

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Bottom Penetration for Echo Sounder, Sonar or Log

with type designation(s)
NSL500

Issued to
Nortek AS
RUD, Norway

is found to comply with
DNV GL rules for classification – Ships

Application :

Product(s) approved by this certificate is/are accepted for installation on vessels classed by DNV GL.

Issued at **Høvik** on **2020-01-13**

for **DNV GL**

This Certificate is valid until **2025-01-12**.
DNV GL local station: **Norway CMC, East-South**

Approval Engineer: **Adel Samiei**

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Zeinab Sharifi
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.



Job Id: **262.1-033060-1**
Certificate No: **TAS00002CU**

Product description

Arrangement for the installation of the NSL500 including bottom flange which is welded in hull penetration, instrument bell housing, and top and bottom flange for double hull constructions. Material of flange, Bell Housing and pipe: S355J2G3+N according to EN10250-2

Application/Limitation

Products covered by this certificate may be used as installation for Speed log.

The arrangement covered by this certificate is evaluated for a internal design pressure of 2.9 bar (equivalent to 29 meter of water).

Mounting to hull shall be approved in each case.

Gate valves shall be purchased with a DNV GL product certificate. Design review of valves are out of scope of this certificate. Design pressure of valves shall be minimum 2.9 bar.

The whole assembly shall be subject to hydrostatic test at 5 bar.

Valve bodies, pipes, and flanges shall be delivered with a works certificate (equivalent to type 3.1 material certificate) issued by an approved manufacturer of DNV GL.

Assembly as covered by this certificate shall be delivered with a DNV GL product certificate.

Type Approval documentation

Drawing numbers:

N2043-033 Rev.C dated 2019-10-18, N2043-027 Rev.C dated 2019-10-18, N2043-028 Rev.C dated 2019-10-18, N2043-029 Rev.C dated 2019-10-18, N2043-053 Rev.E dated 2018-06-18, N2043-060 Rev.D dated 2018-06-25

Static Analysis reports of flange N2043-029, N2043-033 & N2043-028 dated 2018-10-10

Speedlog - FEA -top tank-Static pressure-1 for N2043-027 (Bell Housing) dated 2019-03-12

Marking of product

For traceability to this Type Approval, the products are at least to be marked with:

- Manufacturer's name or trade mark
- Pressure class
- Size

Periodical assessment

For retention of the Type Approval, a DNV GL Surveyor shall perform periodical assessment after two years (+/- 90 days) and after 3.5 years (+/- 90 days) to verify that the conditions for the approval are complied with. Reference is made to DNVGL-CP-0338.