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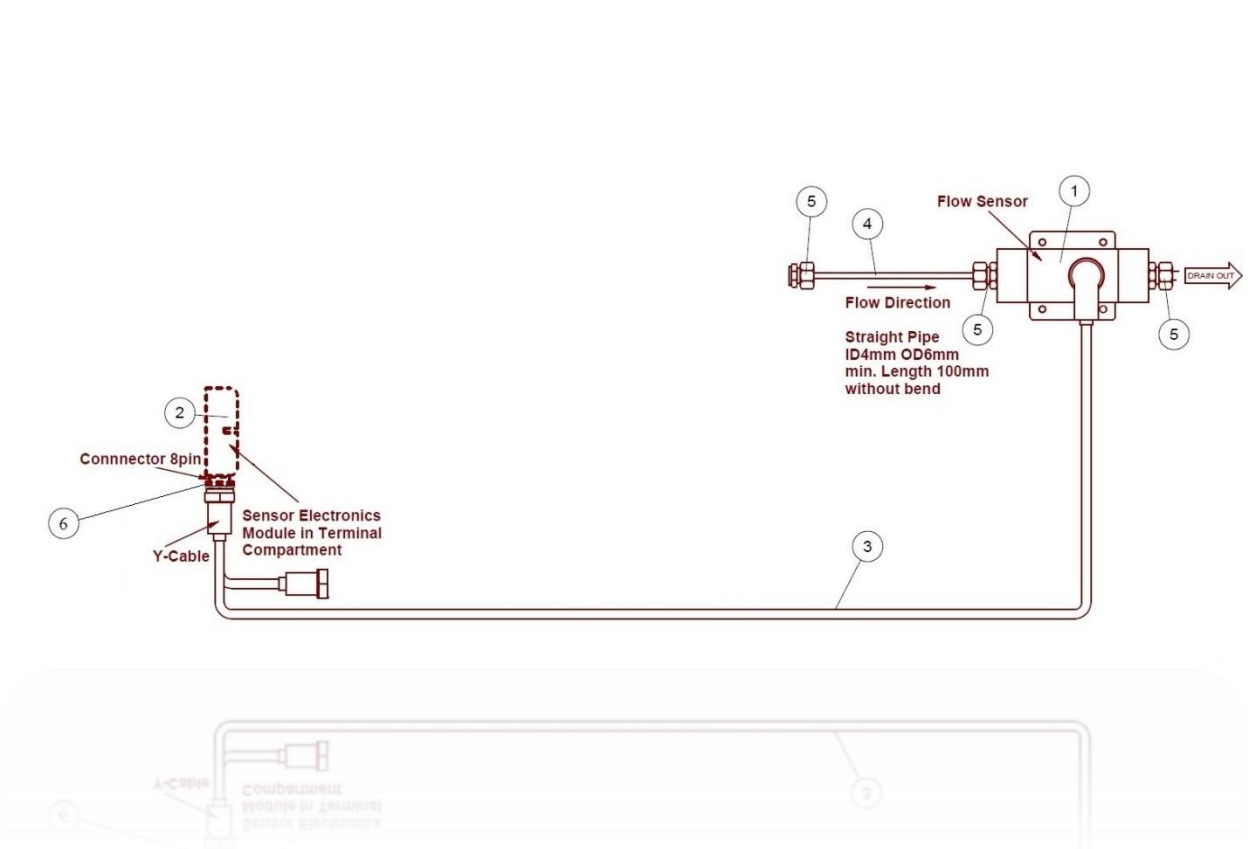
INSTALLATION MANUAL
CONVERSION-KIT TO OMD-24 FC



Conversion-Kit

- Contents
- Installation

We help to protect the Environment

Usage of this installation manual

This installation manual will guide you during the installation of the Conversion-Kit to OMD-24 FC. The installation manual is split into sections. Every section handles a specific part. The first section gives you general information about the safety before using and servicing the Conversion-Kit. Please take notice on this section.

You will also find information about the construction and the cabling Conversion-Kit. The programming mode is explained in detail at the end of the installation manual.

This installation manual also contains information about the service support and our contact details. The symbols below will accompany for a better understanding.

i
It is recommended to use this installation manual in conjunction with the instruction manual OMD-24 Series.

Symbols

➔ This symbol is used for giving general advices.

i This symbol is used to clarify a recommendation.

🛠 This symbol is used for giving advices about servicing.

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Content:

REVISION

Document-Name	Revision No.	Notation	Date
Conversion-Kit to OMD-24 FC	R02_20181004		04.10.2018

1. Introduction

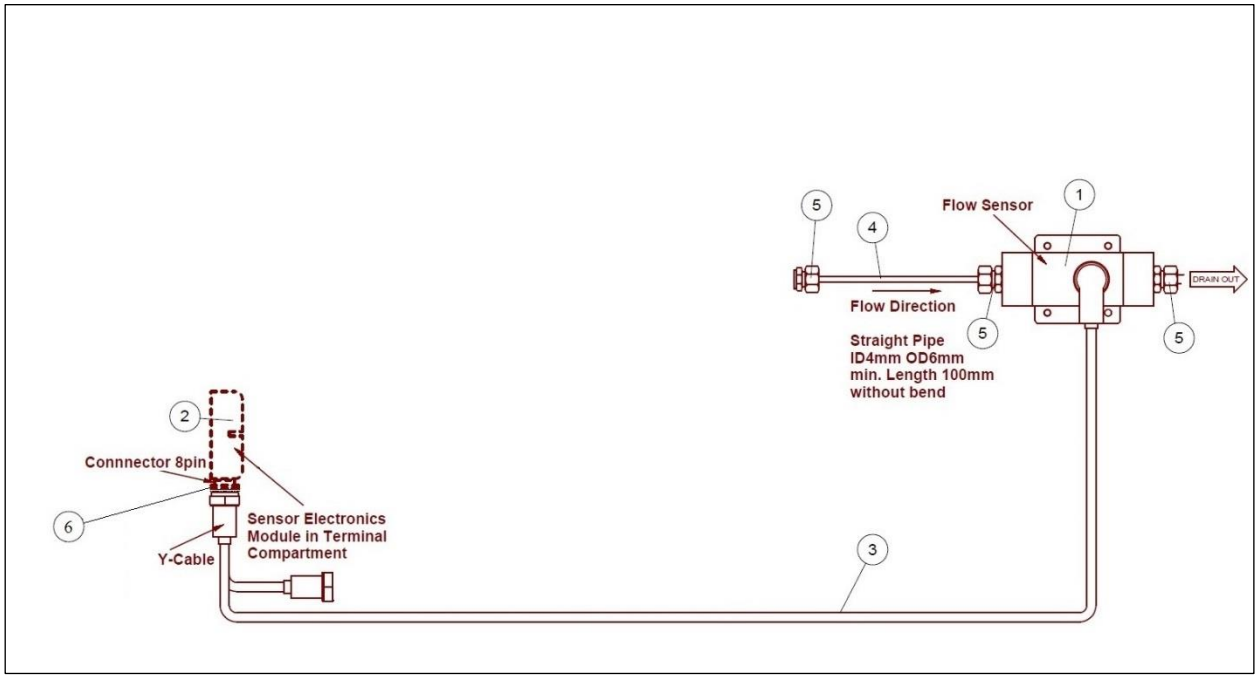
The Conversion-Kit to OMD-24 FC has been designed specifically for use in conjunction with 15 ppm oil-water separator units, which have a specification and performance which exceeds the requirements of the International Maritime Organization IMO specification for 15 ppm Bilge Alarms contained in Resolution MEPC.107 (49).

The Conversion-Kit can only be used in conjunction with an OMD-24 Computer Unit.

The Flow Sensor monitors the sample flow rate through the Measuring Cell.

2. Package Contents

The Conversion-Kit consists of a Flow Sensor, a Sensor PCB, a Connector (8 pin), a Y-Cable, a Flow Laminator Pipe 100 mm in length, and Fittings 1/4” OD 6mm.



No.	Description	Art. No.	QTY
1.	Flow Sensor	16700	1
2.	Sensor-PCB	56300	1
3.	Y-Cable	56810	1
4.	Flow Laminator Pipe (Length = 100 mm)	56420	1
5.	Fitting 1/4” 6mm OD	20521	3
6.	Connector 8 pin	56821	1

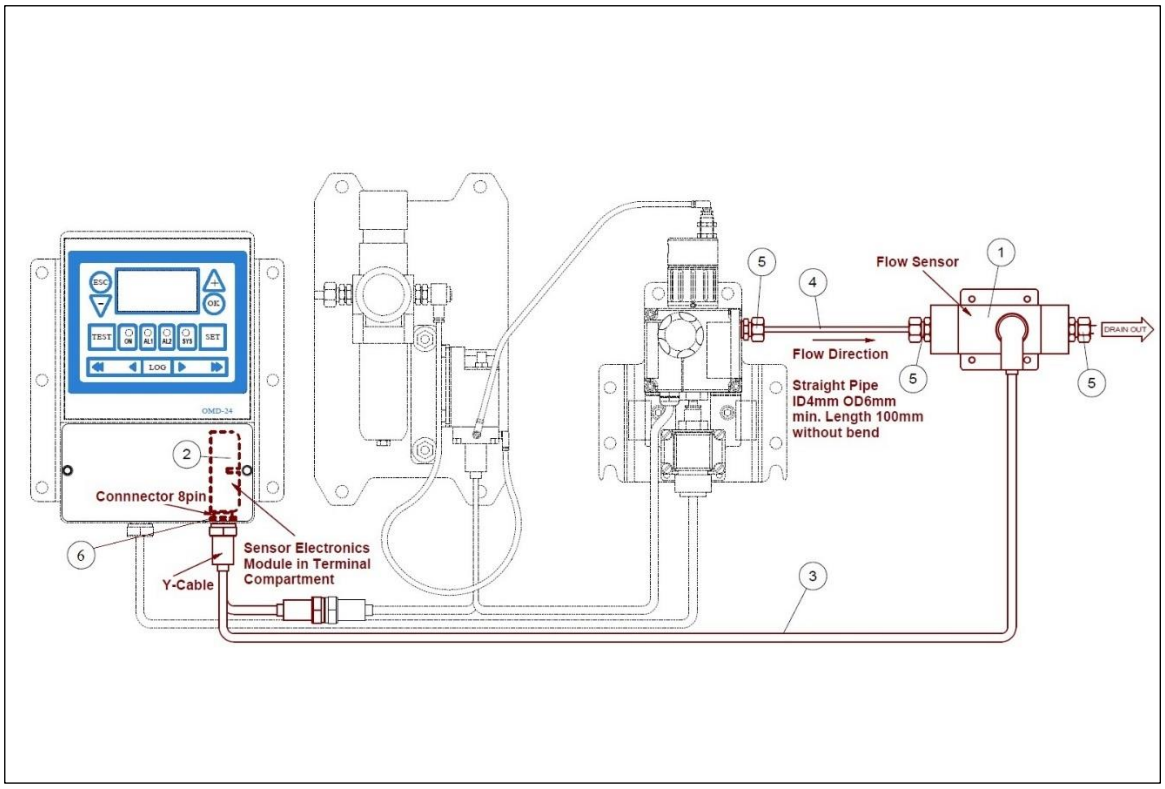
3. Construction

The sample stream from the drain connection of the OMD-24 measuring cell is connected to the Deckma Hamburg Flow Sensor. A Sensor PCB has to be installed into the terminal compartment of the Computer Unit. The Sensor-PCB is connected to the Flow Sensor and the Measuring Cell by an 8pin connector and Y-Cable.

To achieve laminar flow to the Flow Sensor, a straight pipe of 100mm length must be installed at the inlet side of the Flow Sensor. The Conversion-Kit contains a suitable 6mm OD pipe with fittings for direct connection to the OMD-24 Measuring Cell.

i Please note: The flow laminator pipe should not be bent.

The Conversion-Kit to OMD-24 FC is shown in solid dark red lines below. In addition, the individual components of the Connection-Kit are indexed.



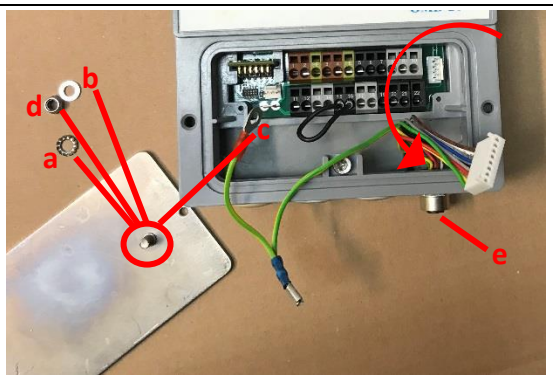
1. Flow Sensor
2. Sensor PCB
3. Y-Cable
4. Flow Laminator Pipe
5. Fitting 1/4” 6mm
6. Connector 8 pin

4. Installation

The Conversion-Kit to OMD-24 FC should be located as shown in section 3. Construction. The Vortex Flow Sensor can be installed in two different ways. It is recommended to use either Option 1. or Option 2.

4.1 Electrical Installation Step-By-Step

➔ *See Section 2. concerning installation.*

STEP 1. Unscrew the terminal cover.	
STEP 2. a) Unscrew the PE-Cable from the terminal cover. b) Remove the connection cable from the PCB. c) Unscrew in countered the connection cable from computer box.	
STEP 3. a) Put the spring washer onto the screw of the terminal cover. b) Put the ring washer onto the screw of the terminal cover. c) Put the PE-Cable onto the screw of the terminal cover. d) Tight in the nut. e) Insert the Y-Cable through the terminal compartment und screw it.	

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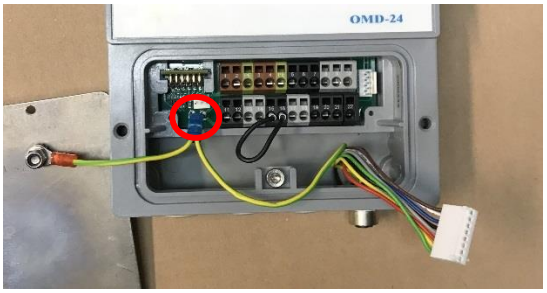
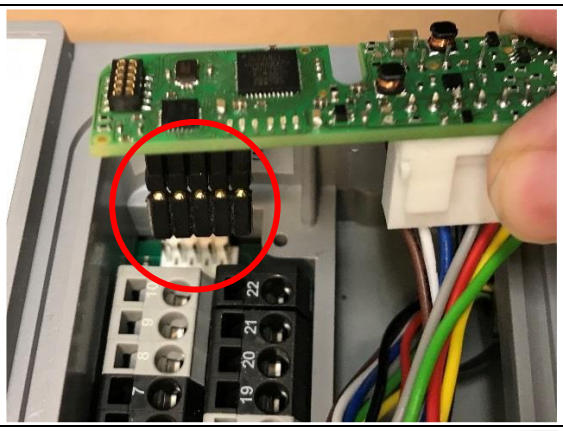
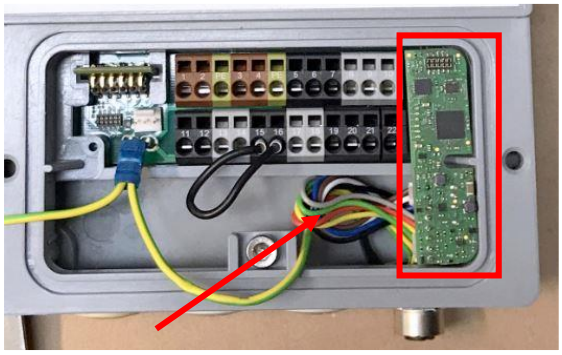
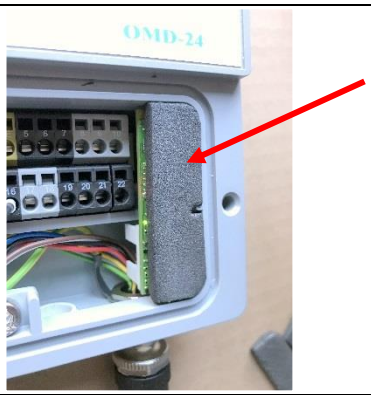
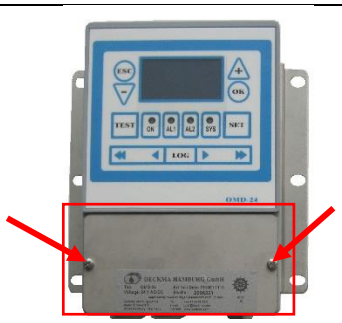
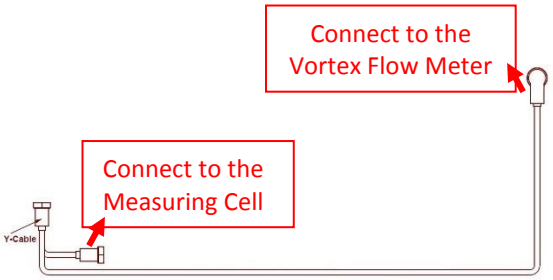
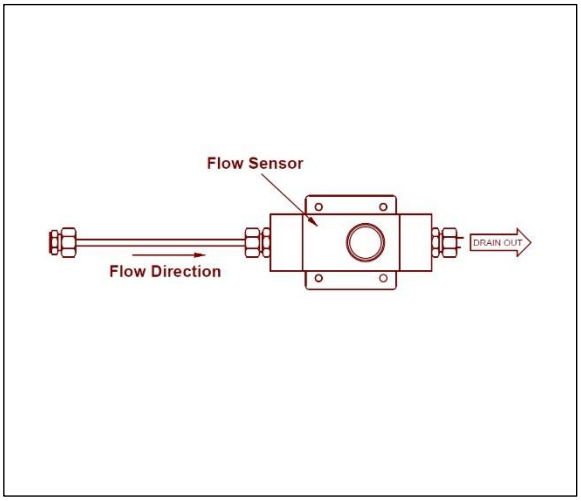
STEP 4. Connect the PE-Cable to the Computer Unit.	
STEP 5. Install carefully the 8-pin connector to the Sensor-PCB.	
STEP 6. Connect the Sensor-PCB to the 5-Pin-Connector of the Computer Unit. **i** Do not use excessive force to mount the Sensor-PCB.	
STEP 7. Position the Sensor-PCB into the terminal compartment and make Sure, that the Connector-Cable is not underneath the Sensor-PCB	
STEP 8. Make sure, that the PCB protection is mounted onto the Sensor-PCB.	

STEP 9. Tighten the terminal cover.	
Step 10. a) Connect the Y-Cable to the Measuring. b) Cell and to the Vortex Flow Meter.	

4.2 Typical Piping Installation

Option 1.

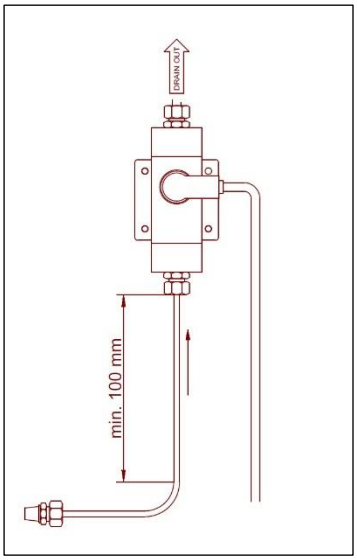
The flow direction is from left to right.
For the piping, remove the previous fittings and mount the delivered fittings 1/4” 6 mm OD.



Option 2.

The flow direction is bottom-up. Make sure that the flow laminator pipe should not be bent about 100mm to the Flow Sensor.

➔
The bent flow laminator pipe is not delivered by DECKMA HAMBURG.



5. Principle of operation

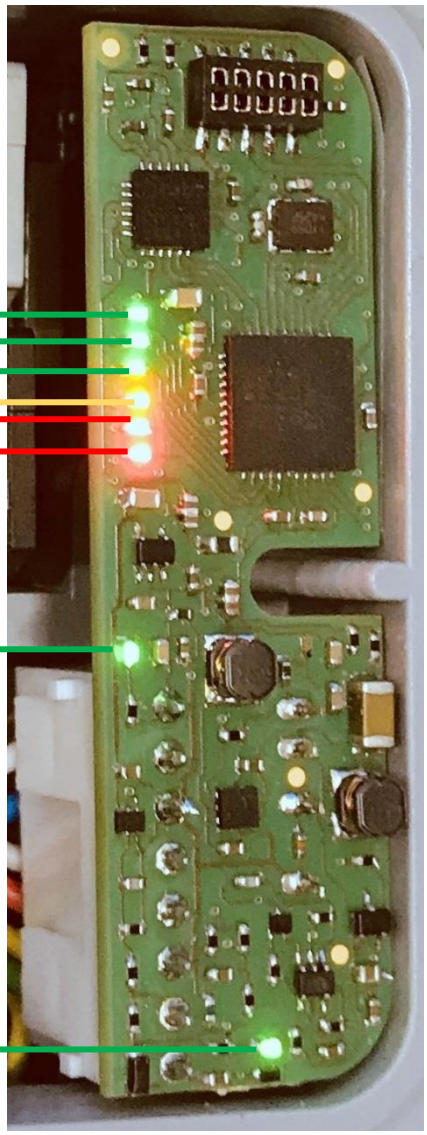
5.1 FC (Flow Control)

OMD-24 FC are equipped with a Vortex Flow Sensor (For technical information see Appendix II). The Sensor-PCB displays flow status via several LEDs for commissioning purposes. A flow rate between 0.7 l/min to 4.5 l/min can be measured. If the flow rate through the Measuring Cell is below 0.7 l/min for more than 4 seconds, or if the sample is not flowing at all, the Instrument will go to Alarm condition and issue a **"Status: Flow!"** message. If a flow rate of more than 0.7 l/min is achieved, the unit will be out of alarm.

5.2 Description of Sensor-PCB LEDs

Green	Flow > 2.0 l/min
Green	Flow > 1.5 l/min
Green	Flow > 1.0 l/min
Yellow	Flow > 0.7 l/min
RED	Flow Meter ON
RED	Flow OFF

Green	Sensor PCB Power Supply OK
Green	Vortex Flow Meter Power Supply OK



6. Specification

The OMD-Series are certified according MEPC.107(49). Please take notice on the individual specifications listed below.

6.1 Specification OMD-24 FC

Range:	0 – 30 ppm, Trend indication 50 ppm
Accuracy:	According IMO MEPC. 107(49)
Linearity:	0 – 30 ppm better than ± 2 %
Display:	Yellow Graphic Display
Power Supply:	24 V AC or DC ± 10 % Automatic Voltage selection
Consumption:	< 10 VA
Alarm Points 1 + 2:	Adjustable between 1 – 15 ppm* (Works adjustment 15 ppm)
Alarm 1 Operating Delay: (for annunciation purpose)	Adjustable between 1 – 540 sec. (Works adjustment 2 sec.)
Alarm 2 Operating Delay: (for control purposes)	Adjustable between 1 – 10 sec. (Works adjustment 10 sec.)
Alarm Indication: (Alarm 1, 2 System Fault)	Red LEDs
Alarm Contact Rating: (Alarm 1, 2, System Fault)	Potential free 1 pole change over contacts, 3 A / 240 V
Output Signal:	0 – 20 mA or 4 – 20 mA selectable, active, ext. Load < 150 Ω
Sample/ Fresh Water Pressure:	0 – 6 bar
Recommended Sample Flow:	Approx. 2 l/min
Flow Meter: Measuring Range:	Vortex Type: 0.50 – 4,5 l/min Low Flow Alarm 0.7 l/min (factory set)
Sample Water Temperature:	+ 1 to + 65° C
Ambient Temperature:	+ 1 to + 55° C
Roll:	Up to 45°
Size: (Computer Unit) (Automatic Cleaning Device) (Measuring Cell)	 185 mm W x 210 mm H x 65 mm D 140 mm W x 240 mm H x 120 mm D 140 mm W x 280 mm H x 120 mm D
Weight:	1 Kg
Degree of Protection:	IP 65
Air Supply (optional)	4 – 6 bar
Air Pressure Regulator (optional)	Typical 4 bar
Pipe Connections: Air, Water (optional)	R ¼" Female
➔ Technical specifications are subject to change without notification.	

7. Commissioning

For operating and servicing on board, please carefully read the instruction manual and ensure, that the safety recommendations are considered. Ensure that wires are correctly connected to the terminal blocks inside the computer housing and ensure that the connection to the Measuring Cell, and the Vortex Flow Meter is in place.

i It is recommended to commission according the Manual of the OMD-24 Series.

After completion of the installation, cabling, and piping, carry out the following checks:

7.1 Electrical and Piping

a) Check that the power supply is connected to the terminals 1&2 of the OMD-24 terminal block.

b) Check that the grounding (PE) has been made according to the relevant regulation.

c) Check that the cabling of the automatic stopping devices (Back-to-bilge-valve) and to the alarm system is according IMO Requirements.

d) Check all piping connections and rectify as appropriate.

e) Check the sample supply and the fresh water supply.

f) Check that the Sensor-PCB is installed correctly and is supplied with voltage.

For instruments equipped with an Automatic or Manual Cell Cleaning Unit, check the following:

g) Check, that the Cell Cleaning Device is fitted correctly.

h) Check, that the push in connectors and hoses are fitted correctly (Automatic Cleaning System)

i) Check, that the Air Supply is between 4 – 6 bar.

8. Spare Parts

When ordering spares, it is important to supply details of the type of monitor, instrument serial number, instrument date of commissioning, part number of each spare required, its description and any relevant serial number.

➔ It is not permitted to dismantle the EV-Valve. In case of any malfunction it should be replaced.

Description	**Art. Number**
Conversion-Kit to OMD-24 FC	56250
Flow Sensor	16700
Sensor-PCB	56300
Y-Cable	56810
Flow Laminator Pipe (Length = 100 mm)	56420
Fitting 1/4” 6mm OD	20521
Connector 8 pin	56821

9. REMARKS

All the modifications and deviations from the standard form, which have to be carried out in the supply, should be attached at this paragraph.

Commissioned on: ..... by: .....

Date Firm's Name

Remarks:

Sales & Service Locations

DECKMA HAMBURG GMBH
Kieler Strasse 316
22525 Hamburg
Germany

Tel.: +49 (0)40 548876-0
Fax : +49 (0)40 548876-10
E-Mail : post@deckma.com
Internet : http://www.deckma.com/

General Inquiries: post@deckma.com
Service Inquiries: service@deckma.com

Global Sales & Service Locations & Contacts listed on our Website:

http://www.deckma.com/agents

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Notes:

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DECKMA HAMBURG GmbH Kieler Straße 316, D-22525 Hamburg

Tel.: +49 (0) 40 54 88 76-0
Fax: +49 (0) 40 54 88 76-10
Internet: www.deckma.com
E-Mail: post@deckma.com