

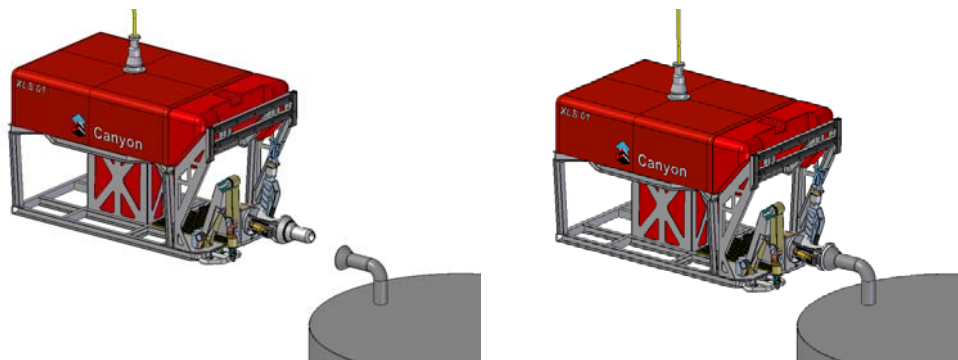


The Technical Group has developed a Suction Pile Installation System for both internal use and independent lease. It is for single ROV operation with a built-in altimeter to monitor progress while docking. It is compact and can be used on virtually any work-class ROV platform. The system has a simple and low cost pile interface, is rated for 10,000 ft-sw (3,048 m-sw), and can be controlled from the surface with a logging laptop computer. Please contact the Technical Department with any questions about the package or if you are interested in leasing the system.

We are currently developing a larger and more powerful suction pile installation tool based on the new AnchorZip20. Specifications for the original system and the new system are detailed on the next page.

The original system has been successfully tested and operated in the field. On the Exxon Mica project, it was used to install multiple suction piles of approximately 8 ft (2.43 m) diameter, to penetration depths of 35 ft (11 m) within 1 hr, 6 min in water depths around 4,400 ft-sw (1,341 m-sw). On the latest Global job for the Gunnison Project, we installed 9.5 ft (2.9 m) diameter suction piles approximately 38 ft (11.5 m) deep within 1 hr, 9 min in water depths around 3,750 ft-sw (1,143 m-sw).

The new system is expected to penetrate a theoretical pile diameter of 15 ft (4.5 m), approximately 45 ft (13.7 m) into the mud within a time period of roughly 1 hr, 13 min. (dependent on soil conditions).



Docking and Latching to the Pile or Anchor



Original Suction Tool Specifications (for piles up to 10 feet in diameter)

Length	61 in (155 cm)
Width	18 in (45 cm)
Height	15 in (38 cm)
Weight in Air	190 lbs (86 kg)
Weight in Water	175 lbs (79 kg)
Input Pressure	3,000 psi (200 bar)
Input Flow	0 – 15 gpm (0 – 61 lpm)
Communications	RS-232
Power Requirements	110VAC, 2 Amps Max
Suction Pressure	Up to 43.5 psi (3 bar)
Suction Flow	Up to 2,800 ft ³ /hr (80 m ³ /hr)

New Suction Tool Specifications (for piles over 10 feet in diameter)

Length	62 in (157 cm)
Width	21 in (53 cm)
Height	18 in (45 cm)
Weight in Air	200 lbs (91 kg)
Weight in Water	185 lbs (83 kg)
Input Pressure	3,000 psi (200 bar)
Input Flow	0 – 38 gpm (0 – 145 lpm)
Communications	RS-232
Power Requirements	110VAC, 2 Amps Max
Suction Pressure	Up to 43.5 psi (3 bar)
Suction Flow	Up to 6,533 ft ³ /hr (185 m ³ /hr)