

SUBJECT:

Fulton Boiler Blowdown Process

APPLIES TO:

Fulton Steam Boilers

WRK-2022-02

OCTOBER 31, 2022

TO ALL FULTON REPRESENTATIVES:

During installation the temperature sensor for the cooling valve will need to be installed in the correct location on the blowdown tank.



▲ *Temperature Sensor*

Prior to starting to blowdown a boiler, verify the following valve positions and tank level.

1. *The drain valve on the blowdown tank should be fully closed*
2. *Cold water valve to the cooling kit should be fully opened*
3. *Set the above cooling valve so that adequate cooling water flows to keep the drain water temperature below 140°F or below the required temperature of the local jurisdiction if different*
4. *Verify blowdown tank is flooded via sight glass (if provided)*
5. *Auxiliary cooling line valve closed*
6. *Low level drain valve closed*
7. *Boiler fast and slow opening bottom blowdown valves are closed*
8. *Boiler water column blowdown valve is closed*
9. *Boiler sight glass blowdown valve is closed*

Once the blowdown tank is flooded, it should remain flooded. In the event the blowdown tank is drained, it will need to be re-filled prior to performing a boiler blowdown.

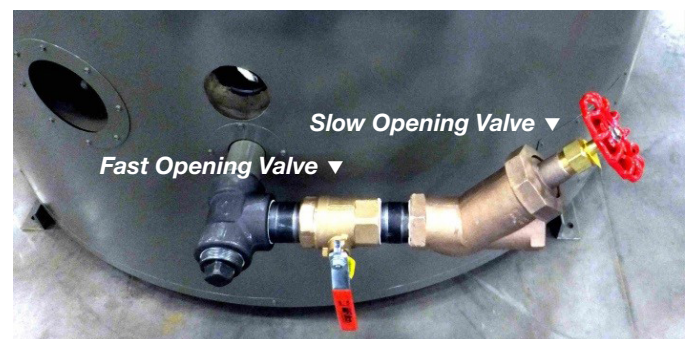
BOILER BLOWDOWN:

NOTE: *Fulton recommends the boiler(s) be blown down at low pressure (10psig or less) whenever possible. If this is not practical, the boiler may be blowdown at operating pressure, however additional flash steam will be generated. It will also be more critical to control the volume and duration of the blowdown to prevent discharging additional water and/or prevent damage to any equipment.*

Bottom Boiler Blowdown:

The valves that will be used are the quick opening and slow opening valves on the boiler bottom blowdown connection(s). Some boiler models have (2) two bottom blowdown openings.

To complete a bottom blowdown, every connection on the bottom of the boiler should be blown down individually each blowdown instance. Typical bottom blowdown frequency is once every 8 hours, but may be modified based on water chemistry requirements. The typical bottom blowdown valves are pictured below with the fast opening ball valve and slow opening Y-valve. (Cont'd page 2)



Fulton recommends that bottom blowdown be completed at least once per day. The blowdown should last ten seconds and have a drop in the boiler sight glass level of 1-2" in height.

When completing a bottom blowdown, the valves should be opened slowly and carefully. If possible, the boiler should be blown down at lower firing rates. Blowdown valves are to be tightly closed after each blowdown is completed.

To complete a bottom blowdown, please follow the instructions below. Some Fulton boilers have two bottom blowdown openings; this process is to be completed for each opening to satisfy the blowdown requirements. Also check to be sure that proper cooling water is available and turned on.

10. Check to see that all bottom blowdown valves are fully closed
11. Open the quick opening blowdown valve (nearest to the boiler)
12. Open the slow opening valve
 - The boiler water level should drop 1-2" over the (10) ten second bottom blowdown
13. Allow the boiler to blowdown to occur for the above specified amount of time or as specified by your water treatment consultant; some instances will require multiple bottom blowdowns depending on operation duration and water chemistry
14. Close the slow opening valve
15. Close the quick opening valve
16. Open the slow opening valve again to drain the line in between the slow and quick opening valves
17. Close the slow opening valve and double check that all valves are shut off tightly

NOTE: Never pump the quick opening valve to blowdown the boiler. Such action could cause water hammer and damage piping and valves. It could also cause personal injury. Never leave an open blowdown valve unattended.

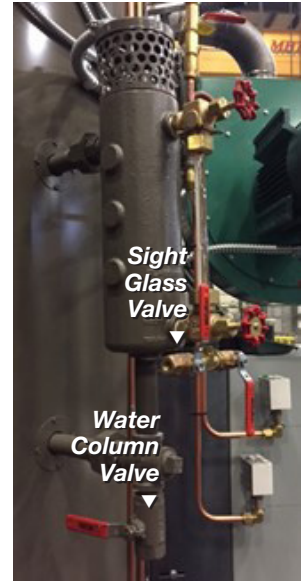
WATER COLUMN BLOWDOWN:

NOTE: Be sure that the water column is properly piped per the IOM to an adequate drain prior to completing the blowdown procedure.

Probe-Type Water Column Blowdown:

The water column is to be blown down once every 8 hours of operation and a minimum of once per day. To blowdown the Fulton water column, the "Water Column Valve" is opened for a minimum period of 5 seconds or until the low water cutoff causes the burner to cycle.

For other types of water columns, please refer to the installation and operation manual for the column for the blowdown procedure. The frequency of blowdown is still to be once every 8 hours with a minimum of once per day.



Water Column Sight Glass Blowdown:

NOTE: Be sure that the sight glass is properly piped per the IOM to an adequate drain prior to completing the blowdown procedure.

Blowdown of the water column sight glass is to be once every 8 hours and a minimum of once per day. To blowdown the sight glass, the "Sight Glass Valve" is opened for 5 seconds. If the water in the sight glass is dirty, repeat blowdown of "Sight Glass Valve" and "Water Column Valve" until water is clean.

Best regards,
The Fulton Team