

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Elastic Couplings**

with type designation(s)
REVOLEX KX and KX-D

Issued to

KTR Systems GmbH
Rheine Nordrhein-Westfalen, Germany

is found to comply with

DNV GL rules for classification – High speed and light craft

DNV GL rules for classification – Ships

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 purpose not including reciprocating machinery.

Issued at **Hamburg** on **2017-06-12**

This Certificate is valid until **2022-06-11**.

DNV GL local station: **Essen**

for **DNV GL**

Approval Engineer: **Erich Rüde**

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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

Flexible rubber coupling

Application/Limitation

Production tolerance on torsional stiffness: $\pm 20\%$
Technical data according to Technical Data, page 73 – 79 in Revolex part of KTR catalogue.
Operating factor for auxiliary applications according to KTR catalogue 04/2017, page 15.
Coupling hub material to be either nodular cast iron or steel.

Type Approval documentation Tests carried out

Versuch Nr. 90506036 – Revolex KX 120
Versuch Nr. 90506010 – Revolex KX 170
Versuch Nr. 90506084 – Revolex KX 240

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.

The type approval does not cover connection to external shaft.

This Type Approval Certificate TAM00000HR is replacing following DNV Certificate:

- DNV Type Approval Certificate No. M-12337

END OF CERTIFICATE