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## Fleck 7000 Metered Flow Greensand Filter System Programming Guide

For backwash filtration systems such as the greensand iron filter, it is important to set the days between back-wash (referred to as the Day Over-Ride setting) for not greater than 2 weeks for most applications. As noted in the start-up guide, generally we recommend every 2 to 7 days for iron filters, unless the system is being winterized or the water is not being used in the home for long periods such as when on vacation.

### ***Steps to take:***

**Perform a Master Reset:** Unplug the Fleck 7000 from the electrical wall outlet. Hold the Extra Cycle button while plugging in and powering up the unit. This resets all of the parameters in the unit.

**Enter 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.

Note, that 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.

- 1. Display Format (Display Code DF): Set display to GAL** (stands for U.S. Gallons), or change to Liters or Cubic Meters if out of the U.S. Press the Extra Cycle button to go to the next step.
- 2. Valve Type (Display code VT): Set to DF2b.** This means it is set for standard Downflow mode, similar to a water softener so we can take advantage of the flow meter in this Fleck 7000 5-cycle valve, but we won't be using all the 5 cycles that the water softeners use. Press the Extra Cycle button to go to the next step.
- 3. Control Type (Display Code CT): Set to Fd. This is the Meter Delayed option.** This tells the Fleck 7000 control to meter or keep track of the amount of water used, but then wait until the pre-

set regeneration (backwash and rinse cycles) time, typically in the middle of the night. Press the Extra Cycle button.

4. **Unit Capacity (Display Code C): Set to 30.** Use this display to set the Unit Capacity. This setting specifies the treatment capacity of the unit. Since we are not using this for softening, where the capacity of the softening resin can be accurately defined, 30 is a number we can start with. This can be set higher or lower later which will allow the meter to backwash more or less frequently based on the capacity. Press the Extra Cycle button.
5. **Feedwater Hardness (Display Code H): Set to 10 to 20.** This is the feedwater hardness, that allows the meter to calculate the number of gallons between backwashes. It is a little meaningless for filter valves, and is designed for water softener which remove calcium hardness in grains per gallons. However, if you set it to 20 , to start with, you will later see the number of gallons between cycles when you are finished programming based on your size of system. It is not that critical, because you want the filter to backwash once a week or every few days based on the type of filter system you have, by setting the Day OverRide.
6. **Reserve Selection (Display Code RS): Set to SF.** It is not relevant to filter control valves.
7. **Safety Factory (Display Code SF):** Set to 0.
8. **Day Override (Display Code DO): Set to 1 to 14** based on your particular filter system requirements. Use the Up or Down arrows to change the setting. This is the critical setting that allows your filter to backwash every fixed number of days. See your Installation and Start-up Guide for more information or contact us for suggestions for this setting. Press the Extra Cycle button.
9. **Regeneration Time: (Display Code RT): Set to 2:00 am** generally or sometime when no water is being used, and no other filter or softener is likely to be in a regeneration cycle. Press the Extra Cycle button.
10. **Regeneration Cycle Step Times:** Use this display to set the various minutes of each cycle. Some of the cycles will be set to 0. **Do not set any of the cycles to Off.** Use the Up or Down arrows to change the setting to the desired setting. Press the Extra Cycle button to accept the setting and move to the next parameter.
  - a. **B1 – Backwash: Set to 8 to 10 minutes.**
  - b. **BD - Brine Draw: Set to 60**
  - c. **B2 - 2<sup>nd</sup> Backwash: Set to 6 minutes.**

- d. **RR - Rapid Rinse: Set to 6 minutes**
- e. **BF - Brine Fill: Set to 12. This is what fills the permanganate tank. The goal is to have 1" of permanganate solution above the pad in the permanganate tank.**
- f. **SV - Service (meaning it is in Service or filtering mode) no setting is needed for this.** Press the Extra Cycle button

**11. Flow Meter Type (Display Code FM):** Set to t1.2 (which is standard Fleck 7000 meter). Press the Extra Cycle button.

**12.** Press the Extra Cycle button to save all settings and exit Master Programming Mode. Note that the control valve may take several minutes to re-home and re-set after the Master Programming steps, do not unplug the control during this process.

## User Programming

Now you can go into User Programming and make adjustments if you want to the flow meter setting or Day Override setting. Use the User Programming to avoid having to go through the Master Programming for quick changes to these settings below:

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. **Day Override (Display Code DO): Set to 1 to 14** based on your particular filter system requirements. Use the Up or Down arrows to change the setting. This is the critical setting that allows your filter to backwash every fixed number of days. See your Installation and Start-up Guide for more information or contact us for suggestions for this setting. Press the Extra Cycle button.
3. **Regeneration Time (Display Code RT): Set to 2:00 am** generally or sometime when no water is being used, and no other filter or softener is likely to be in a regeneration cycle. Press the Extra Cycle button.
4. **Feed Water Hardness:** Use this setting to adjust the feed water hardness. Set for 20 for most applications. Press the Extra Cycle button.

5. **Fixed Reserve Capacity (Display Code RC): Set to 0.** No fixed reserve capacity is required for filters. Press the Extra Cycle button.
  
6. Press the Extra Cycle button to end User Programming Mode.

### **Diagnostic Programming Mode**

Press the Up and Extra Cycle buttons for five seconds while in service. See the current flow rate in gallons per minute currently flowing through your system! Press the UP button to go between the diagnostic displays.

| <b>Abbreviation</b> | <b>Parameter</b> | <b>Description</b>  |
|---------------------|------------------|---|
| FR                  | Flow Rate        | Displays the current outlet flow rate   |
| PF                  | Peak Flow Rate   | Displays the highest flow rate 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 system capacity, feedwater hardness, and safety factor |
| SV                  | Software Version | Displays the software version installed on the controller   |

**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.**