WELL INTERVENTION

LWI / RWI Systems

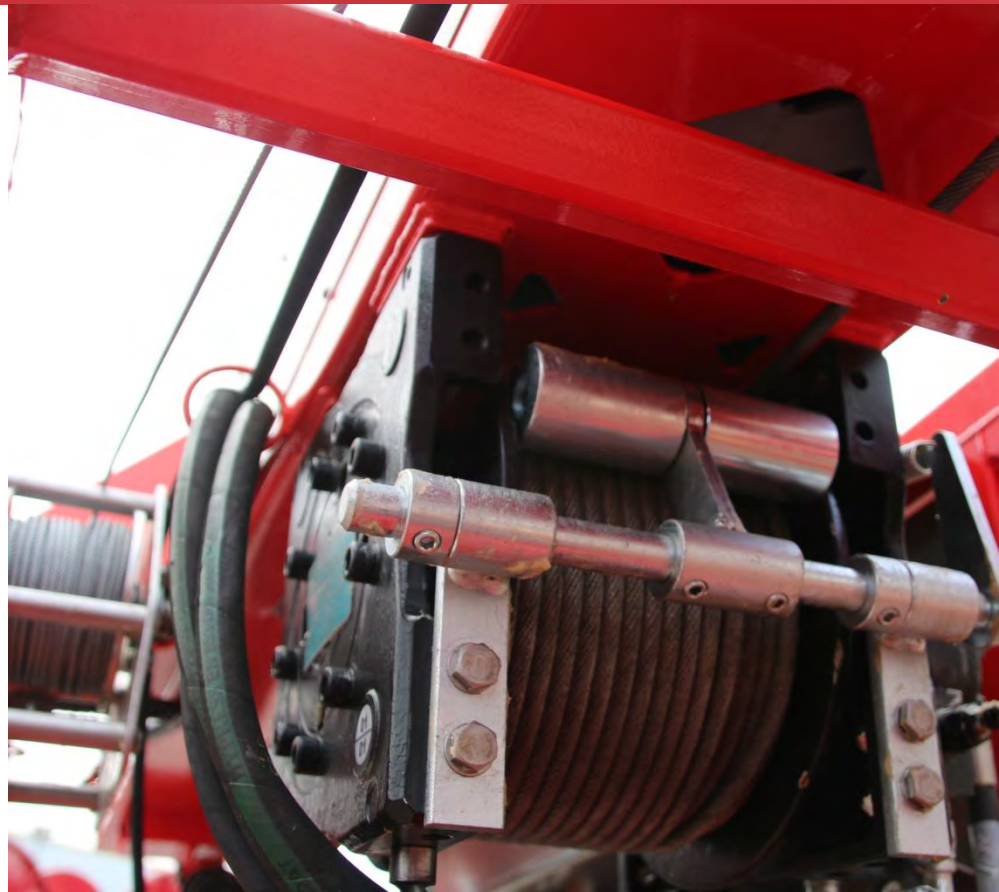
TIS Active Heave Compensation

TIS Manufacturing | Well Intervention | Active Heave Compensation

TIS Active Heave Compensation (AHC) systems are designed to increase the working weather window for offshore lifting operations while also providing safer deepwater seabed interfacing.

AHC configurations can be applied to any offshore crane or winch application in which it would be beneficial to reduce the amount of vessel motion transmitted to the hook load.

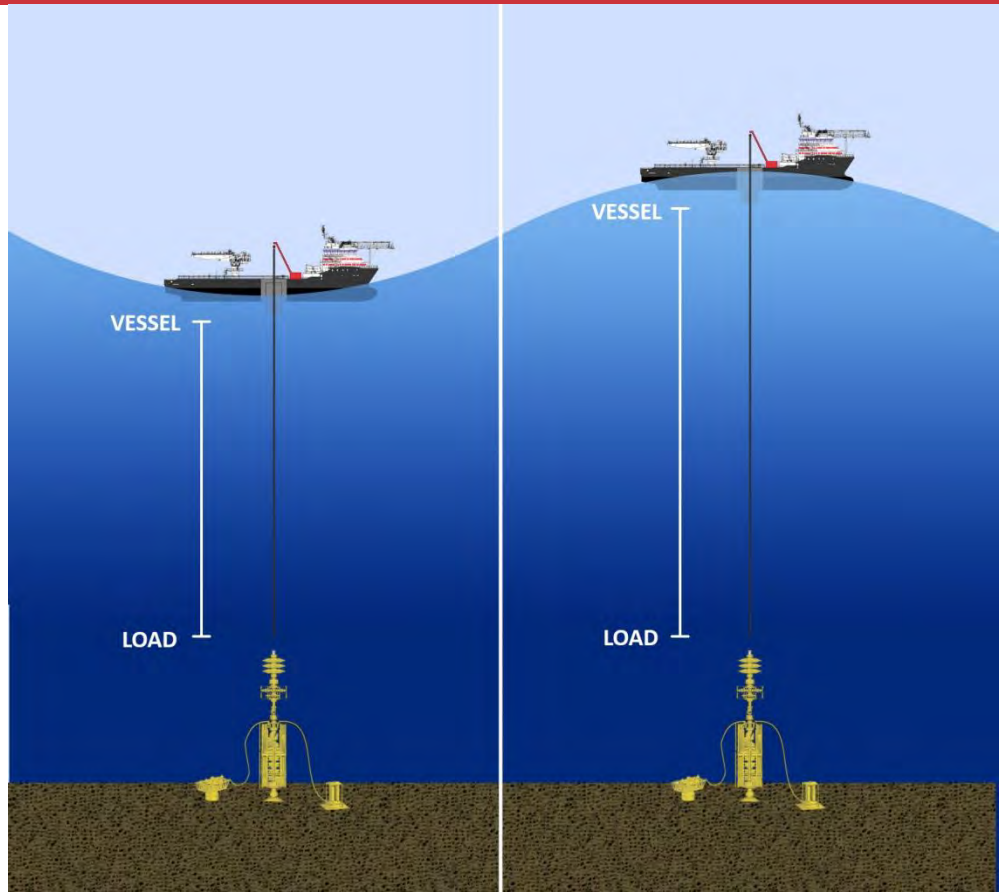
TIS Manufacturing's AHC systems use the latest computing hardware and software to ensure optimum processing speeds when calculating for heave compensation. High quality system components have also led to a comprehensive understanding of AHC and its operational restrictions.



Active Heave Compensation | Basic Principals

As the vessel moves up and down from the wave's crest to trough, the winch automatically reels in or pays out wire to ensure the load end remains in a near constant position.

Movement is sensed at the lifting foundation and the data is electronically communicated to a computer, which then interprets information and sends control signals that make necessary changes to the drum speed and direction.



Active Heave Compensation | AHC System Display

An **AHC System Display** screen provides the operator with live data on vessel movement in contrast to the load movement, and the percentage of winch capacity used for AHC.

Continuous monitoring of vessel motion and winch operation ensure that optimum AHC is achieved without overloading the winch.

POINT OF ENGAGING AHC SYSTEM

Active Heave Compensation | AHC System Components

The system includes a **Motion Reference Unit (MRU)** measuring vessel heave, pitch and roll motion.

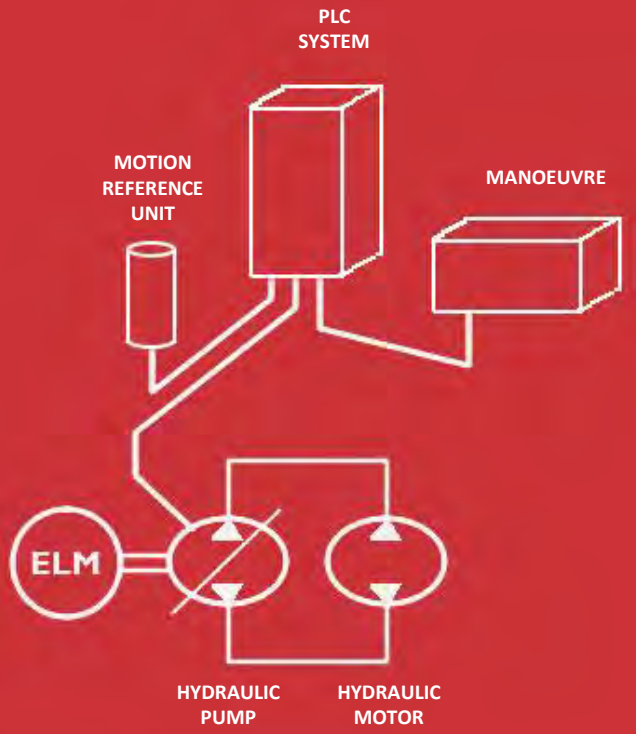
Signals from the MRU are then processed by the **Programmable Logic Controller (PLC)**, which regulates direction and speed of the hydraulic motor on the winch.

Advantages

- Decrease weather related downtime
- Additional installation for AHC is minimal
- Good regulation with small fault and adapted regulation parameters for compensation task
- AHC, winch drive and control systems are fully integrated into a single unit

Disadvantages

- Full power consumption



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