

BALLAST WATER MANAGEMENT SYSTEM

GloEn-Patrol™

PANASIA

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Technology for Environment

Filter & UV technology is the best way
for protecting our precious environment.

PANASIA's GloEn-Patrol™



Ballast Water Management System

Type approved by administration in compliance with the guidelines for approval of Ballast Water Management System(G8) of Res. MEPC.125(53) and by IMO MEPC in accordance with the procedure for approval of Ballast Water Management System that make use of Active Substance(G9) of Res. MEPC.126(53)



Introduction of GloEn-Patrol™ BWMS

GloEn-Patrol™ BWMS is a combined treatment system taking advantage of Filter and UV unit most environment friendly and optimally designed for every kind of vessels.

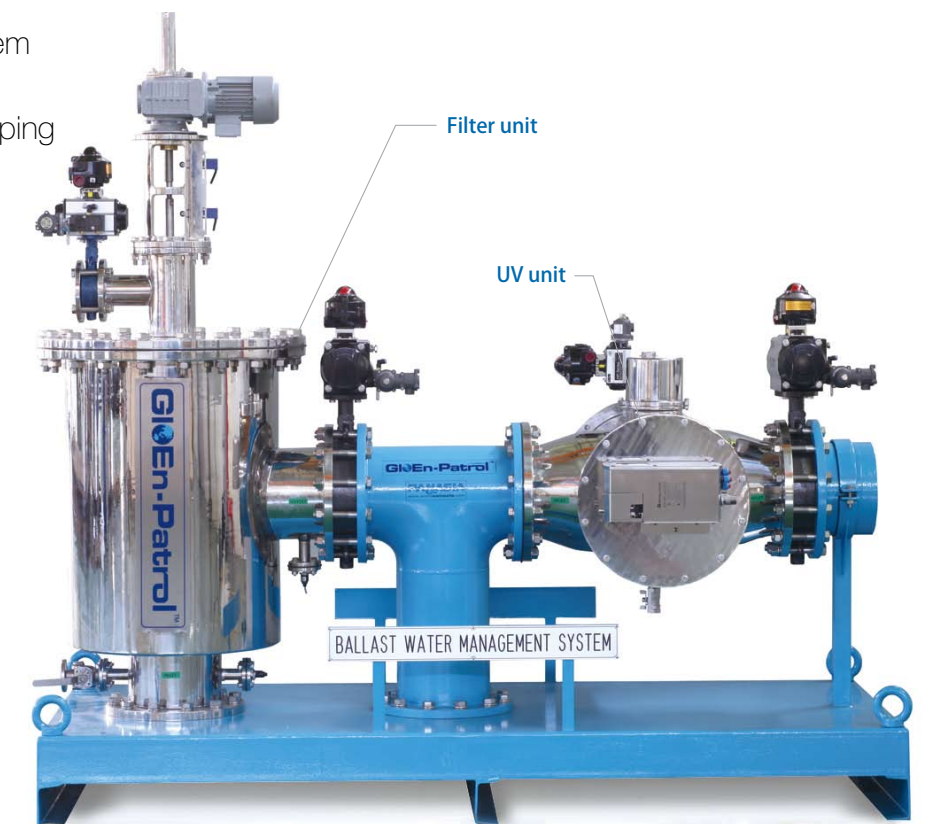
Adopting a 100% physical treatment technology, GloEn-Patrol™ effectively disinfects harmful aquatic organism and pathogen in water without generating any toxic substance during ballasting and de-ballasting.

In addition, the Filter unit not only eliminates organisms larger than 50 micrometer but also makes sediments in ballast tanks minimized.

The main purpose of filtration is to maximize the efficacy of disinfection of UV unit by improving transmittance of UV light.

Features of GloEn-Patrol™ BWMS

- The most environment friendly system
- Compact design
- Automatic back flushing and autowiping
- No toxic by-products
- Very simple operation
- Easy and economical maintenance
- No corrosion problem
- Less inflow of sediment



PANASIA plays a leading role in protecting marine ecosystem and raising ship's value.

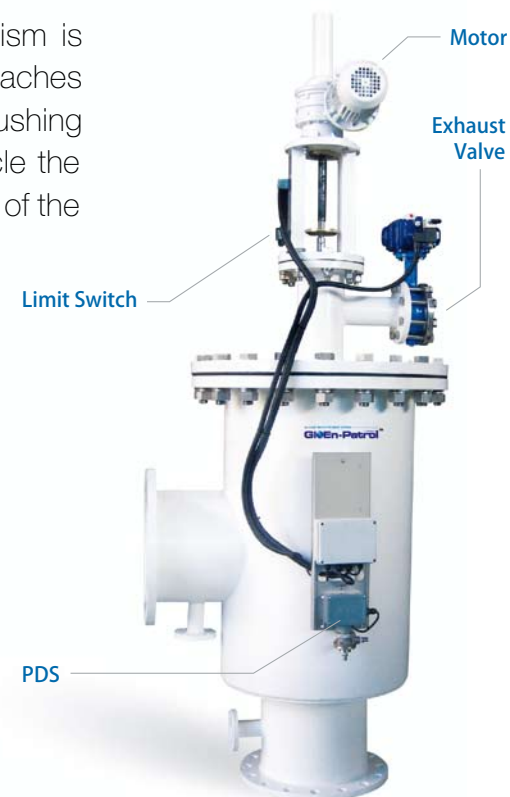
How does the Filter unit work?

The water enters through the inlet pipe into the filter area and flows through the cylindrical filter element from inside out. The filtration take accumulating on the element surface causes pressure differential to develop across the filter element.

When this reaches a pre-set value, the back-flushing mechanism is operated. The back-flushing begins when the filter element reaches a pre-set value or a pre-determined lapse of time. The back-flushing takes between 10 to 30 seconds. During the back-flushing cycle the filtered water is not interrupted and continues to flow downstream of the filter in the normal manner.

Specification of Filter

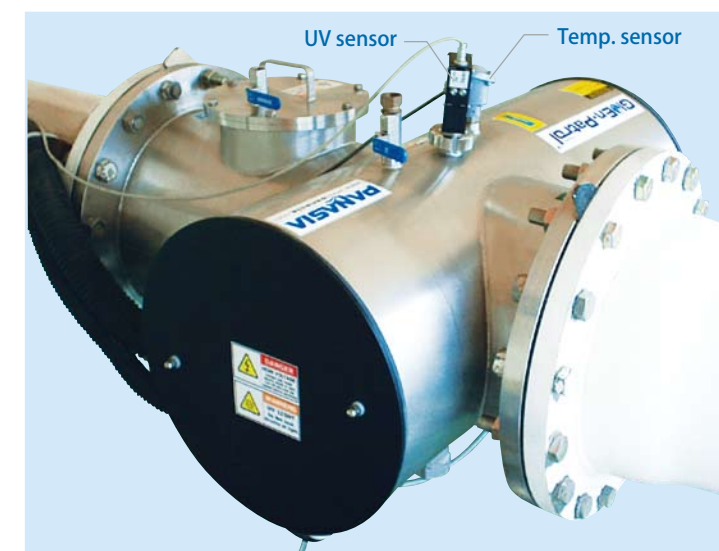
- Removing large materials over 50 μ m
- Rises UV light transmission
- Low pressure drop
- Automatic back flushing
- Screen size : 50 μ m
- Capacity : 50 ~ 6,000m³/hr
- Max. Pressure : 10kg/cm²



How does the UV unit work?

Using UV light to disinfect water is a proven technology. This safe and effective physical disinfectant is suitable for both large and small applications. UV's proven technology uses nothing but ultraviolet light to inactivate bacteria, viruses and other organisms that are present in the water. UV unit is easy to operate and needs no expensive and potentially hazardous chemicals.

UV light, which continues to be reliable means of disinfection, involves exposing contaminated water to irradiation from UV light. The treatment really works because UV light penetrates an organism's cell walls and disrupts the its genetic material, making reproduction impossible.



Specification of UV unit

- Long life span UV lamp
- Disinfection of micro-organism
- Easy maintenance and operation
- Automatic cleaning wiper
- Capacity : 50 ~ 6,000m³/hr
- Max. pressure : 10kg/cm²
- Explosion proof type (Option)

Monitoring & Control Panel

The monitoring & control panel is PLC(Programmable Logic Controller) based and configured to activate and deactivate UV lamps via electric ballasts to maintain sufficient UV dose while conserving power.

The monitoring & control panel offers a real time monitoring of the status of system operation while logging the data required by the convention at the same time.



Display Unit



Monitoring & Control Panel

Specification of Control panel

- Touch Screen
- Main data display
- Alarm
- Data logging for 24months
- Controller : SIEMENS PLC
- Human Machine Interface System

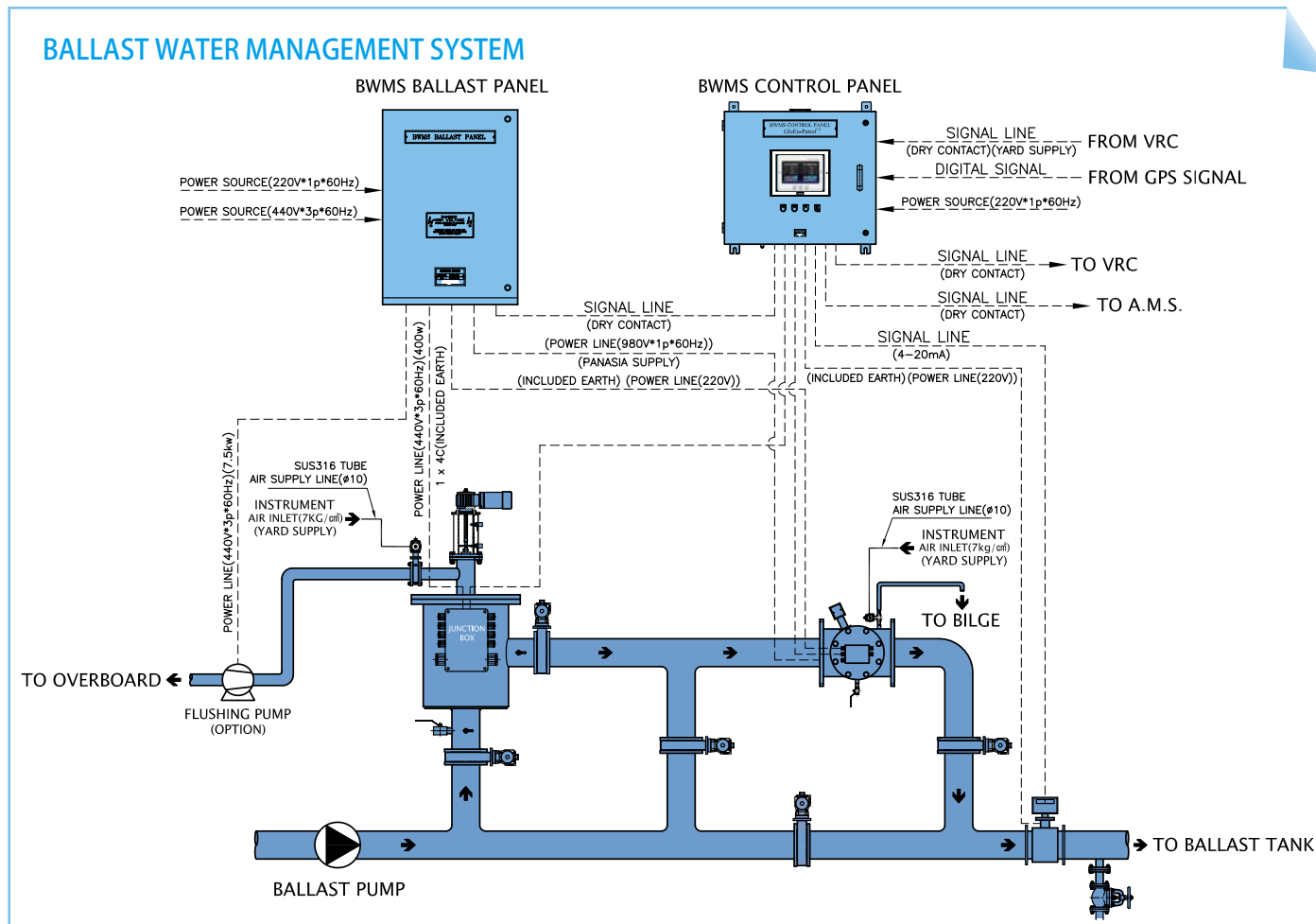
GloEn-Patrol™

Model	Capacity
GloEn-P150	150m ³ /hr
GloEn-P250	250m ³ /hr
GloEn-P500	500m ³ /hr
GloEn-P750	750m ³ /hr
GloEn-P1000	1,000m ³ /hr
GloEn-P1500	1,500m ³ /hr
GloEn-P2000	2,000m ³ /hr
GloEn-P3000	3,000m ³ /hr
GloEn-P4000	4,000m ³ /hr
GloEn-P5000	5,000m ³ /hr
GloEn-P6000	6,000m ³ /hr

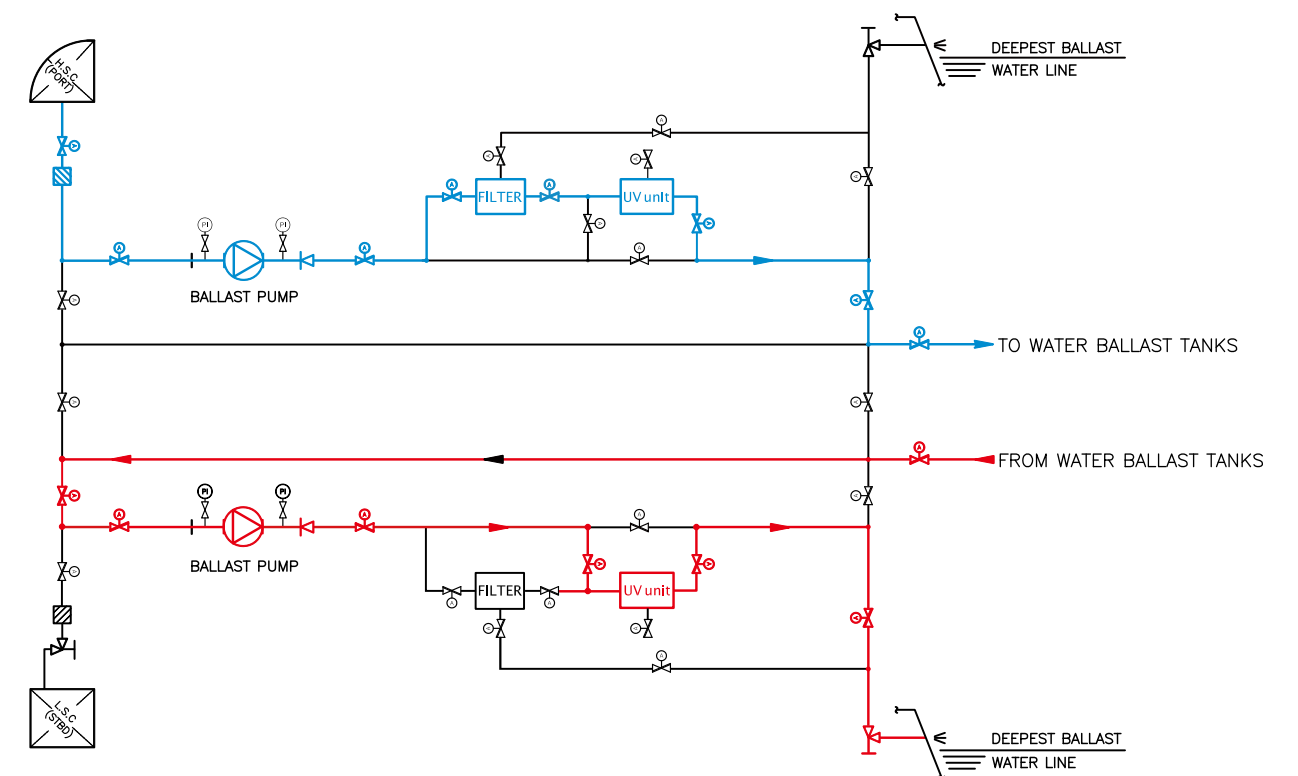


In February 2009, the GloEn-Patrol™ BWMS was installed in General Cargo Ship and has been operating perfectly.

SCHEMATIC DIAGRAM



Ballasting Mode



De-Ballasting Mode



NO CHEMICAL ! NO ECOCIDE !

Before the marine environment is contaminated and lost its beauty, PANASIA dedicates in conserving our marine ecosystem.

More
Reasons
to *Prefer*



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Catalog No. GloEn-Patrol V4.1 May. 2010



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