



Culligan®

Culligan
Good Water
Machine®
Drinking Water
System
Owners Guide





NOTICE: Do not use with water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after the system. Systems certified for cyst reduction may be used on disinfected water that may contain filterable cysts.

For installations in Massachusetts, Massachusetts Plumbing Code 248 CMR shall be adhered to. Consult your licensed plumber for installation of this system. The use of piercing valves is not permitted in Massachusetts.

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 Good Water Machine® 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.

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System Specifications

Dimensions	- Filter Assembly	7.5"W x 3"D x 16.5"H
	- Storage Tank - Std.	9" Diameter x 14"H
	- Medium	11" Diameter x 14"H
	- Large	15.5" Diameter x 24"H
Storage Capacity	- Standard Tank	2 gallons
	- Medium Tank	3 gallons
	- Large Tank	9 gallons
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	Solid Carbon Block	
Reverse Osmosis Membrane Filter	Culligan Aqua-Clear® Thin Film Composite	
Polishing Filter	Cullar G Activated Carbon	
Dispensing Faucet	Culligan Aqua-Clear Faucet Rotary Operation, Stainless Steel and Resin Flow Passages, with Built-in Siphon Break	
Colors	Polished Chrome or White	

Non-Nitrate Models	2 Gallon	3 Gallon	9 Gallon
System DPR* to Storage Tank	14.0 (53.00L)	13.7 (51.86L)	11.6 (43.91L)
Efficiency Rating ³	23.0%	24.2%	19.9%
Recovery Rating ⁴	44.0%	42.7%	38.9%

Nitrate Models	2 Gallon	3 Gallon	9 Gallon
System DPR* to Storage Tank	16.5 (62.46L)	13.7 (51.86L)	11.6 (43.91L)
Efficiency Rating ³	23.81%	24.2%	19.9%
Recovery Rating ⁴	40.7%	42.7%	38.9%

* DPR - Daily Production Rate

Product Production Rate without storage tank to atmosphere¹
- AC-30 Models 30 gpd (114 L/day)

Ratio of Product to Flush Flow²
Soft Water Applications 2:3
Hard Water Applications 1:3 - 1:5

- 1 Rating at 50 psi, 77°F, 500 mg/L TDS Influent, Without Storage Tank to atmosphere. This is a factory specification for membrane production. Actual production rate and TDS rejection will depend on temperature, water pressure, TDS level, membrane variation and usage pattern.
- 2 May vary with pressure. See Technical Manual for all hard water applications and applications where TDS exceeds 1000 mg/L (ppm).
- 3 Efficiency rating means the percentage of the influent water to the system that is available to the user as reverse osmosis treated water under operating conditions that approximate typical daily usage.
- 4 Recovery rating means the percentage of the influent water to the membrane portion of the system that is available to the user as reverse osmosis treated water when the system is operated without a storage tank or when the storage tank is bypassed.

Introduction



Thank you for choosing a Culligan Good Water Machine® drinking water system. Your new system is designed to bring you years of 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 Good Water Machine 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 Good Water Machine. In addition, we've incorporated activated carbon and fine particle filtration to bring you one of the most effective systems available today.

GOOD WATER MACHINE SYSTEM COMPONENTS

Refer to Figure 1, page 7

Particle Filter

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

Activated Carbon Filter

The activated carbon filter reduces elements that cause water to taste and smell unpleasant, including the taste and odor of chlorine, if present in your untreated water supply.

Reverse Osmosis Membrane Filter

The reverse osmosis (RO) membrane filter reduces dissolved substances, including radium, lead, arsenic, and many others. These substances may not be in your water. See Performance Data Sheet for list of substances and 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 Good Water Machine 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. Optional three and nine-gallon tanks are available.



Introduction (cont'd)

Polishing Filter

The Good Water Machine 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

The Culligan *Good Water Machine* Model AC-30, AC-30M, AC-30L, AC-30 Plus, AC-30M Plus and AC-30L Plus Drinking Water Systems have been tested and certified to NSF/ANSI Standard 58 for the effective reduction of TDS, Pentavalent Arsenic, Barium, Cadmium, Hexavalent and Trivalent Chromium, Cysts, Fluoride, Lead, Radium 226/228, Copper and Selenium as verified and substantiated by test data. The Model AC-30 Nitrate, AC-30M Nitrate and AC-30L Nitrate have been tested and certified to NSF/ANSI Standard 58 for effective reduction of the above substances and reduction of Nitrate/Nitrite.



Nitrate models are acceptable for treatment of influent concentrations of no more than 27 mg/L Nitrate and 3 mg/L Nitrite in combination measured as N and are certified for Nitrate/Nitrite reduction only for water supplies with a pressure of 40 psig (280 kPa) or greater.

Conforms to NSF/ANSI 58 for pentavalent arsenic reduction. See performance data sheet and arsenic facts section for an explanation of reduction performance. Water systems using an in-line chlorinator should provide a one minute chlorine contact time before the RO system.

Average removal percentages are as follows:

Non-Nitrate Models: AC-30 (M,L) & AC-30 Plus (M,L)

Arsenic V	98.00%	Fluoride	92.80%	
Barium	90.00%	Lead	97.30%	
Cadmium	96.40%	Radium 226/228	80.00%	
Chromium III	85.70%	Selenium	93.90%	
Chromium VI	86.60%	TDS/Sodium Chloride	80.90%	(2 Gallon Tank)
Copper	98.20%		83.20%	(3 Gallon Tank)
Cysts*	99.98%		83.10%	(9 Gallon Tank)

Nitrate Model: AC-30 Nitrate (M,L)

Arsenic V	98.00%	Fluoride	92.80%	
Barium	90.00%	Lead	98.10%	
Cadmium	96.40%	Nitrate	80.00%	
Chromium III	85.70%	Nitrite	75.80%	
Chromium VI	86.60%	Radium 226/228	80.00%	
Copper	98.20%	Selenium	93.90%	
Cysts*	99.98%	TDS/Sodium Chloride	80.90%	(2 Gallon Tank)
			83.20%	(3 Gallon Tank)
			83.10%	(9 Gallon Tank)

*Including Cryptosporidium, Giardia Lamblia, and Entamoeba Histolytica

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 Good Water Machine, 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
- house plants
- pets
- pasta
- ice cubes
- steam irons
- drink mixes

PERFORMANCE CHECK

This system contains a replaceable treatment component, critical for the effective reduction of Total Dissolved Solids, and that product water shall be tested periodically to verify that the system is performing properly.

“This reverse osmosis treatment system contains a replaceable component critical to the efficiency of the system. Replacement of the reverse osmosis component should be with one of identical specification, as defined by the manufacturer, to assure the same efficiency and contaminant reduction performance.”

To check the performance of your Good Water Machine, 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 Good Water Sentry_{TM} 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.

The Good Water Machine Nitrate Models are supplied with a nitrate test kit. Product water must be tested frequently according to the instructions provided with the kit.

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_{TM} for service.



Installation

This Owner's Guide provides visual assembly reference only. 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.

Please refer to the *Aqua-Cleer/Good Water Machine Drinking Water Systems Technical Manual (01-8819-46)* for installation guidelines on the following topics:

- Faucet Installation
- Flushing Procedure for Pre-Filters
- Storage Tank Settings
- Post Installation Performance Measurements

APPLICATION GUIDELINES

The *Good Water Machine* 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.

The *Good Water Machine* may also be used to provide crystal-clear Culligan water to other drinking water using appliances such as an icemaker or refrigerator. Installing the unit to supply filtered water to other appliances may be complicated and require additional components for proper use. We again recommend that you contact your local independently operated Culligan dealer to complete this type of installation. Use of the *Good Water Machine* with these and other appliances must follow the guidelines set forth in the *Aqua-Cleer/Good Water Machine Drinking Water Systems Technical Manual (01-8819-46)*. Installations that do not follow these guidelines run the risk of working improperly or even causing damage to the appliances.

TABLE 1

Influent Water Characteristic	
Pressure	40 - 120 psi (280 - 827 kPa)
Temperature	33 - 100°F (1 - 38°C)
Total Dissolved Solids (TDS) ¹	0 - 2500 ppm (0 - 2500 mg/L)
pH	5 - 10
Chlorine ²	0 - 3 ppm (0 - 3 mg/L)
Chloramine	0 - 3 ppm (0 - 3 mg/L)
Turbidity	0 - 10 NTU
Hardness ³	0 - 20 gpg
Iron	0 - 1 ppm (0 - 1 mg/L)
Bacterial Quality	Potable

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

2 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.

3 A softener is strongly recommended for water over 10 gpg.

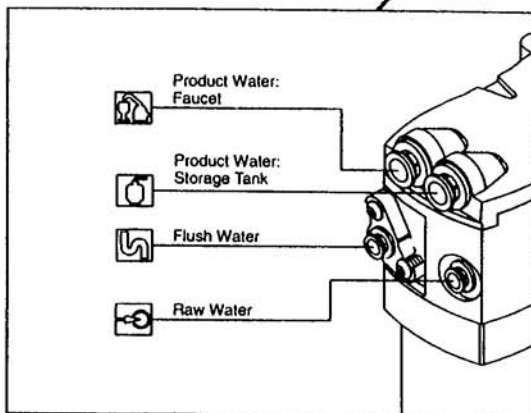
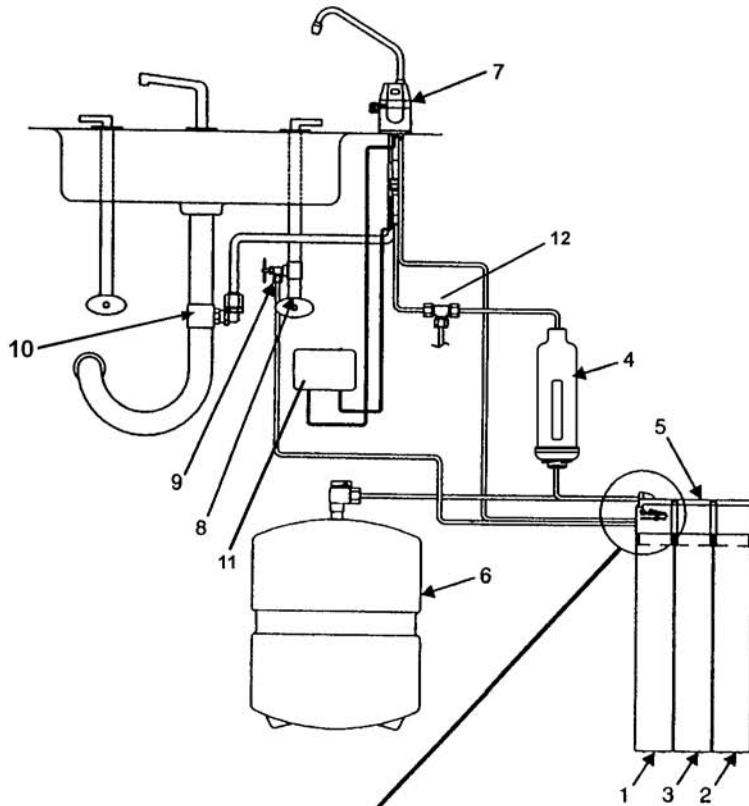


Figure 1

1. Particle Filter
2. Activated Carbon Filter
3. Reverse Osmosis Membrane Filter
4. Polishing Filter
5. Manifold Assembly
6. Storage Tank
7. Air Gap Faucet
8. Cold Waterline
9. Water Shut-off
10. Drain Connector
11. Monitor
12. Tee (Supplies other drinking water using appliances)



Servicing Your System

SERVICE SCHEDULE

When properly maintained, your Good Water Machine 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 Good Water Machine 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. For replacement components, or to measure the Total Dissolved Solid (TDS) Reduction Performance please contact your local Culligan Dealer or 1-800-CULLIGAN (1-800-285-5442) for the dealer near you.

See the Parts List at the end of this section for replacement numbers.

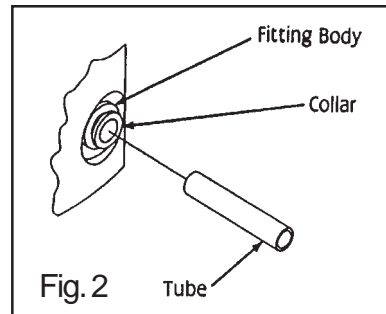
Cartridge Conditioning

The activated carbon, reverse osmosis, and polishing filter cartridges must be conditioned as follows prior to installation into the Good Water Machine. 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 - Minimum 24 hour flush to remove preservative solution

Polishing Filter - 2 gallon flush to remove carbon dust

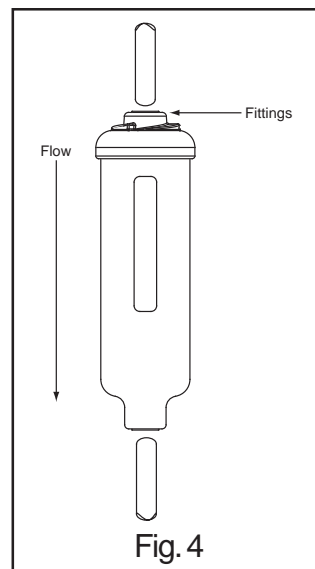
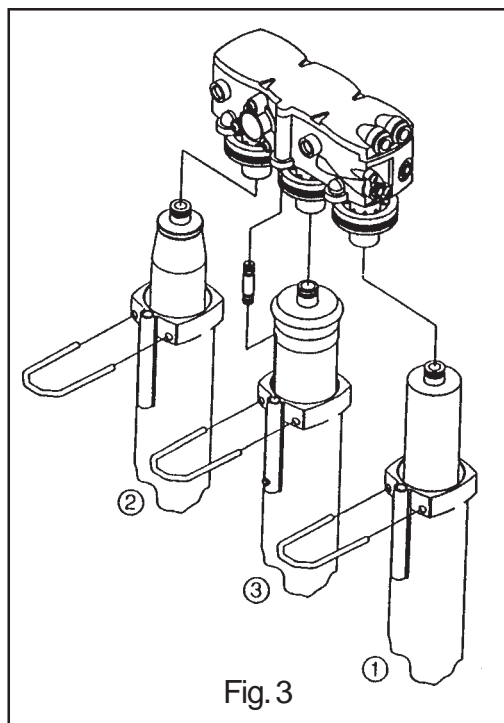


Tubing Connectors

The Good Water Machine 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.





Servicing Your System (cont'd)

Filter Replacement and Sanitizing Procedure

Use the following procedure and the reference in Fig. 3 when servicing the Good Water Machine.

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

Materials:

- Pre-flushed activated carbon cartridge and polishing filter cartridge
- Particle filter
- Household (5.25%) bleach - hydrogen peroxide is not recommended
- Clean 1-gallon plastic container with cap
- 100-ml graduated cylinder
- Plastic pan to hold manifold assembly
- Tubing connector, 3/8" tube x 3/8" tube
- Flat-blade and #2 Phillips screwdrivers
- Paper towels
- Disposable plastic gloves (like those used in the food service industry)

PREPARATION

1. Locate the system's supply valve and turn off the system's water supply.
2. Using the graduated cylinder, add 5 ml (about 1 teaspoon) of bleach to the 1-gallon container. Open the dispenser faucet and fill with one gallon of product water. If there is not enough RO water, fill the container the rest of the way with soft water. Cap the container and shake to mix.

NOTICE: If any RO water remains after filling the container, you may want to fill a pitcher with the drinking water as it will take several hours for the system to refill after servicing. In any case, leave the faucet open until the storage tank is empty and then, close the faucet.

3. Remove the polishing filter (Fig. 4) and discard. Connect the tubing ends together with the tubing connector.
4. Lift the filter assembly from the mounting bracket and place it in the plastic pan to catch any dripping water.
5. Using the flat-blade screwdriver, pull the u-clips from all three housings. Insert the u-clip into the two square holes at the bottom rear of the manifold and push up to release the filter housings. Remove the housings with a downward twisting pull.
6. Remove the particle filter cartridge and the activated carbon cartridge and discard. If the RO membrane filter will be reused, clean the outside with a wet paper towel and place the membrane filter in a clean, unused plastic bag.
7. Wet some paper towels with the diluted bleach solution. Clean the inside of the housings and the underside of the manifold with the paper towels.



SANITIZING THE STORAGE TANK AND FAUCET

1. Add 15 ml (about one tablespoon) of bleach to the particle filter housing (#1, Fig. 3). Replace all three housings on the manifold and insert the u-clips.
2. Turn on the supply valve and fill the storage tank with 1 to 2 gallons of water.
NOTICE: The weight of the storage tank will increase by 8 to 16 pounds. Turn off the water supply valve.
3. Wait ten minutes before opening the faucet and draining the storage tank. Do not rinse any remaining solution from the tank.

NOTICE: During this time, proceed to the “Sanitizing the Manifold Assembly” section. Wait to do step 4 until indicated.

4. Remove the temporary tubing connector and replace it with a new polishing filter. Make sure the flow arrow on the polishing filter points to the faucet (Fig. 4).

SANITIZING THE MANIFOLD ASSEMBLY

1. Using the flat-blade screwdriver, pull the u-clips from all three housings. Insert the u-clip into the two square holes at the bottom rear of the manifold and push up to release the filter housings. Remove the housings with a downward twisting pull. Discard any solution remaining in the housings.
2. Open the particle filter cartridge bag half way, being careful not to touch the filter element. Lubricate the particle filter cartridge o-rings with water and insert the cartridge into position #1 in the manifold.
3. Fill housing #1 about 2/3 full of the diluted bleach solution from the 1-gallon container. Assemble the housing to the manifold and replace the u-clip.
4. Repeat steps 2 and 3 for housing #2 (activated carbon cartridge) and housing #3 (RO membrane filter).

NOTICE: For RO membrane filters that have a single open-end, pour diluted bleach solution into the center tube.

⚠ CAUTION: The solution should remain in contact with the RO membrane filter for at least five (5) but no longer than ten (10) minutes. Longer contact time will shorten the life of the membrane.

NOTICE: While waiting for the filters to be sanitized, complete step 4 of the “Sanitizing the Storage Tank and Faucet” section. Then complete step 5 below.

5. Using the #2 Phillips screwdriver, loosen the capillary assembly retaining screws, then twist and remove the assembly. Inspect the tubing for plugging and kinks and replace the tubing as needed. Reinstall the capillary assembly, but leave the screws ¼-turn loose.



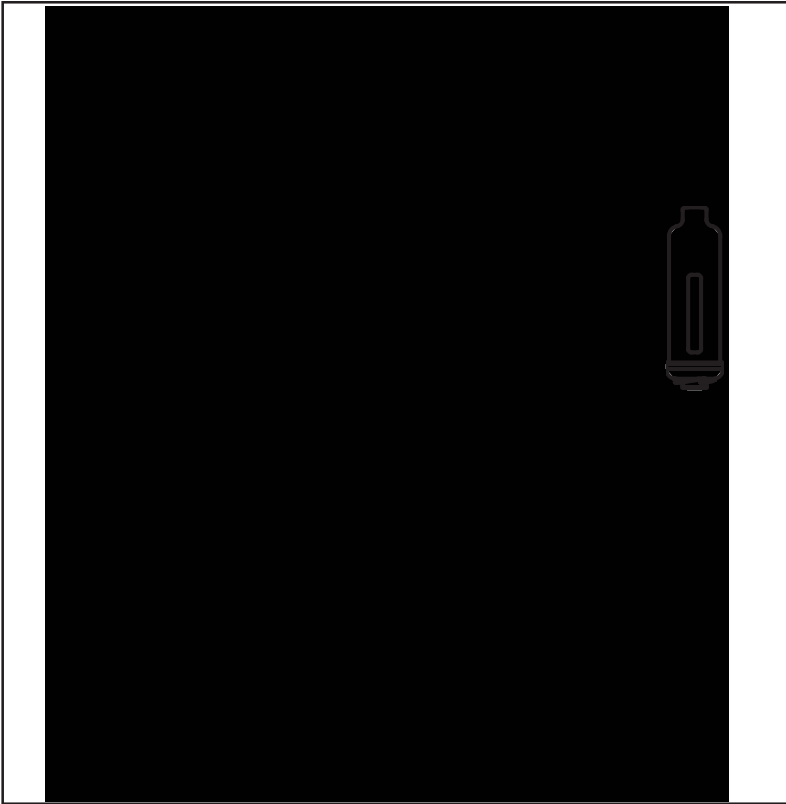
Servicing Your System (cont'd)

6. In this step, you will need to observe water flowing to the drain. If the drain flow is not visible with the current tubing connections, install a temporary drain tube in the waste port of the manifold. Turn on the supply valve. When water is seen flowing to the drain, carefully loosen the capillary tube assembly retaining screws until the flow to the drain increases.

NOTICE: When the assembly is about 3/16" out of the manifold, the o-ring seal for the capillary tube is bypassed, but there should be no external leaks.

7. Rinse the manifold assembly for five minutes or until no chlorine is detected in the water passing to the drain. Tighten the capillary assembly retaining screws.
8. Check the performance of the system according to the procedure outlined in the "Performance and Technical Information" section of this manual. Replace the RO membrane if necessary.
9. Instruct the customer to discard the first glassful of water from the system to flush out any residual chlorine that might remain in the polishing filter tubing and faucet. The polishing filter will remove any chlorine remaining in the storage tank.
10. Record your service on the chart at the end of the Owner's Guide.

Parts List



Item	Description	Part Number
1	Mounting Bracket	01-0040-81
2	Faucet - Chrome	01-0043-47
	- White	01-0047-66
3	Polishing Filter	01-0042-91
4	Plastic Ball Valve	01-0045-50
5	Storage Tank - Std.	01-0050-95
	- Medium	01-0047-76
	- Large	01-0047-65
6	Screw, #10.9 x .625" Pan Head Phil.	00-4010-16
7	Particle Filter Element	00-4015-38
8	Capillary Assembly	01-0090-25
9	Reverse Osmosis Membrane Element AC-30 Non-Nitrate	01-0074-02 or 01-0167-31
9b	Reverse Osmosis Membrane Element AC-30 Nitrate Models	01-0167-31
10	Drain Adapter	01-0040-80
11	Activated Carbon Element	01-0125-80
*	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
*	Good Water Sentry Monitor	01-0047-12
*	Aqua-Clear Booster Pump	01-0093-34

* Not Illustrated



Performance Data Sheet

IMPORTANT NOTICE: Read this Performance Data Sheet and compare the capabilities of the unit with your actual water treatment needs. Culligan recommends that you have your water supply tested to determine these needs before purchasing a water treatment unit.

Culligan knows the more informed you are about your water treatment systems, the more confident you will be about its performance. It's because of this and more than sixty years of commitment to customer satisfaction that Culligan is providing this Performance Data Sheet to its customers.

MANUFACTURER: Culligan International Company,
One Culligan Parkway, Northbrook, IL 60062-6209 USA
(847) 205-6000

PRODUCT: Culligan Good Water Machine Reverse Osmosis Drinking Water System
MODELS: AC-30 AC-30 Plus AC-30 Nitrate
 AC-30M AC-30M Plus AC-30M Nitrate
 AC-30L AC-30L Plus AC-30L Nitrate

USE GUIDELINES

- Working Pressure: 40-120 psig (280-827 kPa)
- Do not allow exposure to temperatures below 33°F (1°C)
- Maximum operating temperature: 100°F (38°C)
- This system must be installed according to local plumbing codes on the cold water line.
- This system requires regular replacement of all filters to maintain proper operation. Depending on usage and influent water quality, the carbon and particulate filters should be changed at least annually and the reverse osmosis membrane should be replaced every 3-5 years. Varying chlorine, sediment or TDS levels may affect replacement frequency.

	MSRP
• Particulate Prefilter Element	00-4015-38 30.00
• Activated Carbon Prefilter Element	01-0125-80 40.00
• Activated Carbon Postfilter Element	01-0042-91 20.00
• Reverse Osmosis Module AC30 Non-Nitrate ..	01-0074-02 or 01-0167-31 150.00
• Reverse Osmosis Module AC30 Nitrate	01-0167-31 150.00
• If water production decreases or a noticeable taste change occurs, contact your local Culligan Dealer. A Culligan professional can determine if your drinking water system requires servicing. Optional water quality monitors are also available to monitor the performance of the reverse osmosis membrane.	
• CAUTION: Do not use with water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after the system. Systems certified for cyst reduction may be used on disinfected water that may contain filterable cysts. EPA Est 2938-IL-01.	
• The Good Water Sentry Water Quality Monitor is another way to keep track of your systems 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.	
• The AC-30 Nitrate Models are supplied with a nitrate test kit. Product water must be tested frequently according to the instructions provided with the kit.	

SUGGESTED INSTALLATION EQUIPMENT

Sink Cutting Tools	Tools
Porcelain Cutter Kit, 1-1/4 inch diameter, PN 00-5916-25	Screwdriver, blade and Phillips (#1)
Greenlee Hole Punch, 1-1/4 inch diameter	1/8 inch diameter pilot drill for #10 screws
Plumbers Putty	Center Punch
Heavy Duty Drill with speed control to 400 rpm	Razor Blade Knife
	Faucet Installation Tool, PN 00-4033-75
	Aqua-Clear H Series or "System" series filter housing



Performance Data Sheet (cont'd)

These systems have been tested according to NSF/ANSI 58 for the reduction of the substances listed below. The concentration of the indicated substances in water entering the system was reduced to a concentration less than or equal to the permissible limit for water leaving the system, as specified in NSF/ANSI 58.

SUBSTANCE REMOVAL¹ (Non-Nitrate Models Only)

Substance	Influent Challenge Concentration (mg/L)	Max. Permissible Product Water Concentration(mg/L)	Reduction Requirement	Minimum Percent Removal	Average Percent Removal
Pentavalent Arsenic ²	0.30 +/- 10%	0.010		96.60%	98.00%
Barium	10.0 +/- 10%	2.0		90.00%	90.00%
Cadmium	0.03 +/- 10%	0.005		90.00%	96.40%
Hexavalent Chromium	0.30 +/- 10%	0.1		86.60%	86.60%
Trivalent Chromium	0.30 +/- 10%	0.1		85.70%	85.70%
Chromium (Hexavalent & Trivalent)	0.3 +/- 10%	0.05 (Hex.) & 0.05 (Tri.)			
Copper	3.00 +/- 10%	1.3		91.90%	95.90%
Cysts ³	>50,000/ml		99.95%	99.97%	99.98%
Fluoride	8.0 +/- 10%	1.5		89.80%	92.80%
Lead	0.15 +/- 10%	0.010		94.00%	97.30%
Radium 226/228 ⁴	25 pCi/L +/- 10%	5 pCi/L		80.00%	80.00%
Selenium	0.10 +/-10%	0.05		92.90%	93.90%

SUBSTANCE REMOVAL¹ (Nitrate Models Only)

Substance	Influent Challenge Concentration (mg/L)	Max. Permissible Product Water Concentration(mg/L)	Reduction Requirement	Minimum Percent Removal	Average Percent Removal
Pentavalent Arsenic ²	0.30 +/- 10%	0.010		96.60%	98.00%
Barium	10.0 +/- 10%	2.0		90.00%	90.00%
Cadmium	0.03 +/- 10%	0.005		90.00%	96.40%
Hexavalent Chromium	0.30 +/- 10%	0.1		86.60%	86.60%
Trivalent Chromium	0.30 +/- 10%	0.1		85.70%	85.70%
Chromium (Hexavalent & Trivalent)	0.3 +/- 10%	0.05 (Hex.) & 0.05 (Tri.)			
Copper	3.00 +/- 10%	1.3		96.30%	98.20%
Cysts ³	>50,000/ml		99.95%	99.97%	99.99%
Fluoride	8.0 +/- 10%	1.5		89.80%	92.80%
Lead	0.15 +/- 10%	0.010		97.00%	98.10%
Nitrate plus Nitrite (both as N)	30.0 +/- 10%	10.0			
Nitrate ⁵	27.0 +/- 10%	10.0		74.30%	80.00%
Nitrite	3.0 +/- 10%	1.0		68.30%	75.80%
Radium 226/228 ⁴	25 pCi/L +/- 10%	5 pCi/L		80.00%	80.00%
Selenium	0.10 +/-10%	0.05		92.90%	93.90%

¹ While testing was performed under standard laboratory conditions, actual performance may vary depending on water pressures, temperatures, and other substances which may be found in your water.

² This system has been tested for the treatment of water containing pentavalent arsenic (also known as As(V), As(+5), or arsenate) at concentrations of 0.30 mg/L or less. This system reduces pentavalent arsenic, but may not remove other forms of arsenic. This system is to be used on water supplies containing a detectable free chlorine residual or on water supplies that have been demonstrated to contain only pentavalent arsenic. Treatment with chloramine (combined chlorine) is not sufficient to ensure complete conversion of trivalent arsenic. Please see the arsenic facts section for further information.

³ Includes Giardia Lamblia, Entamoeba histolytica and Cryptosporidium.

⁴ Based upon testing methods using Barium as a surrogate. All concentrations in pCi/L: Pico curies per liter.

⁵ Nitrate units are not certified for nitrate/nitrite reduction in water supplies with a pressure less than 4 psi (280 kPa). A booster pump is strongly recommended.

Performance Data Sheet (cont'd)



OUTPUT (Total Dissolved Solids (TDS) Reduction and Output Production)¹

Tank Size (Non-Nitrate Models)	2 Gallon	3 Gallon	9 Gallon
Product system daily prod. rate to pressurized storage tank	14.0 gpd (53.0 L)	13.7 gpd (51.8 L)	11.6 gpd (43.9 L)
Prod. rate w/o storage tank to atmosphere	30 gpd	30 gpd	30 gpd
Efficiency rating ²	23.0%	24.2%	19.9%
Recovery rating ³	44.0%	42.7%	38.9%
Influent challenge concentration (mg/L)	750 +/- 40 mg/L	750 +/- 40 mg/L	750 +/- 40 mg/L
Max. permissible product water concentration (mg/L)	187	187	187
Minimum percent removal	75.0%	78.5%	76.0%
Average percent removal	80.9%	83.2%	83.1%

Tank Size (Nitrate Models)	2 Gallon	3 Gallon	9 Gallon
Product system daily prod. rate to pressurized storage tank	16.5 gpd (62.5 L)	13.7 gpd (51.8 L)	11.6 gpd (43.9 L)
Prod. rate w/o storage tank to atmosphere	30 gpd	30 gpd	30 gpd
Efficiency rating ²	23.81%	24.2%	19.9%
Recovery rating ³	40.07%	42.7%	38.9%
Influent challenge concentration (mg/L)	750 +/- 40 mg/L	750 +/- 40 mg/L	750 +/- 40 mg/L
Max. permissible product water concentration (mg/L)	187	187	187
Minimum percent removal	75.0%	78.5%	76.0%
Average percent removal	80.9%	83.2%	83.1%

- ¹ This is a factory specification for membrane production. Actual production rate and TDS rejection will depend on temperature, water pressure, TDS level, membrane variation and usage pattern.
- ² Efficiency rating means the percentage of the influent water to the system that is available to the user as reverse osmosis treated water under operating conditions that approximate typical daily usage.
- ³ Recovery rating means the percentage of the influent water to the membrane portion of the system that is available to the user as reverse osmosis treated water when the system is operated without a storage tank or when the storage tank is bypassed.

TESTING CONDITIONS (Complete Systems)

Temperature: 77°F ± 2°F pH: 7.5 ± 0.5
 Pressure: 50 psi Turbidity: < 1 NTU

This system has been tested and shown to operate at its calculated recovery rating under standard test conditions.

DIMENSIONS

Filter Assembly 7.5" W x 3" D x 16.5" H (20 cm W x 8 cm D x 42 cm H)
 Storage Tank - Standard 9" Diameter x 15" H (23 cm Diameter x 38 cm H)
 - Medium 11" Diameter x 15" H (28 cm Diameter x 38 cm H)
 - Large 15.5" Diameter x 22" H (40 cm Diameter x 56 cm H)

The Good Water Machine models listed above have been tested according to NSF/ANSI Standard 58 for effective reduction of TDS, pentavalent arsenic, barium, cadmium, hexavalent and trivalent chromium, copper, cysts, fluoride, lead, radium 226/228 and selenium as verified and substantiated by test data. The concentration of the indicated substances in water entering the system was reduced to a concentration less than or equal to the permissible limit for water leaving the system as specified in NSF/ANSI 58.

In addition, the Good Water Machine Nitrate models listed above have been tested and certified to NSF/ANSI Standard 58 for effective reduction of Nitrate/Nitrite. Nitrate models are acceptable for treatment of influent concentrations of no more than 27 mg/L Nitrate and 3 mg/L Nitrite in combination measured as N and are certified for Nitrate/Nitrite reduction only for water supplies with a pressure of 40 psig (280 kPa) or greater.

Refer to your Installation and Operating Instructions and printed limited Warranties for more specific product information. To avoid contamination from improper handling and installation, your system should only be installed and serviced by your Culligan Man. Performance will vary based on local water conditions. The substances reduced by this system are not necessarily in your water.



Performance Data Sheet (cont'd)

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 - 2500 ppm (0 - 2500 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
Hardness ⁴	0 - 20 gpg
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.
- 4 A softener is strongly recommended for water over 10 gpg.

APPLICATION GUIDELINES

The Good Water Machine 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.



State of California
Department of Health Services
Water Treatment Device
Certificate Number

02 - 1532

Date Issued: September 11, 2002

Date Revised: June 18, 2003

Trademark/Model Designation

Good Water Machine AC-30 Nitrate

Good Water Machine AC-30M Nitrate

Good Water Machine AC-30L Nitrate

Replacement Elements

Carbon prefilter: 01-0125-80
Particulate prefilter: 00-4015-38
RO module: 01-0167-31
Polishing filter: 01-0042-91

Carbon prefilter: 01-0125-80
Particulate prefilter: 00-4015-38
RO module: 01-0167-31
Polishing filter: 01-0042-91

Carbon prefilter: 01-0125-80
Particulate prefilter: 00-4015-38
RO module: 01-0167-31
Polishing filter: 01-0042-91

Manufacturer: Culligan International

The water treatment device(s) listed on this certificate have met the testing requirements pursuant to Section 116830 of the Health and Safety Code for the following health related contaminants:

Microbiological Contaminants and Turbidity

Cysts (protozoan)

Inorganic/Radiological Contaminants

Arsenic¹
Barium
Cadmium
Chromium (hexavalent)
Chromium (trivalent)
Copper
Fluoride
Lead
Nitrate/Nitrite²
Radium 226/228
Selenium

Organic Contaminants

None

Rated Service Capacity: not applicable

Rated Service Flow: See tank sizes below

Conditions of Certification:

Do not use where water is microbiologically unsafe or with water of unknown quality, except that systems certified for cyst reduction may be used on disinfected waters that may contain filterable cysts.

Daily production rates:

- 2 gallon tank: 16.5 gpd
- 3 gallon tank: 13.7 gpd
- 9 gallon tank: 11.6 gpd

¹ Claims for arsenic reduction shall only be made on water supplies maintaining detectable residual free chlorine at the reverse osmosis (RO) system inlet. Water systems using an in-line chlorinator should provide a minimum of 1 minute chlorine contact time before the RO system.

² This system is acceptable for treatment of influent concentrations of no more than 27 mg/L nitrate and 3 mg/L nitrite in combination measured as N and is certified for nitrate/nitrite reduction only for water supplies with a pressure of 280 kPa (40 psig) or greater. A sampling and analysis test kit for nitrate is provided for checking the performance of this system. Frequent analysis is encouraged.



State of California
 Department of Health Services
**Water Treatment Device
 Certificate Number**

02 - 1507

Date Issued: September 11, 2002

Date Revised: June 16, 2003

Trademark/Model Designation

Good Water Machine AC-30

Good Water Machine AC-30M

Good Water Machine AC-30L

Good Water Machine AC-30 Plus

Good Water Machine AC-30M Plus

Good Water Machine AC-30L Plus

Replacement Elements

Particulate Prefilter: 00-4015-38
 GAC Prefilter: 01-0125-80
 RO Module: 01-0074-02 or 01-0167-31
 GAC Postfilter: 01-0042-91

Particulate Prefilter: 00-4015-38
 GAC Prefilter: 01-0125-80
 RO Module: 01-0074-02 or 01-0167-31
 GAC Postfilter: 01-0042-91

Particulate Prefilter: 00-4015-38
 GAC Prefilter: 01-0125-80
 RO Module: 01-0074-02 or 01-0167-31
 GAC Postfilter: 01-0042-91

Particulate Prefilter: 00-4015-38
 GAC Prefilter: 01-0125-80
 RO Module: 01-0074-02 or 01-0167-31
 GAC Postfilter: 01-0042-91

Particulate Prefilter: 00-4015-38
 GAC Prefilter: 01-0125-80
 RO Module: 01-0074-02 or 01-0167-31
 GAC Postfilter: 01-0042-91

Particulate Prefilter: 00-4015-38
 GAC Prefilter: 01-0125-80
 RO Module: 01-0074-02 or 01-0167-31
 GAC Postfilter: 01-0042-91

Manufacturer: Culligan International

The water treatment device(s) listed on this certificate have met the testing requirements pursuant to Section 116830 of the Health and Safety Code for the following health related contaminants:

Microbiological Contaminants and Turbidity

Cysts (protozoan)

Organic Contaminants

None

Inorganic/Radiological Contaminants

Arsenic*
 Barium
 Cadmium
 Chromium (hexavalent)
 Chromium (trivalent)
 Copper
 Fluoride
 Lead
 Radium 226/228
 Senenium

Rated Service Capacity: not applicable

Rated Service Flow: See note below for tank sizes and daily production rates.

Conditions of Certification:

Do not use where water is microbiologically unsafe or with water of unknown quality, except that systems claiming cyst reduction may be used on water containing cysts.

* Claims for arsenic reduction shall only be made on water supplies maintaining detectable residual free chlorine at the reverse osmosis (RO) system inlet. Water systems using an in-line chlorinator should provide a minimum of 1 minute chlorine contact time before the RO system.

2 gallon tank: 14.0 gpd
 3 gallon tank: 13.7 gpd
 9 gallon tank: 11.6 gpd

Arsenic Fact Sheet



Arsenic (abbreviated As) is found naturally in some well water. Arsenic in water has no color, taste or odor. It must be measured by a lab test. Public water utilities must have their water tested for arsenic. You can get the results from your water utility. If you have your own well, you can have the water tested. The local health department or the state environmental health agency can provide a list of certified labs. The cost is typically \$15 - \$30. Information about arsenic in water can be found on the internet at the US Environmental Protection Agency website: www.epa.gov/safewater/arsenic.html.

There are two forms of arsenic: pentavalent arsenic (also called As (v), As (+5), and arsenate) and trivalent arsenic (also called As (III), As (+3), and arsenite). In well water, arsenic may be pentavalent, trivalent, or a combination of both. Special sampling procedures are needed for a lab to determine what type and how much of each type of arsenic is in the water. Check with the labs in your area to see if they can provide this type of service.

Reverse osmosis (RO) water treatment systems do not remove trivalent arsenic from water very well. RO systems are very effective at removing pentavalent arsenic. A free chlorine residual will rapidly convert trivalent arsenic to pentavalent arsenic. Other water treatment chemicals such as ozone and potassium permanganate will also change trivalent arsenic to pentavalent arsenic. A combined chlorine residual (also called chloramine) may not convert all the trivalent arsenic. If you get water from a public water utility, contact the utility to find out if free chlorine or combined chlorine is used in the water system.

The AC-30 system is designed to remove pentavalent arsenic. It will not convert trivalent arsenic to pentavalent arsenic. The system was tested in a lab. Under those conditions, the system reduced 0.30 mg/L (ppm) pentavalent arsenic to 0.010 mg/L (ppm) (the USEPA standard for drinking water) or less. The performance of the system may be different at your installation. Have the treated water tested for arsenic to check if the system is working properly.

The RO component of the AC-30 system must be replaced every 3-5 years to ensure the system will continue to remove pentavalent arsenic. The component identification and locations where you can purchase the component are listed in the installation/operation manual.

“The system has been tested for the treatment of water containing pentavalent arsenic (also known as As(V), As(+5), or arsenate) at concentrations of 0.30 mg/l or less. This system reduces pentavalent arsenic, but may not remove other forms of arsenic. This system is to be used on water supplies containing a detectable free chlorine residual or on water supplies that have been demonstrated to contain only pentavalent arsenic. Please see the Arsenic Fact Sheet on the Performance Date Sheet for further information.”



Culligan Lifetime Limited Warranty

CULLIGAN GOOD WATER MACHINE[®] AC-30 MODEL SERIES

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 MEMBRANE FILTER USED IN THE UNIT.

For a period of ONE YEAR

The Culligan brand reverse osmosis membrane filter.

If a part described above is found 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 drinking water system 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.

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 DRINKING WATER SYSTEM, 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**

**This page contains materials and DCO information.
IT DOES NOT PRINT AS PART OF THE DOCUMENT!**

VENDOR MUST SUBMIT A MATERIAL CERTIFICATE OF COMPLIANCE WITH EACH SHIPMENT.

Materials & Description: Good Water Machine Owners Guide P/N 01882029
 Size: 11" x 17" Booklet folded to 8.5" x 11"
 Color: Black; 2 Sided
 Stock: 20# White
 Other: Saddle Stitch (2 Staples) Booklet

LET	CHANGE	BY	APRVD	DCO	DATE
A	REVISED PER DCO	TPD	JS		01/19/01
B	REVISED	SMP	JS	2817	08/13/01
C	REVISED	LR	JB	5316	12/27/02
D	UPDATE NSF AND DRAWINGS	LR	JB	6705	01/06/03
E	REVISED	PH	JS	7947	12/22/04