

Heave Compensator User Manual



hohner

RIG INSTRUMENTATION



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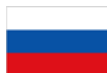
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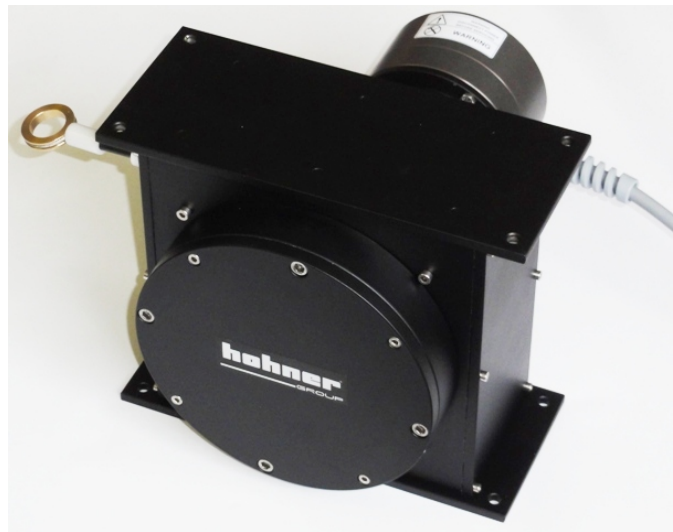
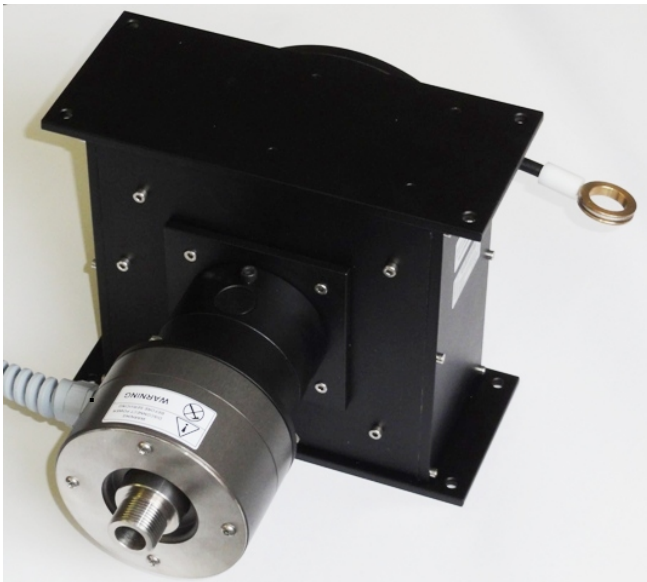
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Overview of Heave Compensator

Our heave compensator part number EM90A4/***/** is designed to monitor the movement of drillship and platforms relative to the seabed.

Used in conjunction with the draw-works depth information, an accurate total depth can be measured taking into account the up/down movement relative to the waves and heave of the sea.

Our device can be used for drilling applications or for mud logging.



The functionality is quite simple. Our unit has a spring loaded 2.2mm (0.87") diameter nylon coated cable of either 10m (33ft), 12m (40ft), 15m (49.5ft) or 18m (60ft) lengths.

This cable is kept at a high tension of 20Nm at all times via two large springs. The internal mechanism is a tried and true system designed to prevent the cable from tangling and breaking.

In the case of the end of the cable coming loose, we have an internal magnetic brake system designed to slow down the cable – thus preventing injury to surrounding people and damage to the unit.

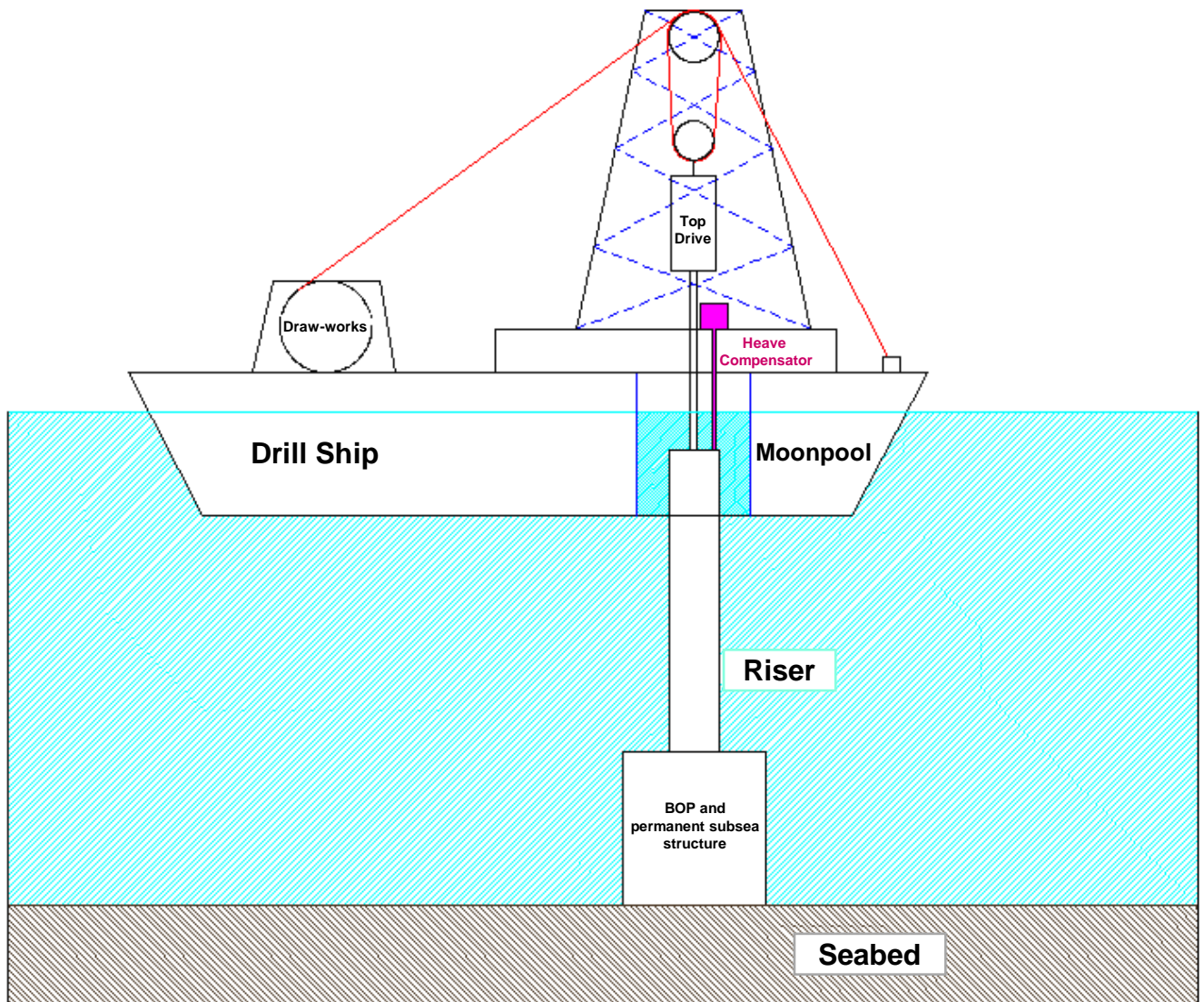
Any Hohner encoder can be used with the unit. The data sheet for your encoder is included in the documentation the unit was supplied with

Installation of the Heave Compensator Pt 1

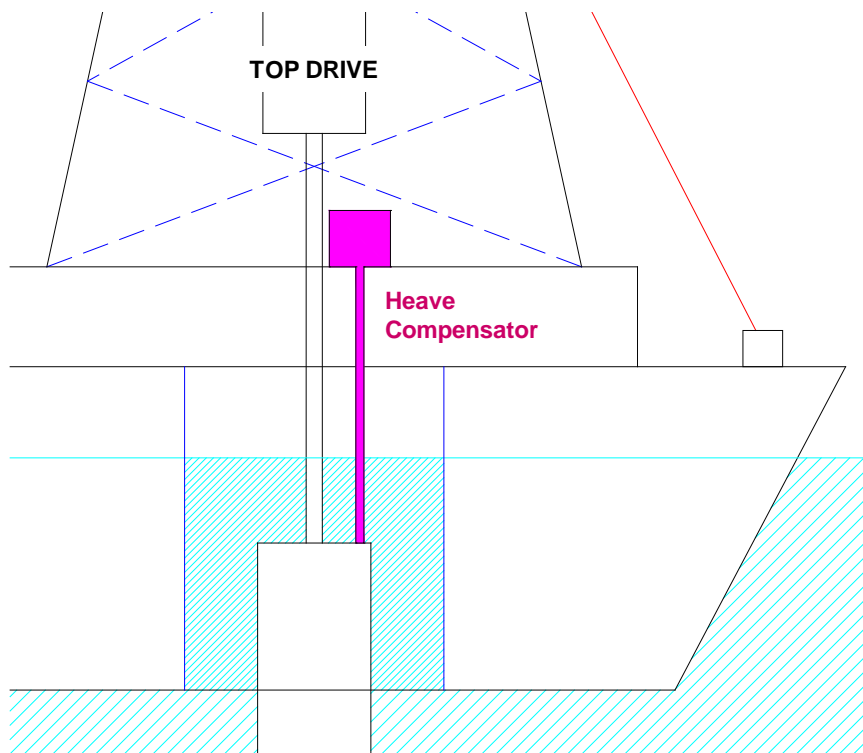
The heave compensator has to be attached to a fixed location on the drilling rig (moving with the sea) while the end of the cable has to be attached to a point which is moving relative to the drilling rig (fixed with the seabed).

One possible method is to fix the heave compensator to somewhere on the rig floor near the moon pool and have the cable attached to the riser.

Please ensure that the total displacement is less than the total cable length of the heave compensator.



Installation of the Heave Compensator Pt 2



Ensure a safe installation location for the unit, which is within reach of the cable draw length of 10m (30ft), 12m (36ft) or 15m (45ft).

The unit is attached to the rig floor (or somewhere that is fixed to the rig floor, and thus a part of the rig which MOVES with the waves) using 4x M6 screws on an 80mm x 200mm square.

The end of the cable is the carefully drawn out and attached to a section of the rig which does NOT move with the waves, such as the riser.

Ensure the full draw length is about 2m more than required for the maximum heave expected on the rig. In other words, when attaching the cable to the riser, ensure the total displacement between the riser and device is no more than the total draw length of the device.

The unit now draws the cable in/out relative to the sea

The encoder is now connected to the control system

Encoder Notes.

If the encoder is intrinsically safe (Zone 0, Ex ia), please ensure you have the appropriate galvanic isolator in the safe area between it and the PLC

If the encoder is explosion proof (Zone 1, Ex d), simply hook up the unit to the PLC.

Always ensure the cable is neatly laid out and away from any moving parts walkways.