



# TECH TIP #14

## WHAT CODES APPLY TO RELIEF VALVES? WHAT DO ALL THOSE FUNNY LETTERS MEAN?

### ASME Codes

#### ASME Section I, Power Boilers

##### OPENING PRESSURE TOLERANCES

From 15 PSI to 70 PSI = plus/minus 2 PSI  
From 71 PSI to 300 PSI = plus/minus 3%

##### BLOWDOWN (CLOSING PRESSURE)

After blowing down, all valves shall close at a pressure not greater than that specified in the following table:

Set Pressure, psig	Maximum Blowdown
15 to 66	4 psi
67 to 250	6% of set pressure

The minimum blowdown for all safety valves shall be 2 psi or 2% of the set pressure, whichever is greater

##### SEAT TIGHTNESS

A tightness test shall be conducted at the maximum expected operating pressure, but at a pressure not exceeding the reseating pressure of the valve. When testing, a valve exhibiting no visible signs of leakage shall be considered adequately tight.

##### RECOMMENDED OPERATING GAP

For boilers having design pressures over 15 psig but not exceeding 300 psig, the minimum recommended differential between system operating and valve set pressure is 10% of design pressure, but not less than 7 psig.

##### IMPORTANCE OF MARKINGS

Conbraco safety valves bear a variety of markings which indicate performance, testing and quality status. These markings may include the following:

**"V" symbol in ASME Cloverleaf...** Signifies the Conbraco Safety valve has been designed, manufactured and tested in accordance with Section I of the ASME Code and is approved for use on power boilers.

**"UV" symbol in ASME Cloverleaf...** Signifies the Conbraco Safety valve has been designed, manufactured and tested in accordance with Section VIII of the ASME Code and is approved for use on unfired pressure vessels and pressure piping systems.

**NB Symbol...** Indicates the capacity value stamped on the nameplate has been certified by the National Board of Boiler and Pressure Vessel inspectors.

**CRN Number...** Design registration number in accordance with CSA B51, the Canadian Boiler, Pressure Vessel and Pressure Piping Code. Conbraco Safety valves are registered in every Canadian Province and Territory.

**Assembled By...** Indicates the valve was assembled and tested by an authorized Conbraco assembler. These assemblers are factory trained and ASME authorized to set, service and repair Conbraco Safety Valves.

#### Section VIII, Pressure Vessels

##### OPENING PRESSURE TOLERANCES

From 15 PSI to 70 PSI: plus/minus 2 PSI  
From 71 PSI to 300 PSI: plus/minus 3%

##### BLOWDOWN

Section VIII does not specify a blowdown requirement for production testing by the valve Manufacturer or Assembler. Conbraco pressure relief valves which have adjustable blowdowns are capable of being set for 5% blowdown on compressible fluids. The user should specify blowdown based upon reclosing the valve above the normal system operating pressure.

##### SEAT TIGHTNESS

A tightness test shall be conducted using steam, air or water as appropriate for the type of service. Test methods and acceptance criteria shall be in accordance with industry standards or API 527 as applicable.

##### RECOMMENDED MINIMUM OPERATING GAP

Set pressures to 70 PSI: 5 PSI minimum operating differential. Valve set pressures above 70 PSI: minimum 10% of pressure setting.

		CONBRACO INDUSTRIES INC., MATTHEWS, NC			NB
MODEL 19KFEA125					
<input type="radio"/>	SET	125 PSIG	SIZE	1"	
<input type="radio"/>	CAP	2189	<input checked="" type="checkbox"/> STEAM	AIR	GPM
		lb/hr	SCFM		
ASSEMBLED BY		DATE	0014	CRN# OG2663.1C	