

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Gastight Seal for Shaft

with type designation(s)
28K, 28L, 42K, 42L, 70L

Issued to

DESMI Pumping Technology A/S
NØRRESUNDBY, Denmark

is found to comply with
DNV GL rules for classification – Ships

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

This Certificate is valid until **2021-12-20**.

Issued at **Høvik** on **2016-12-21**

DNV GL local station: **Aalborg**

Approval Engineer: **Ole Henrik Kverndal Pedersen**



for **DNV GL**

Digitally Signed By: Osberg, Torill
Grimstad

Location: DNV GL Høvik, Norway

Signing Date: 2016-12-21

Torill Grimstad Osberg
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

The DESMI bulkhead unit is designed to be used for connecting the motor and pump when the pump and motor are installed in two independent rooms. In some environments, the running of the motor might cause potential danger, e.g. explosion in EX zones. Using the bulkhead unit, the pump and motor can be placed separately thus eliminating the need for an explosion proof electric motor or combustion engine.

Application/Limitation

DESMI bulkhead units can be used as gastight seals for drive shafts between pump room and engine room, or other rooms where the space is classified as gas hazardous.

The lubrication/cooling piping system for the gastight seals is not covered by this type approval and shall be approved case-by-case for each installation according to *DNV GL Rules for classification: Ships (RU-SHIPS) Pt.4 Ch.6*.

The gastight seals shall be equipped with temperature measuring devices at bearings and in the sealing fluid.

The type approval does not cover design evaluation of maximum torque that can be transferred through the shaft(s).

Type Approval documentation

Document	Drawing number
Gastight bulkhead connection	404642e
Gastight bulkhead connection	405199a
Gastight bulkhead connection	404273b
Gastight bulkhead connection	405970
Operation and maintenance instructions	
Part lists for bulkhead penetration	

Tests carried out

The gastight seal is pressure tested with a hydraulic pressure of 5 bar.

Marking of product

For traceability to this type approval the products are to be marked with:

- Manufacturer's name or trade mark
- Type designation

Periodical assessment

For retention of the Type Approval, a DNV GL Surveyor shall perform a periodical assessment after two years, after three and a half year and before the expiry date of this certificate to verify that the conditions for the type approval are complied with.

The main elements of the certificate retention survey are:

- Review of Type Approval documentation
- Review of possible changes in design, materials and performance
- Ensure traceability between manufacturer's product type marking and Type Approval Certificate.