

# DET NORSKE VERITAS TYPE APPROVAL CERTIFICATE

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**CERTIFICATE NO. E-7995**

This Certificate consists of 3 pages

*This is to certify that the*

**Light Fitting**

826.10

*with type designation(s)*

**Aqualuma**

*Manufactured by*

**AMG (QLD) Pty Ltd**

**Coomera QLD 4209, Australia**

*is found to comply with*

Det Norske Veritas' Rules for Classification of Ships, High Speed & Light Craft  
and Det Norske Veritas' Offshore Standards

*Application*

Underwater lighting fixture.

Enclosure class	IP 68
Class	III
Voltage class	12 & 24 V DC
Ex class	NA

*Place and date*  
Høvik, 2006-05-11  
*for Det Norske Veritas*  
AS

*This Certificate is valid until*  
2010-06-30

Frode Berntsen  
*Head of Section*

*Local Office*  
DNV Brisbane

Nicolay Horn  
*Surveyor*

**Product description**

Underwater lighting fixture with an IM poly carbonate body and with a stainless steel fixing nut.

Type numbers: AQLWN3, AQLWW3, AQLBN3, AQLBW3, AQLGN3 & AQLGW3

AQL = Aqualuma

W = white

B = blue

G = green

N = narrow optic

W = wide optic

Technical info:

Voltage: LED 12 & 24 V DC

Load: 6 / 8 W

Ingress protection: IP 68  
Pressure Front mount: 73.6 Pa for 30 min (1.5 x nominated operating pressure)  
Pressure Reverse mount: 73.6 Pa for 30 min (1.5 x nominated operating pressure)

### **Application/Limitation**

For installation of the equipment the manufacturer procedure shall be followed carefully.

If used in a swimming pool or similar application the supply voltage shall not be higher than 12 V DC.

Cable used has a size of 0.75 mm<sup>2</sup>. This is not in accordance with the IEC 60598 standard, but this requirement is regarded as NA due to actual voltage level and current (LED technology). The size is in accordance with the DNV RULES.

### **Type Approval documentation**

#### **Tests carried out**

Type testing in accordance with IEC 60598 -1 (applicable parts), IEC 60598-2-18 and IEC 60335-1 (partly- glow wire test). Hydrostatic test.

### **Marking of product**

Aqualuma - Voltage - Load - Class

### **Certificate retention survey**

The scope of the retention/renewal survey is to verify that the conditions stipulated for the Type approval is complied with and that no alterations are made to the product design or choice of materials.

The main elements of the survey are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Results from Production Sample Tests (PST) and Routines (RT) checked (if not available tests according to PST and RT to be carried out)
- Review of type approval documentation
- Review of possible change in design, materials and performance

· Ensuring traceability between manufacturer's product type marking and Type Approval Certificate.

Survey to be performed at least every second year.

END OF CERTIFICATE

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**Notice: This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.**

If any person suffers loss or damage which is proved to have been caused by any negligent act or omission of Det Norske Veritas, then Det Norske Veritas shall pay compensation to such person for his proved direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question, provided that the maximum compensation shall never exceed USD 2 million. In this provision "Det Norske Veritas" shall mean the Foundation Det Norske Veritas as well as all its subsidiaries, directors, officers, employees, agents and any other acting on behalf of Det Norske Veritas.

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