

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Toothed Coupling**with type designation(s)
GEARex

Issued to

KTR Systems GmbH
Rheine Nordrhein-Westfalen, Germany

is found to comply with

DNV GL rules for classification – Ships**DNV GL rules for classification – High speed and light craft****DNVGL-OS-D101 – Marine and machinery systems and equipment, Edition July 2015****Application :****Products approved by this certificate are accepted for installation on all vessels classed by DNV GL.****The couplings are approved for auxiliary duty.****Nominal torque KTR main coupling catalogue**Issued at **Hamburg** on **2017-06-12**This Certificate is valid until **2022-06-11**.for **DNV GL**DNV GL local station: **Essen**Approval Engineer: **Erich Rüde**

Burkhard Lilienthal
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

All-steel gear couplings

Application/Limitation

The couplings are approved for auxiliary duty with nominal torque as given in GEARex part of KTR main coupling catalogue 04/2017 (pages 104 to 113).

The nominal torque in the catalogue is valid for coupling material C45+N.

Nominal torque for coupling material 40Cr is 1.3 x torque for C45+N.

Nominal torque for coupling material 42CrMo4+QT is 1.69 x torque for C45+N.

Coupling selection to be done according to procedure in the GEARex catalogue.

Maximum permissible misalignment per hub: 0,5°.

Type Approval documentation

Tests carried out

Test report – No. 90308002 Original Sample Inspection BoWex ST10/BoWex ST25.

Marking of product

The product to be marked with manufacturer's name or trademark and type number identification.

Periodical assessment

For retention of the Type Approval, a DNV GL surveyor shall perform an assessment after 2 years and after 3.5 years to verify that the conditions of the type approval are complied with. A renewal assessment will be performed at renewal of the certificate.

In cases where the Type Approved product is manufactured at other companies, the Periodical Assessment shall verify that the Type Approval applicant has a quality control system for consistent production at their licensees/subcontractors. Furthermore Periodical Assessment shall be carried out randomly at these companies.

Other conditions

DNV GL product certificate is not required for auxiliary machinery installation with power ratings up to 500 kW and rated torque less than 5 kNm.

Connection to driving and driven part is not included in this approval.

This Type Approval Certificate TAM00000HS is replacing following DNV Certificate:

- DNV Type Approval Certificate No. M-12338

END OF CERTIFICATE