

CLEANING & WASHING

Quick

STUDY

Hydra-Cell[®]

Seal-less Pumps

www.Hydra-Cell.com

Location:	Switzerland
Application:	Removal of rust, scale, and surface coatings
Media:	• Water
Model No.:	D15XDSTHFECB
Flow Rate:	Up to 13 gpm (50 l/min)
Pressure:	2175 - 2900 psi (150 - 200 bar)
Hydra-Cell Advantages:	• Seal-less design • High-pressure capability • Ability to handle hard, abrasive particles • Simplicity of control • Steady, smooth, low-pulse flow • Low maintenance



Cleaning with Abrasive Suspension Water Jet

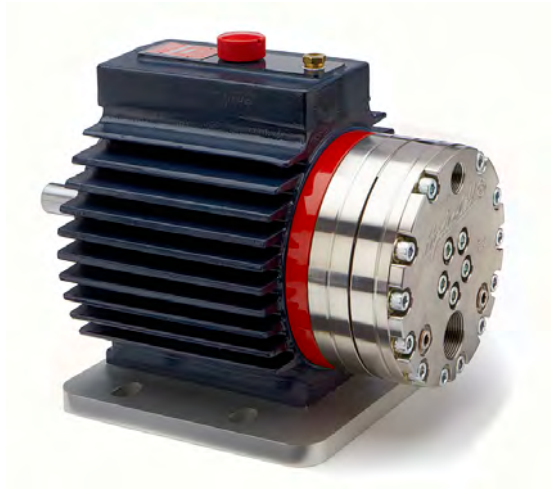
A Swiss manufacturer specializes in the use of water jets for cutting, machining and surface cleaning operations. The company has patented a new system for the fast, controlled removal of rust, scale and coatings from critical surface areas of equipment and components such as rotors and steam turbine blades.

In conventional water jet injection systems, abrasive content does not pass through the pump, though it may be added to the high-pressure liquid downstream. This new cleaning system enables abrasives to be included in the water as a suspension before pumping. This facilitates flexible control over the abrasive type, particle size and ratio of abrasive medium to water.

Typical abrasives in use, to suit price and performance demands, are Garnet, Corundum and Zirblast. A hardness of 7 or higher on the Mohs scale is normally required to achieve acceptable cleaning speeds. Particle diameters are generally in the range 0.004 to 0.01 inches (0.1 to 0.3mm).

The Hydra-Cell model D15, with its seal-less design and ability to handle abrasive particles at high pressure, has been selected as the delivery pump and makes an important contribution to the special features of the new cleaning system. One significant system advantage, says the manufacturer, is that it is the only suspension cleaning system running at pressures above 290 psi (20 bar) that is designed for continuous duty.

Another notable feature is component size. Working at high pressure means that small diameter, but very flexible, hose can be used for delivering abrasive liquid to the cleaning nozzle. Using the Hydra-Cell has its own advantages: high pumping efficiency avoids oversizing the motor, while the build of the pump itself is extremely compact. The whole system is portable and fits on a standard pallet 24-in. x 36-in. (0.8-m x 1.2-m).



Characteristics of Fluid Pumped:

- Contains Abrasives
- Corrosive
- Solids in Suspension
- High-temp. (>158°F/70°C)
- Non-lubricating
- High-viscosity (>500 cPs)