



MARINE

Drinking Water Sterilisation (FWG) Case Study M/V Hermes Leader

HydroFLOW® treatment using two HM45 units replaced the UV steriliser and maintained bacteria-free drinking water across accommodation areas, supported by follow-up laboratory testing.

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Bacteria Detected



Safe drinking water

3

Verified lab tests

0

UV steriliser needed



BEFORE & AFTER

BEFORE

- ✗ UV steriliser used for water treatment
- ✗ No scale protection in calorifier
- ✗ Reliance on UV for bacteria control

AFTER

- ✓ HM45 units replaced UV steriliser function
- ✓ No bacteria detected in follow-up tests
- ✓ Additional protection against scale



OVERVIEW

M/V Hermes Leader is operated by Ray Car Carriers Ltd. Two HM45 units were installed on the vessel's fresh water system in January 2015 to replace the UV steriliser. One unit treats cold consumption water to accommodation areas, while the second treats the hot water return to the calorifier. The system was monitored through follow-up testing to confirm water quality and performance.



CHALLENGE

The vessel required a reliable alternative to UV sterilisation while ensuring safe drinking water and adding protection against scale.

- Dependence on UV steriliser for bacteria control
- No protection against scale in piping and calorifier
- Need to ensure safe water across accommodation
- Requirement to validate performance with lab tests



SOLUTION

Two HM45 units were installed on the cold water outlet and hot water return line to treat both consumption water and calorifier circulation.

UNIT INSTALLED

2x HM45

INSTALLATION POINT

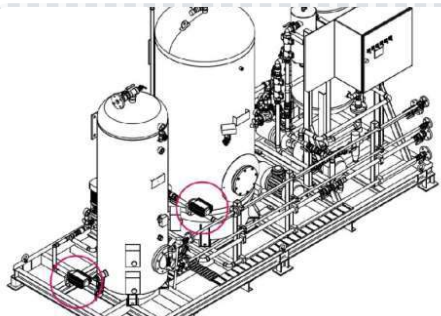
Cold outlet and hot return to calorifier

INSTALL DATE

20 January 2015

LOCATION

Busan, South Korea



INSTALLATION

FWG system with HM45 installation points



INSTALLATION

HM45 units installed on freshwater system



INSTALLATION

HM45 unit on hot water return line



RESULTS

No bacteria detected

Follow-up tests showed no traces of bacteria in drinking water.

Safe drinking water

Water sampled from accommodation taps confirmed safe water reaching end users.

UV steriliser replaced

HM45 units replaced the function of the UV system.

Lab results confirmed

Independent laboratory testing confirmed water met drinking water quality standards.

Continuous protection

Water quality remained stable without additional treatment.

Scale protection added

Calorifier and pipework gained protection from scale formation.

KEY TAKEAWAY

Summary

Two HM45 units were installed on M/V Hermes Leader to replace the UV steriliser. Follow-up testing confirmed no bacteria detected in drinking water sampled from accommodation taps. The system maintained safe water quality while also providing additional protection against scale in the calorifier and pipework.

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BACTERIA DETECTED



SAFE WATER CONFIRMED

0

UV SYSTEM REQUIRED



ADDITIONAL PHOTO EVIDENCE

Iron (Fe), mg/l	APHA 3120 B	<0.01
Copper (Cu), mg/l	APHA 3120 B	<0.01
Silica (SiO ₂), mg/l	APHA 3120 B	0.13
Manganese (Mn), mg/l	APHA 3120 B	<0.01
Aluminum (Al), mg/l	APHA 3120 B	<0.10
Total Coliform (m-endo, 35C, 24hrs), cfu/100ml	APHA 9222 B	<1
E.Coli (EC-MUG, 44.5C, 24hrs), cfu/100ml	APHA 9222 D & 9225	<1

Remarks: The above results were tested as per sample submitted with reference to WHO Guidel Water Quality (2011), the results are physically, chemically satisfactory and satisfactory

Note: < Less than

RESULTS

Lab result showing <1 coliform and E. coli levels

RELATED CASE STUDY

Fresh Water Generator Case Study

MV Hoegh America

A HydroFLOW® unit was installed on the fresh water generator aboard the MV Hoegh America to combat limescale on titanium plates. The unit successfully prevented scale formation, reducing both labor and chemical costs while maintaining optimal freshwater output.

Scale Prevention

Eliminated limescale buildup on FWG titanium plate heat exchangers

Reduced Labor

Less manual cleaning required, freeing crew for other duties

Lower Chemical Cost

Reduced need for chemical descaling treatments aboard the vessel

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