

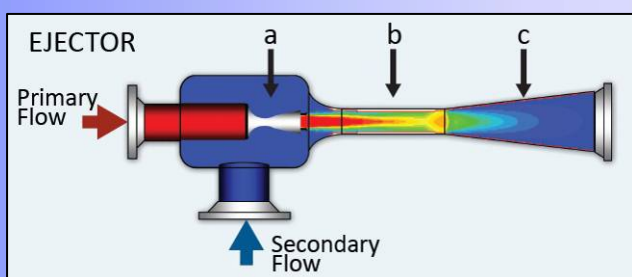
CPT and CPJ series pumps are ejectors, which is widely used in the marine and offshore industry. Ejector is a static pump, for suction of any substance, motivated by a (centrifugal) pump. The ejector can be used for all suction purposes.

- No maintenance and long lifetime.
- Various suction purposes.
- **Inline(CPJ) and vertical(CPT) optional**
- **Bronze and stainless steel material available.**
- High vacuum/suction head.
- Easy installation/service.

Main part and function

An ejector consist of three main parts

- House, the house is the central part of the ejector, containing the suction and motive inlet, this is also where the suction capabilities emerge.
- Diffuser, the diffuser is situated after the house or the intermediate pipe. The diffuser contains the process of mixing and ejecting the motive and sucked medium. The inner diameter of the diffuser can vary by specific performance requirements.
- Nozzle, the nozzle is mounted in the house with the purpose of regulating the motive jet stream. The nozzle can vary in dimensions for achieving specific performance requirements.



Ejectors are pumps of a very simple construction. In principle an ejector works by means of a high velocity jet of medium (water or gas) shooting through a circular duct, which will carry the surrounding fluid with it. In this duct, the jet and suction fluid are gradually mixed while increasing the pressure. This pressure will further increase in the diffuser while the velocity is lowered to a level suited for normal piping. Having no moving parts, ejectors are sturdy and need no maintenance. They are always self-priming, and may be designed to create almost perfect vacuum.



Handling mediums

Motive mediums

The motive medium drives the ejector. This medium is always injected in the ejector at higher pressure than atmosphere. Several different mediums can be used as motive mediums. Water is the most efficient medium to drive the ejector. Air can be a preferable medium to use when pumping gasses.

Suction mediums

Many applications exist for ejectors, where a liquid (or slurry) needs to be pumped or a vacuum created using either liquid or gas as the motive source.

Capacity range:

Inline type(CPJ), to 600m³/h
Vertical type(CPT), to 200m³/h

Suction head range:

Inline type(CPJ), 4 to 7 meter
Vertical type(CPT), 2 to 5 meter

Motive liquid pressure:

Inline type(CPJ), 0.4 to 1.4Mpa
Vertical type(CPT), 0.3 or 0.7Mpa

Discharge liquid pressure:

Inline type(CPJ), 0.05 to 0.3Mpa
Vertical type(CPT), 0.05 to 0.1Mpa

Motive liquid flow requested:

Inline type(CPJ), 5 to 900m³/h
Vertical type(CPT), 6 to 120m³/h

Flange size(motive liquid inlet):

Inline type(CPJ), DN40mm to DN300mm
Vertical type(CPT), DN32mm to DN200mm

Applications

Ejectors can be used for many different purposes, wherever there is a need for reliable and efficient pumping from ships. For example, they can be used to discharge:

- Water from anchor wells
- Bilge water
- Ballast water
- Oil residues
- Filter sands
- Harmful gases

Sludge and sand in water are no problem for an ejector, nor can an ejector's jet-driven pumping be damaged by fibrous residues or other solids. Wastewater and bilge sludge can thus be transported by the ejector without problems.

The ejector is connected to the existing pump installation, which therefore does not come into direct contact with the material to be pumped. The ejector is fitted exactly to the conditions at its location, so it fits the piping standards and flange sizes on Asian, American and European ships. Ejectors can be supplied as stationary or movable units.

BALLAST TANKS

--Filling and stripping of ballast tanks.

BILGES

--Stripping of bilges from the bottom of the vessel.

CARGO TANKS

--Stripping of all sorts of mediums from cargo holds. Includes Oil, Gas, Water and sewage.

CHAIN LOCKER

--Stripping of bilge from chain lockers

ENGINE ROOM

--Ejectors in the engine room can both be used for stripping of bilge and for ventilation of exhaust or other gasses.

Material

Bronze(ZCuA19Mn2) or stainless steel (SS304, 1Cr18Ni9Ti) is used for nozzle, for which hydraulic test must be carried out just after machining finishing. Bronze(ZCuZn16Si4) or stainless steel (SS304, 1Cr18Ni9Ti) can be used for the suction chamber, mixing chamber and diffuser in easting construction. For them, hydraulic test for checking strength should also be carried out after machining.

For stationary injection water pump, its inlet, suction and discharge are all fitted with flanges, For portable injection water pump, marine fire nipple is used for its inlet, suction and discharge.

Optima nozzle position

Different flow rates will be produced with different positions of nozzle even under the same working condition. The position where max. flow rate can be produced by nozzle is considered as an optimum nozzle position. The nozzle position shown on drawing is the optimum nozzle position under nominal working condition. The optimum nozzle position can be adjusted by increasing or decreasing the number of sheet gaskets between nozzle and pump body.

SILI PUMP, Your reliable one-stop supplier of marine pumps.

Shanghai SILI PUMP Industry Co., Ltd.

Add: No.128 Jinyuan Road, 201518, Shanghai, China (Jinyuan Industry Area)

Tel: 0086-21-39109967, fax: 0086-21-39109967

Web: www.silipump.com e-mail: sales@silipump.com

(The company reserves the right to make alteration without notice)