

Look at the air vent piping from the vacuum pump and the air release on the condensate receiver. The air release on the condensate receiver is equipped with a check valve and the air release from the vacuum pump is equipped with an internal check valve and discharge valve. These valves prevent air from entering the system. Since air cannot enter the system, the vacuum in the boiler is not able to pull the water out of the pump discharge piping from both pump sets.

In steam systems equipped with zone valves with single or multiple boilers, steam vacuum breakers should be installed on each boiler. Steam vacuum breakers can prevent problems related to a vacuum from occurring.

Two types of vacuum breakers are used on steam systems. One vacuum breaker is spring loaded and adjustable. This vacuum breaker is installed on some vacuum pump sets and prevents the production of a high vacuum. The other vacuum breaker is non-adjustable and does not allow a vacuum to be held in a system or vessel. If steam vacuum breakers are not available, high quality rated check valves or radiator steam traps can be used. The vacuum breaker, steam trap, or check valve is installed on the top of the boiler trim header. These devices are installed to allow air into the boiler when the boiler shuts down and holds steam in the boiler when the boiler is producing steam.

