



Lloyd's
Register

Type Approval Certificate

This is to certify that the undernoted product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the Lloyd's Register Type Approval System.

This certificate supersedes certificate number 13/20054 issued on 31.10.2013 which is hereby cancelled.

This certificate is issued to:

PRODUCER	EagleBurgmann Espey GmbH Thomas-Edison-Str. 19 47445 Moers Germany
DESCRIPTION	Bulkhead shaft seal, consisting of a radially split housing made of stainless steel with segmented sealing elements of carbon-PTFE with circumferential spring. The gastight version is arranged with barrier air supply between the sealing elements. Gland temperature sensor is available for low flashpoint gases.
TYPE	ESPEY WDK-BHS (watertight) WDKS-BHS (gastight)
APPLICATION	Shaft seal for rotating shafts penetrating bulkheads in watertight or gastight versions on board of ships classed or intended for classification with Lloyd's Register.
STANDARDS	Lloyd's Register Rules and Regulations for the Classification of Ships, 2017

Certificate No.	13 / 20054 (E1)
Issue Date	18 October 2017
Expiry Date	27 September 2022
Sheet	1 of 2



for Torsten Schröder
Hamburg Technical Support Office
Lloyd's Register EMEA

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RATINGS

Shaft diameter range: 40 – 800 mm
Operating pressure: 3 bar eff.
Shaft sliding velocity: 40 m/s
Radial play shaft: max. 5 mm
Shaft angular misalignment: max. 2°

Verified water leakage rates for watertight version:
Shaft diameter up to 100 mm: max. 0,195 L / min. as tested,
Shaft diameter up to 320 mm: max. 0,885 L / min. as tested,
Shaft diameter up to 800 mm: max. 2,385 L / min. calculated value

Gastight version:
Zero gas leakage rates requires maintained barrier air flow and pressure control

OTHER CONDITIONS

The manufacturer's operating and maintenance instructions are to be sought. For gastight seals the barrier air pressure is to be maintained above the gas pressures. Barrier air supply pressure and flow are to be monitored. For fluids with a flashpoint not exceeding 60°C the shaft gland temperature high alarm is to be provided.

The Type Approval does not eliminate the need for normal inspection and survey procedures required by the Rules and Regulations.

If the specified standards are amended during the validity of this certificate, the product is to be re-approved prior to it being supplied to vessels to which the amended standards apply.

The Design Appraisal Document No. HDS/ENS29972-13, Issue No. 1 and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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