

CERAMICS

Quick STUDY

Hydra-Cell
Seal-less Pumps

www.Hydra-Cell.com

Location:	United States
Application:	Ceramic components manufacturing
Media:	• Ceramic slurry
Model No.:	H25EKSTDDEMA
Flow Rate:	5 - 8 gpm (18 - 30 l/min)
Pressure:	250 psi (17 bar)
Hydra-Cell Advantages:	• Ability to pump abrasive ceramic slurry • Adjusting flow easily via VFD motor speed control to compensate for eventual wear • Reliable pumping over long service life



Reliable Pumping of a Ceramic Slurry into a Filter Press

A ceramics company which produces advanced technical ceramics in the manufacture of tubes and rods, crucibles, and lab-ware contacted its Hydra-Cell distributor for assistance on a difficult application. The ceramics company was considering a hydraulic membrane pump and exploring other possible options.

The slurry is pumped into the filter press, removing liquid and forming a paste or cake that is then extruded into the components that the company produces. Pulsations would have a negative effect on the quality of the cake. After reviewing the application data, the distributor proposed a Hydra-Cell pump.

From experience with ceramics at similar facilities, the distributor was aware that a pump with ceramic valves and seats occasionally did not hold up at the higher pressures. Running the pump at slower speeds would increase the life of the pump, while using an inverter duty motor with a Variable Frequency Drive (VFD) would allow speed to be increased to compensate when flow and pressure dropped as a result of wear.

316 Stainless Steel was requested by the customer so no product discoloration would occur. Tungsten carbide was selected for the valves and seats based on previous experience with another ceramic company. Using a Hydra-Cell base and guard along with a tungsten carbide-fitted C62 Pressure Regulating Valve gave the customer a very attractive, complete, easy-to-install pumping package.

The pump runs on intermittent duty six times a week, 2+ hours per cycle. It has been in service since June of 2008 and has not seen any downtime since installation.

Characteristics of Fluid Pumped:

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