



Certificate No. 02-005367/027011

TYPE APPROVAL CERTIFICATE

This is to certify that this product complies with the Rules for the classification of ships, Part 1 - General requirements, Chapter 3 - Type approval of products.

TYPE AND DESCRIPTION OF PRODUCT:

ECOmar S
sewage treatment plant
(model range 20 S to 545 S)
Hydraulic loading: 2000-54500 l/day

MANUFACTURER:

TECNICOMAR S.p.A.
Contrada Berbaro 145/D
91025 MARSALA (TP)
ITALY

THE PRODUCT MEETS FOLLOWING RULES/REGULATIONS:

CRS Rules for technical supervision of sea-going ships, Part 22 – Pollution prevention
Resolution MEPC.227(64) – Guidelines on implementation of effluent standards and performance tests
for sewage treatment plants

FURTHER DETAILS OF THE PRODUCT AND CONDITIONS FOR CERTIFICATION ARE GIVEN OVERLEAF.

APPROVAL IS VALID UNTIL: **2030-03-23**

Place and date: Split, 2026-03-23

Seal

Marinko Popović, dipl.ing.

NOTE: This certificate is not valid for equipment, the design or manufacture of which has been varied or modified from the specimen tested. The manufacturer should notify Croatian Register of Shipping of any modification or changes to the product in order to obtain a valid certificate.

DETAILED PRODUCT DESCRIPTION:

Sewage treatment plant ECOmar S treats the sewage using the following processes:

- transfer of a fixed amount of sewage from a holding tank to a treatment tank,
- chemical treatment and addition of a flocculant,
- adding a fixed amount of dilution water,
- maceration and return to treatment tank,
- filtration and UV treatment prior to overboard discharge,
- washing of the tank and discharge of the waste (sewage sludge).

The chemical treatment and flocculation processes uses hydrogen peroxide and ECOFLOC (Tecnicomar brand product).

Model	Hydraulic loading (excluding dilution water) (l/ day)	Organic loading, BOD ₅ without nitrification (kg/ day)
ECOmar 20 S	2000	0,70
ECOmar 32 S	3200	1,12
ECOmar 45 S	4500	1,58
ECOmar 70 S	7000	2,46
ECOmar 145 S	14500	5,09
ECOmar 230 S	23000	13,89
ECOmar 340 S	34000	20,54
ECOmar 545 S	54500	32,92

APPLICATION / LIMITATIONS:

Sewage treatment plant ECOmar S may be installed on ships which are required to comply with the provisions of MARPOL Annex IV.

Sewage treatment plant ECOmar S complies with the provisions of MARPOL Annex IV, Regulation 9.1.1 and Resolution MEPC.227(64) including Section 4.2.

Sewage treatment plant ECOmar S may be used on passenger ships in Special areas.

Environmental temperature: 0 to 55°C

Environmental humidity: max. 95%

Sewage treatment plant ECOmar S shall not be installed in a hazardous area.

ELECTRICAL / CONTROL COMPONENTS:

The units are controlled through a main control box containing a Printed Circuit Board (PCB). The PCB is approved with the following control firmware: Tecnicomar_TMM_ECOmar V3.5-30.11.18

MARKING OF PRODUCT:

- Manufacturer's name or trade mark
- Type and model designation
- Serial number and date of manufacture

TYPE APPROVAL DOCUMENTATION:

Description	Drawing no.	Rev.
System drawings (P&ID, flow diagram)	201118-F01R1 301118-F01R1 301118-F02R1 301118-F03R1 301118-F04R1 120319-F01R1 190319-F01R1 210519-F01R1	01 (20.11.2018.) 01 (30.11.2018.) 01 (30.11.2018.) 01 (30.11.2018.) 01 (30.11.2018.) 01 (12.03.2019.) 01 (19.03.2019.) 01 (21.05.2019.)
Arrangement drawings/ part list	121118-A02R1 131118-A01R1 121118-A01R1 131118-A04R1 131118-A03R1 131118-A02R1 091118-A01R3 091118-A02R2 291018-A01R3 131118-A06R1 131118-A05R1 131118-A08R1 131118-A07R1 110318-A01R1 110319-A02R1 190319-A01R1 190319-A02R1 200519-A01R1 200519-A02R1 EQ.Lis-20.145-ECOS-R0 EQ.Lis-230.545-ECOS-R0	1 (12.11.2018.) 1 (13.11.2018.) 1 (12.11.2018.) 1 (13.11.2018.) 1 (13.11.2018.) 1 (13.11.2018.) 3 (10.01.2019.) 2 (10.01.2019.) 3 (10.01.2019.) 1 (13.11.2018.) 1 (13.11.2018.) 1 (13.11.2018.) 1 (13.11.2018.) 1 (11.03.2019.) 1 (11.03.2019.) 1 (19.03.2019.) 1 (19.03.2019.) 1 (20.05.2019.) 1 (20.05.2019.) 00 (10.02.2019.) 00 (24.05.2019.)
Electrical/ wiring drawings	131118-E01R1 131118-E02R1 131118-E03R1 131118-E04R1 040619-E01R1 060619-E01R1 060619-E02R1	2 (13.11.2018.) 2 (13.11.2018.) 2 (13.11.2018.) 2 (13.11.2018.) 2 (04.06.2019.) 2 (06.06.2019.) 0 (06.06.2019.)
Performance test report Environmental testing report	ECOMar 45S- Performance test results ECOMar 230S- Performance test results 18B292A	4 (01.03.2019.) 2 (17.05.2019.) 30.11.2018.
Operation, maintenance and safety manual	MAN-ECOS-20-145-R0 MAN-ECOS-230-545-R0	00 (10.02.2019.) 00 (24.05.2019.)

CONDITIONS FOR CERTIFICATION:

This certificate is issued on the basis of appraisal of the documentation listed in EC-type examination certificate (Module B) No. MEDB00004X5, rev.5 issued by DNV Notified Body 0575.

Operation and maintenance manual for ECOMar S sewage treatment plant is to be carried onboard a vessel fitted with this sewage water treatment system.