

**ULTRALONG
LIFETIME SERIES
COMPENSATOR 250 L
PRODUCT SHEETS**

The ultralong lifetime series:
a compensator range designed for
20 years uninterrupted seafloor
performance.



OPTION LIST

The standard version is designed for hydraulic oil and is delivered without level measurement.

It comes with the following features:

- SAE connections
- Blind plug and drain
- Bare Duplex housing

The following items are optional:

- **Hydraulic connections**

Standard hydraulic connections are SAE. However, other types of connector threads are available on request.

- **Pressure relief valve**

The compensator can be equipped with a safety valve for protection against internal pressure peaks.

- **Oil level measurement**

For oil level measurement three different options exist:

- Precise oil level measurement executed with ISO-13628 compliant sensor and Tronic connector including full ISO 13628-6:2006 Environmental Stress Screening (ESS).
- Precise oil level measurement executed with industrial grade sensor.
- Empty detection. Signals that the compensator is (close to) empty. Cost effective alternative for the precise oil level measurement options.

- **Strain relief**

Protects the connectors of the level measurement / empty detection sensors from mechanical strain on the cable.

- **Surface treatment**

All surfaces of the compensators which are in contact with seawater can be coated in accordance with NORSOK M-501, coating system 7.

- **Protection cover**

In order to protect the bellows a stainless steel 316 protection cover can be delivered. Protection cover is executed with hoisting points and can be delivered with NORSOK surface treatment.

TYPICAL APPLICATIONS

This compensator is specifically designed for pressure compensation of (semi-) permanently installed subsea equipment, including:

- Subsea Control Module SHPU
- Subsea switch gear
- Subsea slip ring
- Underwater instrumentation
- Suction tube pump motors

Hydraulic connections



Empty detection sensor



Ultralong lifetime compensator with protection cover



COMPENSATOR 250 LITRES SPECIFICATIONS

GENERAL

	METRIC	IMPERIAL
Compensation volume	250 ^{1,2} liters	66 ^{1,2} US gallons
Main dimensions	See detailed drawings	
Stroke	270 mm	10.6 inch
Weight in air excl. oil (approx.)	995 kg	2255 lbs
Metals (in contact with seawater)	Duplex	

¹ This compensator can delivered with 300 liters compensation volume as well.

² The ultralong lifetime compensator range is also available in 20, 60, 100, 200 liters versions.

OPERATIONAL

	METRIC	IMPERIAL
Maximum operating depth	5000 m	16404 feet
Operating temperature range (water)	-18°C – +50°C	-0.4°F – +122°F
Storage temperature range (air)	-25°C – +45 °C	-13°F – +140°F
Pre pressure (min. stroke)	0.3 bar (+/- 0.05 bar)	4.35 psi (+/- 0.72 psi)
Full pressure (max. stroke)	0.5 bar (+/- 0.05 bar)	7.25 psi (+/- 0.72 psi)
Working angle	-30° ... +30°	

³ The indicated maximum operating depth is valid for a compensator without level measurement. Depending on the selected level measurement sensor the depth rating might be limited.

HYDRAULIC

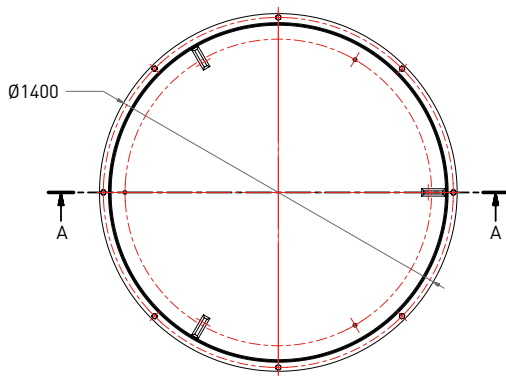
	METRIC	IMPERIAL
Hydraulic connections for hydraulic system ⁴	4 x SEA 1½" 3000 psi	
Hydraulic connection for oil drain ⁴	3 x (internal) G ½"	
Hydraulic connection for air bleed ⁴	3 x (internal) G ½"	
Maximum operating pressure	1.5 bar	21.8 psi

⁴ Compensator can be delivered with other hydraulic connections

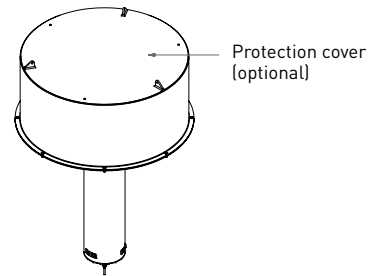
ELECTRICAL – OIL LEVEL SENSORS

			CONNECTOR TYPE	
ISO-13628 compliant level sensor	Operating voltage	+24 Volt DC	Tronic	
	Output signal	4 – 20 mA		
	Interface	SIIS 2		
Industrial grade level sensor	Operating voltage	+21 Volt DC ... + 28 Volt DC		
	Max. current consumption	110 mA typical		
	Output signal	3 wires mode, analog	4 – 20 mA	3 pin Subconn connector or more
		CANbus		5 pin Subconn connector or more
		EtherCAT		6 pin Subconn connector or more
		Profibus		5 pin Subconn connector or more
Profinet		6 pin Subconn connector or more		
SSI		6 pin Subconn connector or more		
Empty detection	Operating voltage	24 VDC	3 pin Subconn micro connector or more	
	Max. current consumption	200 mA typical		
	Output signal	Normally Closed 24VDC		

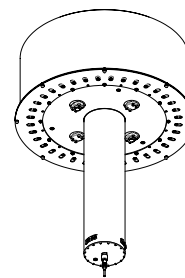
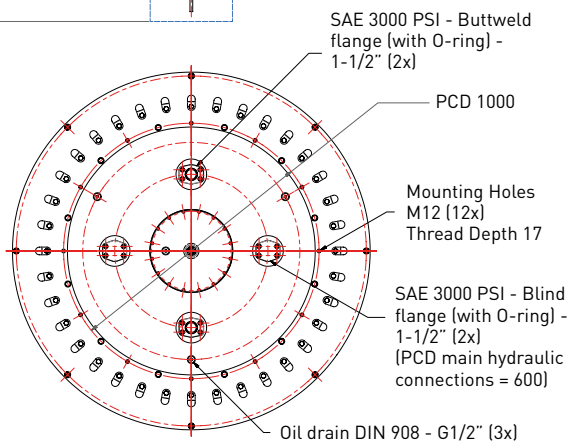
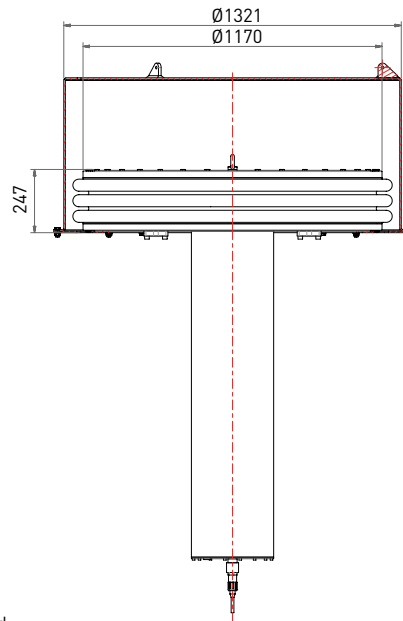
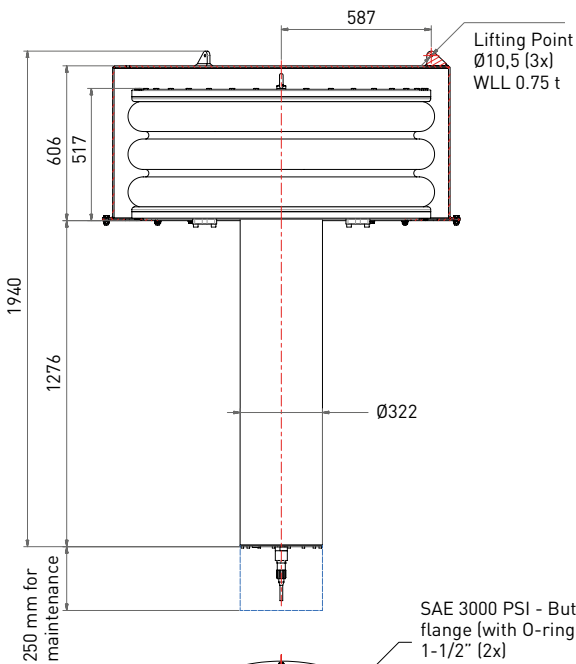
DIMENSIONS



MAXIMUM STROKE



MINIMUM STROKE



Dimensional drawings based on industrial grade level sensor.

3D CAD files in STEP format are available on www.seatools.com



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