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INSTALLING A VALVE IN A HEATED VALVE ENCLOSURE - SINGLE VALVE MODELS

Technical Note 601

Manual Valve

1. For a manual valve, remove the knob or handle from the standoff assembly **(see Figure 3)**.
2. Remove the CR2/clamp ring from the standoff. The oven lid is supplied with a CR2, so the one on the standoff tube is not required.
3. Slide the standoff assembly through the opening in the oven lid, with the insulation on the lid toward the valve.
4. Secure the standoff to the lid by tightening the HWSC-SC6-10B screw in the CR2/clamp ring.
5. Place the heater block on the valve and secure it by tightening the cap screws **(see Figure 2)**.
6. Pass the heater cartridge and ground wire through the cable support, insert the heater into its hole in the heater block, and gently tighten the appropriate cap screw.
7. Insert the thermocouple or RTD temperature sensor into the heater block, as required by the application.

CAUTION: Overtightening the heater cartridge cap screw may result in damage to the heater cartridge and can pose a shock hazard. A fraction of a turn beyond the point of contact is adequate.

8. Attach the ground wire lug to the heater block with the screw indicated in **Figure 2**. The heater cartridge must be grounded.

FIGURE 1: Model HVE-A

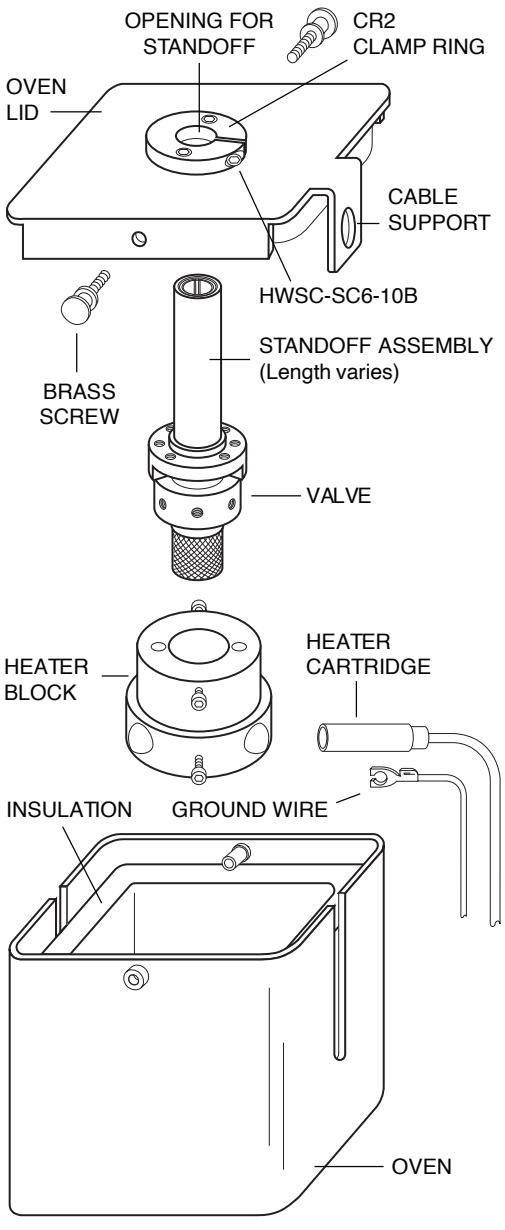


FIGURE 2: Detail of Heater Block Viewed From Each Side

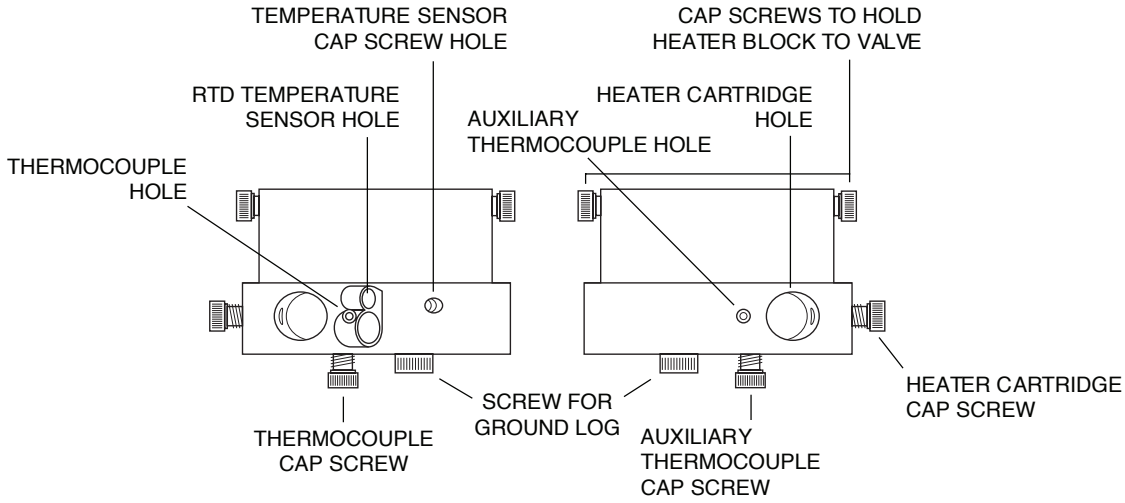
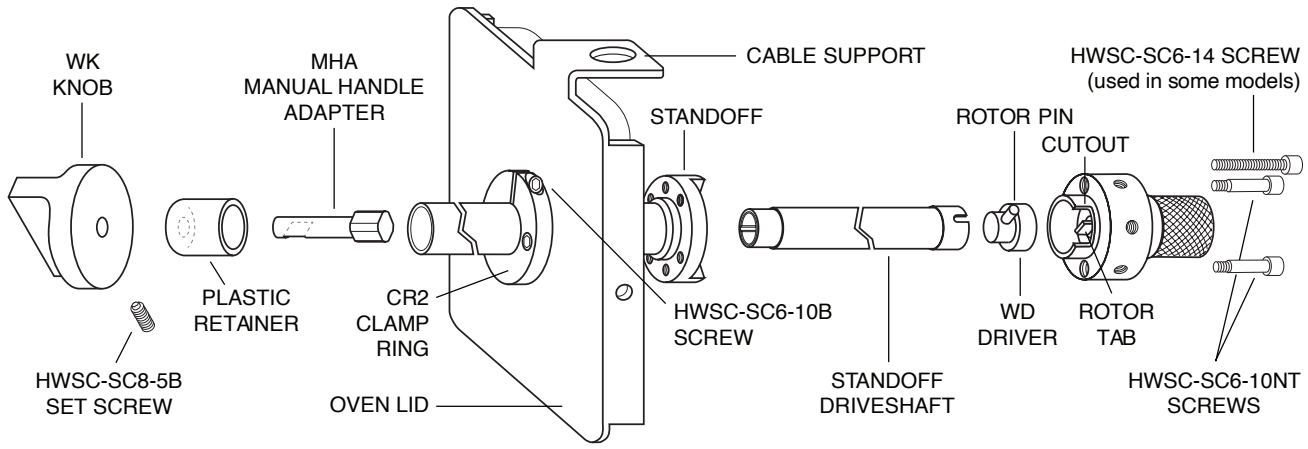


FIGURE 3: W Type Valve with Standoff and Standard WK Knob



9. Fit the MHA/manual handle adapter into the standoff, engaging the squared end of the MHA firmly in the squared end of the standoff drive shaft.

10. Press the plastic retainer over the end of the standoff, with the manual handle adapter shaft protruding through the retainer.

11. Slide the knob or handle over the MHA with the set screw toward the flat face on the MHA shaft. Tighten the set screw.

12. Plumb the valve as necessary.

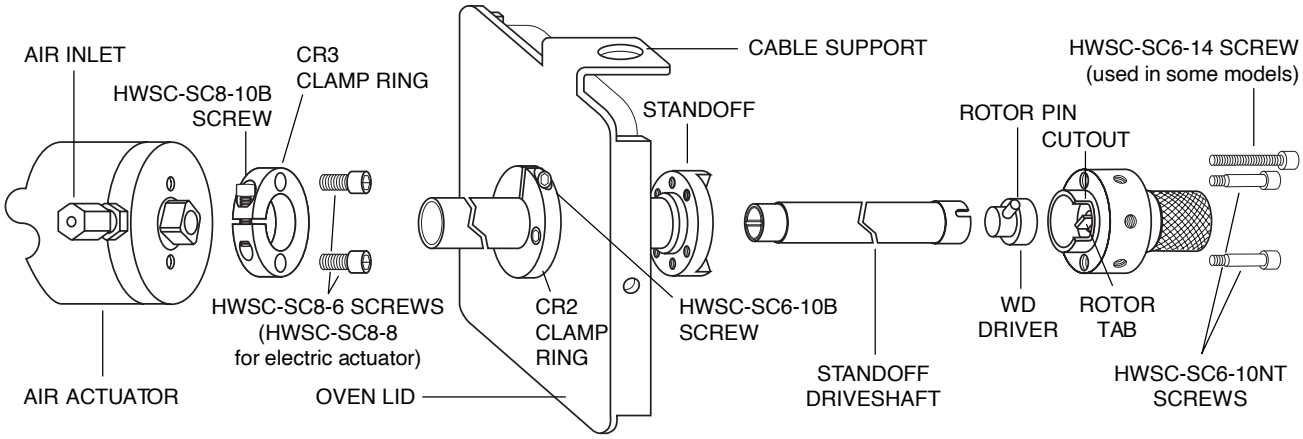
13. Use a sharp knife to cut slots in the oven insulation to allow wires and valve plumbing to exit the oven.

14. Gather up all the wiring and plumbing so that it can be directed toward the slot as you put the oven lid in place on the oven box. Press the box and lid firmly together and secure the lid with the two knurled brass screws provided for the purpose **(see Figure 1)**. This can be harder than it sounds if there are some sturdy loops offering resistance.

15. Put the black plastic strain relief device around the heater cable, and use a pair of pliers to press it into the cable support bracket on the lid.

See remaining steps in Alignment Procedures section on page 4.

FIGURE 4: W Type Valve with Standoff and Air Actuator (electric actuator mounting is identical)



Valve on an Air or Electric Actuator

1. For a valve on an air or electric actuator, loosen the HWSC-SC8-10B screw in the CR3/clamp ring **(see Figure 4)** and remove the valve/standoff assembly from the actuator.
2. Remove the CR2/clamp ring from the standoff. The oven lid is supplied with a CR2, so the one on the standoff tube is not required.
3. Slide the standoff assembly through the opening in the oven lid, with the insulation on the lid toward the valve.
4. Secure the standoff to the lid by tightening the HWSC-SC6-10B screw in the CR2/clamp ring.
5. Place the heater block on the valve and secure it by tightening the cap screws **(see Figure 2)**.
6. Pass the heater cartridge and ground wire through the cable support, insert the heater into its hole in the heater block, and gently tighten the appropriate cap screw.
7. Insert the thermocouple or RTD temperature sensor into the heater block, as required by the application.
8. Attach the ground wire lug to the heater block with the screw indicated in **Figure 2**. The heater cartridge must be grounded.

CAUTION: Overtightening the heater cartridge cap screw may result in damage to the heater cartridge and can pose a shock hazard. A fraction of a turn beyond the point of contact is adequate.

9. Orient the actuator in its fully counterclockwise position. With an air actuator, this is done by applying air pressure to the air inlet closest to the valve. For an electric actuator, switch to the LOAD position.

CAUTION: The valve and actuator must be in corresponding rotational positions before assembly. If they are not, the valve or actuator may be damaged when operated.

10. Turn the valve to its counterclockwise position, as shown by the rotor tab in **Figures 3 and 4**. The valve and actuator are now both in the LOAD position.

11. Firmly press the end of the standoff into the CR3/clamp ring mounted on the actuator, making sure that the square driver of the actuator fully engages the squared hole of the standoff drive shaft. Position the assembly so that the valve cutout is visible.

12. Tighten the HWSC-SC8-10B screw in the CR3/clamp ring.

See remaining steps in Alignment Procedures section below.

Alignment Procedure for Both Valve Types

1. Visually check the alignment by cycling the actuator from one position to the other while observing the location of the rotor pin. The rotor pin should come to rest against both sides of the cutout in the valve. If is does, skip to Step 5. If it does not, proceed to step 2.

WARNING: If the valve and actuator are not properly aligned before use, internal slots and ports in the valve body will not align properly, flow of sample may be blocked, and other problems may result.

2. Actuate the valve so that the rotor pin is against one stop. If the valve is air actuated, bypass the solenoids if necessary so that air pressure is maintained on the actuator throughout this procedure.

3. Loosen the screw in the CR3/clamp ring slightly. This will allow the actuator to complete its travel if it was being stopped by the end of the valve rotor travel. The valve will rotate slightly.

4. Tighten the clamp ring screw and cycle the actuator to the other position. The pin should come to rest against the stop. If it does not, repeat Steps 2-4. If after several attempts the pin still does not contact the stop in both positions, consult the factory.

5. Plumb the valve as necessary.

6. Use a sharp knife to cut slots in the oven insulation to allow wires and valve plumbing to exit the oven.

7. Gather up all the wiring and plumbing so that it can be directed toward the slot as you put the lid on the oven. Press the assembly firmly together and secure the lid with the two knurled brass screws provided for the purpose. This can be harder than it sounds if there are some sturdy loops offering resistance.

8. Put the black plastic strain relief device around the heater cable, and use a pair of pliers to press it into the cable support bracket on the lid.