

OIL & GAS INDUSTRY

Quick STUDY

Hydra-Cell
Seal-less Pumps

www.Hydra-Cell.com

Location:	China
Application:	Gas condensate transfer
Media:	• Gas condensate
Model No.:	H25XKSGCCEMB D35XKSGCCEMB
Flow Rate:	H25 from 4 to 20 gpm (15.1 to 75.7 l/min) D35 from 9 to 37 gpm (34.1 to 140.1 l/min)
Pressure:	(Differential) 360 to 650 psi (25 to 45 bar)
Hydra-Cell Advantages:	• Able to handle gas condensate containing sand, water and corrosive chloride ions • No leakage risk • Variety of materials offered for pump body, valves and diaphragms • Easy, accurate flow control • Dry running capability



Transferring Gas Condensate with Sand, Water and Corrosives

Canned motor pumps installed at petroleum plant in China to transfer gas condensate were continually breaking down. Reliant on the process fluid to lubricate rotor, wear rings, and impeller bearings, the pumps could not satisfactorily handle a process liquid that contained water, sand particles and corrosive chloride ions.

Vulnerable components wore prematurely. Failures were frequent, maintenance costs were high. Hydra-Cell H25 and D35 pumps, both in ATEX format, replaced the canned motor units and ran trouble-free. Twelve months later they were still operating smoothly, with no maintenance needed and no problems to report.

Whereas canned motor pumps need a clear process liquid to cool the motor and lubricate internal components, the seal-less Hydra-Cell pumps handled abrasive particles with ease. Among other features noted with approval by engineers at the plant:

- Pump bodies, valves and diaphragms are available in a variety of resistant materials to suit the application.
- The pumps could run dry without damage if liquid supply should be shut off for any reason - for example if an inlet filter is blocked.
- Flow rate is easily and accurately controlled electronically, via frequency inverter, by adjusting motor/pump speed.
- The pumps are operating on continuous duty.

The H25 pumps are working within the flow range 1m³/hr - 4.5m³/hr while the D35 pump is working in the range 2m³/hr - 8.4m³/hr. Typical flow rates are given as 2.5m³/hr and 7m³/hr respectively.

Differential pressure is 360 psi to 650 psi (25 bar to 45 bar). Liquid temperature varies from 50°F to 86°F (10°C to 30°C). Ambient local temperature (the pumps are sited outdoors) varies between -18°F and 113°F (-28°C to 45°C).

Characteristics of Fluid Pumped:

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