ORIGINS

AERUS

HF 500   •   IRON, HYDROGEN SULFIDE & MANGANESE FILTER

Operation Manual

System Installation

CAUTION:
Do not use systems on untreated well water that is microbiologically unsafe.

- Do not exceed 125 psi water pressure.
- Do not exceed 110F water temperature.
- Do not subject unit to freezing conditions.

All plumbing must be in compliance with local and state plumbing codes.

Determine a suitable location for the system. The chosen location should provide you adequate access to service the unit. Ensure that the location is after the main water supply control valve with access to the water line that feeds the home (prior to hot water heater).

OVERVIEW

- **Plumbing connections**

  - Shut off main
  - Release water pressure
  - Make pipe connections

- **Level I valve programming** (Initial settings)

  - Current Time
  - Current Date

- **Level II programming** (settings made at factory)

- **Drain line connection**

- **System start-up** (in backwash)

Plumbing Connections

⚠️ Be sure to comply with all required plumbing codes.

1. Shut off main water supply to the home.

2. Release water pressure by opening a faucet at the kitchen sink or other location.

Important! - Be sure to lubricate the o-rings on the quick connect fittings prior to installation.

3. Make final main water connections to the valve, using quick connect fittings.

Optional supplied fittings:
(2) 3/4 " male threaded 90 quick connect fitting
(2) 1" male threaded straight quick connect fitting

a) Install fittings to the by-pass by removing the red locking clips.
b) Insert fitting.
c) Return the red locking clips to secure the fitting.

fittings →

Locking clip →

By-pass assembly →

Fig. 1
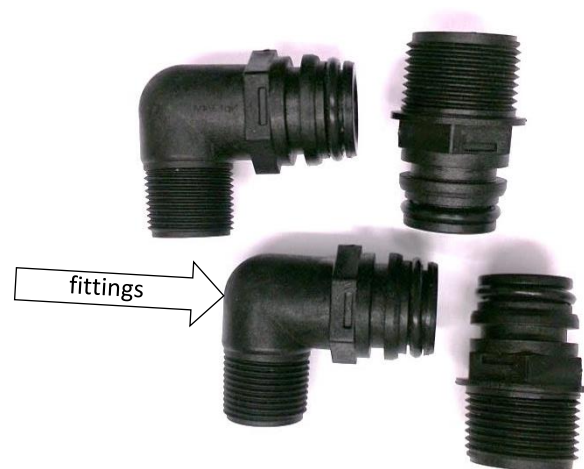
1850 Valve
(Metered for demand regeneration)

Features

- By-pass valve is included and comes with ¾" and 1" quick connect pipe fittings
- Metered for demand regeneration
- Ideal for softeners, iron, sulfur, carbon and sediment filters
- For tanks to 16" (softeners)
- For tanks to 10" (filters)
- Easy to program
- Operational data shown on LED, including flow rate, last regeneration date, gallons remaining and more

Valve Programming

FIRST - UNLOCK VALVE

Press ⧉ and hold for 3 seconds to unlock the valve for programing.

Settings

Valve button programing control definitions

1) **Menu Key** ⧉
   Press this key to enters or exit menu

2) **Set / Save Regen Key** ■
   Press this key to select a program
   or to save a setting

3) **Up arrow Key** ▲
   Press these keys to go to the
   previous menu

4) **Down arrow Key** ▼
   Press these keys to go to
   the next menu

HF 500

Level-I Set up Parameters
(Required for initial set-up)
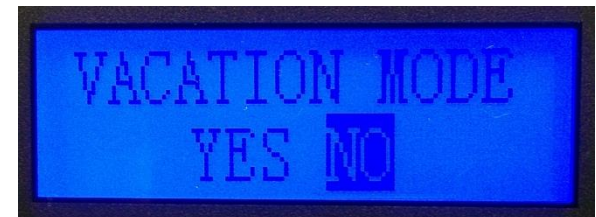
Level-1

Time – Enter the time of valve set up.

Date - Enter today's date at time of valve set up.

Number of People – Enter # of full-time residence (default 4).

Water Hardness - Enter grains of hardness (default 20).

Vacation Mode – <u>Default is no</u>, changing this setting will change the valve operation to a calendar cycle.

CURRENT DATE
OCT/18/2012

NUMBER PEOPLE
4

WATER HARDNESS
20 GPG

CURRENT TIME
01:17PM

VACATION MODE
YES NO

Making Adjustments – Level I

All programing is adjusted using the methods described in the programing method.

Setting level I programing

Time

1) Press ▢* to enter menu (hour display will be highlighted)
2) Press ■ to enter hour setting **(must be flashing to edit)**
3) Press ▲ or ▼ to adjust hour
4) Press ■ to save and move to minute setting (flashing)
5) Press ▲ or ▼ to adjust minute
6) Press ■ to save and move to AM/PM setting (flashing)
7) Press ▲ or ▼ to adjust AM/PM
8) Press ■ to save and move to hour spot (not flashing)
9) Press ▼ to go to current date set up or to cycle through level I settings (continue to set all level I setting)
10) Press ▢* to exit menu and return to main screen

*Note: if valve is "locked" you will need to press and hold menu for 3 seconds. Valve will "beep" when changing menu's or parameters. Highlighted parameter must flash to be able to adjust setting.

Level-II Programming
(Settings have been pre-set at the factory)

Level-II

These settings have been made at the factory and are held in memory. Level-II settings will not be lost during a power outage. However, if adjustments are desired, follow the directions below.

- Language
- Valve operation
- Regen Mode
- Regen Time
- Capacity Calc.

- Resin Volume (FT3)
- Salt Settings (lbs./FT3)
- Refill Flow Rate (GPM)
- Unit Capacity (grains)
- Reserve Capacity

- Backwash (min)
- Brine/Rinse (min)
- Rapid Rinse (min)
- Refill (min)

Reasons to change Level-II setting (examples)

1) Initial start up configurations
2) Using tanks other than 9X48
3) Using Valve for Carbon or Iron Filter
4) Setting valve up for use in in Iron Filter
5) Adjusting any cycle or setting to enhance performance

Making Adjustments – Level II

All programing is adjusted using the same methods as for Level-I programming.

Setting level II programing

Backwash

      1) Press ▲ and ▼ together to enter menu (5 sec.)
      2) Press ▲ or ▼ scroll to backwash setting
      3) Press ■ to enter menu (flashing)
      4) Press ▲ or ▼ to adjust minutes (flashing)
      5) Press ■ to save setting and advance to tenths of minute
      6) Press ▲ or ▼ to adjust tenths of minute for backwash
      7) Press ■ to save
      8) Press ▲ or ▼ to move to another menu
      9) Press ⧉ to exit menu and return to main screen

Note: Valve must be in manual mode to adjust and save capacity and refill duration.

*__Note__: If the valve is "locked" you will need to press and hold menu for 3 seconds. Valve will "beep" when changing menus or parameters. Highlighted parameter will flash when you are able to adjust setting.

AIR DRAW INSTALLATION

Aerus Origins® control valves are highly effective for Iron, Hydrogen Sulfide and Manganese reduction by using our unique "air draw" installation to introduce fresh air to the filter tank for added oxidation.

Air draw is not required in many installations (depending on Iron, Sulfur and Manganese concentrations), so testing is advisable.

Factory settings for air draw installation:

- Valve is programmed for SOFTENER operation
- YELLOW injector is installed
- Regeneration is set using CALANDAR CLOCK
- Regeneration is set for 11:00 PM (may be adjusted)
- Capacity calculation is set as MANUAL
- Regen days set at "1" (to backwash every night)
- Backwash set at 30 MINUTES (may be adjusted)
- Brine rinse (air draw) set at 30 MINUTES
- Rapid rinse set at TWO MINUTES
- Refill set at ZERO

IMPORTANT: Well pump must be able to provide 7 gpm for proper backwash. Evaluation required PRIOR to installation.
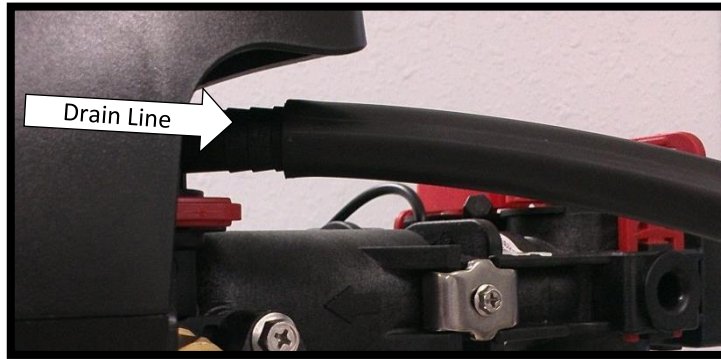

Air check with screen (included)

Water check installed prior to unit (Included)

IMPORTANT: Disinfection (chemical treatment) is required if water contains bacteria, iron bacteria or sulfur bacteria. Site evaluation and testing is advised.

Connect Drain Line

Drain Line

Connect drain line to the valve

Slide drain line tube over barbed drain line connection fitting until secured.

IMPORTANT

Proper backwash is critical for Iron/Sulfur filters Therefore, do not tee-off drain line or use ½" drain tubing longer than 20'. (Use ¾" or 1" drain line for longer runs).
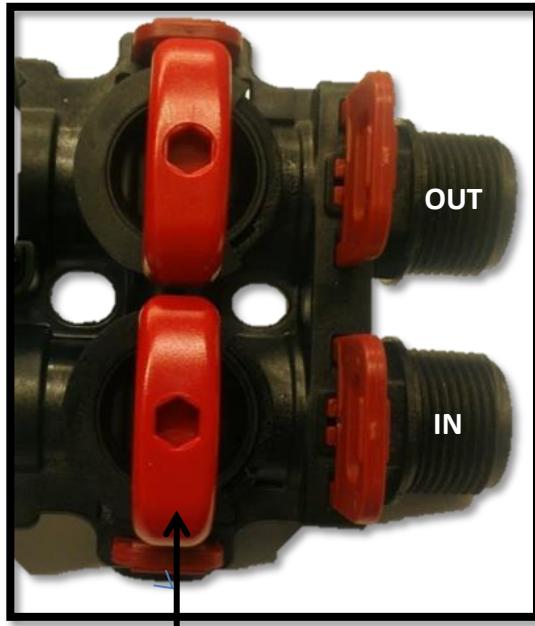
CAUTION: *Inspect valve for "brine plug" or air draw valve installed at the factory. (Plug is required to prevent water leaking when valve advances)*

Non-air draw plug shown

System Installation

OUT

IN

Off Position

Turn the by-pass valves to the "OFF" position (red valves) pointing "across" the valve as shown.

With the faucet still on, open the main water supply valve.

⚠️ **CAUTION:** *Inspect all plumbing connections. Check for leaks and make repairs as needed.*

System Start Up

Notice:

For initial start-up, the Inlet and Outlet valves on the bypass should be in the **closed position**.

1) Press and hold ■ to enter Manual Regen Mode (press for 3-5 seconds)

2) Press ■ to enter edit mode (flashing)

3) Press ▲ or ▼ to select immediate (flashing)

4) Press ■ to save

5) Press ⧉ to show "Advancing to Backwash"

Note: Valve will reset backwash cycle to delay after manual regen. cycle has finished.

Start-Up In Backwash

1) Screen will now display "Backwash" and flash "Remaining XX min"

2) You will need to run Backwash cycle until drain line runs clear
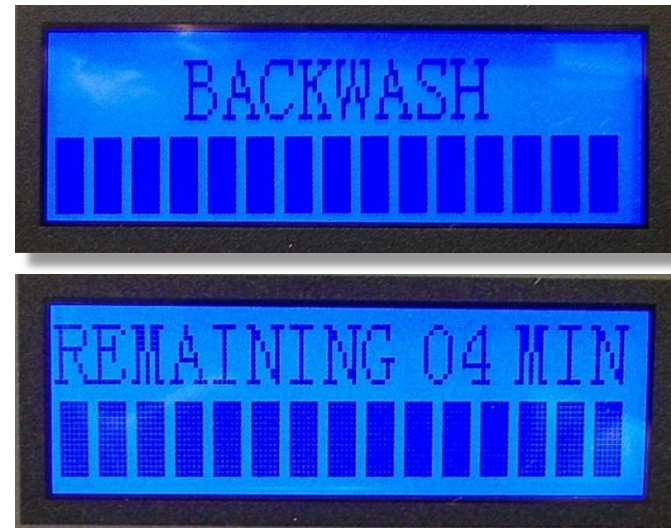
NOTE: When advancing to another cycle, valve will show "advancing to". Once the valve is "in" a subsequent cycle, you may press any button to advance to another cycle. Valve cannot be advanced while in the "advancing to" position.

Fill the Mineral Tank

⚠️ **CAUTION:** *Allow time for glued connections to cure before proceeding.*

If the mineral tank was not filled, do so at this time following the directions below:

1) With bypass valves in the "OFF" position turn on the main water supply.

2) Open "Inlet" valve <u>slowly</u> ¼ turn clockwise to fill the media tank.

3) Slowly continue to open inlet all the way once water is flowing from the drain line.

Outlet

inlet

OFF Position
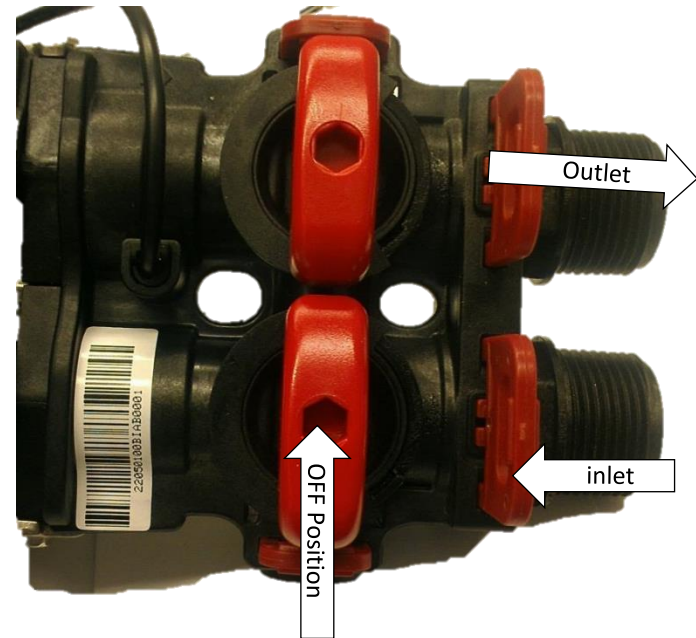
NOTE: Watch to see if the backwash flow rate is proper – do not obstruct drain line. This is particularly important for Iron and Sulfur filters.

⚠️ **CAUTION:** *Inspect all plumbing connections. Check for leaks and make repairs as needed.*

System Installation

Leave the system in backwash for a minimum of ten to fifteen minutes or until the water runs clear. This will flush loose particles and preservatives from the media.

REPEAT of the initial backwash cycle may be required should the backwash discharge water does not run "clear" after unit has finished the first cycle.

Press ⬒ to advance to the next cycle

NOTE: *It's common to run multiple backwash cycles with carbon and Iron filters due to the amount of "fines" in the media.*

Ready for Service

1) Slowly open outlet to supply water to the house.

2) Open faucet in the house to remove debris and air to flush system.

Weather Cover
(For outdoor installations)

WARNING

If the water treatment system is to be installed outside, exposed to the weather and/or UV Rays, it is necessary to install a weather cover over the valve. The weather cover will protect the valve from the damaging effects of UV Rays on the LCD Screen and is required to submit a warranty claim.