Certificate no.:
TAS000045A

TYPE APPROVAL CERTIFICATE

This is to certify:

that the Winch - General Application

with type designation(s)
Compact rope winch for load and personnel handling, type LWP1242 6SE 0002

issued to
Liebherr-Components Biberach GmbH
BIBERACH AN DER RIß, Germany

is found to comply with
DNV standard DNV-ST-0378 – Offshore and platform lifting appliances

Application:

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

Issued at **Høvik** on **2024-03-08**
This Certificate is valid until **2029-03-07**.
DNV local unit: **Augsburg**

for **DNV**

Approval Engineer: **Thomas Henrik Tranesen**

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 300,000 USD.

Product description
Compact rope winch designed for load and personnel handling.

Application/Limitation
Basis of approval – Compact rope winch LWP1242 6SE 0002

Min design temp	-25C
Max line pull	220kN @ load handling 110kN @ personnel handling
Dynamic factor	1.30
Drum diameter	900mm, nominal
Rope diameter	42mm
Number of layers	6
Safety turns	5
Total winding capacity	478m
Wire exit	horizontal
FEM classification	L3/M8/T8
No of brakes	2
No of gearboxes	2
Number of motors	4

Basis of approval – gearbox

Max output torque	172.9Nm
Output speed	17.69rpm @ under load
Transmission ratio	67.56
Input speed	1195rpm @ normal operation
Output speed	17.69rpm @ normal operation
FEM classification	L3/M8/T8
Lifetime	25000h

Basis of approval – brake

Brake torque, static	1600Nm
Brake torque, dynamic	1070Nm

Type Approval documentation

Tests carried out
In order to obtain a DNV Product Certificate, the winch shall be tested according to the DNV-ST-0378 Table 14-1 and NDT to be carried out according to DNV-ST-0378 Sec.3.

Comments
1. Materials with 3.1 certificates are to be used when manufacturing load carrying parts. Traceability is assumed be taken care of by the manufacturer's quality system.
2. Welding and NDT as specified in the type approval documentation are to be carried out by certified personnel.
3. Gear calculations are based on that optimum hardening depths have been achieved according to recognized standards and manufacturer's experience.
4. Load distribution factors as stated by the manufacturer have been used and we have not evaluated these.
5. Bearings lifetime has not been evaluated. It is assumed the bearings are delivered with sufficient capacity documented. The relevance of the class of utilization and load spectrum is not evaluated by DNV.

Marking of product
Each winch is to be marked according to DNV-ST-0378 Sec.14.5

Periodical assessment
For retention of the Type Approval, a DNV 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 DNV-CP-0338.