

## Vertical Pumps Perform Oil Skimming Duties For Shell

Shell U.K. Exploration and Production, operator in the UK sector of the North Sea for Shell and Esso, is using vertical progressing cavity pumps, from Mono® NOV, on its Brent Charlie platform in the North Sea to perform oil skimming duties.

The Brent Charlie platform is one of four production platforms serving the Brent Field which is the largest in the UK sector of the North Sea.

Installed vertically within one of the platform's legs, the pumps are required to remove oil from the column and pump it via the reclaimed oil line and crude manifold into storage cells for further processing.

Shell Expro required a reliable intrinsically-safe pumping system that could be easily installed, serviced and maintained.

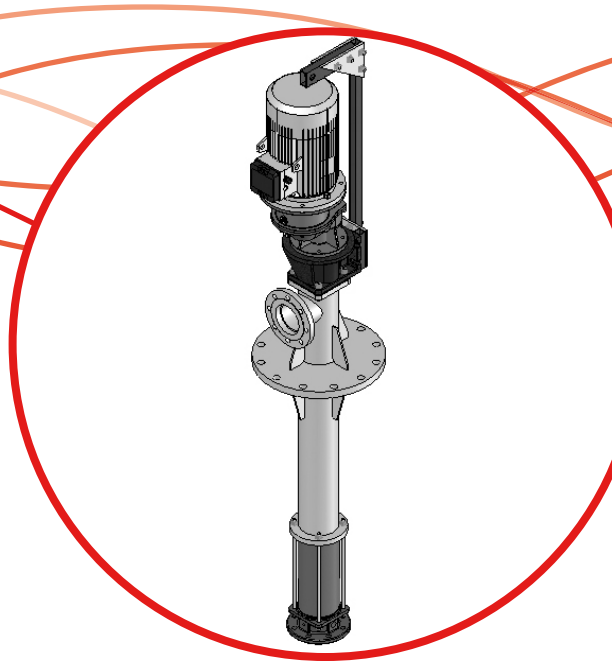
The pumps are required to pump a mixture of oil, sea water, H<sub>2</sub>O and particles, at a pressure of 9 bar. Robust and weatherproof, the pumps are designed to withstand even the most arduous North Sea conditions, including waves, sea spray and temperatures ranging from -7°C to 40°C.

The pumps incorporate Mono's unique Flexishaft system, which provides a single component link between the rotary motion of the drive shaft and the eccentric motion of the helical rotor. The reduced number of moving parts in the drive train eliminates wear and makes lubrication unnecessary, removing the risk of failure during normal operation.

To ensure complete spark-free operation, Mono supplied the pumps with a special rubber lining so that in the unlikely event of mechanical failure, there would never be any metal to metal contact.

For a completely automatic fail-proof system, the pumps have been integrated with level detection equipment for start/stop control, a flow meter to immediately detect no flow situations, and a high pressure switch to protect against over pressure.

To match all offshore applications, the vertical industrial range is designed to handle flow rates up to 225m<sup>3</sup>/h and pressures up to 9 bar.



Pump:	Industrial progressing cavity pump
Product:	Oil/seawater/H <sub>2</sub> O and particles
Pressure:	9 Bar



Mono Pumps Ltd  
Martin Street, Audenshaw  
Manchester, M34 5JA England  
T. +44 (0)161 339 9000  
E. [info@mono-pumps.com](mailto:info@mono-pumps.com)  
[www.mono-pumps.com](http://www.mono-pumps.com)

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