

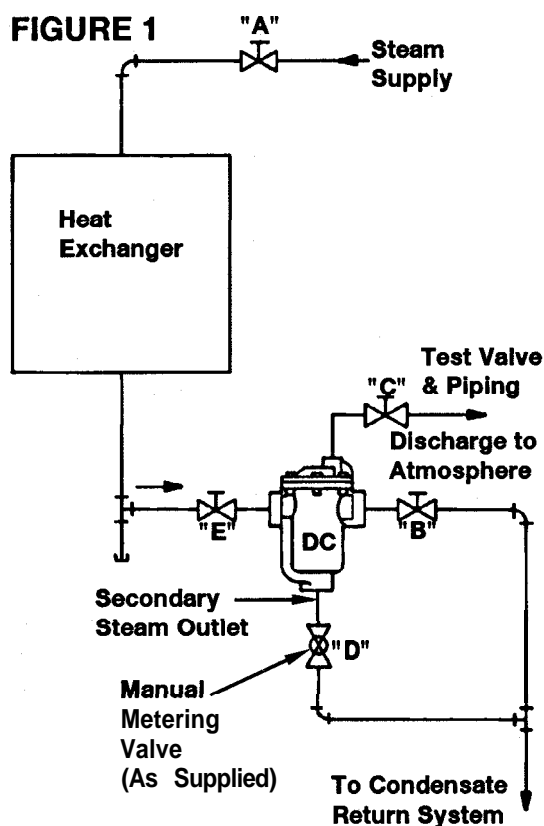


INSTALLATION, START-UP AND OPERATING INSTRUCTIONS

Armstrong Differential Condensate Controller

This bulletin should be used by experienced personnel as a guide to the installation, start-up, and operation of Differential Condensate Controllers. Selection or installation of equipment should always be accompanied by competent technical assistance. We encourage you to contact Armstrong or its local representative if further information is required.

These instructions primarily cover the Condensate Controllers installed with the secondary steam being discharged back into the condensate return piping (See Figure 1 below). If the secondary steam discharge from the Controller is into a separate pipe header for re-use in other condensing units, the manual metering valve setting "D" may differ, depending upon the pressure of the secondary steam header.



For General Description of Differential Condensate Controllers and their operation -- See Bulletin No. 126.

INSTALLATION RECOMMENDATIONS

1. Locate Controller below equipment being drained when possible.
2. Full pipe size connections should be used to Controller inlet, outlet and secondary steam discharge.
3. Provide hand valves "E" and "B" as shown in Figure 1. These not only provide proper isolation for repair but are necessary when adjusting operation of Controller during initial start-up. (See Start-Up Procedure).
4. Provide a "test valve" hook-up ("C" in Figure 1). See Figures 2 & 3 for connection sizes and locations on the DC Controllers.



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5. The manual metering valve (“D” in Figure 1), as supplied with the DC Controller, can be relocated to a horizontal position if necessary to reduce overall vertical installation height.

START-UP & OPERATING PROCEDURE

1. The following valve settings should be made on initial start-up of equipment. (Refer to Figure 1).
 - a) Valves “A”, “B” and “E” open
 - b) Valves “C” and “D” closed

With these valve settings, the Differential Controller is functioning as a standard inverted bucket steam trap. Continue to operate in this condition until system has reached operating conditions of pressure and temperature.

2. Close valve “B” on the condensate discharge of controller and open test valve “C”. Condensate being discharged through the Controller is now observed at test valve piping to atmosphere.

Note the cycle rate of condensate discharge. (This would be typical of the operation of a standard inverted bucket trap.)

Important: If the condensate discharge is continuous, never cycling, the Differential Controller selected may be too small for the required load.

3. Open manual metering valve “D” 1/4 turn from the full closed position.

Observe the condensate discharge cycle rate. A definite increase in the cycle rate should occur over that observed in Step 2 above.

If no increase in cycle rate is observed with this setting, open the manual metering valve an additional 1/4 turn and again observe the discharge cycle rate. (Allow three or four minutes between changes for stabilizing effect.)

Continue this procedure until a definite increase in the condensate cycle rate is accomplished. (The normal adjustment setting for the manual metering valve will usually be from 1/4 to 1 full turn open.)

NOTE: If the secondary steam from the Controller is discharging into a separate header, the required setting of the manual metering valve may exceed 1 full turn open under low differential pressure (ΔP .) conditions. Test as described above for correct setting.



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4. Leave the manual metering valve set in the position as determined previously.

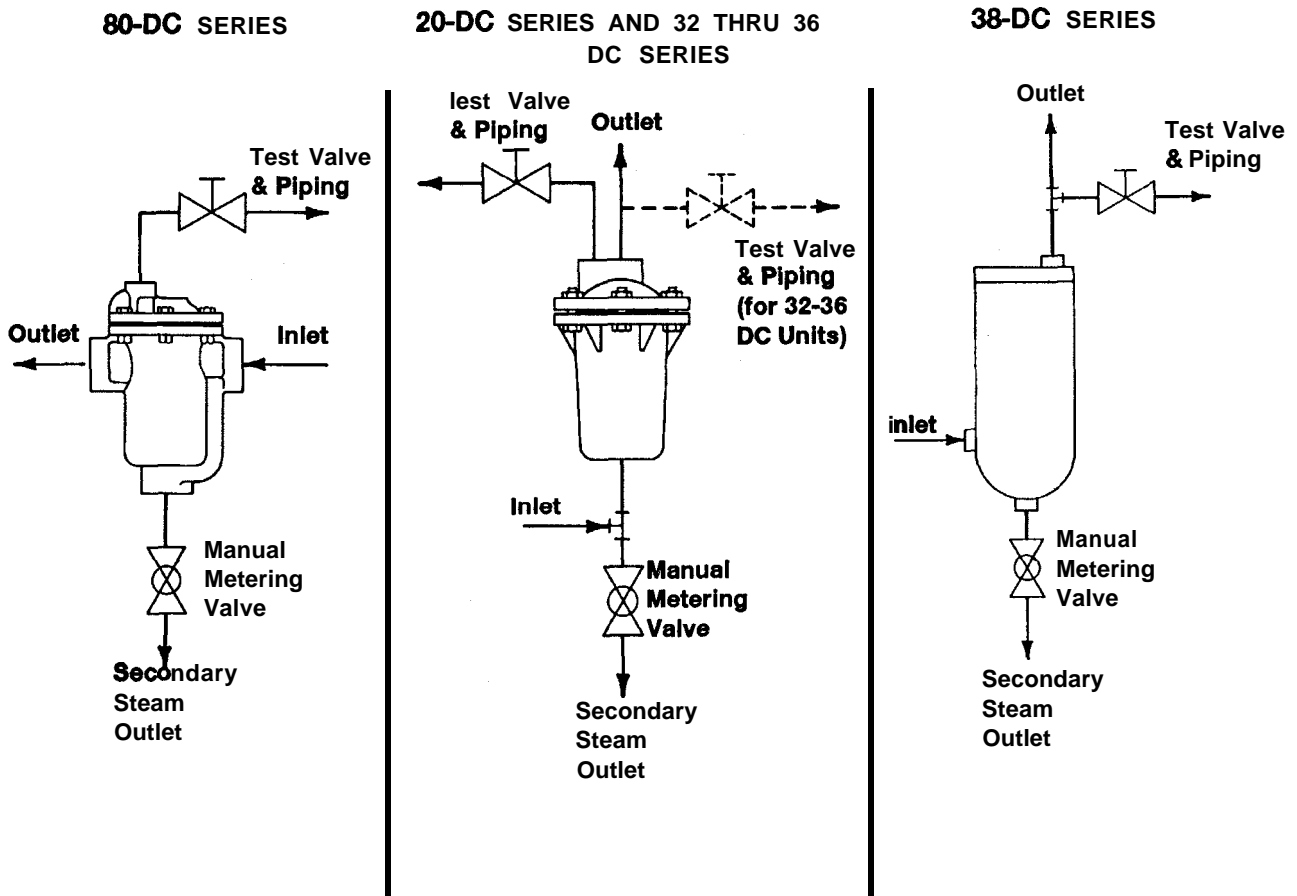
Open valve "B" and close test valve "C".

The Differential Condensate Controller should now be functioning normally with the manual metering valve and secondary steam flow at the correct setting to provide the highest heat transfer efficiency.

Once the Differential Condensate Controller is set, the manual metering valve setting should not be changed. The handle of the valve should be locked in place to prevent valve tampering by unauthorized personnel.

Should the manual metering valve be closed to isolate the Controller during repairs, record its opening position and return to same when putting Controller back in operation.

FIGURE 2





Differential Condensate Controller

FIGURE 3 - TEST VALVE PIPING SIZE

80-DC SERIES

81-DC	1/4"
82-DC	1/2"
83-DC	3/4"
84-DC	1"

20-DC SERIES

21-DC	1/8"
22-DC	3/8"
23-DC	1/2"
24-DC	1/2"
25-DC	3/4"
26-DC	1"

32 THRU 36 DC SERIES

32-DC	1/2"
33-DC	1/2"
34-DC	1/2"
35-DC	3/4"
36-DC	1"

38-DC SERIES

38-DC	1-1/2"
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