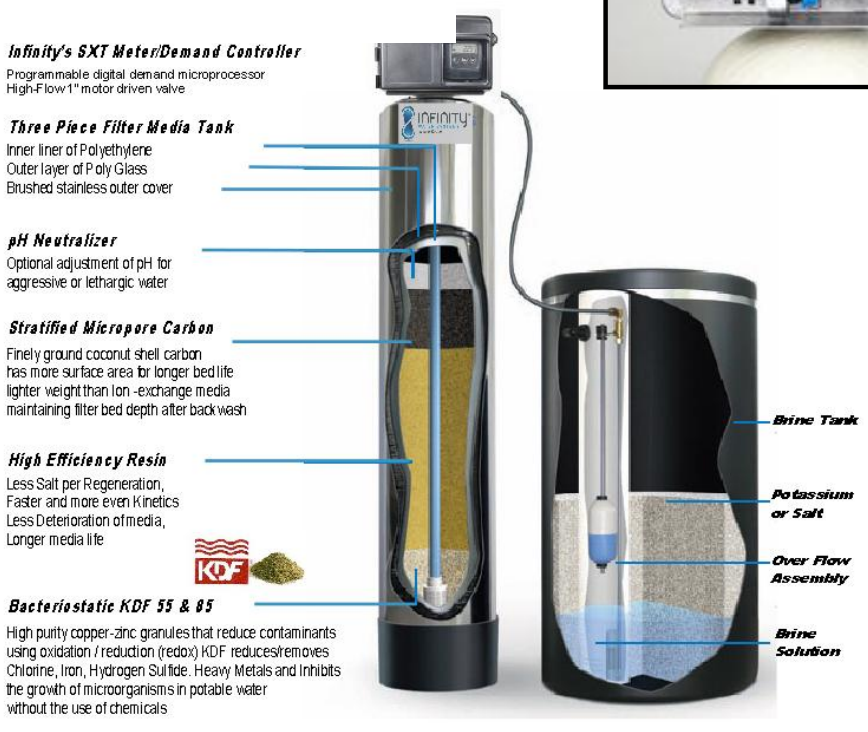
WATER DOCTORS℠
CUSTOM ENGINEERED WATER SYSTEMS

INFINITY®
WATER SYSTEMS
by Water Doctors



We Deliver Salt

763-535-1800

WD-INFINITY- SERIES MANUAL

MODEL INFINITY 2510SXT

Installation and start-up manual:

WATER PRESSURE: A minimum of 20 pounds of water pressure is required for regeneration valve to operate effectively.

ELECTRICAL FACILITIES: An uninterrupted alternating current (A/C) supply is required. Note: Other voltages are available. Please make sure your voltage supply is compatible with your unit before installation.

EXISTING PLUMBING: Condition of existing plumbing should be free from lime and iron buildup. Piping that is built up heavily with lime and/or iron should be replaced. If piping is clogged with iron, a separate iron filter unit should be installed ahead of the water softener.

LOCATION OF SOFTENER AND DRAIN: The softener should be located close to a drain to prevent air breaks and back flow.

BY-PASS VALVES: Always provide for the installation of a by-pass valve if unit is not equipped with one.

CAUTION: Water pressure is not to exceed 120 p.s.i., water temperature is not to exceed 110°F, and the unit cannot be subjected to freezing conditions.

INSTALLATION INSTRUCTIONS

1. Place the softener tank where you want to install the unit making sure the unit is level and on a firm base.
2. All plumbing should be done in accordance with local plumbing codes. The pipe size for the drain line should be a
minimum of 1/2". Backwash flow rates in excess of 7 gpm or length in excess of 20' require 3/4" drain line.
3. The 1" distributor tube (1.050 O.D.) should be cut flush with top of each tank.(Valve installation)
4. Lubricate the distributor o-ring seal and tank "o" ring seal. Place the main control valve on tank. Note: Only use silicone lubricant.
5. Solder joints near the drain must be done prior to connecting the Drain Line Flow Control fitting (DLFC). Leave at least 6" between the DLFC and solder joints when soldering pipes that are connected on the DLFC. Failure to do this could cause interior damage to the DLFC.
6. Teflon tape is the only sealant to be used on the drain fitting.
7. Make sure that the floor is clean beneath the salt storage tank and that it is level.
8. Place approximately 1" of water above the grid plate. If a grid is not utilized, fill to the top of the air check in the salt tank. Do not add salt to the brine tank at this time.
9. On units with a by-pass, place in by-pass position. Turn on the main water supply. Open a cold soft water tap nearby and let run a few minutes or until the system is free from foreign material (usually solder) that may have resulted from the installation. Once clean, close the water tap.

Start-up Instructions

10. Plug unit into an electrical outlet. Note: All electrical connections must be connected according to local codes. (Be certain the outlet is uninterrupted)

The water softener should be installed with the inlet, outlet and drain connections made in accordance with the manufacturer's recommendations and to meet applicable plumbing codes.

1. Remove control box cover.
2. Make "Time of Day" setting (See SXT control instructions).
3. Observe regeneration cycle settings.
4. Add three inches of water to brine tank.
5. **Note:** To set the control to the various positions noted below. (See SXT Controller)

Push the manual regeneration button. Allow the drive motor to move the piston to the first regeneration step and stop. Each time the Program Switch position changes, the valve will
advance to the next regeneration step. Always allow the motor to stop before moving to the next position. (See "Program" instructions).

Control Valve Positions:

a. Service Drive shaft out
b. Backwash Drive shaft in
c. Brine / Slow Rinse Drive shaft 1/2 way out
d. Rapid Rinse Drive shaft 3/4 way out
e. Brine Tank Fill Drive shaft out but brine cam holds brine valve stem in.

Filling the Tank:

Slowly place the by-pass in service position (1/2 OPEN)
Let water flow into the mineral tank slowly.

When water/carbon appears at drain line, close by-pass.

(Carbon media will float to top of tank, let unit stand for 5 min)
Carbon will applier and water will be very dark, slowly open bypass 1/8 and continue water flow
to drain for 1-2 minutes, then advance valve to service position.
(Open Bypass)
Open a cold water tap nearby and let run until the water is clear and carbon dust is purged from the unit.

6. Position valve to backwash and check to make sure that drain line flow remains steady for two (2) minutes or until clear (see above).
7. Position valve to brine / slow rinse position and check to see that the unit is drawing water from brine tank (this step may need repeating).
8. Position valve to rapid rinse and check the drain line flow, run for 5 min. or until the water is clear. (Note: Rapid rinse and backwash flow rates should be the same).
9. Position valve to start of brine tank fill cycle. See that water goes into the brine tank at proper rate. Brine valve drive cam will hold valve in at this position to fill the brine tank for the first regeneration.
10. Replace control box cover.
11. Put salt in brine tank (do not use pellet or rock salt).

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2510 SXT Control Timer

Service Manual

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Service History:_____

Installation Date:_____ Model Number:_____

Service Notes:_____

_____

_____

_____

_____

Job Specification Sheet

Job Number: _____

Model Number: _____

Water Hardness: _____ ppm or gpg

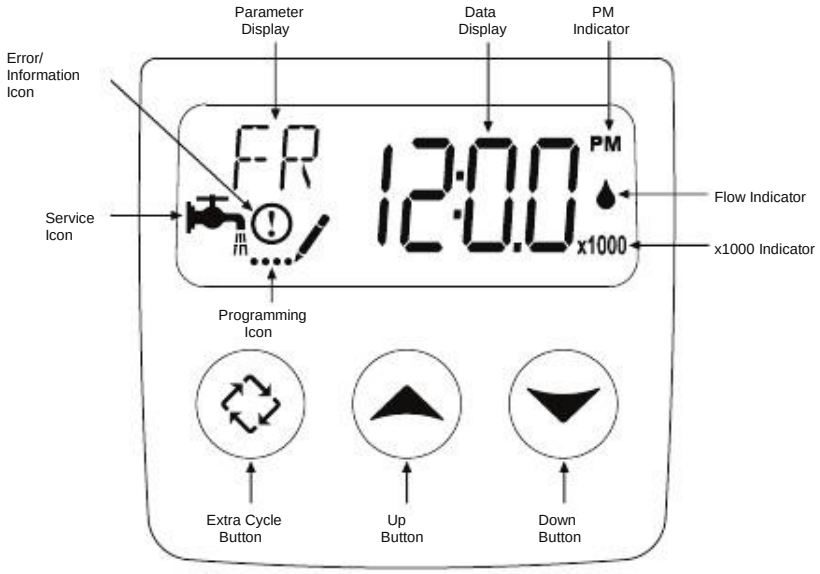
Capacity Per Unit: _____

Mineral Tank Size: _____ Diameter: _____ Height:

Salt Setting per Regeneration: _____

1. Type of Timer:
   A. 7 Day or 12 Day B. Meter Initiated
2. Downflow: Upflow Upflow Variable
3. Meter Size:
   A. 3/4" Std Range (125 - 2,100 gallon setting)
   B. 3/4" Ext Range (625 - 10,625 gallon setting)
   C. 1" Std Range (310 - 5,270 gallon setting)
   D. 1" Ext Range (1,150 - 26,350 gallon setting)
   E. 1-1/2" Std Range (625 - 10,625 gallon setting)
   F. 1-1/2" Ext Range (3,125 - 53,125 gallon setting)
   G. 2" Std Range (1,250 - 21,250 gallon setting)
   H. 2" Ext Range (6,250 - 106,250 gallon setting)
   I. 3" Std Range (3,750 - 63,750 gallon setting)
   J. 3" Ext Range (18,750 - 318,750 gallon setting)
   K. Electronic_____ Pulse Count _____ Meter Size
4. System Type:
   A. System #4: 1 Tank, 1 Meter, Immediate, or Delayed Regeneration
   B. System #4: Time Clock
   C. System #4: Twin Tank
   D. System #5: 2-5 Tanks, 2 Meters, Interlock
   E. System #6: 2-5 Tanks, 1 Meter, Series Regeneration
   F. System #7: 2-5 Tanks, 1 Meter, Alternating
   G. System #9: Electronic Only, 2-4 Tanks, Meter per Valve, Alternating
   H. System #14: Electronic Only, 2-4 Tanks, Meter per Valve. Brings units on and offline based on flow.
5. Timer Program Settings:
   A. Backwash: _____ Minutes
   B. Brine and Slow Rinse: _____ Minutes
   C. Rapid Rinse: _____ Minutes
   D. Brine Tank Refill: _____ Minutes
   E. Pause Time: _____ Minutes
   F. Second Backwash: _____ Minutes
6. Drain Line Flow Control: _____ gpm
7. Brine Line Flow Controller: _____ gpm
8. Injector Size#: _____
9. Piston Type:
   A. Hard Water Bypass
   B. No Hard Water Bypass

Timer Features



Features of the SXT:

- Power backup that continues to keep time and the passage of days for a minimum of 48 hours in the event of power failure. During a power outage, the control goes into a power-saving mode. It does not monitor water usage during a power failure, but it does store the volume remaining at the time of power failure.
- Settings for both valve (basic system) and control type (method used to trigger a regeneration).
- Day-of-the-Week controls.
- While in service, the display alternates between time of day, volume remaining or days to regeneration, and tank in service (twin tank systems only).
  The Flow Indicator flashes when outlet flow is detected.
- The Service Icon flashes if a regeneration cycle has been queued.
- A Regeneration can be triggered immediately by pressing the Extra Cycle button for five seconds.
- The Parameter Display displays the current Cycle Step (BW, BF, RR, etc) during regeneration, and the data display counts down the time remaining for that cycle step. While the valve is transferring to a new cycle step, the display will flash. The parameter display will identify the destination cycle step (BW, BF, RR, etc) and the data display will read "----". Once the valve reaches the cycle step, the display will stop flashing and the data display will change to the time remaining. During regeneration, the user can force the control to advance to the next cycle step immediately by pressing the extra cycle button.

Setting the Time of Day

1. Press and hold either the Up or Down buttons until the programming icon replaces the service icon and the parameter display reads TD.
2. Adjust the displayed time with the Up and Down buttons.
3. When the desired time is set, press the Extra Cycle button to resume normal operation. The unit will also return to normal operation after 5 seconds if no buttons are pressed.

Queueing a Regeneration

1. Press the Extra Cycle button. The service icon will flash to indicate that a regeneration is queued.
2. To cancel a queued regeneration, press the Extra Cycle button.

Regenerating Immediately

Press and hold the Extra Cycle button for five seconds.

Timer Operation

Meter Immediate Control

A meter immediate control measures water usage and regenerates the system as soon as the calculated system capacity is depleted. The control calculates the system capacity by dividing the unit capacity (typically expressed in grains/unit volume) by the feedwater hardness and subtracting the reserve. Meter Immediate systems generally do not use a reserve volume. However, in twin tank systems with soft-water regeneration, the reserve capacity should be set to the volume of water used during regeneration to prevent hard water break-through. A Meter Immediate control will also start a regeneration cycle at the programmed regeneration time if a number of days equal to the regeneration day override pass before water usage depletes the calculated system capacity.

Meter Delayed Control

A Meter Delayed Control measures water usage and regenerates the system at the programmed regeneration time after the calculated system capacity is depleted. As with Meter Immediate systems, the control calculates the system capacity by dividing the unit capacity by the feedwater hardness and subtracting the reserve. The reserve should be set to insure that the system delivers treated water between the time the system capacity is depleted and the actual regeneration time. A Meter Delayed control will also start a regeneration cycle at the programmed regeneration time if a number of days equal to the regeneration day override pass before water usage depletes the calculated system capacity.

Time Clock Delayed Control

A Time Clock Delayed Control regenerates the system on a timed interval. The control will initiate a regeneration cycle at the programmed regeneration time when the number of days since the last regeneration equals the regeneration day override value.

Day of the Week Control

This control regenerates the system on a weekly schedule. The schedule is defined in Master Programming by setting each day to either “off” or “on.” The control will initiates a regeneration cycle on days that have been set to “on” at the specified regeneration time.

Control Operation During Regeneration

During regeneration, the control displays a special regeneration display. In this display, the control shows the current regeneration step number the valve is advancing to, or has reached, and the time remaining in that step. The step number that displays flashes until the valve completes driving to this regeneration step position. Once all regeneration steps are complete the valve returns to service and resumes normal operation.

Pressing the Extra Cycle button during a regeneration cycle immediately advances the valve to the next cycle step position and resumes normal step timing.

Control Operation During Programming

The control only enters the Program Mode with the valve in service. While in the Program Mode, the control continues to operate normally monitoring water usage and keeping all displays up to date. Control programming is stored in memory permanently, eliminating the need for battery backup power.

Manually Initiating a Regeneration

1. When timer is in service, press the Extra Cycle button for 5 seconds on the main screen.
2. The timer advances to Regeneration Cycle Step #1 (rapid rinse), and begins programmed time count down.
3. Press the Extra Cycle button once to advance valve to Regeneration Cycle Step #2 (backwash).
4. Press the Extra Cycle button once to advance valve to Regeneration Cycle Step #3 (brine draw & slow rinse).
5. Press the Extra Cycle button once to advance valve to Regeneration Cycle Step #4 (brine refill).
6. Press the Extra Cycle button once more to advance the valve back to in service.
   NOTE: If the unit is a filter or upflow, the cycle step order may change.
   NOTE: A queued regeneration can be initiated by pressing the Extra Cycle button. To clear a queued regeneration, press the Extra Cycle button again to cancel. If regeneration occurs for any reason prior to the delayed regeneration time, the manual regeneration request shall be cleared.

Control Operation During A Power Failure

The SXT includes integral power backup. In the event of power failure, the control shifts into a power-saving mode. The control stops monitoring water usage, and the display and motor shut down, but it continues to keep track of the time and day for a minimum of 48 hours.

The system configuration settings are stored in a non-volatile memory and are stored indefinitely with or without line power. The Time of Day flashes when there has been a power failure. Press any button to stop the Time of Day from flashing.

If power fails while the unit is in regeneration, the control will save the current valve position before it shuts down. When power is restored, the control will resume the regeneration cycle from the point where power failed. Note that if power fails during a regeneration cycle, the valve will remain in it's current position until power is restored. The valve system should include all required safety components to prevent overflows resulting from a power failure during regeneration.

The control will not start a new regeneration cycle without line power. If the valve misses a scheduled regeneration due to a power failure, it will queue a regeneration. Once power is restored, the control will initiate a regeneration cycle the next time that the Time of Day equals the programmed regeneration time. Typically, this means that the valve will regenerate one day after it was originally scheduled. If the treated water output is important and power interruptions are expected, the system should be setup with a sufficient reserve capacity to compensate for regeneration delays.

Master Programming Mode Chart

Master Programming Options			
Abbreviation	Parameter	Option Abbreviation	Options
DF	Display Format	GAL	Gallons
		Ltr	Liters
		Cu	Cubic Meters
VT	Valve Type	St1b	Standard Downflow/Upflow Single Backwash
		St2b	Standard Downflow/Upflow Double Backwash
		Fltr	Filter
		UFbF	Upflow Brine First
		8500	TwinFlo100SXT
		Othr	Other
CT	Control Type	Fd	Meter (Flow) Delayed
		FI	Meter (Flow) Immediate
		tc	Time Clock
		dAY	Day of Week
NT	Number of Tanks	1	Single Tank System
		2	Two Tank System
TS	Tank in Service	U1	Tank 1 in Service
		U2	Tank 2 in Service
C	Unit Capacity		Unit Capacity (Grains)
H	Feedwater Hardness		Hardness of Inlet Water
RS	Reserve Selection	SF	Percentage Safety Factor
		rc	Fixed Reserve Capacity
SF	Safety Factor		Percentage of the system capacity to be used as a reserve
RC	Fixed Reserve Capacity		Fixed volume to be used as a reserve
DO	Day Override		The system's day override setting
RT	Regen Time		The time of day the system will regenerate
BW, BD, RR, BF	Regen Cycle Step Times		The time duration for each regeneration step. Adjustable from OFF and 0-199 minutes. NOTE: If "Othr" is chosen under "Valve Type", then R1, R2, R3, etc. will be displayed instead.
D1, D2, D3, D4, D5, D6, & D7	Day of Week Settings		Regeneration setting (On or OFF) for each day of the week on day-of-week systems

CAUTION: Before entering Master Programming, please contact your local professional water dealer.

Master Programming Mode Chart

Master Programming Options			
CD	Current Day		The Current day of the week
FM	Flow Meter Type	t0.7	3/4" Turbine Meter
		P0.7	3/4" Paddle Wheel Meter
		t1.0	1" Turbine Meter
		P1.0	1" Paddle Wheel Meter
		t1.5	1.5" Turbine Meter
		P1.5	1.5" Paddle Wheel Meter
		Gen	Generic or Other Meter
K	Meter Pulse Setting		Meter pulses per gallon for generic/other flow meter

NOTES:
Some items may not be shown depending on timer configuration.
The timer will discard any changes and exit Master Programming Mode if any button is not pressed for sixty seconds.

CAUTION: Before entering Master Programming, please contact your local professional water dealer.

Master Programming Mode

When the Master Programming Mode is entered, all available option setting displays may be viewed and set as needed. Depending on current option settings, some parameters cannot be viewed or set.

Setting the Time of Day

1. Press and hold either the Up or Down buttons until the programming icon replaces the service icon and the parameter display reads TD.
2. Adjust the displayed time with the Up and Down buttons.
3. When the desired time is set, press the Extra Cycle button to resume normal operation. The unit will also return to normal operation after 5 seconds if no buttons are pressed.

Entering Master Programming Mode

Set the Time Of Day display to 12:01 P.M. Press the Extra Cycle button (to exit Setting Time of Day mode). Then press and hold the Up and Down buttons together until the programming icon replaces the service icon and the Display Format screen appears.

Exiting Master Programming Mode

Press the Extra Cycle button to accept the displayed settings and cycle to the next parameter. Press the Extra Cycle button at the last parameter to save all settings and return to normal operation. The control will automatically disregard any programming changes and return to normal operation if it is left in Master Programming mode for 5 minutes without any keypad input.

Resets:

Soft Reset: Press and hold the Extra Cycle and Down buttons for 25 seconds while in normal Service mode. This resets all parameters to the system default values, except the volume remaining in meter immediate or meter delayed systems and days since regeneration in the time clock system.

Master Reset: Hold the Extra Cycle button while powering up the unit. This resets all of the parameters in the unit. Check and verify the choices selected in Master Programming Mode.

1. Display Format (Display Code DF)

This is the first screen that appears when entering Master Programming Mode. The Display Format setting specifies the unit of measure that will be used for volume and how the control will display the Time of Day. This option setting is identified by “DF” in the upper left hand corner of the screen. There are three possible settings:

Display Format Setting	Unit of Volume	Time Display
GAL	U.S. Gallons	12-Hour AM/PM
Ltr	Liters	24-Hour
Cu	Cubic Meters	24-Hour

CAUTION: Before entering Master Programming, please contact your local professional water dealer.

2. Valve Type (Display Code VT)

Press the Extra Cycle button. Use this display to set the Valve Type. The Valve Type setting specifies the type of cycle that the valve follows during regeneration. Note that some valve types require that the valve be built with specific subcomponents. Ensure the valve is configured properly before changing the Valve Type setting. This option setting is identified by “VT” in the upper left hand corner of the screen. There are 5 possible settings:

Abbreviation	Parameter
St1b	Standard Downflow/Upflow, Single Backwash
St2b	Standard Downflow/Upflow, Double Backwash
Fltr	Filter
UFbF	Upflow Brine First
8500	TwinFlo 100
Othr	Other

3. Control Type (Display Code CT)

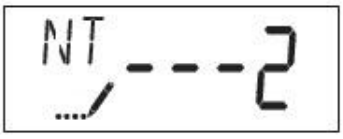
Press the Extra Cycle button. Use this display to set the Control Type. This specifies how the control determines when to trigger a regeneration. For details on how the various options function, refer to the “Timer Operation” section of this service manual. This option setting is identified by “CT” in the upper left hand corner of the screen. There are four possible settings:

Meter Delayed: Fd
Meter Immediate: FI
Time Clock: tc
Day of Week: dAY

4. Number of Tanks (Display Code NT)

Press the Extra Cycle button. Use this display to set the Number of Tanks in your system. This option setting is identified by “NT” in the upper left hand corner of the screen. There are two possible settings:

Single Tank System: 1
Two-Tank System: 2



CAUTION: Before entering Master Programming, please contact your local professional water dealer.

5. Tank in Service (Display Code TS)

Press the Extra Cycle button. Use this display to set whether tank one or tank two is in service. This option setting is identified by “TS” in the upper left hand corner of the screen. This parameter is only available if the number of tanks has been set to 2. There are two possible settings:

Tank One in Service: U1
Tank Two in Service: U2

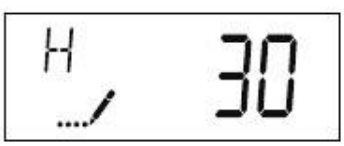
6. Unit Capacity (Display Code C)

Press the Extra Cycle button. Use this display to set the Unit Capacity. This setting specifies the treatment capacity of the system media. Enter the capacity of the media bed in grains of hardness when configuring a softener system, and in the desired volume capacity when configuring a filter system. This option setting is identified by “C” in the upper left hand corner of the screen. The Unit Capacity parameter is only available if the control type has been set to one of the metered options. Use the Up and Down buttons to adjust the value as needed.

Range: 1-999,900 grain capacity

7. Feedwater Hardness (Display Code H)

Press the Extra Cycle button. Use this display to set the Feedwater Hardness. Enter the feedwater hardness in grains per unit volume for softener systems, or 1 for filter systems. This option setting is identified by “H” in the upper left hand corner of the screen. The feedwater hardness parameter is only available if the control type has been set to one of the metered options. Use the Up and Down buttons to adjust the value as needed.



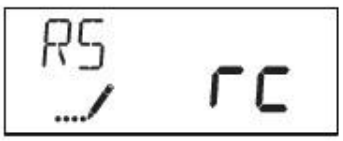
Range: 4-199 hardness

CAUTION: Before entering Master Programming, please contact your local professional water dealer.

8. Reserve Selection (Display Code RS)

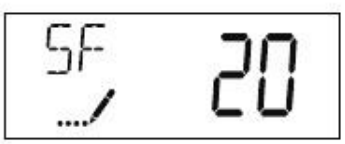
Press the Extra Cycle button. Use this display to set the Safety Factor. Use this display to select the type of reserve to be used in your system. This setting is identified by “RS” in the upper left-hand corner of the screen. The reserve selection parameter is only available if the control type has been set to one of the metered options. There are two possible settings.

SF	Safety Factor
rc	Fixed Reserve Capacity



9. Safety Factor (Display Code SF)

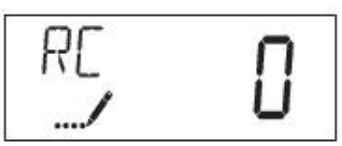
Press the Extra Cycle button. Use this display to set the Safety Factor. This setting specifies what percentage of the system capacity will be held as a reserve. Since this value is expressed as a percentage, any change to the unit capacity or feedwater hardness that changes the calculated system capacity will result in a corresponding change to the reserve volume.This option setting is identified by “SF” in the upper left hand corner of the screen. Use the Up and Down buttons to adjust the value from 0 to 50% as needed.



Range: 0-50%

10. Fixed Reserve Capacity (Display Code RC)

Press the Extra Cycle button. Use this display to set the Reserve Capacity. This setting specifies a fixed volume that will be held as a reserve. The reserve capacity cannot be set to a value greater than one-half of the calculated system capacity. The reserve capacity is a fixed volume and does not change if the unit capacity or feedwater hardness are changed. This option setting is identified by “RC” in the upper left-hand corner of the screen. Use the Up and Down buttons to adjust the value as needed.



Range: 0-half the calculated capacity

CAUTION: Before entering Master Programming, please contact your local professional water dealer.

11. Day Override (Display Code DO)

Press the Extra Cycle button. Use this display to set the Day Override. This setting specifies the maximum number of days between regeneration cycles. If the system is set to a timer-type control, the day override setting determines how often the system will regenerate. A metered system will regenerate regardless of usage if the days since last regeneration cycle equal the day override setting. Setting the day override value to “OFF” disables this function. This option setting is identified by “DO” in the upper left hand corner of the screen. Use the Up and Down buttons to adjust the value as needed.

Range: Off-99 days

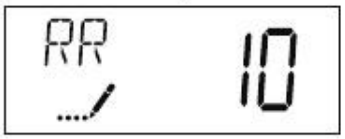
12. Regeneration Time

Press the Extra Cycle button. Use this display to set the Regeneration Time. This setting specifies the time of day the control will initiate a delayed, manually queued, or day override triggered regeneration. This option setting is identified by “RT” in the upper left hand corner of the screen. Use the Up and Down buttons to adjust the value as needed.

13. Regeneration Cycle Step Times

Press the Extra Cycle button. Use this display to set the Regeneration Cycle Step Times. The different regeneration cycles are listed in sequence based on the valve type selected for the system, and are identified by an abbreviation in the upper left-hand corner of the screen. The abbreviations used are listed below. If the system has been configured with the “OTHER” valve type, the regeneration cycles will be identified as R1, R2, R3, R4, R5, and R6. Each cycle step time can be set from 0 to 199 minutes, or “OFF.” Setting a cycle step to “OFF” will disable all of the following steps. Setting a cycle step time to 0 will cause the control to skip that step during regeneration, but keeps the following steps available. Use the Up and Down buttons to adjust the value as needed. Press the Extra Cycle button to accept the current setting and move to the next parameter.

Cycle Step	Abbreviation
BD	Brine Draw
BF	Brine Fill
BW	Backwash
RR	Rapid Rinse
SV	Service



Range: 0-199 minutes

CAUTION: Before entering Master Programming, please contact your local professional water dealer.

14. Day of Week Settings

Press the Extra Cycle button. Use this display to set the regeneration schedule for a system configured as a Day of Week control. The different days of the week are identified as D1, D2, D3, D4, D5, D6, and D7 in the upper left-hand corner of the display. Set the value to “ON” to schedule a regeneration or “OFF” to skip regeneration for each day. Use the Up and Down buttons to adjust the setting as needed. Press the Extra Cycle button to accept the setting and move to the next day. Note that the control requires at least one day to be set to “ON.” If all 7 days are set to “OFF”, the unit will return to Day One until one or more days are set to “ON.”

15. Current Day (Display Code CD)

Press the Extra Cycle button. Use this display to set the current day on systems that have been configured as Day of Week controls. This setting is identified by “CD” in the upper left-hand corner of the screen. Use the Up and Down buttons to select from Day 1 through Day 7.

16. Flow Meter Type (Display Code FM)

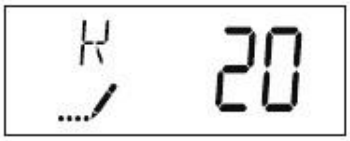
Press the Extra Cycle button. Use this display to set the type of flow meter connected to the control. This option setting is identified by “FM” in the upper left-hand corner of the screen. Use the Up and Down buttons to select one of the 7 available settings.

t0.7	Fleck 3/4" Turbine Meter
P0.7	Fleck 3/4" Paddle Wheel Meter
t1.0	Fleck 1" Turbine Meter
P1.0	Fleck 1" Paddle Wheel Meter
t1.5	Fleck 1-1/2" Turbine Meter
P1.5	Fleck 1-1/2" Paddle Wheel Meter
GEn	Generic/Other Meter

CAUTION: Before entering Master Programming, please contact your local professional water dealer.

17. Meter Pulse Setting (Display Code K)

Press the Extra Cycle button. Use this display to specify the meter pulse setting for a non-standard flow meter. This option setting is identified by “K” in the upper left-hand corner of the screen. Use the Up and Down buttons to enter the meter constant in pulses per unit volume.



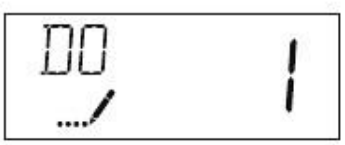
18. Press the Extra Cycle button to save all settings and exit Master Programming Mode.

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 (meter delayed, timeclock, and day-of-week systems)
H	Feed Water Hardness	The hardness of the inlet water - used to calculate system capacity for metered systems
RC	Reserve Capacity	The fixed reserve capacity
CD	Current Day	The current day of week

NOTES:
Some items may not be shown depending on timer configuration.
The timer will discard any changes and exit User Mode if any button is not pressed for sixty seconds.

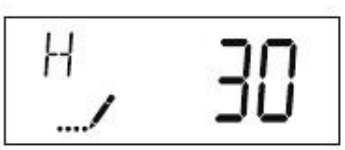
User Programming Mode Steps

1. Press the Up and Down buttons for five seconds while in service, and the time of day is NOT set to 12:01 PM.
2. Use this display to adjust the Day Override. This option setting is identified by "DO" in the upper left hand corner of the screen.



3. Press the Extra Cycle button. Use this display to adjust the Regeneration Time. This option setting is identified by "RT" in the upper left hand corner of the screen.

4. Press the Extra Cycle button. Use this display to adjust the Feed Water Hardness. This option setting is identified by "FH" in the upper left hand corner of the screen.



Range: 4-199 hardness

5. Press the Extra Cycle button. Use this display to adjust the Fixed Reserve Capacity. This option setting is identified by “RC” in the upper left-hand Corner of the screen.

6. Press the Extra Cycle button. Use this display to set the Current Day of the Week. This option setting is identified by “CD” in the upper left hand corner of the screen.

7. Press the Extra Cycle button to end User Programming Mode.

Diagnostic Programming Mode Options		
Abbreviation	Parameter	Description
FR	Flow Rate	Displays the current outlet flow rate
PF	Peak Flow Rate	Displays the highest flow rate measured since the last regeneration
HR	Hours in Service	Displays the total hours that the unit has been in service
VU	Volume Used	Displays the total volume of water treated by the unit
RC	Reserve Capacity	Displays the system's reserve capacity calculated from the system capacity, feedwater hardness, and safety factor
SV	Software Version	Displays the software version installed on the controller

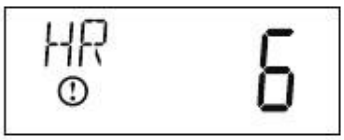
NOTES:
Some items may not be shown depending on timer configuration.
The timer will exit Diagnostic Mode after 60 seconds if no buttons are pressed.
Press the Extra Cycle button to exit Diagnostic Mode at any time.

Diagnostic Programming Mode Steps

1. Press the Up and Extra Cycle buttons for five seconds while in service.
2. Use this display to view the current Flow Rate. This option setting is identified by "FR" in the upper left hand corner of the screen.

3. Press the Up button. Use this display to view the Peak Flow Rate since the last regeneration cycle. This option setting is identified by "PF" in the upper left hand corner of the screen.

4. Press the Up button. Use this display to view the Hours in Service since the last regeneration cycle. This option setting is identified by "HR" in the upper left hand corner of the screen.



5. Press the Up button. Use this display to view the Volume Used since the last regeneration cycle. This option setting is identified by "VU" in the upper left hand corner of the screen.

6. Press the Up button. Use this display to view the Reserve Capacity. This option setting is identified by “RC” in the upper left hand corner of the screen.

7. Press the Up button. Use this display to view the Software Version. This option setting is identified by “SV” in the upper left hand corner of the screen.

8. Press the Extra Cycle button to end Diagnostic Programming Mode.