

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Winch - Air/Tugger**

with type designation(s)

AH-1C, W-05, W-10, W-20, W-30, W-50, AH45-100

Issued to

San-ei Seiki Seisakusho Co., Ltd.**Date-gun Fukushima, Japan**

is found to comply with

DNV GL standard DNVGL-ST-0378 – Standard for offshore and platform lifting appliances**Application :****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.**Issued at **Høvik** on **2017-10-15**This Certificate is valid until **2022-10-14**.DNV GL local station: **Yokohama**for **DNV GL**Approval Engineer: **Mats Asvald Innstø****Aldo Matteucci**
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.



Product description

The winches has been evaluated for structural strength in accordance with Standard for Offshore and Platform Lifting Appliances, DNVGL-ST-0378.

Categorization: Evaluated as "Platform crane" winch
Design Dynamic Factor: 2
Minimum design temperature: -10 deg C

Equipment designation	Maximum layers	Safe Working Load (kg)
AH-1C	6	200
W-05	5	500
W-10	10	1 000
W-20	8	2 000
W-30	8	3 000
W-50	5	5 000
AH45-100	5	10 000

It is the operator's responsibility to ensure that real dynamic coefficient does not exceed the design dynamic factor.

Application/Limitation

- Gearbox, brakes, the spooling device, system and actuating cylinders are not covered by this approval.
- All materials are to be delivered with 3.1 certificates (EN 10204:2004), to be reviewed by the attending surveyor.
- The various components transferring the load like wires, shackles, hooks etc., shall comply with international standards or codes and shall be delivered with Manufacturer's product certificate.
- Installation onboard, support to the deck structure and connection to the power supply are not included in this approval and shall be evaluated in each case.

Type Approval documentation

Testing required

In order to obtain a DNV GL Product Certificate, testing is to be carried out according to DNV GL Standard for offshore and platform lifting appliances, DNVGL-ST-0378 section 14, and witnessed by DNV GL.



Job Id: **262.1-026117-1**
Certificate No: **TAS0000185**

Marking of product

Each winch shall be marked as per DNVGL-ST-0378, Section 14.

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.

END OF CERTIFICATE