

RELY ON EXCELLENCE

## Espey WKA400HD

Carbon Floating Ring Seals | Shaft sleeves



### Features

- Chamber seal (modular design - can be combined in any order), optional with housing and lid
- Multi-part seal rings, radially cut
- Very small operation gap - low leakage
- Dry running
- Self-adjusting seal rings
- Seal rings bear radial shaft movements
- Compensates axial shaft movements
- 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
- Balanced seal ring inside chamber

### Advantages

- High reliability
- Long-term operation time
- Maintainability
- Segmented seal rings for easy replacement

### Operating range

Shaft diameter:  
 $d = 20 \dots 340 \text{ mm} (0.79" \dots 13.39")$   
 Operating pressure:  
 $p = \text{vacuum} \dots 75 \text{ bar} (1,088 \text{ PSI}) \text{ abs.}$   
 Operating temperature:  $t = -120 \text{ °C} \dots +500 \text{ °C}$   
 $(-184 \text{ °F} \dots +932 \text{ °F})$   
 Sliding velocity:  
 $vg = \text{max. } 240 \text{ m/s} (787 \text{ ft/s})$   
 Radial play:  $\pm 1.0 \dots 2.0 \text{ mm} (\pm 0.04" \dots 0.08")$   
 Axial movement: theoretically unlimited  
 Recommended wear guard:  $>58 \text{ HRC}$

### Materials

Seal ring: Carbon  
 Chamber and housing parts: 1.4021, 1.4571, Hastelloy®, Titan, Inconel®, others  
 Tension spring: 1.4571, Hastelloy®, Titan, Inconel®  
 Secondary seal (elastomer): Fluorocarbon rubber (Viton®), Nitrile-butadiene-rubber (Perbunan®), Perfluorocarbon rubber (Kalrez®)  
 Secondary seal (flat gasket): Statotherm®-HT/HD, KSIL C 4400

### Standards and approvals

- FDA

### Recommended applications

- Gases
- Fumes and exhaust, solids containing, flammable (Atex), acid containing and toxic gases
- (Solids containing) steams / liquid mist
- Oil mist / penetrating oil
- Water
- Oil and gas industry
- Refining technology
- Chemical industry
- Petrochemical industry
- Pulp and paper industry
- Metal production and processing
- Power plant technology
- CO2 transportation and storage
- Integral-gear compressors (one or multi-stage)
- Screw and chiller compressors
- Steam turbines
- Air regulating devices

Item	Description	Variable for width
1.1	Seal ring	

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Item	Description	Variable for width
1.2	Tension spring	
2	Chamber	A
2.1	Chamber with O-ring	A
3	Barrier gas chamber	B
3.1	Barrier gas chamber with O-rings	B
4	Lantern chamber	C
4.1	Lantern chamber with O-Ring	C
5	Lantern thin	E
5.1	Lantern wide	F
6	End ring	G
7	Flat seal	H
8*	Housing	
9*	Lid	
11*	Flat seal housing	

\*On request

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## Installation, details, options



Chamber parts



Seal ring of the Espy WKA400 range (3-part, radial cut)

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### Dimensions

d <sub>h6</sub>	DH7	d <sub>1</sub>	A	B	C	E	F	G	H
20	60	22	10	21	16	11	-	5	1
25	65	27	10	21	16	11	-	5	1
30	70	32	10	21	16	11	-	5	1
35	75	37	10	21	16	11	-	5	1
40	80	42	10	21	16	11	-	5	1
45	90	47	10	21	16	11	-	5	1
50	100	52	10	21	16	11	17	5	1
55	105	57	10	21	16	11	17	5	1
60	110	62	10	21	16	11	17	5	1
65	115	67	10	21	16	11	17	5	1
70	120	72	10	21	16	11	17	5	1
75	125	77	10	21	16	11	17	5	1
80	130	82	10	21	16	11	17	5	1
85	135	87	10	21	16	11	17	5	1
90	140	92	10	21	16	11	17	5	1
95	145	97	10	21	16	11	17	5	1
100	150	102	10	21	16	11	17	5	1
105	155	107	10	21	16	11	17	5	1
110	160	112	10	21	16	11	17	5	1
115	165	117	10	21	16	11	17	5	1
120	190	123	12	27	21	15	20	8	2
130	200	133	12	27	21	15	20	8	2
140	210	143	12	27	21	15	20	8	2
150	220	153	12	27	21	15	20	8	2
160	230	163	12	27	21	15	20	8	2
170	240	173	12	27	21	15	20	8	2
180	250	183	12	27	21	15	20	8	2
190	260	193	12	27	21	15	20	8	2
200	270	203	12	27	21	15	20	8	2
210	280	213	12	27	21	15	20	8	2
220	290	223	12	27	21	15	20	8	2
230	300	233	12	27	21	15	20	8	2
240	310	243	12	27	21	15	20	8	2
250	320	253	12	27	21	15	20	8	2
260	330	263	12	27	21	15	20	8	2
270	340	273	12	27	21	15	20	8	2
280	350	283	12	27	21	15	20	8	2
290	360	293	12	27	21	15	20	8	2
300	370	303	12	27	21	15	20	8	2

Dimensions in mm. Special sizes on request.