

# MADDEN MANUFACTURING, INC.

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## COIL AND FLOAT VALVE REPLACEMENT

### H V SERIES HEAT EXCHANGER

#### A. Disassembly:

1. Valve off all connected piping. Disconnect the piping to the Heat Exchanger System.  
Note: It may be possible to leave the feed water connections to the lower vessel intact.
2. Remove the temperature gauge plate and the thermal couplings from the piping, leaving the gauges themselves installed in the plate.
3. Remove the 12 nuts from the flange bolts that secure the top vessel to the bottom vessel. Carefully lift the top vessel off the flange, elevating the top vessel to clear the Float Valve.
4. Remove the Hammerlock Nut (HV014) from the coil at the bottom of the lower vessel.
5. Lift the Coil, Float Valve and Divider Plate Assembly out of the lower vessel using care to not damage the Divider Plate (HV020).
6. Remove the Divider Plate from the Coil Assembly by unscrewing the Float Valve.
7. Remove the old gaskets and clean all surfaces.

#### B. Reassembly:

1. Lay the new coil on the floor. Install one gasket (HV024A) on the manifold end that is internally threaded. This is the end of the coil that will protrude through the ring at the bottom of the lower vessel. Use pipe dope on all gaskets.
2. Install a gasket (HV024A) on the other manifold end. This is the Float Valve end of the coil.
3. Place the Divider Plate (HV020) onto the manifold on the Float Valve end of the coil.
4. Install a gasket (HV024A) on the end of the manifold next to the Divider Plate.
5. Thread the Float Valve onto the end of the manifold and tighten until it is secure.
6. Place a 12" flange gasket (HV023) on the 12" flange on the lower vessel.
7. Lift the new Coil-Divider Plate-Float Valve assembly. Align vertically, and lower the assembly into the lower vessel so that the lower end of the bottom coil manifold protrudes through the ring in the bottom of the lower vessel.
8. Rotate the assembly so the Float Valve will have clearance from the baffle located in the upper vessel.
9. Place the second 12" flange gasket (HV023) on the top side of the divider plate.
10. Lower the upper vessel on to the lower vessel using care to not damage the threads on the flange studs that extend from the 12" flange.  
Note: It may be necessary to use a stick to lift the Float Valve ball to enable the 12" flange to clear the valve assembly. Once the flange has been lowered past the float ball, the ball can be lowered to the resting position.
11. Reinstall and tighten the Hammerlock Nut that secures the bottom end of the coil.
12. Replace the 12 flange nuts. Tighten the flange nuts in a criss-cross pattern.
13. Reinstall all piping, gauges and fittings that have been removed.
14. Test connections for leaks.
15. Follow normal pressure vessel start up practices to return the system back on line.