

## **ASSEMBLY INSTRUCTIONS - FLECK GAC FILTERS**

**Valves covered: 2510, 2750, 2850, 2900, 3150**

This filter has been shipped in kit form to facilitate easier transport and installation. It has been broken down into four (4) main components:

- 1) Valve and vessel reducer (if required). A top distributor is fitted to prevent media loss during backwashing except on the 3150 valve. You will need to set frequency of backwash on time clock valves, or the volume of water before backwashing on econominder versions. A Fleck instruction manual is included with the valve. The valves all operate at low voltage (24v AC) and an appropriate transformer will be packed with the valve.
- 2) Pressure vessel with riser tube and distributor cut to length and chamfered. The top of the tube will have a slip on cover to prevent the filtration media from falling inside the distributor when the pressure vessel is filled.
- 3) Support gravel packed in 25 kg (16 litre) bags.
- 4) Granular Activated Carbon (GAC) packed in 25 kg (50 litre) bags

### **ASSEMBLY**

Locate the component parts of the filter, and check that everything required has been delivered. Ensure installation site is clear and level.

If possible, place the pressure vessel in its final location before filling. Check that the distributor tube with the slip on cover is in place. Using a hose, 1/3 fill the vessel with water. This is to prevent damage to the bottom distributor. Wearing a dust nuisance mask, using a funnel, first slowly pour in all the gravel. Next, slowly pour in the GAC. Ensure that the distributor tube remains central in the vessel during filling.

After emptying all the bags, the vessel should be at most 70-75% full. This is to allow rising space for the media during backwashing. Once the vessel is filled, immediately sweep up any spilled filter media.

Remove cover from distributor tube, and brush any debris out of the threads in the neck of the pressure vessel.

Unpack the valve and reducer (if used). Screw the reducer into the pressure vessel, then slip the valve down over the distributor tube. Screw the valve in to the pressure vessel, taking care not to cross the threads. Excessive force should not be needed as the valve is running in to the vessel. Finally tighten to approximately 20 ft.lbs. torque. Adjust position of vessel to line up pipework connections, not the position of the valve on the vessel.

Connect inlet and outlet pipework to valve using flexible connections or plastic high pressure piping. Flexible pipework is essential to prevent stress on the vessel as it cycles during service, since it will expand and contract longitudinally.

Connect drain line to the outlet from the drain port on the valve. Ensure that there is an air break in the drain at the same height as the valve to prevent negative pressure on the vessel.

Connect power supply to the valve transformer and commission.

## **COMMISSIONING**

The objective of commissioning is to fill the filter with water, check for leaks and prepare it for service.

Before opening the inlet water supply or switching on the power supply, remove the valve cover and turn timer to the backwash position (first bank of pins lift outer microswitch). Switch on power, which will activate the piston motor(s) (two motors on the 2900 valve, one under each cover) and the timer motor. When the piston motor(s) have stopped, slowly open the inlet water supply. At first, air will be expelled from the drain line, followed by water once the vessel is full. Turn off the power and water and allow the media to soak for at least four hours. After soaking turn on the power and water and allow water to run to drain by backwashing for 5-6 minutes in order to rinse the filter media and remove fines.

Next, turn the timer to the first gap in pins. Ensure motor(s) have stopped before indexing to the next position.

Then, turn the timer to the fast rinse position (second bank of pins). Water will run swiftly to drain. When the motor(s) have stopped, turn timer to the second gap in the pins.

Index the timer to the last two pins if it is not there already. Main piston(s) will return to the service position.

Again wait for piston motor(s) to stop before turning timer to the standby position (back microswitch will drop in to notch on timer and upper piston motor will momentarily move).

The filter will now be commissioned. Turn off power supply, ensure economizer cables are in their respective drive sockets (if fitted), refit covers, then switch power back on.

Open the outlet from the filter to run water to drain for a further 20 minutes.