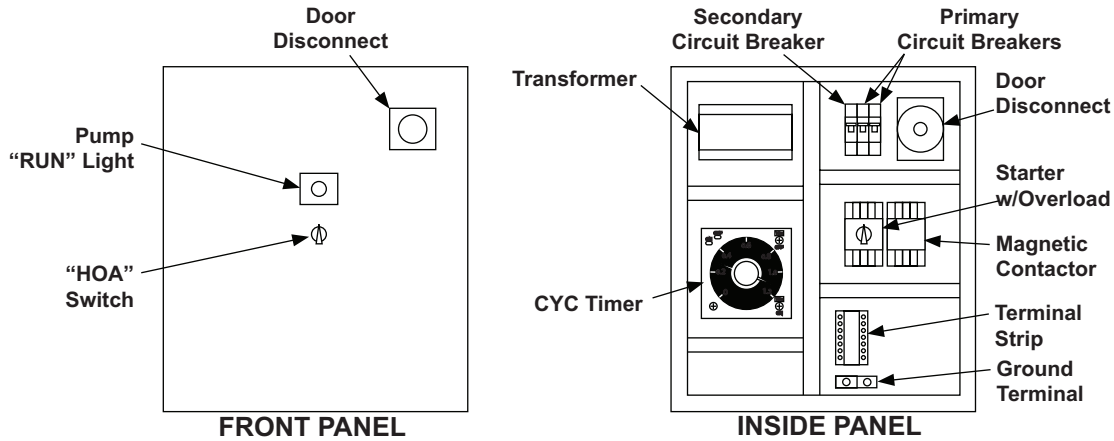


CONTROL PANEL LAYOUT



TROUBLE SHOOTING VALVES with CYC TIMER (CSS Systems Only)

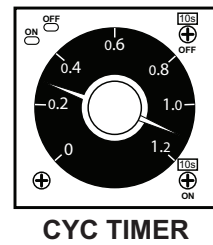
- If the valve won't open, then check the following:

FOR MBV, MBVFS, AND MBVSR VALVES:

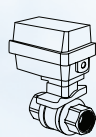
 - Check voltage to the CYC. Check for 115VAC at the 8-pin socket terminal 2 & 7. Check primary/secondary voltage and continuity on fuses or circuit breakers on transformer.
 - Check voltage to MBVSR. Check 115VAC voltage at panel terminal S1 & S2 after pressing "MANUAL PURGE" push button. Voltage drop should not exceed more than 10%. If voltage is adequate, then check the relay.
 - Check voltage to MBV. Check 115VAC voltage at panel terminal C & OP after pressing "MANUAL PURGE" push button. Voltage drop should not exceed more than 10%. If voltage is adequate, then view the stem on top. If it does not rotate clockwise after pressing the "MANUAL PURGE" push button, then check the relay. If relay is good then replace the motorized ball valve.
 - Check voltage to MBVFS. Check 115VAC voltage at panel terminal V1 & V4 after pressing "MANUAL PURGE" push button. Voltage drop should not exceed more than 10%. If voltage is adequate, then the stem on top. If it does not rotate clockwise after pressing the "MANUAL PURGE" push button, then check the relay. If relay is good then replace the valve.
- If the valve won't close then check the following:

FOR MBV, MBVFS, and MBVSR Valves:

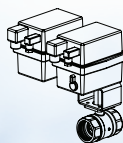
 - Check voltage to the CYC. Check for 115 VAC at the 8-pin socket terminal 2 & 7. Check primary/secondary voltage and continuity on fuses or circuit breakers on transformer.
 - Check voltage to MBVSR. No voltage should be present at panel terminal S1 & S2 during "OFF" period. If voltage is present during "OFF" period, then review "Valve Operation with CYC" "ON" and "OFF" setting. If settings are correct, then check 8-pin socket at terminal 1 & 3. If voltage is present then replace timer. If voltage is not present, then check relay.
 - Check voltage to MBV. Check 115VAC voltage at panel terminal C & CL during "OFF" period. Voltage drop should not exceed more than 10%. If voltage is adequate, then view the stem on top of the valve and check the CYC "ON" and "OFF" settings. If it does not rotate clockwise after pressing "MANUAL PURGE" push button, then check the CYC settings. If settings are correct, then check 8-pin socket at terminal 1 & 3. If voltage is present during "OFF" period, then check relay. Stem must be perpendicular to the flow in the close position. If not, then replace the motorized ball valve.
 - Check voltage to the MBVFS. Check 115VAC voltage at panel terminal V1 & V4 after pressing "MANUAL PURGE" push button. Voltage drop should not exceed more than 10%. If voltage is adequate, then view the stem on top of the valve and check the CYC "ON" and "OFF" settings. If it does not rotate clockwise after pressing "MANUAL PURGE" push button, then check CYC settings. If settings are correct, then check 8-pin socket at terminal 1 & 3. If voltage is present during "OFF" period, then check relay. Stem must be perpendicular to the flow in the close position. Allow battery pack on the MBVFS to charge for 24 hours before using valve. If valve still does not close after a full charge, then replace it.



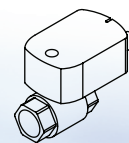
SECTION 15



MBV VALVE



MBVFS VALVE



MBVSR VALVE