



TYPE APPROVAL CERTIFICATE

Certificate no.:
TAM00000DT
Revision No:
4

This is to certify:
that the Tunnel Thruster

with type designation(s)
SAC360, SAC400, SAC550, SAC700, SAC750, SAC900, SAC950, SAC1000, SAC1100, SAC1300, SAC1400, SAC2200, SH360, SH400, SH420, SH700, SH1000, SH1400, SH2200, SRAC320, SRHP240, SRHP320, SRHP650, ERV130, ERV170, ERV210, ERL130, ERL170, SRL130, SRL170, SRV130, SRV170, SRV210, ERV250, ERV300, SRV300

issued to
Sleipner Motor AS
FREDRIKSTAD, Norway

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

Application:
Manoeuvring duty only.

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

Issued at **Høvik** on **2025-12-10**
This Certificate is valid until **2028-12-31**.
DNV local unit: **Oslo Maritime and CAP**

for **DNV**

Approval Engineer: **Vidar Johansen**

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 USD 300 000.

Product description

Fixed and retractable tunnel thrusters with fixed pitch contra-rotating propellers. The following type designations and configurations are covered by this certificate:

AC Fixed Thrusters	Tunnel diameter
SAC360	300 mm
SAC400	300 mm
SAC550	513 mm
SAC700	412 mm
SAC750	513 mm
SAC900	513 mm
SAC900	610 mm
SAC950	513 mm
SAC950	610 mm
SAC1000	513 mm
SAC1100	513 mm
SAC1100	610 mm
SAC1300	610 mm
SAC1400	610 mm
SAC2200	730 mm
Hydraulic Fixed Thrusters	Tunnel diameter
SH360	300 mm
SH400	300 mm
SH420	386 mm
SH700	412 mm
SH1000	513 mm
SH1400	610 mm
SH2200	730 mm

AC Retractable Thrusters	Tunnel diameter
SRAC320	300 mm
Hydraulic Retractable Thrusters	Tunnel diameter
SRHP240	250 mm
SRHP320	300 mm
SRHP650	386 mm
DC Retractable Thrusters	Tunnel diameter
ERV130, ERV170, ERV210	250 mm
ERL130, ERL170	250 mm
SRL130, SRL170	250 mm
SRV130, SRV170, SRV210	250 mm
ERV250	300 mm
ERV300	300 mm
SRV300	300 mm

Application/Limitation

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

Fixed type	Tunnel diameter [mm]	Maximum input torque [Nm]	Maximum power [kW]	Gear ratio [-]	Maximum motor speed [rpm]	Application factor, continuous	Application factor, peak
SM139896	300	85	28.6	1.615	3030	1.05	1.40
SM135548	300	94	30.6	1.615	2910	1.05	1.40
50 0600	386	201	49.9	1.615	2375	1.05	1.40
60 0600	412	241	45.2	1.615	1790	1.05	1.40
70 0600	513	430	61.1	1.615	1360	1.05	1.40
70 0602	513	430	61.1	1.615	1360	1.05	1.40
100 0600	610	660	80.2	1.615	1160	1.05	1.40
100 0602	610	660	80.2	1.615	1160	1.05	1.40
SM197861	730	1350	170	1.611	1200	1.05	1.40

Retractable type	Tunnel diameter [mm]	Maximum input torque [Nm]	Maximum power [kW]	Gear ratio [-]	Maximum motor speed [rpm]	Application factor, continuous	Application factor, peak
13 0602	250	46	14.9	1.6	2930	1.05	1.40
20 0603	300	68	21.2	1.6	2810	1.05	1.40
50 0600	386	201	49.9	1.615	2375	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. For the retractable units, an exemption has also been granted for low oil level alarm of the lubrication oil as the oil is of very small quantity and fully enclosed within the units.



Job ID: **262.1-008901-10**
Certificate no.: **TAM00000DT**
Revision No: **4**

The thrusters covered by this type approval is approved for maneuvering duty only. Additional class notations such as e.g. Dynamic Positioning, and/or projects following other rule sets than stated on the front page of this certificate will need case-by-case evaluation.

Type Approval documentation

Title	Drawing no.	Revision
-------	-------------	----------



Job ID: **262.1-008901-10**
Certificate no.: **TAM00000DT**
Revision No: **4**



Job ID: **262.1-008901-10**
Certificate no.: **TAM00000DT**
Revision No: **4**

Marking of product

Manufacturer's name or trademark and type 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 assessments shall be carried out randomly at these companies.

END OF CERTIFICATE