TECH TIP #15

BOTTOM BLOWDOWN VALVE OPERATION FOR STEAM BOILERS

Everlasting Valve Company, the premier boiler bottom blowdown valve manufacturer, recommends the following operating procedure when performing a bottom blowdown on your boiler.

1. Before cutting boiler into line, blowdown to reduce the alkalinity. This prevents carryover. Test the water and give blowdowns until the water is just right. Consult with your water treatment specialist to determine frequency and duration of blowdowns.

2. Blow out sediment, mud or scale while boiler is steaming.
   Important: make certain blowdown valves are closed on idle boilers or scalding water will blow into them.

3. Blow down when boiler has a low load. Sediment settles more under these conditions. Watch gauge glass; don't leave an open valve.

4. Be careful when blowing down boilers. First, open quick-opening valve slowly; then open slow-opening valve slow enough to prevent shock, but fast enough so valve seat won't wire draw. To stop blowing down, close slow-opening valve quickly; then close fast-opening valve.

5. Never jam a blowdown valve if it won't close. Open a few turns fast to clear, then close again slowly. Try this several times to dislodge any scale or sediment. Jamming on scale will wire-draw or score the seats and disc of valve.

6. For cleaning, inspection or repairs, empty cold boiler through blowdown line. Never empty until the boiler is quite cool, or boiler seams and joints may warp and cause leakage.

ADVANCED TECHTIPS.....The next page is reprinted by permission of Everlasting Valve Company. It details the service and selection of blowdown valves as detailed by ASME/ANSI. For further information contact our office or consult the latest ASME Boiler & Pressure Vessel Code, Section I.

TECH TIP #15 (Cont.)

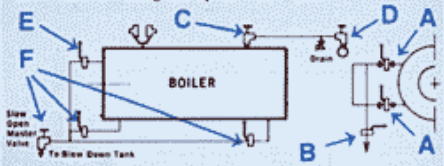
ASME/ANSI REQUIREMENTS
ASME BOILER & PRESSURE VESSEL CODE
Section 1 - Power Boilers (1999 Addenda) and
ANSI B31.1 - Power Piping Code
(1999 Addenda)

(SEE NOTE 1)

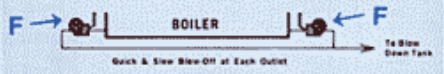
Index and Service	Reference	Comments
A Water Column Shut-Off Valves	BPV-1 PG 60.3.4 BPV-1 PG 60.3.7	Piping between water column and boiler to be 1 in. minimum size. Shut-off valves must be through-flow type. Must indicate whether the valve is open or closed. Must be locked or sealed open.
B Water Column Drain	BPV-1 PG 60.2.3	Minimum pipe size ¾ in. Rising bends or pockets must have a separate drain.
C Stop Valves	ANSI B31.1 PARA. 122.1.7	Each boiler discharge outlet (except safety valve or reheater connections), must be fitted with a stop valve. Valves over 2 in. to be OS & Y rising stem type.
D Stop Valves at Common Header	ANSI B31.1 PARA. 122.1.7 "STOP - CHECK"	When boilers are connected to a common header, the connection from each boiler having a manhole opening shall be fitted with two stop valves consisting preferably of one valve (set next to the boiler) and a second valve of the OS & Y type, or two valves of the OS & Y type shall be used. A free-blow visible drain shall be fitted between the two stop valves.
E Surface Blow-Off	BPV-1 PG 59.3.2	Surface blow-off shall not exceed 2½ in. pipe size.
F Blow-Off Valves	ANSI B31.1 PARA. 122.1.4 ANSI B31.1 PARA. 122.1.7	The minimum size of blow-off pipe and fittings shall be 1 in. The maximum size shall be 2½ in. (See code for exceptions on miniature boilers and electric boilers) On boilers with 100 square feet or less of heating surface, ¾ in. pipe and fittings may be used. Ordinary globe valves, and other valves with dams or pockets where sediment can collect, shall not be used on blow-off connections. Except for electric steam boilers having a normal water content of 100 Gal, traction-purpose, and portable boilers with allowable working pressure over 100PSIG, each bottom blow-off requires two slow-opening valves, or one quick opening valve at the boiler nozzle followed by a slow-opening valve. For maximum working pressures up to 250 PSIG, Class 250 iron valves may be used for blow-off service. (See maximum working pressure table for steel valve ratings). Boilers with multiple blow off pipes may have single master valve on common header with single blow off valve on each individual pipe. Either master or individual blow off valves shall be slow opening. Two independent slow opening valves, or a slow opening and a quick opening valve, may be combined in one body provided it is the equivalent of two separate valves and that the failure of one cannot affect the other.

BOILER VALVE MOUNTINGS

Refer to the following table for proper Valve to use at each location designed by an index letter.



OPTIONAL BOILER VALVE MOUNTINGS



BOILER VALVE selector guide

TO MEET ASME/ANSI REQUIREMENTS

ISO 9001 CERTIFIED COMPANY

Everlasting® VALVE COMPANY, INC.

LATEST APPLICABLE CODES

ASME SECT. 1	-	1998 POWER BOILERS
ANSI B31.1	-	1998 POWER PIPING
ANSI B16.1	-	1998 CAST IRON FLANGES & FITTINGS
ANSI B16.5	-	1996 PIPE FLANGES & FLANGED FITTINGS
ANSI B16.34	-	1996 VALVES - FLANGED, THREADED & W.E.

NOTE 1: These guide lines are based on ASME and ANSI codes at time of printing and are intended to assist you in valve selection. However, they are subject to changes in the codes as they may occur. The actual codes should always be consulted for full details and requirements.

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