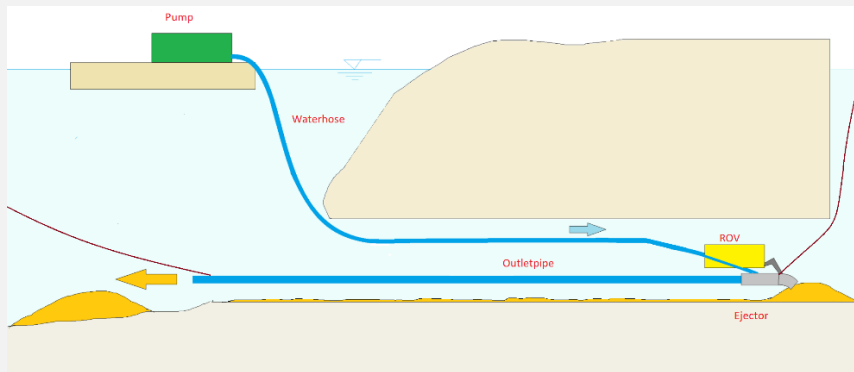


DREDGING INSIDE TUNNELS

SediCon Ejector Dredge has been developed and built for dredging sand, gravel and rocks up to 200m into pressurized tunnels.



SediCon Ejector Dredge in pressurized tunnel - concept



Dredging in pressurized tunnel

General principle

The SediCon Ejector Dredge has been used for removal of sediments inside pressurized tunnels. The Dredge is powered by a pump on a raft floating in the reservoir outside the tunnel. The dredge itself, including all pipes, is completely neutral in water and operated by a ROV which have proven able to operate the dredge 200m into a pressurized tunnel at 30m water depth.

Operation

The system uses a doubled inlet suction head connected to flexible discharge pipes, allowing controlled removal of sand, silt and gravel without the need for dewatering or human entry. Real-time camera feedback from the ROV ensures accurate positioning and monitoring of the dredging process, minimizing disturbance and maximizing efficiency.

Benefits

Safe, ROV-assisted operation under fully submerged conditions.
High sediment transport capacity through a compact and robust design.
Adaptability to tunnel geometry and site-specific conditions.

This innovative solution provides cost-effective and reliable sediment management without compromising safety.

Key feature

Integrated backflush valve: In case a stone or coarse material becomes lodged in the suction head, the valve temporarily closes the outlet and reverse the flow direction, forcing water backward through the suction inlet. This dislodges obstructions quickly and safely, allowing continuous operation without the need to retrieve the dredge to the surface.

Environmentally friendly

Because it works under fully submerged conditions and does not require draining of reservoirs or tunnels, it significantly lowers the environmental footprint compared to drawdown and mechanical excavation.

SediCon is the leading supplier of sediment handling worldwide and provides reliable solutions with low water consumption and uninterrupted power production.