

# Application Data

## Subsea cleaning



### Benefits of Water Jetting

- Removes any marine growth without damage to the substrate
- Can use seawater as the cleaning medium
- No pollution
- Fastest of any cleaning methods
- Versatile - can be used for a variety of cleaning/cutting tasks
- Can be used manually or on ROV's
- Often the only suitable method for cleaning
- Pressure can be increased to 2000-2500bar for paint removal
- With a simple abrasive cutting attachment the same pump can be used to cut through thick steel structures subsea for decommissioning work
- The pump is versatile & can be used for other cleaning & cutting applications

#### Typical Pumps & Performances

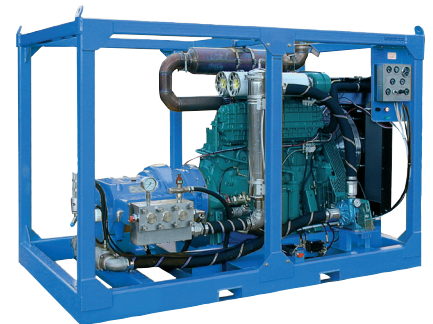
Pump	Performance	Application
HPS2200	83lpm at 1000bar (22gpm at 14,500psi)	General subsea cleaning
HPS3000	120lpm at 1000bar (31.6gpm at 14,500psi)	Heavy duty cleaning & concrete cutting

Water jetting is commonly used at 1000bar subsea for stripping marine growth from ships hulls, oil & gas platform legs & marine structures. Concrete weight jacket on oil pipelines can also be cut away for inspection of welds etc. without damaging the pipe.

Most work is carried out by divers using a hand held jetting gun fitted with a retro-jet which balances the diver in the water. For this reason it is common to use higher rated pumps for this application as only

50% of the pump power is utilised for cleaning/cutting.

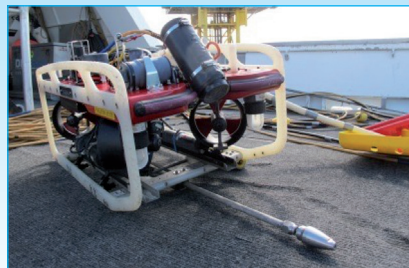
Pumps for this application use seawater so the pumps are constructed with stainless steel pumpheads (431,316 or Duplex). For deep water work a jetting device is attached to an ROV, Hughes Pumps have even manufactured ROV mounted, marinised pumps for use 2000m subsea where it is not practical to use high pressure hoses from the surface.



120lpm at 1000bar HPS3000DC



Hand held subsea water jetting gun with retro-jet



ROV fitted with lance & rotary nozzle



83lpm at 1000bar HPS2200 unit in a DNV offshore container

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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