

# TYPE APPROVAL CERTIFICATE

**DNV·GL**

Certificate No:

**TAM00000DT**

Revision No:

**1****This is to certify:****That the Tunnel Thruster**

with type designation(s)

**SH400 (dia. 300 mm), SH700 (dia. 412 mm), SH1000 (dia. 513 mm), SH1400 (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 :****Manoeuvring duty****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.**Issued at **Høvik** on **2021-02-05**This Certificate is valid until **2023-12-31**.DNV GL local station: **Sandefjord**for **DNV GL**Approval Engineer: **Vidar Johansen****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.



Form code: TA 251

Revision: 2016-12

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Job Id: **262.1-008901-6**  
Certificate No: **TAM00000DT**  
Revision No: **1**

### Product description

Tunnel thruster with fixed pitch contra-rotating propellers

### Application/Limitation

The thrusters are approved for manoeuvring 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
SH400 (dia. 300 mm)	94	1.615	2910	1.05	1.40
SH700 (dia. 412 mm)	227	1.615	1790	1.05	1.40
SH1000 (dia. 513 mm)	593	1.615	1360	1.05	1.40
SH1400 (dia. 610 mm)	626	1.615	1160	1.05	1.40

The thrusters covered by this type approval certificate are exempted from the requirement of local temperature indication of the lubrication oil due to their small size and demonstrated service history.

### 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

