



Certificate No:
TAM000019G

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Clutch and Friction Brake Coupling for Shaft

with type designation(s)

Multi- disc clutch HS and HL, LHS 900-2, LHS 1450-2, LHL 2500-2

Issued to

KWD Kupplungswerk Dresden GmbH
Dresden, Germany

is found to comply with

DNV rules for classification – Ships Pt.4 Ch.4 Rotating machinery – power transmission

Application :

The Clutches are intended exclusively for use in MHWirth drawworks gear boxes and not for common purposes

Issued at **Høvik** on **2022-10-26**

This Certificate is valid until **2027-10-25**.

for **DNV**

DNV local station: **Hamburg – CMC North/East**

Approval Engineer: **Tore Gunnar Rønning**

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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.



Form code: TA 251

Revision: 2021-03

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Product description

Hydraulic Operated Clutches.

Type: LHS 900-2, LHS 1450-2, LHL 2500-2

Application/Limitation

Type	Rated nominal torque (T_{Nom})	Maximum	Corresponding oil pressure
	Nm	RPM	BAR
LHS 900-3	13500	2500	30
LHS 1450-3	20100	2000	30
LHL 2500-3	33700	750	30

- Clutches must not be engaged with RPM difference between the clutch sides
- Safety factors shall be chosen suitable the actual application
- The connection to driving and driven side is not included in this approval and must be approved in each separate case if not covered by another Type Approval

Type Approval documentation

9602 5904 Lamellenkupplung LHS 900-2
9602 6102 Lamellenkupplung LHS 1450-2
9605 6401 Lamellenkupplung LHL 2500-2

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, both referring to the issue date of the Type approval certificate 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.

Comments:

- In applications requiring product certificate (PC) issued by the society DNV rules Ships Part 4, Chapter 4, Section 3, [3 Inspection and testing] and [4 Workshop testing] to be followed