



WANNER
Hydra-Cell[®]
Seal-less Pump Technology

Case Study

Transferring gas condensate – with sand, water and corrosive

Canned motor pumps installed at the Quidong plant of China Petroleum 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. Seal-less Hydra-Cell pumps 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.



Pump code: G35XKSGCEMB



Pump code: G25XKSGCEMB

In the Hydra-Cell design there are no dynamic seals, so no need for seal lubrication and no contact at all between the drive side of the pump and the abrasive process liquid it is handling. Hydraulically-balanced diaphragms flex to provide the pumping action and also isolate the drive from wetted parts. The design prevents risk of internal or external leakage.

Whereas canned motor pumps need a clear process liquid to cool the motor and lubricate internal components, seal-less Hydra-Cell pumps can handle abrasive particles with ease.

Customer – China Petroleum

China Petroleum is one of the numerous Hydra-Cell customers who have appreciated the practical benefits of our seal-less pump technology and subsequently shared their experience with us.



Among other features noted with approval by plant engineers at Quidong ...

Pump bodies, valves and diaphragms are available in a variety of resistant materials to suit the application.

The pumps can 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 installed at the Quidong plant are the Hydra-Cell G25 and G35 – both in ATEX compliant format. Duty is continuous.

Model G25 pumps are operating within the flow range 1 m³/hr – 4.5 m³/hr while the G35 pump is working in the range 2 m³/hr – 8.4 m³/hr. Typical flow rates are given as 2.5 m³/hr and 7 m³/hr respectively.

Differential pressure is 25 – 45 bar. Liquid temperature varies from 10°C to 30°. Ambient local temperature (the pumps are sited outdoors) varies between minus 28°C and plus 45°C.

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