Gas Jet Vacuum Pumps and Compressors

These devices are particularly suitable where no steam is available or where compressed air or gas as motive medium offer advantages over steam. They operate on the same principle as other ejectors.

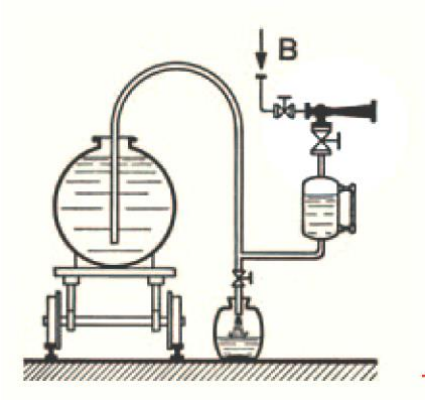
Advantages

- Simple in construction
- No moving parts
- Little maintenance needed
- Comparatively low initial cost
- Wide range of materials such as steal, stainless steel, cast iron, bronze, Teflon and graphite

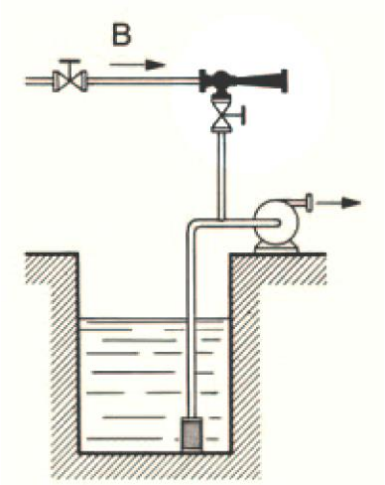
Applications

Gas jet vacuum pumps

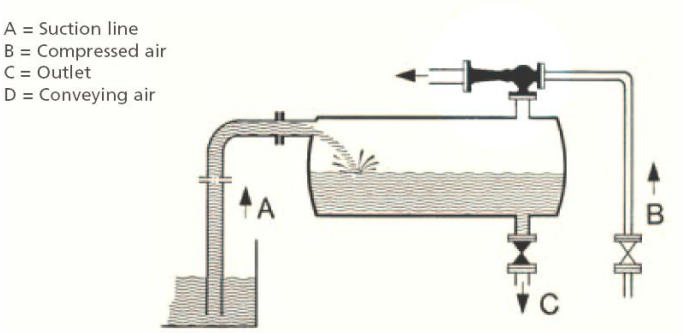
- As start-up device for non-self-priming centrifugal pumps (for example on ships)
- Suction of leak oil or petrol
- in the nuclear industry in taking samples, dosing or for the continuous conveyance of small liquid flows
- Evacuating pipelines, vessels and plants



Gas jet vacuum pump used for evacuation of a siphon



Evacuation of the suction line of a centrifugal pump

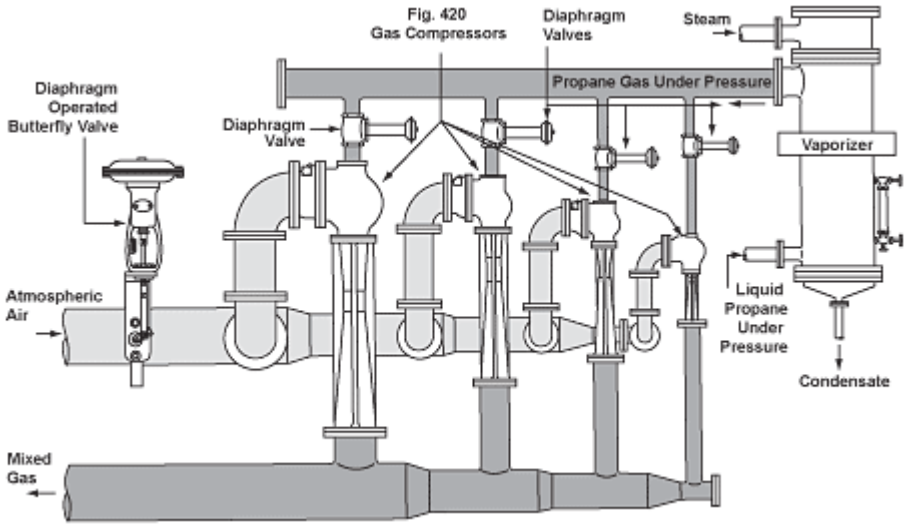


Use of gas jet vacuum pump for elevation of liquids

Gas jet compressors

Gas jet compressors have extensive applications in natural gas industry. These include

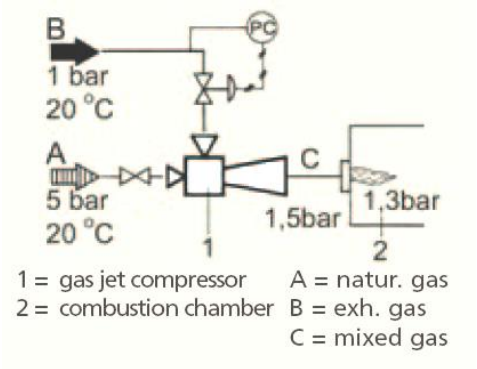
- By means of natural gas under pressure (e.g. well pressure), they suck gas from underground reservoirs and compress the mixture to pipeline pressure.
- Mixing two different types of natural gas with different heating value in proportion to obtain a constant specific heating value for gas network.
- In peak conditions in gas networks when there is natural gas shortage, Gas jet compressors utilizing evaporated liquefied gas (propane, butane, etc.) serve to suck air from atmosphere and produce a mixture with similar characteristics to those of natural gas.



- In natural gas exploitation sites gas jet compressors motivated by the pressure side of turbo-compressors handling natural gas, suck the gas in their spiral housing at a pressure of 3 bar, and compress it to 16 bar, to prevent its leakage from shaft seal points crossing the housing.
- Propelling the gas stored in gas tanks at huge flow rates of thousands of cubic meters per hour
- Compressing the residual gases to atmospheric pressure during natural gas processing

Other application are

- Sucking and mixing natural gas with exhaust gas, air or other gases and conveying the mixture to the combustion chamber



- Sucking in and mixing atmospheric refinery heating gases with process gases (exploitation of flare exhaust gases)
- Power generation
- Process industry
- Paper industry
- Petroleum production

Installation requirements

- In the case of gas jet compressors, to avoid reflux from pressure pipe into the gas tank, a non-return valve is needed on the suction pipe.