

Application Data

Umbilical testing (FHTU)



FHTU unit installed on Subsea 7 vessel, Normand Seven

Benefits

- Hughes Pumps have a track record of delivering quality solutions on tight deadlines
- Hughes Pumps manufacture the pumps which are at the heart of the system
- The pumps are high quality, all stainless steel wetted parts, slow running & heavy duty
- Hughes Pumps has pump technology to 3000bar
- Flexible approach to clients specifications & budgets, able to supply a simple system to full turnkey, PLC control
- 40 years' experience in supplying pumping equipment offshore & subsea

General Description

Hughes Pumps have been supplying Flushing & Hydrostatic Test Units (FHTU's) since 1999 to leading companies around the world to flush & pressure test umbilical's during manufacturing onshore & installation offshore.

The Flushing process involves pumping glycol (typically MacDermid Oceanic HW525) at 1.0 to 8.0m³/hr at up to 1400bar (20,000psi) to produce a high velocity, turbulent flow within the umbilical to produce a scouring action to flush out any contaminants. The system is closed loop & includes suction & discharge filters to clean the fluid to NAS1638 class 6 or better. An offline pump/ filtration unit continuously filters the fluid even when testing is not taking place & a heat exchanger is fitted to

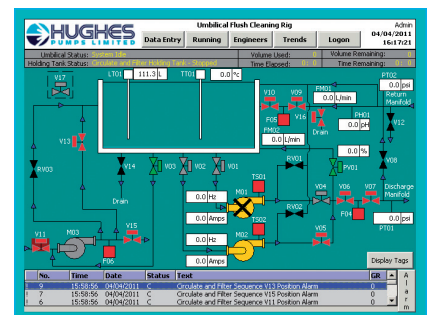
the system, using seawater to cool the process fluid.

The hydrostatic test system comprises a Hughes plunger pump at 0.1 to 3.0m³/hr at up to 1400bar (20,000psi) to test the integrity of the umbilicals, generally to 150% of the working pressure.

The systems generally include inverter driven electric motors for fine flow control, high pressure flow meters & filtration. When used in the manufacturing process the equipment can be PLC controlled. The operator scans a bar code on the umbilical(s) & initiates the process. The pump(s) then automatically adjust speed to achieve the required flow & pressure depending on the diameter, length, quantity & test pressure of the umbilicals.

References

- Subsea 7
- Technip
- Techdof
- Odebrecht
- CEONA
- MFX
- Marine Production (Oceaneering)



PLC system used during umbilical manufacture at MFX Brazil



FHTU pumpset, 1035bar



FHTU & HTCIS installed on Subsea 7 Kommander 3000



Umbilical & flexible pipe testing equipment aboard the CEONA vessel, Polar Onyx

This information is intended to be a guide only. The required pump size & performance can vary depending on many factors including rate of work required, hardness of deposit or work piece, operator skill, site access etc.

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In line with the Company's policy of research and development, alterations in design, dimensions and appearance are incorporated from time to time in order to ensure that important developments are included at the earliest opportunity. The Company, therefore, reserves the right to alter design, dimensions etc without notice.