

RESIDENTIAL

# BRASSMASTER PLUS+



ALL IN ONE • SOFTENS WATER • REDUCES NITRATES

## Combination Water Softener / Nitrate Filter Installation / Operation Manual



**IMPORTANT:** Test your water 2x annually (every 6 months) to ensure proper system operation!  
Two postage pre-paid test bottles included!

To reorder, visit [watercontrolinc.com/nitramax-nitrate-removal](https://watercontrolinc.com/nitramax-nitrate-removal) or scan this QR code:



### **BrassMaster and BrassMaster Plus Technical Video Library:**

<https://watercontrolinc.com/residential-technical-support/residential-technical-videos>

BrassMaster technical videos demonstrate how to set up or remove the control module. If replacing your control module, please use the (downloadable) [Module Order Form](#).

# Warning!

Consuming water with combined nitrate/nitrite levels above the USEPA MCL (Maximum Contaminant Level) of 10 PPM (10 mg/L) can cause breathing/oxygen absorption problems in infants and animals — and may be linked to certain cancers.

Always install and operate this system according to manufacturer instructions. Test water every six months to verify proper system operation.

Water Control offers inexpensive, non-certified test services (the first 2 test bottles are included free with system).

## Softener + Nitrate (+ Nitrite + Sulfate) Filter

Specifications	NM-75	NM-125
Softening capacity (grains)	24,000	40,000
Cation (softening) media (cu. ft.)	0.75	1.25
Nitrate+Nitrite+Sulfate capacity (raw water) (PPM) or mg/L)	100	100
Anion (nitrate) media (cu.ft.)	0.75	1.25
Max iron (raw water) (PPM)	2	2
Service flow rate (GPM)	5	8
Water used per regeneration (gals)	80	84
Salt used per regeneration (lbs)	12	18

## Capacity Calculation

System capacity setpoints are established based on water hardness levels, unless combined nitrate+nitrite levels exceed 50 PPM (mg/L). If nitrate+nitrite levels exceed 50 PPM, please contact Water Control Corporation for proper system setpoints.

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# Installation Procedure

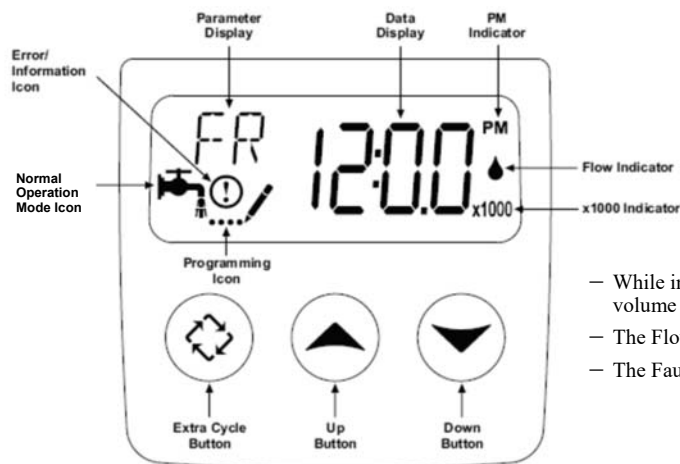
1. **Identify installation location for NitraMAX system.** Piping should be such that all household water, with the exception of outside hydrants, flows through NitraMAX. This system and installation must comply with state and local laws and regulations. Always install NitraMAX down stream of any other water treatment equipment.
2. **Connect water piping.** This unit has been supplied with a manually operated bypass device which enables the softener to be isolated from the water service lines for maintenance and service, and also maintain a constant water supply when the NitraMAX is disconnected. *Important: Make all sweat-solder connections within 6 inches of NitraMAX before applying threaded fittings to supplied bypass valve. Overheating may cause damage to valve.* Turn supplied bypass valve to “Bypass” position and make connections to household water lines. Leave unit in “Bypass” position until startup procedure.
3. **Connect drain line.** Remove barbed drain line fitting from parts bag. Apply thread seal tape to threads and install into the female threaded opening on the back side of the control valve. Connect 5/8” drain line (supplied in parts bag) to barbed end of drain line fitting and run to a nearby drain. *IMPORTANT: It is highly recommended that a hose clamp be used to secure tubing to drain fitting to ensure tubing from being removed during elevated pressure situations.* Be sure not to submerge drain line end into drain, as an 1 1/2” minimum air gap must be maintained to prevent potential backflow hazard. Firmly secure at drain, while maintaining a minimum 1 1/2” air gap (See detailed drawing on back side of piping diagram).
4. **Connect brine line.** Connect 3/8” brine line (supplied in parts bag) to fitting on brine tank and on the control valve. Tighten both fittings with an adjustable wrench.
5. **Install brine tank overflow line.** Install overflow fitting (supplied in parts bag) into hole in side of brine tank. An owner-supplied overflow line should then be attached and run to a nearby drain. *Failure to run overflow line could cause flooding and water damage should the brine tank overflow.*
6. **Connect to electrical power source.** Connect power cord to a separate 120VAC, 15Amp, ground fault interrupt (GFI) outlet.
7. Add 1—2 bags of sodium chloride or potassium chloride to the brine tank. WCC recommends pellet salt from manufacturers such as Morton or Diamond.

**Proceed to start-up procedure.**

Note: This system is not intended to be used for treating water that is microbiologically unsafe or of unknown quality without disinfection before or after the system.

# Start-Up Procedure

## *Placing unit into service*



- While in service, the Data Display alternates between time of day, volume remaining or days to regeneration.
- The Flow Indicator flashes when outlet flow is detected.
- The Faucet Icon flashes if a regeneration cycle has been queued.

### 1. Fill the mineral tank with water

- Keep NitraMAX in BYPASS
- Press and hold the extra cycle button for 5 seconds, display will indicate BW, Backwash cycle.
- Push extra cycle button once and let go, display will indicate BD, Brine Draw cycle.
- Push extra cycle button again and let go, display will indicate RR, Rapid Rinse cycle.
- Slowly open bypass valve and allow water to flow for 2-4 minutes. This will allow the media in the tank to become saturated.
- Open bypass valve to the service position.
- Push extra cycle button once and let go, display will indicate BF, Brine Fill cycle.
- Allow timer to fill the brine tank for the entire time on the display. The unit will advance to the service position when completed.
- Push extra cycle button for 5 seconds, this will start a manual regeneration from start-to-finish. This will take approximately two hours.

Start-up procedure is now complete.

The unit is now pressurized with water and ready for service.

**Proceed to setting current time of day.**

# Start-Up Procedure

## Setting current time of day



### Setting Current Time / Day

1. Press either the Up or Down button to adjust current time of day by one digit. Press and hold either the up or down button to adjust current time of day display by several digits. Ensure the AM/PM setting matches the current time of day.

## User programming

User Programming Mode Options		
Abbreviation	Parameter	Description
DO	Day Override	The timer's day override setting
RT	Regeneration Time	The time of day that the system will regenerate
H	Feed Water Hardness	The hardness of the inlet water—used to calculate system capacity
RC	Reserve Capacity	The fixed reserve capacity

### User Programming Mode Steps (Refer to chart above for user mode indications)

1. Press the Up and Down buttons simultaneously for five seconds while valve is in service. Display will enter programming mode. (Note: Timer will discard any changes and exit programming mode if any button is not pressed for sixty seconds.)



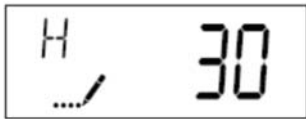
2. **Set Day Override:** This setting specifies the maximum number of days between regeneration cycles. System will regenerate regardless of usage if the days since last regeneration cycle equals the day override setting. This ensures regular regeneration periods. In areas where nitrates range between 0-50 PPM, this setting should not exceed 6 days. If nitrate levels exceed 50 PPM, please contact Water Control for a setpoint recommendation.

# Start-Up Procedure

## User programming (cont'd)



3. **Adjust Regeneration Time:** Press the Extra Cycle button to advance to next option. This setting determines the time of day that the unit will enter the regeneration cycle. The most common / default setting is 2:00 AM. If additional equipment is installed, ensure the regeneration times are offset by a minimum of 2 hours.



4. **Set Water Hardness:** Press the Extra Cycle button to advance to next option. Set the hardness of the incoming water (Grains per Gallon). For each PPM of iron, add 4 Grains per Gallon to this setting. This will determine the amount of water usage allowed between regeneration cycles. NOTE: If combined Nitrate+Nitrite levels exceed 50 PPM, contact Water Control for additional setpoint instructions.



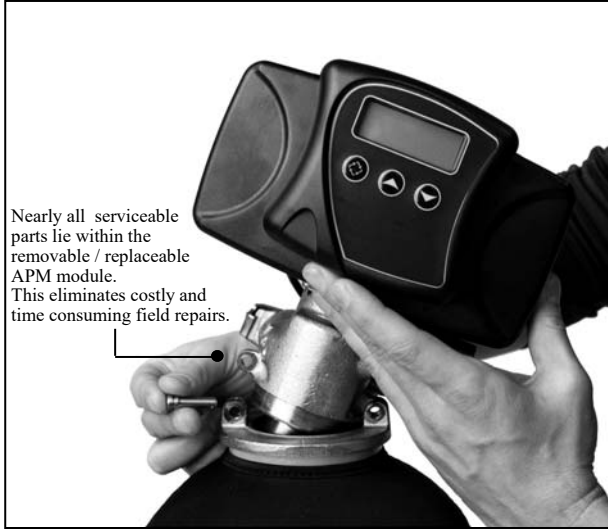
5. **Set Fixed Reserve Capacity :** Press the Extra Cycle button to advance to next option. Set the Fixed Reserve Capacity for the household. This is the amount of water needed in reserve to reach the delayed regeneration time. Standard setting is 50 gallons for each person in the household.

**Control programming is now complete. Press the extra cycle button and the control will exit from the programming mode and resume normal operation.**

## Sanitization of Unit

After complete installation of unit, dilute 1/2 cup of unscented laundry bleach in 3 gallons of water, and add to brine tank. Initiate a manual regeneration by depressing the extra cycle button. Allow the unit to complete its cycle and advance to the "Service" position. The unit is now sanitized and ready for operation.

# Maintenance / Warranty Information



All BrassMaster Plus water treatment systems feature the Assured Performance Modular (APM) design. If you experience a failure of any valve component, the brass module can be easily removed and replaced.

Reference the BrassMaster and BrassMaster Plus Technical Video Library on our website (link is provided below) for detailed steps on how to remove the module. The required (downloadable) form to have your module replaced is also located at this site.

Please contact your dealer or Water Control Corporation for module support.

## Salt Maintenance

Failure to maintain salt in the brine tank will allow nitrates into your water!

You must keep salt in the brine tank. The salt tank operates best when the salt level is below half full. Excessive brine tank filling may cause a salt “bridge” to form. The salt pellets wedge against each other preventing the salt pellets from fully submersing. This will prevent a proper brine solution from forming which will not allow the NitraMAX to regenerate properly. The NitraMAX will regenerate but not recondition the media. A salt bridge can be broken up using a broom handle or similar rod. Carefully pound it into the salt and the pellets will collapse. After loosening the salt pellets wait 2 hours and start a manual regeneration. A second system regeneration may be needed to fully recondition the media. You should only use sodium chloride or potassium chloride pellet salt for NitraMAX systems. Other types of salt (rock or snow melting) will contain dirt and chemicals that will affect your system.

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For factory module support contact:  
Water Control Corporation  
7150 143<sup>rd</sup> Ave NW • Ramsey, MN 55303  
Phone: 1-866-405-1268 • Fax: 763-427-5665  
[www.watercontrolinc.com](http://www.watercontrolinc.com)

# Official Warranty

## Water Control Corporation

### BrassMaster Plus Water Treatment Systems

#### Limited Warranty

Water Control Corporation warrants the control valve to be free of manufacturer's defects for a period of 5 (five) years from the date of installation, and the fiberglass reinforced mineral tank, and plastic brine tank, to be free from leaking due to manufacturer's defects for a period of 5 (five) years. We will, at our discretion, repair or replace defective products. This warranty does not include any costs associated with removal of defective products, or installation of replacement products. All replacement parts will be provided FOB Ramsey, MN. This warranty is transferable.

#### DISCLAIMER OF IMPLIED WARRANTIES

Water Control Corporation makes no warranties except those expressly stated in this document. To the extent permitted by the laws of the applicable state, **ALL WARRANTIES CONTAINED IN THIS DOCUMENT ARE EXPRESSLY IN LIEU OF, AND WATER CONTROL CORPORATION EXPRESSLY DISCLAIMS, ANY AND ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.**

#### WHAT IS NOT COVERED BY THESE WARRANTIES

1. Conditions, damages, and health effects resulting from any of the following:
  - Wear or malfunction caused by unfavorable water conditions
  - Improper installation, delivery, or maintenance
  - Any repair, modification, alteration, or adjustment not authorized by the manufacturer or an authorized servicer
  - Misuse, abuse, accidents, or unreasonable use
  - Improper setting of any control
  - Incorrect electric current, voltage, or supply
  - Failure to test water at recommended intervals
2. Warranties are void if the original serial numbers have been removed, altered, or cannot be readily determined.
3. The cost of service or service call to:
  - Correct installation errors
  - Instruct the user on proper use of the product
  - Transport the product to the servicer
4. Any costs associated with removal of defective products, or installation of replacement products.
5. Consequential, special, or incidental damages sustained by any person as a result of the breach of these warranties. Some states do not allow the exclusion or limitation of consequential or incidental damages, so the above exclusion may not apply to you.



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