



TYPE APPROVAL CERTIFICATE
No. MAC114715XG/002

This is to certify that the product below is found to be in compliance with the applicable requirement of the RINA type approval system.

<i>Description</i>	Water Monitoring System
<i>Type</i>	G6100
<i>Applicant</i>	Green Instruments A/S ERHVERVSPARKEN 29 9700 BRØNDERSLEV DENMARK
<i>Manufacturer</i>	Green Instruments A/S
<i>Place of manufacture</i>	ERHVERVSPARKEN 29 9700 BRØNDERSLEV DENMARK
<i>Reference standards</i>	Rules for the Classification of Ships - Part C - Machinery, Systems and fire protection - Ch.3, Sect.6, Tab.1. & MEPC259(68).

Issued in **Hamburg** on **December 4, 2015**. This Certificate is valid until **August 31, 2020**


RINA Services S.p.A.
Giuseppe Russo

This certificate consists of this page and 1 enclosure



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G6100

Product Description:

The G6100 module is used for the in situ continuous monitoring of wash water from exhaust gas cleaning systems. The unit consists of a water monitoring cabinet (either a pump cabinet- WMP or a pressure reduction cabinet - WMR) and measuring modules such as G6110 for PAH , G6120 for Turbidity, and G6130 for PH/Temperature.

Technical Data:

G6100			
WM Cabinet		Enclosure IP66	
Controller		V.2.X	
I/O Module		WAGO/750.xxx series	
Display		EXOR UniOP eTOP500 series	
Power Supply Module		Mean Well SDR-120-24	
Sensor Module	G6110 PAH	G6120 Turbidity	G6130 pH and Temperature
Brand/Type	TriOS/enviroFlu-HC	ABB / 4590 series	MJK/ p Hix Compact
Measuring Technique	UV Fluorescence	Nephelometry	Glass Electrode
Range	0-5000 ppb Configurable	0-400 NTU/FNU Configurable	0 - 14 pH units
Accuracy	+/- 5% of Range	+/- 3% of FS	+/- 2% of FS Fully Temperature Compensated

Reference Documents:

- Drawing : 02313-CO : WM 10 - 2x Main Cabinet Component Overview - issued on 10-03-2015 and updated on 08-05-2015
- Drawing : 02313-IL-WXXAAA110038 - WM10 - 2x Main Cabinet Installation Layout - rev. C- issued on 20-05-2015
- Drawing : 02313-P1 - WMM10/2x P&ID - issued on 05-05-2015
- Drawing : EL-Diagram_29062015 issued on 16-01-2013
- Drawing : 02313+02314W-CP - WMM10/ 2x Pump Cabinet, Cable Plan - issued on 25-06-2015
- Drawing : WM1X & WM2X_GI_Electrical Drawing issued on 16-06-2015
- WM Operating Manual_Version 2.1_Jun 2015
- WM Installation Manual_Version 2.1_Jun 2015
- Performance Report Ver. 2.2 Dec 2014
- Environmental Report issued by SP Technical Research Institute of Sweden Electronics on 03-12-2014
- RINA Inspection Report 2015/X5/01/36 dated on 13-02-2015.

Application Fields:

The G6100 Water Monitoring System may be used for the monitoring of water from exhaust gas cleaning system in accordance with IMO resolution MEPC.184(59) as amended.

Remarks:

Installation requirements and manuals shall be observed as per MEPC.259(68) .
Correct configuration and set up for each delivery to be tested during commissioning after installation.
The WM cabinets shall be mounted on vibration dampers according to the manufacturer instructions
Installation to be made in accordance with maker's specifications.

Acceptance condition

The acceptance of the a.m. product on board ships and other units classed with RINA is subject to the satisfactory outcome of testing as per RINA Rules.

Hamburg December 4, 2015

