

Ballast water testing

Your concern, our expertise

INF 20-001 v1.2

MEA-nl is a test facility and laboratory, based in the Netherlands. Staff of MEA-nl are engaged in landbased and shipboard tests of ballast water management systems (BWMS) for Type Approval testing since 2004. Those tests and analyses are conducted for several national administrations in accordance with the IMO Guidelines, United States Coast Guard and EPA requirements.

In general, we perform tests on board vessels in ports between the range of Antwerp Rotterdam – Bremen – Hamburg (Belgium, Netherlands and Germany) as per Figure 1. As such, we are happy to serve your fleet.

1. Commissioning tests (IMO)

Each BWMS shall be tested prior to its use in accordance with the requirements of the Guidance for the commissioning testing of ballast water management systems, 2018 (IMO BWM.2/Circ.70). MEA-nl can carry out operational tests to show compliance with the discharge standard D-2.

MEA-nl will take samples from the uptake and discharge of the ballast water in accordance with the Guidelines on ballast water sampling (G2). Samples will be taken and analysed in accordance with section 4 of this information leaflet.

Commissioning tests can be conducted in the Antwerp-Hamburg range. Due to COVID-19 constraints, this can be limited. All major classification societies are served.

2. VGP tests (US EPA)

The US EPA requires vessels to test the ballast water twice per year, unless the sampling results are within permit limits for two consecutive events. In that case, monitoring may be reduced to one time per year. MEA-nl can perform sampling and analyses for all items concerned.

Analyses are limited to indicator microbes only. Detailed info can be obtained from: https://www.epa.gov/sites/production/files/2015-08/documents/vgp_self_sampling_reference.pdf

Depending on restrictions due to COVID-19, samples can be taken either by the crew or our staff in the range Antwerp-Hamburg and analysed in our laboratories.

BWMS making use of active substances (biocides / chemicals), have to conduct further analyses, depending on the nature of the treatment. Also scrubber-, oily water- and grey water analyses are part of our portfolio. This should be requested on a "case-by-case" basis.



Figure 1: Ports served in NW Europe

3. Compliance tests

In many cases, it can be appropriate to test the BWMS on a limited number of parameters in order to identify whether it works properly. Although the BWMS should have Type Approval, further tuning should be helpful after installation to avoid undue delays.

Compliance tests, including sampling, transport, analyses and report can be conducted for a ship in the Antwerp-Hamburg range, depending on COVID-19 restrictions.

4. Samples & analyses

In Table 1 the sample volume needed is given per type of test. As can be seen, for commissioning and compliance testing it is necessary to filter 3000 L on board. This volume needs to be discarded on site. MEA-nl can provide practical solutions to suit the situation on most vessels.

Discharge samples for commissioning and compliance tests have to be taken by the staff of MEA-nl. Samples for intakes and VGP testing may be taken by the ship's crew, if the crew is properly trained and the sampling is well documented. The advantage of this is, that discharge operations for testing are not limited to harbours, which might interfere with normal vessel operation.

Further it reduces the disturbance for the crew and cargo operations possibly caused by MEA-nl staff on board.

Samples will be analysed as per Table 2 in our laboratory, certified in accordance with the ISO9001:2015 standard. Our laboratory holds an ISO 17025 accreditation (L-632) for other analyses and that quality standard is operated for all MEA-nl activities.

5. Special requests

We can serve you in many kinds of biological and operational testing, but also for filtration or others. Please don't hesitate to contact us: by mail info@mea-nl.com by phone +31 (0)227 60 82 93

Table 1: Sample volumes in litres

Test	Operation	Volume	Volume per analysis
Commissioning	Intake (by crew)	26 L	20 L for >50 µm; 3 L for 10-50 µm; 3 L for bacteria and ind. microbes
	Discharge (by MEA-nl)	3018 L	3000 L filtered on board for >50µm; 15 L for 10-50 µm; 3 L for bacteria and indicator microbes
VGP	Discharge (by crew)	3 L	3 L for bacteria and ind. microbes
Compliance	Intake (by crew)	26 L	20 L for >50 µm; 3 L for 10-50 µm; 3 L for bacteria and ind. microbes
	Discharge (by MEA-nl)	3018 L	3000 L filtered on board for >50 µm; 15 L for 10-50 µm; 3 L for bacteria and indicator microbes

Table 2: Analytical methods

Analyses	Method	Commissioning test	VGP test	Compliance test
> 50 micron (Zooplankton)	Microscopy	✓	✗	✓
10-50 micron (Phytoplankton)	Fl. Microscopy (FDA/CMFDA)	✓	✗	✓
Total heterotrophic bacteria	SM 9215-C	✗	✓	✗
<i>E. coli</i>	Colilert®	✓	✓	✓
Enterococci	Enterolert®	✓	✓	✓
<i>V. cholerae</i> (O1/O139)	Acc. to appl. requirements	✓	✗	✗