

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Wash Water Monitoring System**with type designation(s)
EcoWatch(TM)

Issued to

AppliTek
Nazareth, Oost-Vlaanderen, Belgiumis found to comply with
DNV GL rules for classification – Ships**Application :****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.****Location classes:**

Temperature	A
Humidity	B
Vibration	A
EMC	A
Enclosure	B

Issued at **Hamburg** on **2019-05-23**This Certificate is valid until **2024-05-22**.DNV GL local station: **Antwerp**for **DNV GL**Approval Engineer: **Dariusz Lesniewski**

Joannis Papanuskas
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.



Product description

EcoWatch™ is on-line analyser system to measure the intake and effluent water of a ship-board exhaust gas cleaning system (EGCS).

System variants:

Type designation	Ordering number
EcoWatch™ type 1	SYSALFA1N.99A00
EcoWatch™ type 2	SYSALFA2N.99A00
EcoWatch™ type 3	SYSALFA3N.99A00
EcoWatch™ type 4	SYSALFA4N.99A00

Main system components:

Component	Variant			
	type 1N	type 2N	type 3N	type 4N
Cabinet KS 1480 with viewing window	X	X	X	X
SC1000 Controller ⁽¹⁾	X	X	X	X
SC1000 Display Module ⁽¹⁾	X	X	X	X
Corcom 6ETX External Line Filter ⁽¹⁾	X	X	X	X
Power Supply Box / Power Supply ML60.241 ⁽⁴⁾		X	X	x
ULRATURB Seawater SC Turbidity Sensor ⁽¹⁾		X	X	
Differential pH Sensor ⁽¹⁾	X		X	X
ph Flow Cell ⁽¹⁾	X		X	X
Oil-in-Water / PAH Sensor FP 360 SC Oil/PAH Probe ⁽²⁾			X	X
Oil-in-Water / PAH Sensor FP 360 SC Flow Cell ⁽²⁾			X	X
Conductivity Probe Assembly ⁽¹⁾	X			
Digital EC Gateway ⁽¹⁾	X			
Thermal Flow switch ⁽³⁾		X	X	X

Power supply: 100-240VAC, 50-60Hz

⁽¹⁾Type Approval Certificate no. TAA000021W to be observed

⁽²⁾Type Approval Certificate no. TAA000021R to be observed

⁽³⁾Type Approval Certificate no. TAA00001XS to be observed

⁽⁴⁾Type Approval Certificate no. 12508-10HH to be observed

Approval conditions

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV GL, documentation for the actual application is to be submitted for approval by the manufacturer of the application system in each case. Reference is made to DNV GL rules for classification of ships Pt.4 Ch.9 Control and monitoring systems.

Application/Limitation

Validity of DNVGL type approval certificates no. TAA000021W, no. TAA000021R and no. TAA00001XS to be observed.

Type Approval documentation

Tests carried out

Applicable tests according to class guideline DNVGL-CG-0339, November 2016.

Marking of product

The products to be marked with:

- manufacturer name: AppliTek
- model name: EcoWatch™

Job Id: **262.1-030462-1**
Certificate No: **TAA00002BS**

- ordering number: P/N: SYSALFAxN.99A00 (x=1,2,3 or 4)
- serial number: S/N:
- power supply ratings: 100-240VAC 50-60Hz 460VA

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.

The main elements of the assessment are:

- Ensure that type approved documentation is available
- Inspection of factory samples, selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample tests and control routines
- Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications
- Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do not affect the type approval given
- Ensuring traceability between manufacturer's product type marking and the type approval certificate

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE