

RELY ON EXCELLENCE

Espey WKA1200

Carbon Floating Ring Seals | Shaft seals



Features

The proven carbon floating ring seal - Optimized to meet the highest standards

- Available as modular Cartridge-Seal
- Flexible layout due to operating parameters
- Weight optimized
- Minimal vibrating mass
- High operational reliability

Notes

Notes: General technical features of carbon floating ring seals – compact, efficient, and reliable. Our carbon floating ring seals offer a high-performance solution for demanding sealing requirements in machines and systems. The most important advantages at a glance:

- Compact design: Short axial and radial dimensions – ideal for use in small installation spaces.
- Minimal leakage: The very small operating gap ensures extremely low leakage and increases efficiency.
- Dry running: No need for additional lubrication – low maintenance and reliable operation.

Advantages

- Plug & Run
- Long-term operation time
- More compact design for tight installation spaces
- Durable ring design with a robust anti-rotation device
- Contactless, low-wear technology ensures maximum operational reliability

Operating range

Shaft diameter:
 $d = 20 \dots 200 \text{ mm} (0.79 \dots 7.87 \text{''})$
 Operating pressure:
 $p = \text{vacuum} \dots 250 \text{ bar} (3.626 \text{ PSI}) \text{ abs.}$
 Operating temperature*:
 $t = -120 \dots +225 \text{ °C} (-184 \text{ °F} \dots +437 \text{ °F})$
 Sliding velocity: $v_g = \text{max. } 240 \text{ m/s} (787 \text{ ft/s})$
 Shaft requirements:
 Recommended surface roughness: Rz4
 Recommended wear guard: >58 HRC

* Higher operating temperatures possible on request

Materials

Seal ring: Carbon with titanium bandage
 Chamber and housing parts: 1.4021, 1.4571, Hastelloy®, Titan, Inconel®, others
 Secondary seal (elastomer): Fluorocarbon rubber (Viton®), Perfluorocarbon rubber (FFKM), special PTFE seals on request
 Secondary seal (flat gasket): Statotherm®-HT/HD, Bursil

Standards and approvals

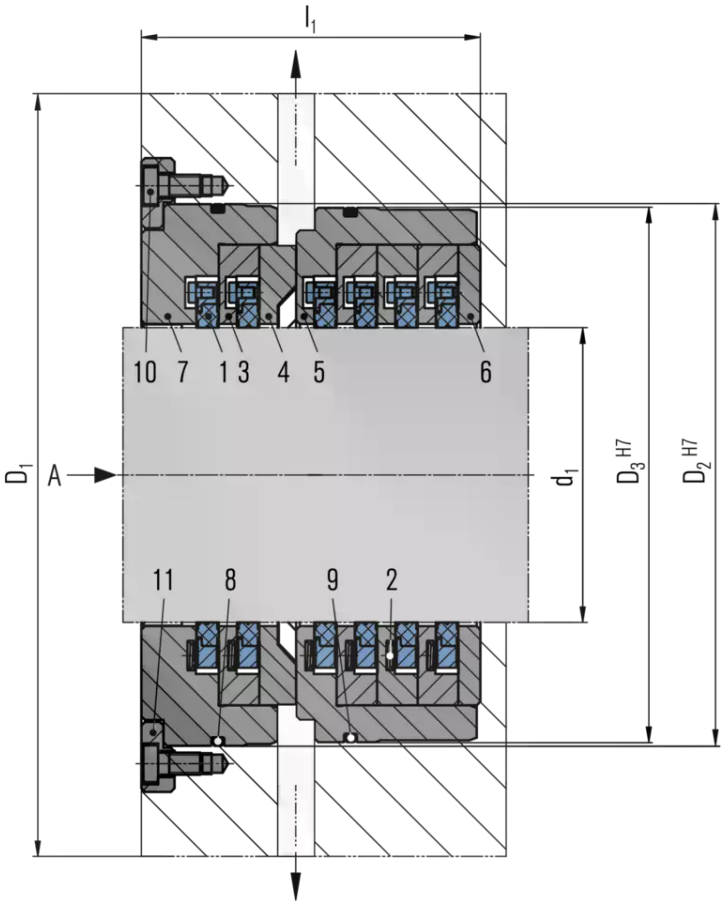
- FDA

Recommended applications

- Integral-gear compressors (one or multi-stage)
- Turboexpanders
- Turbines
- CCUS
- LNG
- Hydrogen
- Energy-storage
- Oil and gas industry
- Refining technology
- Chemical industry
- Petrochemical industry
- Pulp- and paper industry
- Metal production and processing
- Power plant technology
- Gases

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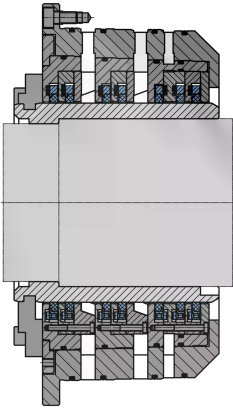
- **Adaptable:** The sealing rings follow radial shaft deflections and ensure reliable sealing even under dynamic operating conditions.
- **Contact-free running:** The sealing rings run without contact, which means there is no additional friction – this saves energy and protects the machine.



Item	Description
1	Seal ring
2	Spring
3	Chamber
4	Lantern
5	Housing
6	End-ring
7	Housing
8	O-ring
9	O-ring
10	Screw
11	Housing

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Product variants



WKA1200-Cartridge: Plug & Run

In addition to our standard version, our Cartridge variant offers the following advantages:

- First to combine: the shaft sleeve, seal, and housing components
- Fully balanced, ready-to-install unit
- Improved handling thanks to integrated components
- Simplified installation
- Easier maintenance
- Minimizes the risk of component damage
- Coal-Floating-Ring-Service-Concept: Simply select the scope you need - Available in WKA1200 standard dimensions and also customizable



WKA1200: The Espey standard version

- The modular chamber design allows for even more customer-specific adaptations
- More compact design for tight installation spaces
- Durable ring design with a robust anti-rotation device
- Bilateral relief of the sealing ring in the chamber for short-term backpressure operation
- Axially spring-loaded sealing ring - no contact with the shaft due to its own weight
- Contactless, low-wear technology ensures maximum operational reliability

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Dimensions

d ₁	D ₃	D ₂	D ₄	LK
25	87	88	125	110
30	92	93	130	115
35	97	98	135	120
40	102	103	140	125
45	107	108	145	130
50	112	113	150	135
55	117	118	155	140
60	122	123	160	145
65	127	128	165	150
70	132	133	170	155
75	137	138	175	160
80	142	143	180	165
85	147	148	185	170
90	152	153	190	175
95	157	158	195	180
100	162	163	200	185
105	167	168	205	190
110	172	173	210	195
115	177	178	215	200
120	182	183	220	205
125	187	188	225	210
130	192	193	230	215
135	197	198	235	220
140	202	203	240	225
145	207	208	245	230
150	212	213	250	235
155	217	218	255	240
160	222	223	260	245
165	227	228	265	250
170	232	233	270	255
175	237	238	275	260
180	242	243	280	265
185	247	248	285	270
190	252	253	290	275
195	257	258	295	280
200	262	263	300	285

Dimensions in mm