MINT MECH SPECIALIST ENGINEERS

AHA™ ACTIVE HEAVE ASSIST / WITH AWOB™

Active heave assist with automatic weight-on-bit.

AHA converts an existing passive heave-compensation system into an actively assisted one, holding the drill bit stable relative to the seabed to within less than 10 cm.

<10 cm
BIT POSITION VS SEABED

~3 days
PLUG-AND-PLAY INSTALLATION

>1 km
BELOW THE SURFACE, IN SERVICE



01 CONTROL PANEL


02 FITTED TO A GEOTECHNICAL DRILLING RIG

AHA / FACTORY ACCEPTANCE TEST

A 1 m sinusoidal wave on the test bed. Requested and actual position on one trace.

A WORLD FIRST

The world's first conversion of a passive heave-compensation system to active heave assist on a geotechnical drilling rig. In-house intellectual property, developed on a working vessel.

01 / AWOB

Set weight-on-bit and feed rate.

The driller sets a target weight-on-bit and a maximum feed rate, and AHA actively manages drill-string movement to maintain controlled progress.

02 / SOFT AND LAYERED GROUND

No rapid punch-through.

Prevents rapid punch-through, reduces the risk of blocking off and allows controlled descent where conventional weight-on-bit control isn't possible.

03 / DRILLER IN CONTROL

Choose the level of automation.

Multiple failsafes. Override at any time: at 0%, the system behaves exactly as a conventional passive system.

04 / RETROFIT

About three days to install.

A plug-and-play retrofit to the vessel's existing passive system, using the existing HPU power.

IN SERVICE

Deployed on a commercial deep-water campaign over rocky, uneven seabed where jack-up barges and seabed frames could not be used, more than a kilometre below the surface, enabling advanced downhole logging that demanded precise BHA position control.

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Active assist on your passive system.

Conventional active heave compensation holds position, but geotechnical drilling needs controlled advance. AHA assists an existing passive heave-compensation system. It does not replace it.

AHA WITH AWOB

Function	Converts an existing passive heave-compensation system into an actively assisted one.
Position holding	Drill bit held stable relative to the seabed to within **less than 10 cm**.
AWOB control	Driller sets a target weight-on-bit and a maximum feed rate; drill-string movement actively managed.
Automation	Driller chooses the level of automation and can override at any time; at 0%, behaves exactly as a conventional passive system.
Safety	Multiple failsafes.
Interface	Driller-oriented control panel.
Installation	Plug-and-play retrofit, roughly **three days**.
Power	Uses the existing HPU power.
Factory test	1 m sinusoidal wave on the test bed; requested and actual position on one trace.



IN SERVICE

Developed on a working vessel.

WHERE IT FITS

The active layer.

- **Existing system** - works with the passive heave-compensation system already fitted.
- **Alongside ACT and OLPS** - our constant-tension winch control and overload protection systems.
- **New-build or retrofit** - heave-compensated, draw-works and line-tensioner duties.

AWOB APPLICATIONS

Controlled force at depth.

- **Geotechnical drilling** - protecting cores and preventing punch-through in soft, layered ground.
- **Large-diameter drilling** - holding controlled weight-on-bit on a big bit.
- **Marine construction** - pile installation and floating offshore wind (FLOW) foundations.
- **Launch and recovery** - landing an object softly on the seabed, or breaking it out under controlled load.

Contact us

Send us the rig, the heave compensator and the HPU.

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