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# INSTALLATION INSTRUCTIONS
## Metering Valves, Splash Shield & Service Kit



## METERING VALVE SERVICE TIPS

Following are several Service Tips that may assist you in the installation and servicing of the RPI metering valves that fit the MDT-Harvey (Barnstead Thermolyne) Chemiclave® Models E, 4000, 5000, 5500 and 6000.

When rotating the control shaft from the "Depressurized" position to the "Pressurized" position, or vice versa, a small amount of solution is forced out through the two vent holes in the outer body of the metering valve. This is a normal function of the valve. In fact, a splash shield accompanies every RPI valve and is designed to absorb the drips.

However, there are times you should be suspicious and here's what to do. If the machine loses pressure, check the o-rings and tubing for cracks. Check for excessive bubbles in the fill tube. Then make sure that the operating temperature is below 275˚F because the solution will start to boil away at 272˚F. (**Tip:** If there are excessive bubbles in the fill tube, without a pressure leak, this means that the chamber temperature is too high. Use the Max Register Thermometer (RPI Part #RPT113) to confirm that the temperature is too high and not a valve problem. If you see fluid being pushed through the vent line, check the valve o-rings. If the main reservoir is depleted long before it should be, check the valve o-rings.

As you can see, the o-rings are the key to maintaining a working valve. In fact, RPI Metering Valves come with a FREE lifetime availability of the Metering Valve Service Kit (RPI Part #MDK057) that includes all of the o-rings and lubricant that you will need.

Ask for a FREE Kit (RPI Part #MDK057) with any of the Metering Valves (RPI Part #MDV010, MDV011 or MDV016) the next time you place an order. That's the RPI Advantage!

# MDV010, MDV011 & MDV016
## METERING VALVE
## INSTALLATION INSTRUCTIONS

1. Remove the old valve from the machine.
2. Install the new valve and splash shield into the machine:

   **Important:** To keep the Vapo-Steril® Solution away from the insulation covering the heater blanket, all RPI metering valves are supplied with a splash shield onto which the solution can vent.

   To install the splash shield, see ***MDS058 SPLASH SHIELD INSTALLATION INSTRUCTIONS*** to the right and follow Steps #3-8.

3. Run the machine for several cycles with the machine cover off. After these test cycles, replace the machine cover and run another test cycle.

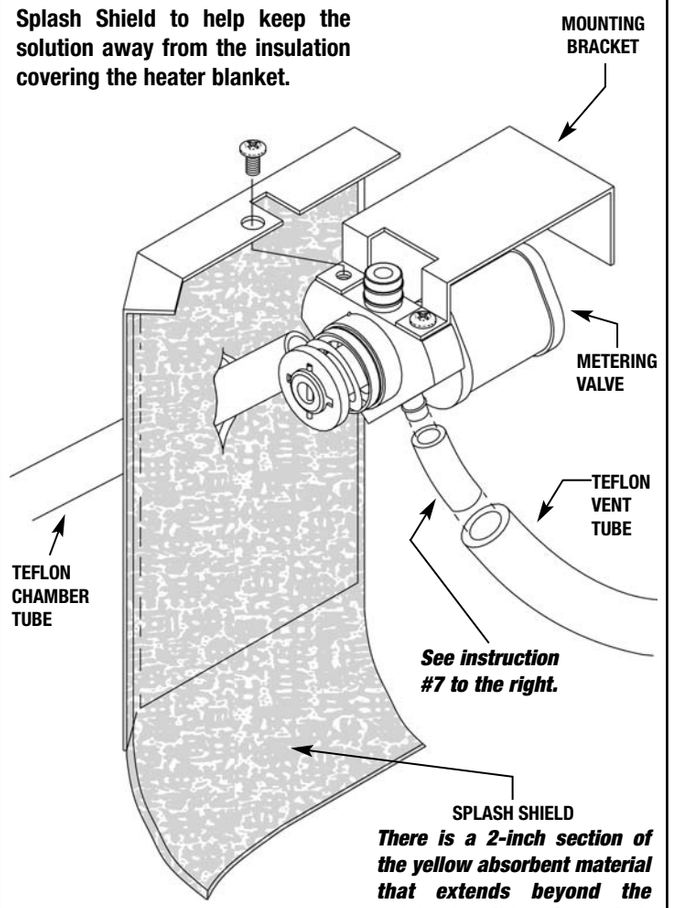
   **NOTE:** You will notice that a few drops of solution will drip from the metering valve when rotating the valve from the fill cycle to the dump cycle. This is caused by a venturi effect as the valve stem rotates. Make sure the splash shield is in place to catch the drips which will eventually evaporate.

The RPI Metering Valves come with a ***FREE*** lifetime supply of the Metering Valve Service Kits (RPI Part #MDK057) which includes ethylene propylene o-rings and high temperature lubricant.

If valve begins to show signs of needing service, please contact RPI and request your FREE Metering Valve Service Kit (RPI Part #MDK057).



**THE RPI ADVANTAGE – The Vapo-Steril® solution can vent onto the Splash Shield to help keep the solution away from the insulation covering the heater blanket.**




# MDS058
## SPLASH SHIELD
## INSTALLATION INSTRUCTIONS

1. Remove the valve from the machine.
2. Remove the old splash shield from the machine.
3. Press the Teflon® tube that is mounted to the chamber through the hole in the splash shield.
4. Connect the metering valve to the Teflon tube.
5. Attach the valve and splash shield to the mounting bracket.

   ***For Model 6000 only:*** When installing the splash shield in a Model 6000 machine, you will note that the condensation tank interferes with the bottom of the splash shield. Since the splash shield is made of a soft aluminum, simply put a slight bend in it so it lays over the condensation tank.

6. There is a 2-inch section of the yellow absorbent material that extends beyond the shield. Use this extra material to cover the power cord on the bottom of the machine.
7. Connect the vent line as directed below:

   ***For Model 6000 only:*** A 2" piece of 3/16" tubing is supplied. The 1/4" vent line requires a piece of "step-down" tubing for proper fit.

8. Connect the reservoir tubing to the metering valve.
9. Run the machine for a couple of cycles with the machine cover off. After these test cycles, replace the machine cover and run another test cycle.

# MDK057
## SERVICE KIT
## INSTALLATION INSTRUCTIONS

1. Remove the valve from the machine.
2. Disassemble the valve and take caution not to scratch the inside of the outer body with the roll pin that holds the assembly together. Carefully remove the used o-rings and discard.

   **CAUTION:** Do not remove the roll pin from the front of the valve.
3. Clean the stem (o-ring) section of the valve making sure to remove all oxidation and old lubricant.
4. Clean the outer body of the valve using caution not to scratch the inside surface where the o-rings seat against.

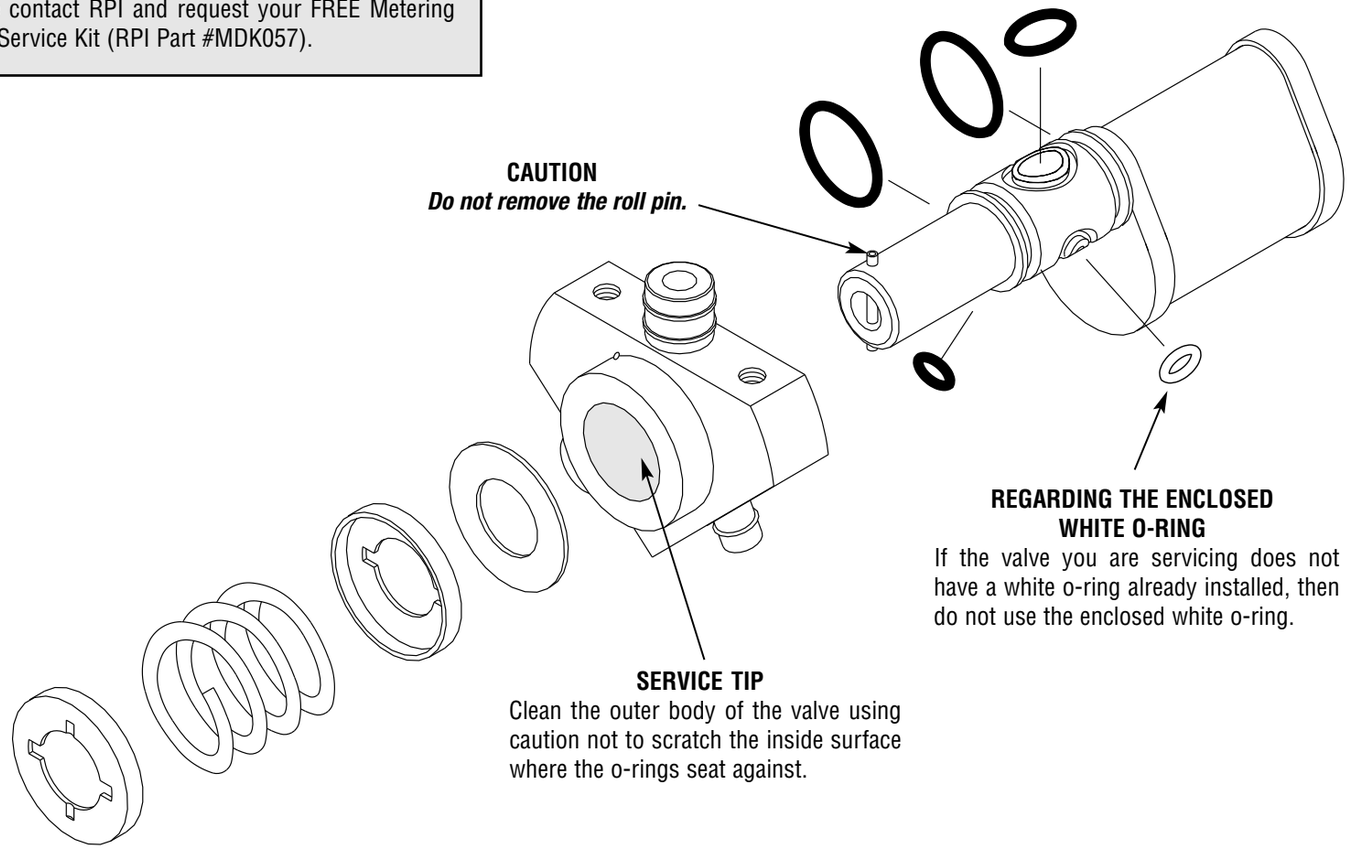
   ***Suggestion:*** A non-abrasive cloth with a non-detergent degreaser (such as Simple Green™) in warm water works very well in this application.
5. After the valve has been cleaned, replace the o-rings. **NOTE:** The white o-ring included in this kit is only for valves that require it (see illustration to the right). If the valve you are servicing does not have a white o-ring already installed, then do not use the enclosed white o-ring.
6. Lubricate the o-rings well in this application. Using a Q-Tip™ remove any excess lubricant that might have found its way into the top fill/dump hole in the stem. Lubricant repels liquids and might hinder the filling cycle.
7. Reassemble the valve. Apply a small amount of lubricant to the inside of the outer body. Carefully press the stem with new o-rings through the outer body and take caution not to scratch the inside of the outer body with the roll pin that holds the assembly together. Rotate the stem inside the valve body a few turns to fully lubricate the o-rings and ensure they are still in place.
8. Replace spring assembly. Once again rotate the valve to make sure everything is installed properly.
9. Reinstall the valve and Splash Shield.
10. Run the machine for a couple of cycles with the machine cover off. After these test cycles, replace the machine cover and run another test cycle.



## THE RPI ADVANTAGE

The RPI Metering Valves come with a ***FREE*** lifetime supply of the Metering Valve Service Kits (RPI Part #MDK057) which includes ethylene propylene o-rings and high temperature lubricant.

If valve begins to show signs of needing service, please contact RPI and request your FREE Metering Valve Service Kit (RPI Part #MDK057).




**REGARDING THE ENCLOSED WHITE O-RING**

If the valve you are servicing does not have a white o-ring already installed, then do not use the enclosed white o-ring.

**SERVICE TIP**

Clean the outer body of the valve using caution not to scratch the inside surface where the o-rings seat against.

***TUBING, CLAMPS, SLEEVES AND MORE …***

**For more parts to fit the Chemiclave® Models E, 4000, 5000, 5500 and 6000, see the RPI catalog, Section 10, or visit the RPI website at www.rpiparts.com.**

MDV010 INS REV B (05/04) Include with parts: MDV010/MDV011/MDV016/MDS058/MDK057