



Pump Suction Screen Filter Installation and Operation Manual

I. FLOW REQUIREMENTS FOR CLEANING THE PUMP SUCTION SCREEN PRODUCTS

- . Recommended operating pressure range – 50-60 PSI
- . Each spray jet nozzle on the cleaning wand flows 4 GPM.
- . The PSS Model 200 through 800 has 5 jets.
- . The PSS Model 1000 through 2000 has 6 jets.
- . The PSS Model 2400 has 7 jets.
- . The PSS Model 3000 through 4000 has 11 jets.
- . Total flow requirements for cleaning:

Model PSS200 - PSS800 20 GPM
Model PSS1000 - PSS2000 24 GPM
Model PSS2400 28 GPM
Model PSS3000 – PSS4000 44 GPM

The return water to the jets should be filtered through a minimum 20 mesh screen filter prior to supply to the jets.

II. PUMP SUCTION SCREEN MESH SPECIFICATIONS

MESH	WIRE SIZE	HOLE SIZE	% OF OPEN AREA
12	.023	.0600	51.8
30	.012	.0213	40.8

III. GENERAL INFORMATION

The following is information on maintenance, repair and general operation of the self-cleaning pump suction screen.

- . **How is the brass bearing assembly replaced?** There are four bolts around the top head of the unit. After removing these bolts the entire cage can then be removed for easy access to the bearing assembly.
- . **What is the recommended preventative maintenance?** The major contributing factor that will cause the self-cleaning pump suction screen success or failure is the cleanliness of the return water from the pump to the spray nozzles. Keeping the water quality as clean as possible on the return line will help the bearing assembly to operate at its maximum and keep the spray nozzles clear allowing the most efficient removal of debris from the screen.

IV. INSTALLATION AND OPERATING INSTRUCTIONS FOR RAIN BIRD SELF-CLEANING PUMP SUCTION SCREENS

1. Before installing a PSS Screen, check the pumping system's discharge pressure. If the pump discharge pressure is less than 25 PSI, a booster pump may be required. Your PSS Screen will operate at pressures less than the 25-PSI minimum recommended operating pressure, but the cleaning action will not be as strong at low operating pressures.
2. Check your PSS model flow rate specifications to be sure that the rated flow of the pump does not exceed the PSS's maximum flow rating.
3. Install a backwash water return supply line at least 1 1/2" in diameter. If your PSS Screen is located more than 100 feet from the pump, a somewhat larger line size may be necessary to overcome friction loss produced by the pipe run.
4. Thoroughly flush out the backwash water return supply line before attaching it to the PSS Screen to purge it of rocks, debris, etc. Failure to flush the line could result in plugging the spray jet nozzles inside the screen with foreign materials.
5. Install on the backwash supply line these items (in this order) from the pump discharge pipe.
 - 1) One properly-sized gate or ball valve for supply regulation. If the pump pressure exceeds 100 PSI, we recommend a pressure regulator in addition to a shutoff valve (not supplied). If an automatic globe valve is installed, it may be used for pressure regulation.
 - 2) One "in-line" 20-mesh strainer to filter the water supplied to the backwash jets. (not supplied)
 - 3) One pressure gauge. (not supplied)
6. Your PSS Screen should not be located any closer than 6 inches to any object. The suction screen should not be located directly on the bottom of the lake, reservoir, etc., to avoid silt overload. Locating the unit one or two feet above the bottom will reduce this probability.
7. Install your PSS Screen's flanged outlet to the pump's suction/inlet pipe. If another adapter is desired instead of flange, please contact the factory. Plumb the backwash supply line into the pump's discharge pipeline. It is not recommended using the threaded plug holes in the pump case as there may not be enough pressure or water volume to properly operate the PSS pump suction screen from this supply point.

8. The backwash water return supply line should be plumbed ahead of the main line's butterfly valve. The butterfly can then be partially closed to create sufficient back pressure to operate the pump suction screen if adequate back pressure does not exist in the system.
9. Before attaching the backwash supply line to the PSS Screen, be sure that the line has been thoroughly purged of any debris to protect the backwash jets inside the screen from becoming clogged.
10. At the time of start-up the speed of the spray bar rotation should be adjusted using the valve or regulator to provide for 16 to 20 rotations per minute. This should provide adequate cleaning of the unit without excessive rotation and wear and tear.
11. The "in-line" strainer on the backwash water supply line should be checked and cleaned regularly to remove trapped contaminants and debris.