

**ROTAX® HD**  
**SUBSEA ROTATION**  
**SENSOR**  
**PRODUCT SHEETS**

Rotax® HD: subsea rotation sensor  
designed to withstand harsh operating  
conditions in water depths up to  
3000 meters



# SELECTION & OPTION LIST

For every Rotax® HD the following configuration items must be determined:

- **Measurement range.** Rotation angles of up to 350° are possible. However, in cases where a smaller rotation range is required, the sensor will be set to a narrower range in order to maximize measurement accuracy.
- **Connector type.** The Rotax® HD rotation sensor is delivered standard with either a Subconn® Circular or Subconn® Metal Shell. Other connector types are available upon request.
- **Sensor rotation.** The sensor can be set either positive (counting up) when turned clockwise (CW) or positive when turned counter clockwise (CCW). The standard setting is clockwise.

The following features are optional:

## A Mounting brackets

As an alternative to a standard mounting made directly through the threaded mounting holes, two standardized mounting brackets are available: a bracket for side mounting, and a bracket for flange mounting. Custom-made mounting brackets are available upon request.

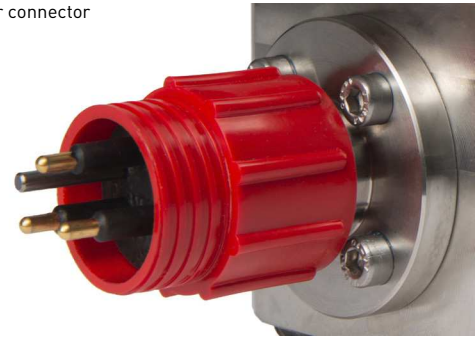
## B Shaft clamp

This shaft clamp, to be bolted onto the sensor shaft, can be used to connect (via a welded connection) to a lever to establish a mechanical connection to, for example, a crane boom.

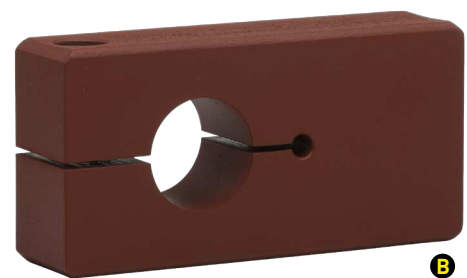
## C Cable assembly

The sensor can be supplied with custom-made cabling in a variety of lengths, allowable loads, and connector types.

Subconn® Circular connector



Subconn® Metal Shell connector



# TYPICAL APPLICATIONS

The Rotax® HD subsea rotation sensor is specifically designed to perform accurate rotation measurement. The sensor can be installed on equipment operating in harsh subsea environments, including:

- Dredging equipment such as booms, bucket angles, and suction tubes
- Heavy-duty cranes
- Remotely Operated Vehicles

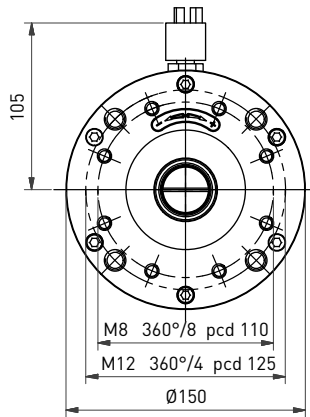
Rotax® HD sensor applied for boom angle measurement at backhoe dredger "Gian Lorenzo Bernini" – Jan de Nul



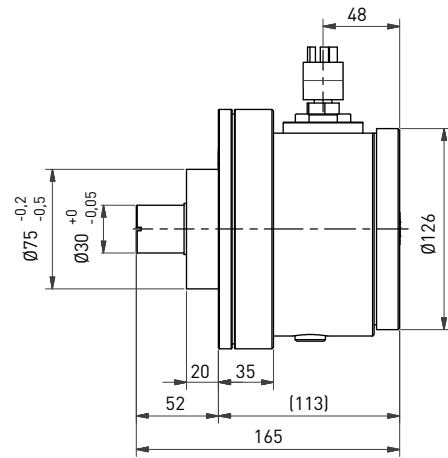
# DIMENSIONS

## ROTAX<sup>1</sup>

TOP VIEW

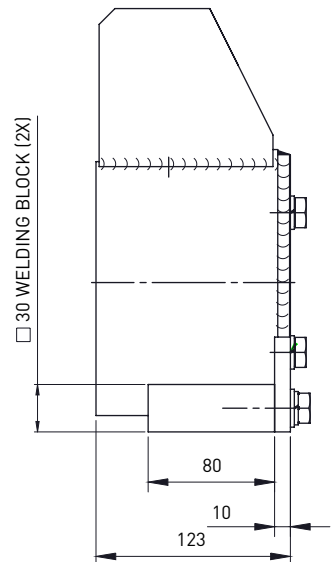
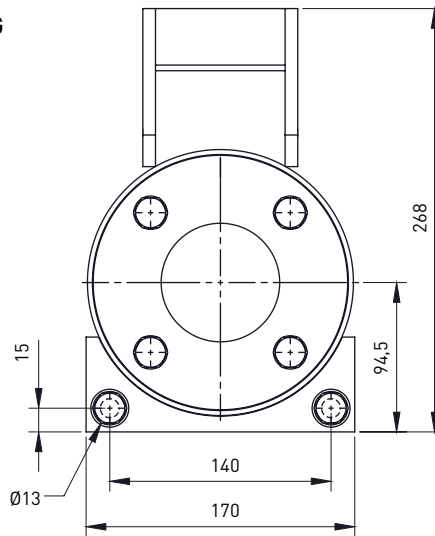


SIDE VIEW

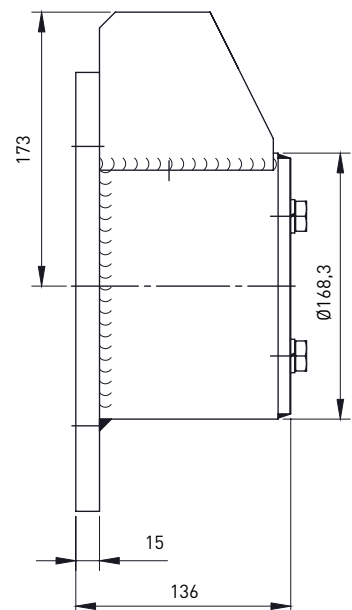
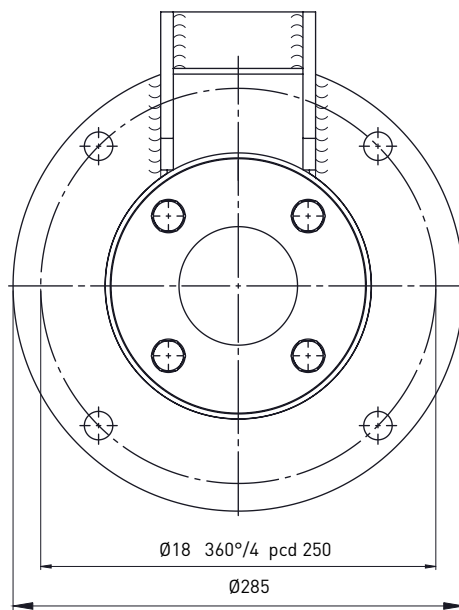


<sup>1</sup> Dimensional drawings are based on a Rotax<sup>®</sup> HD executed with a Subconn<sup>®</sup> Circular connector. In case the sensor is executed with a different connector, dimensions will deviate.

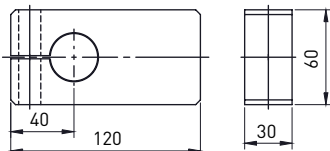
## BRACKET FOR SIDE MOUNTING (OPTION A1)



## BRACKET FOR FLANGE MOUNTING (OPTION A2)



## SHAFT CLAMP (OPTION B)



# ROTAX® HD SUBSEA ROTATION SENSOR SPECIFICATIONS

## GENERAL

	METRIC	IMPERIAL
Main dimensions	See detailed drawings	
Material housing / shaft	Stainless steel 316L / 431	
Weight in air	± 11 kg	± 24 lbs
Submerged weight	± 9 kg	± 20 lbs
Maximum static axial shaft load	5 kN	1124 lbf
Maximum static radial shaft load	6 kN	1349 lbf
Maximum working depth <sup>1</sup>	100 m	328 ft
Operational temperature range	-20°C - +70°C	4°F - +158°F

<sup>1</sup> Working depths of up to 3000m are available upon request.

## ELECTRICAL

Supply voltage	18 - 33 V DC
Current consumption	80 mA
Output signal	4 – 20 mA (2-wires) (3-wires version also available)
Measurement range	350°
Resolution / 350°	0.02 ‰
Linearity / 350°	0.1 %

## RELATED SERVICES

### Client advisory

During the selection process, we consult clients to ensure they opt for the right Rotax® sensor. In our recommendation we take into consideration measurement range, required accuracy, system setup, data communication, mounting possibilities, vibrations, and other factors that are relevant to your case.

### Custom-made versions

Next to our standardized series, Seatools offers custom-made subsea rotation sensors that are tailored to your specifications. Please contact our sales department to request a customized angle sensor.

### Subsea monitoring & control systems

Next to the delivery of stand-alone sensors, we can deliver full-fledged subsea monitoring systems, including all related systems such as mechanics, software, electronics, and controls.



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