BRASSMASTER PLUS+

Water Filtration Systems

RESIDENTIAL

Element33®

INSTALLATION OPERATION MANUAL

FILTER FOR REMOVAL OF:

Arsenic III, Arsenic V, Iron+Manganese+Hydrogen Sulfide

IMPORTANT! *Test your water quarterly to ensure proper system operation!*

FIVE POSTAGE PREPAID TEST BOTTLES INCLUDED!

To reorder, visit: watercontrolinc.com/element33-arsenic-removal

-OR- scan this QR code:

LEAD FREE
NSF/ANSI/CAN 61

IAPMO R&T ®

complies with NSF/ANSI 61

Model EL33-150 and EL33-250 are certified by IAPMO R&T against IAPMO IGC 370 for Arsenic, Iron, Manganese and Hydrogen Sulfide reduction as per requirement for point of entry regenerable well water filtration systems. They are also certified to NSF/ANSI/CAN61 and 372 for material safety and lead free requirements.

BrassMaster and BrassMaster Plus Technical Video Library:
watercontrolinc.com/residential-technical-support/residential-technical-videos

BrassMaster technical videos demonstrate how to set up or remove the control module. Replacement control modules are available at:
watercontrolinc.com/residential-technical-support/

WCC
Where NATURE & SCIENCE meet.™

Warning!

Consuming water with arsenic levels above the USEPA MCL (Maximum Contaminant Level) of 10 PPB (10 µg/L) can cause cancer, cardiovascular/respiratory distress, skin ailments, and developmental delays (in children).

Always install and operate this system according to manufacturer instructions. Test water quarterly to verify proper system operation. This system is for non-chlorinated (well) water only.

Water Control offers inexpensive, non-certified test services (the first 5 test bottles are included free with system).

System Capabilities

Typical Media Life: 7 years[1]
Maximum Arsenic III + Arsenic V in raw water: 150 PPB (µg/L)
Maximum Iron + Manganese + Hydrogen Sulfide in raw water: 5 PPM (mg/L)[2]
Minimum Iron in raw water: 0.3 PPM (mg/L)[3]
Minimum Dissolved Oxygen in raw water: 2 PPM (mg/L)[4]
Recommended Total Suspended Solids in raw water: 1 PPM (mg/L)[5]
Feed Water Temperature Range: 34 - 110°F
Feed Water Pressure Range: 30 - 100 PSIG
Service Flow Rate for EL33-150: 6 GPM at 6 PSID
Service Flow Rate for EL33-250: 10 GPM at 8 PSID
System Capacity for EL33-150: 1,500 Gallons
System Capacity for EL33-250: 2,000 Gallons
System Performance (Average Reductions): Arsenic III - 97.75%, Arsenic V - 98.61%, Iron - 99.59%, Manganese - 99.86% and Hydrogen Sulfide - 99.86%[6]

Regeneration Water Usage

Media Regeneration Frequency: Daily
Model EL33-150 34 gallons (@ 1.7 GPM)
Model EL33-250 60 gallons (@ 3.0 GPM)

System Test Challenges

	Raw Wa-	Into Filter			Treated Water Out of Filter			
Test #	Total Arsenic	Fe PPM	Mn PPM	H_2S PPM	Total Arsenic PPB	Fe PPM	Mn PPM	H_2S PPM
1	100	10	10	10	None detected	0	0	0
2	100	1	1	1	None detected	0	0	0
3	100	0.5	0.5	0.5	None detected	0	0	0

1 **IMPORTANT**: Test your water quarterly to ensure proper system operation!
Five postage pre-paid test bottles included!
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2 Exceeding 5 PPM iron, manganese and hydrogen sulfide will reduce the system's flow rate capabilities. Contact WCC for a system sizing recommendation.

3 There must be a minimum of 0.3 PPM for iron. Contact WCC if levels are below this minimum. Alternate equipment may be required for the application.

4 Low dissolved oxygen may reduce arsenic removal efficiency. Contact WCC for recommended options for applications that do not meet the minimum requirement.

5 High suspended solids may reduce arsenic removal efficiency. Contact WCC if levels are above this maximum. Additional equipment may be required for the application.

6 Rated average system performance at service flow rate and minimum feed water parameters as detailed per "System Capabilities"

Installation Procedure

1. **Identify installation location.** ELEMENT33 piping should originate shortly after incoming water supply shutoff, but typically after any water lines serving outdoor purposes. *IMPORTANT: there must not be any filters (including water softeners) installed upstream of the ELEMENT33 system, or it may not operate properly. Always install water softeners and other filtration downstream of ELEMENT33.* This system and installation must comply with state and local laws or regulations.

2. **Connect water piping.** This unit has been supplied with a manually operated bypass device which enables it to be isolated from the water service lines for maintenance and service, and also maintain a constant water supply should the ELEMENT33 be removed from service. *IMPORTANT: Make all sweat-solder connections within 6 inches of the unit 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 the "Bypass" position until the system startup up procedure is performed.

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 submerse drain line end into drain, as a 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.

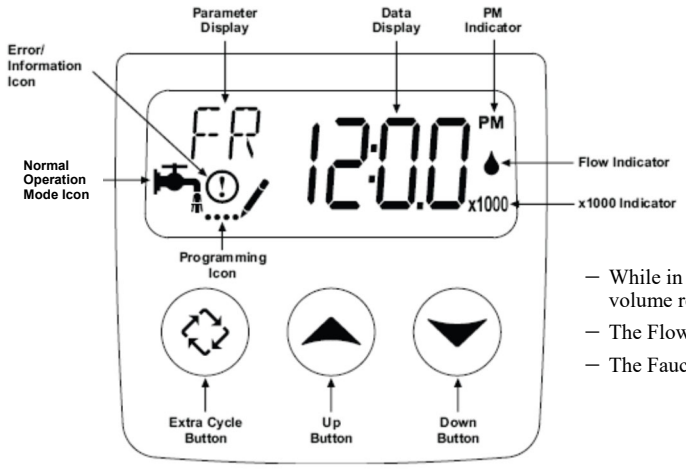
4. **Connect to electrical power source.** Connect power cord to a separate 120VAC, 15Amp, ground fault interrupt (GFI) outlet.

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 ELEMENT33 in BYPASS
   - Press and hold the extra cycle button for 5 seconds, display will indicate BW, Backwash cycle.
   - **Partially** open the bypass valve so that water **Slowly** begins to enter the resin tank. Allow water to flow for 5-10 minutes. This will allow the media in the tank to become saturated.
   - Fully Open bypass valve to the service position.
   - Push extra cycle button once and let go, display will indicate the normal operation mode icon.
   - Push extra cycle button for 5 seconds, this will start a manual regeneration from start-to-finish. This will take approximately 20 minutes.
2. Media Conditioning
   - Manually regenerated the system a minimum of (3) consecutive times or run a minimum of 200 gallons of water through the system prior to use.

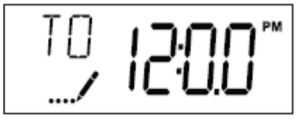
Start-up procedure is now complete.

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 buttons to adjust current time of day by one digit. Push and hold either up or down set 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/Backwash Time	The time of day that the system will regenerate/backwash.

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

1. Press and hold 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/backwash cycles. System will regenerate regardless of usage if the days since last regeneration cycle equals the day override setting. This ensures regular regeneration periods. *The pre-programmed factory recommended setting is 1 day.*

Always consult WCC before making any changes to this setpoint.

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/backwash cycle. The most common / default setting is 12:30 AM. *IMPORTANT: this regeneration time should be offset from any additional water treatment's regeneration time by at least 1 hour to ensure adequate regeneration pressure*. Contact Water Control if you have multiple treatment systems installed.

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

Important!

Initial Water Test

After 14 days of operation, fill sample bottle number one (included) with treated water from the building. Mail the sample bottle to WCC using the supplied pre-postage paid (USPS) mailer box. WCC will test this sample to ensure proper system operation. Results will be reported in 10 - 14 days.

Test water quarterly after this initial test (first year test bottles included).

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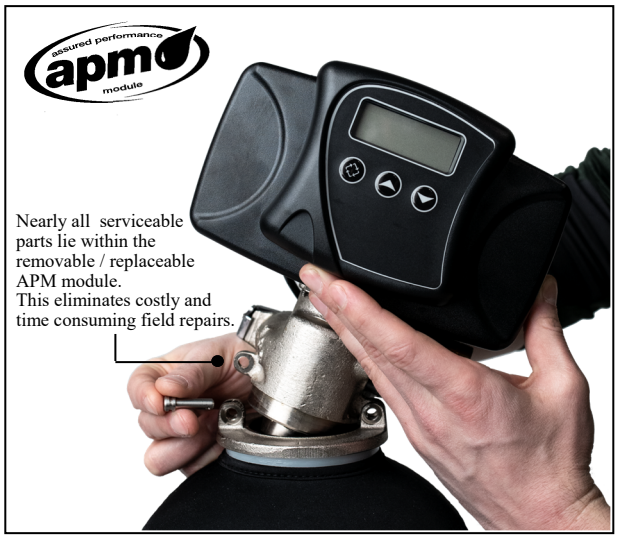
Maintenance / Warranty Information



All BrassMaster and BrassMaster Plus water softeners / filters 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.

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.
Replacement control modules are available at https://watercontrolinc.com/residential-technical-support/

For factory module support contact:
Water Control Corporation
7150 143rd Ave NW ● Ramsey, MN 55303
Phone: 1-866-405-1268 ● Fax: 763-427-5665
www.watercontrolinc.com

OFFICIAL WARRANTY

Water Control Corporation

BRASSMASTER PLUS SERIES
WATER SOFTENERS / FILTERS

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 (where applicable), 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 and damages resulting from any of the following:
   - Wear caused by unfavorable water conditions
   - 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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