

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Lifting Gear**

with type designation(s)
Lifting arrangements TMS KD-10 & TMS KD-20

Issued to

KystDesign AS
HAUGESUND, Norway

is found to comply with
Standard for Certification No. 2.22 Lifting Appliances

Application :

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

This Certificate is valid until **2019-11-29**.

Issued at **Høvik** on **2015-11-30**

DNV GL local station: **Haugesund**

Approval Engineer: **Antonio Sendin Alvarez**

for **DNV GL**

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

Lifting arrangements TMS KD-10 & TMS KD-20, including the following components:

1. Frame for TMS KD-10; AF64-1000M03 rev.3 & AF64-1002M03 rev.2
2. Frame for TMS KD-20; AF64-2000M03 rev.2
3. Lifting Joint Assembly; AF64-1011M01 rev.2
4. ROV Latch Mechanism; AF64-1017M01 rev.2
5. ROV Bullet Joint; AF64-1018M01 rev.1
6. Cursor Top for TMS KD-10 & TMS KD-20; AF64-1014M01 rev.2

The before-mentioned components have been considered as loose gears for offshore cranes.

SWL for frames, lifting joint and cursor frame: 12 tonnes
SWL for ROV latch mechanism and bullet joint: 10 tonnes
Dynamic factor (DAF): 1.3
Design temperature: -20 °C

Application/Limitation

1. The hydraulic cylinders are not covered by this approval.
2. The functionality of the lifting arrangements is not covered by this approval.
3. All materials are to be delivered with 3.1 certificates, documenting mechanical properties and chemical composition in accordance with the Type Approval documentation.
4. Welding and NDT as specified in the type approval documentation are to be carried out by certified personnel.
5. It is the responsibility of the Holder of the Certificate to ensure that both design and production are in compliance with Rules, Standards and/or Regulations listed on page 1 of this type approval certificate.

Type Approval documentation

Tests to be carried out

In order to obtain a CG3 certificate, each lifting arrangement shall be tested according to DNV's Standard for Certification 2.22 "Lifting Appliances", June 2013, Ch.2 Sec.12. Table 12-2.

Marking of product

Each lifting arrangement shall be marked according to DNV's Standard for Certification No. 2.22 "Lifting Appliances" June 2013 Ch.2 Sec.12.

Periodical assessment



Job Id: **262.1-020896-1**
Certificate No: **TAS0000087**

For retention of the Type Approval, a DNV GL surveyor shall perform a survey every second year and before expire date of this certificate to verify that the conditions for the type approval are complied with.

END OF CERTIFICATE