DNV·GL

Certificate No:
TAP000029H

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Hull Penetration

with type designation(s)
TRU Easy Tank

Issued to
SAL Navigation AB
Hägersten, Sweden

is found to comply with
DNV GL rules for classification – High speed and light craft
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.
Sizes:
168 [mm]

Issued at **Høvik** on **2020-12-18**

This Certificate is valid until **2022-02-20**.

for **DNV GL**

DNV GL local station: **Sweden CMC**

Approval Engineer: **Eivind Finne Riley**

Dalibor Bukarica
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 GL AS, its parent companies and subsidiaries as well as their officers, directors and employees ("DNV GL") 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.

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Product description

The TRU Easy Tank is an SDME transducer integrated in a flange top that seals the hull penetration.

The hull penetration mechanics consists of two main parts: the flange (FLANGE ET 116 STEEL / FLANGE ET 116 ALU 5083) to be welded into the hull, and the flange top with the integrated transducer (TRU EW1 ET 200 kHz Lower Part). The flange top is bolted to the flange creating a seal towards the sea.

The mounted hull penetration is a closed ended installation having sufficient watertight integrity and resistance to damage in itself, and as such no additional precautions has to be made considering the water tightness.

Application/Limitation

The hull penetration shall be mounted in accordance with manufacturer's instructions.

The welding procedure for mounting the flange to the hull is subject to separate approval by DNV GL for each installation onboard a ship. All welding shall be carried out by approved welders according to approved welding procedures. Non-destructive testing after installation shall be carried out to the surveyor's satisfaction.

Type Approval documentation

Dwg/Doc No.	***Rev.***	***Title***
TP20020	A03	Mechanical strength calculations SAL R1Ed 200 kHz
5413629	A02	SAL R1Ed 200KHz Lower Part Assy
5413630	A02	SAL R1Ed Bottom Flange Steel
5413644	A03	SAL R1Ed 200kHz EasyTank Transducer Assy
5413646	A02	SAL R1Ed Steel Flange Assy
5413651	A01	SAL R1Ed ET Alu Flange Assy
5413656	A02	SAL R1Ed Bottom Flange ALU
5413657	A02	SAL R1Ed ET Isolation Bushing
5413658	A02	SAL R1Ed ET M10 Washer
5413660	A02	SAL R1Ed ET Transducer Flange

Tests carried out

No tests have been carried out.

Marking of product

For traceability the following marking is to be carried out on each product:
- Manufacturers name or mark
- Type designation (Serial Number)
- Additional marking at manufacturer's option.

Periodical assessment

DNV GL's surveyor is to be given permission to perform Periodical Assessments at any time during the validity of this certificate and at least every second year. The arrangement is to be in accordance with procedure described in Class Program DNVGL-CP-0338, Section 4.