



Marine & Offshore

Certificate number: 60067/A0 BV

File number: AP 4885

Product code: 3953H

This certificate is not valid when presented without the full attached schedule composed of 7 sections

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TYPE APPROVAL CERTIFICATE

This certificate is issued to

Changzhou Luo Pan Xing Analytical Tech Co., Ltd
Changzhou - CHINA

for the type of product

SENSORS / DETECTORS / ANALYSERS

Wash Water Monitoring System: WWM-1000

Requirements:

Bureau Veritas Rules for the Classification of Steel Ships.

IMO Res. MEPC.259(68) - 2015 Guidelines for exhaust gas cleaning systems

EC Code : 31

This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 27 Dec 2024

For Bureau Veritas Marine & Offshore,

At BV SHANGHAI, on 27 Dec 2019,

Jennifer Zhang



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with Bureau Veritas Marine & Offshore. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

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BV Mod. Ad.E 530 June 2017

This certificate consists of 3 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION :

Wash Water Monitoring System **WWM-1000**, is a system designed to continuously monitor wash water of scrubbers that complies with IMO MEPC.259(68). It is mainly composed of preprocessing unit, booster unit and on-line analysis and monitoring unit.

1.1 - Technical Specifications :

PAH Monitoring Range	0.1-500µg/L
Turbidity Monitoring Range	0-200 NTU
PH Monitoring Range	0-14 PH
Power supply	220 VAC, 50Hz
Ambient temperature	0-55°C
IP rating	IP54

1.2 - Software version : Version 14.xx

2. DOCUMENTS AND DRAWINGS :

Pyxis Marine:

- Function Instruction, No. 400-998-3350 V1.0, dated June 2019.
- WWM-1000 Wash Water Monitoring System Operation Manual V1.0, dated June 2019.
- WWM-1000 Wash Water Monitoring System Software procedures No. PMC-WWM-D004 V15.01, dated 22-11-2019.
- WWM-1000 Wash Water Monitoring System Risk assessment.
- Wash Water Monitoring System drawings Nos. LPX-WMS-E001, LPX-WMS-E002, LPX-WMS-E003, LPX-WMS-E004, LPX-WMS-M001, LPX-WMS-M002, LPX-WMS-M003, LPX-WMS-M004, dated 22-07-2019.

3. TEST REPORTS :

Unilab:

- Test Report No. UL119920190918001, dated 08-11-2019.

4. APPLICATION / LIMITATION :

- 4.1 - BUREAU VERITAS Rules and Regulations for the Classification of Steel Ships.
- 4.2 - BUREAU VERITAS Environmental Category, **EC Code: 31**.
- 4.3 - The equipment fulfils the EMC requirements for installation in General Power Distribution Zones
- 4.4 - The installation and calibration shall comply with the Manufacturer's recommendation described in documentations.
- 4.5 - Data recording and processing device according to IMO MEPC.259(68) is not covered by this certificate.

5. PRODUCTION SURVEY REQUIREMENTS :

- 5.1 - The WWM-1000 are to be supplied by **Changzhou Luo Pan Xing Analytical Tech Co., Ltd** in compliance with the type described in this certificate.
- 5.2 - This type of product is within the category HBV of Bureau Veritas Rule Note NR320 and as such does not require a BV product certificate.
- 5.3 - **Changzhou Luo Pan Xing Analytical Tech Co., Ltd** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products.
- 5.4 - For information, **Changzhou Luo Pan Xing Analytical Tech Co., Ltd** has declared to Bureau Veritas the following production site(s):

Changzhou Luo Pan Xing Analytical Tech Co., Ltd
6th Floor, A3 Building,
Technology Venture Center,
801 Changwu Middle Road,
Changzhou, Jiangsu
CHINA

6. MARKING OF PRODUCT :

- Maker's name or trade mark.
- Serial number of the units.
- Equipment type number or model identification under which it was type-tested

7. OTHERS :

It is **Changzhou Luo Pan Xing Analytical Tech Co., Ltd**'s responsibility to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.

*** END OF CERTIFICATE ***