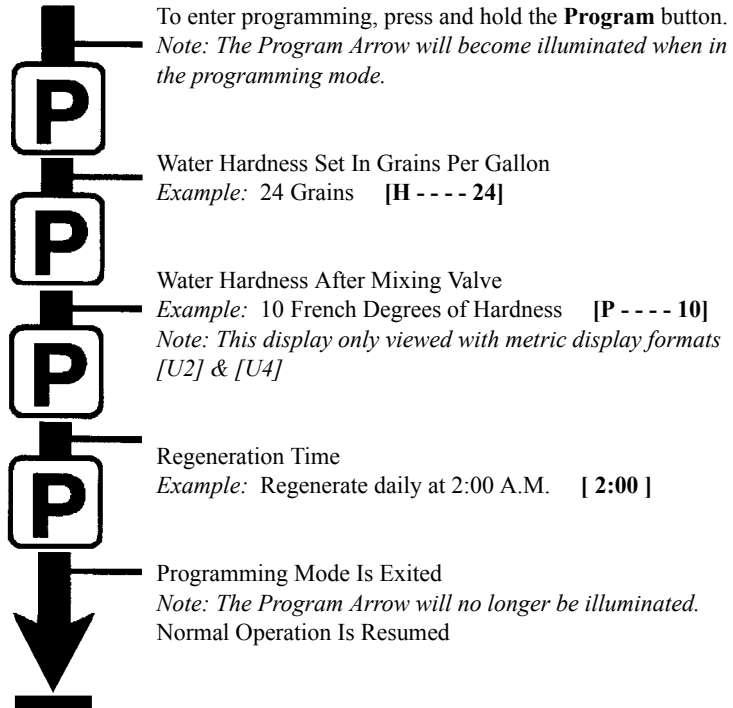


**NOTE:**

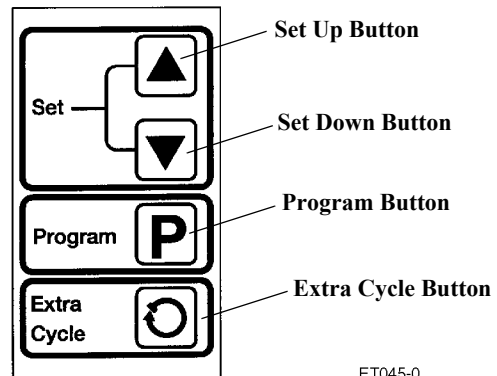
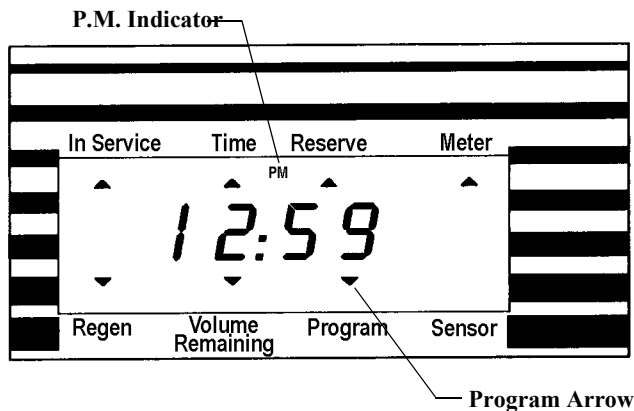
1. Push **Program** Button once per display.
2. Option settings may be changed by pushing either the **Set Up** or **Set Down** button.
3. Depending on current valve programming, certain displays will not be able to be viewed or set.



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# 6600 Downflow - V2.0

## Programming Level #1



ET045-0

### 1. Entering Level #1 Programming Mode

Push and hold the **Program** button until the **Program Arrow** becomes illuminated (about 5 seconds).

#### NOTE:

Depending on current option settings, some displays cannot be viewed or set.

### 2. Set Inlet Water Hardness (H)

The first display setting is the **Inlet Water Hardness**. Using the **Set Up** and **Set Down** buttons, set the Grains Per Gallon value.

*Example:* 24 Grains [H - - - 24]

Press the **Program** button to accept the value and continue to the next setting.

### 3. Set Water Hardness After Mixing Valve (P)

The next display setting is the **Water Hardness After Mixing Valve**.

*Note:* This setting is only available when metric displays [U2] & [U4] are preset as the display format.

Using the **Set Up** and **Set Down** buttons, set the value.

*Example:* 8 French Degrees of Hardness [P - - - - 8]

Press the **Program** button to set the value and continue to the next setting.

### 4. Set Regeneration Time

The next display setting is the **Regeneration Time**. Using the **Set Up** and **Set Down** buttons, set the time a regeneration cycle is to occur. Regeneration time can be identified by a non flashing colon that separates the hours and minutes.

*Example:* 2:00 A.M. [ 2:00 ]

#### NOTE:

Be sure the P.M. Indicator light is not illuminated if early morning regeneration time is desired.

Press the **Program** button to accept the value and exit the Programming Mode.

### 5. Exiting Level #1 Programming Mode

Push the **Program** button once per display until all have been viewed.

#### NOTE:

The Program Arrow will no longer be illuminated after exiting. Normal operation is resumed.

## *Programming Level #1 (Con't.)*

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### **Installer Notes**

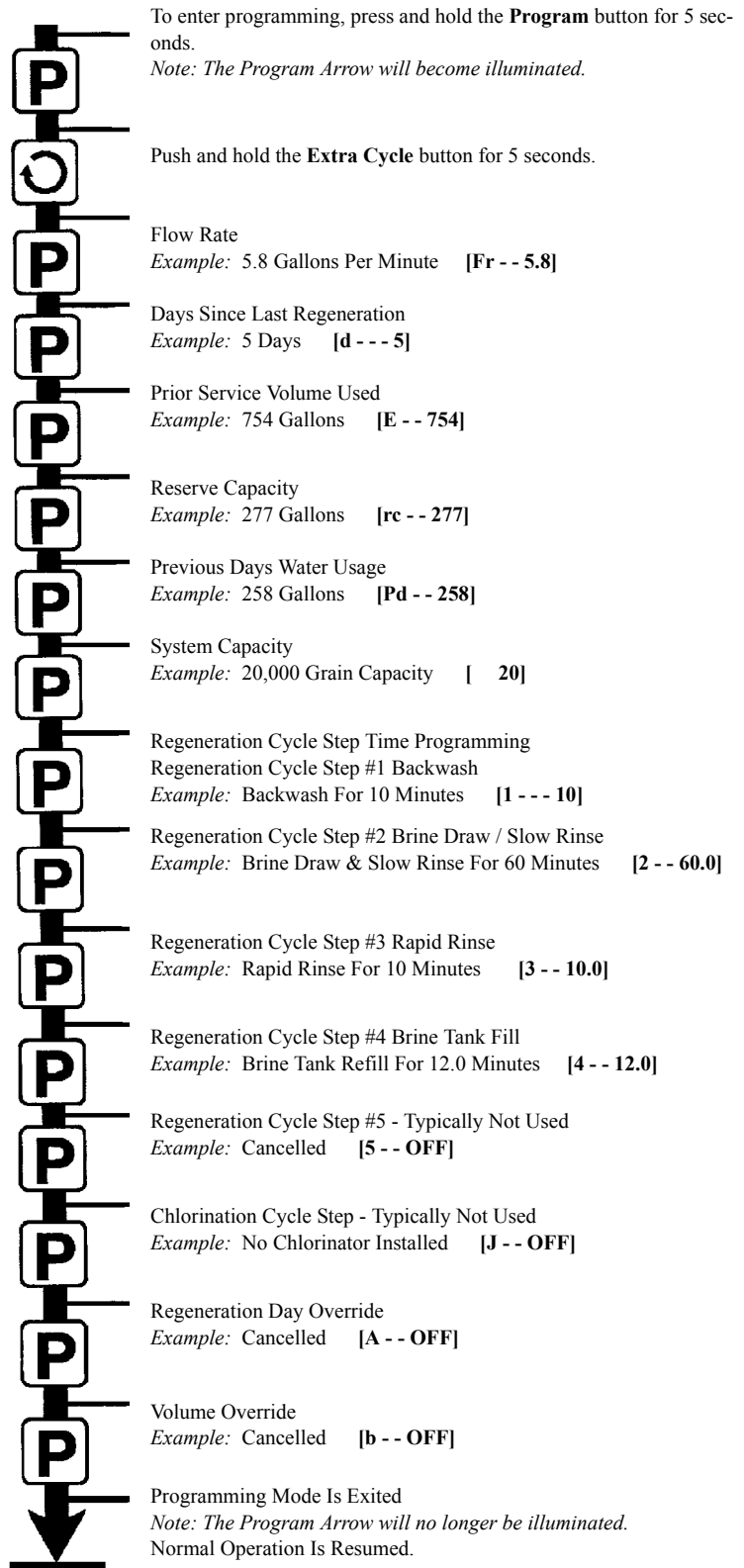
1. Control Calculations - With Delayed Regeneration Valves, the control is designed to automatically calculate its reserve capacity based on daily water usage. There is no need to program in a reserve capacity. The System Setting Option Setting should be set to the resin tank manufacturers capacity recommendation for a given amount of salt to be used during regeneration.
2. Control Calculations - With Immediate Regeneration Valves, the System Capacity Option Setting should be set to the resin tank manufacturers capacity recommendation for a given amount of salt to be used during regeneration.
3. System Capacity and Water Hardness displays will not be able to be viewed or set with non-metered systems.
4. Regeneration Time will not be able to be viewed or set with Immediate Regeneration Valves.
5. Acceptable voltage range for reliable operation is 24 Vac Valves  $\pm 10\%$  50/60 Hz.

# 6600 Downflow - V2.0

## Programming Chart Level #2 (Single Backwash - Black Cam)

**NOTE:**

1. Push **Program** button once per display.
2. Option settings may be changed by pushing either the **Set Up** or **Set Down** button.
3. Depending on current valve programming, certain displays will not be able to be viewed or set.

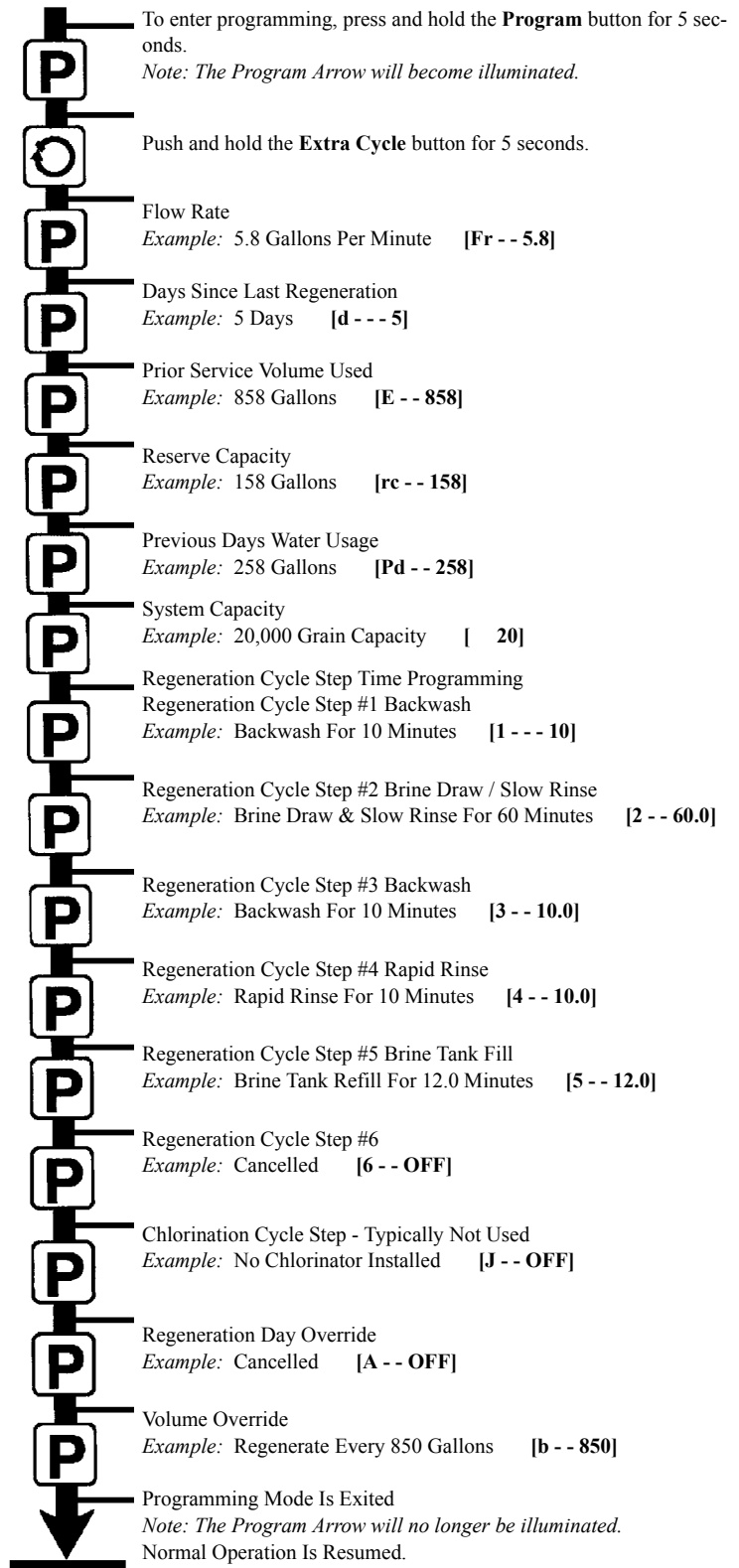


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## Programming Chart Level #2 (Double Backwash - Blue Cam)

**NOTE:**

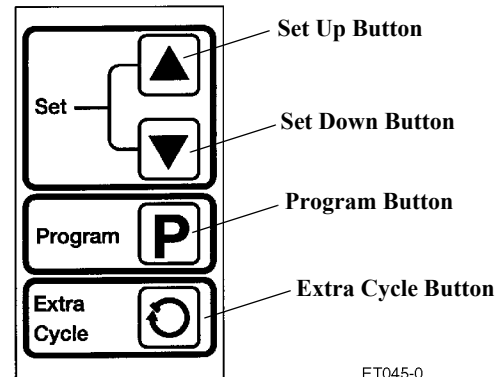
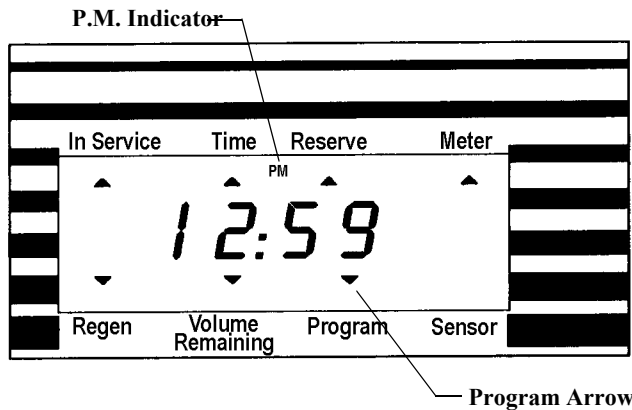
1. Push **Program** button once per display.
2. Option settings may be changed by pushing either the **Set Up** or **Set Down** button.
3. Depending on current valve programming, certain displays will not be able to be viewed or set.



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# 6600 Downflow - V2.0

## Programming Level #2 - Single & Double Backwash



ET045-0

### 1. Entering Level #2 Programming Mode

Push and hold the **Program** button until the Program Arrow becomes illuminated (about 5 seconds).

#### NOTE:

Depending on current option settings, some displays cannot be viewed or set. The first one to five displays are diagnostic displays and are used in troubleshooting the operation of the control valve.

The first display viewed is the **Inlet Water Hardness**.

Press and hold the **Extra Cycle** button for 5 seconds and continue to the next display.

### 2. Flow Rate (Fr)

The first display setting is the **Flow Rate**. It displays the current rate of treated water flow through the control valve. \*This diagnostic display is used to help diagnose and troubleshoot valve malfunction.

Press the **Program** button and continue to the next display.

### 3. Days Since Last Regeneration (d)

The next display is the number of **Days Since Last Regeneration**. \*\*This diagnostic display is used to help diagnose and troubleshoot valve malfunction.

*Example:* 5 Days [d - - - 5]

Press the **Program** button and continue to the next display.

### 4. Prior Service Volume Used (E)

The next display is the **Prior Service Volume Used**. It displays the volume of water used (in gallons) the last time the softener was in service. \*This diagnostic display is used to help diagnose and troubleshoot valve malfunction.

*Example:* 754 Gallons [E - - - 754]

Press the **Program** button and continue to the next display.

### 5. Reserve Capacity (rc)

The next display is the calculated **Reserve Capacity**. It displays the volume of water in reserve for the present day. \*This diagnostic display is used to help diagnose and troubleshoot valve malfunction.

*Example:* 277 Gallons [rc - - - 277]

Press the **Program** button and continue to the next display.

\* Metered Units Only

\*\* Metered & Timeclock Units Only

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## Programming Level #2 - Single & Double Backwash (Con't.)

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### 6. Previous Days Water Usage (Pd)

The next display is the **Previous Days Water Usage**. It displays the volume of water used yesterday (in gallons). \*This diagnostic display is used to help diagnose and troubleshoot valve malfunction.

*Example:* 258 Gallons [**Pd - - - 258**]

Press the **Program** button and continue to the next display.

### 7. Set System Capacity (C)

The next display is the **System Capacity**. It displays the softeners total capacity (in grains). Using the **Set Up** and **Set Down** buttons, set the value in thousands of grains (kilograins) capacity.

*Example:* 20,000 Grain System Capacity [**C - - - 20**]

Press the **Program** button to set the system capacity and continue to the next display.

### 8. Set Regeneration Cycle Step Programming (1) (2) (3) (4) (5) (6)

The next six displays are optional settings used to program the amount of time (in minutes) that a particular regeneration cycle step takes. The first is Regeneration Cycle Step #1 (Backwash).

*Example:* Regeneration Cycle Step #1 (Backwash) 10.0 minutes [**1 - - 10.0**]

Using the **Set Up** and **Set Down** buttons, set the #1 value in minutes.

Press the **Program** button to set the number of minutes and continue to the next display.

*Example:* Regeneration Cycle Step #2 (Brine/Slow Rinse) 60.0 minutes [**2 - - 60.0**]

Using the **Set Up** and **Set Down** buttons, set the #2 value in minutes.

Press the **Program** button to set the number of minutes and continue to the next display.

*Example:* Regeneration Cycle Step #3 (Single Backwash Option - Rapid Rinse) 10 minutes [**3 - - 10.0**]

*Example:* Regeneration Cycle Step #3 (Double Backwash Option - Backwash) 10 minutes [**3 - - 10.0**]

Using the **Set Up** and **Set Down** buttons, set the value in minutes.

Press the **Program** button to set the number of minutes and continue to the next display.

*Example:* Regen. Cycle Step #4 (Single Backwash Option - Brine Tank Fill) 12.0 minutes [**4 - - 12.0**]

*Example:* Regen. Cycle Step #4 (Double Backwash Option - Rapid Rinse) 10.0 minutes [**4 - - 10.0**]

#### NOTE:

The 6600 has a separate Brine Tank Fill cycle. The desired salt setting must be calculated. Using the blue (.25 gpm) or black (.50 gpm) rate of refill (in gpm) times the timer setting. Then, using one gallon of fresh water dissolving approximately 3 lbs of salt, calculate the refill time.

lbs salt ÷ 3 BLFC size = refill time in minutes (10 lbs salt ÷ 3 ÷ .25 = 13.3 minute refill)

Using the **Set Up** and **Set Down** buttons, set the #4 value in minutes.

Press the **Program** button to set the number of minutes and continue to the next display.

*Example:* Regen. Cycle Step #5 (Single Backwash Option - Typically Not Used) Cancelled [**5 - - OFF**]

*Example:* Regen. Cycle Step #5 (Double Backwash Option - Brine Tank Fill) 12.0 minutes [**5 - - 12.0**]

Using the **Set Up** and **Set Down** buttons, set the #5 value in minutes or set the value to zero to OFF.

Press the **Program** button to set the value and continue to the next display.

\*\* Metered & Timeclock Units Only

# 6600 Downflow - V2.0

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## Programming Level #2 - Single & Double Backwash (Con't.)

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Step # 6 is not presently used and must be cancelled.

Using the **Set Up** and **Set Down** buttons, set the value to OFF.

*Example:* Regeneration Cycle Step #6 (Double Backwash Option) Cancelled [6 - - OFF]

Press the **Program** button to set the number of minutes and continue to the next display.

### 9. Set Cycle Step Location For Chlorination Indicator (J)

The next display is the **Cycle Step Location For Chlorination**. It displays the desired step number where chlorinator indicator (c) will turn on in the regeneration display. Actual control of power to a chlorinator is handled independently.

*Example:* No Chlorinator Installed [J - - OFF]

*Example:* Chlorinator To Turn On in Step #2 [J - - - - 2]

*Example:* Regeneration Display With Chlorinator Indicator On [2C - - 38.2]

Using the **Set Up** and **Set Down** buttons, set the desired step number.

Press the **Program** button to set the step number and continue to the next display.

### 10. Set Regeneration Day Override (A)

The next display is the **Regeneration Day Override**. It displays the maximum number of days the softener can be in service without a regeneration, regardless of the volume of water used. Regeneration will begin at the set regeneration time.

*Example:* Override Every 7 Days [A - - - - 7]

*Example:* Cancel Setting [A - - - OFF]

Using the **Set Up** and **Set Down** buttons, set the number of days desired.

Press the **Program** button to set the number of days and continue to the next display.

### 11. Set Volume Override (b)

The next display is the **Volume Override**. It displays the maximum volume of water (in gallons) the softener can use before a regeneration will occur. Regeneration will begin at the set regeneration time.

*Example:* Override Every 700 Gallons [b - - - 700]

*Example:* Override Cancelled [b - - - OFF]

#### NOTE:

When using **Volume Override** with delayed regeneration systems:

It will be up to the service person to determine a reserve capacity. The control valve will no longer keep track of the reserve capacity. This feature may be more suitable in applications with very large variations in daily water consumption.

Using the **Set Up** and **Set Down** buttons, set the number of days desired.

Press the **Program** button to set the number of gallons and continue to the next display.

### 12. Exiting Level #2 Programming Mode

Push the **Program** button once per display until all have been viewed.

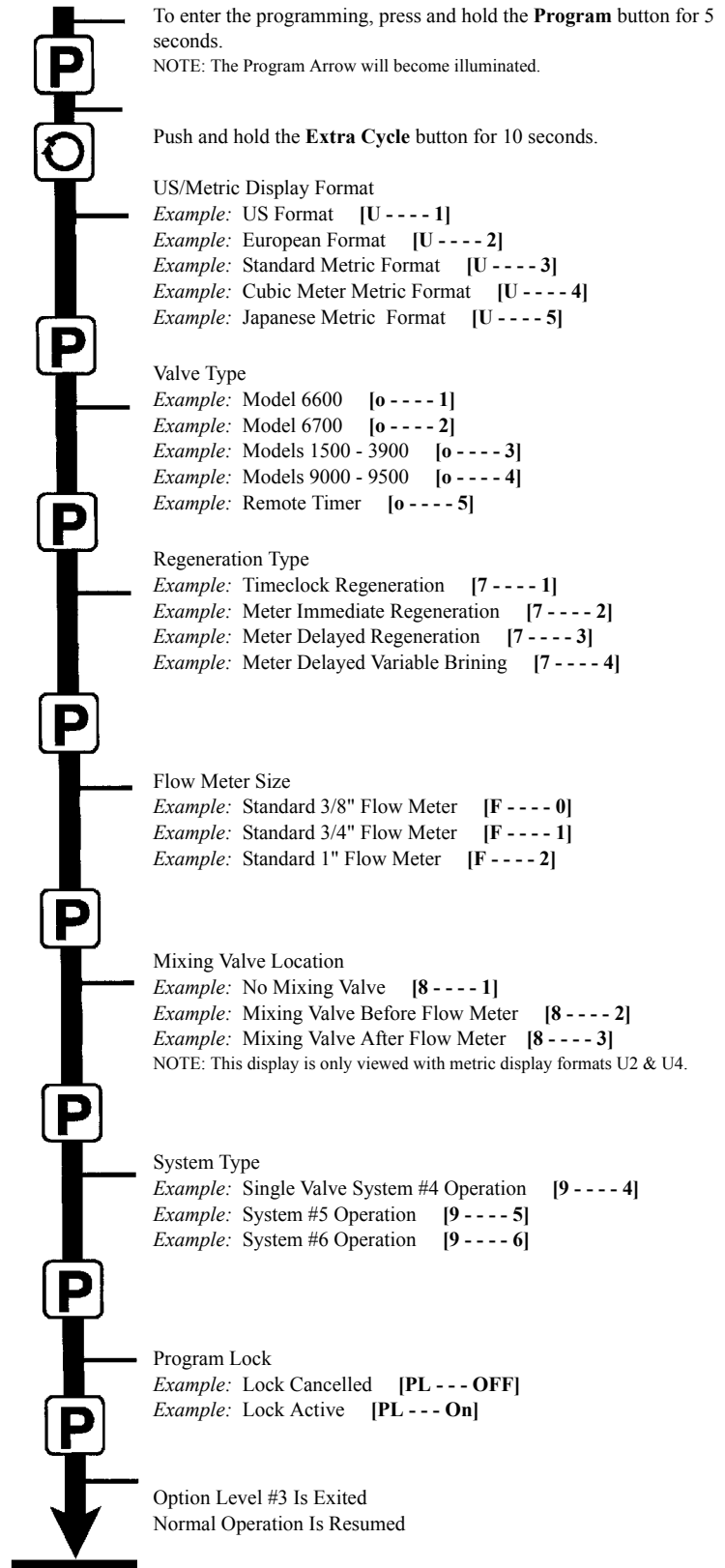
#### NOTE:

The Program Arrow will no longer be illuminated after exiting. Normal operation is resumed.

## Programming Chart Level #3

**NOTE:**

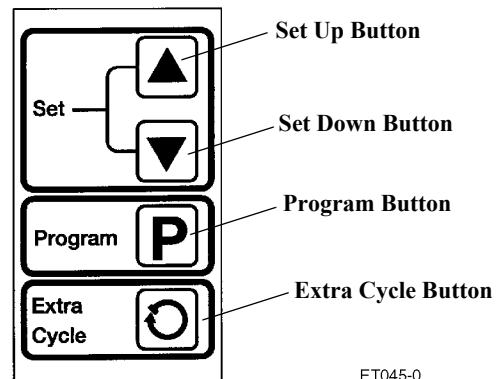
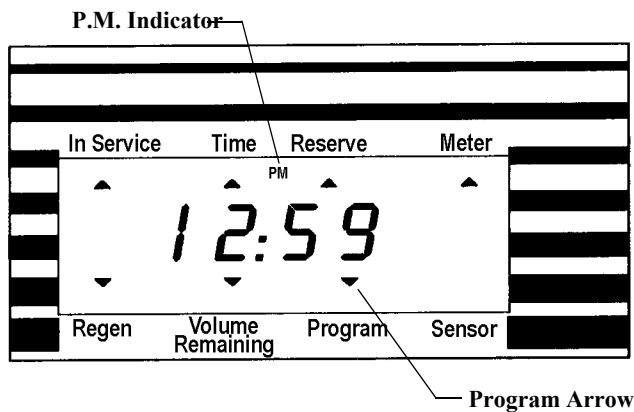
1. Push **Program** Button once per display.
2. Option settings may be changed by pushing either the **Set Up** or **Set Down** button.
3. Depending on current valve programming, certain displays will not be able to be viewed or set.



ET048-0

# 6600 Downflow - V2.0

## Programming Level #3



ET045-0

### 1. Entering Level #3 Programming Mode

Push and hold the **Program** button until the Program Arrow becomes illuminated (about 5 seconds).

#### NOTE:

Depending on current option settings, some displays cannot be viewed or set.  
The first display viewed is the **Inlet Water Hardness**.

### 2. Set Display Format (U)

Push the **Extra Cycle** button for 10 seconds. This display is used to set the desired display format. Use the **Set Up** and **Set Down** buttons to adjust the format. The five possible formats are:

**US Format** uses gallons for volume and gallons per minute for flow rate. A 12-hour timekeeping format is displayed.

*Example:* US Format [U - - - - 1]

**European Metric Format** uses liters for volume and liters per minute for flow rate. A 24-hour timekeeping format is displayed.

*Example:* European Metric Format [U - - - - 2]

**Standard Metric Format** uses liters for volume and liters per minute for flow rate. A 24-hour timekeeping format.

*Example:* Standard Metric Format [U - - - - 3]

**Cubic Meter Format** uses cubic meters for volume and liters per minute for flow rate. A 24-hour timekeeping format.

*Example:* Cubic Meter Format [U - - - - 4]

**Japanese Metric Format** uses liters for volume and liters per minute for flow rate. A 24-hour timekeeping format.

*Example:* Japanese Metric Format [U - - - - 5]

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## Programming Level #3 (Con't.)

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### 3. Set Valve Type (o)

Push the **Program** button. There is only one proper setting [o - - - - 1]. Use this display to set the Valve Type.

*Example:* 6600 Valve Operation [o - - - - 1]

*Example:* Options Not Used [o - - - - 2] [o - - - - 3] [o - - - - 4] [o - - - - 5]

**NOTE:**

Push **Program** Button once per Valve Type Display until all required settings have been viewed.

### 4. Set Regeneration Type (7)

Push the **Program** button. Use this display to set the Regeneration Type. There are three possible settings:

#### Timeclock Delayed

The control determines the day that a regeneration is required by the **Regeneration Day Override** setting (A). Once this day is reached, a regeneration cycle starts at the set **Regeneration Time**.

*Example:* Timeclock Delayed Regeneration [7 - - - 1]

#### Meter Immediate

The control determines that regeneration is required when the available volume of treated water drops to zero. Regeneration begins immediately.

*Example:* Meter Immediate Regeneration [7 - - - 2]

#### Meter Delayed

The control determines that a regeneration is required when the available volume of treated water drops to zero. Regeneration begins immediately at the set **Regeneration Time**. Use the **Set Up** and **Set Down** buttons to adjust this value.

*Example:* Meter Delayed Regeneration [7 - - - 3]

**NOTE:**

Push **Program** Button once per Regeneration Type Display until all required settings have been viewed.

### 5. Set Flow Meter Size (F)

Push the **Program** button. Use this display to set the Flow Meter Size. There is only one proper setting [F - - - 1]. Use the **Set Up** and **Set Down** buttons to adjust this value.

*Example:* Option Not Used [F - - - 0]

*Example:* Standard 3/4" Flow Meter [F - - - 1]

*Example:* Option Not Used [F - - - 2]

**NOTE:**

Push **Program** Button once per Flow Meter Size Display until all required settings have been viewed.

### 6. Set Mixing Valve Location (8)

Push the **Program** button. Use this display to set the Mixing Valve Location. Use the **Set Up** and **Set Down** buttons to adjust this value.

*Example:* No Mixing Valve [8 - - - - 1]

*Example:* Mixing Valve Before Flow Meter [8 - - - - 2]

*Example:* Mixing Valve After Flow Meter [8 - - - - 3]

# 6600 Downflow - V2.0

## Programming Level #3 (Con't.)

### 7. Set System Type (9)

Push the **Program** button. Use this display to set the System Type. There is only one proper setting [9 - - - - 4]. Use the **Set Up** and **Set Down** buttons to adjust this value.

*Example:* Single Valve System #4 Operation [9 - - - - 4]

### 8. Set Program Lock (PL)

Push the **Program** button. Use this display to either activate or de-activate the Program Lock. Use the **Set Up** and **Set Down** buttons to adjust this value.

*Example:* Lock Cancelled [PL - - - - OFF]

*Example:* Lock Active [PL - - - - On]

**NOTE:**

With the Program Lock activated, various displays cannot be viewed or set.

Settings Able To Be Reset With Lock Active	Displays Able To Be Viewed With Lock Active
Water Hardness Setting	Flow Rate Display
Water Hardness After Mixing Valve	Days Since Regeneration
Regeneration Time	Prior Service Volume Used
Time Of Day	Reserve Capacity
	Previous Days Water Usage

### 9. Exiting Level #3 Programming Mode

Push the **Program** button once per display until all have been viewed.

**NOTE:**

The Program Arrow will no longer be illuminated after exiting. Normal operation is resumed.

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### Unlocking The Program Lock

To deactivate the **Program Lock**, press and hold the **Program** Button for 25 seconds. This will permit all valid program settings to be viewed and reset as needed.

### Resetting Permanent Program Memory

To reset the Permanent Program Memory, press and hold the **Program** Button for 50 seconds. This will erase all previous settings and displays and will reset them to default values. Programming values will have to be reset as necessary.