

CERTIFICATE OF CONFORMITY - EC (MODULE G)

Certificate No:
MEDG000012C

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED), issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Authority. This Certificate is issued by DNV AS under the authority of the Government of Norway.

This is to certify:

That the On board exhaust gas cleaning systems

with type designation and serial number

PaSOx U-type open loop EGC system installed onboard Minerva Astra (IMO 9893008) - 2020-SC-0037

Issued to

Panasia Co., Ltd.
Busan, Republic of Korea

is, by design assessment and product verification, found to comply with

Regulation (EU) 2020/1170,

item No. MED/2.10. Marpol 73/78 as amended, Annex VI Regulation 4 and IMO Res. MEPC.259(68)

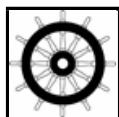
USCG Approval No: **N/A**

Further details of the equipment and conditions for certification are given overleaf.

Issued at **Høvik** on **2021-04-22**

DNV local station:
Høvik Machinery

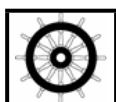
Approval Engineer:
Tin Nguyen



for **DNV AS**

Notified Body
No.: **0575**

Sverre Olav Bergli
Head of Notified Body



0575/yyyy

0575: Notified Body number undertaking quality surveillance
yyyy: The year in which the mark is affixed



The product liability tests with the manufacturer or his representative in accordance with Directive 2014/90/EU. This certificate remains valid unless suspended, withdrawn, recalled or cancelled, provided this equipment is not modified without the acceptance of the notified body named herein.

This certificate authorises the manufacturer to affix the "Mark of Conformity" (wheelmark) to the product described herein.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



Product description

On-board exhaust gas cleaning system (EGCS) used as an alternative compliance method with fuel oil Sulphur limits as required by MARPOL Annex VI, Reg 14.

Application/Limitation

According to MEPC.259(68) - Scheme B, compliance with fuel oil Sulphur requirements is demonstrated by continuous exhaust gas and washwater discharge monitoring. The monitoring system is subject to periodical surveys according to MEPC.259(68).

Type Examination documentation

PAR-EGC_B001	ETM-B – Technical Manual for Scheme B
PAR-EGC_B003	OMM – On Board Monitoring Manual
PAR-EGC_B004	EGC Record Book
PAR-EGC_B002	SECP – SOx Emissions Compliance Plan

Tests carried out

EGCS MARPOL Verification Survey attended by DNV on the 2021-04-13.

Marking of product

The product is to be indelibly marked with name and address of manufacturer, type designation, dimensions and date of manufacture. In addition, the manufacturer shall affix the Mark of Conformity followed by the DNV Notified Body No. 0575 and the production year (4 digits).

END OF CERTIFICATE