



**MARINER OMNIPURE®  
SERIES M55**

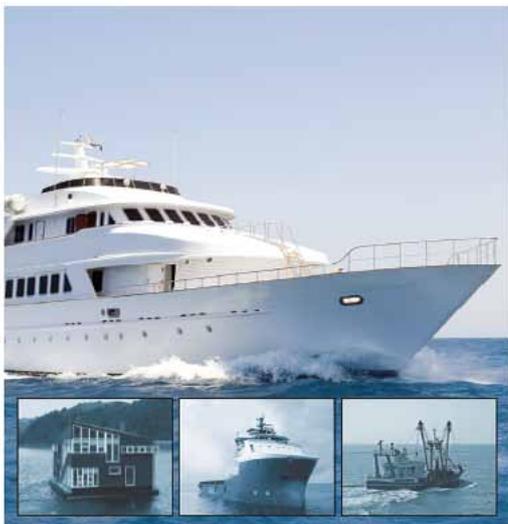


# MARINER OMNIPURE® SERIES M55



The MARINER OMNIPURE® Series M55 marine sewage system provides effective treatment of black and gray water through a certified process.

Ocean-going vessels generate sewage that can contain contaminants which have a detrimental effect on water quality and the overall marine environment. As a result, marine sewage treatment systems are required to lessen the environmental impact. At De Nora Water Technologies we understand the importance of providing safe and effective treatment of black and gray water.



## WE UNDERSTAND MARINE SEWAGE TREATMENT

The MARINER OMNIPURE® Series M55 marine sewage treatment units offer a unique approach to wastewater treatment on smaller vessel, workboat and yacht applications. MARINER OMNIPURE Series M55 features a bulkhead mounting arrangement — a first of its kind — that provides safe and effective treatment of the wastewaters on board your vessel. The system results in discharge effluent quality well within the MEPC.159(55) requirements.

The compact MARINER OMNIPURE Series M55 system uses a proprietary, forced oxidation electrolytic disinfection technology. The system eliminates storage, handling and purchasing of hazardous chemicals normally required with other treatment technologies.

The MARINER OMNIPURE system is an economical and simple treatment solution to integrate into your vessel since it utilizes your vessel's installed sewage and seawater pumps and in-place collection/ holding tanks.

The treatment system interfaces seamlessly via simple, low voltage control circuits.

Standard systems can accommodate treatment capacities up to 2,160 gallons (8,176 Liters) of human wastewater per day. Multiple units can be combined to treat larger flow rate capacities. The MARINER OMNIPURE Series M55 systems have received United States Coast Guard Approval and Bureau Veritas certification for IMO Resolution MEPC.159(55).



## MARINER OMNIPURE® SERIES M55 BENEFITS

- Accommodates varying crew complements
- Automatic operation
- Easy to install, start up, operate and service
- Eliminates storage, handling and purchasing of hazardous chemicals
- No complicated or unsanitary pre-treatment of raw inlet sewage stream
- No raw sewage screens, vibrators or filters to manage
- Small footprint and weight
- Silent operation
- Unique bulkhead mounting design

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## MARINER OMNIPURE® SERIES M55 PROCESS OVERVIEW

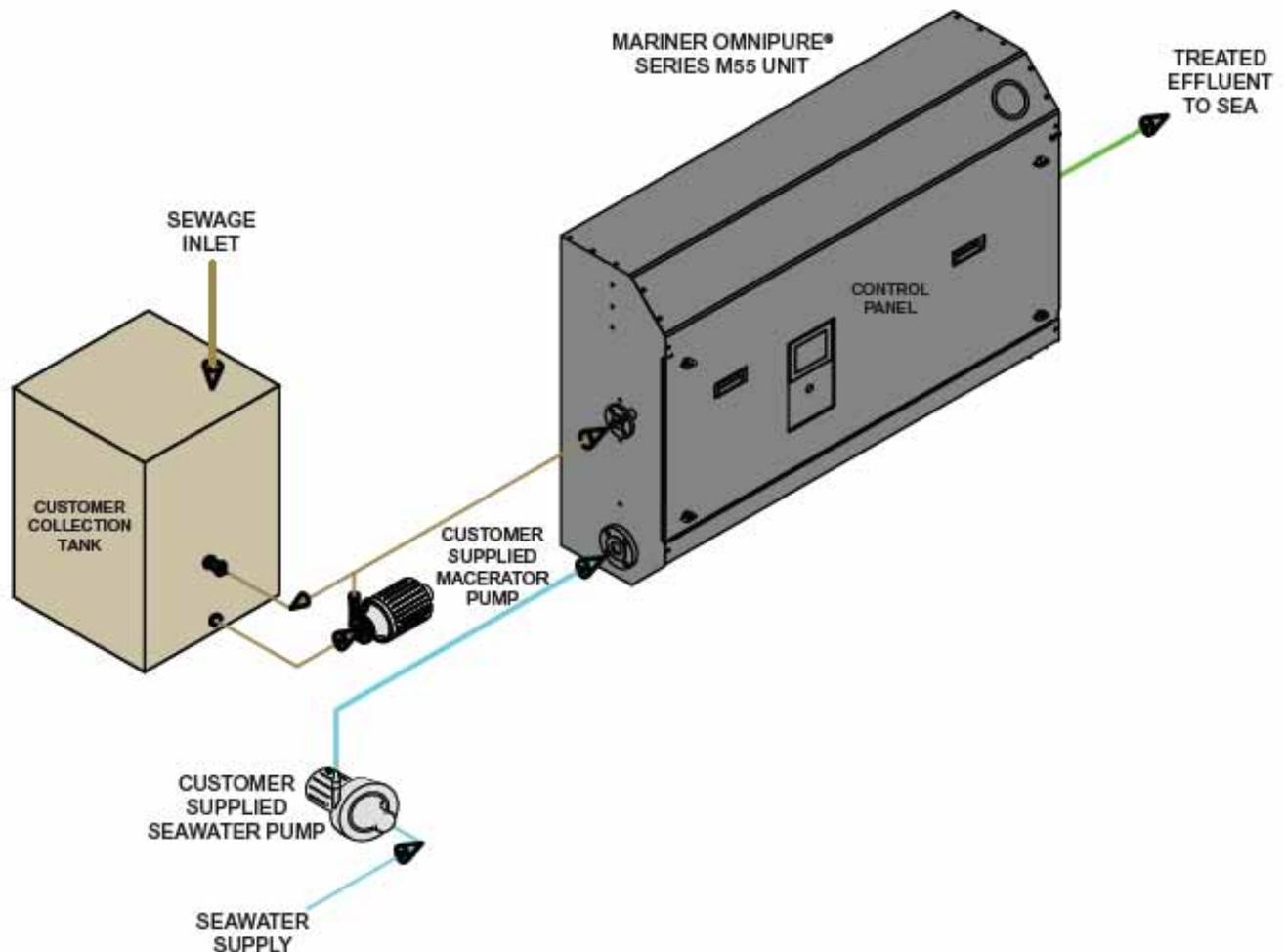
The processing function of every MARINER OMNIPURE Series M55 unit is the same – regardless of size. The automatic treatment process for generating oxidant on-demand is simple and proven effective.

**Stage 1:** The sewage and seawater are combined within a mixing spool to insure a homogeneous mix. Then the process flow is routed through the tubular electrolytic cell where DC current and voltage are applied to effectively oxidize the waste stream. Significant changes in the waste stream take place due to a rapid oxidation of the bacteria and the sodium hypochlorite produced by the electrolytic cell.

**Stage 2:** Upon exiting the electrolytic cell, the process stream is further oxidized within multiple oxidizer chambers that allow for an extended contact time and agitation of the stream.

**Stage 3:** Upon exiting the oxidation chambers, the stream passes through multiple dechlorination chambers where a sodium sulfite solution is injected to effectively dechlorinate the treated process stream.

**Stage 4:** Once the treated effluent stream exits the unit, the flow is then routed overboard via the ship's sea-check valve to sea. Since this is a pressurized flow-through system, additional overboard pump(s) are not required.



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## MARINER OMNIPURE® SERIES M55

The MARINER OMNIPURE Series M55 system is available in three sizes: Model M5503, Model M5505 and Model M5508. The MARINER OMNIPURE Series M55 system consists of an internal electrical control panel, a highly efficient tubular electrolyzer cell, and multiple oxidation and dechlorination chambers contained in a compact package to better fit the various shaped installation spaces that can be found aboard vessels.

\* MARINER OMNIPURE Series M55 units require seawater when treating sewage. Flowrate values indicated are for a dedicated seawater supply source required from customer. Flooded suction required if

DNWT seawater pump option is used. † 100% capacity shown, DNWT recommends that actual operation capacities not exceed 90% of maximum capacity. The MARINER OMNIPURE Series M55 system consists of an internal electrical control panel, a highly efficient tubular electrolyzer cell, and multiple oxidation and dechlorination chambers contained in a compact package to better fit the various shaped installation spaces that can be found aboard vessels. Available options include: seawater pumps, vacuum coordination panels, vacuum collection units, and macerator pumps. All information is subject to change.

MARINER OMNIPURE® Series M55 Design Standards		Model M5503	Model M5505	Model M5508
Personnel Complement (Maximum)	Black Water Only	27†	50†	75†
	Black & Gray Water	9†	16†	25†
Treatment Ratings (Maximum)	Treatment Volume: L/day (Gal/Day)	2660 (703)	5450 (1440)	8176 (2160)
Dimensions & Weights	Length: mm (inches)	1727 (68)	1727 (68)	1727 (68)
	Width: mm (inches)	406 (16)	406 (16)	406 (16)
	Height: mm (inches)	1041 (41)	1041 (41)	1041 (41)
	Dry Weight: kg (pounds)	172 (380)	172 (380)	195 (430)
	Wet Weight: kg (pounds)	250 (550)	250 (550)	300 (661)
Utility Requirements	Power: kW @ 220-240vac 50/60 hz	.33	.33	.33
	Seawater: L/min (G/min) @ 30-120 PSIG Max	75.7 (20)*	75.7 (20)*	113.6 (30)*



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