

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Lifting set for Offshore containers and Portable Offshore Units**

with type designation(s)

Couplings - Type: Omega Link DA-018

Issued to

**Yoke Industrial Corp.
Taichung, Taiwan**

is found to comply with

DNV GL standard DNVGL-ST-E271 – 2.7-1 Offshore containers, August 2017**DNV GL standard DNVGL-ST-E273 – 2.7-3 Portable offshore units, December 2016****EN 12079-2 Offshore containers and associated lifting sets – Part 2: Lifting sets Design, manufacture and marking****EN 1677-1 Components for slings – Safety – Part 1: Forged steel components, Grade 8
IMO/MSC Circular 860****Application :****Grade 8, Couplings for Lifting Sets for Offshore Containers and Portable Offshore Units**Issued at **Høvik** on **2017-11-16**This Certificate is valid until **2021-11-15**.for **DNV GL**DNV GL local station: **Kaohsiung**Approval Engineer: **Nina Thorvaldsen Moberg****Inger-Helene Hals
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 Type Approval Certificate covers couplings type DA-018 for use in Lifting Sets certified to DNVGL-ST-E271 Standard 2.7-1 Offshore Containers (DNV GL 2.7-1) or DNVGL-ST-E273 Standard 2.7-3 Portable Offshore Units (DNV GL 2.7-3).

Detailed product information and range of certified products covered by this Type Approval are listed in Appendix 1 of this Type Approval Certificate.

Application/Limitation

Design temperature: -20°C

The couplings are approved for use in lifting slings that comply with DNV GL 2.7-1 or DNV GL 2.7-3. The company performing the assembly of the slings is considered to be the lifting sling manufacturer and should ensure that the slings are certified according to Section 8.2 in DNV GL 2.7-1.

All production testing should be done according to Yoke Industrial Corp.s internal procedures and to be agreed with local DNV GL office.

Tests to be carried out:

- Production testing: According to DNV GL 2.7-1 and EN 1677-1 "Components for slings - Safety - Part 1; Forged steel components, Grade 8" in agreement with the DNV GL surveyor.
- Material to be impact tested by Charpy impact method according to DNV GL 2.7-1, Section 8.4.

The manufacturer shall issue product certificates in accordance with DNV GL 2.7-1, Section 8.5 or DNVGL-ST-E273, Section 7.5.3, using the certificate form QF-009-021 01 (2015-10-08). This certificate form is only to be used for couplings certified according to this Type approval Certificate.

Application for couplings manufactured according to DNV GL 2.7-1:

For application of couplings the minimum working load limit (WLL_s) shall be decided according to the strength requirements for lifting sets on offshore containers as given in DNV GL 2.7-1, Section 8.

Application for couplings manufactured according to DNV GL 2.7-3:

Prior to selection of couplings the minimum required working load limit (WLL) shall be decided according to the strength requirements for lifting sets on portable offshore units as given in DNV GL 2.7-3, Section 7.3.2 and must be approved by DNV GL. Resulting sling force (RSF) can be found in the Design Verification Report (DVR) issued by DNV GL for the Portable Offshore Unit. The DVR shall be available for the chain manufacturer.

Type Approval documentation

Tests carried out

Prototype strength tested according to DNV GL 2.7-1 and EN 1677-1.

Marking of product

Marking should be according to DNV GL 2.7-1 Offshore Containers, Section 8 or DNV GL 2.7-3 Portable Offshore Units, Section 7 and EN 1677-1 Components for slings - Safety - Part 1; Forged steel components, Grade 8.

Periodical assessment

In order to maintain the validity of the type approval, periodical assessments are to be carried out according to DNV GL 2.7-1 by DNV GL surveyor. Intervals are not to exceed 6 months.



Job Id: **262.1-026068-1**
Certificate No: **TAS000015G**

END OF CERTIFICATE

Job Id: **262.1-026068-1**
Certificate No: **TAS000015G**

Appendix 1

Product description and details

Chain:

Type	WLL [t]	MPF [kN]	Min. BF [kN]
DA018-06 *	1.12	27.5	43.9
DA018-07 *	2.0	49.0	78.5
DA018-10	3.15	77.2	123.6
DA018-13	5.3	129.9	207.9
DA018-16	8.0	196.1	313.8
DA018-20	12.5	306.5	490.3

* This size is only to be used for PortableOffshore Units.