



AF87-1000M01, AF87-2000M01

1,2 liter Compensator

USER MANUAL





Revision Description

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

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Table of contents

1 Introduction.....	4
2 General	4
3 Preparations and connection.....	4
4 Maintenance	5
4.1 Replacing the linear sensor	5
4.2 Disassembly of compensator for replacement of diaphragm	5
4.3 Assembly of compensator.....	6
4.4 Bolt pretension and torque	6
5 Preservation.....	6
6 Storage.....	6

1 Introduction

This document contains general data, and describes how to use and do the maintenance and preservation of KD AF87 1.2 L compensator.

AF87 replaces AB89-1037, and contains new drawings and a new bill of material. For maintenance and ordering of spare parts for the AB89 version, reference is made to drawings AB89-1037M01 (with sensor) and AB89-1037M01-b (without sensor)

2 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. AF87-2000M, without sensor, has visual monitoring through slots in the compensator housing.

Key data:

Manufacturer	Kystdesign AS
Model code	AF87
Manufacturers Drawing Number	AF87-1000M01, AF87-2000M01
Weight in air (AF87-1000M01, with sensor)	4,4 kg without fluid
Weight in air (AF87-2000M01, without sensor)	3,4 kg without fluid
Active Volume	1,2L
Spring Pressure	0,15-0,55 Barg
Max. peak pressure	1.5 Barg
Max. test pressure	1.5 Barg
Depth rate compensator	Full ocean depth
Depth rate linear sensor	3000 msw (6000 msw optional*)

*Available within 6-7 weeks delivery time

3 Preparations and connection

The compensator has five 3/8" BSPP hydraulic connection ports, normally blinded with plastic plugs prior to shipment. Before installing the compensator, remove all the plastic plugs and blind the connection ports not used with 3/8" VSTI ED71 blanking plugs or other 3/8" BSPP plugs.

The compensator can be installed to external structure by using any of the Ø6,5 or Ø8,5 holes in the oil side housing, or by clamps around the cylindrical part.

4 Maintenance

4.1 Replacing the linear sensor

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

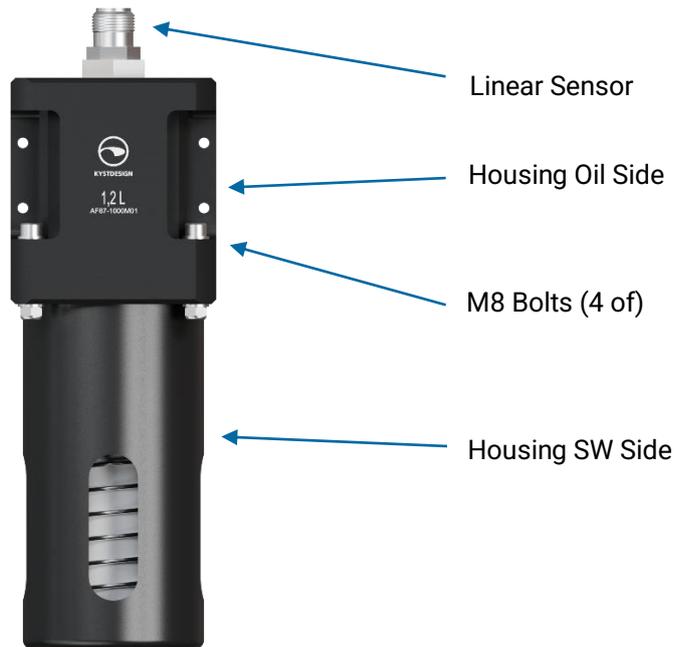
When the linear sensor is disassembled, it is recommended to replace the o-rings with new ones. Lubricate the o-rings with Molycote 111 or similar.

4.2 Disassembly of compensator for replacement of diaphragm

NB!

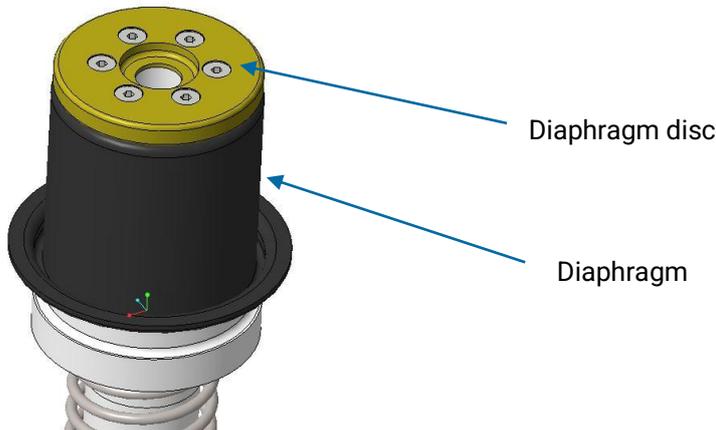
Drained and depressurized, the spring in the compensator is compressed 70mm, giving a separation force of ~120N on the two housings.

1. Drain the compensator
2. Disconnect compensator from the hydraulic circuit and move it to a clean maintenance area.
3. Place the compensator in an upright position. See picture 4.2.3.



Picture 4.2.3 Compensator placed in upright position.

4. Remove the linear sensor.
5. Ensure that the separation force of ~120N can be controlled while the 4 M8 bolts is unscrewed and removed. This can normally be done by pressing the houses together by hand. When all bolts are removed, carefully lift the oil side housing and let the spring decompress.
6. Remove Oil Side Housing
7. Unscrew M6 countersunk bolts and remove the diaphragm disc. (Applies only for AF87-1000M01)



Picture 4.2.7

8. Replace diaphragm with a new one. Lubricate diaphragm flange with Molycote 111 or similar.
9. Make sure that the new diaphragm is clean and not damaged.

4.3 Assembly of compensator

Assembly of the compensator to be done in reverse order of the steps in section 4.2.

4.4 Bolt pretension and torque

See referenced drawings for details

5 Preservation

1. Drain compensator
2. Ensure that all connection ports are properly blinded.
3. Clean outside with lukewarm fresh water and dry with a clean rag.

6 Storage

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