



ESPEY BURGMANN

Dichtungssysteme



Shaft seals 2.2

ESPEY in your vicinity

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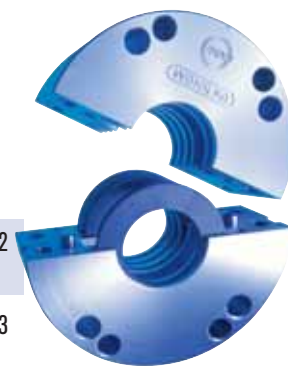
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Series	Operating pressure per seal	Two-part housing	Chamber housing	Seal rings sp	mp	Connections			Page
						S	A	F	
WKA 3									3
	$p_e \leq 0,075$ bar		•	•					
WD 200									4, 5
WDS	$p_e \leq 20$ bar	•		•	•				
WDA	$p_e \leq 20$ bar	•		•		•			
WDSA	$p_e \leq 20$ bar	•		•	•	•	•		
WDK	$p_e \leq 20$ bar	•		•					
WDKF	$p_e \leq 20$ bar	•		•				•	
WDKS	$p_e \leq 20$ bar	•		•	•				
WDKSF	$p_e \leq 20$ bar	•		•	•			•	
WD 500									6, 7
WDS	$p_e \leq 3$ bar	•		•	•				
WDA	$p_e \leq 3$ bar	•		•		•			
WDK	$p_e \leq 3$ bar	•		•					
WKA 300									8, 9
	$p_e \leq 0,5$ bar		•	•	*•	*•	*•		
WKA 250 ND									10
	$p_e \leq 15$ bar		•	•	*•	*•			
WKA 400 HD									11
	$p_e \leq 75$ bar		•	•	*•	*•			
WKA 802 HD									12
	$p_e \leq 140$ bar		•	•	*•	*•			
WKA1100 HP									13
	$p_e \leq 250$ bar		•	•	*•	*•			

Legend: sp= single part mt= multi-part S= Gas barrier F= Grease barrier, max. operating pressure $p_e \leq 0,5$ bar A= Suction * =possible depending on design

General technical information

The Espey Burgmann shaft seals range has established a strong position as a technically reliable and fully-developed sealing system. Its convincing attributes include economy and the high level of safety which it offers. You will find our products in almost all industrial sectors such as chemistry, power station and disposal systems, petrochemicals, the pharmaceuticals industry, foodstuffs and marine engineering.

Shaft seal

The Espey Burgmann shaft seal is a labyrinth seal for sealing gases, dusts and vapours. The sealing rings are movably fitted in the housing and provide radial sealing with the shaft. This design principle means that the seal is run with only a very slight operating gap. It requires no additional lubrication and is designed for dry running. Another advantage is that no sealing components which would generate additional shaft vibrations are mounted on the shaft. The number of sealing rings and the housing design are determined by the operating parameters. Compared with other sealing systems, it can be fitted extremely quickly.

Sealing ring

The sealing rings are available in divided and undivided versions. The divided versions is intended for an operating pressure of 20 bar / 290 psi. The advantage of multi-part rings is in the fact that they can be optimally fitted. Undivided sealing rings are used in the high-pressure range $p_e \geq 20 \text{ bar} / \geq 290 \text{ psi}$. Here, the sealing ring is in one part and consists of two components: a carbon ring and a bandage in which the carbon ring is shrunk. This design principle gives it its dimensional stability.

Housing / chambers

There are two technical possibilities for holding the sealing rings: the horizontally divided housing or the chamber version. Horizontally divided housings are easy to fit. It is therefore not necessary to disassemble the machine to replace the sealing rings. Chamber version housings for low pressure application are an economical alternative to the horizontally divided housing. This is a modular system, in which the individual sealing parts such as the chamber, intermediate chamber, grease chamber and sealing gas chamber are assembled according to the operating conditions.

Barrier gas

Shaft seals to which barrier gas is applied seal against products such as toxic and inflammable gases or gases loaded with solids. Here, the sealing gas pressure must always be above of the medium. In the high-temperature range, the sealing gas simultaneously cools the shaft seal. The operating temperature of the sealed medium is maximum 700°C / 1,292°F.

Suction

The suction port is for simultaneously dissipating the leak, e.g. in the low-pressure part of the machine (suction side). The escape of the medium into the atmosphere is reduced or prevented.

Grease barrier

To increase the tightness, grease barrier can be activated for various seals in the low-pressure version. The grease barrier can reduce the gas throughput by up to 85 %. However, use of the grease barrier is recommended only at low operating pressures ($p_e \leq 0.5 \text{ bar} / 7.25 \text{ psi}$) and an operating temperature of maximum 300°C / 572°F, otherwise the grease is extruded.

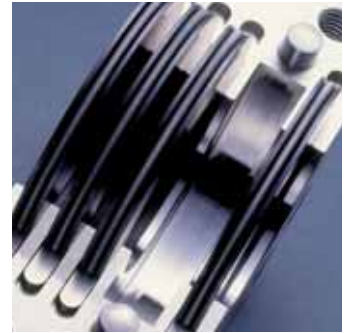
General

Depending on the application, it is possible to combine a barrier gas connection, suction removal and a grease barrier. The shaft design must be adapted to the respective seal type (e.g. surface hardness and surface roughness). A suitable shaft sleeve is also supplied if required.

Warranty

All technical data are based on many years of experience and tests. Nevertheless, because of the variety of applications it can only be a guideline. To ensure for a single case it is necessary for us to know from the beginning the exact parameters of use and to have a separate agreement. For very critical operation circumstances, e.g. mixed products, we recommend the consultation with our engineers. In principle it has to be considered that the given operation limits have mutual influence and not all the maximum values can be used the same time.

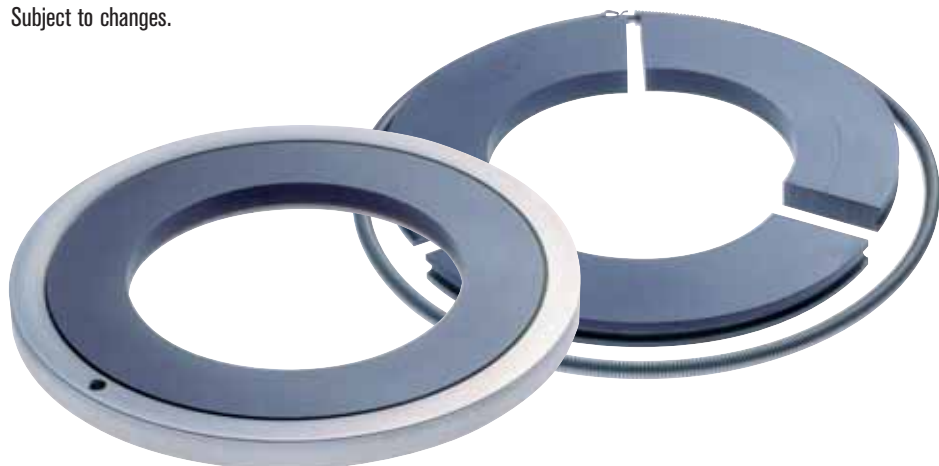
Subject to changes.



Shaft seal with grease chamber

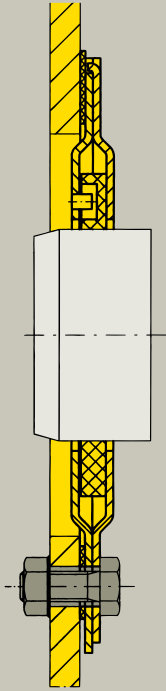


Shaft seal with barrier gas, chamber version



Series WKA 3

Medium side



Shaft seal WKA 3

- Cartridge seal
- Chamber version housing
- Axially short
- Single part seal ring (first delivery)
- Gap seal, radially flexible
- Standardised dimensions

Series WKA 3 shaft seals are preassembled units for the use for example in small and medium fresh air blowers. This shaft seal is characterised by its easy way of handling and maintenance. Calculated as a mass-produced article it has a very good price level.

The WKA 3 is a functional alternative to lip seals or packings. In contrast to those it works nearly without contact to the shaft. Because of that the wear is minimal. The diameters are stepped in accordance to typical motor shaft sizes.



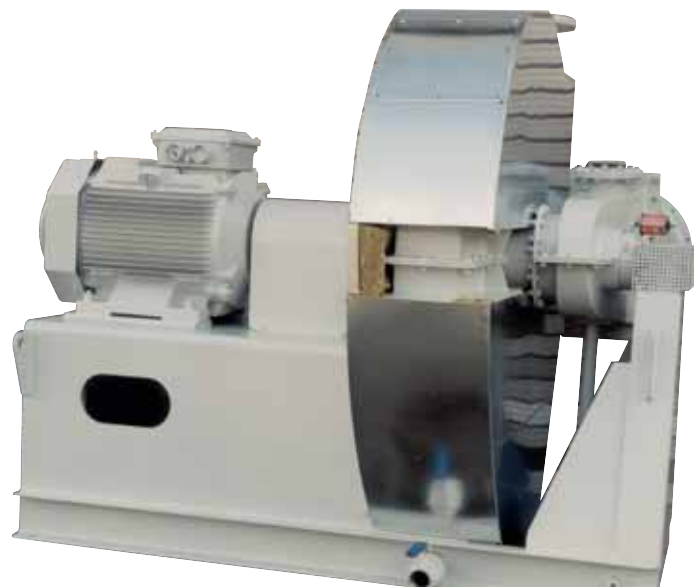
Operation limits

operating pressure per seal	7500 Pa / 1.087 psi
operation temperature	max. 200°C / 392°F
sliding velocity	max. 40 m/s / 131 ft/s
shaft diameter	28 ... 80 mm / 1.1 ... 3.1 inch
radial clearance	max. 2 mm / 0.07 inch

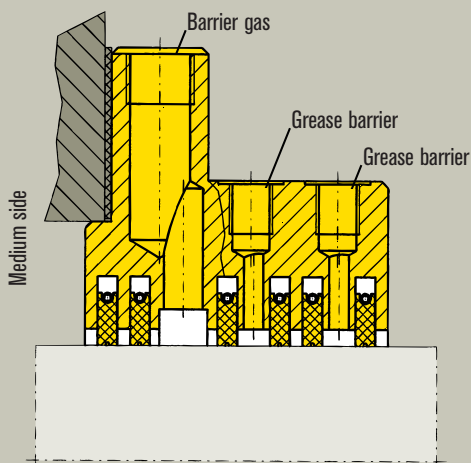
Material

seal ring	PTFE compound E49
housing parts	Stainless sheet metal 1.4301
gather springs	SST 1.4571 (only for spare seal rings)

Ventilator Reitz,
Höxter



Series WD 200



Shaft seal WD 200, type WDS

- Cartridge seal
- Two-part housing
- Axially short
- Multi-part seal ring, radially cut
- Gap seal
- Standardised dimensions

Series WD 200 shaft seals are completely preassembled units for installing in e.g. fans, blowers, steam turbines and exhaust-vapour machines. They can be easily installed, thanks to the split design of the seal rings and of the housing. It is not necessary to disassemble the machine to replace the seal rings. The shaft seal is characterised by a very high level of operational safety and easy maintenance. The standardised seal rings can be adapted to the customer's specific installation situations thanks to the special housing.



Shaft seal WD 200, type WDA



Detent

Multi-part seal ring, radially cut

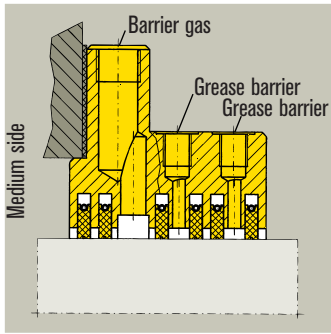
Operating limits

operating pressure(p_e) seal with grease barrier	-0.9 ... 20 bar / -13.0 ... 290 psi max. 0.5 bar / 7.2 psi (max. 300°C / 572°F)
operating temperature	-120 ... 800°C / -184 ... 1,472°F max. 225°C / 437°F PTFE-compound
sliding velocity	max. 150 m/s (492 ft/s) carbon graphite max. 40 m/s (131 ft/s) PTFE-compound
shaft diameter	40 ... 340 mm / 1.77 ... 13.4 inch
radial clearance (shaft / housing)	1 ... 5 mm / 0.039 ... 0.196 inch
recommended wear guard (coated shaft or sleeve)	> 300HB (low pressure) > 58 HRC (high pressure)

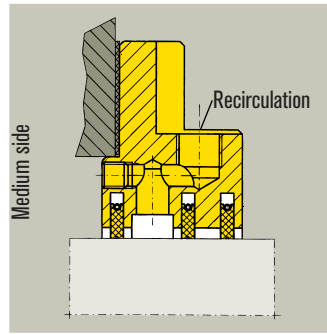
Material

seal ring	carbon graphite E10K, E10C, E12K PTFE-compound E49, E22, E29
gather spring / detent	stainless steel 1.4571 Hastelloy®, Titanium, Inconel®
housing	stainless steel 1.4021, 1.4571 black steel zinc plated, cast iron, Aluminium Hastelloy®, Titanium, Inconel®

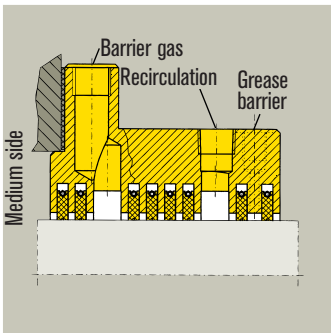
Design variants for series WD 200



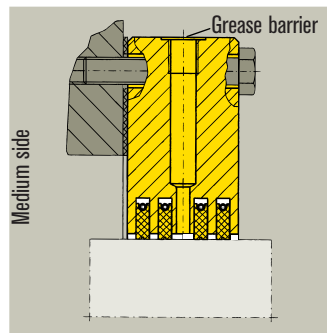
WDS
 Shaft seal with barrier gas and grease barrier connection. The sealing gas pressure must be more than the operating pressure of the medium. Can be used for various media i. e. toxic media and media loaded with solids, and also in explosion protection areas.



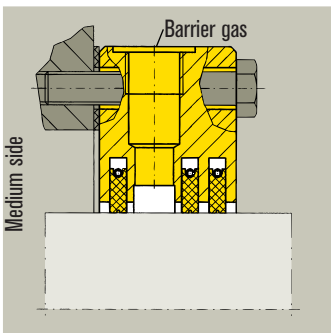
WDA
 Shaft seal with recirculation and grease barrier connection. Can only be used with pure media (no gases loaded with solids).



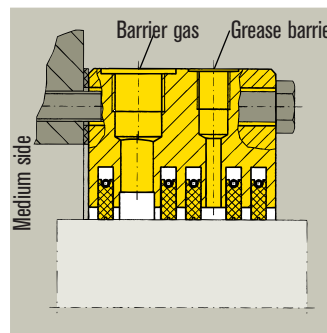
WDSA
 Shaft seal with barrier gas and grease barrier connection and also Recirculation removal



WDK / WDKF
 Short shaft seal with grease barrier connection, WDKF design with reduced housing outside diameter. Can only be used with pure media (no gases loaded with solids).



WDKS
 Short shaft seal with barrier gas connection and reduced housing outside diameter

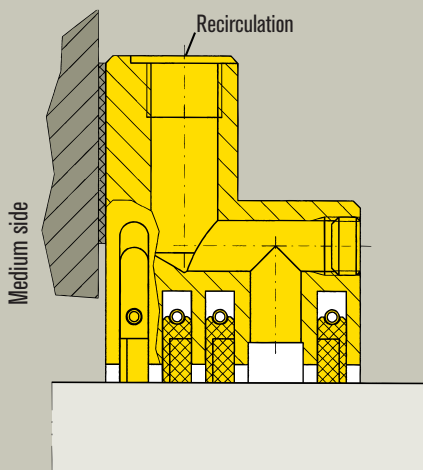


WDKSF
 Short shaft seal with reduced housing outside diameter. Also includes barrier gas and grease barrier connection



Ventilator Piller, Moringen

Series WD 500



Shaft seal WD 500, type WDA

- Cartridge seal
- Two-part housing
- Axially short
- Multi-part sealing ring, with gas-tight joints having overlapping mortise
- Self adjustable sealing rings
- Standardised dimensions

Series WD 500 shaft seals are completely preassembled units for sealing rotating shafts, e.g. blowers, agitators, centrifuges and dryers. The sealing ring slides on the shaft, is adjustable and has gas-tight joints having overlapping mortise. This reduces the radial gap to the shaft and the leakage rate. The shaft seals can be easily fitted thanks to the split design of the sealing rings and of the housing. It is not necessary to disassemble the machine to replace the sealing rings. The standardised sealing rings can be adapted to the customer's specific installation situation thanks to the special housing.



Multi-part sealing ring, with gas-tight joints having overlapping mortise

Operation limits

operating pressure(p_e)	-0.8 ... 3 bar / -11.6 ... 43.5 psi (depending on sliding velocity)
operating temperature	-120 ... 500°C / -184 ... 932°F -120 ... 150°C / -184 ... 302°F PTFE-compound
sliding velocity	max. 40 m/s (131.2 ft/s)
shaft diameter	45 ... 340 mm / 1.77 ... 13.38 inch
radial clearance (shaft/housing)	2.5 ... 5 mm / 0.098 ... 0.196 inch
recommended wear guard (coated shaft or sleeve)	> 58 HRC

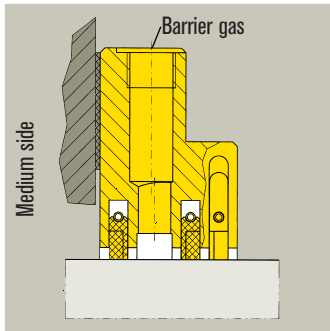
Material

seal ring	carbon graphite E10K, E10C, E12K PTFE-compound E22, E29
gather spring/detend	stainless steel 1.4571 Hastelloy®, Titanium, Inconel®
housing	stainless steel 1.4021, 1.4571 black steel zinc plated, cast iron, Hastelloy®, Titanium, Inconel®



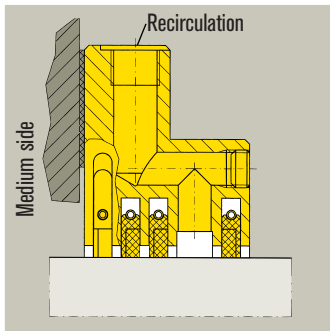
Shaft seal WD 500, type WDS

Design variants for series WD 500



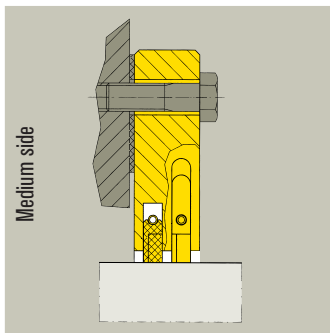
WDS

Shaft seal with barrier gas connection. The barrier gas pressure must be higher than the operating pressure of the medium. Can be used with e.g. toxic gases and media loaded with solids and also in explosion protection areas.



WDA

Shaft seal with recirculation. Can only be used with pure media (no gases loaded with solids).

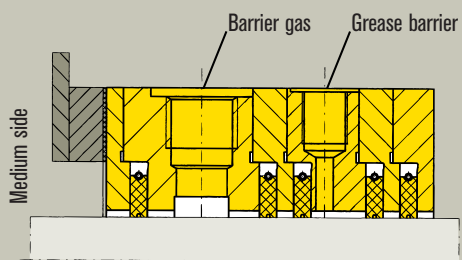


WDK

Short shaft seal. Can only be used with pure media (no gases loaded with solids).



Series WKA 300



Example of system

Shaft seal WKA 300, type 308.2/4

- Cartridge seal
- Chamber version housing
- Axially short
- Multi-part sealing ring, radially cut
- Gap seal
- Standardised dimensions

Series WKA 300 shaft seals are completely preassembled units for installation in e.g. small and medium-sized fans and bearing seals in the low-pressure range to $p_g \leq 0.5$ bar / 7.25 psi. The sealing rings are split and are easy to fit. The shaft seal is characterised by a very high level of operational safety and easy maintenance. The standardised sealing rings combined with the modular system (chamber, intermediate chamber, grease / suction or barrier gas chamber) can be combined according to the customer's specification.



Multi-part sealing ring, radially cut

Operating limits

operating pressure (p_g) seal with grease barrier	-0.2 ... 0.5 bar / -2.9 ... 7.25 psi max. 0.5 bar / 7.25 psi (max. 300°C / 572°F)
operating temperature	-120 ... 500°C / -184 ... 932°F max. 225°C / 437°F PTFE-compound
sliding velocity	max. 150 m/s (492 ft/s) carbon graphite max. 40 m/s (131 ft/s) PTFE-compound
shaft diameter	20 ... 340 mm / 0.78 ... 13.38 inch
radial clearance (shaft/chamber)	2 mm / 0.07 inch
recommended wear guard (coated shaft or sleeve)	> 300HB

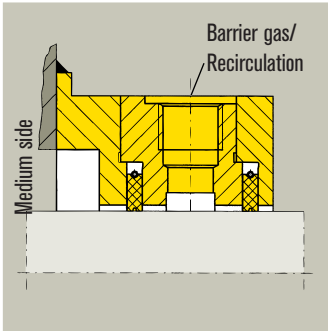
Material

seal ring	carbon graphite E10K, E10C, E12K PTFE-compound E22, E49, E29
gather spring	stainless steel 1.4571 Hastelloy®, Titanium, Inconel®
housing	stainless steel 1.4571 black steel zinc plated, cast iron, Aluminium Hastelloy®, Titanium, Inconel®



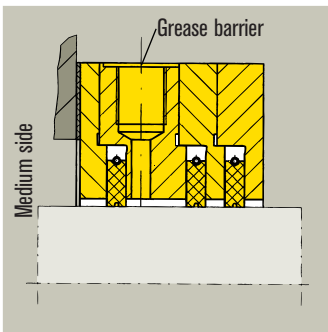
Shaft seal
WKA 300

Design variants for series WKA 300



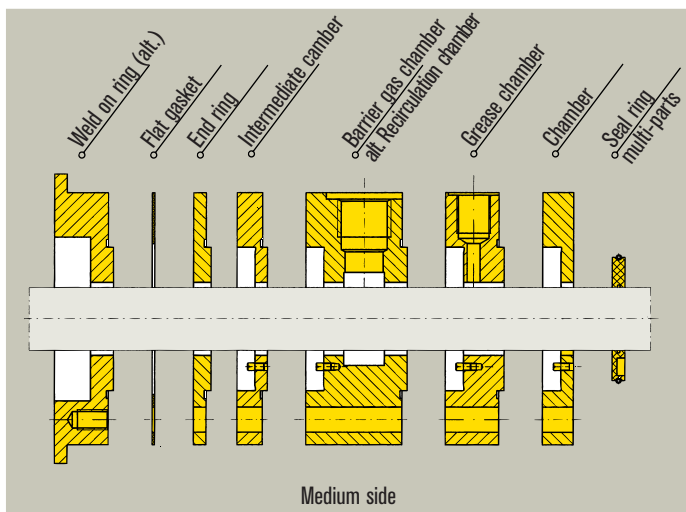
WKA 303.2/4

Shaft seal with two sealing rings, barrier gas or recirculation connection, consisting of 1 chamber, 1 weld-on ring, 1 barrier gas chamber / Repatriation chamber



WKA 305/4

Shaft seal with three sealing rings, grease barrier consisting of 1 chamber, 1 end ring, 1 grease chamber and 1 intermediate chamber

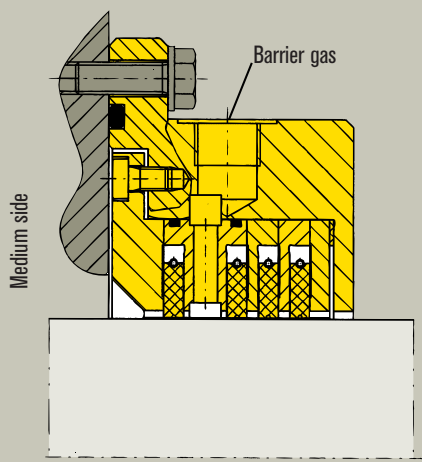


Modular principle of the WKA 300

All individual parts at a glance



Series WKA 250 ND



Shaft seal WKA 250 ND

- Chamber version, if required with support housing and cover
- Axially short
- Multi-part sealing ring, radially cut in LP design
- Gap seal
- Standardised dimensions

Series WKA 250 ND shaft seals with support housing and cover are completely preassembled units for installation into e.g. multi shaft-compressors and turbines (low pressure versions). The sealing rings are split and are easy to fit. The standardised sealing rings combined with the modular system can be assembled in accordance with the customer's requirements.



Multi-part sealing ring, radially cut in ND design

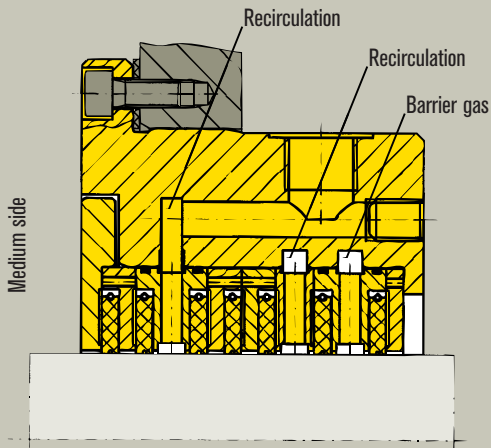
Operating limits

operating pressure (p_o)	-0.5 ... 15 bar / -7.2 ... 217.5 psi
operating temperature	-120 ... 500°C / -184 ... 932°F max. 225°C / 437°F PTFE-compound
sliding velocity	max. 150 m/s (492 ft/s) carbon graphite max. 40 m/s (131 ft/s) PTFE-compound
shaft diameter	20 ... 300 mm / 0.78 ... 11.81 inch
radial clearance (shaft/chamber)	max. 2 mm / 0.07 inch
recommended wear guard (coated shaft or sleeve)	> 58 HRC

Material

seal ring	carbon graphite E10K, E10C, E12K PTFE-compound E22, E49, E29
gather spring	stainless steel 1.4571 Hastelloy, Titanium, Inconel
chamber and housing parts	stainless steel 1.4021, 1.4571 cast iron Hastelloy®, Titanium®, Inconel®
secondary seal / Elastomer	Fluorocautchouc (Viton®), nitrile-butadiene cautchouc (Perbunan®), perfluorocautchouc (Kalrez®)
secondary seal / flat gasket	Statotherm® HT/HD, KSil C 4400®

Series WKA 400 HD

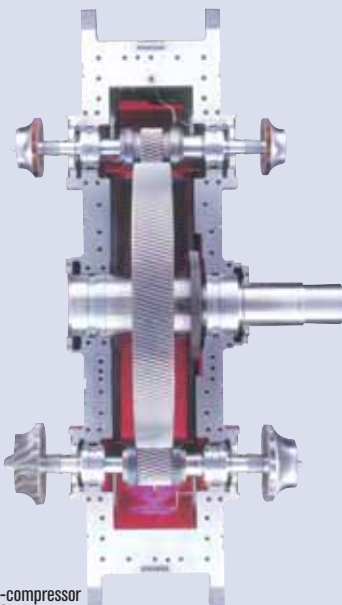


Multi-part sealing ring, radially cut in HP version

Shaft seal WKA 400 HD

- Chamber version, if required with support housing and cover
- Axially short
- Multi-part sealing ring, radially cut in HP version
- Gap sealing
- Standardised dimensions

Series WKA 400 HD shaft seals with support housing and cover are completely preassembled units for use in the high-pressure range. The standardised sealing rings are split and are easy to fit. In conjunction with the modular system, (e.g. chamber, sealing gas chamber, lantern, end ring), they can be combined in accordance with the customer's specification.



Multi shaft-compressor
Siemens PGI, Duisburg

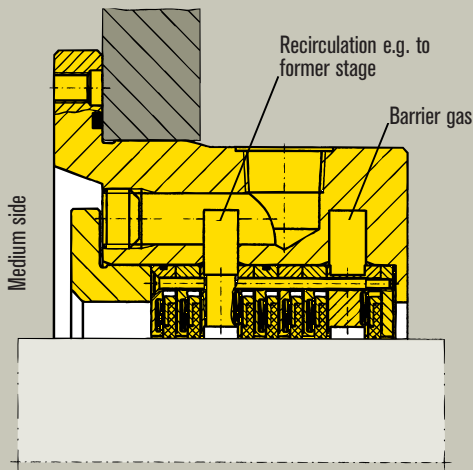
Operating limits

operating pressure/seal (p_e)	-0.8 ... 75 bar / -11.6 ... 1,087.7 psi
operating temperature	-120 ... 500°C / -184 ... 932°F
sliding velocity	max. 150 m/s (492 ft/s)
shaft diameter	20 ... 300 mm / 0.78 ... 11.81 inch
radial clearance (shaft/housing)	1 ... 1.5 mm / 0.039 ... 0.059 inch
recommended wear guard (coated shaft or sleeve)	> 58 HRC

Material

seal ring	carbon graphite E10K, E10C, E12K
gather spring	stainless steel 1.4571 Hastelloy, Titanium, Inconel
chamber and housing parts	stainless steel 1.4021, 1.4571 cast iron, Hastelloy, Titanium, Inconel
Secondary seal / Elastomer	Fluorocautchouc (Viton®), nitrile-butadiene caoutchouc (Perbunan®), perfluorocautchouc (Kalrez®)
Secondary seal / flat gasket	Statotherm® HT/HD, KSiL C 4400®

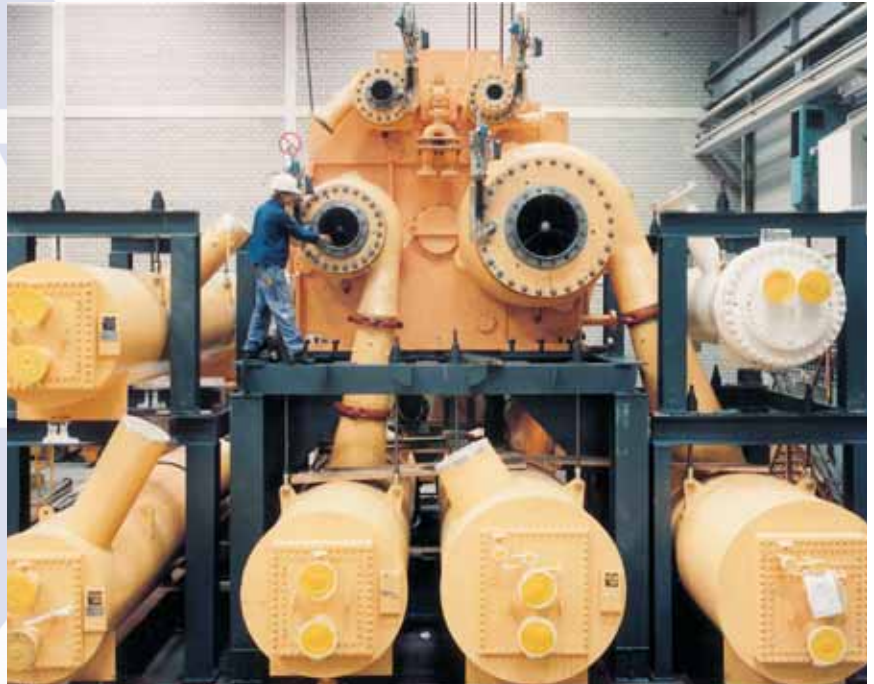
Series WKA 802 HD



Shaft seal WKA 802 HD

- Cartridge seal
- Chamber version, if required with support housing and cover
- Axially short
- Single part sealing ring
- Vibration damping
- Gap seal
- Standardised dimensions

Series WKA 802 HD shaft seals are completely preassembled units which were designed for high-pressure applications ($p_e \leq 140 \text{ bar}/2,030.5 \text{ psi}$) (e.g. for steam turbines, multi shaft-compressors). The sealing ring is designed for high differential pressures. It is one part and consists of two components: a carbon ring and a bandage into which the carbon ring is shrunk. This design principle gives it its dimensional stability. A damping element prevents the sealing ring from swinging up during machine operation without pressure. The housing is a modular system in which the individual sealing parts such as the chamber, the intermediate chamber and the barrier gas chamber are combined one behind the other depending on the operating conditions.



Multi shaft-compressor MAN Turbo, Berlin

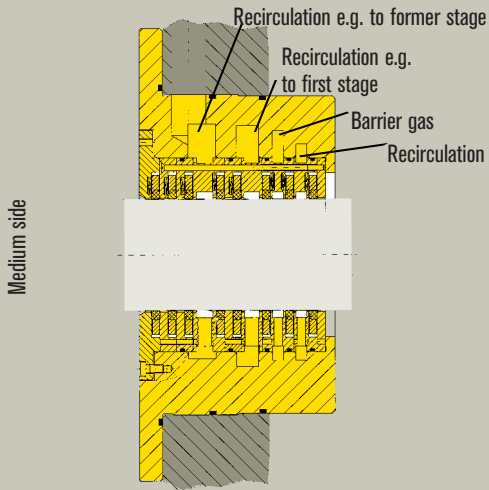
Operating limits

operating pressure/seal (p_e)	-0.9 ... 140 bar / -13.0 ... 2,030.5 psi
operating temperature	-120 ... 225°C / -184 ... 437°F
sliding velocity	max. 150 m/s (492 ft/s)
shaft diameter	20 ... 200 mm / 0.787 ... 7.87 inch
radial clearance (shaft/chamber)	1 mm / 0.039 inch
recommended wear guard (coated shaft or sleeve)	> 58 HRC

Material

seal ring with bandage	seal ring carbon graphite E10C, E10K, E12K bandage e.g. Titanium
chamber and housing parts	stainless steel 1.4021, 1.4571 Hastelloy, Titanium, Inconel
secondary seal / Elastomer	Fluorocautchouc (Viton®), nitrile-butadiene caotchouc (Perbunan®), perfluorocautchouc (Kalrez®)
secondary seal / flat gasket	Statotherm® HT/HD, KSil C 4400®

Series WKA 1 100 HP



Shaft seal WKA 1100 HP (assembly example)

- Cartridge seal
- Chamber version, if required with support housing and cover
- Axially short
- Single-part sealing ring
- Vibration damping
- Gap sealing
- Standardised dimensions

Series WKA 1100 HP shaft seals are completely preassembled units which were designed for extreme high-pressure applications ($p_e \leq 250$ bar / 3,625.9 psi) (e.g. for turbo compressors and compactors). The sealing ring is designed for high differential pressures. It is one part and consists of two components: a carbon ring and a bandage into which the carbon ring is shrunk. In contrast to the WKA 802HD, the permissible operating parameters were increased further by design measures on the sealing rings.



Single part sealing ring with bandage

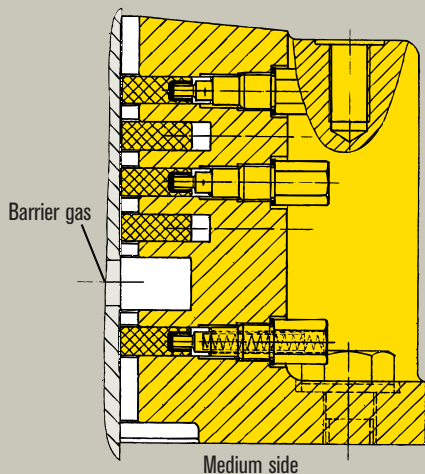
Operating limits

operating pressure/seal (p_e)	-0,9 ... 250 bar / -13.0 ... 3,626 psi
operating temperature	-120 ... 225°C / -184 ... 437°F
sliding velocity	max. 150 m/s (492 ft/s)
shaft diameter	20 ... 200 mm / 0.787 ... 7.87 inch
radial clearance (shaft/chamber)	0,75 ... 1 mm / 0.029 ... 0.039 inch
recommended wear guard (coated shaft or sleeve)	> 70 HRC

Material

seal ring with bandage	seal ring carbon graphite E10C, E10K, E12K bandage e.g. Titanium
chamber and housing parts	stainless steel 1.4021, 1.4571 Hastelloy, Titanium, Inconel
secondary seal / Elastomer	Fluorocautchouc (Viton®), nitrile-butadiene caoutchouc (Perbunan®), perfluorocautchouc (Kalrez®)
secondary seal / flat gasket	Statotherm® HT/HD, KSIL C 4400®

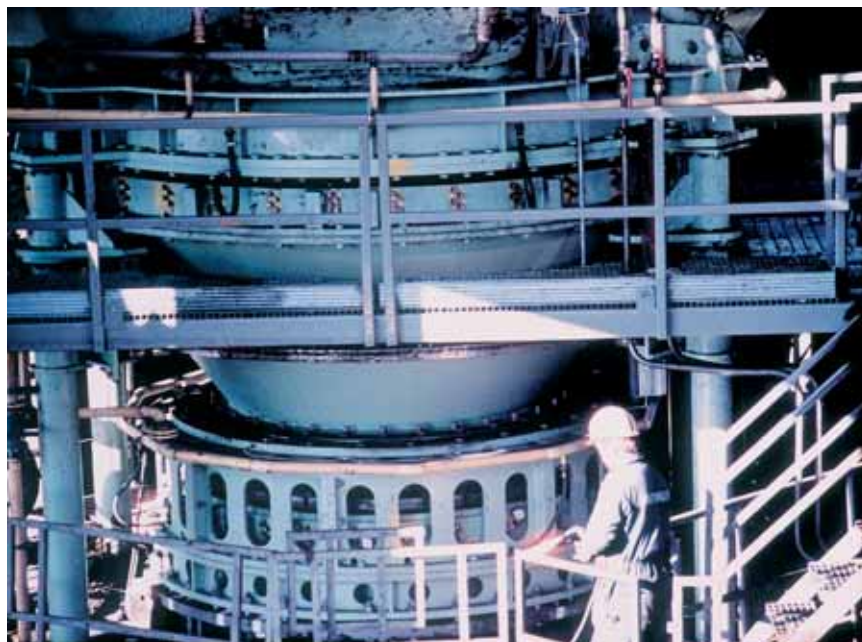
Special designs



Blast furnace shaft seal

- Cartridge seal
- Multi-part housing
- Axially short
- Multi-part seal ring, with overlapping mortice and/or radially cut, special designs

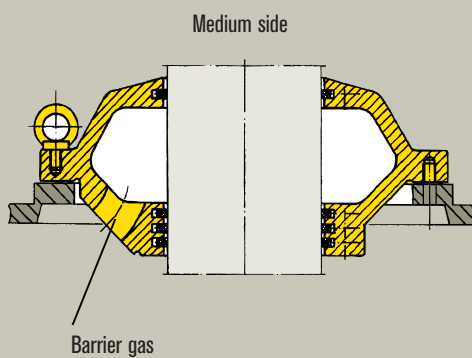
Espy Burgmann shaft seals are produced in special designs conforming to the customer's specifications for large machines such as coal mills, blast furnaces, cement mills and dryers. Depending on the shaft diameter, the seal rings consist of between 3 up to 50 segments. The special assembly openings in the seal housing allow easy replacement of the sealing elements.



Blast furnace shaft seal, project Rautarukki, Finland

Operating limits

operating temperature	... 700°C / ... 1,292°F
sliding velocity	max. 40 m/s (131 ft/s) carbon graphite
shaft diameter	... 4.000 mm / ... 157.48 inch



Coal mill shaft seal



Coal mill shaft seal

Other products



Seal rings for oil scraper units

For oscillating movements in piston machines, Espey Burgmann's range includes its proven spring assemblies and oil scraper rings.

Espey Burgmann spring assemblies are mechanically-acting seals for sealing gaseous media. They seal off the piston rods with respect to the atmosphere, and in the case of multi-stage compressors they also seal off one compressor from the other.

Spring assemblies consist of a system of chambers. Each of these chambers can be fitted with one or more sealing rings. The required number of chambers and sealing rings is determined by the pressure being sealed against. A spring assembly acts like a labyrinth, with the pressure being slowed from chamber to chamber.

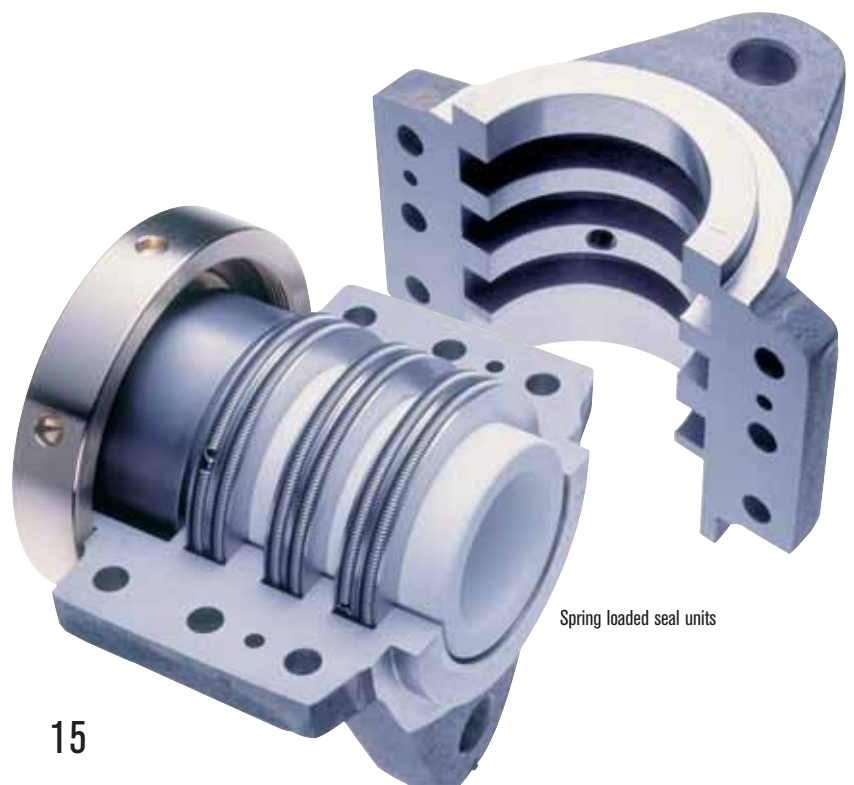
The materials for the respective sealing elements are selected according to the temperature, the media being sealed against and the piston speed.

All spring assemblies have a lubricant infeed to improve the running properties.

A special version of the spring assembly is the ships' diesel oil scraper assemblies for two-stroke motors in which a combination of sealing and scraper rings is provided. They seal off piston rods in single-action two-stroke diesel engines operated with heavy oil. The scraper rings prevent the penetration of combustion residues from the cylinder

into the crank casing and the escape of oil into the atmosphere.

Material	
chamber	Steel, stainless steel, special cast iron Special alloys
sealing rings	Special cast iron, bronze, Carbon graphite, PTFE



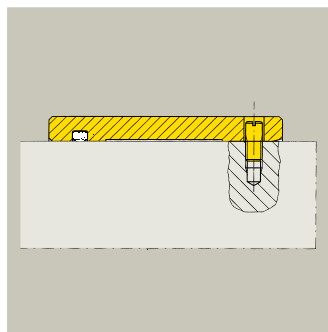
Spring loaded seal units

Shaft sleeves

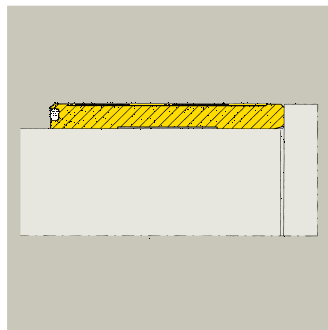
The efficiency and the service life of the Espey Burgmann shaft seals depend crucially on the precise production and the competent material selection of the shaft sleeve and its surface quality. The design must be adapted to the relevant sealing type (e.g. surface hardness and surface roughness).

In particular, the seal series WD 500 with the adjustable sealing rings and shaft seals for high pressure applications place high demands on the concentricity and wear protection of the shaft sleeve.

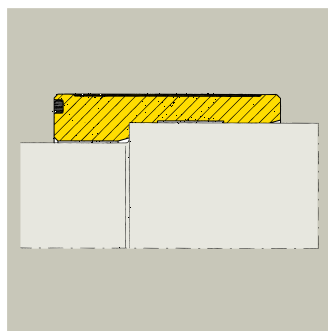
In addition to our standard variants, we manufacture shaft sleeves according to customer specification. They are either of a divided or undivided design, guaranteeing safe and optimum running of the Espey Burgmann shaft seals.



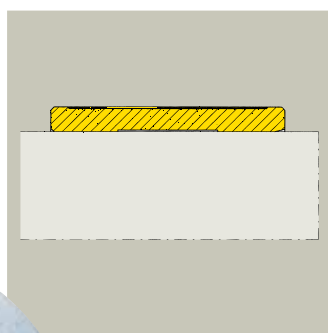
WDB 210
Shaft sleeve with torque transfer through set screw, seal between the shaft and shaft sleeve with O-ring



WDB 211
Shaft sleeve, clamped version between impeller and shaft shoulder, seal with O-ring axial



WDB 212
Shaft sleeve, clamped version between impeller and shaft shoulder, seal with O-ring axial



WDB 216
Shaft sleeve, shrunk fitted version

Two-part shaft sleeve



Shaft sleeve with coating

Accessories

Depending on their use, series, medium, operating method and environmental requirements, shaft seals normally require additional items which guarantee perfect functioning.

On this page you will find the components for operating the shaft seals – components which have proven successful in modern sealing systems.

Grease dispensers

For maintenance-free operation of the grease barrier, we provide several grease types in Espey Burgmann grease dispensers which continuously and automatically supply the required barrier grease to the shaft seals over a period of three months.

Sealing gas heater

It is recommended to use sealing gas heaters for media which tend to form acids if process-temperature is lower than the dew point (e.g. flue gas) and processes which require higher sealing temperatures. Espey Burgmann provides these heaters in different materials for the respective flow rates and temperature ranges.



Shaft seal with grease dispensers

To activate the grease barrier, we recommend the following standard greases which have proven successful in practice:

Barrier grease E 100

The barrier grease E 100 is a lithium-based multi-purpose grease. The high-quality metal soap combined with a proven basic oil allows use across a wide temperature range. The selected additives provide reliable protection against corrosion and oxidation. The barrier grease is water-resistant and has a high work penetration.

Operational temperature -25°C to 130°C (-12°F up to 266°F).

High-temperature barrier grease E 600 N

The high-temperature barrier grease is a solid lubricant consisting of a synthetic base oil and microscopically-fine copper particles. These copper particles form a uniform coating over all treated sealing parts so that unevenness is compensated for and leaks are avoided. In addition, anti-corrosion and anti-oxidising additives are also used. The grease is a metal powder combination without lead, sulphur, cadmium and nickel. It is extremely adhesive and is not washed off by either water or steam.

Usage temperature up to 300°C (up to 572°F).

On demand the grease dispenser could be delivered with special grease.

Service

On-site service, quality and an international presence are today important factors for success on the market. Services which Espy Burgmann provides for you.

Here, we offer you not only the right sealing concepts but also 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.

Competent consultation and concrete problem solution suggestions with the aim of optimising the availability and economical benefits of your system form part of this service, along with compiling process-orientated, maintenance and repair programs for sealing applications.



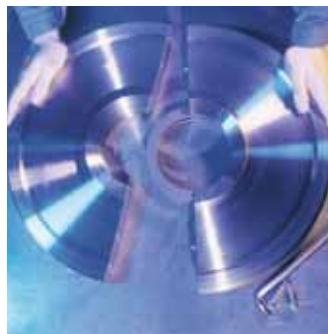
Quality and dimension control

The exacting demands which we place on ourselves are not only our motivation for producing innovative sealing solutions. They are also reflected in the quality of our products. Our many decades of successful work and our satisfied customers confirm this. The basic design work, concept-related creativity and the technical advancements made by our company with regard to application limits, materials and areas of use have made us one of the leading recognised shaft seal manufacturers.

As a subsidiary of one of the largest seal manufacturers in the world, Espy Burgmann is always close by. Whether in Germany, Europe or over seas. With our parent company Burgmann and its over 45 subsidiary companies and works offices, representatives and service centres, we can be found everywhere!



Production



Repair and assembly

Design data sheet

To ensure that you receive your quotation as soon as possible, please complete the data sheet and fax it to us at

++49 28 41 /9 98 27-56



Customer:	Contact:
Phone:	Fax:
Project:	Date of quotation:

Shaft diameter	dw	<input type="checkbox"/> mm	<input type="checkbox"/> inch
Shaft material			
Material of the machine in seal area			
Shaft sleeve diameter	dn	<input type="checkbox"/> mm	<input type="checkbox"/> inch
Shaft sleeve material			
Speed	n	rpm	
Design temperature	t _{max.}	<input type="checkbox"/> °C	<input type="checkbox"/> °F
Operating temperature	Medium side	t _{Med.}	<input type="checkbox"/> °C <input type="checkbox"/> °F
	Bearing side	t _{Bear.}	<input type="checkbox"/> °C <input type="checkbox"/> °F
Sealed medium (name):			
Toxic:	yes <input type="checkbox"/>	no <input type="checkbox"/>	
Aggressive:	yes <input type="checkbox"/>	no <input type="checkbox"/>	
Solid matter load:	yes <input type="checkbox"/>	no <input type="checkbox"/>	
Specific gravity of the medium		<input type="checkbox"/> kg/m ³	<input type="checkbox"/> lbs/ft ³
Operating pressure of the medium	p _{e,Med.}	<input type="checkbox"/> bar	<input type="checkbox"/> psi
Barrier gas/medium (name):	yes <input type="checkbox"/>	no <input type="checkbox"/>	
Specific gravity of the barrier medium		<input type="checkbox"/> kg/m ³	<input type="checkbox"/> lbs/ft ³
Operating pressure of the barrier medium	p _{e,Barrier gas.}	<input type="checkbox"/> bar	<input type="checkbox"/> psi
Operating temperature of the barrier medium	t _{Barrier gas.}	<input type="checkbox"/> °C	<input type="checkbox"/> °F
Suction:	yes <input type="checkbox"/>	no <input type="checkbox"/>	
Operating pressure in the suction	p _{e,Suction.}	<input type="checkbox"/> bar	<input type="checkbox"/> psi
Remarks:			

NOTE

To design a shaft seal optimally according to the operating conditions, we request that you return the completed design data sheet. The data sheet is absolutely necessary, particularly for the high-pressure versions HD because both the sealing rings, the sealing housing and chamber must be adapted to the high demands.

The company

The Ruhr Region

For many years, the Ruhr region has been well known as a major industrial conurbation. While this region used to be associated exclusively with heavy industry and mining, today it is synonymous with a variety of economic sectors thanks to investments and major development work. This is in addition to steel production. Cultural, social and industrial flows which are international in character have influenced this new image of pulsating life. The Ruhr region with all its facets has become a competitive partner for international activities. It promises dedicated people and a dynamic, industrial potential. A regional biography which has also shaped Gustav Espey GmbH.



Espey Burgmann as it was ...

To guarantee the future of his company, in 1927 Gustav Espey relocated to Duisburg on the banks of the Ruhr his metal stuffing box packages factory which had been founded in Berlin in 1888. At that time, Duisburg was the centre of mining and the German steel industry.

The market changed and with it the product range: Sealing elements for steam and compressed air locomotives, steam turbines, blowers, fans and oil scraper rings extended the company's range of products. With the decline of the steam locomotive and the closure of mines, the sales emphasis shifted to oil scraper units for large motors and diesel motors in industry and shipbuilding.

In 1998 Espey was sold to Burgmann Dichtungswerke. With its more than 45 subsidiary companies, joint ventures and associated, companies and a workforce exceeding 2,700, Burgmann is a group of companies which is active on an international basis. The Bavarian company today belongs to the world's leading seal manufacturers. As a subsidiary company, Espey Burgmann will market its products via the dense international marketing and service network of the parent company.



Old harbour of Duisburg

... and today

Espey Burgmann is one of the most important suppliers of dynamic sealing systems for gaseous media. Our high-quality range of shaft seals is used in almost all industrial sectors: in fans, blowers, compressors, centrifuges, dryers, rollers and turbines. At the same time, our product range has firmly established itself as a technically reliable sealing system. For many years, we have supplied renowned customers and have fulfilled their quality criteria. The plant, with an area of 5,500 m² is located in the industrial estate Genend in Moers.



Our strengths lie in our technical competence, our production flexibility, our readiness to deliver and high quality. To guarantee our high standard of quality we are certified after DIN EN ISO 9001:2000 since 23.12.2002. Espey Burgmann is famous for its well-founded know-how in design and production, whether in the processing of carbon graphite, cast materials and special materials or the production of divided housings.

With our qualified staff and our well-developed, established product range, we regard ourselves as a competent and reliable partner for industry.

Espey Burgmann GmbH

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**QUALITÄTS-
MANAGEMENT**
Wir sind zertifiziert

Regelmäßige freiwillige
Überwachung nach ISO 9001:2000

