User Manual

16 liter Compensator

Document No

AB25-User Manual.doc

KD Drawing No.

AB25-1100, AB25-3000, AB25-4000

Client Equipment No.

KYSTDESIGN

Revision Description

Rev.	Date	Description	Internal			External	
			Originator	Checked	Accepted	Checked	Approved
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Signature Legend

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1 GENERAL

The compensator compensates for variations in oil volume by a spring loaded piston which compresses a rolling diaphragm. Variations in oil volume can be monitored by an analogue linear sensor. Connection to the hydraulic systems is made through four ¾”BSPP ports.

Key data:

Manufacturer	Kystdesign AS
Model code	AB25
Manufacturers Drawing Number	AB25-1100M01 - BSPP version w/ sensor AB25-1100M02 - BSPP version wo/ sensor AB25-3000M01 - Top Manifold version AB25-4000M01 - Side Manifold version
Weight in air	25 kg without fluid
Active Volume	15.8L
Spring Pressure	0,15 – 0,25 Bar
Max. peak pressure	0.8 Bar
Max. test pressure	0.8 Bar
Depth rate compensator	Full ocean depth
Depth rate linear sensor	3000 m (6000m on request)

2 MAINTENANCE

WARNING !

The compensator contains a compressed spring with the following spring force:
Empty compensator (assembly / disassembly mode): ~1200 N
Full compensator: ~2000 N

Do NOT remove V-Clamp or Spring Retainer Plate before reading the below procedure. To unfasten these items without controlling the spring force can result in serious injuries to personnel and equipment.

2.1 REPLACING THE LINEAR SENSOR

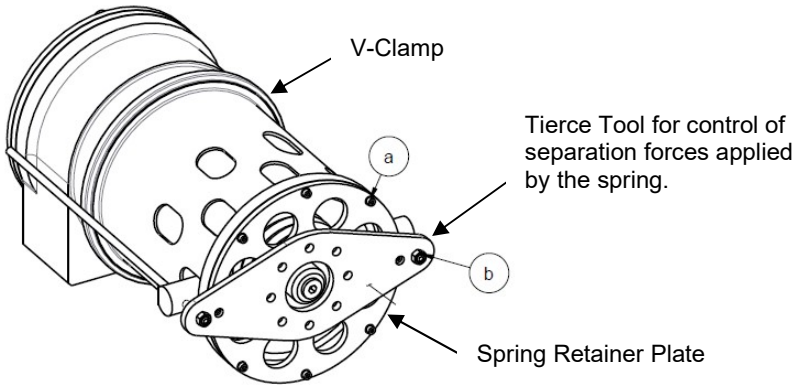
The linear sensor can be replaced without opening the reservoir. Just drain the compensator and unscrew the sensor.

2.2 DISASSEMBLY OF COMPENSATOR FOR REPLACEMENT OF DIAPHRAGM AND O-RINGS

NB! When loosening the bolts in the Spring Retainer Plate, the spring will push this plate by a force of ~1200N. The spring is fully extended after 350mm from "empty comp mode".

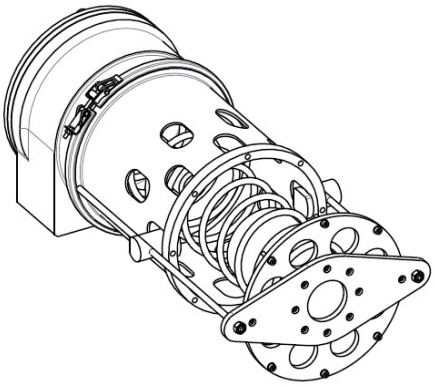
The below procedure is based on the use of a purpose made tool to control the separation force applied by the spring. This tool as shown on the below figures can be supplied by KYSTDESIGN.

1. Drain the compensator
2. Disconnect compensator from the hydraulic circuit and move it to a clean maintenance area.
3. Install tool as shown on the below figure.



4. Tighten up Tierce Rods (b).
5. Remove eight bolts (a) holding the Spring Retainer Plate.

6. Carefully untighten the Tierce Rods (b) while keep the spring retainer plate as parallel as possible with the bottom of the compensator to avoid buckling of the spring. Continue until the spring is fully extended.



7. Remove the tool and the spring.
8. Note the position of the V-Clamp lock. It is important to reinstall the V-Clamp with the lock in the same direction and position.
9. The V clamp can now be removed.

Note! When the compensator is disassembled, it is recommended to replace diaphragm and all o-rings by new ones.

10. Make sure that the new diaphragm and o-rings are clean and not damaged.
11. Grease o-rings and diaphragm flange with Molycote 111 or similar.

2.3 ASSEMBLY OF COMPENSATOR

Assembly of the compensator to be done in reverse order of the steps in section 2.2.

Installation of the V-Clamp shall be according to the following instruction:

Make sure that both the inner surface of the V-Clamp and the mating flange is clean. Then lubricate the flange surface with a thin film of Molycote 111. Install the V-Clamp and torque up the locking nut to 10Nm. Use a lightweight hammer to tap gently on the surface of the V-Clamp while tightening the nut. This to overcome the static friction.

3 PRESERVATION

1. Drain compensator
2. Ensure that all connection ports are properly blinded.
3. Clean outside with fresh water.

4 MAINTENANCE

Recommended maintenance for the 16 L compensator:

- Inspect the rolling diaphragm every 12 months and replace it if it shows signs of wear and/or aging.

5 STORAGE

It is recommended to store the compensator in a dry and dark area.