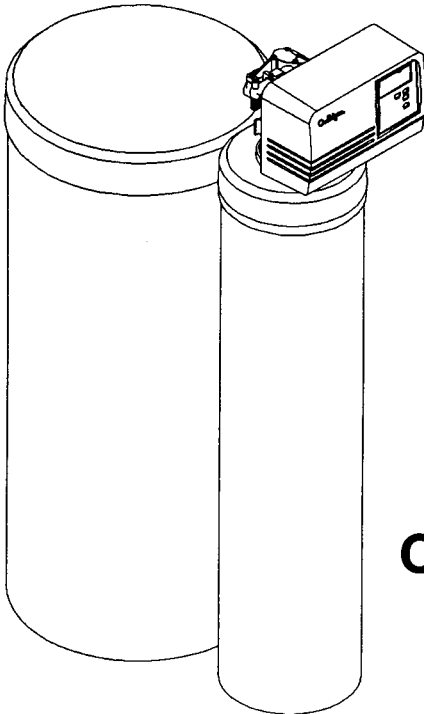


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Culligan®

**MARK 100
WATER SOFTENER**



OWNER'S GUIDE

Thank You

AND WELCOME TO YOUR NEW WORLD OF BETTER LIVING WITH CULLIGAN WATER.

The Culligan® Mark 100 water softeners are tested and certified under ANSI/NSF Standard 44 for the effective reduction of the hardness minerals, calcium and magnesium. Additionally, the models equipped with the Aqua-Sensor® sensing device are tested and certified for the effective reduction of barium and radium 226/228.



If this is your first experience having soft, conditioned water in your home, you'll be amazed at the marvelous difference it makes. We promise that you'll never want to be without it again.

Congratulations, too, on selecting one of the "first family" of water conditioners in the prestigious Culligan® Mark Series. With Culligan's many years of knowledge and experience in water treatment, you can be confident that the model you selected has been designed and engineered to provide years of service with a minimum of care and attention.

Some localities have corrosive water. A softener cannot correct this problem and so its printed warranty disclaims liability for corrosion of plumbing lines, fixtures or appliances. If you suspect corrosion, your Culligan Dealer has equipment to control the problem.

SODIUM INFORMATION: *Water softeners using sodium chloride for regeneration add sodium to the water. Persons who are on sodium restricted diets should consider the added sodium as part of their overall sodium intake.*

Specifications

Culligan® Mark 100 Water Conditioners with Time Clock, Aqua-Sensor® Device or Soft-Minder™ Meter

	9" Model	12" Models
Control Valve	5-cycle, Reinforced Thermoplastic	5-cycle, Reinforced Thermoplastic
Overall Conditioner Height	51 in 1 295 mm	51 in 1 295 mm
Media Tank Dimensions (Dia x Ht)	9 x 45 229 x 1 143	12 x 45 305 x 1 143
Salt Storage Tank Dimensions (Dia x Ht)	16 x 43 in 406 x 1 092 mm 18 x 43 in 457 x 1 092 mm	18 x 43 in 457 x 1 092 mm
Exchange Media, Type and Quantity	Cullex® Media, 0.86 ft ³ Cullex Media, 24.5 L	Cullex Resin, 1.4 ft ³ Cullex Resin, 40 L
Underbedding Type and Quantity	Cullsans® Underbed, 12 lb Cullsans Underbed, 5.4 kg	Cullsans Underbed, 30 lb Cullsans Underbed, 14 kg
Exchange Capacity @ Salt Dosage Per Recharge ¹	16,100 gr @ 4.0 lb 1 043 gr @ 1.6 kg 24,500 gr @ 8.0 lb 1 587 gr @ 3.2 kg 27,100 gr @ 12.0 lb 1 756 gr @ 5.4 kg	21,600 gr @ 6.0 lb 1 399 gr @ 3 kg 33,700 gr @ 12.0 lb 2 184 gr @ 5.3 kg 38,300 gr @ 18.0 lb 2 475 gr @ 8.1 kg
Freeboard to Media ²	16.6-17.6 in 420-450 mm	17.5-18.5 in 444-470 mm
Freeboard to Underbedding ³	39.2 in 996 mm	38.5 in 978 mm
Salt Storage Capacity	250 lb or 375 lb 114 kg or 170 kg	375 lb 170 kg
Rated Service Flow @ Pressure Drop	7.5 gpm @ 15 psi 30 Lpm @ 102 kPa	7.5 gpm @ 15 psi 31 Lpm @ 102 kPa
Total Hardness, Maximum	75 gpg 1 300 mg/L	99 gpg 1 692 mg/L
Total Iron, Maximum	5 ppm 5 mg/L	5 ppm 5 mg/L
Hardness to Iron Ratio, Minimum ⁴	8 gpg to 1 ppm 140 mg/L to 1 mg/L	8 gpg to 1 ppm 140 mg/L to 1 mg/L
Operating Pressure	20-125 psi 140-860 kPa	20-125 psi 140-860 kPa
Operating Temperature	33-120°F 1-50°C	33-120°F 1-50°C
Electrical Requirements	120V/60 Hz	120V/60 Hz
Electrical Power Consumption Min/Max	Watts/35 Watts	3 Watts/35 Watts
Drain Flow, Maximum ⁵	2.0 gpm 8 L/pm	3.5 gpm 14 L/pm
Recharge Time, Average ⁶	80 min	85 min
Recharge Water Consumption, Average	45 gal 170 L	86 gal 325 L

¹ Capacities and corresponding salt dosages pertain to low hardness waters. Capacities given are per recharge.

² Measured from top of media to top of inlet fitting (backwashed and drained).

³ Measured from top of underbedding to top of inlet fitting.

⁴ Hardness to iron ratio does not apply and total hardness and iron specifications change as follows when Sofner-Gard™ accessory is used: 89 Model - 50 gpg (855 mg/L) total hardness, 10 ppm (mg/L) iron; 812 model - 75 gpg (1 200 mg/L) hardness, 20 ppm (20 mg/L) iron.

⁵ Backwash at 120 psi (830 kPa).

⁶ 10 minute backwash, 7 lb (3.2 kg) 9" model or 13 lb (5.9 kg) 12" model salt dosage at 30 psi (204 kPa).

FAMILIARIZATION

Display

As shipped from the factory, the display of the board will turn off if there has been no keyboard activity within a 1 minute period. To have a continuous display, press the UP and DOWN arrow keys simultaneously. A "d" for disabled will appear in the display until the keys are released. To engage this feature, press the UP and DOWN arrow again. An "E" will appear (enabled).

Power Loss

The AccuSoft™ circuit board is equipped with a Hi Cap Capacitor, which in the event of a power outage will maintain all the programming parameters and Time of Day for up to four full hours. If the power outage lasts for more than four hours but less than two weeks, all programming parameters will be stored, but Time of Day will have to be reset. The display will flash 12:00 a.m. when power is resumed until the Time of Day is reset.

If a power outage lasts for more than two weeks, the control resets all programmed parameters to Factory Preset conditions and the display will flash "dEF" for default. The display will continue to flash until the control is reprogrammed. If this occurs, call your independently owned Culligan dealer for resetting the proper programming parameters.

Meter Operation

For softeners equipped with the Soft-Minder™ meter, pressing the UP arrow will display the number of gallons remaining until a regeneration signal is received by the board. The displayed value must be multiplied by 10 for the actual number of gallons remaining.

Regeneration

To initiate an immediate regeneration, press the "REGEN" button. An immediate regeneration will also occur if a power outage has lasted for more than four hours and the Immediate Regeneration option is chosen. Ask your Culligan Dealer about this feature.

A regeneration at the Time of Regeneration will occur if so signaled by the Aqua-Sensor® sensing device or the Soft-Minder™ meter. If the blanking option is engaged, the display will light indicating a regeneration signal has been received. It will then blank itself after 1 minute. The "REGEN SET" enunciator on the display will also be lit.



SERVICE

The Culligan® Mark 100 water softener is equipped with a self diagnostic program to insure optimal operation of your water softener. Should service become necessary, the display will read "dEF" or "CS". If either of these conditions occur, call your local Culligan dealer for assistance.

PROGRAMMING

1. Press status.

Time of Day
will appear.



Set **Time-of-Day**. *ALL MODELS*.

Press ▲ to increase or
▼ to decrease

2. Press status.



Set **Recharge Time**.
ALL MODELS.

Press ▲ to increase or
▼ to decrease

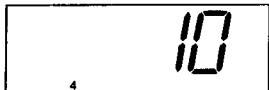
3. Press status.



Set **Salt Dosage** (3-15 lb for 9",
5-24 lb for 12"). *ALL MODELS*.

Press ▲ to increase or
▼ to decrease

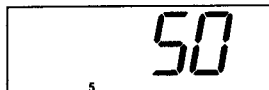
4. Press status.



Set **Backwash Time**
(5-40 minutes). *ALL MODELS*.

Press ▲ to increase or
▼ to decrease.

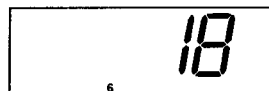
5. Press status.



Set **Brine Rinse Time** (37-85
minutes for 9", 35-89 minutes
for 12"). *ALL MODELS*.

Press ▲ to increase or
▼ to decrease.

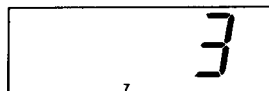
6. Press status.



Set **Hardness Level** (1-75 gpg
for 9", 1-99 gpg for 12").
METER MODELS ONLY.

Press ▲ to increase or
▼ to decrease.

7. Press status.



Set **Regeneration Interval** (1-42
days). *TIME CLOCK MODELS
ONLY*.

Press ▲ to increase or
▼ to decrease.

SALT SUPPLY, USAGE AND SERVICE

Salt is the mineral used to "recharge" your water conditioner. A brine solution is automatically made up in the bottom of the salt storage container, the Culllex[®] resin beads in the tall, thin tank are flushed with the brine solution as a step in the recharging process.

Your Culligan Water Conditioner has been carefully designed to get the greatest amount of softening capacity from the salt it uses. Here is some pertinent information about salt usage, types and service.

SALT ECONOMIZER

This control is set at the time of installation, and determines salt usage according to the water hardness, number of persons in the household, and water usage.

WHAT KIND OF SALT IS BEST

All Culligan Water Conditioners are designed to use any water conditioner salt of good quality, including "rock", "pellet", "solar", or "evaporated" types.

All rock salt, regardless of source, contains insoluble material which collects at the bottom of the salt storage tank and requires periodic clean-out.

If purified salt products are used, the salt storage compartment will require less frequent clean-out, but you must check more frequently for "bridging".

Regardless of what type of salt is used, we recommend Culligan Brand Salt as suggested by your Culligan Dealer. He is the expert and can provide you with the best product for your Culligan Water Conditioner.

AUTOMATIC SALT DELIVERY SERVICE

Ask your Culligan Dealer for details about salt delivery service. You can have your salt supply replenished on a regular basis. Whether you have automatic delivery service or pick up salt from your Culligan Dealer, you will be getting quality salt packaged according to rigid Culligan specifications. Using Culligan Brand Salt will help assure continued efficiency and trouble-free operation of your water conditioner.

CARE AND CLEANING OF YOUR CULLIGAN WATER CONDITIONER

Following these simple precautions will help assure continued trouble-free service and keep your Culligan Water Conditioner looking like new for years.

- 1** Do not place heavy objects on top of the salt storage tank or timer cover.
- 2** Use only mild soap and warm water when cleaning the exterior of the conditioner. Never use harsh, abrasive cleaning compounds or those which contain acid, such as vinegar, bleach and similar products.
- 3** **Important: Protect your water conditioner and the entire drainline from freezing temperatures. DANGER: If your unit should freeze, do not attempt to disassemble it. Call your Culligan Dealer.**
- 4** Should service, adjustment or trouble-shooting information be needed which is not covered in this Use and Care Guide, a complete Service Manual covering the conditioner that you own may be obtained from your Culligan Dealer.

TO CLEAN OUT THE SALT STORAGE TANK

A periodic clean-out of the Salt Storage Tank is necessary to keep your Culligan Water Conditioner at peak operating efficiency. Do it at least every 2 years when the salt supply is low. Follow these step-by-step procedures.

TWO-TANK MODEL

Tools needed:

- Scoop
- Clean, bucket-size container
- Phillips-head screwdriver
- Garden hose Household scrub brush or sponge

1. Remove the salt storage tank cover and the cap from the brine valve chamber.
2. Lift the brine valve out of the brine valve chamber and set aside in an upright position.
3. If you'd like to save any clean, dry salt remaining in the tank, remove it and place it in a clean container.
4. Using the scoop, dig out and discard as much remaining salt, water and debris as possible.
5. Remove the brine valve chamber by removing the chamber retaining screw and nut.
6. Remove the salt plate at the bottom of the brine tank.
7. Lay the salt tank on its side and direct a brisk stream of water from your garden hose to its inside to rinse out all residue.
8. Using a household scrub brush and a mild soapy solution, clean the salt plate. This will complete the tank cleaning.
9. Stand salt tank upright. Replace the salt plate. Place brine valve chamber in position and affix with screw and nut.
10. Insert the brine valve into the chamber and replace brine valve chamber cap.
11. Fill the salt storage tank with 4 to 6 inches of water.
12. Fill the tank with salt to within a few inches of the top.
13. Replace salt storage tank cover.

WITH CULLIGAN, YOU GET MORE THAN A QUALITY PRODUCT

YOU GET YOUR WATER EXPERT, THE CULLIGAN MAN.

We're here to provide you with fast, local, dependable service, making sure any problems you have are taken care of. The Culligan Man has been around for over fifty years, delivery dependable service all along. That's why people say, "Hey Culligan Man!®" Because we're the water experts. And that's who you want taking care of your water.

THE CULLIGAN PROMISE

At Culligan, we understand that a water quality improvement system is an investment in your family's well-being. That's why our 1,350 independently operated dealers worldwide don't just sell products: they sell water quality you can count on. We stand behind our products with written limited warranties and our unequalled Culligan service. No matter where you live, you can depend on Culligan expertise to work for you — today and tomorrow.



Simply call and say . . .

"HEY CULLIGAN MAN!®"

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