# Flash Tank and Vent Line Sizing

## How to Size Flash Tanks and Vent Lines

Whether a flash tank is to be atmospheric or pressurized for flash recovery, the procedure for determining its size is the same. The most important dimension is the diameter. It must be large enough to provide adequate separation of the flash and condensate to minimize condensate carry over.

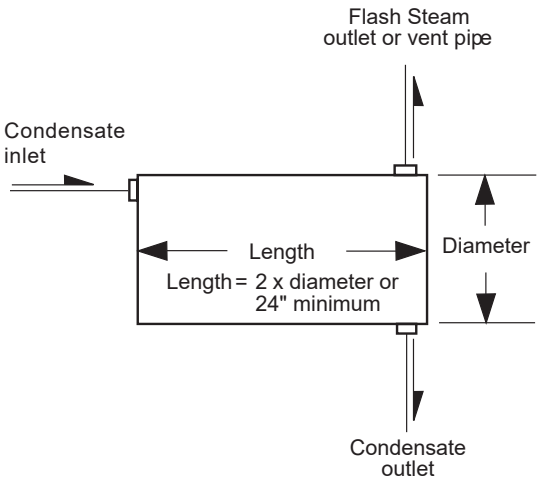
**Example:** Size a 20 psi g flash recovery vessel based on the information in the example on page 582 (condensate line sizing).

1. Using the calculated flash steam quantity of 372 lb/h enter Condensate Recovery Sizing chart on page 112 at “A" and move horizintally to the right to the flash tank pressure of 20 psi g “B". Rise vertically to the flash tank diameter line (600 ft/min) at “D". Read tank diameter of 5". If schedule 80 pipe is to be installed, the table within the body of the chart can be used to determine whether the velocity will exceed the recommended limit of 600 ft/min.
2. From point “D" continue to rise vertically to “E" to determine the size of vent pipe to give a velocity between 3000 and 4000 ft/min. In this case 2" schedule 40 pipe. As before, use the table within the body of chart for schedule 80 pipe.

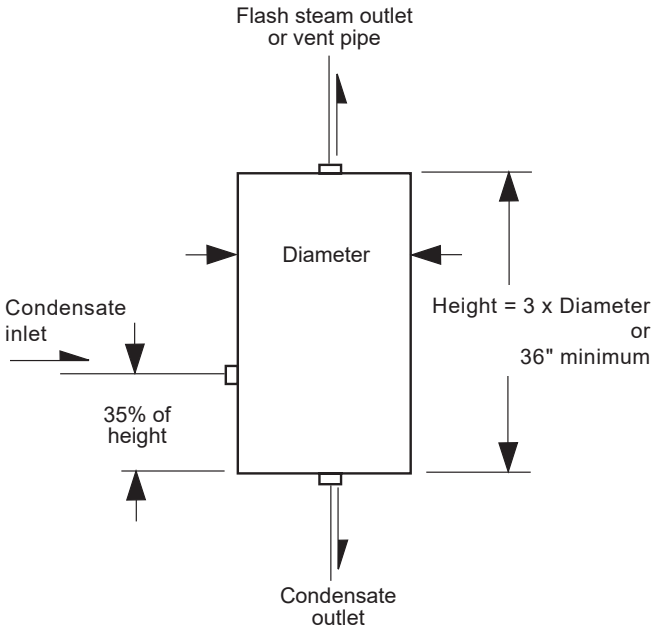
Flash vessels can be either horizontal or vertical. For flash steam recovery (pressurized receiver) the vertical style is preferred because of its ability to provide better separation of steam and water.

## Flash Vessel Sizing

### Horizontal Flash Vessel




### Vertical Flash Vessel




For proper installation of flash vessels, controls and traps refer to Design of Fluid Systems Hook-Ups.