HOW AN EJECTOR WORKS
The theory behind the ejector

Ejectors are devices which use fluid dynamics. In other words, they do not contain any mechanical parts that are subject to wear and tear, and consequently the calculations have to be precise and individual for the ejector to function properly and reliably. Pumping using ejector technology is a lifetime solution.

The technology simply involves modification of the pressure and speed of the media inside the ejector, a process governed by the law of Bernoulli and exchange of impulse.

The diagrams show the fluidic status inside the ejector and how an increase in flow velocity results in a reduction in system pressure.

The point of lowest pressure is found directly behind the nozzle. This is the area where the suction flow enters the ejector head via the suction flange.

By means of the impulse exchange between point 2 and 3, namely between motive and suction flow, both media are intensively intermixed up to point 4. In the subsequent diffuser – point 4 to 5 – the velocity slows down to such an extent that the desired discharge pressure is achieved at point 5.

This brief explanation of the principle behind the technology of ejectors clearly demonstrates that their performance is developed, created and determined only by the individual calculation of the flow channels and that it may be optimized only through specific design. Any standardization of this type of ejector will drastically reduce its efficiency.

ELLEHAMMER is one of the few companies in the world that has mastered this technology to perfection and guarantees high-grade technical design that offers the simplest and neatest solution.
WATER JET WATER EJECTORS
Used as safe-to-run dry bilge and ballast ejectors.

WATER JET SOLIDS EJECTORS
For delivering solids such as gravel, filter material, sand blasting material or for generating dosed liquid/solids mixtures.

WATER JET VACUUM EJECTORS
Used to evacuate technical systems, clear gases from empty compartments and for degassing operations on dredgers.

WATER JET AIR COMPRESSORS
Used as a venting- and circulation system for ships’ sewage plants.

GAS JET VACUUM EJECTORS
For start-up evacuation of non self-priming mechanical pumps and for clearing gases from cargo holds.

GAS JET SOLIDS EJECTORS
Used to deliver solids in powder form or as a granulate on board bulk transporters, such as cement freighters.

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