable local plumbing and sanitation codes. Follow your local codes if they differ from the standards used in this manual.

Operational, maintenance and replacement requirements are essential for this product to perform properly. The Aqua-Clear[®] system contains replaceable particulate and activated carbon filters. It also includes a replaceable reverse osmosis membrane filter which is critical for the effective reduction of Total Dissolved Solids. The filtered water should be tested periodically to verify that the system is performing properly.

CULLIGAN INTERNATIONAL COMPANY
One Culligan Parkway
Northbrook, Illinois USA 60062-6209
708/205-6000

Culligan[®]

AQUA-CLEER[®]
DRINKING WATER SYSTEM

Table of Contents

Safety/Warnings	i
System Specifications	1
Introduction	
About Your System	2
Component Description	2
Certified Performance	3
How to Use Your System	4
Performance Check	4
Installation	
Application Guidelines	5
Servicing Your System	
Service Schedule	7
Filter Replacement	7
Parts List	11
Service Log	12
Warranty	13

SYSTEM SPECIFICATIONS

System Flow Sequence Particle Filter, Activated Carbon Filter,
Reverse Osmosis Membrane Filter,
Storage Tank, Polishing Filter,
Dispensing Faucet

Particle Filter 5 Micron Spun Polypropylene

Activated Carbon Filter Cullar[®] G Activated Carbon

Reverse Osmosis Membrane Filter Culligan[®] Aqua-Cleer[®] Thin Film
Composite

Production Rate¹ - AC-15 Models 15 gpd (57 L/day)

Ratio of Product to Flush Flow²

Soft Water Applications 1:1³

Hard Water Applications 1:3 - 1:5

Polishing Filter Cullar G Activated Carbon

Dispensing Faucet Culligan Aqua-Cleer Faucet
Rotary Operation, Stainless Steel
and Resin Flow Passages, with
Built-in Siphon Break

Colors Polished Chrome, White

Storage Capacity - Standard Tank 2 gallons
- Large Tank 10 gallons

Dimensions - Filter Assembly 7.5"W x 3"D x 16.5"H
- Storage Tank - Std. 11" Diameter x 14"H
- Lge. 15.5" Diameter x 22"H

¹ Rating at 50 psi, 77°F, 500 mg/L TDS Influent, No Back Pressure

² May vary with pressure. See Technical Manual for all hard water applications
and applications where TDS exceeds 1000 mg/L (ppm).

³ Except nitrate models.

INTRODUCTION

Thank you for choosing a Culligan® Aqua-Clear® drinking water system. Your new system is designed to bring you years of healthful, deliciously crystal-clear Culligan® water. With its special faucet installed on your sink, it's like getting bottled water straight from your kitchen tap.

With three separate filter technologies and its unique space-saving design, the Aqua-Clear system is the most advanced drinking water system available today from Culligan.

ABOUT YOUR SYSTEM

The reverse osmosis method of water treatment has long been regarded as one of the most efficient and effective ways to reduce impurities. It's the technology we've used to build your new Culligan Aqua-Clear drinking water system. In addition, we've incorporated activated carbon and fine particle filtration to bring you one of the most effective systems available today.

AQUA-CLEER® SYSTEM COMPONENTS

Refer to Figure 1, page 6

Particle Filter

The particle filter screens out dirt, sand, rust, and other microscopic particles 15 times smaller than a grain of sand.

Activated Carbon Filter

The activated carbon filter gets rid of bad tastes and odors, including chlorine. If present in your untreated water supply.

Reverse Osmosis Membrane Filter

The reverse osmosis (RO) membrane filter squeezes out dissolved substances, including arsenic, lead, asbestos, and many others. These substances may not be in your water. See Performance Data Sheet for removal percentages.

Manifold Assembly

The manifold serves as the functional hub of the system, directing and regulating the flow through each of the system's components. It makes the Aqua-Clear system extremely space efficient and simplifies filter changes.

Storage Tank

The storage tank holds up to 2 gallons of triple-filtered Culligan® water under pressure for rapid delivery. An optional ten-gallon tank is available.

Polishing Filter

The Aqua-Clear system includes a second activated carbon filter as added assurance that your water will be crystal clear.

Faucet

The special drinking water faucet mounts conveniently on your kitchen sink. A simple twist of the handle is all it takes to enjoy refreshing Culligan drinking water.

CERTIFIED PERFORMANCE

Independent testing by NSF International has certified Culligan® reverse osmosis membranes for average removal of the following contaminants:

Arsenic	99.0%	Lead	98.2%
Asbestos	99.6%	Mercury	96.0%
Barium	99.9%	Nitrate	95.5%
Cadmium	99.4%	Radium 226/228*	99.9%
Chromium	99.3%	Selenium	98.0%
Fluoride	95.5%	TDS/Sodium	95.4%

*Based on approved testing methods with Barium as surrogate.

The substances removed by this system are not necessarily in your untreated water. See Performance Data Sheet for exact percentages of contaminant removal.

HOW TO USE YOUR SYSTEM

With the Aqua-Clear[®] system, you'll get a continuous supply of clear, refreshing water for drinking and cooking. But Culligan improves a lot more than just water. Crystal clear Culligan[®] water is ideal for:

- coffee
- tea
- soup
- juice
- everything you make with water
- recipes
- baby formula
- houseplants
- pets
- pasta
- ice cubes
- steam irons
- drink mixes

PERFORMANCE CHECK

To check the performance of your Aqua-Clear system, it is necessary to measure the total dissolved solids (TDS) level of the filtered water. This simple test can be done quickly by your dealer.

The Aqua-Clear Sentry[™] Water Quality Monitor is another way to keep track of your system's performance. This optional accessory checks your drinking water each time you use the special faucet, and signals when the membrane filter may need to be replaced.

If the water quality of your system seems to have declined, drain the storage tank and allow the system to refill. If the problem persists, call your Culligan Man for service.

INSTALLATION

This Owner's Guide provides visual assembly reference only. Complete installation instructions are provided in the Technical Manual which is available from the Culligan dealer.

The installer assumes sole responsibility for any loss or damage arising from the failure to follow directions detailed in the Technical Manual, or failure to comply with all applicable local plumbing codes and ordinances. The only responsibility of Culligan with respect to this product is stated in the manufacturer's limited warranty, which is included.

Since specialized skills are required in the assembly of the drinking water system, we recommend that you contact your local independently operated Culligan dealer to complete this installation.

APPLICATION GUIDELINES

The Aqua-Cleer[®] system is designed for use on potable water supplies meeting the guidelines outlined in Table 1. The system should be installed on your home's cold water line. The flushing stream should discharge through an approved siphon break as illustrated in Figure 1. Installation of this system must comply with state and local laws and regulations.

TABLE 1

Influent Water Characteristic	
Pressure ¹	40 - 120 psi (280 - 827 kPa)
Temperature	33 - 100°F (1 - 38°C)
Total Dissolved Solids (TDS) ²	0 - 4000 ppm (0 - 4000 mg/L)
pH	5 - 10
Chlorine ³	0 - 3 ppm (0 - 3 mg/L)
Chloramine	0 - 3 ppm (0 - 3 mg/L)
Turbidity	0 - 10 NTU
Iron	0 - 1 ppm (0 - 1 mg/L)
Bacterial Quality	Potable

¹ Nitrate units are not certified for nitrate reduction in water supplies with a pressure less than 40 psi (280 kPa). A booster pump is strongly recommended.

² See the Technical Manual for all applications where TDS exceeds 1000 ppm (1000 mg/L). A booster pump is strongly recommended.

³ The reverse osmosis membrane filter used in this system may be damaged by chlorine. This system includes activated carbon which protects this element by reducing chlorine. Influent chlorine should not exceed 3 mg/L.

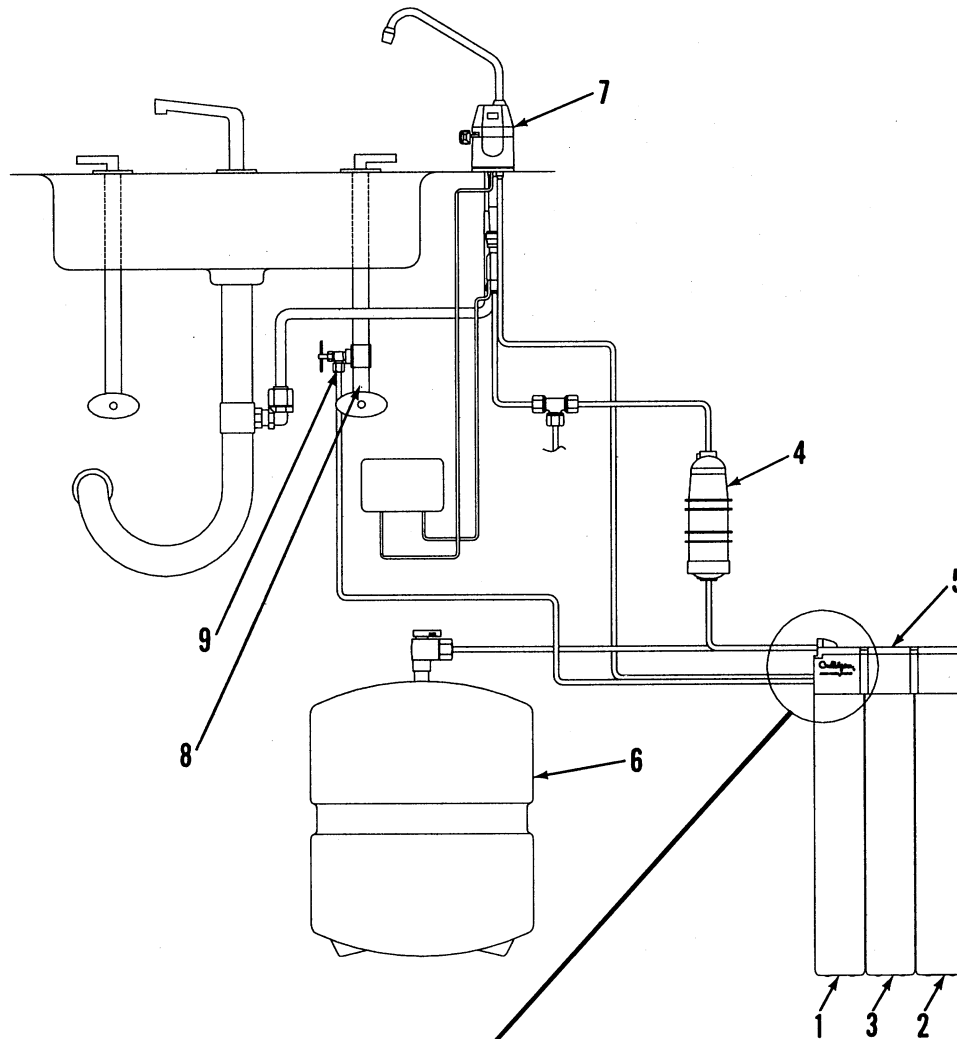
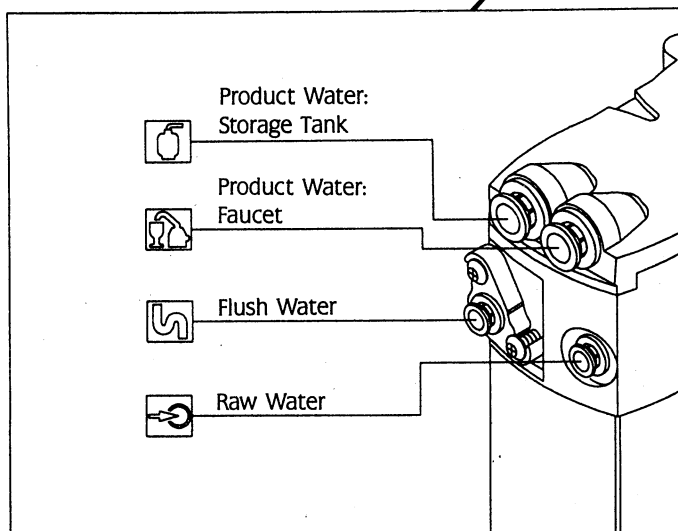


Fig. 1



- 1. Particle Filter
- 2. Activated Carbon Filter
- 3. Reverse Osmosis Membrane Filter
- 4. Polishing Filter
- 5. Manifold Assembly
- 6. Storage Tank
- 7. Faucet
- 8. Cold Waterline
- 9. Water Shutoff

SERVICING YOUR SYSTEM

SERVICE SCHEDULE

When properly maintained, your Aqua-Clear[®] system will give you years of dependable service. Use the following as a guide to get the most out of your system. Service frequency may vary depending on your local water conditions. High sediment, chlorine, turbidity, or hardness levels may require more frequent service. Refer to Figures 3 & 4.

At Least Once Per Year

Replace:

- Particle Filter ①
- Activated Carbon Filter ②
- Polishing Filter ④

Check:

- RO Membrane Filter ③
 - TDS Reduction Performance
 - Flow Rates
- Capillary Assembly

Sanitize the System.

Use the convenient chart inside the back cover of this booklet to keep track of your system's maintenance.

FILTER REPLACEMENT

Culligan recommends that you have your Aqua-Clear[®] system serviced by your local Culligan Man. You can rely on his or her experience and expertise to keep your system in top operating condition.

If you wish to service your system, the filters are available from your Culligan dealer. See the Parts List at the end of this section for replacement numbers.

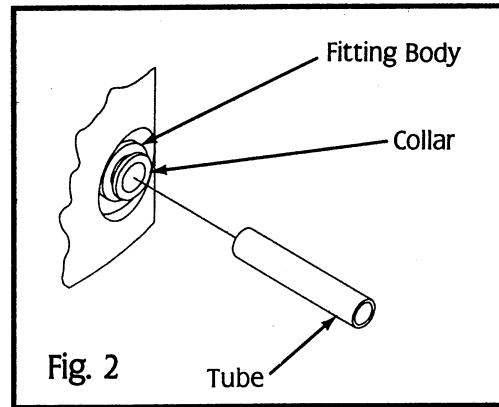
Cartridge Conditioning

The activated carbon, reverse osmosis, and polishing filter cartridges must be conditioned as follows prior to installation into the Aqua-Clear system. Your Culligan Man can do these important procedures at the time of purchase.

Activated Carbon Cartridge - 5 gallon flush to remove carbon dust

RO Membrane Filter - 6 hour flush to remove preservative solution

Polishing Filter - 2 gallon flush to remove carbon dust

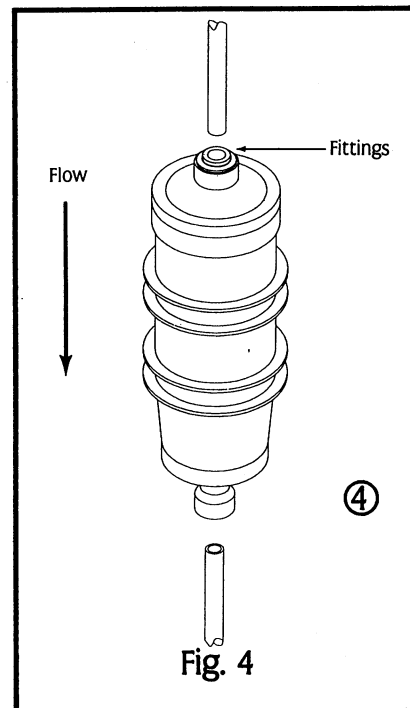
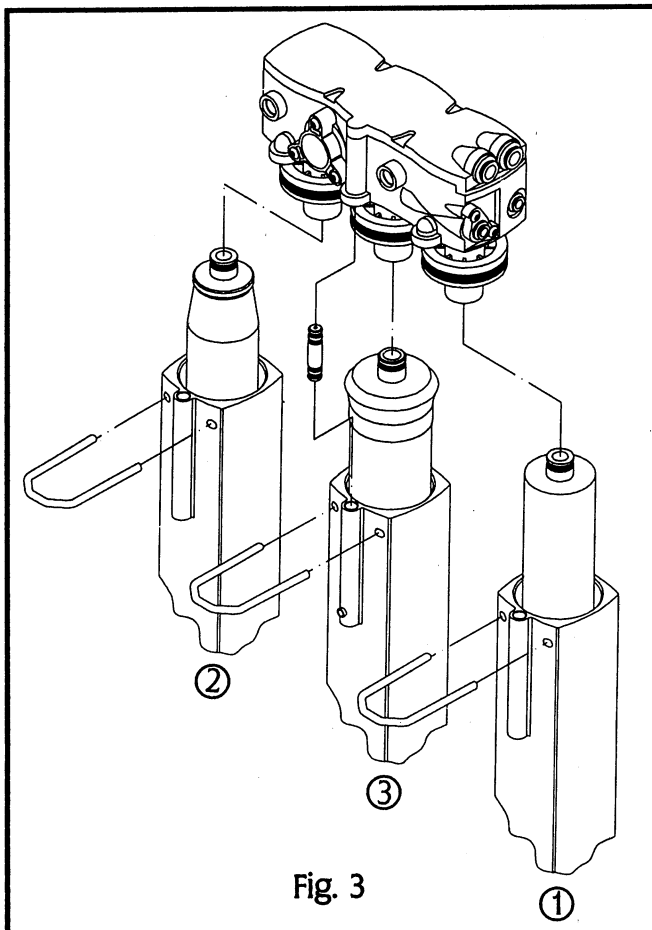


Tubing Connectors

The Aqua-Clear system features easy-to-use push-in tubing connectors (Fig. 2) on the manifold assembly and the polishing filter.

To disconnect the connector, hold the collar against the fitting body and pull the tube from the fitting.

To assemble lubricate the tubing end with water and push the tubing into the connector until it bottoms out. Be sure the tubing is smooth and free of abrasions, otherwise a leak may result.



Filter Replacement and Sanitizing Procedure

Use the following procedure and the reference in Fig. 3 when servicing the Aqua-Cleer[®] system.

NOTICE: You may want to fill a pitcher with drinking water before beginning service as it will take several hours for the system to refill after servicing.

The Aqua-Cleer system may be sanitized with either 5-1/4% liquid chlorine bleach or a fresh bottle of consumer grade hydrogen peroxide.

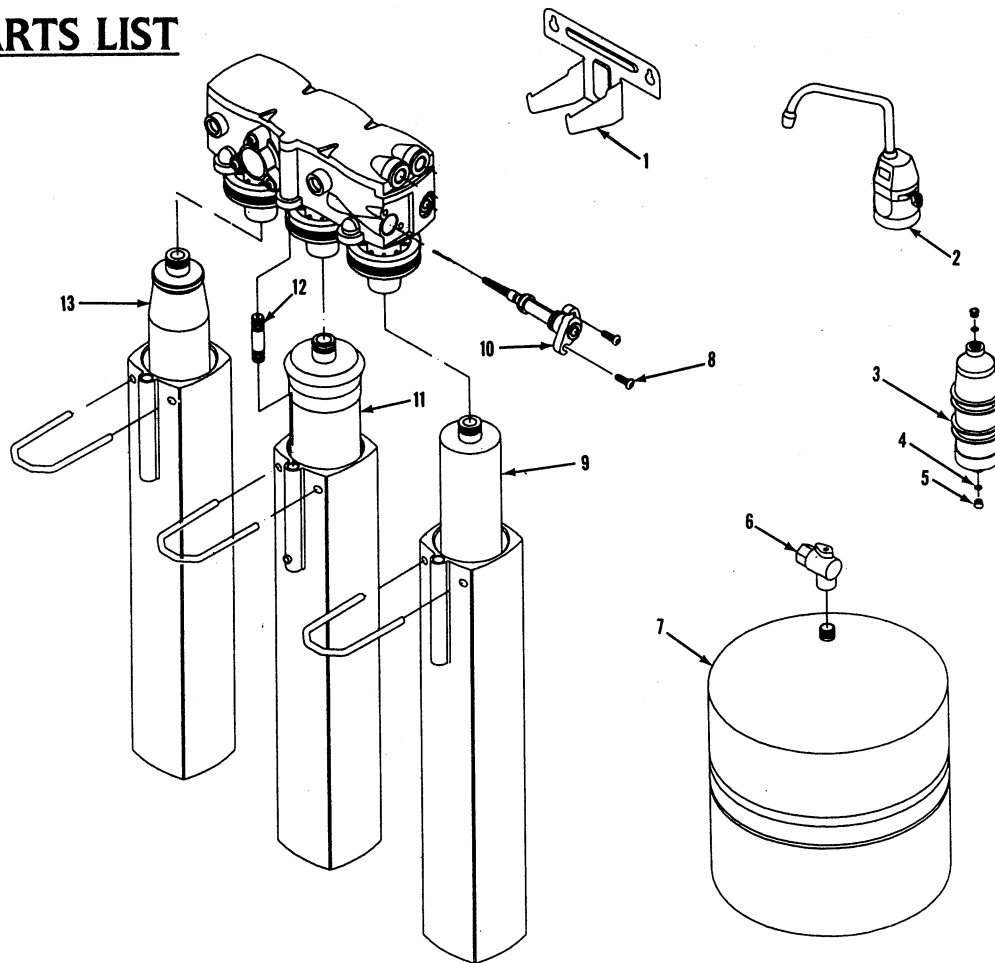
NOTICE: The reverse osmosis membrane filter used in this system may be severely damaged by chlorine. The membrane filter must be removed from the system if chlorine bleach is to be used for sanitizing.

NOTICE: Hydrogen peroxide should not be used if iron is present in the supply water as the RO membrane filter may be damaged.

Cleanliness is essential in the filter replacement procedure. Be sure to wash your hands thoroughly before handling filters. The use of surgical gloves is strongly recommended.

1. Locate the system's supply valve and turn off the system's water supply.
2. Open the dispenser faucet and drain the storage tank.
3. Lift the filter assembly from the mounting bracket and place it in a dish pan or similar container to catch any dripping water.
4. Pull the u-clip from the rear of the particle filter housing. ①
5. Insert the u-clip into the two square holes at the bottom rear of the manifold. Push up to release the filter housing.
6. Remove the filter cartridge with a downward twisting pull.
7. Clean the inside of the housing.
8. Lubricate the cartridge o-ring with water and insert the new filter cartridge into the manifold.
9. Pour: two tablespoons liquid chlorine bleach or 3 ounces hydrogen peroxide into the particle filter housing.

10. Assemble the housing to the manifold and replace the u-clip.
11. Repeat steps 4-7 and remove the activated carbon cartridge ② and, if using chlorine bleach, the RO membrane filter. ③
NOTICE: If the RO membrane filter is to be reused, place it in a new plastic bag to keep it clean.
12. Assemble the empty housing(s) to the manifold and replace the u-clip(s).
NOTICE: When replacing the RO membrane filter housing, be sure the drain adaptor is in place. (See Item #12, page 11)
13. Turn on the supply valve and allow the system to fill with water. Once water begins to drip or flow from the faucet, close the faucet and allow the tank to fill.
14. Turn off the supply valve and allow the system to sit for ten minutes.
15. Open the dispenser faucet and drain the storage tank.
16. Repeat steps 4, 5, 8, and 10 for replacement of the activated carbon ② and RO membrane ③ filter cartridges.
17. If using hydrogen peroxide, disconnect the storage tank tube from the manifold. With an eyedropper or similar device, inject one tablespoon of hydrogen peroxide into the tube and reconnect it to the manifold.
18. Note the direction of flow and disconnect the tubing from the polishing filter. ④ Fig. 4.
19. Note the direction of flow and install the new polishing filter.
20. Replace the filter assembly onto the mounting bracket.
21. Repeat step 13.
22. After the tank has filled (3-4 hours), open the faucet and drain the storage tank to flush the new postfilter and any remaining sanitizing solution from the system.
23. Allow the system to refill. Your system is now ready for use.
24. Record your service on the chart at the end of this booklet.

PARTS LIST

Item	Description	Part Number
1	Mounting Bracket	01-0040-81
2	Faucet - Chrome	01-0043-47
	- White	01-0043-66
3	Polishing Filter	01-0042-91
4	O-ring, .375"	01-0043-28
5	Collar, .375" Blue	01-0043-26
6	Plastic Ball Valve	01-0045-50
7	Storage Tank - Std.	01-0047-76
	- Lge.	01-0047-65
8	Screw, #10.9 x .625" Pan Head Phil.	00-4010-16
9	Particle Filter Element	00-4015-38
10	Capillary Assembly	AC-15 01-0044-26
		AC-15 Nitrate 01-0044-27
		AC-30 01-0044-28
11	Reverse Osmosis Membrane Element	AC-15 01-0001-45
		AC-30 01-0028-64
12	Drain Adapter	01-0040-80
13	Activated Carbon Element	01-0000-78
*	Icemaker Tee - 3/8 x 3/8 x 1/4	01-0047-28
*	Tubing, Blue - 1/4" O.D.	00-4021-84
	- 3/8" O.D.	01-0002-87
*	Aqua-Clear® Sentry™ Monitor	01-0047-12
*	Aqua-Clear Booster Pump	01-0000-67

* Not Illustrated

CULLIGAN LIMITED LIFETIME WARRANTY

AQUA-CLEAR® DRINKING WATER SYSTEM

You have just purchased one of the finest drinking water systems made. As an expression of our confidence in Culligan products, your drinking water system is warranted to the original end-user, when installed in accordance with Culligan International Company specifications, against defects in material and workmanship from the date of original installation, as follows:

For the LIFETIME of the original end-user **The entire reverse osmosis water conditioning unit, excluding the expendable filter cartridges and reverse osmosis module used in this unit.**

For a period of ONE YEAR **The Culligan brand reverse osmosis module.**

If a part described above becomes defective, within the specified period, you should notify your independently operated Culligan dealer and arrange a time during normal business hours for the dealer to inspect the water conditioner on your premises. Any part found defective within the terms of this warranty will be repaired or replaced by the dealer. You pay only freight from our factory and local dealer charges.

Of course, damage caused by accident, fire, flood, freezing, Act of God, misuse, misapplication, neglect, alteration, installation or operation contrary to our printed instructions, or by the use of accessories or components which do not meet Culligan specifications, is not covered by this warranty.

Our product performance specifications are furnished with each drinking water system. TO THE EXTENT PERMITTED BY LAW, CULLIGAN DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING, WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE; TO THE EXTENT REQUIRED BY LAW, ANY SUCH IMPLIED WARRANTIES ARE LIMITED IN DURATION TO THE ONE-YEAR PERIOD SPECIFIED ABOVE FOR THE PARTS DESCRIBED IN THIS LIMITED WARRANTY. As manufacturer, we do not know the characteristics of your water supply or the purpose for which you are purchasing a drinking water system. Please understand that the quality of water supplies may vary seasonally or over a period of time, and that your water usage rate may vary as well. Water characteristics can also change considerably if your drinking water system is moved to a new location. For these reasons, we assume no liability for the determination of the proper equipment necessary to meet your requirements, and we do not authorize others to assume such obligations for us. Further, we assume no liability and extend no warranties, express or implied, for the use of this product on a non-potable water source. OUR OBLIGATIONS UNDER THIS WARRANTY ARE LIMITED TO THE REPAIR OR REPLACEMENT OF THE FAILED PARTS OF THE WATER CONDITIONER, AND WE ASSUME NO LIABILITY WHATSOEVER FOR DIRECT, INCIDENTAL, CONSEQUENTIAL, SPECIAL, GENERAL, OR OTHER DAMAGES, WHETHER FROM CORROSION OR OTHER CAUSES.

CONSUMERS:

Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. Similarly, some states do not allow the exclusion of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Consult your telephone directory for your local independently-operated Culligan dealer, or write Culligan International Company, for warranty and service information.

CULLIGAN INTERNATIONAL COMPANY
One Culligan Parkway
Northbrook, Illinois 60062