

# Operation & Maintenance Instructions Of Penn Blowoff Tanks

Normal Boiler Blowdown procedures as determined for the boiler to which attached become the operating instructions for the Penn Blowoff Tank.

Since blowdown are for the purpose of removing concentrations and sediment on the Boiler bottom, quick short blowdowns are more effective than one long blowdown of same water quantity. If such is followed, the first blow should be slow opening to minimize shock on blowdown piping.

No boiler should be blown down into a blowoff tank which contains water at a temperature exceeding the room temperature unless it is fitted with a water cooling device as outline hereinafter. When the temperature of the water in the tank exceeds room temperature, the temperature shall be reduced to room temperature before blowing down a boiler.

If a blowoff tank is used in connection with a battery of boilers and it is desired to blowdown the boilers consecutively and not to replace or cool the water in the tank after each blowdown, an automatic limit control water cooling or mixing device shall be attached to the tank or to the water discharge line so that cold water will be mixed with the blowdown water to reduce the temperature at or below 150°F. For proper cooling of the water leaving the blowoff tank, the rate of cooling water should be at least equal to the rate of water leaving the tank.

If the tank is less than one-half full after a boiler is blown down, it shall be brought to the proper level by adding water before the next blowdown.

If during a blowdown the water seal level cannot be maintained, the water outlet line shall be reduced one pipe size. Operators are cautioned that a reduction of water outlet pipe size may cause an increase in pressure in the tank. The provisions of twice the pipe size of the outlet compared to the inlet is to compensate for possible friction due to connections in the line before entrance into the sewer system. The ratio of 1:1 for outlet and inlet is based on minimum friction and length pipe. If the tank pressure at any time exceeds 5 psi, the vent pipe size shall be increased and if necessary, additional vent area to the tank provided.

All scale and sediment that is blown from the boiler that does not remain in solution with the water, will deposit in the bottom of the tank. Therefore, the tank shall be blown down and cleaned internally at sufficient intervals to prevent sediment accumulation to a point that would close off the outlet.

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