

**ULTRALONG
LIFETIME SERIES
COMPENSATOR 60 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 has 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.

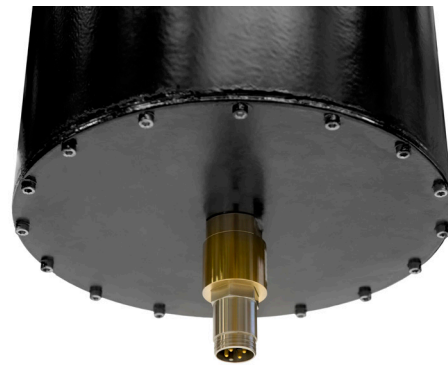
- **Protection cover.**

In order to protect the rubber 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.

Hydraulic connections



Empty detection



Ultralong lifetime compensator with protection cover



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

COMPENSATOR 60 LITRES SPECIFICATIONS

GENERAL

	METRIC	IMPERIAL
Compensation volume	60 ¹ liters	15.8 ¹ US gallons
Main dimensions	See detailed drawings	
Stroke	200 mm	7.8 inch
Weight in air excl. oil (approx.)	270 kg	595 lbs
Metals (in contact with seawater)	Duplex	

¹ The ultralong lifetime compensator range is also available in 20, 100, 200, 250 liters versions.

OPERATIONAL

	METRIC	IMPERIAL
Maximum operating depth	3000 ² m	9843 ² feet
Operating temperature range (water)	-18°C – +40°C	-0.4°F – +104°F
Storage temperature range (air)	-25°C – +50°C	-13°F – +122°F
Pre pressure (min. stroke)	0.2 bar (+/- 0.05 bar)	2.9 psi (+/- 0.73 psi)
Full pressure (max. stroke)	0.6 bar (+/- 0.05 bar)	8.7 psi (+/- 0.73 psi)
Working angle	-30°... +30°	

² Depending on the selected level sensor the depth rating can be extended to 5000 m / 16404 ft

HYDRAULIC

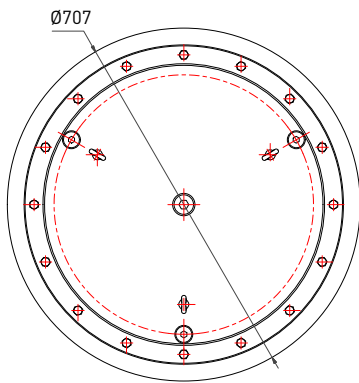
	METRIC	IMPERIAL
Hydraulic connections for hydraulic system ³	2 x SEA 3/4" 3000 psi	
Hydraulic connection for oil drain ³	2 x (internal) G 3/4"	
Hydraulic connection for air bleed ³	3 x (internal) G 3/4"	
Maximum operating pressure	1.5 bar	21.8 psi

³ Compensator can be delivered with other hydraulic connections

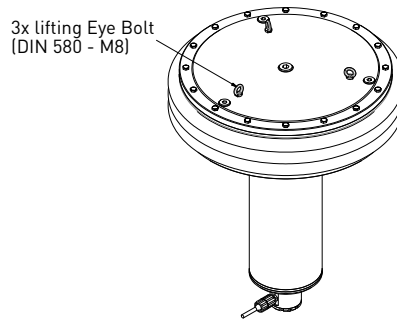
ELECTRICAL – OIL LEVEL SENSORS

		CONNECTOR TYPE	
ISO-13628 compliant level sensor	Operating voltage	+24 Volt DC	
	Output signal	4 – 20 mA	
	Interface	SIIS 2	
		Tronic	
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	
	Max. current consumption	30 mA typical	
	Output signal:	Normally Closed 24VDC	3 pin Subconn micro connector or more

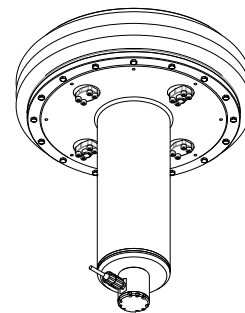
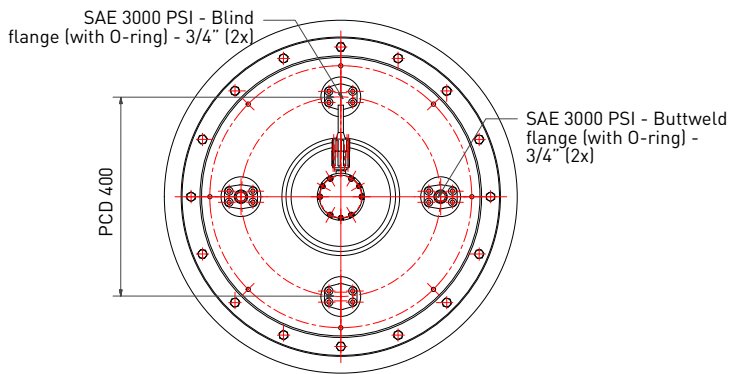
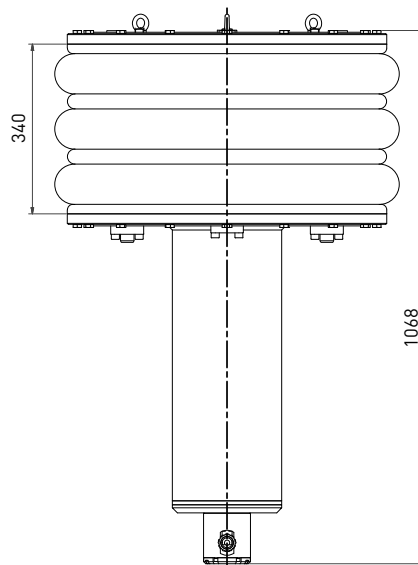
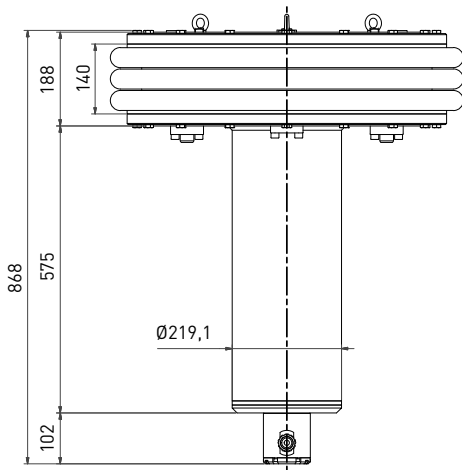
DIMENSIONS



MINIMUM STROKE



MAXIMUM 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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