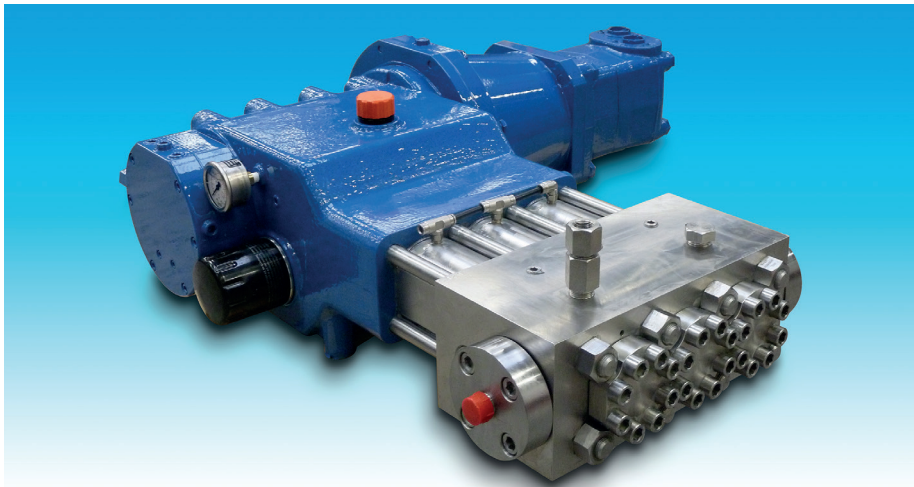


# Application Data

## Submersible (Subsea) Pumps



HPS1000 pump close coupled to an hydraulic motor

### Benefits

- Hughes Pumps have a track record in manufacturing subsea pumps since 2009
- The pumps are high quality with Duplex or 316 stainless steel wetted parts, are slow running & heavy duty
- Hughes Pumps has pump technology to 3000bar
- 45 years' experience in supplying water jetting & pumping equipment offshore
- Maximises efficiency by avoiding pressure loss in long hoses

### General Description

Hughes Pumps supplies many pumps for pumping seawater at high pressure. The pumpheads & wetted components are manufactured in 316 or Duplex stainless steel to provide corrosion resistance.

Hughes Pumps have taken this even further & have a proven track record in supplying high pressure pumps for use subsea, mounted to ROV's (Remotely Operated Vehicles) & used up to 3000m (10,000 ft.) subsea. The pumps are used for cleaning, cutting & trenching applications as well as pumping Ethylene Glycol (MEG). It is not possible for divers to work at such depths, nor is it practical to run high pressure hoses from the surface to such extreme depths. Mounting the pump on the ROV maximises the efficiency of the pump as there is no pressure loss in high pressure hoses.

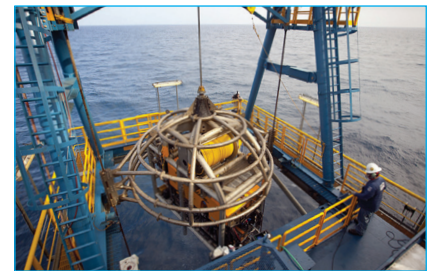
An hydraulic motor is close coupled to the pump crankshaft via a lightweight, anodised aluminium bell housing & flexible drive coupling making a very compact, lightweight installation.

Key to the company's success with this specialist application is modifying standard pump materials to provide adequate corrosion protection & preventing seawater from breaching the crankcase oil seals & contaminating the lubricating oil. At 3000m depth the ambient seawater pressure is 300bar (4,350psi) which requires some complex engineering to protect against.

The pump range is available at up to 3000bar & 375kW (43,500psi & 500hp).

### References

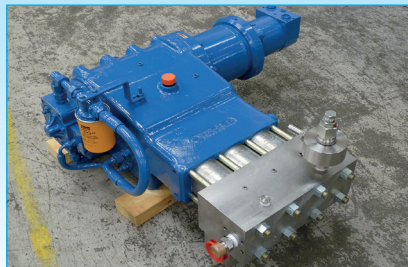
- Weatherford
- AKER
- Forum Subsea Technologies
- Forum Subsea Tooling



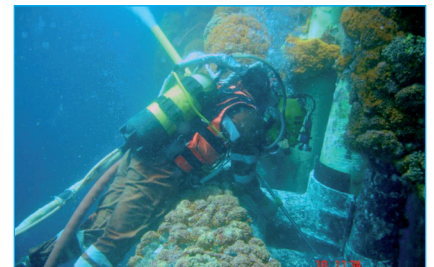
Typical ROV



HPS1000, 34lpm at 700bar



HPS2200, 250lpm at 210bar



Hughes also supply surface mounted pumps for diver operated water jetting applications

This information is intended to be a guide only. The required pump size & performance can vary depending on many factors including rate of work required, hardness of deposit or work piece, operator skill, site access etc.

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Certificate Number 4257

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