**ASSEMBLY INSTRUCTIONS - FLECK SIMPLEX INDUSTRIAL SOFTENERS**

Valves covered: 2510, 2750, 2850, 2910 with mechanical meters and timers

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

1) Valve with top distributor. Regeneration cycle has been pre-set in out-factory. You will need to set frequency of regeneration on time clock valves, or the volume of water before regeneration on econominder versions. A Fleck instruction manual is included with the valve. If a low voltage valve has been specified, the 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 resin and gravel (where used) falling inside the distributor when the pressure vessel is filled.

3) Brine tank complete with brine well and brine pick up. Brine line is cut to length and is packed in the brine tank.

4) Resin and gravel (where used). Resin packed in 25 litre sacks plus one smaller bag to balance resin volume if necessary. Gravel packed in 25 kg or 50 kg bags.

## ASSEMBLY

Locate the component parts of the softener. 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.**

Fill the vessel approx 1/3 full with water to prevent damage to the distribution system while adding resin. Using a funnel, first slowly pour in the gravel (if used). Next, slowly pour in the resin taking care not spill any on the floor. Ensure that the distributor tube remains central in the vessel during filling. After emptying all the bags, the vessel should be almost 75-80%. full. This is to allow rising space for the resin during backwashing. Once the vessel is filled, immediately sweep up any spilled resin.

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

The top distributor will already be fitted to 2850 and 2910 valves.

Unpack valve and fit top distributor if using a 2510 or 2750 valve. To do so, gently push top distributor over the lugs on the base of the valve until it sits square with bottom of the thread. Then twist clockwise until distributor clicks into place.

Slip valve down over the distributor tube. Screw the valve in to the resin 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.

Position the brine tank and connect brine line to the bulkhead connector above the overflow (3/8" or 1/2" brine line depending on the brine valve used). Ensure that a brass insert is placed inside the brine line before connecting.

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

Connect brine line to the brine valve on the main valve. Again, ensure that a brass insert is placed inside the brine line before connecting.

Connect power supply to valve and commission.

**COMMISSIONING**

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

Add water to the brine tank with a hose until approximately 6" (150 mm) above the bottom of the tank.

Before opening the inlet. water supply or switching on the power supply to the softener, 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 2910 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. Allow water to run to drain by backwashing for 5-6 minutes in order to rinse resin.

Next, turn the timer to the brine and slow rinse position (first gap in pins). Check that the water level in the brine tank drops as water is drawn in. During brine and slow rinse, water will run slowly to drain. 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 motors(s) have stopped, turn timer to brine refill position (second gap in pins). Check that water refills in to the brine tank. Leave to fill for full duration, and add salt to brine tank.

After refilling brine tank, 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 softener will now be commissioned. Turn off power supply, ensure econominder meter cables are in their respective drive sockets (if fitted), refit covers, then switch power back on.

Open the outlet from the softener to run water to service.