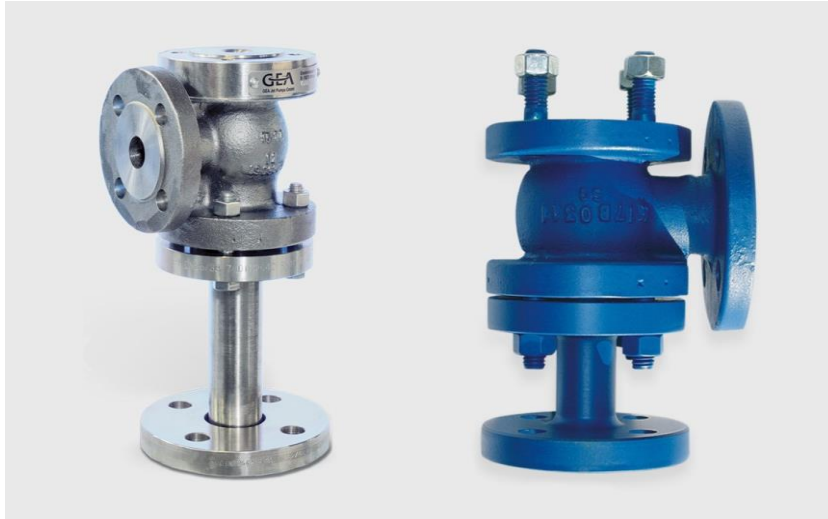


In these devices the liquid jet from the motive nozzle emerges at a high velocity, entraining air, gas or vapor in the head and compressing it to atmospheric pressure. Vapors, corresponding to the pressure and temperature conditions, can be partly or completely condensed. In principle, any liquid can be employed as motive medium providing that the physical characteristics such as density, viscosity and boiling behavior are known for design purposes.

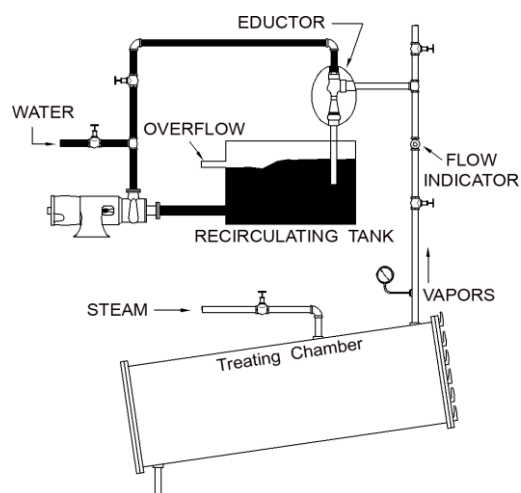


Advantages

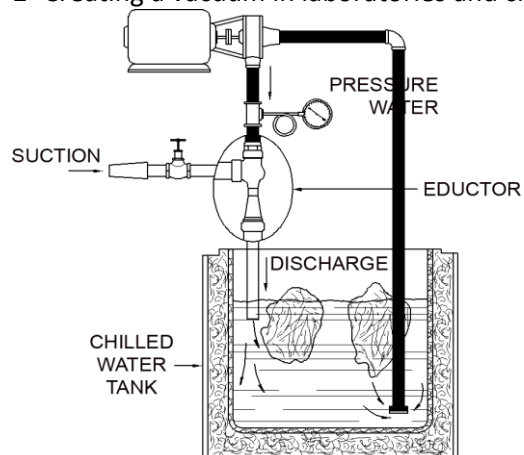
- Simple and reliable
- Corrosion and erosion resistant
- Automatic control
- Easy to install
- Low cost
- Wide range of materials such as steel, stainless steel, cast iron, bronze, Teflon and graphite

Applications

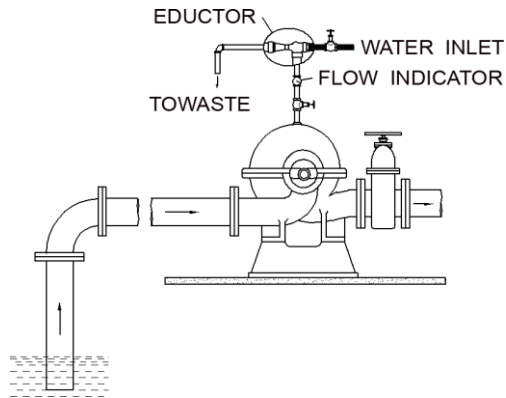
1- Degassing of tanks and creating a vacuum in them



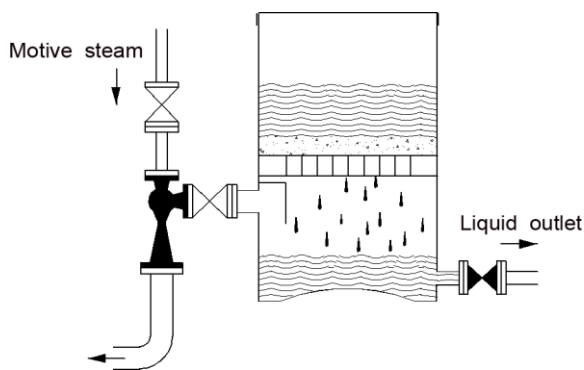
2- Creating a vacuum in laboratories and chemical industries



3- To ventilate and start the pumps



4- Negative pressure generation in some filters



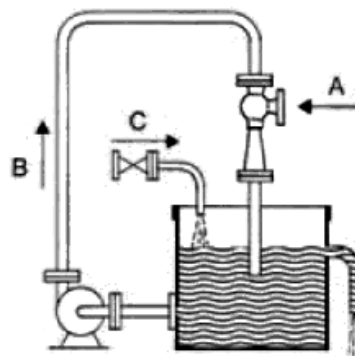
Range of Operation

- The lowest suction pressure which can be obtained (with zero suction capacity: blind vacuum) corresponds to the vapor pressure of the motive liquid which is dependent on the temperature of the liquid. Higher vacuum can be reached by the further cooling of the motive medium.
- If the vapor pressure can be disregarded, it is possible to achieve an absolute suction pressure of up to 4 mbar.

Installation Requirements

- Water jet vacuum pumps are installed with the driving connection at the top.
- To prevent the water from flowing back to the evacuated plant, a non-return valve should be installed in the discharge pipe. Also a loop in the suction pipe can prevent the back flow.

- A closed motive liquid circuit to prevent the loss of motive liquid for further usage is possible. Here the liquid, after passing through the jet pump, is led into a separator where the gas is separated and is then recirculated via a circulation pump for use as a motive liquid again. Therefore the installation of a heat exchanger for cooling the circulating liquid is compulsory as the circulating liquid becomes heated by the pump work and condensation of suction flow components.



- A = Suction connection
- B = Operating liquid
- C = Fresh liquid

Performance graphs

Using the diagram below, you can estimate the amount of suction of the 1" size water ejector according to the pressure of the suction part and the pressure of the driving water.

