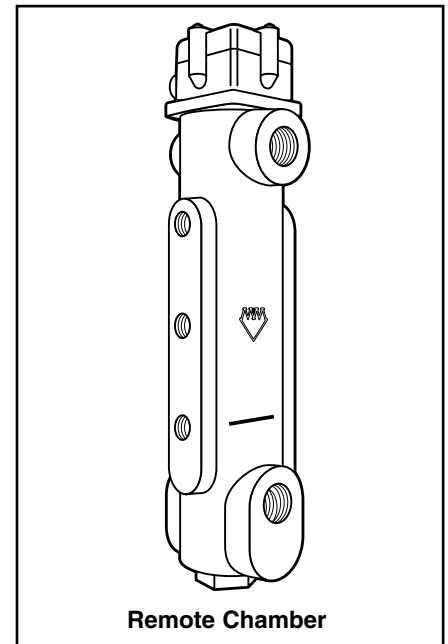




Series 750B-C3 Chamber with 3 Probes

Series 750B-C4 Chamber with 4 Probes

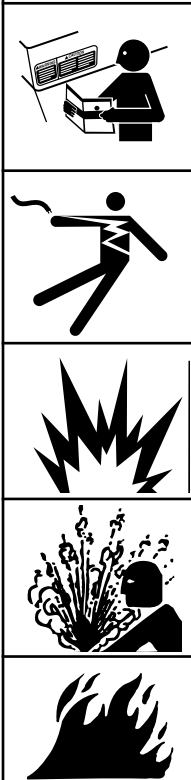


Features

- Cast Iron Body
- Sight Glass Tappings
- Gage Cock Tappings
- Stainless Steel Probes
- NEMA 4X Electrical Enclosure
- 250 psi Maximum Working Pressure

Designed for use with the Series 750B remote mount control module to make a complete system for level control in a boiler or other vessel.

WARNING



- Before using this product read and understand instructions.
- Save these instructions for future reference.
- All work must be performed by qualified personnel trained in the proper application, installation, and maintenance of plumbing, steam and electrical equipment and/or systems in accordance with all applicable codes and ordinances.
- To prevent serious burns, the boiler must be cooled to 80°F (27°C) and the pressure must be 0 psi (0 bar) before servicing.
- To prevent electrical shock, turn off the electrical power before making electrical connections.
- This low water cut-off must be installed in series with all other limit and operating controls installed on the boiler. After installation, check for proper operation of all the limit and operating controls, before leaving the site.
- To prevent serious personal injury from steam blow down, connect a drain pipe to the control opening to avoid exposure to steam discharge.
- To prevent a fire, do not exceed the switch contact rating.

Failure to follow this warning could cause property damage, personal injury or death.

SPECIFICATIONS

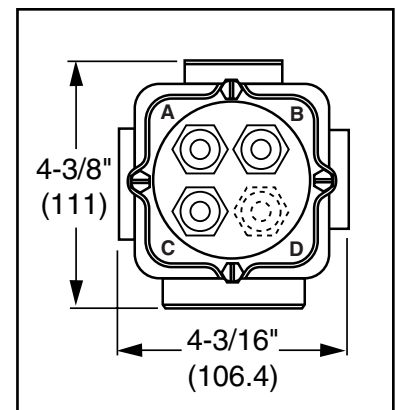
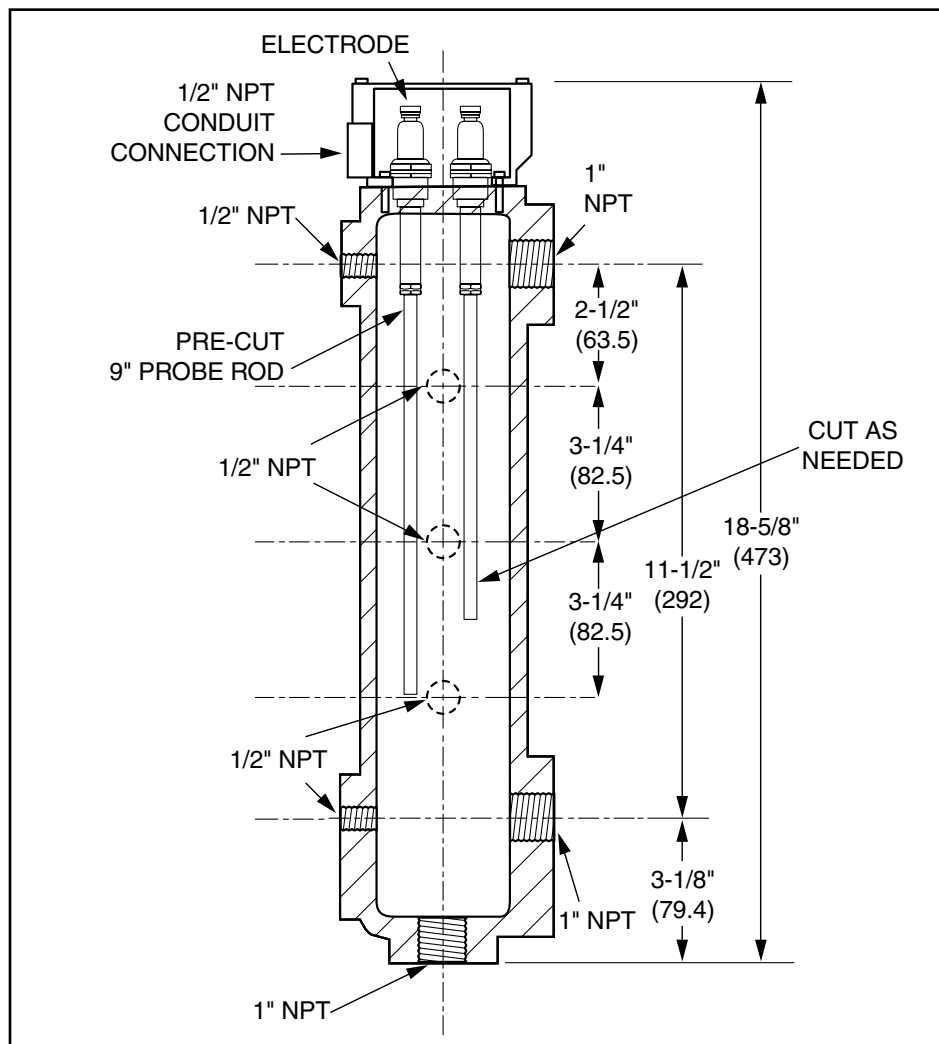
Maximum Water Temperature: 406°F (208°C)

Maximum Water Pressure: 250 psi (17.6 kg/cm²)

Maximum Steam Pressure: 250 psi (17.6 kg/cm²)

All probes are cut to 9" length (229mm). Any of these probes can be used as the low water cut-off level probe. The remaining probes can be 'cut to length' in the field using a metal cutting saw to achieve desired pump control or additional alarm activation.

	C3	C4
No. of Probes	3	4
A	X	X
B	X	X
C	X	X
D		X



INSTALLATION –

TOOLS NEEDED:

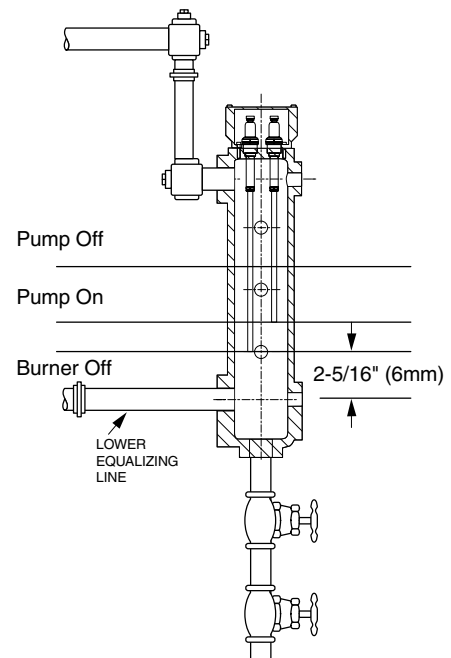
One (1) pipe wrench, one (1) flathead screwdriver and/or 11/32" nut driver, one (1) metal-cutting saw, and pipe sealing compound.

Chamber

If the control will be the **primary low water fuel cut-off**, size the steam (top) and water (bottom) equalizing pipe lengths so that the **cut-off level mark is 1 1/2" (38mm) below the boiler's normal water level, but not lower than the lowest safe permissible water level, as determined by the boiler manufacturer.**

OR

If the control will be the **secondary low water fuel cut-off**, size the steam (top) and water (bottom) equalizing pipe lengths so that the **cut-off level mark is at or above the lowest safe permissible water level, as determined by the boiler manufacturer.**



Probes and Electrical Connections

- Each probe is made up of an electrode and a probe rod. Each probe rod must be cut to an appropriate point of operation.
- **A 9" rod will be positioned at the low water cut-off level.** Cut other rods for the pump operating probes to the desired length.
- After cutting, secure the probe rod to the electrode and lock the thread using the jamnut in the electrode sleeve. Insert the probe into the chamber and tighten by hand. Then torque to **22-25 ft/lbs (30-34 N/m).**

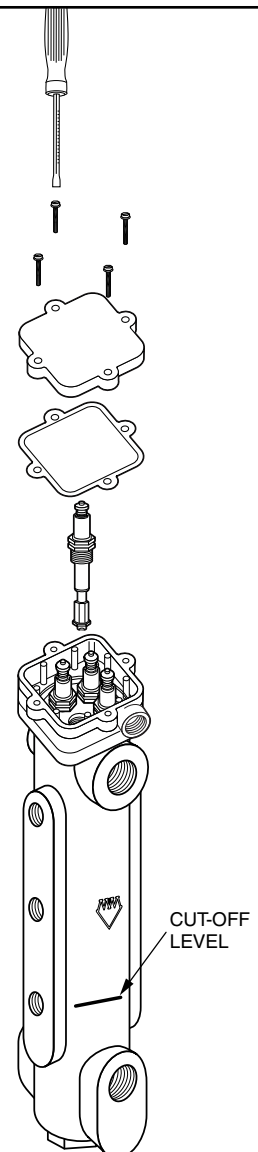
IMPORTANT: Do not use Teflon® tape or hardening type thread sealant. Use of pipe dope or hi-temp boiler grease is recommended.

- Refer to and follow all local codes and standards.
- Secure the electrical enclosure to the chamber with gasket between. Note that the electrical connection opening can be orientated in any of 4 positions. Tighten screws to 30 - 35 in/lbs (3.4-4.0 N/m).
- Probe wire and conduit connections should be made following accepted electrical practices.

NOTE

Wire must be 18 AWG stranded with glass braided silicone jacket (UL 3071) suitable for high temperature (200°C) service.

- Install electrical cover enclosure after making all connections and after control has been tested for proper operation. Tighten screws to 30 - 35 in/lbs (3.4-4.0 N/m).



MAINTENANCE

SCHEDULE:

- **Blow down control as follows when boiler is in operation.**
 - Daily if operating pressure is above 15 psi (1 bar)
 - Weekly if operating pressure is below 15 psi (1 bar)

NOTE: More frequent blow-down may be necessary due to dirty boiler water and/or local codes.

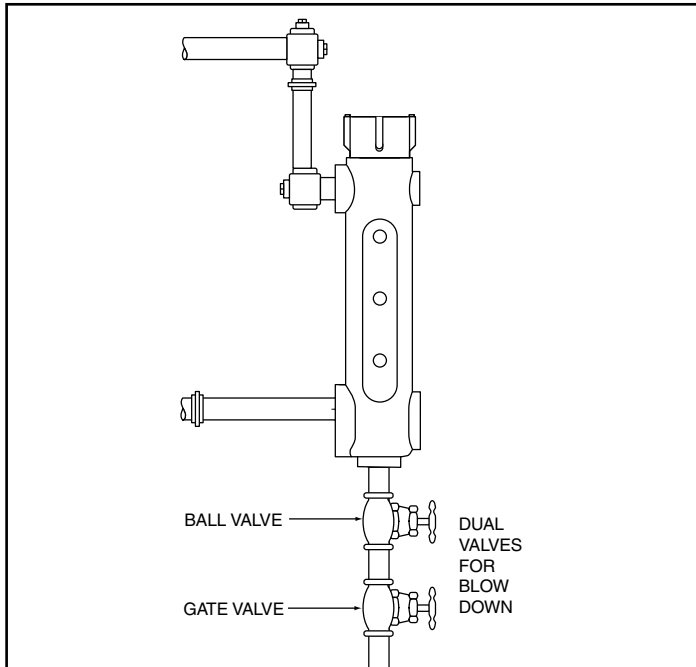
- **Remove and inspect probes annually.** Replace probes if they are worn, corroded or have an excessive coating of scale or rust.
- **Inspect the chamber and equalizing piping annually.** Remove all sediment and debris.

When blowing down a control at pressure, the blow down valve should be opened slowly. The piping needs to be warmed up and stagnant water in the drain piping needs to be pushed out. Suddenly opening a blow down valve causes steam to condense, which creates water hammer. Damage to components can occur when water hammer occurs due to improper blow down piping.

For these reasons, McDonnell & Miller recommends a dual valve blow-down system for each control.

Proper Blow-down Procedure: (Using dual valve system)

1. With water in the boiler at its normal level, open “Positive Shut-off Ball Valve”.
2. Open “Throttling Gate Valve” slowly until drain piping heats up and then open fully. Observe that the water level starts falling in the gauge glass.
3. Close “Throttling Gate Valve” after verifying that the pump contacts have closed and the burner contacts have opened thus shutting down the boiler.
Note: If this does not happen, immediately close all valves, turn off burner and correct the problem.
4. Close “Positive Shut-off Ball Valve”.
5. Observe that the water level returns to its normal level before leaving site.



CAUTION



To prevent serious personal injury from steam pipe blow down, connect a drain pipe to the control opening to avoid exposure to steam discharge.

Failure to follow this caution could cause personal injury.

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