



TYPE APPROVAL CERTIFICATE

Certificate No:
TAM00000J1
Revision No:
1

This is to certify:

That the Bending Compliant Couplings

with type designation(s)
BoWex type M/I, AS, Spec.-I, SG, SSR, SD, M...C, FLE-PA, FLE-PAC.

Issued to
KTR Systems GmbH
Rheine, Germany

is found to comply with
DNV rules for classification – Ships
DNV rules for classification – High speed and light craft

Application :

Products approved by this certificate are accepted for installation on all vessels classed by DNV.

Issued at **Høvik** on **2023-04-12**

for **DNV**

This Certificate is valid until **2028-04-11**.

DNV local unit: **Essen**

Approval Engineer: **Wolfgang Schütz**

Oddvar Deinboll
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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



Product description

Curved-tooth gear coupling.

Application/Limitation

The approval is valid for auxiliary duty with ratings and applications according to KTR catalogue “Drive Technology” 2023/24 chapter “BoWex - Curved-tooth gear couplings” (pages 90 to 107) and chapter “BoWex FLE-PA / FLE-PAC” (pages 224 to 235).

Coupling selection based on operating factors. For loading generated by rated torque operating factor for the ambient temperature to be considered.

$T_{KN} \geq T_N \cdot S_B \cdot S_t$ (T_N = rated torque of machine, S_B = operating factor, S_t = temperature factor)

Rated T_{KN} : Rated torque of coupling. Torque that can be continuously transmitted over the entire permissible speed range.

Operating factors for auxiliary applications acc. to KTR catalogue “Drive Technology” 2023/24, page 15.

Type	Approved sizes
M/I	14, 19, 24, 28, 32, 38, 42, 45/48, 65, 80, 100, 125
M...C	14, 19, 24, 28, 32, 38, 48, 65, 80
AS	24, 28, 32, 45, 65, 80, 100, 125
Spec.-I	24, 28, 32, 45, 65, 80, 100, 125
SG	24, 28, 32, 45, 65, 80, 100, 125
SSR	24, 28, 32, 45, 65, 80, 100, 125
SD	24, 28, 32, 45, 65, 80, 100, 125
FLE-PA	48, T 48, T 55, 65 / T65, T 70, 80 / T 80, 100 / T 100, 125 / T 125
FLE-Pac	48, T 48, T 55, 65, T 65, 80, T 80, 100, T 100, 125, T 125

Type Approval documentation

Tests carried out

KTR catalogue “Drive Technology” 2034/24

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 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 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.

END OF CERTIFICATE