

OMNIPURE™ Series 55

Offshore Marine Sanitation Devices



Rugged, Dependable and Purpose-built for the demanding Offshore Industrial Sector

SEVERN
TRENT
DE NORA



OMNIPURE™
SERIES 55

Clean WATER. Clear CONSCIENCE.®

Severn Trent De Nora (STDN) offers the OMNIPURE™ Series 55 system, the only marine sewage treatment system that oxidizes sewage in an electrochemical cell as well as generates sodium hypochlorite for the disinfection of the sewage streams. OMNIPURE Series 55 marine sewage treatment units offer effective electrolytic treatment of both black and gray water through a patented and certified process. OMNIPURE Series 55 systems range in treatment capacities up to 65 m³/day (17,000 gallons/day); individual units can be combined for increased capacity.

The OMNIPURE Series 55 systems have maintained the 'key features' of the original OMNIPURE design while incorporating an advanced electrolytic processes that imposes certain physical and chemical changes to the wastewater stream as it passes through the treatment system resulting in the wastewater effluent quality well below the new MEPC.159(55) requirements.*

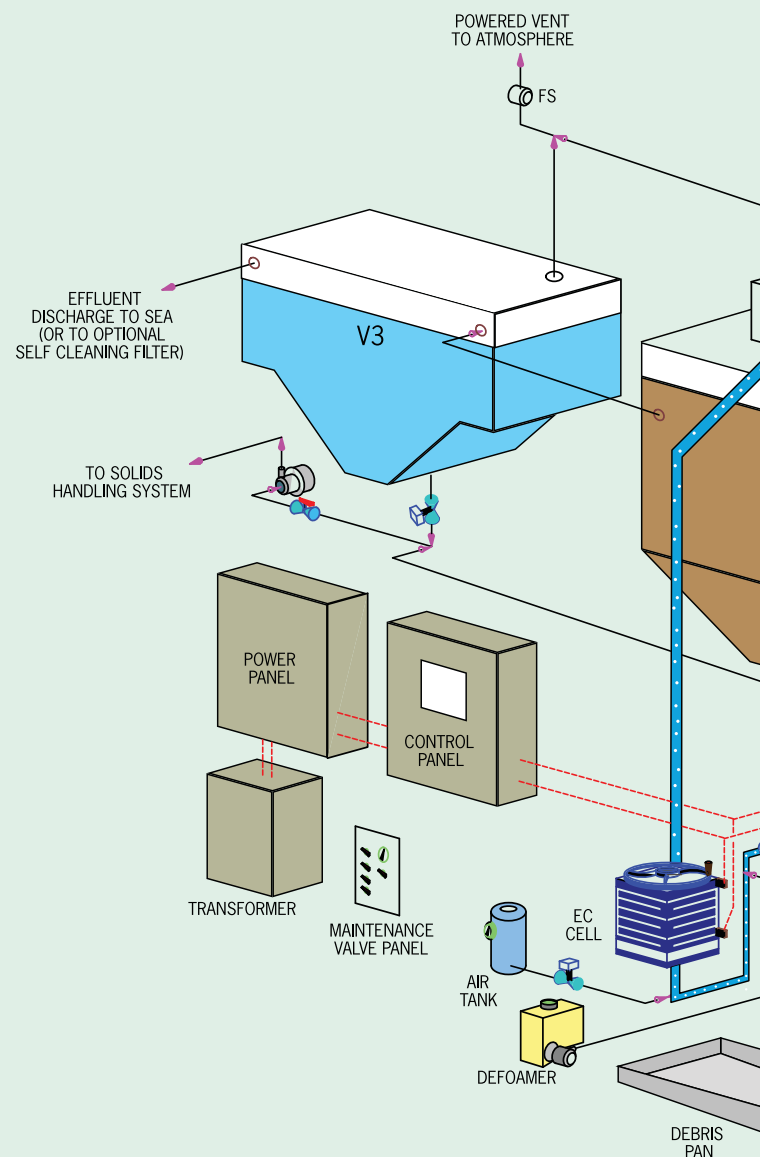
The OMNIPURE Series 55 unit features an Adaptive Algorithm Wastewater Management (AAWM) system to facilitate varying inlet wastewater conditions commonly found in marine and offshore applications. Based on the baseline compliance criteria of the MEPC.159(55) requirement, every OMNIPURE Series 55 unit is factory-set to effectively oxidize and treat normal inlet wastewater streams of 500 mg/l (ppm) of TSS and BOD to at, or below, the discharge effluent requirements. For those installations where higher than normal sewage influent is expected, the appropriate inlet waste algorithm can be pre-selected at the factory, via the HMI operator terminal, to better serve the treatment requirements.

The OMNIPURE Series 55 unit also incorporates integrated auto-maintenance features to extend the duration between routine preventative maintenance activities.

Solids Handling:

The OMNIPURE Series 55 systems feature a compact and manageable solids handling system to produce a product requiring no special transportation criteria or disposal restrictions. Classified as Land fill, Class B sludge, the 10 wt% solids removed from Severn Trent De Nora's patent-pending collection unit can be handled by conventional disposal means.

Typical OMNIPURE Series



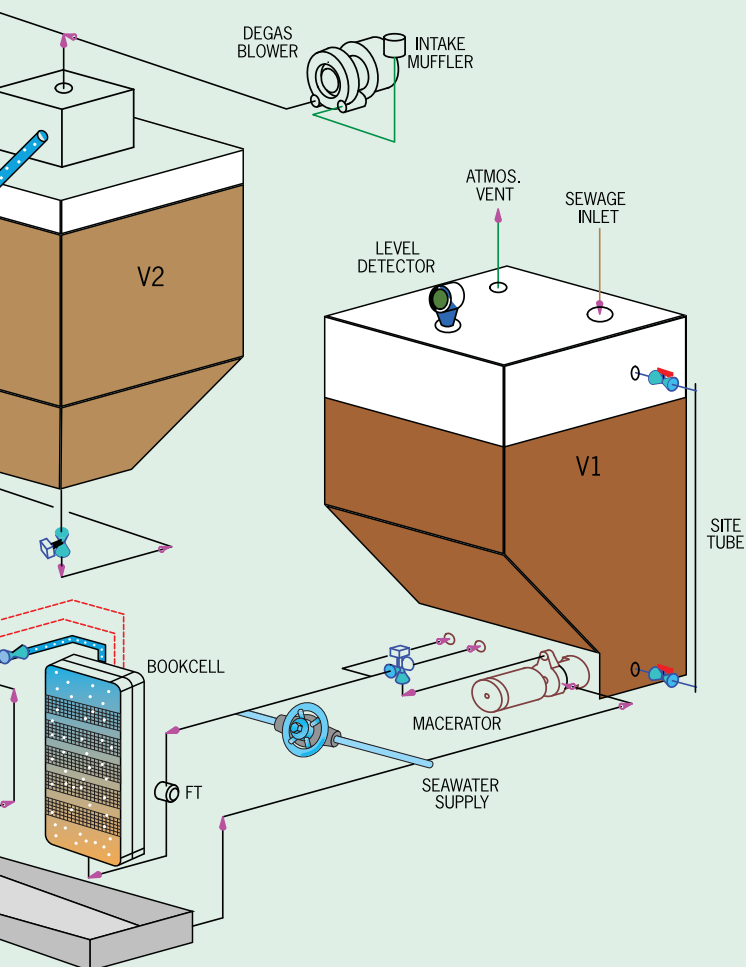
* MEPC.159(55) Process Attestation Certification obtained via BV (Bureau Veritas). Equipment Type Certification is in process.

Treatment Process

OMNIPURE™ Series 55 Treatment Process

The processing function of every OMNIPURE Series 55 unit is the same — regardless of size. The automatic three-stage treatment process for generating oxidant on-demand is simple and proven effective. Operation is 24/7, with continuous collection and treatment of the accumulated black and gray water.

55 Treatment Process



- **Stage 1:** the original OMNIPURE design is used. Sewage is macerated while BOD and fecal coliform are significantly reduced as the wastewater stream flows through the patented electrolytic “book” cell.
- **Stage 2:** is composed of an electrocoagulation (EC) cell, a gas-liquid separator (degassing column) and a solids-liquid separation tank (settler).
 - The EC cell electrolytically enhances the sewage stream with iron particles that serve as nucleation sites forming a flocculation with the organic matter that readily drops out of solution.
 - A defoaming agent is injected into the waste stream between the bookcell and the EC cell to enhance gas-liquid separation of the stream exiting the EC cell.
 - Gas generated in both the book and electrocoagulation cells is removed in a degassing column mounted on top of the primary settler.
 - A proprietary design encourages disengagement of the entrained process gases from the stream which percolates gently into the settler.
 - An internal standpipe provides significant reaction time for solids to fall to the bottom of the settler. Liquid with minimal solids exits near the top of the settler tank.
- **Stage 3:** is a second settling or clarification-concentration step.
 - The process stream enters the unique clarifier tank where velocity is kept at a minimum to further encourage settling of any remaining flucculants to the bottom of the solids concentrator. This results in a clear effluent from the top of the concentrator that meets effluent composition requirements for MPEC 159(55).
 - The solids from the settler and concentrator can be handled by the operator as a concentrated waste stream or further processed using STDN's patent-pending solids handling unit.

The OMNIPURE™ Advantage

OMNIPURE Series 55 units are specifically manufactured for marine and offshore installations requiring permanent or long-term operation for the treatment of marine sewage. The rugged design of the OMNIPURE Series 55 units is well suited for the rigors of industrial platform installations. Minimal maintenance, small equipment footprint and the light weight packages, make the OMNIPURE Series 55 a long-term solution for wastewater treatment on a variety of offshore and marine installations, including those deeper water, weight-sensitive applications.

OMNIPURE™ Series 55 Advantages:

- Automatic operation
- Compact solids handling system
- Compliant to CE/ATEX norms
- Easily adjusted to treat more concentrated wastewater
- Easy to install, start up, operate and service
- Eliminates storage, handling and purchasing of hazardous chemicals
- Meets and exceeds the MEPC.159(55) requirements
- Minimal routine and preventative maintenance required
- No complicated pre-treatment of raw inlet sewage stream
- No expensive membranes to plug or replace
- No membrane cleaning solution for disposal
- No odor or bio-active sludge associated with process
- No raw sewage screens, vibrators or filters to manage
- Not affected by typical cleaning agents
- Operates on demand, instantaneous on-off operation
- Small footprint and light weight



OMNIPURE™ Series 55 Model 5513

United States

1110 Industrial Blvd
Sugar Land, TX 77478 USA
Tel +1 281 240 6770
Fax +1 281 240 6762
sales@severntrentdenora.com

Europe

Via Bistolfi, 35
20134 Milano, Italy
Tel +39 02 2129 2452
Fax +39 02 2129 2451
seaclor@severntrentdenora.it

Asia/Pacific

15 Scotts Road, #03-02 Thong Teck Building
Singapore 228218
Tel +65 67379565 Ext. 103
Fax +65 68875026
asiapacific@severntrentdenora.com.sg

® Registered Trademark. © 2009. All Rights Reserved.

750.0004.1 AUG/09