DNV·GL

Certificate No:
TAM00000DT

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Tunnel Thruster

with type designation(s)
Dia. 300 mm, Dia. 412 mm, Dia. 513 mm, Dia. 610 mm

Issued to
Sleipner Motor AS
FREDRIKSTAD, Norway

is found to comply with
DNV GL rules for classification – High speed and light craft
DNV GL rules for classification – Ships

Application :

Auxiliary duty

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

Issued at **Høvik** on **2019-11-26**
This Certificate is valid until **2023-12-31**.
DNV GL local station: **Sandefjord**

Approval Engineer: **Tore Gunnar Rønning**

for **DNV GL**

Oddvar Deinboll
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.

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Product description
Tunnel thruster with fixed pitch contra-rotating propellers

Application/Limitation
The thrusters are approved for auxiliary duty, driven by any power source e.g hydraulic or electric motor with the following ratings:

Type	Maximum input torque [Nm]	Gear ratio [-]	Maximum motor speed [RPM]	Application factor continous	Application factor peak
Dia. 300 mm	94	1.615	2910	1.05	1.40
Dia. 412 mm	227	1.615	1790	1.05	1.40
Dia. 513 mm	593	1.615	1360	1.05	1.40
Dia. 610 mm	626	1.615	1160	1.05	1.40

Marking of product
Manufacturers name or trade mark and type number designation

Periodical assessment
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.

In case where the type approved product is manufactured at other companies, the periodical assessment shall verify that the type approval applicant has a quality control system for consistent production at their licensees/subcontractors. Furthermore, periodical assessment shall be carried out randomly at these companies.

END OF CERTIFICATE