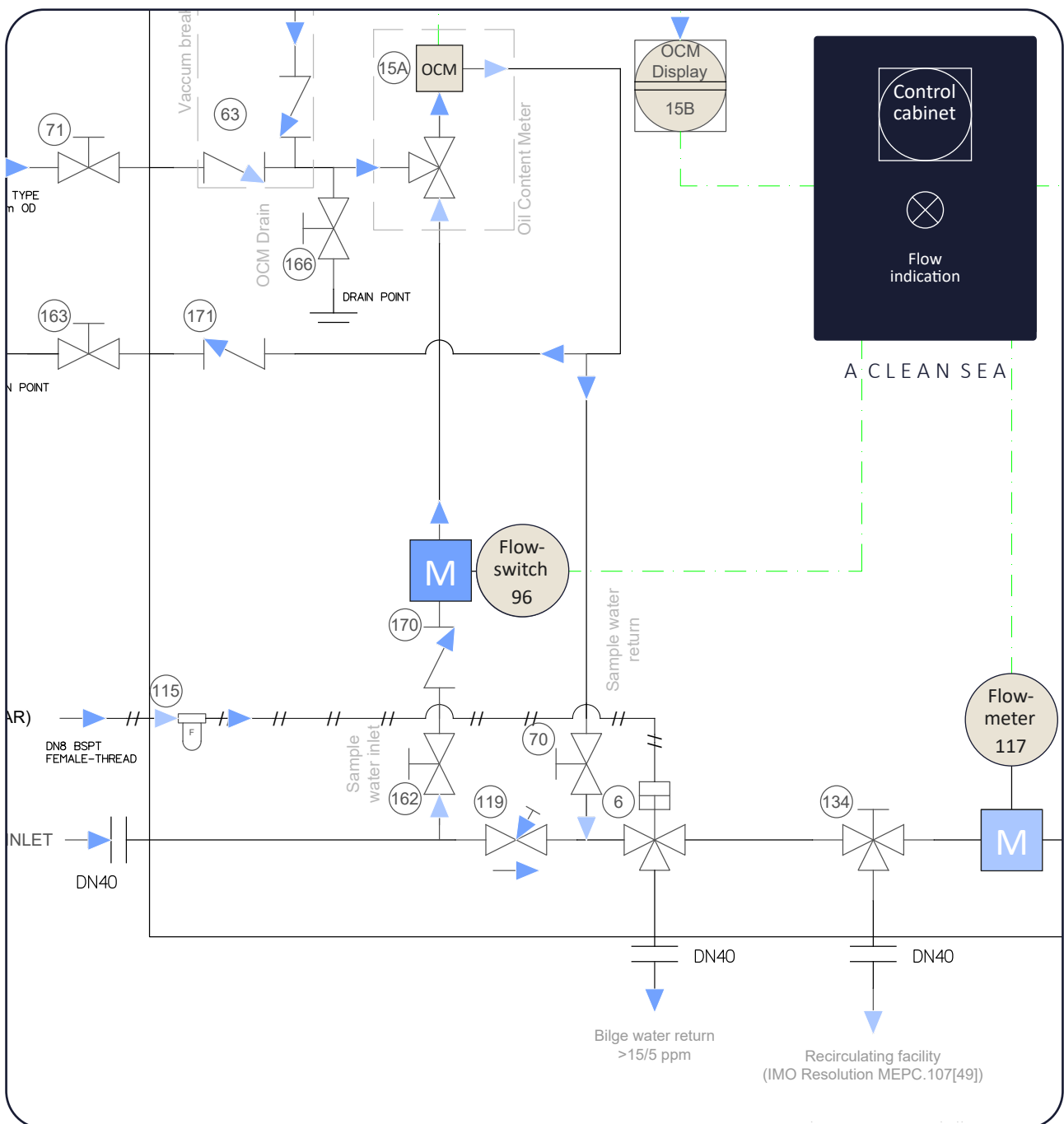


TECHNICAL SPECIFICATION

# WhiteBox®

Fail-safe oily water discharge equipment



# Introduction

The WhiteBox® system is a fail-safe system for the overboard discharge of water. It is designed so that no water with an oil content above the set limit can accidentally be pumped overboard. The oily water separator or the bilge water tank discharge pump feeds water through the WhiteBox® system. An adequate flow of water is continuously directed to the oil content meter by the differential pressure valve. The sample is measured by the oil content meter after being directed through the flow switch.

The purpose of the flow switch is to secure that no bilge water can be discharged overboard without first being measured by the oil content meter. The flow overboard, the oil content, the position of the three-way valve, status oil content meter is activated, the status of the system (on/off), the time and the ship's GPS position (optional) will be logged and stored on the recorder or on an external memory card depending on configuration.

The three-way valve will be in over-board position as long as the following criteria are fulfilled:

- The oil content meter reading is below the set oil content level.
- The rinse water valve is not activated by the push-button.
- The recorder value is below set oil content level.
- The WhiteBox® door is closed.
- There is a sufficient flow through the flow switch.
- Discharge is enabled by the Bridge control or Ocean Guardian (if fitted).

If one or more of the above criteria is not fulfilled, the three-way valve will switch to return position. The recorder will still log the oil content, three-way valve position, sufficient flow through oil content monitor, GMT time and the ship's GPS position (if fitted) but not the flow, as no processed bilge water is directed overboard. If the alarm is connected, the oil content meter will give an alarm to the engine control room after a preset period of time (0-9 minutes) if the oil content is above the set oil content limit.



## Primary advantages

- Ensured compliance for bilge water discharge.
- Port state valve access without opening doors.
- MARS - Marinfloc Alert Report Support compatible.
- Simple installation.
- Safe and easy to use.
- MESQAC compliant.
- Ocean Guardian interfaced to automatically close in prohibited areas.
- Risk management and peace of mind.

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# Take control of the Port state control

The development of the Marinfloc WhiteBox® is the culmination of more than 25 years of innovation, with a focus on practicality and user-friendliness at its core. Understanding the importance of ease and efficiency for port state inspections, Marinfloc has intentionally designed the WhiteBox® with features that address these needs directly.

One such feature is the recirculation valve, thoughtfully placed for external access, making it more convenient for inspectors to perform checks without the hassle of opening the unit. This design choice not only simplifies the inspection process but also highlights Marinfloc's commitment to creating user-friendly solutions.

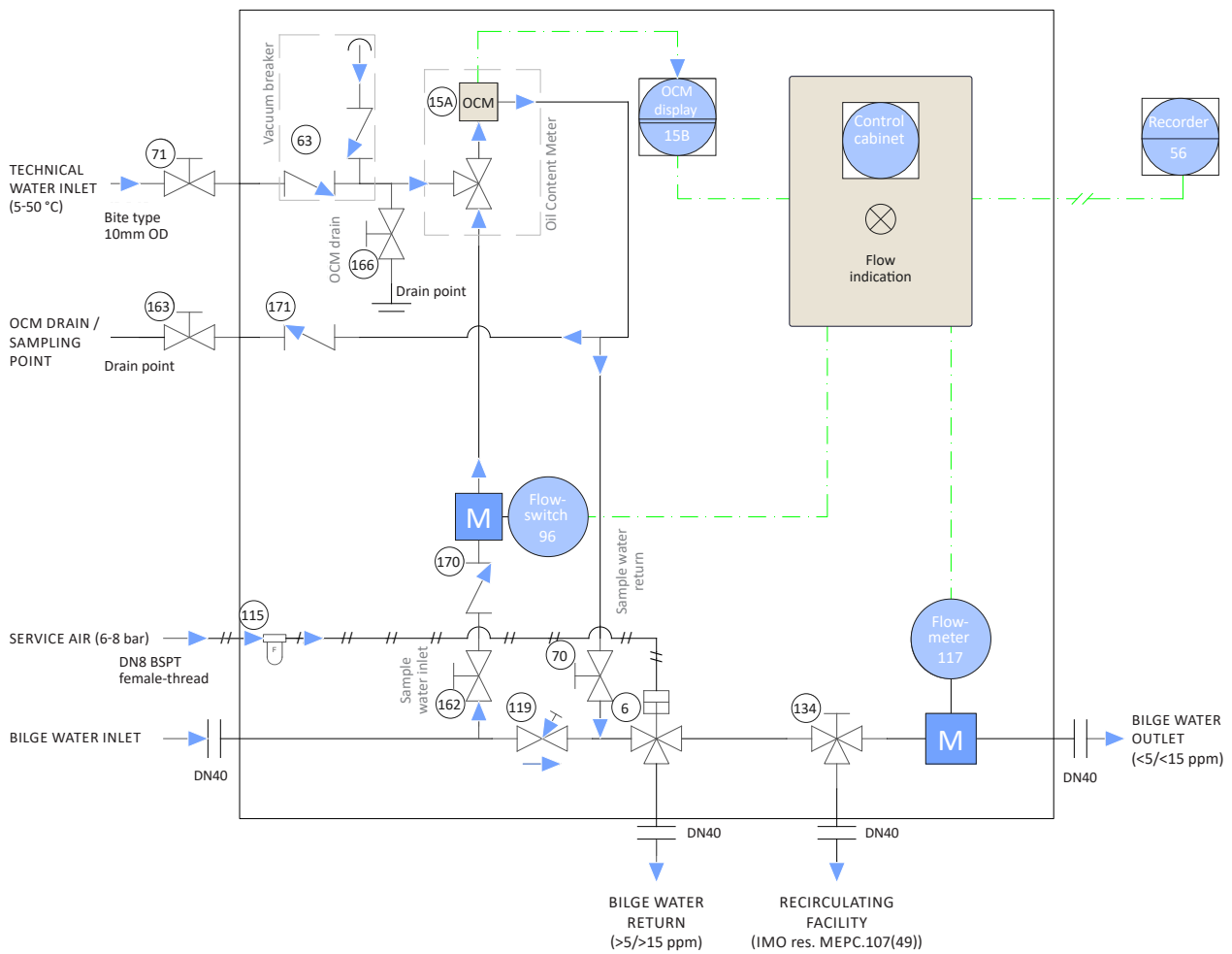
The implementation of an accessible test program via the Oil Content Meter panel on the unit's door further exemplifies the thoughtfulness put into the WhiteBox®. By enabling inspectors to run tests quickly and efficiently, Marinfloc demonstrates its understanding of the operational pressures faced by maritime professionals.

Marinfloc's dedication to refining and evolving the WhiteBox® over a quarter of a century is evident in its design and functionality. This long-term commitment to improvement, guided by feedback and the real-world experiences of maritime users, ensures that the WhiteBox® stands as a paragon of reliability and user-focused innovation in marine wastewater management. Through features like the external recirculation valve, Marinfloc not only meets the current needs of the maritime industry but also anticipates future requirements, ensuring compliance and simplifying processes for all stakeholders involved.



# Operating principle

The WhiteBox® will operate automatically, secure compliant discharge and record all relevant parameters. The operator should secure adequate flow rate on the flow switch (96) at the oil content meter when started the oil water separator or pump from clean water tank. The flow rate should be 0.5–4.0 liters/minute. Always flush the oil content meter’s measuring cell after every operation.



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# MARS - Streamlined Operations and Compliance in Maritime Management

Introducing MARS (Marinfloc Alert Report Support), our sophisticated digital portal that offers an array of functionalities to enhance the management and oversight of maritime operations. MARS features:

1. **Monthly Operational Reports:** Receive automated reports that include data from the WhiteBox® Discharge logbook, providing a monthly overview of your operations.
2. **Digital Certifications:** Easily access OCM certificates online to stay up to date with compliance requirements.
3. **Performance Indicators:** View real-time performance indicators across your fleet to monitor and manage vessel operations effectively.
4. **Geographic Discharge Monitoring:** Track discharges (WBS, CD, EGR, ASTS) across global operations to maintain control and compliance.
5. **Data-Driven Actions:** Make informed decisions based on actual data gathered from your vessels' operations.
6. **Connectivity:** Utilize Cloud Cabinet or Docker solutions for flexible integration with your existing systems.
7. **Reliability:** Enhance the dependability of your equipment with MARS's continuous monitoring capabilities.
8. **Efficiency:** Optimize operations and resources, potentially reducing both costs and time invested in manual processes.
9. **Sustainability:** Monitor and manage your ecological footprint with MARS's environmental tracking features.
10. **Expertise:** Leverage expert analysis from Marinfloc for thorough understanding and interpretation of events.
11. **Rapid Logging:** Benefit from fast data logging to ensure up-to-the-minute operational awareness.
12. **Policy Alignment:** Set and adjust operational setpoints to align seamlessly with company policies. MARS is designed to support your maritime operations with a focus on compliance and efficiency, providing essential insights and a broad view of your fleet's performance.



# Technical data

	WhiteBox® 2017 LT	WhiteBox® 2017 HT
Size (L x W x H)	950 x 350 x 740 mm	
Total weight	104 kg	105 kg (incl. cooler)
Max. water temperature	60 °C	95 °C
Max. ambient temperature	50 °C (if required, to be cooled by ventilating system)	
Flow rate – minimum	500 liters/h	
Flow rate – maximum	20 000 liters/h; pressure drop: 1.6–2.2 bar	
Flow switch threshold value	0.5–4.0 liters/min	
Design pressure	PN10 (10 bar)	
Frame material	Stainless steel, 304	
Tube material	10 mm: Cu	
Pipe material	Stainless steel, 316L	
Pipe dimension	DN40	
Flange connections	DN40, DIN, PN16	
Power supply	230 V, AC, 50–60 Hz	
Electric power consumption	75 W	
Pilot valves, voltage supply	24 V DC	
Control cabinet	Incl. 220 24 V AC-DC converter	
Protection class	IP65	
Oil content meter	Deckma or Inov8; 5/15 ppm; IMO Res. MEPC.107(49) approved	
Flowmeter	DN40 with pulse transmitter (10 liters/pulse)	
Pneumatic three-way valve	DN40, spring-loaded to return position	
Recorder	Digital with GPS configuration (standard) and suitable for ECR console installation	



*MARINFLOC*<sup>®</sup>  
A CLEAN SEA

A stylized graphic of a wave, composed of several curved lines that create a sense of movement and depth, positioned to the right of the main text.