

SSC & VLT 50 - 200 CSD-1 KIT 550003748

INSTRUCTIONS

Kit installation shall be completed by qualified agency.

⚠ WARNING

Fire, explosion, asphyxiation and electrical shock hazard. Improper installation could result in death or serious injury. Read this instruction and understand all requirements, including requirements of authority having jurisdiction, before beginning installation. Installation not complete until appliance operation verified per Installation, Operation & Maintenance Manual provided with boiler.

⚠ CAUTION

Laceration, burn hazard. Metal edges and parts may have sharp edges and/or may be hot. Use appropriate personal protection equipment to include safety glasses and gloves when installing or servicing this appliance. Failure to follow these instructions could result in minor or moderate injury.

L4006E High Limit Installation Procedure:

1. Follow instructions TO TURN OFF GAS TO APPLIANCE found on Operating Instructions label on boiler or in Installation, Operation & Maintenance Manual. Verify all electrical power to boiler is turned off.
2. Allow boiler to finish post purge if firing when shutting down gas supply.

⚠ WARNING

Electrical shock hazard. Turn OFF electrical power supply at service panel.

3. Unhook the latch on bottom of the boiler. Remove the jacket cover.

⚠ WARNING

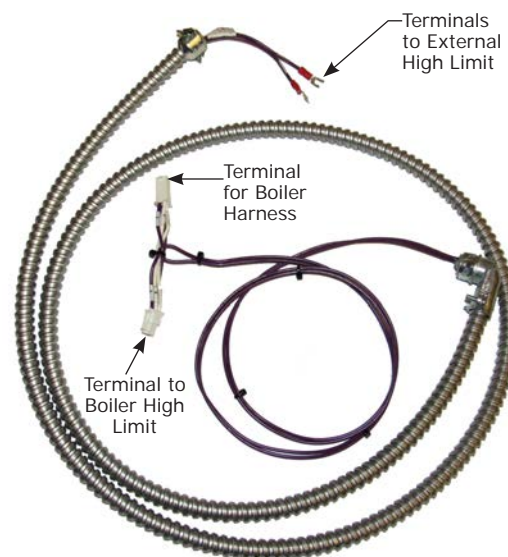
Burn hazard. Verify unit has cooled before servicing. Use appropriate personal protection equipment.

4. Inspect combustion chamber through sight glass. Verify flame is not present.
5. Install immersion well in preferred location within boiler supply piping.
 - a. Mount well with sensing area in main water flow
 - b. Mount high limit close to boiler to allow supplied harness to reach.
6. Install L4006E High Limit control into well. Ensure sensing bulb is fully inserted into immersion well. Tighten clamp on control to secure control to well.

Kit # 550003748 Contents

Harness High Limit Kit	1 ea
High Limit, Manual Reset, L4006E	1 ea
Immersion Well, 3/4 " NPT	1 ea
Harness LWCO	1 ea
LWCO, Manual Reset Hydrolevel 1100M	1 ea
Kit Instructions - 240012710	1 ea

Figure 1 - High Limit Wire Harness - Supplied



7. Install high limit harness to L4006E High Limit control.
 - a. Remove knockout.
 - b. Snap harness connector in place.
 - c. Connect two (2) fork terminals to screw lugs inside high limit control.
8. Route high limit harness to underside of boiler. Remove knockout and feed wire through hole. See Figure 3. Secure 90° connector to boiler.
9. Find the high limit/supply sensor inside the boiler. Disconnect the boiler harness. Connect the high limit harness to the high limit/supply sensor. Connect boiler harness to the high limit harness. See Figure 4
10. Press red reset button on L4006E High Limit Control.
11. This completes the L4006E High Limit control installation. Proceed with installing the Manual Reset LWCO.

CSD-1 KIT INSTRUCTIONS

Manual Reset LWCO Installation Procedure:

1. Follow LWCO manufacturer installation instructions provided with LWCO and these instructions. Mount manual reset LWCO in preferred location in boiler piping above the minimum acceptable height and close enough to boiler to allow the supplied harness to reach.
2. Find the LWCO inside the boiler and disconnect the boiler harness. Connect the LWCO harness to the internal LWCO. Reconnect the boiler harness to the LWCO harness. See Figure 5.
3. Remove knockout and route LWCO harness through knockout shown in Figure 3.
4. Connect LWCO harness to manual reset LWCO.
5. Resume operation using OPERATING INSTRUCTIONS found on Operating Instructions label on boiler or in Installation, Operation & Maintenance Manual.
6. Verify proper operation by following START UP PROCEDURE in Installation, Operation & Maintenance Manual.

High Limit Operational Test Procedure:

Note Do not run boiler unattended until following procedure is complete to prevent nuisance tripping of boiler controls.

1. Press red reset button on front case of High Limit to verify controller is not locked out on safety.
2. Verify system by adjusting limit setting of L4006E High Limit Control 10°F below central heat (CH) supply temperature. Setting can be from 130°F -240°F.
3. When limit setting is reached L4006E High Limit Control locks out and boiler shuts down.
4. When temperature of controlled medium drops below L4006E High Limit Control high limit setting, minus differential, push manual reset button, system should operate.
5. Reset control to proper high limit setting, about 20°F above main limit control setting, not higher than above 190°F, before leaving the job site. Run boiler so main control cycles on and off to ensure L4006E High Limit Control does not trip.

Figure 2 - Manual Reset LWCO Wire Harness (Supplied)

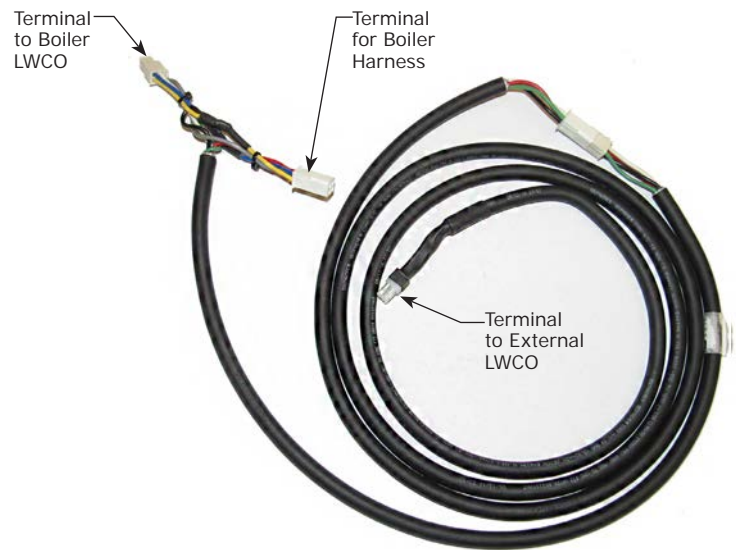


Figure 3 - Knockout Locations (Bottom of Boiler)

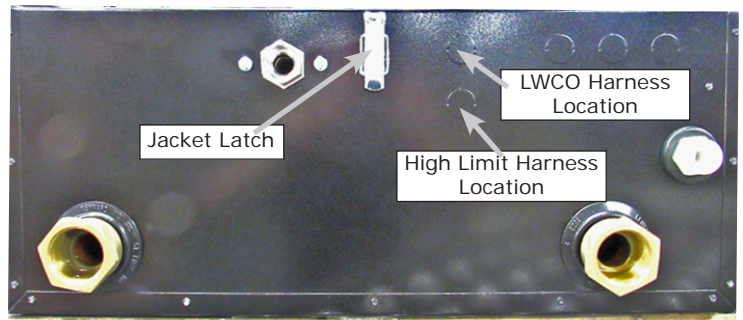


Figure 4 - Boiler High Limit & LWCO Connections (200 Size Boiler Shown)



Figure 5 - Manual Reset LWCO Minimum Acceptable Height
(200 Size Boiler Shown)



External Manual Reset Low Water Cutoff shall be installed above top horizontal boiler pipe.

Manual Reset LWCO Operational Test Procedure:

Note

Do not run boiler unattended until following procedure is complete to prevent nuisance tripping of boiler controls.

1. Before raising the water level above the LWCO Model 1100M, turn on power to the boiler and set the thermostat to call for heat. Both the green "Power" LED and amber "LOW WATER" LED should illuminate. The burner should not fire. **IMPORTANT:** If the burner fires with no water at the probe, immediately shut down power to the boiler and refer to the Trouble Shooting instructions below.
2. After 30 seconds, the amber LED will begin to blink indicating the control is locked out.
3. Proceed to fill the boiler with water. When water reaches the LWCO position, the amber LED will continue to blink. Press the TEST/RESET button to reset the control from lockout. The burner should fire. If the burner does not fire, refer to the Trouble Shooting instructions below.
4. Turn off the power to the boiler and finish filling the system.
5. Before leaving the job, power up the system and push the TEST/RESET button on the LWCO Model 1100M to simulate a low water condition. The amber "LOW WATER" LED should illuminate and the burner should shut down.
6. To test the lockout feature, push and hold the TEST/SETTINGS button for 30 seconds. The "LOW WATER" (amber) LED will begin to blink, indicating the control has locked out the burner circuit in a low water condition. After the LED begins blinking, release the button. The "LOW WATER" LED should continue to blink and the burner should remain off. Press the TEST/SETTINGS button briefly to manually reset the control.

Troubleshooting:

- **IF BURNER DOES NOT SHUT DOWN.** When temperature is above L4006E High Limit Control setting.
 - a. Reduce temperature setting on thumb wheel.
 - b. Verify probe is properly inserted into the well and is in contact with end of well.
- **IF BURNER DOES NOT FIRE.**
 - a. Check reset button. If L4006E High Limit Control is tripped find cause of problem.

Main limit control may be malfunctioning.

or

Temperature is set too high.
 - b. Check wiring for continuity. Manual reset high limit is on/off switch. 120 VAC power runs through the switch. Operation of L4006E High Limit Control is not dependent on power.

