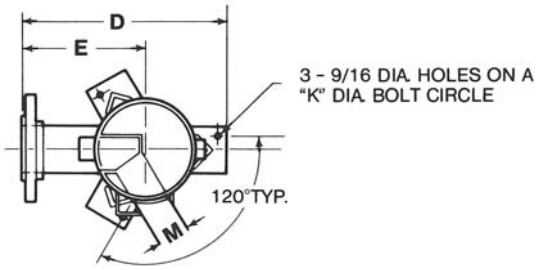
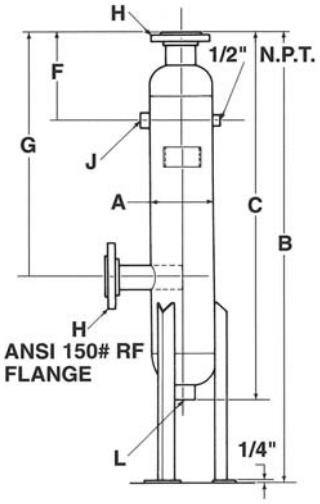
# FLASH VESSELS




## PURPOSE

All steam systems produce flash steam which is usually wasted when it escapes through the condensate receiver vent pipe. Boiler blowdown also produces significant amounts of flash steam. The cost of a Flash Steam Recovery System is usually paid back very quickly – almost always in less than one year

### NOTES

- Finished with one coat of maroon primer
- Higher pressure ratings are available upon request
- Dimension can be modified to suit specific requirements

## DESIGN SPECIFICATIONS

| | |
|---|---|
| Design Standards: | ANSI B16.5 |
| Design Code: | ASME Section VIII, Div. 1, latest revision |
| Design Pressure: | 285 psig |
| Design Temperature: | 100°F |
| M.D.M.T.: | -20°F |
| Hydrostatic Test: | 430 psig |
| Design Steam Pressure: | 150 psig saturated |
| Heat Treatments: | None |
| Service: | Non-Lethal |
| Material of Construction: | Carbon Steel per ASME Sect. II (A) |

## DIMENSIONS AND WEIGHTS

| Model | A in | B in | C in | D in | E in | F in | G in | H in | J in | K in | L in | M in | Weight lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FT6-150 | 6 | 47 | 38 | 13 | 8 | 9 | 25-1/2 | 2-1/2 | 3/4 | 8.8 | 1-1/2 | 2-1/2 | 75 |
| FT8-150 | 8 | 48 | 39 | 14-1/2 | 8-1/2 | 9-1/2 | 26 | 4 | 1 | 10.8 | 2 | 3-1/2 | 105 |
| FT12-150 | 12 | 49-1/2 | 42 | 20 | 12 | 11-1/2 | 27 | 5 | 1-1/2 | 14.9 | 3 | 5 | 165 |
| FT16-150 | 16 | 58 | 49 | 23-1/2 | 13-1/2 | 12-1/2 | 32 | 6 | 2 | 18.9 | 3 | 5 | 215 |

Colton has a policy of continuous product research and improvement and reserves the right to change design and specifications without notice

# FLASH VESSELS

## OPTIONAL ACCESSORIES

- Steam trap and “Y” strainer
- Safety Valve and drip pan elbow
- Pressure Gauge
- Pilot operated pressure reducing valve
- Pilot operated back pressure regulator

## FEATURES

- Baffled inlet promotes separation of flash and extends tank life

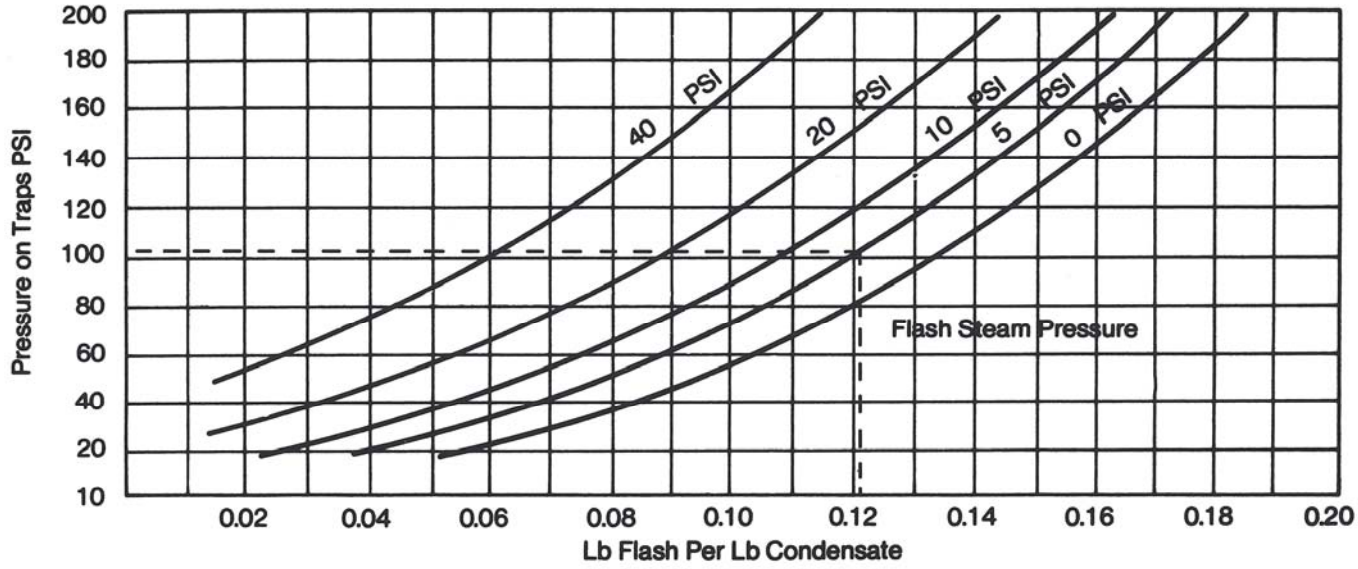
## INSTALLATION

The vessel should be installed with the flash steam outlet at the top as shown. Each size vessel incorporates a 1/2" NPT connection for the fitting of a pressure gauge. If a safety relief valve is required, it should be fitted in the NPT connection provided in the side of the shell. For drainage, a properly sized float type steam trap must be connected to the condensate outlet at the bottom of the vessel.

## INFORMATION REQUIRED FOR SIZING

- Pressure at high pressure steam trap inlet (or blowdown metering valve inlet)
- Flash steam system pressure
- Amount of high pressure condensate

**Fig. 1 Proportion of Flash Steam**




## FLASH STEAM RECOVERY SYSTEM SELECTION

**Example:**

High pressure equipment working at 100 psig condenses 4000 pounds of steam per hour. The low pressure equipment required 1000 pounds per hour of steam at 5 psig

From Fig.1, each pound of high pressure condensate produces 0.12 pounds of flash steam. Therefore, total flash steam produced is 4000 x 0.12 = 480 pounds per hour.

From Fig. 2, a horizontal line at 4000 pounds per hour and a vertical line at 480 pounds per hour intersect in the **FT8** area

The flash system steam trap will be sized to handle 4000-480=3520 pounds of condensate per hour at a pressure of 5 psi

Because the low pressure steam requirement exceeds the flash steam supply, a make-up pressure reducing valve is required to supply the additional low pressure steam.

The system steam trap, pressure relief valve and control valve (if required) will be sized according to operating conditions

**Note:**

The system size indicated in Fig. 2, is for clean condensate. If the system is to be used with high pressure condensate containing a high proportion of solids (for example, boiler blowdown), the next larger system may be required.

**Fig. 2 Recovery Vessel Capacities**