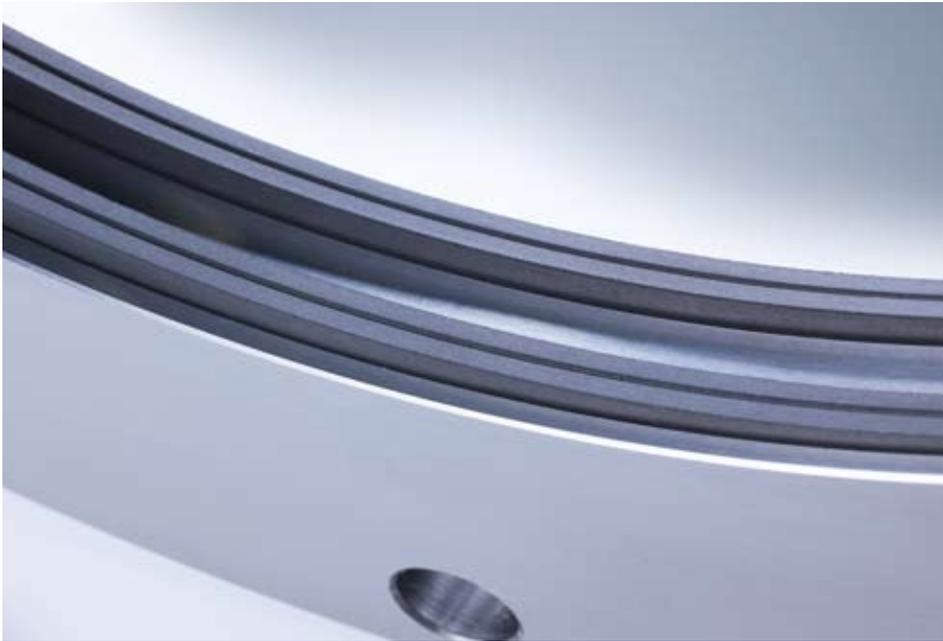


**Bulkhead Seal
Espey™ WDK-BHS**

Bulkhead Seal Espey™ WDK-BHS



Tens of thousands ships around the world have to provide highest requirements. In particular, the drive system is required to be highly reliable in order to ensure that the ship offers year-round service without ever being laid up for repairs – and calls for a minimum of maintenance at the same time.

In ships with drive shafts that run through one or more bulkheads, bulkhead seals Espey™ WDK-BHS reduce the possibility of water from quick rushing into adjacent sections of the ship to a minimum – and therefore provide a long as possible time in an event of emergency to rescue crew and passengers.

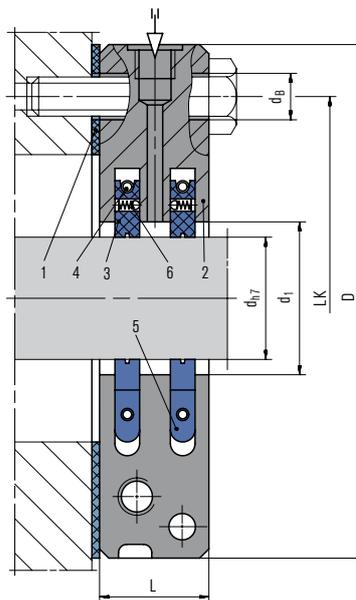
With 36 mm width the seal has a very short design. Thanks to its split housing and segmented seal rings it is easy to install without having to disassemble the shaft and furthermore compensates for inaccuracies in its surrounding environment with a radial play of ± 5 mm.

A multitude of international ship operators and fitters trust in seals type Espey™ WDK-BHS. The reliability of these seals is also reflected in numerous approvals that have been awarded by shipping and naval organizations such as Germanischer Lloyd and Lloyd's Register, ABS (American Bureau of Shipping), Bureau Veritas, Det Norske Veritas and Russian Maritime Register of Shipping.

The seal rings are floating arranged in the housing. The design principle therefore means that the seal has a minimum operation gap only. The seal is designed for dry-running and therefore needs no lubrication. It seals on both sides of the shaft, means a protection against water impact from each side. Another advantage is that no sealing components which could generate additional shaft vibrations are actually fitted on the shaft. The housing provides a connection which can be used for adjusting the seal to a diversity of optional tasks if required (e.g. for creating an air buffer).



Bulkhead Seal Espey™ WDK-BHS



Features

- Multi-part seal rings, radially cut
- Split housing design
- Short axial installation length (max. 36 mm)
- Very small operation gap
- Dry-running
- Self-adjusting seal rings
- Compensation of radial and axial shaft deflections
- Seals on both sides of the shaft
- Resistant to sea water
- No sealing components mounted on the shaft and hence no additional shaft vibrations
- Seal rings running contact-free – sliding faces and machine consume no additional power

Advantages

- Easy installation by split housing design (shaft removal not required)
- High reliability
- Maintainability
- Segmented seal rings for easy replacement
- Maintenance-free

Operating range (see note on page 1)

Shaft diameter: $d = 40 \dots 800 \text{ mm}$ (1.57" ... 31.5")
 Operating pressure: $p = \text{vacuum} \dots 3 \text{ bar}$ (43 PSI) abs.
 Operating temperature: $t = \text{max. } 225 \text{ }^\circ\text{C}$ (437 °F)
 Sliding velocity: $v_g = \text{max. } 40 \text{ m/s}$ (131 ft/s)
 Radial play: $\pm 5.0 \text{ mm}$ ($\pm 0.2^\circ$) (depending on shaft diameter)
 Axial movement: theoretically unlimited
 Angular deviation: $\pm 2^\circ$ (central installation, depending on shaft diameter)

Item Description

- 1 Flat seal
- 2 Housing, 2-piece
- 3 Seal ring
- 4 Tension spring
- 5 Detent
- 6 Spring

Materials

Seal ring: PTFE compound
 Housing: 1.4021, AlMg
 Tension spring / detent: 1.4571
 Plug: 1.4571 / copper

Standards and approvals

- ISO 9001, Germanischer Lloyd, ABS - American Bureau of Shipping, Bureau Veritas, Lloyd's Register EMEA, Det Norske Veritas, Russian Maritime Register of Shipping

Recommended applications

- Sea water, water
- Shipbuilding
- Drive shafts in ships, bulkheads

Bulkhead Seal Espey™ WDK-BHS

Dimensions in mm

d_{h7}	d_1	D	L	LK	n x a	d_s
40	45	160	30	130	4 x 90°	15
45	50	165	30	135	4 x 90°	15
50	58	170	30	140	4 x 90°	15
60	68	180	30	150	4 x 90°	15
70	78	190	30	160	4 x 90°	15
80	90	200	30	170	4 x 90°	15
90	100	210	30	180	4 x 90°	15
100	110	220	30	190	4 x 90°	15
110	120	230	30	200	4 x 90°	15
120	130	240	30	210	4 x 90°	15
130	140	250	30	220	4 x 90°	15
140	150	260	30	230	4 x 90°	15
150	160	270	30	240	4 x 90°	15
160	170	280	30	250	4 x 90°	15
170	180	290	30	260	6 x 60°	15
180	190	300	30	270	6 x 60°	15
190	200	310	30	280	6 x 60°	15
200	210	320	30	290	6 x 60°	15
220	230	340	30	310	6 x 60°	15
240	250	360	30	330	6 x 60°	15
260	270	380	30	350	6 x 60°	15
280	290	400	30	370	6 x 60°	15
300	310	420	30	390	6 x 60°	15
320	330	440	30	410	6 x 60°	15
340	350	460	30	430	6 x 60°	15
350	360	470	30	440	8 x 45°	15
400	410	520	30	490	8 x 45°	15
450	460	570	30	540	8 x 45°	15
500	510	620	30	590	8 x 45°	15
550	560	670	30	640	8 x 45°	15
600	610	720	30	690	8 x 45°	15
650	660	770	36	740	12 x 45°	15
700	710	820	36	790	12 x 45°	19
750	760	870	36	840	12 x 45°	19
800	810	920	36	890	12 x 45°	19

Special sizes on request.

Split housing design

Short installation length

Easy installation

Compensation of shaft deflections

Dry-running

Robust

Seals on both sides

Maintenance-free



The Company



Individual Sealing Systems

Espey Burgmann is one of the leading approved manufacturers of technically reliable and fully-developed carbon floating ring seals.

Espey Burgmann operates worldwide within the EagleBurgmann Group, a pioneering supplier for sealing systems.

The product portfolio of Espey Burgmann covers carbon floating ring seals for gases, dusts, vapours and water. The convincing attributes of Espey seals include economy and a high level of safety.

Besides sealing concepts Espey Burgmann offers full service from engineering through to after sales service with assembly, commissioning, on-site repairs, failure and damage analysis or maintenance, conversion and spare parts provision at the right time – all from a single source.

With qualified employees, a distinctive and established product program Espey Burgmann is your capable and reliable partner using state-of-the-art manufacturing technology.

Espey Burgmann GmbH

The company was founded 1888 in Berlin as Gustav Espey GmbH (factory for stuffing boxes) and moved 1927 to Duisburg Ruhr.

Since 1998 Espey Burgmann belongs to the EagleBurgmann Group and moved in 2005 to its new site in Moers with its ideal regional infrastructure and closeness to customers and suppliers.

Together with the EagleBurgmann Group Espey Burgmann belongs to the Freudenberg Group, a worldwide operating family-run concern with location in Weinheim.

Carbon floating ring seals of Espey Burgmann are used in following industries:

- Shipbuilding
- Oil and gas industry
- Refining technology
- Chemical and petrochemical industry
- Power plant technology
- Water and waste water technology
- Mining industry
- Food processing industry
- Metal production and processing
- Machinery and plant building
- Waste incineration and removal industry
- Lime, cement and gypsum industry

Key applications are:

- Bulkheads
- Fans and blowers
- Compressors
- Centrifuges
- Turbines
- Mixers, agitators, dryers
- Mills
- Shut-off valves
- Gears

Espeys' strengths lie in technical competence, production flexibility and readiness to deliver high quality. Espey Burgmann is famous for its well-founded know-how in design and production, whether in the processing of carbon graphite, cast and special materials or the production of split housings.



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EagleBurgmann is one of the leading international companies for industrial sealing technology. Our products are used everywhere when safety and reliability are important: In the oil and gas industries, petroleum refining, chemicals, pharmaceutical, energy, food, paper, water, marine applications, aerospace and mining. Every day, more than 5200 employees contribute their ideas, solutions and commitment to ensuring that customers all over the world can rely on our seals. Our modular seal service, TotalSealCare™, underlines our commitment to customer orientation and our provision of tailor-made services for every application.

Espey Burgmann GmbH

Thomas-Edison-Straße 19
D-47445 Moers
Tel. +49 (0)2841 99 82 70
Fax +49 (0)2841 99 82 75 6
info@espey-burgmann.de
www.espey-burgmann.com

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Rely on excellence