

ULTRALONG LIFETIME SERIES **COMPENSATOR 100 L** PRODUCT SHEETS

The ultralong lifetime series:
a compensator range designed for
20 years of 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 AISI 316/Duplex housing

The following features are optional:

- **Hydraulic connections**

Standard hydraulic system 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 options exist:

- Precise oil level measurement executed with an ISO-13628-compliant sensor and Tronic connector, which includes 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. A cost-effective alternative for the precise oil level measurement options.

- **Strain relief**

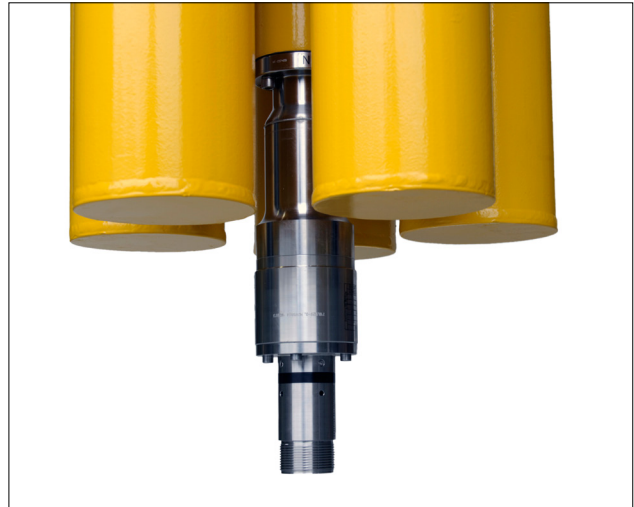
Protects the connectors of the level measurement / empty detection sensors from mechanical strain on the cable.

- **Surface treatment**

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

- **Water / glycol version**

A compensator executed with materials adapted to match the properties of water and glycol control fluids.



TYPICAL APPLICATIONS

This compensator is specifically designed for pressure compensation of permanently installed subsea equipment, such as:

- Subsea Control Module SHPUs
- Subsea slip rings
- Underwater instrumentation
- Suction tube pump motors

COMPENSATOR 100 LITRES SPECIFICATIONS

GENERAL

	METRIC	IMPERIAL
Compensation volume ¹	97 ±3 liters	25.6 ±0.8 US gallons
Main dimensions	See detailed drawings	
Stroke	340 mm	13.4 inch
Weight in air excl. oil	± 288 kg	± 635 lbs
Metals (in contact with seawater)	Duplex, AISI 316	

¹ The ultralong lifetime compensator range is also available in 20, 60, 160, 200 liters versions.

OPERATIONAL

	METRIC	IMPERIAL
Maximum operating depth	3000 m	9843 feet
Operating temperature range	-18°C – +40 °C	-0.4 °F – 140 °F
Storage temperature range	-25°C – +50 °C	-13 °F – 122 °F
Design pre-charge pressure	0.1 bar (empty)(min) – 1.2 bar (full)(max)	1.50 psi (empty)(min) – 17.4 psi (full)(max)
Allowable operational inclination	Any angle	

HYDRAULIC

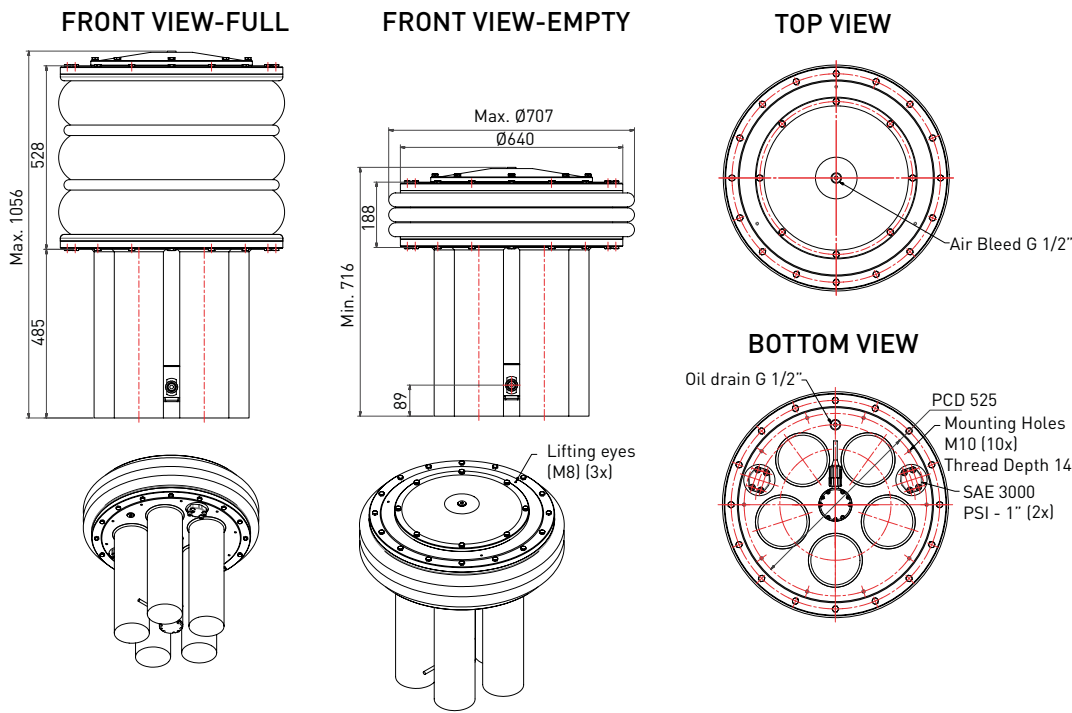
	METRIC	IMPERIAL
Hydraulic connections for hydraulic system ²	2 x 1" SEA – 3000 PSI	
Hydraulic connection for drain ²	1 x (internal) G½	
Hydraulic connection for air bleed ²	1 x (internal) G½	
Pressure relief valve accuracy	20 %	

² Compensator can be delivered in 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	3 pin Subconn connector or more 5 pin Subconn connector or more 6 pin Subconn connector or more 5 pin Subconn connector or more 6 pin Subconn connector or more 6 pin Subconn connector or more
	Max. current consumption	110 mA typical	
	Output signal	3 wires mode, analog 4 – 20 mA	
		CANbus	
		EtherCAT	
		Profibus	
	Profinet		
	SSI		
Empty detection	Operating voltage	+10 Volt DC ... + 30 Volt DC	3 pin Subconn micro connector or more
	Max. current consumption	30 mA typical	
	Output signal	Normally Closed 24VDC	

DIMENSIONS



Dimensional drawings based on industrial grade level sensor.

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

RELATED SERVICES

Client advisory

To ensure that the right size and type of compensator is selected, we advise our clients during the selection process. We do so, taking temperature ranges, pressure ranges, filling levels, entrapped air, fluid behaviors, and other factors into account. In addition, we provide advice regarding the installation and use of a compensator in a subsea hydraulic system.

Advanced testing programs

Normal factory testing procedures include internal pressure testing, leakage testing, and functional testing. In addition, we also offer more extensive factory testing and qualification programs including external pressure testing, fatigue and life cycle testing, temperature range testing, and

contamination testing. In addition, the compensator can be delivered flushed to a pre-defined cleanliness level class.

Custom-made versions

Next to our standardized series, Seatools offers custom-made hydraulic compensators that are tailored to your specifications. Please contact our sales department to request a customized compensator.

Subsea hydraulic systems

Because of our subsea hydraulic engineering capabilities we are able to fully unburden our customers by delivering complete tailor-engineered subsea hydraulic systems. This includes all related systems such as mechanics, software, electronics, and controls.

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