

BAROMETRIC LEG

A barometric leg is basically a condensate drain.

In a vacuum system that is used to condense steam and condensable vapors through heat exchangers or condensers, the condensate is normally dropped into a receiver tank that is often vented to atmosphere or a low-pressure vent system. This creates a situation where the condensate is under vacuum in the condenser and it is trying to move toward a receiver tank that is under positive pressure. The pressure difference is going the wrong way.

To overcome this pressure differential, the condenser must be located higher than the receiver tank to allow enough static head pressure of the condensate to exceed the pressure differential. The piping between the condenser and the receiver tank is called the barometric leg.

Improper barometric leg design will reduce the performance of the condenser. Since the condensate drains by gravity, the barometric leg must be high enough to make sure the condensate does not enter the condenser and flood the lower tubes. If the tubes flood, they will not be able to transfer heat effectively.

Be sure that the barometric leg extends into the receiver and is submerged enough that atmospheric air/vent gases cannot be "pulled" into the piping. This forms your very necessary seal. If you vent into a system under any pressure, the pressure differential will increase requiring a taller barometric leg.

