

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Underwater Camera Housing

with type designation(s)
00-05-01.100.01

Issued to

**Oktopus Gesellschaft für angewandte Wissenschaft, innovative
Technologien und Service mbH**
Kiel, Schleswig-Holstein, Germany

is found to comply with

DNV GL rules for classification – Underwater technology

Application :

**Product(s) approved by this certificate is/are accepted for installation on unmanned underwater vehicles
classed by DNV.**

Nominal diving depth: 6000 meter sea water

Issued at **Hamburg** on **2021-07-08**

This Certificate is valid until **2026-07-07**.

for **DNV**

DNV local station: **Hamburg Pressure & Underwater
Technology**

Approval Engineer: **Malta Frederik Niederstadt**

Jonathan Struwe
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.

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

One type of underwater camera housing consisting of mantle covers, glass holder and glass.
For details of the assembly (e.g. dimensions and material particulars) see approved technical documentation.

Application/Limitation

Drawings are found to comply with the following DNV rules for classification:

- DNVGL-RU-SHIP Pt.4 Ch.7 'Pressure equipment' (Edition July 2020)
- DNVGL-RU-UWT Pt.3 Ch.2 'Pressure hull and structures' (Edition January 2018)

The product is intended and certified for unmanned underwater operations only. Nominal diving depth limited to 6000msw.

All used materials as well as pressure equipment which form a part of the housing assembly shall be delivered with product or material certificates.

The installation on board ships and underwater vehicles shall be performed in such a way that for possible forced vibrations and external forces on the camera housing resulting from ship specific service conditions (e.g. vibrations from the diesel engine or the propulsion chain) will be adequately taken care for (e.g. by sufficient supports and installation of vibration absorbers or compensators if applicable).

This type approval covers the design of the housing assembly only. Manufacturing, workmanship, and testing shall be done acc. to DNVGL-RU-SHIP Pt.4 Ch.7 Sec.7. Each housing assembly is to be:

- Constructional tested and hydraulic pressure tested to minimum 1.1 times nominal diving pressure,
- Certified by DNV and delivered with a product certificate.

Type Approval documentation

Tests carried out

Marking of product

For traceability to this type approval the products are at least to be marked with:

- the name and domicile of the manufacturer,
- the manufacturer's type designation and serial number,
- the year of manufacture,
- the nominal diving pressure,
- the hydrostatic test pressure, and
- DNV (GL)'s identifying mark.

Periodical assessment

Periodically assessments are not foreseen within the limits of validity of this type approval certificate. Unscheduled assessments for retention of the certificate may be carried out when there is reason to believe that the type approval applicant has not adhered to the obligations stipulated in the type approval certificate.

The certificate may be renewed upon request after its validity has expired.

End of Certificate