

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Lifting Frame

with type designation(s)

Lifting Frame ROV Installer, ROV Supporter, ROV Supporter Mk2 and ROV Constructor

Issued to

KystDesign AS
HAUGESUND, Norway

is found to comply with

Standard for Certification No. 2.22 Lifting Appliances

Application :

Lifting Frame ROV Installer, ROV Supporter, ROV Supporter Mk2 and ROV Constructor

This Certificate is valid until .

Issued at **Høvik** on

DNV GL local station: **Haugesund**

Approval Engineer: **Xiao Long Eric Song**

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

ROV Installer:

- Safe working load (SWL) : Total of 3 tonnes in the lower lifting lugs
8.0 tonnes for remaining load carrying structure
- Design dynamic factor: 1.3
- Design temperature (T.d): -20 degrees C

ROV Supporter:

- Safe working load (SWL) : Total of 3 tonnes in the lower lifting lugs
7.0 tonnes for remaining load carrying structure
- Load factor, on deck mode: 2.5
- Load factor, launching mode: 4
- Design dynamic factor: 1.3
- Design temperature (T.d): -20 degrees C

ROV Supporter Mk2:

- Safe working load (SWL) : Total of 3 tonnes in the lower lifting lugs
7.0 tonnes for remaining load carrying structure
- Load factor, on deck mode: 2.5
- Load factor, launching mode: 4
- Design dynamic factor: 1.3
- Design temperature (T.d): -20 degrees C

ROV Constructor:

- Safe working load (SWL) : Total of 3 tonnes in the lower lifting lugs
7.0 tonnes for remaining load carrying structure
- Design dynamic factor: 1.3
- Design temperature (T.d): -20 degrees C

Application/Limitation

1. Materials as stated in the above documentation are to be delivered with material certificates complying with DNV's Standard for Certification 2.22 Lifting Appliances, June 2013, Ch. 2, Sec. 1.
2. All welding is to be performed by approved welders in accordance with approved procedures.
3. Extent of non-destructive testing of welds is to comply with DNV's Standard for Certification 2.22 Lifting Appliances, June 2013, Ch. 2, Sec. 1 10.10 and 10.11, and shall be carried out to the attending surveyor's satisfaction.
4. The various components transferring load- like wire rope, sockets, shackles, sheaves, etc. are to be manufactured according to recognised standards or codes and are to be delivered with relevant certificates for material and testing.
5. Bolts are to be pre-stressed according to procedures acceptable to the attending surveyor.

Type Approval documentation

Job Id: **262.1-012739-5**
Certificate No: **TAS00000AU**

Tests carried out

No specific type test is found necessary to require in connection with the Type Approval, but each unit subject to DNV certification shall be tested according to DNV's Standard for Certification 2.22 Lifting Appliances, June 2013, Ch.2 Sec.12.

Marking of product

Marking of each product is to be in accordance with DNV's Standard for Certification 2.22 Lifting Appliances, June 2013, Ch.2 Sec.12.

Periodical assessment

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

END OF CERTIFICATE